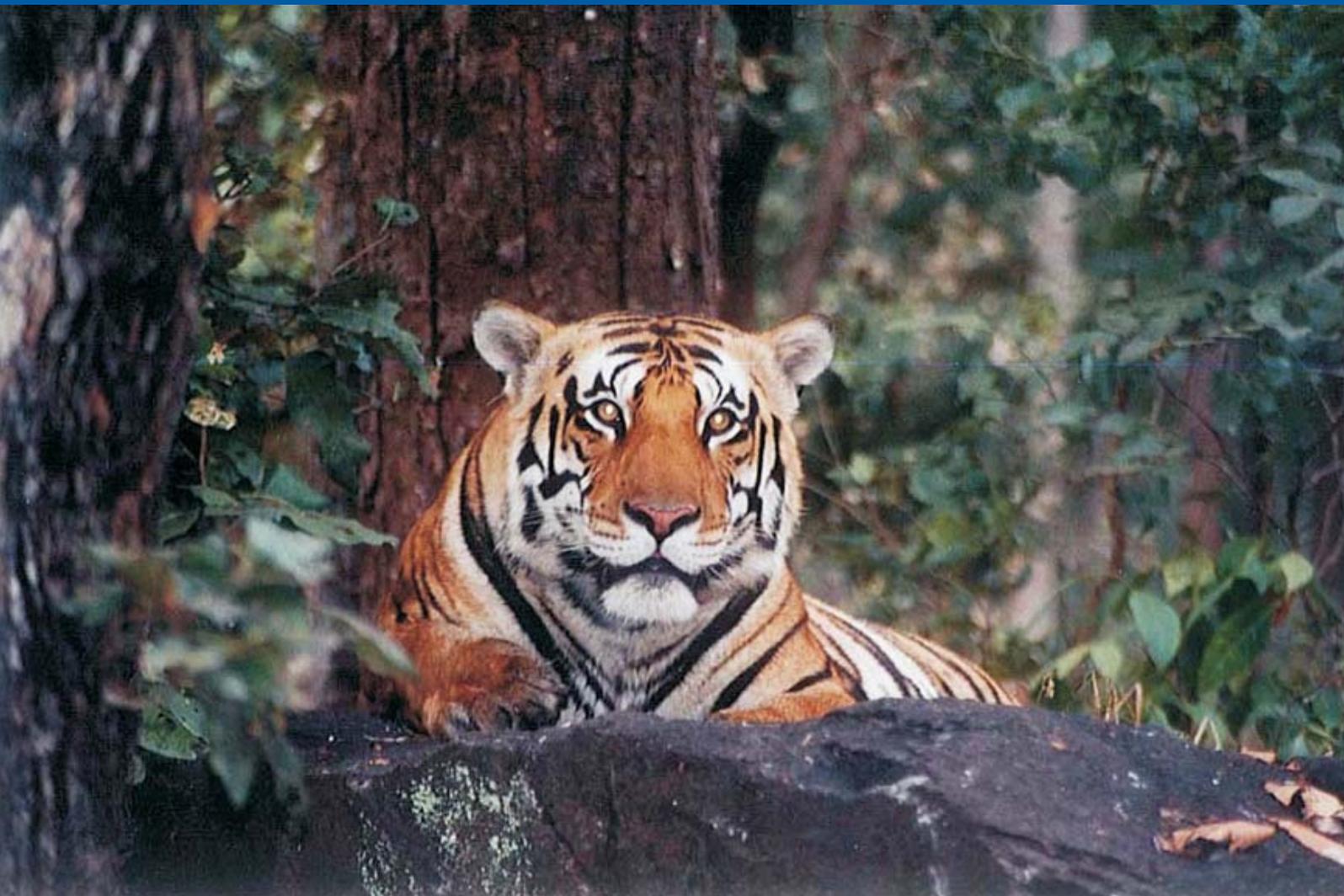


Evaluation Reports of Tiger Reserves in India



Project Tiger Directorate

**Ministry of Environment & Forests
Government of India**



जहाँ है हरियाली ।
वहाँ है खुशहाली ॥

Credits

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Project Tiger Directorate
Ministry of Environment & Forests
Government of India

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<i>Tadoba Tiger Reserve</i>	<i>220-229</i>
<i>Valmiki Tiger Reserve</i>	<i>230-235</i>

Evaluation of Tiger Reserves: An Overview

Project Tiger was launched in 1973, covering 9 Tiger Reserves. Today there are 28 reserves spread over 17 States. The project has saved the endangered tiger from extinction by fostering a path of recovery. Over the years, the increase in biotic pressure on account of firewood, pasture, and timber along with diverse land uses in the forested landscape have adversely affected the tiger bearing forests. The illegal international demands for the body parts of tiger have increased the pressure of poaching. Despite these limitations, the ecological status of Tiger Reserves is relatively better and harbour source populations of tiger, copredators and prey animals.

Project Tiger is an ongoing Centrally Sponsored Scheme of the Ministry of Environment and Forests, to promote tiger conservation in the designated Tiger Reserves, considering its significance which transcend State boundaries. Traditionally, management of forests and wildlife is the responsibility of States. The field implementation of the project, protection and management in the designated reserves is done by project States, which also provide the matching grant to recurring items of expenditure, field staff / officers and their salaries. The Project Tiger Directorate of the Ministry of Environment and Forests is mandated with the task of providing technical guidance, funding support and overall coordination.

The achievement of physical and financial targets under the project is monitored through utilization certificates received from States, apart from supervisory visits and review. However, monitoring the “impact” of investment *vis-à-vis* the goals of the project necessitated a more systematic approach by independent experts, with prescribed parameters. It should be appreciated that the Project Tiger is a holistic, ecosystem project where most of the results are intangible, not falling in the category of “target driven” projects.

Independent Experts

The independent monitors (experts) were empanelled in July, 2004. They were selected on the basis of their professional background, relevant experience and absence of conflict of interest in terms of the guidelines of Ministry of Environment and Forests. The Hon’ble Supreme Court of India has endorsed this process.

Evaluation of Tiger Reserves: An Overview

Parameters

The parameters selected to assess management effectiveness were adapted to Indian context from the World Commission on Protected Areas (IUCN) framework. As many as 45 parameters have been used to assess planning, input, process and output. The scoring criteria on each parameter was included in the methodology to reduce subjectivity. Scoring for all the 45 criteria is additive. Hence, for eight criteria viz. Human Pressures, Use by Other Departments, Average Age of Staff, Weed Growth, Gregarious Woodland Advancement, Poaching Incidents, Fire Incidents and Epidemics, a higher score is assigned for relative absence of such debilitating conditions. The experts were allotted to different regions (North, South, Central, Eastern and Western), who made field visits and submitted their report and assessment in the prescribed criteria based proforma.

The score and grading categories used in this evaluation are as follows:

Score	Grading Category
135 and above	Very Good
108 to 134	Good
72 to 108	Satisfactory
71 and below	Poor

Weightage to elements of evaluation

Different weightages were given to the elements of evaluation, viz. planning-16%, inputs-15%, process-50% and output-19%. The process involving field implementation was given the maximum weightage considering the fact that central assistance through the Centrally Sponsored Scheme of Project Tiger was provided to States for ensuring the same through inputs, based on site specific planning, resulting in the desired output of tiger conservation in an ecologically viable manner. Elements like the “context” (significance, threats, national policy, etc.) as well as

Evaluation of Tiger Reserves: An Overview

“outcome”, which also form part of the original framework were not explicitly indicated since, the guidelines of Project Tiger and the National Wildlife Action Plan as well as the Management Plans of Tiger Reserves incorporate the same. Also, these elements are reflected in several of the parameters used in the adapted framework.

Grading

Based on the scoring, 8 Tiger Reserves were categorized under “**very good**”, 11 in “**good**”, 7 in “**satisfactory**” and 2 in “**poor**” categories.

Concerns arising from the evaluation

- ❑ Inadequate logistics: equipments and vehicles.
- ❑ Inadequate basic amenities for field staff (sustaining interior camps, medical care, mobility, non payment of project allowance).
- ❑ Insurgency (Palamau, Indravati, Nagarjunasagar-Srisailam, Manas) in some Tiger Reserves.
- ❑ Loss of connectivity and habitat fragmentation in areas surrounding Tiger Reserves.
- ❑ Unsustainable pilgrimage inside some Tiger Reserves.
- ❑ Late release of central assistance from States to Tiger Reserves.
- ❑ Inability of some States to provide matching grants.
- ❑ Dual control of buffer zones by Tiger Reserves as well as territorial divisions, encroachments, livestock grazing, unregulated non timber forest produce collection, forest fires, poaching.
- ❑ Reduce manpower owing to ban on recruitment, resulting in vacancies and increased average age of staff.
- ❑ Uncontrolled tourism.

Positive signs observed

- ❑ Professionally prepared management plans being implemented with little deviation.
- ❑ Presence of antipoaching camps and ongoing daily monitoring
- ❑ Professional thinking, direction and management experimentation
- ❑ Firm resolve among leadership and motivated field personnel
- ❑ Efficient networking with police, district administration and other agencies
- ❑ Concerted efforts of addressing people related issues

All the 28 Tiger Reserves were evaluated. The evaluation reports of individual Tiger Reserves are presented in this report along with the 'Results at a Glance' in form of graphics.

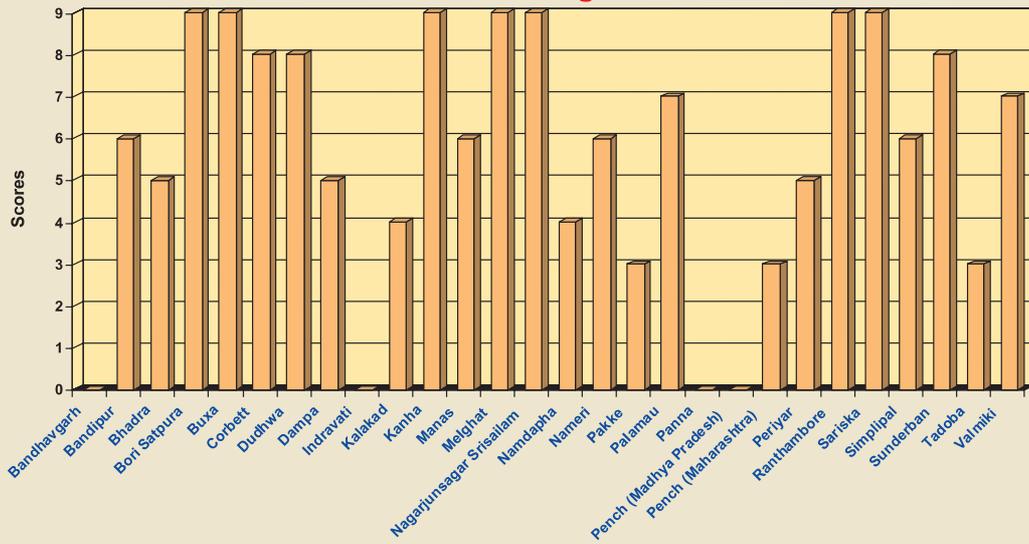
**Project Tiger Directorate
Ministry of Environment and Forests
Government of India, New Delhi**

Results at a Glance

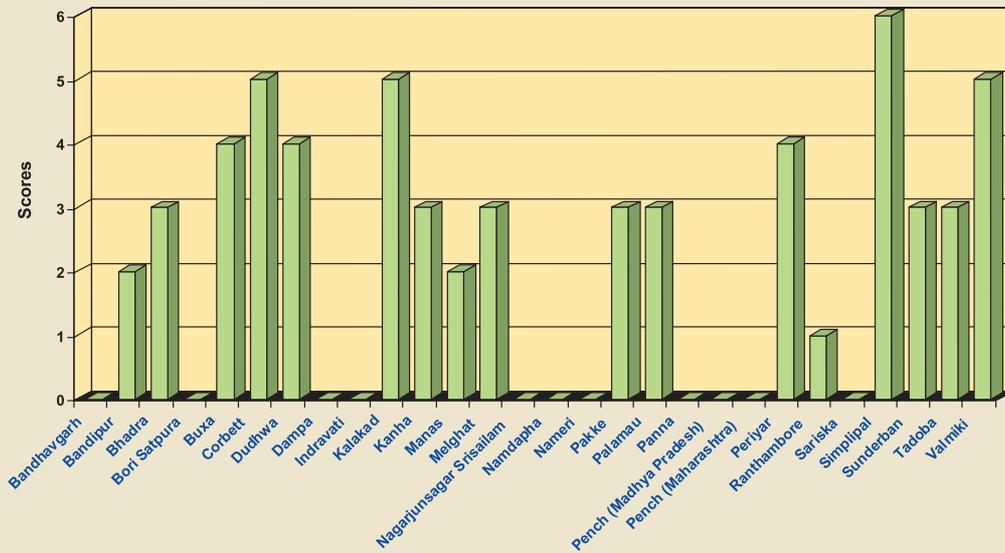
S. No.	Name of the Tiger Reserve	Score	Category
1.	Bandhavgarh	127	Good
2.	Bandipur & Rajiv Gandhi N.P. (Nagarhole)	126	Good
3.	Bhadra	117	Good
4.	Bori-Satpura	128	Good
5.	Buxa	124	Good
6.	Corbett	152	Very Good
7.	Dudhwa	154	Very Good
8.	Dampa	121	Good
9.	Indravati	70	Poor
10.	Kalakad-Mundanthurai	104	Satisfactory
11.	Kanha	166	Very Good
12.	Manas	102	Satisfactory
13.	Melghat	137	Very Good
14.	Nagarjunasagar-Srisaillam	91	Satisfactory
15.	Namdapha	95	Satisfactory
16.	Nameri	112	Good
17.	Pakke	106	Satisfactory
18.	Palamau	141	Very Good
19.	Panna	135	Very Good
20.	Pench (M.P.)	144	Very Good
21.	Pench (Maharashtra)	125	Good
22.	Periyar	127	Good
23.	Ranthambhore	89	Satisfactory
24.	Sariska	61	Poor
25.	Simlipal	140	Very Good
26.	Sunderbans	152	Very Good
27.	Tadoba-Andhari	134	Good
28.	Valmiki	106	Satisfactory

Results at a Glance

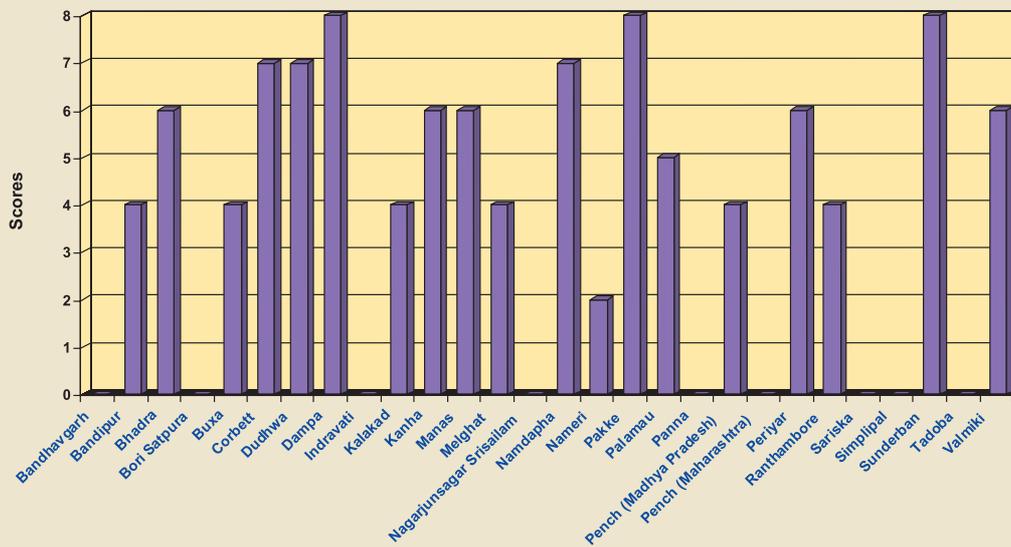
Criteria: Legal Status



Criteria: Compatible Land Use

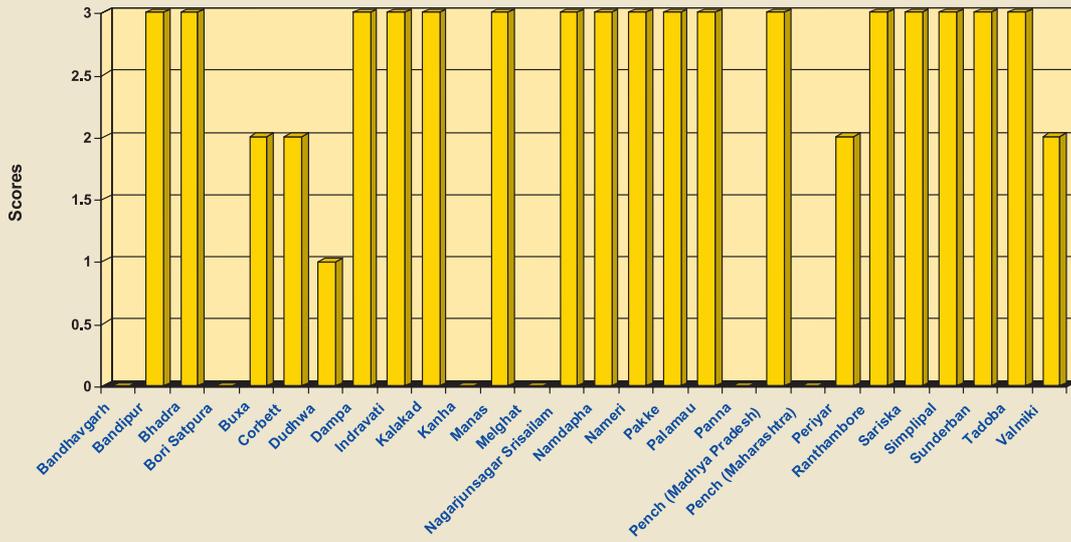


Criteria: Human Pressures

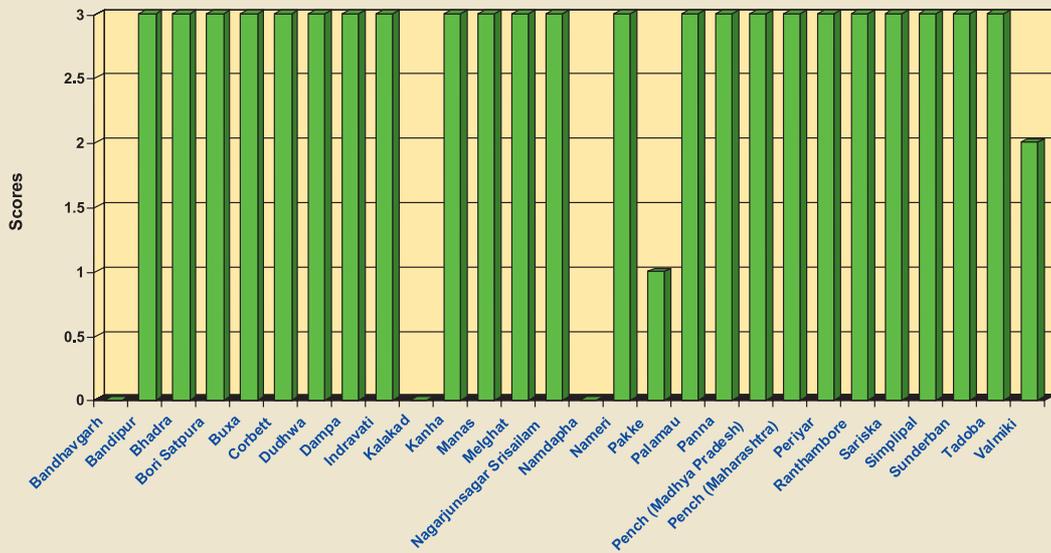


Results at a Glance

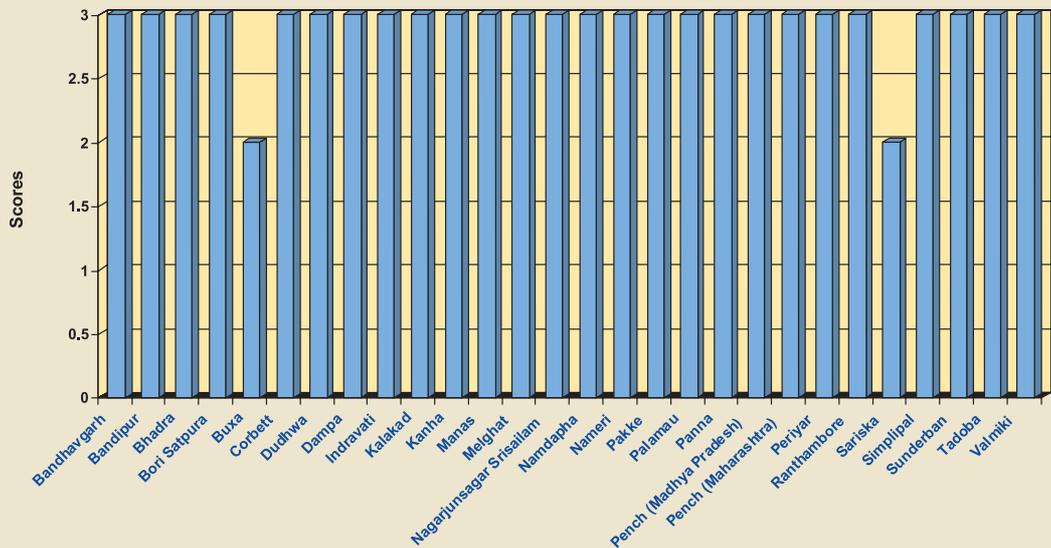
Criteria: Use of the Area by other Departments



Criteria: Updated Management Plan

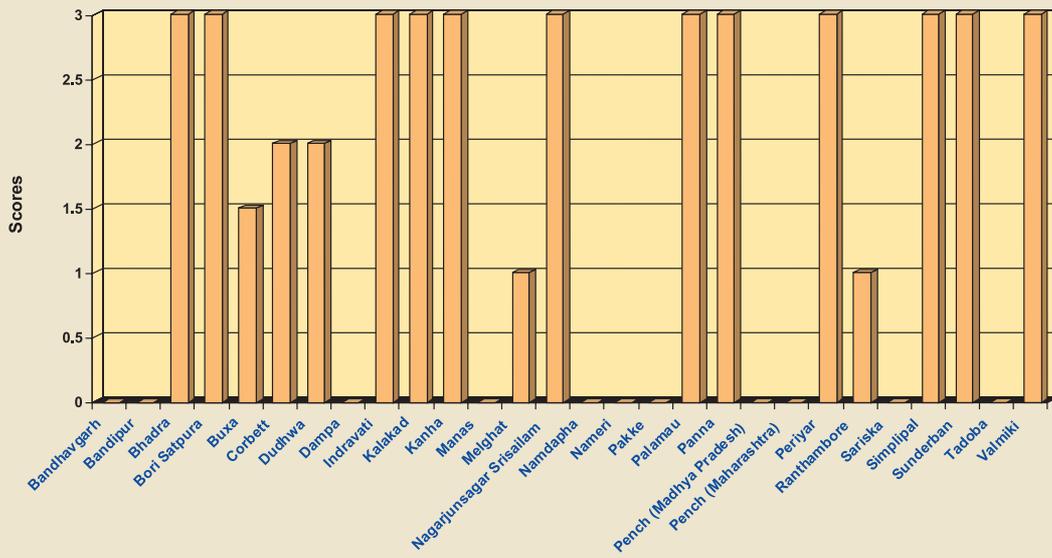


Criteria: Regeneration Status in the Core

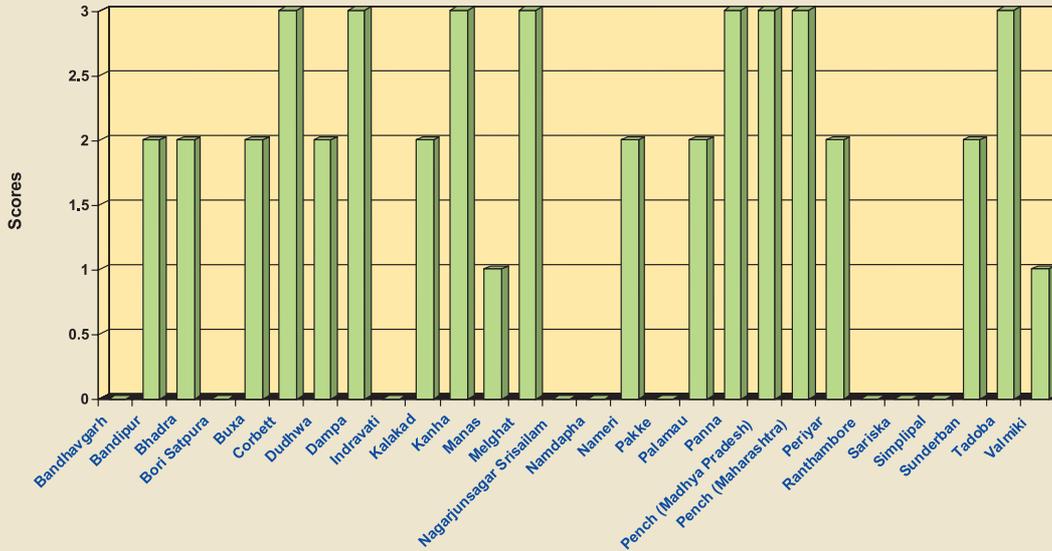


Results at a Glance

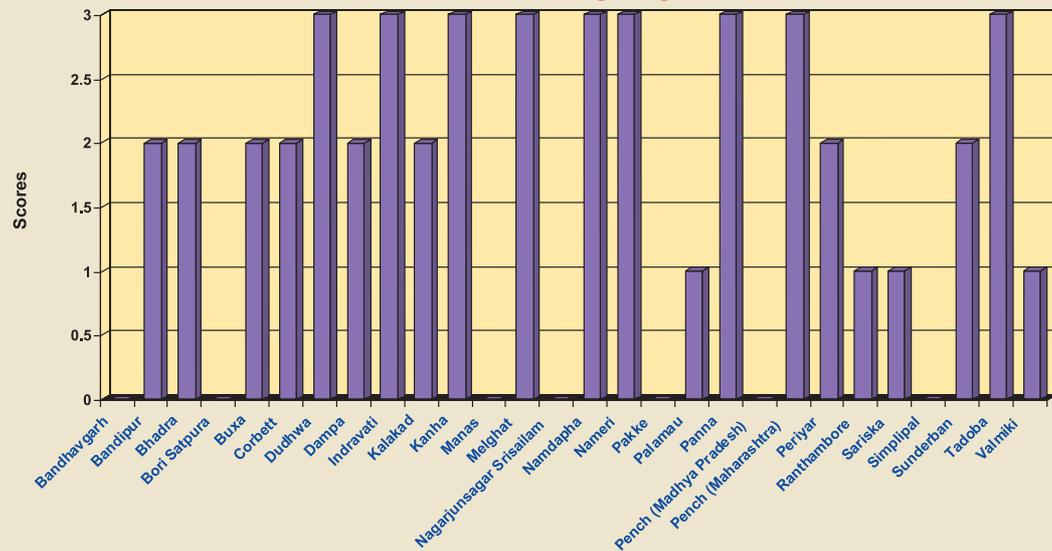
Criteria: Regeneration Status in the Buffer



Criteria: Staff in Position

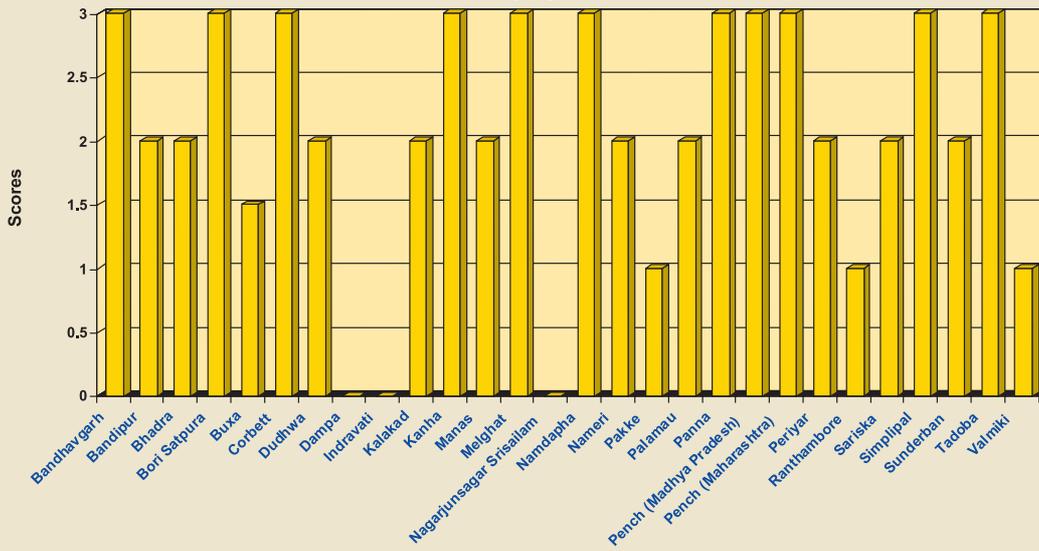


Criteria: Average Age of Staff

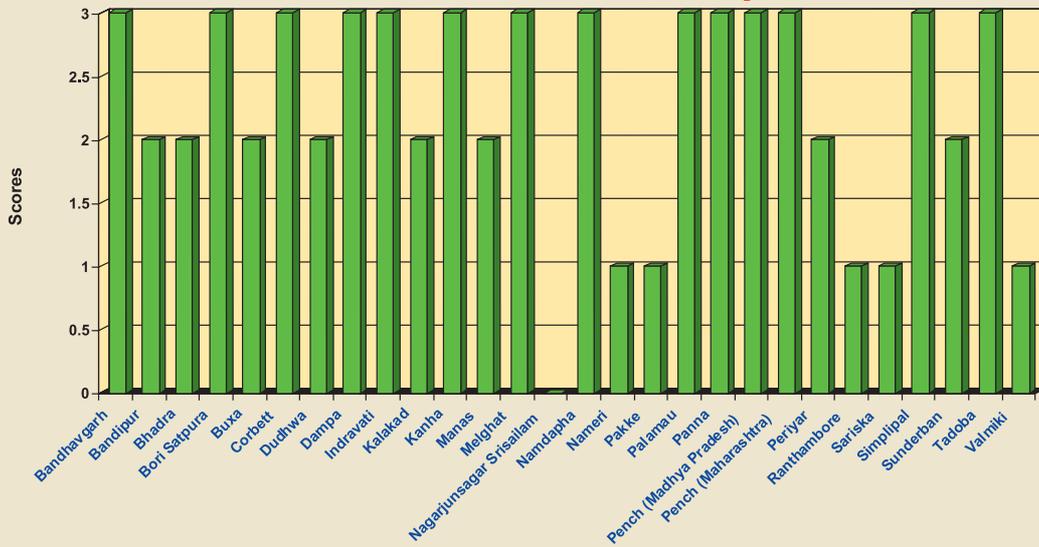


Results at a Glance

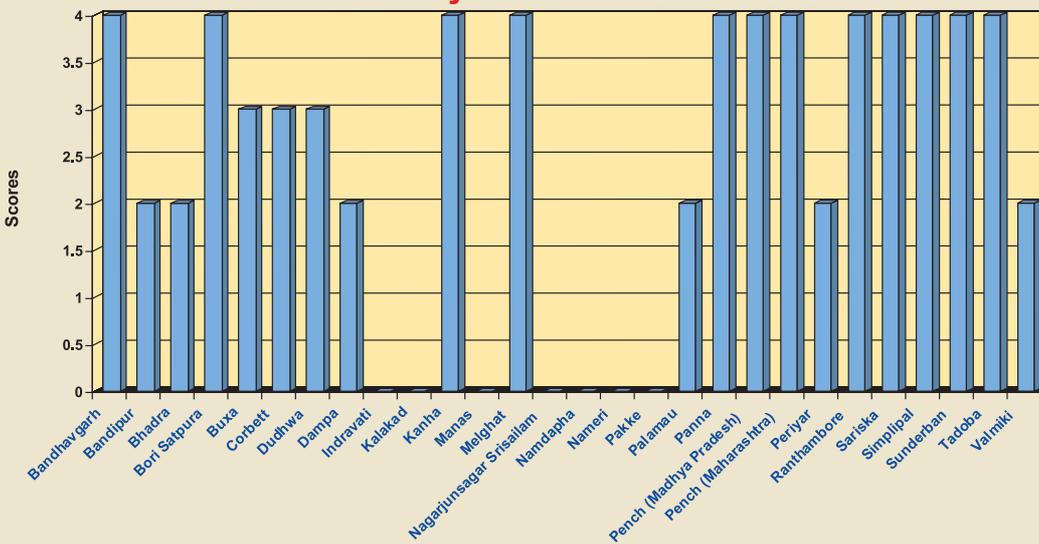
Criteria: Equipment Availability



Criteria: Vehicle Availability

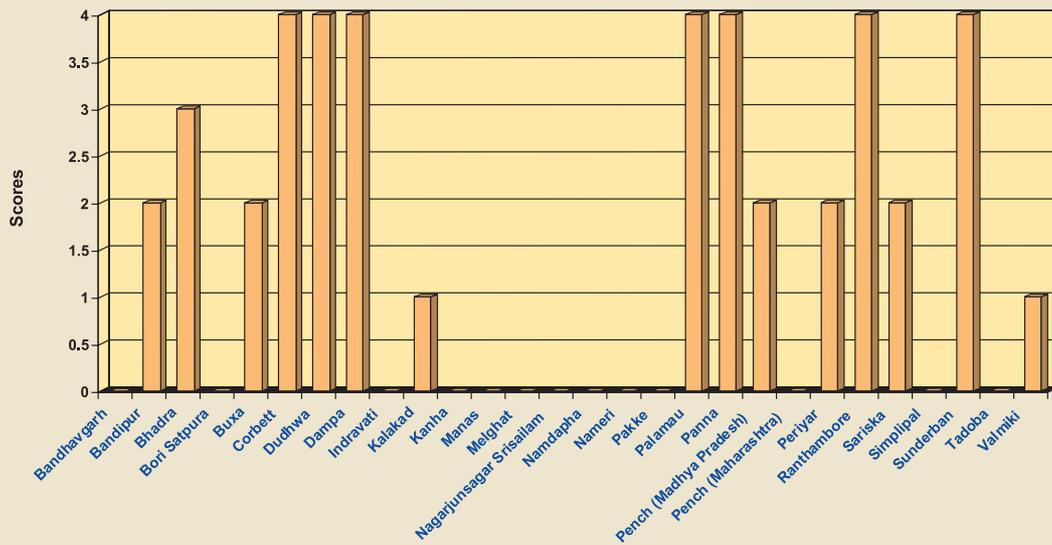


Criteria: Timely Release of Central Assistance



Results at a Glance

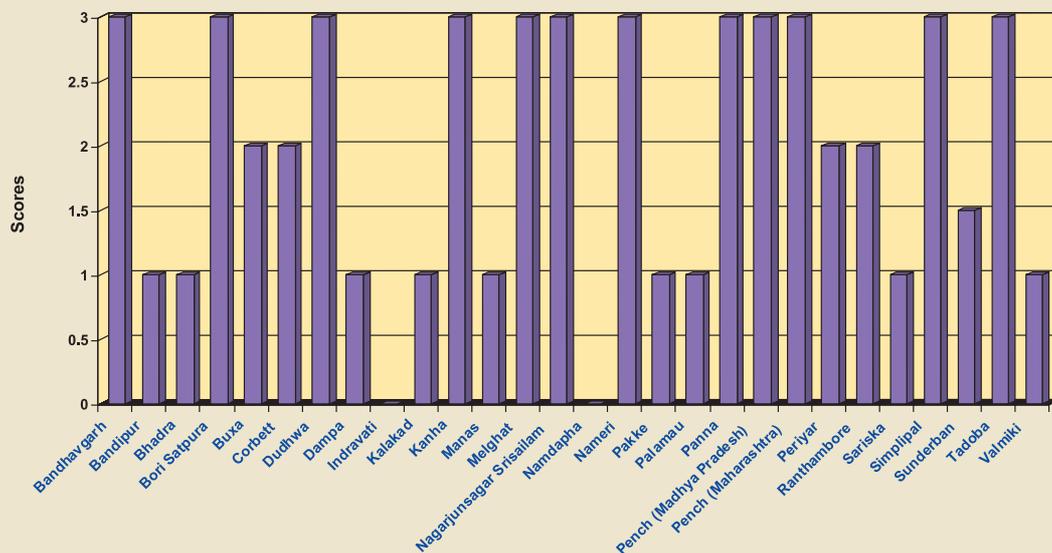
Criteria: Strike Force Availability



Criteria: Disbursement of Salary/Project and Travel Allowance

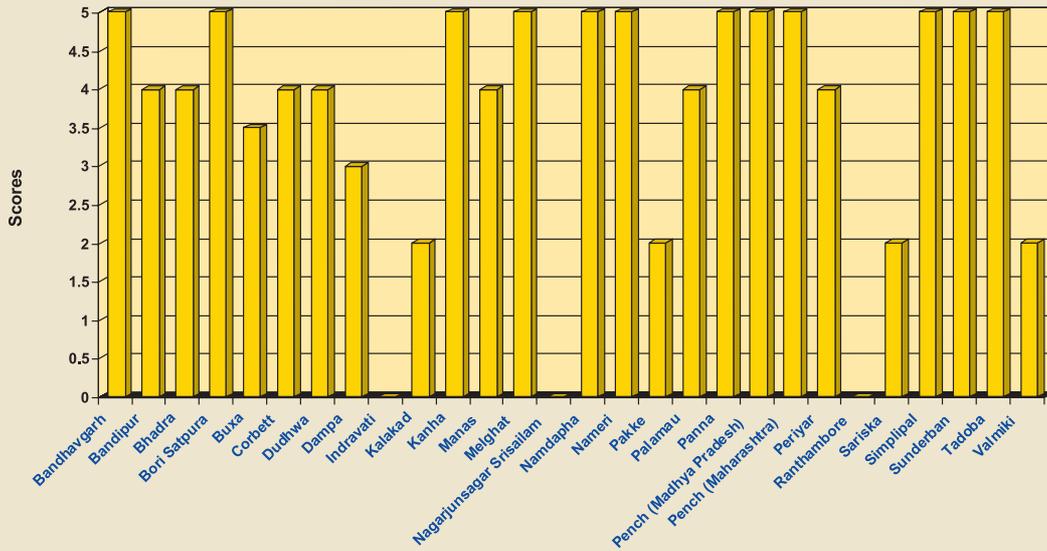


Criteria: Field Data Collection and Research

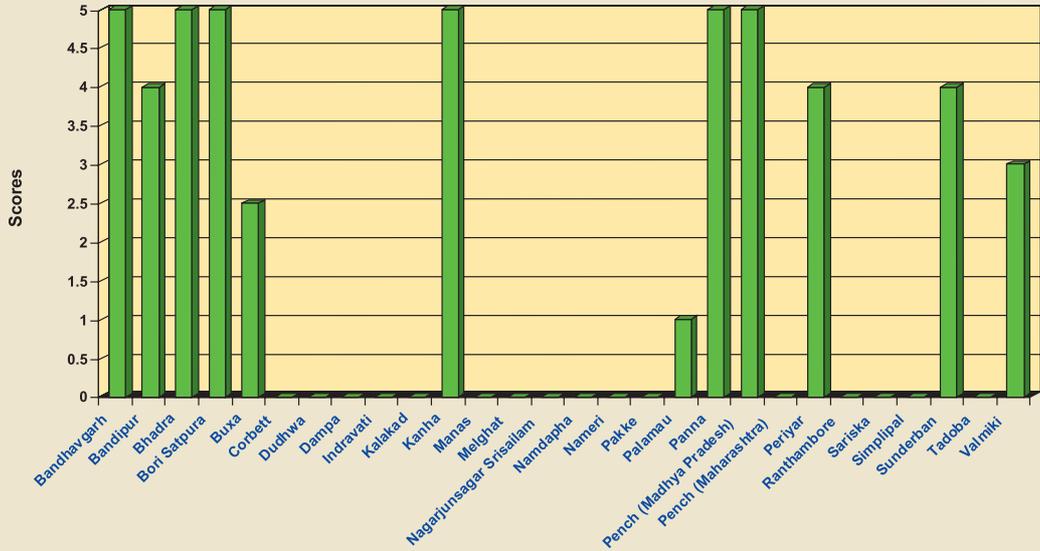


Results at a Glance

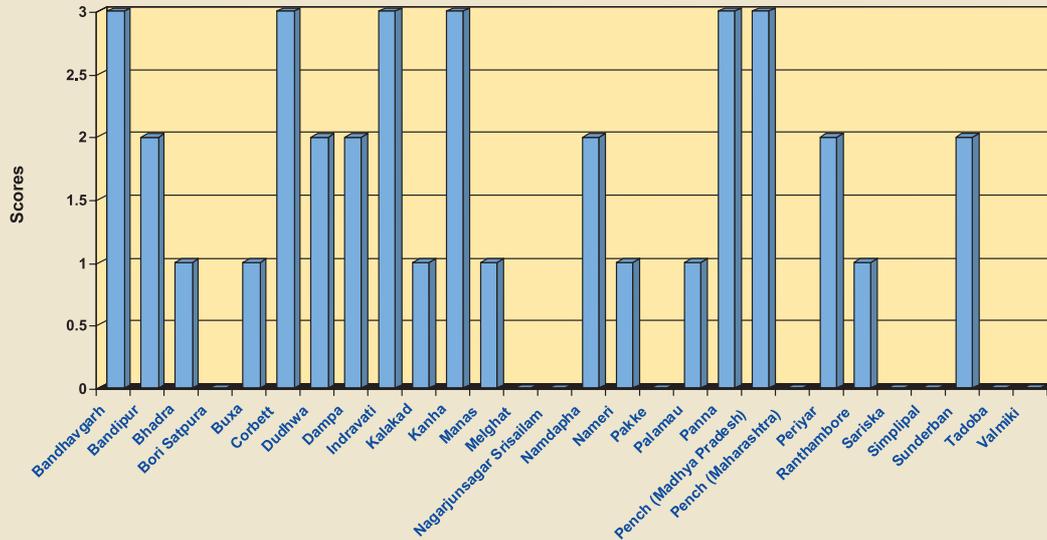
Criteria: Tourism Regulation



Criteria: Recycling of Gate Receipts

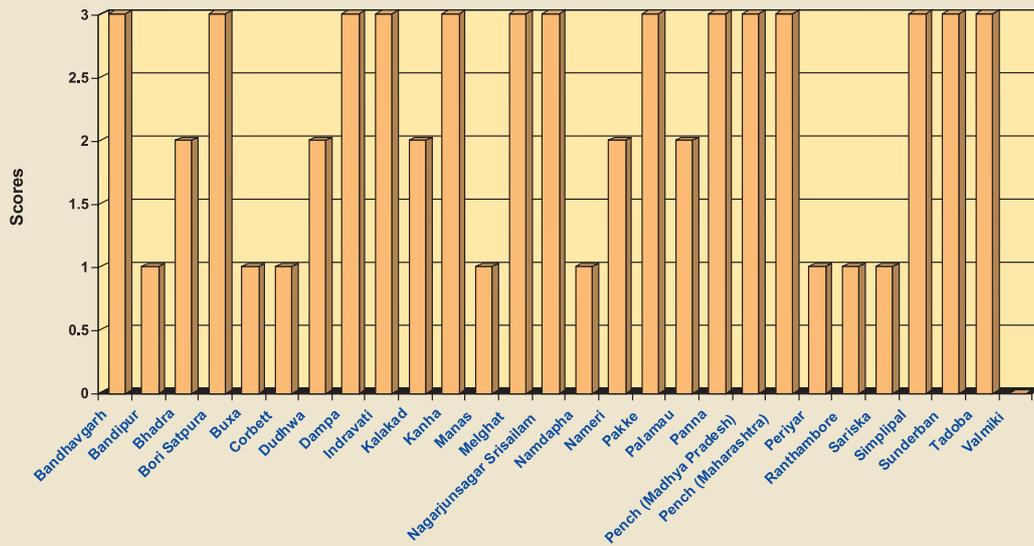


Criteria: Field Staff Training

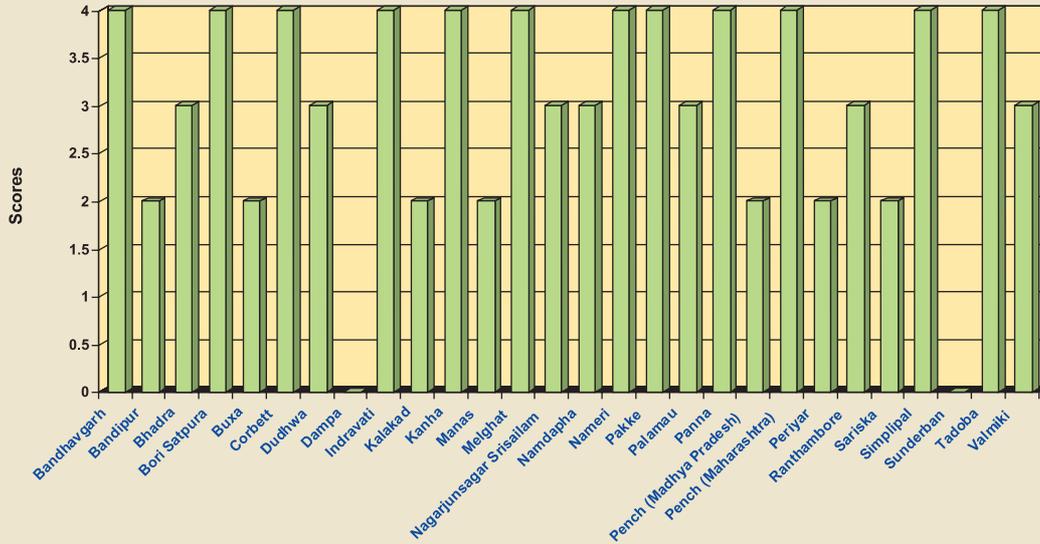


Results at a Glance

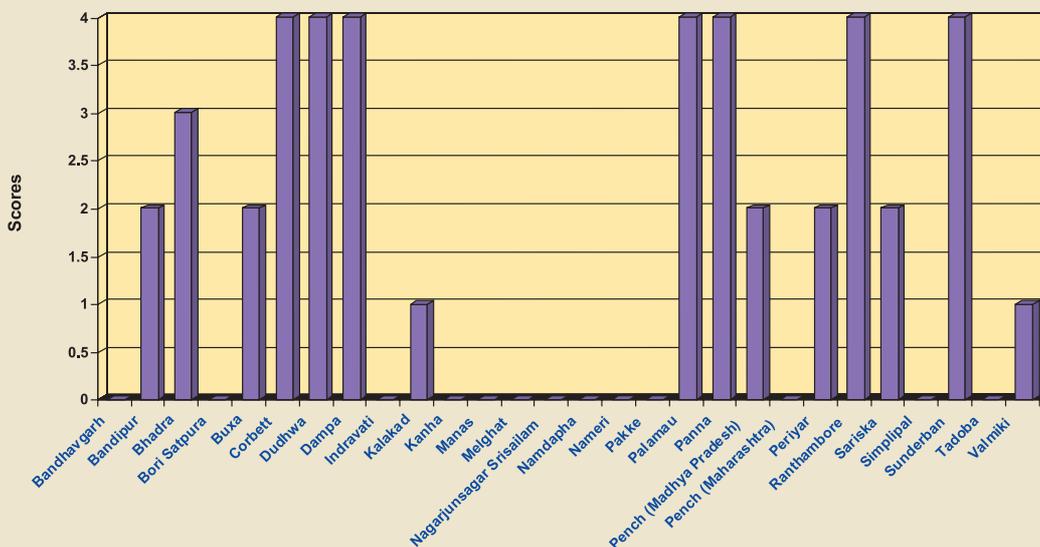
Criteria: Weed Growth in the Habitat



Criteria: Gregarious Woodland Advancement in Meadows

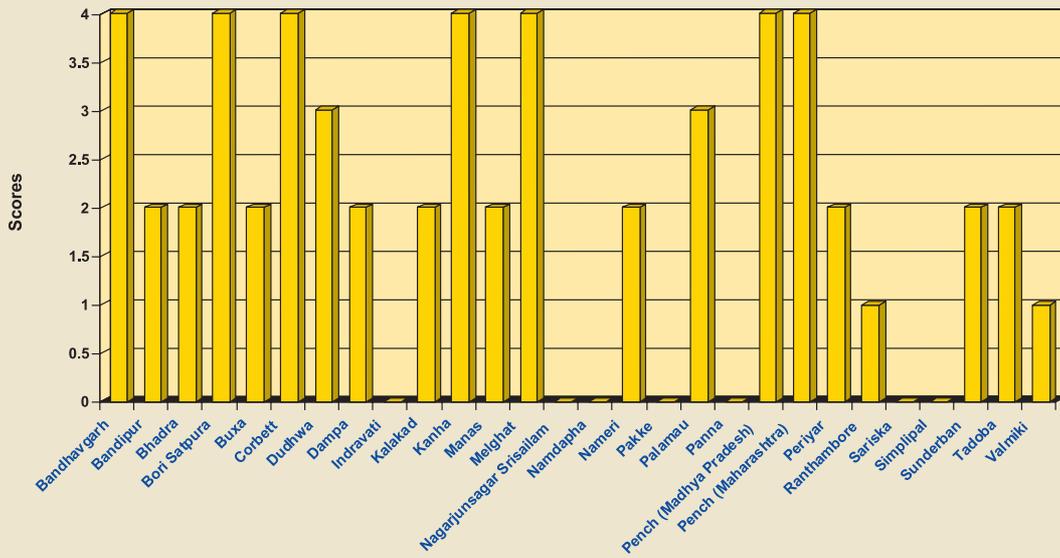


Criteria: Field visit by Officers

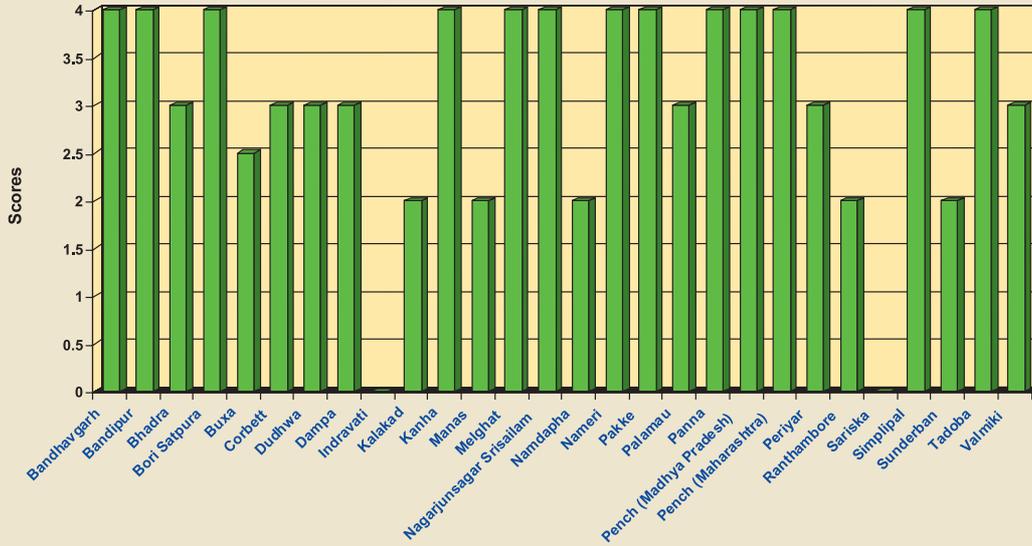


Results at a Glance

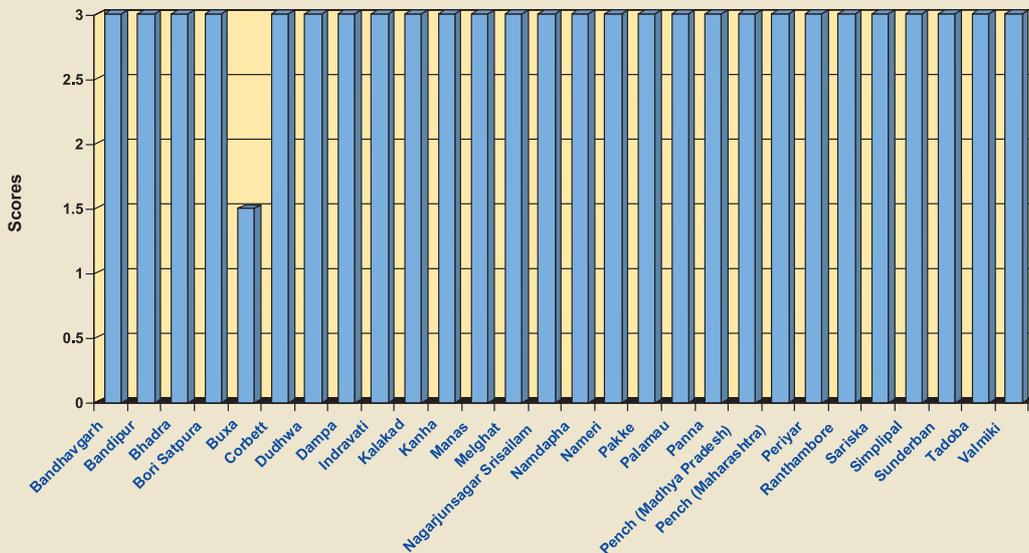
Criteria: Staff Welfare Measures



Criteria: Poaching Incidences

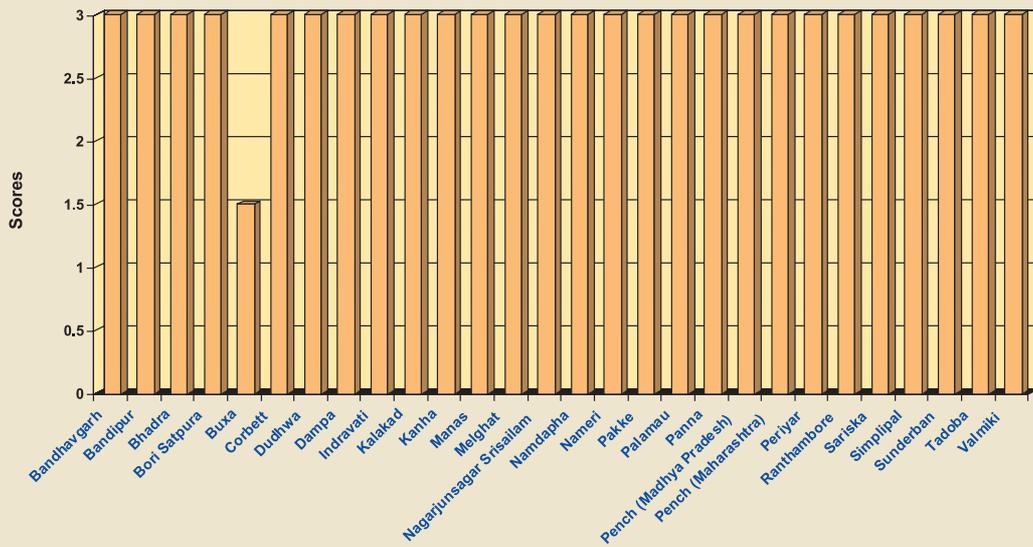


Criteria: Fire Incidences

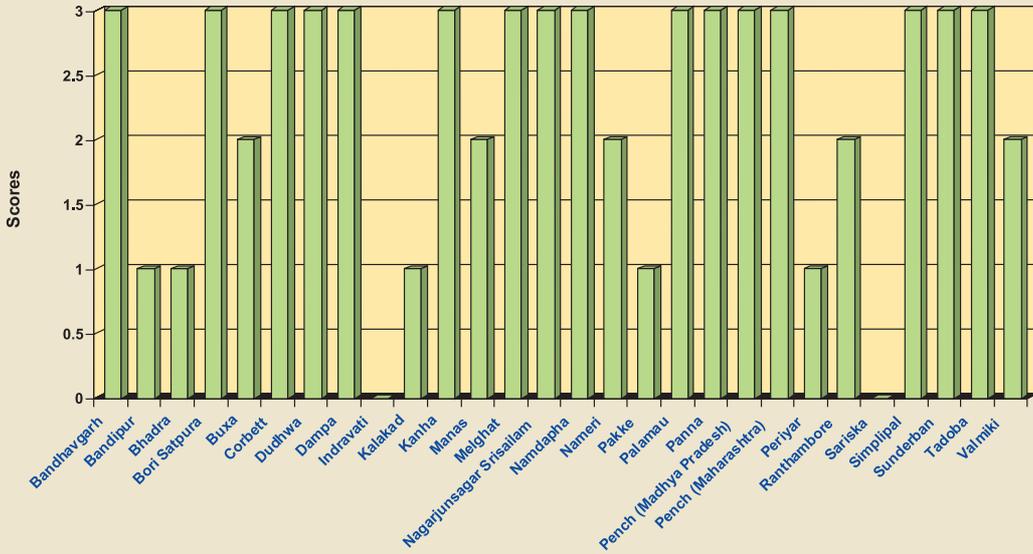


Results at a Glance

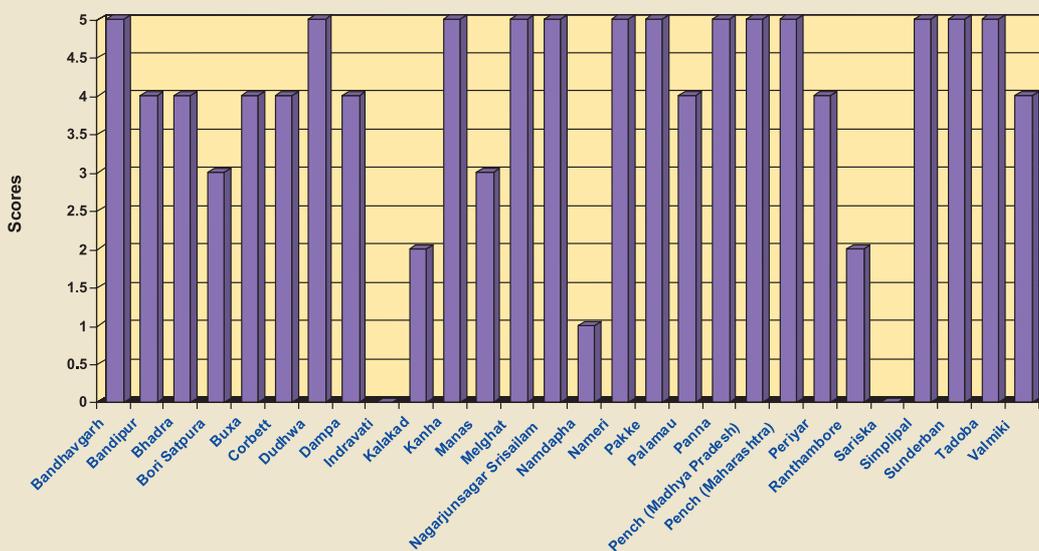
Criteria: Epidemics



Criteria: Wildlife Population Estimation

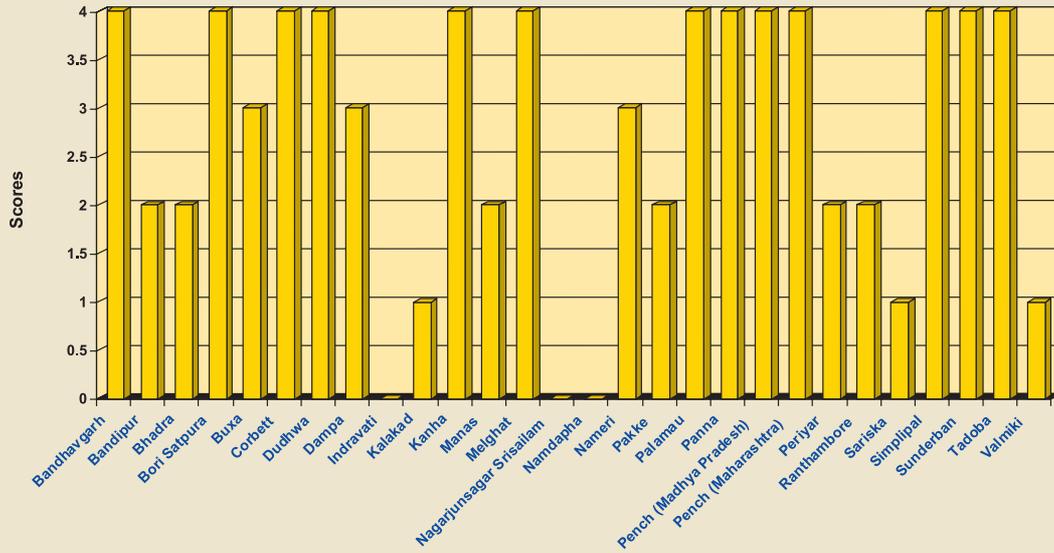


Criteria: Patrolling Camps

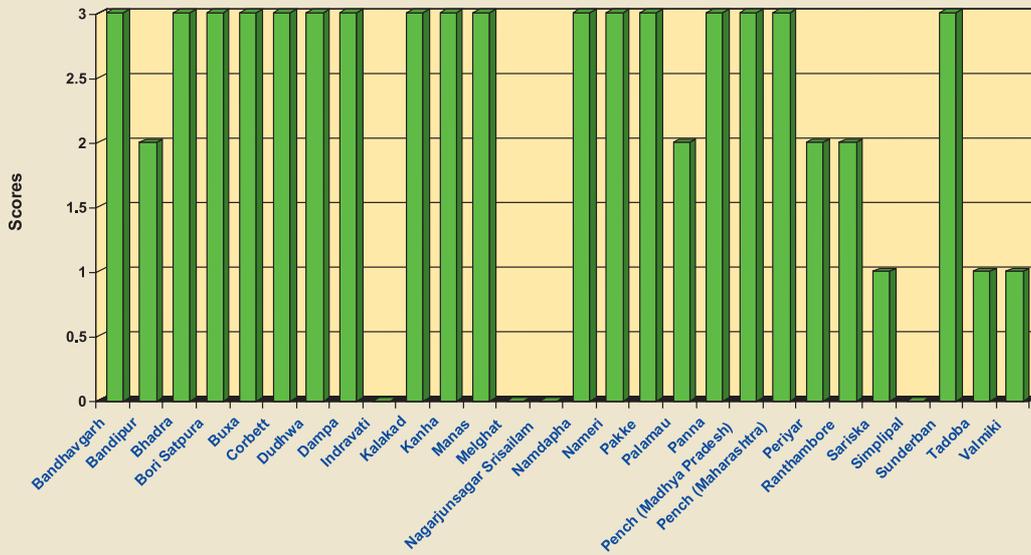


Results at a Glance

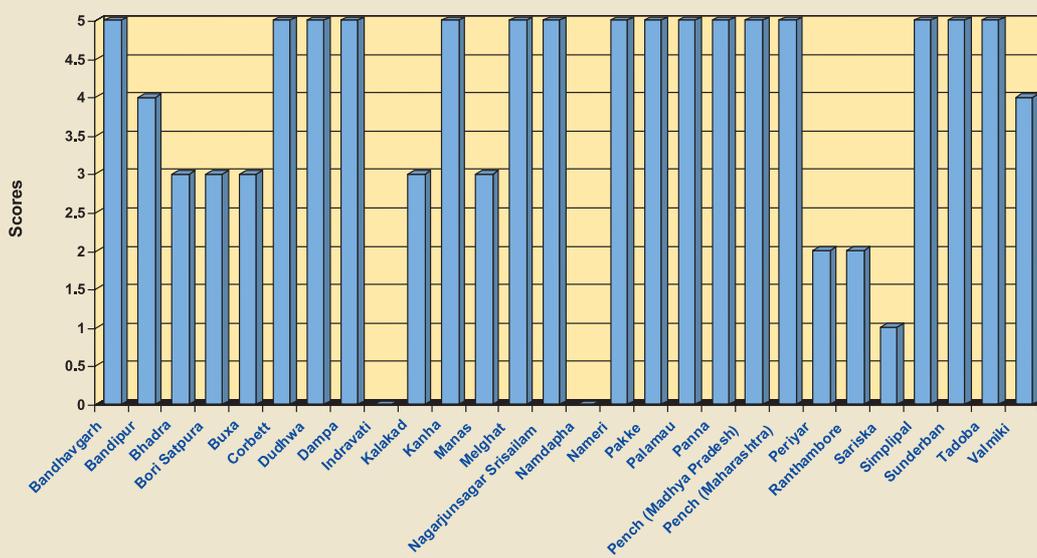
Criteria: Daily Monitoring



Criteria: Networking Strategy

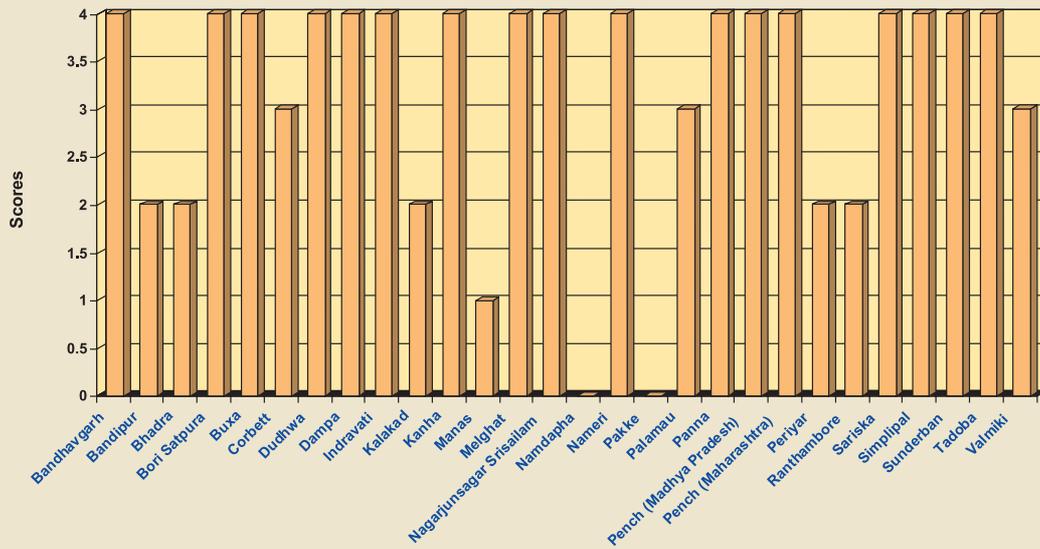


Criteria: Daily Patrolling

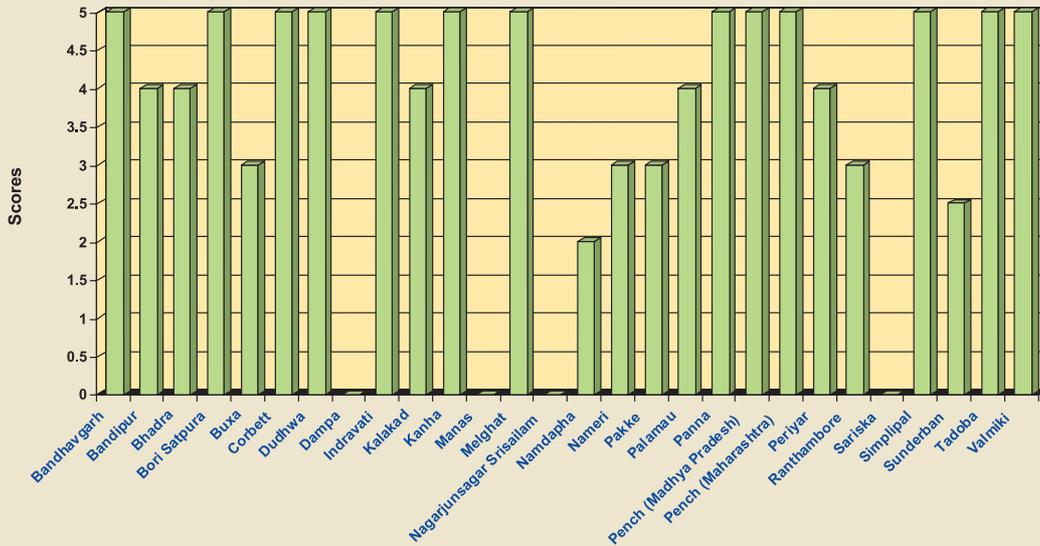


Results at a Glance

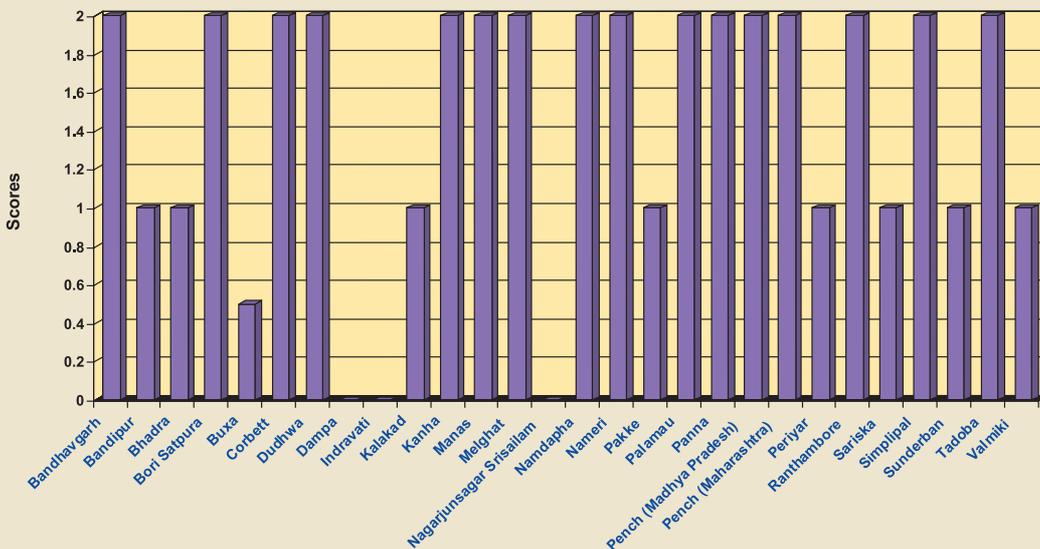
Criteria: Monitoring of Court Cases



Criteria: Ex-Gratia/ Compensation Payment

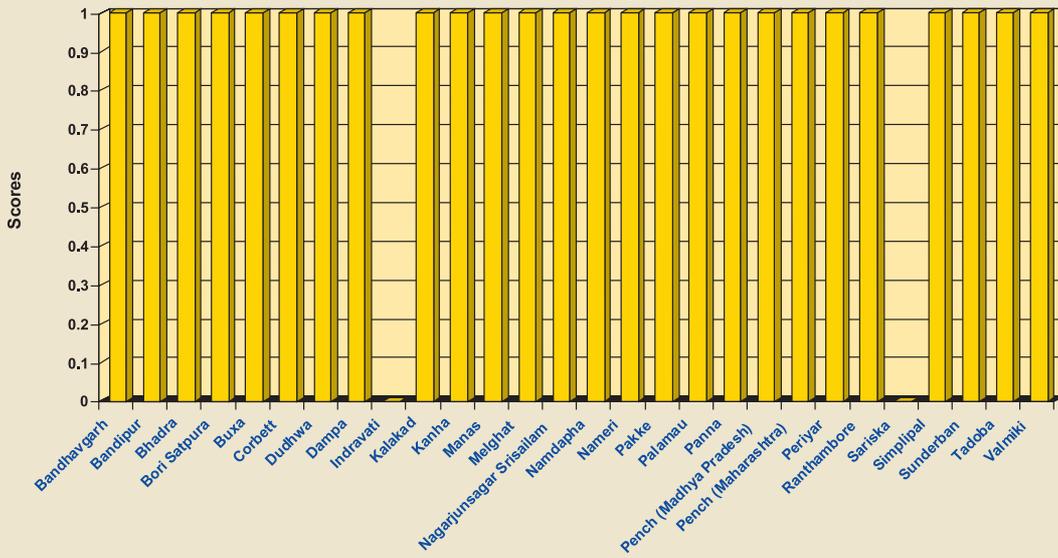


Criteria: Tourism Facilities

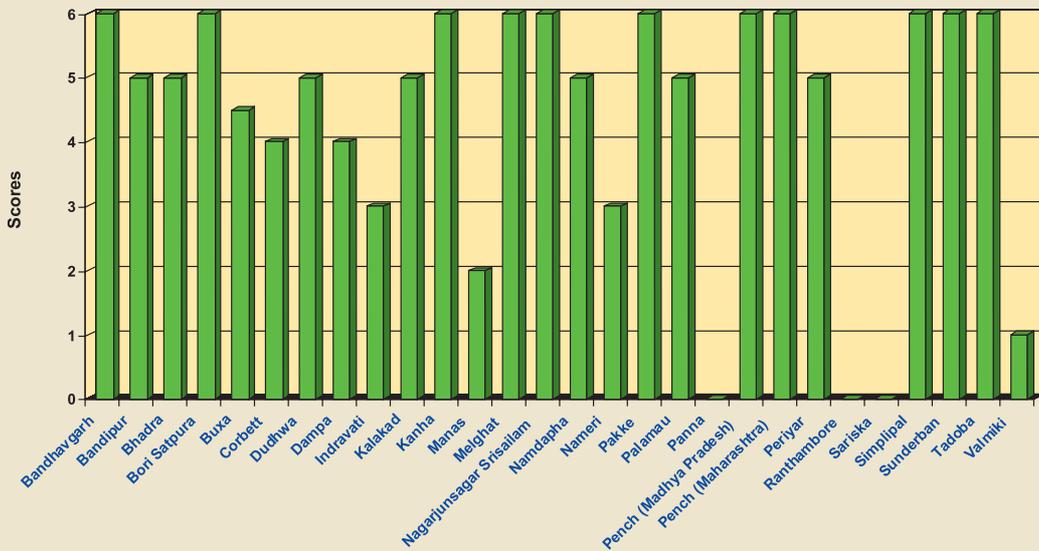


Results at a Glance

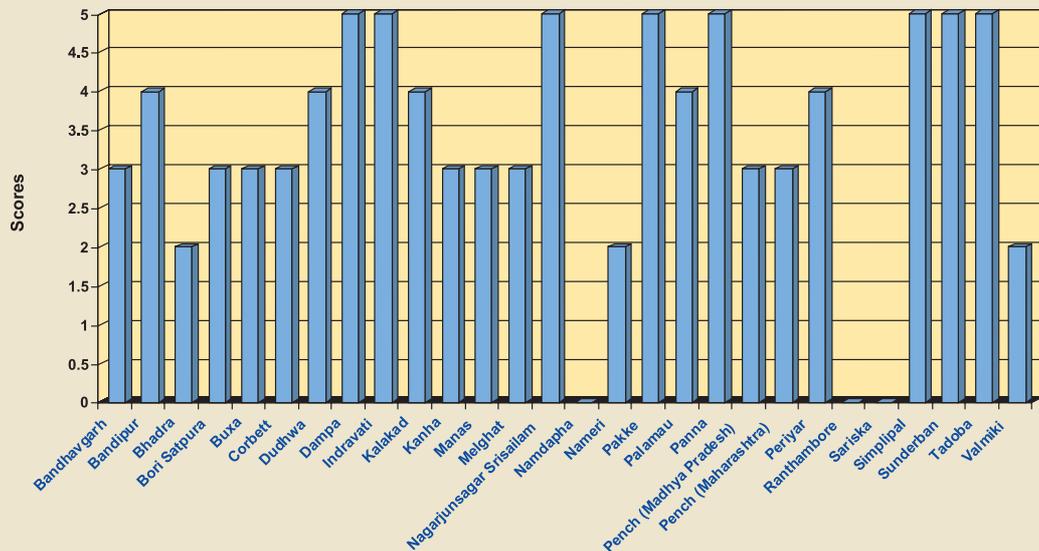
Criteria: Relationship with Police



Criteria: Ecodevelopment Activities

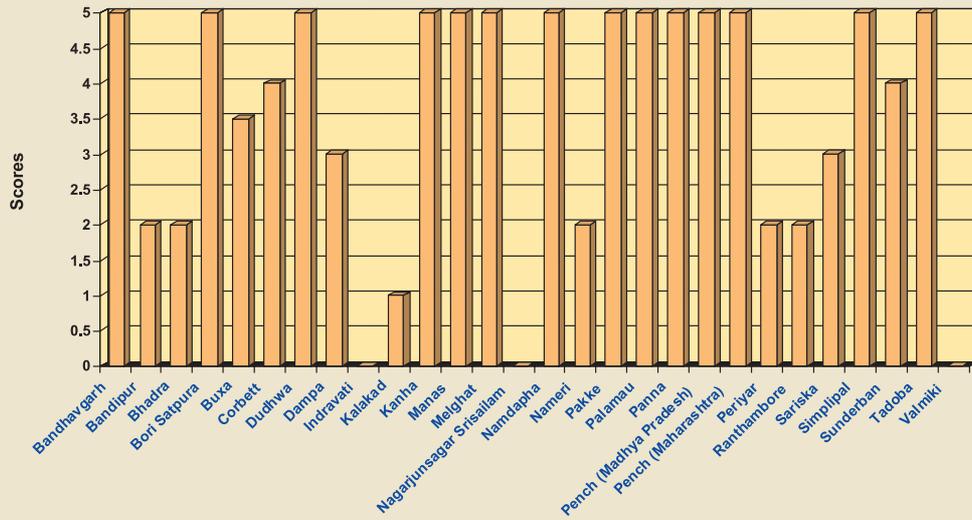


Criteria: Fulfilment of Reciprocal Commitments

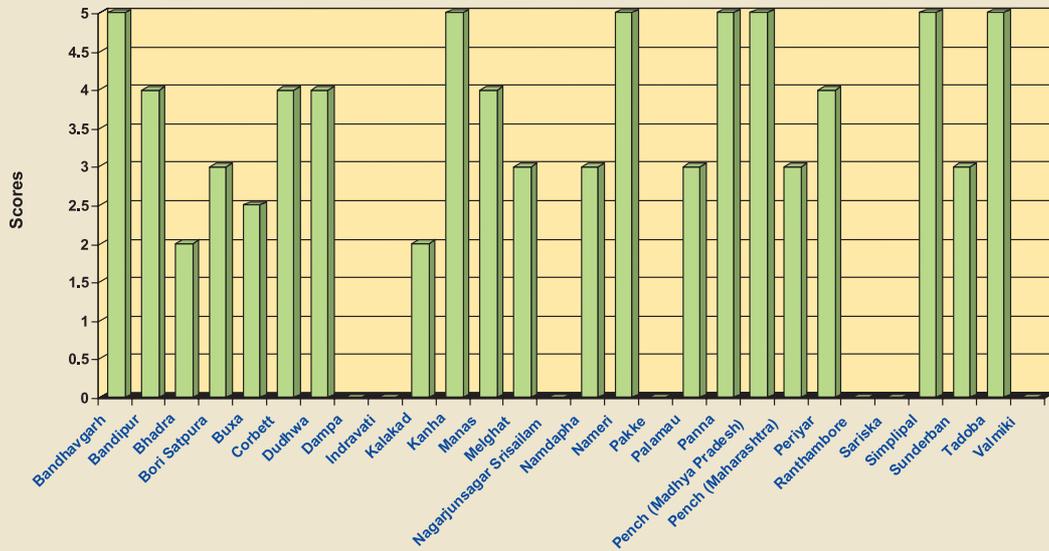


Results at a Glance

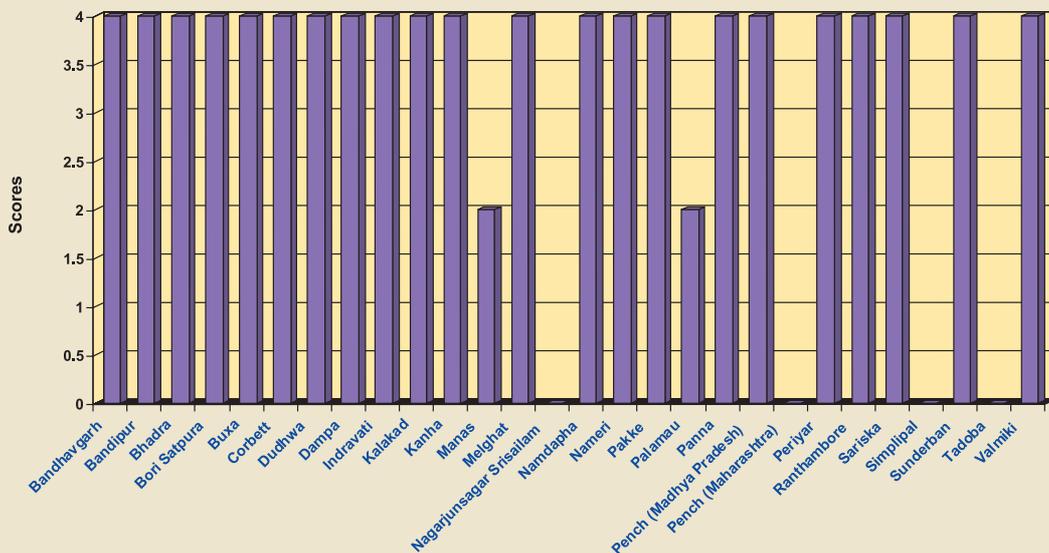
Criteria: Cattle Immunisation in Villages



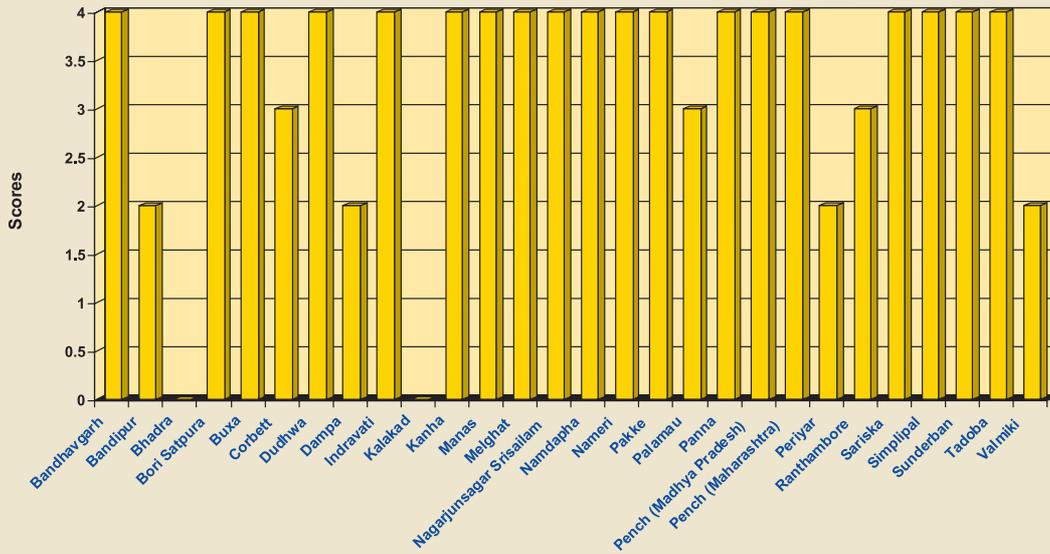
Criteria: Host Community Involvement in Ecotourism



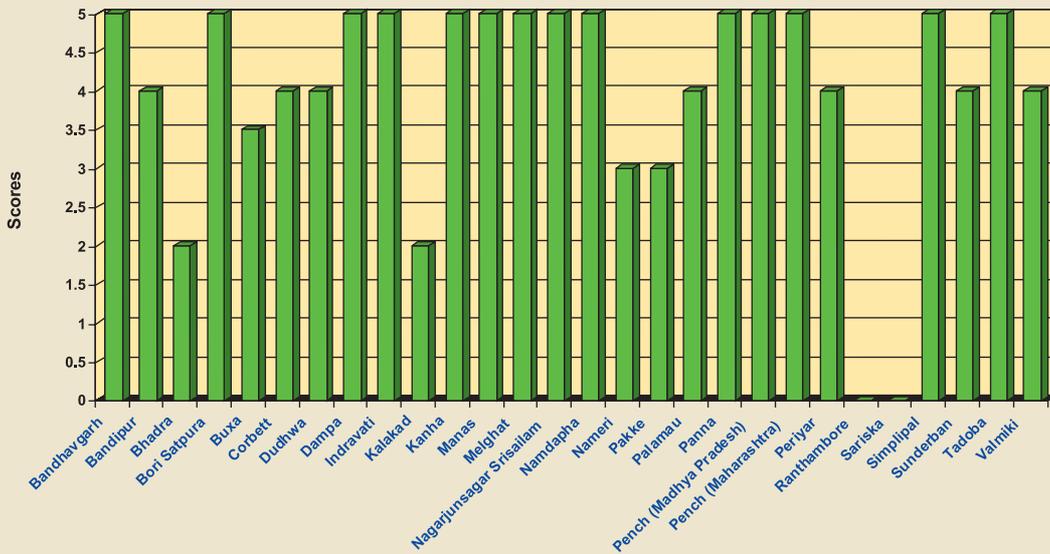
Criteria: Registration of Arms



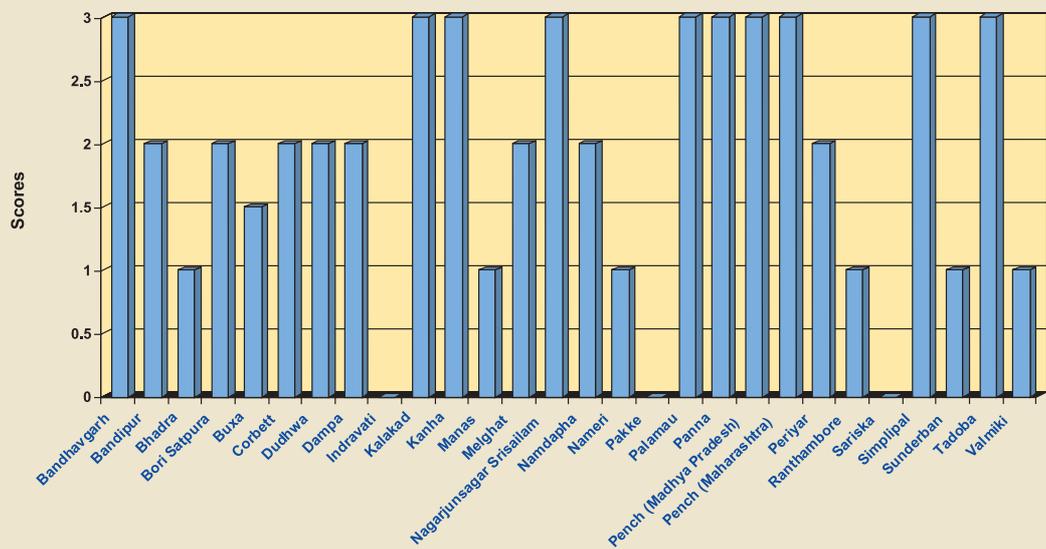
Criteria: Postmortem in cases of Unnatural Animal Mortality



Criteria: Trust Between Local People and Tiger Reserve Management

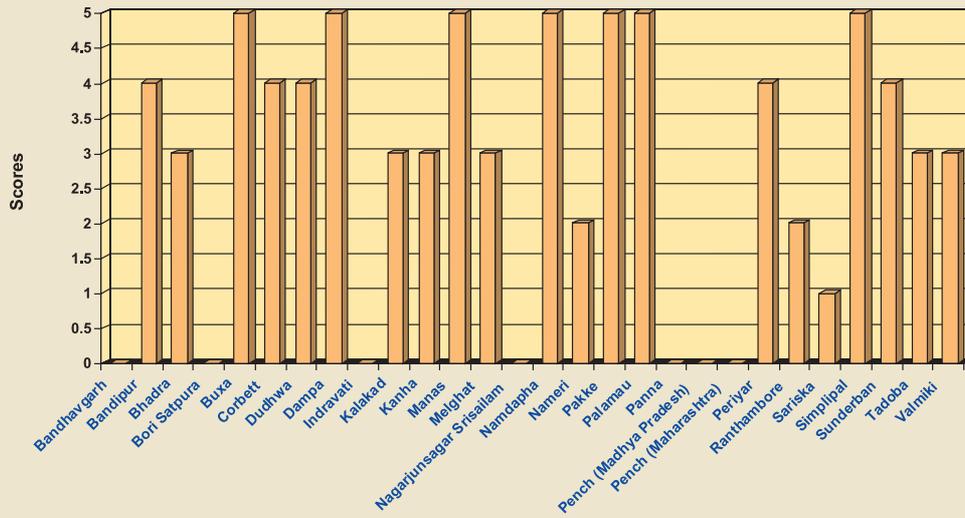


Criteria: Economic Benefits to Stakeholders

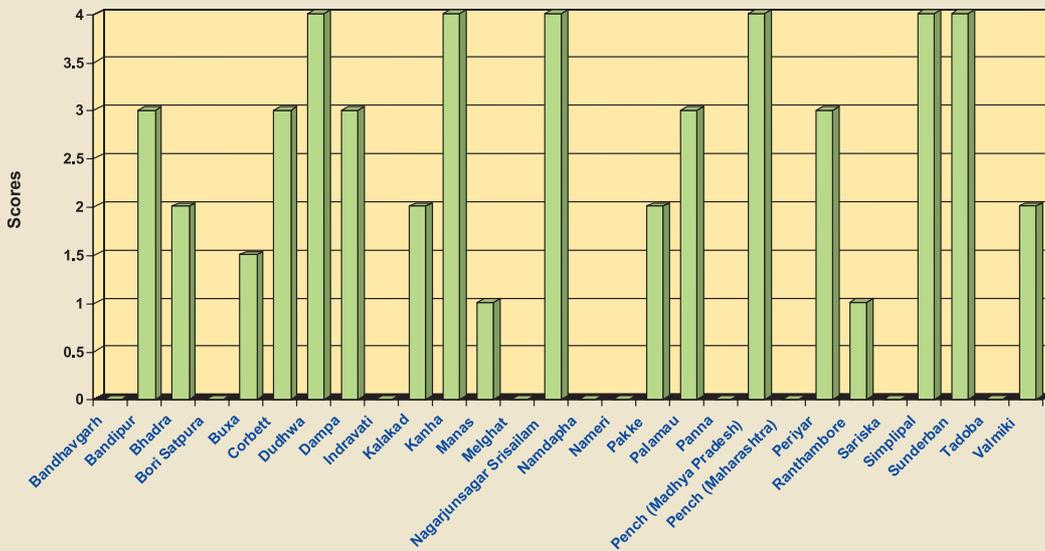


Results at a Glance

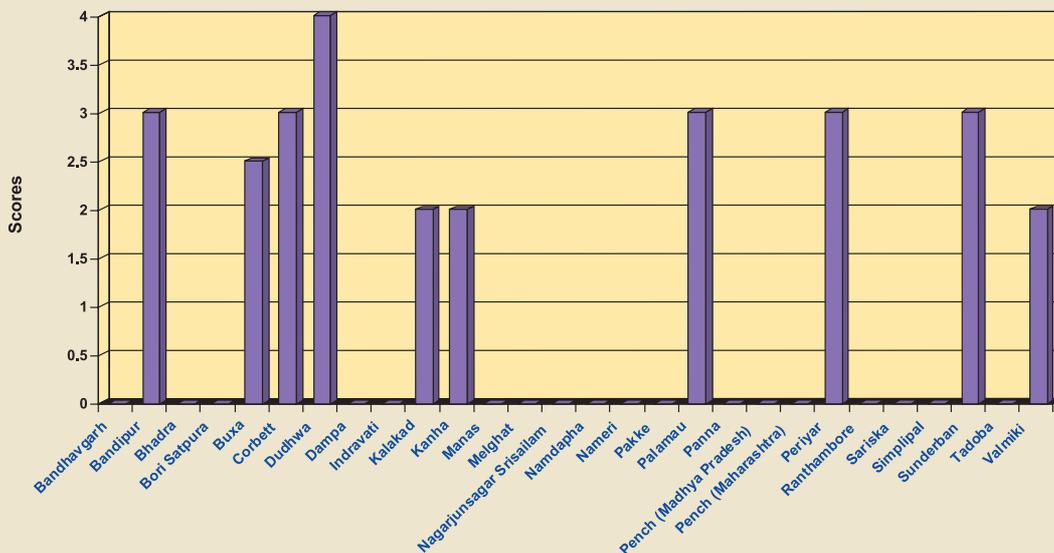
Criteria: Control Over Use / Access of Tiger Reserve Resources



Criteria: Efforts towards Sustainable Development



Criteria: Restorative inputs beyond Tiger Reserve



Profile

The Bandhavgarh Tiger reserve named after the highest hill Bandhavgarh (807 m) lying in the center of the Reserve, falls between the Vindhyan hill range and the eastern flank of Satpura hill range and is located in Shahdol and Jabalpur districts of Madhya Pradesh. A chain of smaller hills, 32 in all, surrounds this hill, forming a number of valleys and spurs interspersed with low lying areas, such as Chakradhara, Rajbahera, Sehra-Dadra, Bhitri bah, Kolua bah etc.

Rivers Johilla and Son flowing on the boundary on the eastern side, river Umrar passing through western fringes and the Bandhavgarh hill, which is visible from as far as 30 km, are some of the landmarks of the Reserve.

Bandhavgarh Fort, atop the Bandhavgarh hill, was the seat of rulers of Rewa State, until they shifted to Rewa town in 1617 A.D. Maharaja Martand Singh of Rewa, was deeply moved by the destruction of forests. On proposal an area of 105 km² was declared as National Park in 1965. The area of the park was increased to 448.84 km² in 1982. The remaining part of the National Park i.e. 343.842 km² is yet to be finally declared though State Government had made the initial notification in 1982. Panpatha Sanctuary with an area of 245.847 km² was declared in 1983. Bandhavgarh has been an excellent habitat of tiger and is known for high density of tigers.

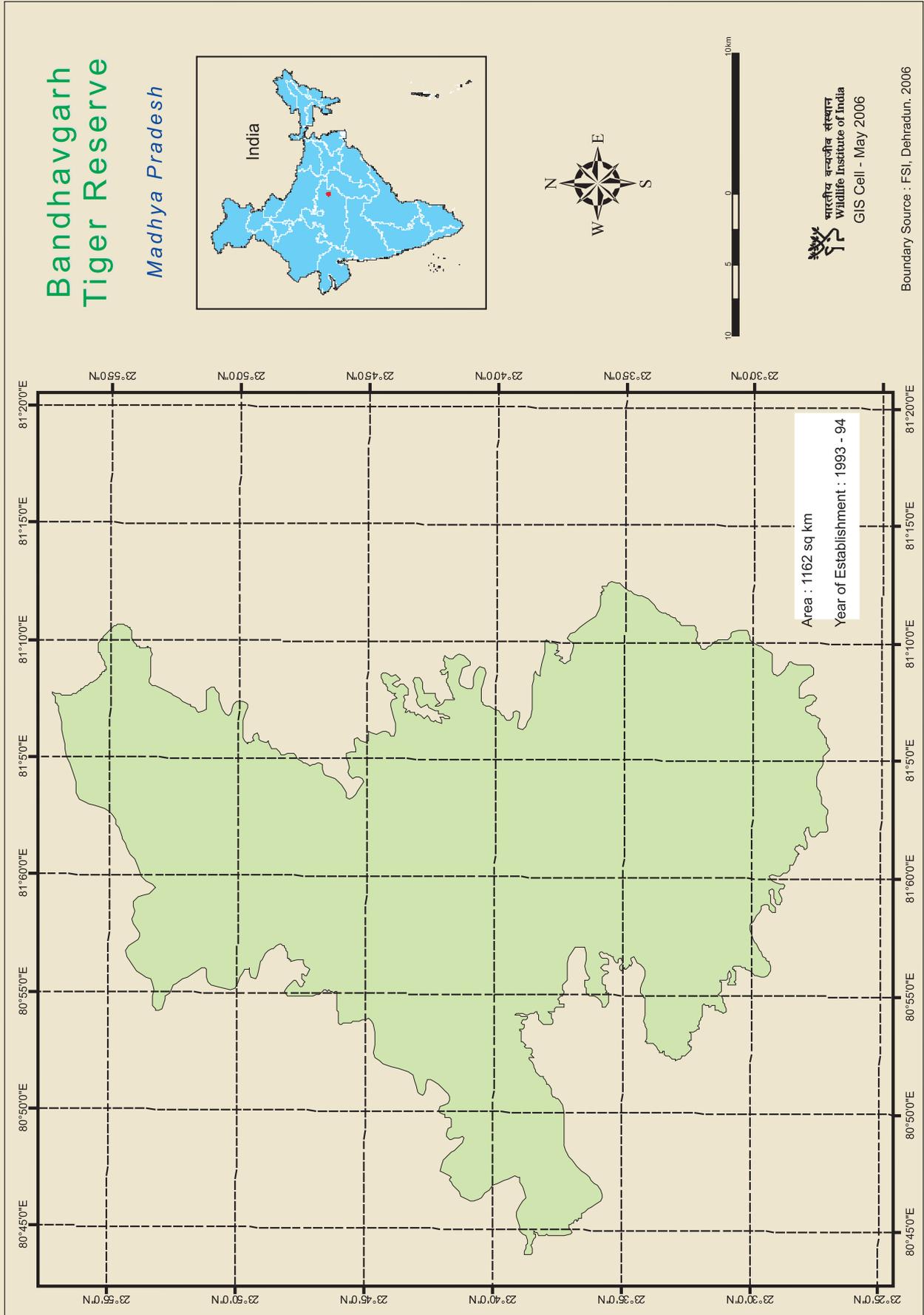
There are a number of man made caves in Bandhavgarh with inscriptions and carvings, which date back between about 129-168 A.D. Statues of various incarnations of Lord Vishnu, which were carved out of single rock are found in the fort. "Sheshshaiya" the statue of lord Vishnu in reclining pose is the biggest of all and attracts large number of tourists. These statues date back to 10-11th Century A.D.

Major the Species of the Reserve are: Sal, Saja, Dhauda, Tendu, Arjun, Aonla, Salai, Bhirra, Khamer, Dhaman, Mango, Jamun, Bamboo, etc.

Major animal species are: Tiger, Leopard, Jungle Cat, Wolf, Jackal, Indian Fox, Wild Dog, Sloth Bear, Ratel, Hyaena, Chinkara and Chowsingha.

Bandhavgarh Tiger Reserve

Bandhavgarh



Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	0	Bandhavgarh TR has a core area of 702.324 km ² with Bandhavgarh NP (453.484 km ²) and Panpatha WLS (248.84 km ²). Bandhavgarh NP when originally notified had an area of 109 km ² comprising Tala Range of the TR and subsequently it has been finally notified. Panpatha WLS which was notified in 1983 and the proposed extended area of Bandhavgarh NP are yet to be finally notified.
	Delineation of buffer zone	3	0	An area of 462.685 km ² has been identified as the buffer area of the Tiger Reserve. It has been delineated on the ground and a proposal has been submitted to the Chief Wildlife Warden in July, 2004 but it has not yet been notified as a buffer.
	Unified control of buffer	3	0	The identified buffer is under the control of respective territorial divisions of Umeria and Katni.
	Sub-Total	9	0	
2. Compatible Land Use	In the buffer	3	0	In the proposed NP extension and the WLS, grazing and NTFP collection by villagers continues unabated. As a result there is degradation all around these villages, in the buffer zone and beyond there is no compatible land-use.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5 km radius)	3	0	
	Beyond buffer the land use is detrimental	0	-	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	6 villages having a population of 2486 in the National Park and 8 villages having a population of 3674 in the Wildlife Sanctuary exert immense pressure in the core area. In the delineated buffer zone there are 61 villages with a population of 28519. There are 4870 cattle in 6 villages in the proposed National Park extension and 6172 cattle in 8 villages in the Wildlife Sanctuary. In the proposed buffer zone there are 37210 cattle. All these cattle together exert huge pressure on the Tiger Reserve. Cultivation is practised in 3 Revenue villages, 3 forest villages and 9 revenue patches over an area of 18.44 km ² . In 8 revenue villages in the Sanctuary an area of 6.96 km ² is under cultivation. There are 4 current cases of encroachment in the TR involving 1.6 hectares of forest land in respect of which eviction notices have been served. NTFP is being collected by the villagers living inside the Tiger Reserve for bonafide use. In the designated buffer zone there is no ban on collection of NTFP and fodder. All operations in the buffer areas are similar to operations in the territorial Forest Divisions and there is continued exploitation of all forest produce resulting in high degree of degradation.
	No habitation within the core	4	0	
	Livestock grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	0	
4. Use of the Area by other Departments	Yes	0	0	Two highways namely; Umeria-Rewa and Katni-Parasi-Tale pass through the Tiger Reserve for a considerable length.
	No	3	-	
	Sub-Total	3	0	

Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	0	The old Management Plan was valid up to 2003. Preparation of the Management Plan which has been delayed considerably is in progress by the present Field Director. The Field Director assured the committee that the Management Plan would be ready in another 6 months.
	No	0	-	
	Sub-Total	3	0	
6. Regeneration Status in the Core	Satisfactory	3	3	Regeneration status in the Core Area is very good except in the vicinity of villages situated in the core area where regeneration is poor.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	0	Due to free grazing and collection of fuel and fodder the regeneration status in the Buffer Area is generally poor.
	Poor	0	-	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	-	The position of field staff is very poor. There are 66 beats and 6 check posts in the Tiger Reserve besides 6 posts needed for tourism regulation against which only 60 posts are sanctioned. The cadre management authority is the territorial Conservator of Forests who has further reduced the sanctioned strength to 50 against which 55 Forest Guards are working. Therefore, about 17 posts of Forest Guards are needed to meet the actual requirement besides the 3 posts of Forest Rangers and 3 posts of Deputy Rangers which are also vacant.
	Inadequate	0	0	
	Sub-Total	3	0	
9. Average Age of Staff	Satisfactory	3	0	The average age of the staff is about 50 years.
	Unsatisfactory	0	-	
	Sub-Total	3	0	
10. Equipments	Adequate	3	3	The position of Equipment is Adequate.
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	Though there are 5 Gypsies and 2 jeeps for the field the Field Director feels that there should be at least one vehicle for each range.
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	0	There is no complaint about the release of funds in time by Central or State Govts.
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	0	There is no strike force as such. An Ad-hoc arrangement is made whenever situation arises. The Field Director could pick up some field staff and train them as a strike force, which can be utilized for intelligence collection as well.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Disbursement position of Salary and other allowances are reported to be satisfactory.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	Research by outside agencies such as ZSI, FSI, IIRS & WII has been made on some aspects relating to the TR in the past. But very little in house research or field data collection has been done so far. For the revision of the Management Plan some data collection is in progress including updating of the Compartment Histories. For the estimation of herbivore population 53 transects have been laid. Tiger and leopard population estimates are done annually by pugmark method. Data collected by frontline staff during day to day patrolling are used to supplement and complement the annual census figures.
	Not ongoing	0	-	
	Sub-Total	3	3	

Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	2	<p>The Tourism zone has been carved out from the core area of the TR. Tala Range which has the oldest conservation is in the Tourism Zone. This royal hunting reserve was handed over to the government by the royal family of Rewa in 1968 to set up a Protected Area. The fort situated in the centrally located upper plateau was retained by the then 'raja'. This area of 109 km² notified as NP in 1968 forms the tourism zone all of which falls in Tala Range.</p> <p><i>Over 25 tourist resorts operate from a chunk of Revenue land at Tala in the heart of the Tiger Reserve (technically kept out of the Tiger Reserve), About 40 private vehicles make a bee line in the morning to witness the 'Tiger Show' organized by the Tiger Reserve Management. Though different routes are allotted to the vehicles at the entry gate but once they are inside the National Park, they converge at the place of the 'tiger show' within no time as the message reaches every nook and corner through the wireless network. We witnessed over 20 vehicles running after a male tiger roaring and walking on the dusty forest road in pursuit of his female mating partner. At another place an injured male (due to a fight with another male for securing a willing female) was being hotly pursued by 8-10 tourist vehicles. In the former case when the male caught up with the female at around 7.30 -8.00 am, both were pinned down by the camp elephants close to the road and the 'show' continued till 11.30 a.m. when the tigers as well as the elephants ferrying the visitors were very uncomfortable in the hot sun. In an article on Bandhavgarh Tiger Reserve by Ashish Kothari in Sanctuary magazine, it is rightly observed that "the vast majority of Bandhavgarh's visitors seem to go there solely to see the big striped cat". He further observes that "this is rather sad, for Bandhavgarh has so many more splendid attractions and values that go way beyond wildlife conservation". In such a mad rush after the tigers, there was a mishap recently when an injured tigress being hotly chased by the vehicles jumped in an open vehicle and mauled a foreign visitor. It is difficult to discipline the guides/drivers at such moments and the Field Director had to ban entry of one Gypsy driver for a week in our presence for violating the regulations. Due to high density of tigers in Tala range (tourism zone), there is hardly any day when such mad rush is not witnessed, as tiger sighting after tracking and pinning down by camp elephants is almost certain.</i></p> <p><i>It would be necessary to review this practice after careful study on tiger behaviour as it can prove dangerous for the visitors as well as the tigers. Limiting tourist vehicles, minimizing routes and allowing such 'shows', only once or twice a week could be considered as possible solutions. On other days visitors can be taken on elephant back from a convenient point for a safari of 1 1/2 to 2 hrs. duration to track the tigers in the morning and evening. With such a high tiger density, tiger sighting would still be sure and more thrilling and educative with almost no risk factor. Carrying capacity of the tourism zone has not been calculated. All petrol vehicles and diesel vehicles not more than 2 year old are allowed in the Park. Trained guides accompany the visitors. The influential Hotel and Resort owners try to have their say. Present Field Director has been partly successful in containing this influence.</i></p>
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of Gate Receipts done	Yes	5	5	<p>All the proceeds from gate receipts from tourism activities are deposited in the Park Development Fund and used for various activities like eco-development, development and maintenance of tourism facilities, staff welfare measures and protection and management of the Tiger Reserve after prior sanction of a State Level Committee.</p>
	No	0	-	
	Sub-Total	5	5	
18 Field Staff Training	Yes	3	3	<p>A majority of frontline staff is trained in 5-6 months' structured wildlife courses at Bandhavgarh Wildlife Training Centre. The Field Director and other officers are not trained in wildlife courses. In house short duration training is imparted on legal matters, forensic science, ecocodevelopment schemes, wildlife estimation and Management Plan.</p>
	Not done regularly	0	-	
	Sub-Total	3	3	

Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
19. Weed Growth in the Habitat	Present	0	-	<i>Cassia tora</i> and <i>Lantana</i> are kept under control by intensive uprooting operations since past some years. It was reported to the committee that this management practice has been stopped due to Central Empowered Committees instructions. Project Tiger Directorate may clarify the position after consultation with the CEC as weed eradication is an important management practice in all the Tiger Reserves.
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	The Tiger Reserve has a mosaic of grasslands and sal/bamboo forests. Relocated village site at Bathan has been developed into an excellent grassland. The areas around the village situated inside the core area are degraded and lack gregarious woodlands.
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	Field visits are adequate but there is scope for more surprise visits by officers especially in Ranges other than Tala Range where biotic pressure is more. Some cattle were found grazing deep in the core area which indicates need for more intensive touring by officers.
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	Necessary field patrolling kit is provided to the frontline staff by NGOs and Park Management from time to time. Project allowance to all field staff as well as incentive money of Rs. 400/- per month is paid to Forest Guards out of Park Development Fund. A Children's Hostel for families of staff posted in remote areas has also been constructed at Umaria district Hqrs.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
23. Poaching	Common	0	4	The Core area of the Tiger Reserve as well as the adjoining designated buffer zone is sensitive to poaching and the field staff has to remain vigilant all the time. During the past 1 1/2 years no case of poaching of tiger/leopard has taken place but poaching of herbivores, unauthorized grazing, illicit felling etc. do take place occasionally.
	Negligible	4	-	
	Sub-Total	4	4	
24. Fires	Common	0	-	During 2003-04, 40 incidences of ground fire affecting about 80 ha. Took place. In 2004-05, 45 incidences were recorded affecting about 128 ha.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	No cases of epidemic diseases are reported during past several years.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Wildlife census is done regularly with reasonable accuracy using scientific methods. The monitoring by field staff throughout the year is used to supplement and authenticate the annual census figures. Tala Range has an excessive tiger population indicated by the fact that at the time of the committee's visit one tigress with 4 cubs and another with 2 cubs were frequently sighted. Two adult males that were sighted by the committee in the same area were injured due to mutual fight for a female that was seen with one of the males. In other areas due to higher degree of biotic pressure from villages inside and in the periphery of the core the sighting is much less. It would be necessary to manage the spill over population from Tala range in the adjoining forest areas including the designated buffer zone in order to get the benefit of regular breeding in Tala Range. It is for this one important reason that the control and management of the buffer zone should immediately be given to the Field Director and relocation of villages should get top priority.
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	There are 53 patrolling camps located throughout the Tiger Reserve. The camps need more strength particularly in disturbed areas. Some more camps would be necessary to check illegal grazing etc. on the outer periphery. Tarawa, Mazadgarh and Medra camps, situated at strategic locations were visited by the team.
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Daily monitoring is being done through wireless network and field diaries of the frontline staff. Staff posted in patrolling camps monitors the presence of tiger and prey species and records them in their diaries.
	No	0	-	
	Sub-Total	4	4	

Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
29. Networking Strategy Present	Yes	3	3	Networking is done through wireless network which is operational 24 hrs a day at all headquarters and on the vehicles of officers. Handsets are available with field staff.
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	5	Daily patrolling is organized from the patrolling camps. This patrolling needs to be closely monitored by the Field Director and other officers by surprise checks in the field. For sensitive areas patrolling schedule should be drawn by Range Officers and officers above them.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	A Forester has been deputed to pursue all the court cases at the Field Director's Headquarter. A private lawyer has been engaged to assist the District Prosecution Officer.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Ex-gratia/ Compensation is paid promptly and regularly.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	Tala is the hub of all tourism activities, where over 25 private tourist resorts are catering to the large volume of visitors coming to Bandhavgarh Tiger Reserve. There are 8 double bedded rooms and 4 tents under the control of the Field Director. There are 45 trained nature guides who conduct visits in the Reserve. There is a library and an open air theater for film shows on wildlife. The Interpretation Centre and an internet cafe are under construction. Camp elephants are used for tiger tracking and 'tiger shows'.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	Relationship with the Police is good.
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Ecodevelopment activities are being carried out in the 61 villages around the TR. 6 villages are inside the core area and another 4 are close to the boundary. The committee visited Garhpuri village inside the core and Bagdara, Gadawa and Gohdi on the fringe. There is a great deal of degradation around these villages and shifting of villages from inside the core area seems to be the only answer. In rest of the villages eco-development programmes need to be taken up on a larger scale. During 2002-03, 2003-04 & 2004-05 an amount of Rs. 92.55 lakh, 24.35 lakh and 15 lakh respectively has been spent. The decreasing trend of expenditure should be the cause of concern on this important programme. Under the programme, water supply resources, land leveling, agricultural up-gradation, biogas, loans for self employment etc. are being taken up from which the villagers are benefited. More involvement of villagers would help the TR as well as the communities.
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	3	Eco Development Committees have been formed in the adjoining villages who are continuously motivated to help the management in providing intelligence about poachers, firefighting, reducing pressure on TR etc. There is limited degree of awareness and the efforts will have to be continued.
	Poor	0	-	
	Sub-Total	5	3	
37. Cattle Immunisation In Villages	Done	5	5	Cattle immunisation is being done every year for HS, BO and FMD.
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	Due to increased volume of tourists in the private Hotels and Lodges the local people are getting engagement as nature guides, vehicle owners and/or drivers, employees in local resorts, shop owners, suppliers of vegetable and dairy products etc.
	No	0	-	
	Sub-Total	5	5	
39. Registration of Arms	Done	4	4	Registration of arms is being done as per law.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all cases of unnatural mortality	Yes	4	4	Postmortem is being done by State Government, appointed local veterinary doctors in all cases of natural or unnatural deaths of wild animals.
	No	0	-	
	Sub-Total	4	4	

Bandhavgarh Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
41. Trust Between Local People & TR Management	Good	5	5	The trust between villagers and Park Management is developing due to ecodevelopment activities and extension and publicity programmes but there is a constant rumbling among some of the resort owners as their vested interests are not served by strict enforcement of rules and regulations. The tenure of Field Directors in Bandhavgarh has been short due to all these reasons as against the long tenure of Field Directors in Kanha Tiger Reserve. This is the main reason why there is such a marked difference in management practices in the two adjoining Tiger Reserves of the same State.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits to Stake Holders	Good	3	3	The local communities, who are the main stakeholders, are directly benefited by the Ecodevelopment programmes and by way of employment and job opportunities in the tourism activities. The hotel owners are getting good business from tourism. The indirect benefit is the water conservation and availability of drinking and irrigation water from the Tiger Reserve.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access of TR Resources	Good	5	0	There is over use of tourism potential in Tala range (core area) due to organised 'tiger shows'. Tourism regulations otherwise are satisfactory. The villages still inside the core are overusing the resources of the Tiger Reserve in their immediate vicinity by grazing and use of fuel wood and fodder and collection of NTFP. Due to the control of designated buffer zone not being with the Tiger Reserve management there is gross overuse of resources of buffer area by surrounding villages which is harmful to the tiger in particular and other wildlife in general.
	Poor	0	-	
	Sub-Total	5	0	
44. Efforts towards Sustainable Development	Good	4	0	The efforts in the form of ecodevelopment are just a beginning. In fact all the development activities around the Tiger Reserve should be done on the lines of ecodevelopment programmes and all development activities should form a part of ecodevelopment programmes. At the moment coordination is lacking. Non transfer of designated buffer zone to the Tiger Reserve Management is also a great stumbling block in this direction.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being Done	5	0	Even in the designated buffer zone the restorative inputs are hard to achieve as it is not being handed over to the Tiger Reserve Management. Beyond the Tiger Reserve there is hardly any thought or effort. Bandhavgarh TR is connected with good forest areas with potential for tiger breeding but unless a landscape plan is made, there is no hope to achieve it. With the presence of the maximum number of Tiger Reserves in MP and availability of vast stretches of forests which still have some corridors and connectivity, no other State can have a greater opportunity to make a State Level Landscape Planning for management of tigers better than that of the State of Madhya Pradesh. If MP's claim for the Tiger State has to get a real recognition, that can be only through landscape planning. The Govt. of India can play a major role in funding a model.
	Lacking	0	-	
	Sub-Total	5	0	
Grand Total		185	127	

Profile

Bandipur Tiger Reserve situated in Mysore District of Karnataka State was among the first nine Tiger Reserves created in India at the launch of Project Tiger in 1973. It is contiguous with Madhumalai Wildlife Sanctuary in Tamil Nadu state to south and Wynad Wildlife Sanctuary in Kerala state to the south-west. To the north-west lies Nagarhole National Park. The highest peak is Gopalaswamy hill.

The main perennial rivers of the Reserve are Nugu, Kabini and Moyar. The Nugu river flows in the middle of the Reserve, whereas, the Moyar river forms the southern boundary between this reserve and Madhumalai Wildlife Sanctuary. The Kabini river, across which a major irrigation dam has come up at Beechanahalli, forms the boundary between this Reserve and Nagarhole National Park of Karnataka. The Kabini reservoir provides water facility and the grazing ground on the foreshore, for hundreds of elephants during severe and prolonged pinch period. Seasonal streams like Wadli, Chammanahalla, Aidasanahattihalla, Hebballa, Warranchi, Chippanahalla and Mavinahalla are also present.

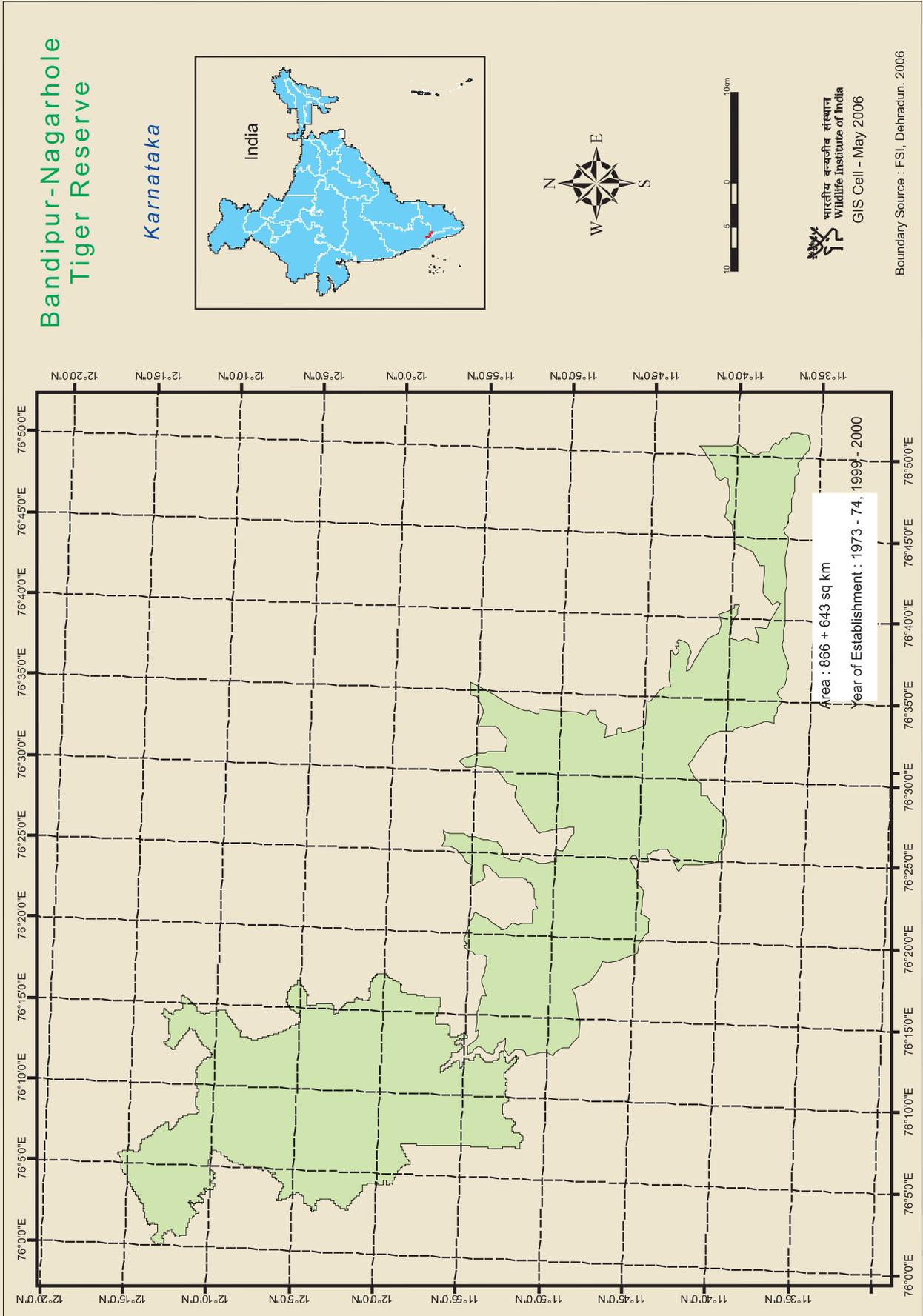
A Sanctuary of 90 km² area was created in Bandipur Reserve Forest in 1931. Venugopala Wildlife Park was constituted in 1941, extending over 800 km². The Park was named after the deity, Venugopala of the shrine atop this hill. Bandipur Tiger reserve was formed by including most of the forest area of the then Venugopala Wildlife Park and its sanctum sanctorum at Bandipur, in the year 1973 and named Bandipur National Park. All the forests included in the Reserve are Reserved Forests notified prior to independence.

Forest types of the Reserve are: Dry Deciduous Scrub, Southern Tropical/Dry Deciduous and Southern Tropical Moist Mixed Deciduous Forests cover the reserve area.

Main floral species include: *Tectona grandis*, *Dalbergia latifolia*, *Pterocarpus marsupium*, *Adina cordifolia*, *Grewia tiliaefolia*, *Amblica officianalis*, *Lagerstroemia lanceolata*, *Terminalia tomentosa*, *Anogeisus latifolia*, *Terminalia chebula*, *Schleichera trijuga*, *Odina wodiari*, *Butea monosperma*, *Cassia fistula*, *Dendrcalamus strictus*, *Bambusa arundinacea*, *Chloroxylon swetenia*, *Acacia catechu*, *Shorea talura* and *Randia uliginosa*.

Major faunal species of the Reserve are: Tiger, Leopard, Elephant, Gaur, Sambar, Spotted deer, Sloth bear, Mouse deer, Wild dog, Four horned Antelope.

Bandipur Tiger Reserve



Bandipur Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Score		Comments
			Bandipur	Nagarhole	
1. Legal Status	Completion of legal procedures	3	3	3	Bandipur and Nagarhole NPs are well defined by, E.P.T.s along northern boundaries in Bandipur, North eastern - North & Western boundaries of Rajiv Gandhi NP
	Delineation of buffer zone	3	1	1	
	Unified control of buffer	3	2	2	
	Sub-Total	9	6	6	
2. Compatible Land Use	In the buffer	3	2	1	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0			
	Beyond buffer (5km. radius)	3			
	Beyond buffer the land use is detrimental	0			
	Sub-Total	6	2	1	
3. Human Pressure	Habitation present within the core	0			Nagarhole has chronic problems and need administrative and policy level serious thinking.
	No habitation within the core	4			
	Livestock grazing pressure present within the core	0			
	No livestock grazing pressure within the core or adjoining areas	4	4	2	
	Cultivation present in the core	0			
	Encroachment present	0			
	Collection of NTFP in the core	0			
	Quarrying present in the core	0			
Sub-Total	8	4	2		
4. Use of the area by other departments	Yes	0			
	No	3	3	3	
	Sub-Total	3	3	3	
5. Management Plan Updated	Yes	3	3	3	Long history of management plans for both the areas. Karnmaraju (2000) for Bandipur and Appayya (2001) R.G.(Nagarhole) N.P.
	No	0			
	Sub-Total	3	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	3	Northern fringe of Bandipur under stress/pressure (Work of Dr. Prakash N.A College of Forestry, Ponnampet in R.G.N.P. indicates adequate regeneration.)
	Poor	0			
	Sub-Total	3	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	-	2	
	Poor	0	-	0	
	Sub-Total	3	-	2	

Bandipur Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Score		Comments
			Bandipur	Nagarhole	
8. Staff in Position	Satisfactory	3	2	2	Even the sanctioned strength of frontline staff is inadequate. The norms need to go beyond simple archaic standards and need to be based realistically on functions, terrain difficulties and the nature and intensity of pressures. Role assessment is essential.
	Inadequate	0	2	2	
	Sub-Total	3	2	2	
9. Average Age of Staff	Satisfactory	3	2	2	
	Unsatisfactory	0			
	Sub-Total	3	2	2	
10. Equipments	Adequate	3	2	1	Communication adequate in Rajiv Gandhi NP.
	Inadequate	0			
	Sub-Total	3	2	1	
11. Vehicles	Adequate	3	2	1	Special focus on maintenance essential in Rajiv Gandhi NP.
	Inadequate	0			
	Sub-Total	3	2	1	
12. Timely Release of CA	Yes	4			
	Delayed	0			
	Sub-Total	4	2	2	
13. Strike Force Available	Yes	4	2	1	Rajiv Gandhi NP needs additional staff.
	No	0			
	Sub-Total	4	2	1	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	2	2	Delays observed in Rajiv Gandhi NP.
	Unsatisfactory	0			
	Sub-Total	4	4	2	
15. Field Data Collection & Research	Ongoing	3	1	1	
	Not ongoing	0			
	Sub-Total	3	1	1	
16. Tourism Regulation	Done as per CC	5	4	2	Rajiv Gandhi NP needs operational Nature education centers urgently (Building constructed but not put to use.)
	Not done as per CC	0			
	Sub-Total	5	4	2	
17. Recycling of gate Receipts done	Yes	5			
	No	0			
	Sub-Total	5	4	2	
18. Field Staff Training	Yes	3			
	Not done regularly	0			
	Sub-Total	3	2	1	
19. Weed Growth in the Habitat	Present	0			Weeds present and thus habitat amelioration is called for in some places. (tourism zone in particular) *(study by Patil-Deve Kumar, et al)
	Not seen	3	1	1	
	Sub-Total	3	1	1*	
20. Gregarious Woodland Advancement in Meadows	Present	1			Special measures called for in Rajiv Gandhi NP.
	Managed	4	2	3	
	Sub-Total	4	2	3	
21. Field Visits by Officers	Adequate	4	3	3	
	Inadequate	0			
	Sub-Total	4	3	3	
22. Staff Welfare Measures	Satisfactory	4	2	2	Namma Sangh in Bandipur, is laudable.
	Unsatisfactory	0			
	Sub-Total	4	2	2	

Bandipur Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Score		Comments
			Bandipur	Nagarhole	
23. Poaching	Common	0			
	Negligible	4	4	2	
	Sub-Total	4	4	2	
24. Fires	Common	0			**(Report by Devgiri, MM Murthy, B.M Thammaiah)
	Less than 1% of the TR area	5	5	3	
	Sub-Total	5	5	3**	
25. Epidemics	Common	0			
	Rare	3	3	3	
	Sub-Total	3	3	3	
26. Wildlife Estimation	Done regularly	3	1	1	More rigorous and scientific population estimations are essential.
	Irregular	1			
	Sub-Total	3	1	1	
27. Patrolling Camps Present	Yes	5	4	2	
	No	0			
	Sub-Total	5	4	2	
28. Daily Monitoring done through Camps and Recorded	Yes	4	2	1	
	No	0			
	Sub-Total	4	2	1	
29. Networking Strategy Present	Yes	3	2	2	
	No	0			
	Sub-Total	3	2	2	
30. Daily Patrolling done	Yes	5	4	2	
	No	0			
	Sub-Total	5	4	2	
31. Court Cases Monitored	Yes	4	2	2	
	No	0			
	Sub-Total	4	2	2	
32. Ex-Gratia, Compensation	Paid promptly	5	4	3	*(Murthy M.M. (2002) College of Forestry, Kodagu.
	Not paid promptly	0			
	Sub-Total	5	4	3*	
33. Tourist Facilities	Adequate	2	1	0	No interpretation / education in Rajiv Gandhi National Park.
	Poor	0			
	Sub-Total	2	1	0	
34. Relationship with Police	Good	1	1	1	STF in Bandipur was active till recent.
	Poor	0			
	Sub-Total	1	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	4	Provision of gas connections in areas around Bandipur through there own society is laudable (Namma Sangh)
	Lacking	0			
	Sub-Total	6	5	4	
36. Fulfilment of Reciprocal Commitments	Good	5	4	2	Expectations of Rajiv Gandhi National Park ousters are not fulfilled.
	Poor	0			
	Sub-Total	5	4	2	
37. Cattle Immunisation In Villages	Done	5	2	2	
	Not done	0			
	Sub-Total	5	2	2	
38. Host Community Involvement In Ecotourism	Yes	5	4	2	
	No	0			
	Sub-Total	5	4	2	

Bandipur Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Score		Comments
			Bandipur	Nagarhole	
39. Registration of Arms	Done	4	4	4	
	Not done	0			
	Sub-total	4	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	2	2	
	No	0			
	Sub-total	4	2	2	
41. Trust Between Local People & TR Management	Good	5	4	3	
	Poor	0			
	Sub-total	5	4	3	
42. Economic Benefits to Stakeholders	Good	3	2	1	
	Poor	0			
	Sub-total	3	2	1	
43. Control Over Use / Access of TR Resources	Good	5	4	2	
	Poor	0			
	Sub-total	5	4	2	
44. Efforts Towards Sustainable Development	Good	4	4	2	
	Lacking	0			
	Sub-total	4	3	2	
45. Restorative Inputs Beyond TR	Being done	5	3	3	
	Lacking	0			
	Sub-Total	5	3	3	
Grand Total		185	126	95	

Profile

Bhadra situated in the midst of Western Ghats in Chikmagalur and Shimoga districts of Karnataka is surrounded by hill ranges of Mullaianagiri, Hebbegiri, Gangegiri and Babaudangiri and also the picturesque Bhadra river and its tributaries like Somavahini, Thadabehalla and Odirayanahalla. A dam has been constructed across Bhadra river near Lakkavalli. The reserve consists of two main areas, Muthodi and Lakkavalli.

The area was declared as Jagara Valley Wildlife Sanctuary by the Government of Mysore in 1951 covering an area of 200.64 km². The adjacent areas that were rich in wildlife was surveyed and the Sanctuary was reconstituted in the year 1974, as Bhadra Wildlife Sanctuary covering an area of 492.46 km².

Ancient temples like Mhakta Markandya temple of Khandya, and Bhavani Shankar temple of Hebbe are an attraction. These temples were built during Hoisala regime.

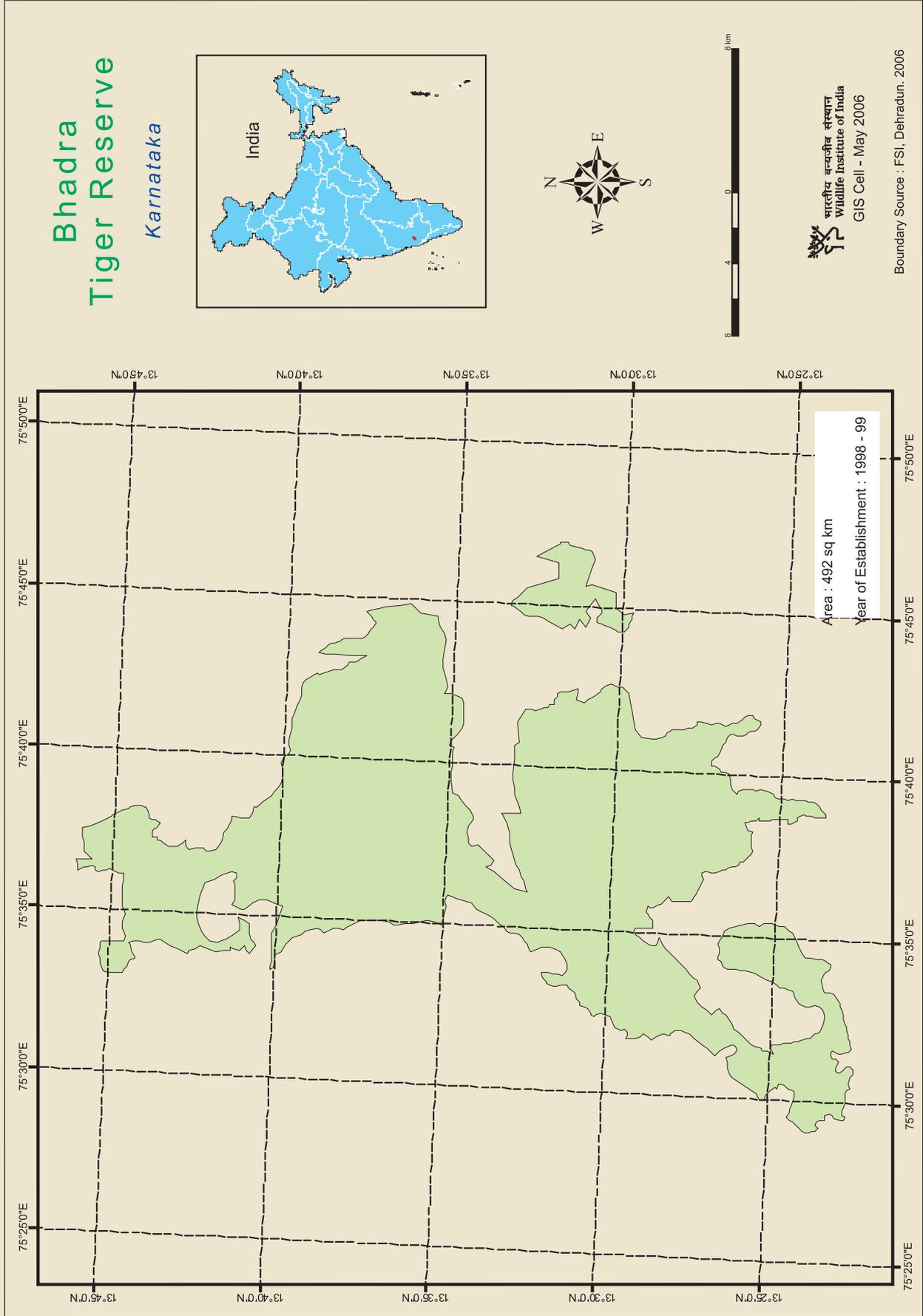
Forest types found in the Reserve are: Southern Tropical Dry Deciduous Dry Teak, Northern Tropical Dry Deciduous Mixed Forest, Dry Deciduous Scrub Forest, Boswellia Forest, Dry Bamboo Brakes and Anogeissus Pendula Forest.

Major fauna of the Reserve include: Elephant, Gaur, Wild Pig, Sambar, Spotted Deer, Barking Deer, Mouse Deer, Common Langur, Bonnet Macaque, Slender Loris, Tiger, Jungle Cat, Leopard (Black Panther), Leopard (Black Panther), Leopard Cat, Small Indian Civet, Common Mongoose, Jackal, Wild Dog, Sloth Bear, Malabar Giant Squirrel, Giant Flying Squirrel and Porcupine.

King Cobra, Python, Cobra, Rat Snake, Vipers and Kraits are among the snakes that inhabit the Park. Interesting birds include the Great pied hornbill, Malabar pied hornbill and Ceylon frogmouth.

Bhadra Tiger Reserve

Bhadra



Bhadra Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	2	PA has a status of sanctuary and is fragmented (Kemngundi beat); need for a corridor to connect Kemngundi and Athigundi. Buffer zone is within the sanctuary. Survey Nos. (Minor forests) which are 'de facto' under P.A. manager, need be included in notified area and given status of buffer zone and managed as multiple use area. Some areas along western boundaries may be included for a well defined ecological entity and include part of draw down area of Bhadra reservoir and islands located within the same.
	Delineation of buffer zone	3	1	
	Unified control of buffer	3	2	
	Sub-Total	9	5	
2. Compatible Land Use	In the buffer	3	3	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	3	
3. Human Pressure	Habitation present within the core	0	-	Excellent work of relocation, scope for improvement along eastern boundary.
	No habitation within the core	4	3	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	3	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	6	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	

Bhadra Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	3	There is management plan by Mr. D. Yatish Kumar 2000-2005
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Despite fires which followed gregarious flowering of bamboo, regeneration is adequate.
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Despite fires which followed gregarious flowering of bamboo, regeneration is adequate.
	Poor	0	-	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	2	
	Inadequate	0	-	
	Sub-total	3	2	
9. Average Age of Staff	Satisfactory	3	2	
	Unsatisfactory	0	-	
	Sub-total	3	2	
10. Equipments	Adequate	3	2	
	Inadequate	0	-	
	Sub-total	3	2	
11. Vehicles	Adequate	3	2	
	Inadequate	0	-	
	Sub-total	3	2	
12. Timely Release of CA	Yes	4	2	Scope for improvement
	Delayed	0	-	
	Sub-total	4	2	
13. Strike Force Available	Yes	4	3	
	No	0	-	
	Sub-total	4	3	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	
	Unsatisfactory	0	-	
	Sub-total	4	4	
15. Field Data Collection & Research	Ongoing	3	1	
	Not ongoing	0	-	
	Sub-total	3	1	
16. Tourism Regulation	Done as per CC	5	4	
	Not done as per CC	0	-	
	Sub-total	5	4	
17. Recycling of gate Receipts done	Yes	5	5	
	No	0	-	
	Sub-total	5	5	
18. Field Staff Training	Yes	3	1	More emphasis on monitoring and extension.
	Not done regularly	0	-	
	Sub-total	3	1	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	2	
	Sub-total	3	2	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Vacated village areas need be monitored and managed intensively.
	Managed	4	3	
	Sub-total	4	3	

Bhadra Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
21. Field Visits by Officers	Adequate	4	3	
	Inadequate	0	-	
	Sub-total	4	3	
22. Staff Welfare Measures	Satisfactory	4	2	Scope for improvement
	Unsatisfactory	0	-	
	Sub-total	4	2	
23. Poaching	Common	0	-	
	Negligible	4	3	
	Sub-total	4	3	
24. Fires	Common	0	-	
	Less than 1% of the TR area	5	3	
	Sub-total	5	3	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	1	Need for more scientific and regular exercises
	Irregular	1	-	
	Sub-total	3	1	
27. Patrolling Camps Present	Yes	5	4	
	No	0	-	
	Sub-total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	2	
	No	0	-	
	Sub-total	4	2	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	3	
	No	0	-	
	Sub-total	5	3	
31. Court Cases Monitored	Yes	4	2	
	No	0	-	
	Sub-total	4	2	
32. Ex-Gratia, Compensation	Paid promptly	5	4	
	Not paid promptly	0	-	
	Sub-total	5	4	
33. Tourist Facilities	Adequate	2	1	
	Poor	0	-	
	Sub-total	2	1	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	
	Lacking	0	-	
	Sub-total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	2	Minor forest along periphery need be managed as multiple use areas.
	Poor	0	-	
	Sub-total	5	2	

Bhadra Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
37.Cattle Immunisation In Villages	Done	5	2	Allow and regulate grazing in multiple use areas, it will give better handle in immunization.
	Not done	0	-	
	Sub-total	5	2	
38.Host Community Involvement In Ecotourism	Yes	5	2	Scope for improvement through introducing concept of trained guides.
	No	0	-	
	Sub-total	5	2	
39.Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-total	4	4	
40.PM done in all Cases of Unnatural Mortality	Yes	4	0	
	No	0	-	
	Sub-total	4	0	
41.Trust Between Local People & TR Management	Good	5	2	Scope for improvement
	Poor	0	-	
	Sub-total	5	2	
42.Economic Benefits To Stake Holders	Good	3	1	
	Poor	0	-	
	Sub-total	3	1	
43.Control Over Use / Access Of TR Resources	Good	5	3	
	Poor	0	-	
	Sub-total	5	3	
44.Efforts Towards Sustainable Development	Good	4	2	
	Lacking	0	-	
	Sub-total	4	2	
45.Restorative Inputs Beyond TR	Being done	5	0	
	Lacking	0	-	
	Sub-total	5	0	
Grand total		185	117*	

**corrected total*

Profile

The Satpura hill range is one of the major geographical features of peninsular India. The Dhoopgarh peak (1352 m above msl) located at Pachmarhi hill station is the highest point in the Satpura hill range. The Reserves consists of hill ranges, valleys, plains, deep gorges and water bodies providing a variety of habitats for different kinds of wildlife comprised by Bori WLS 485.72 km², Satpura NP 524.37 km² and Pachmarhi WLS 417.87 km².

Pachmarhi is an important hill station of Madhya Pradesh and is located within the area of Pachmarhi WLS. The area is important from the stand point of bio-aesthetic, cultural and social values. At Jata Shankar close to Panchmari is a temple of Lord Shiva Temple inside a cave. The area is part of the Gondwana tract after and Gond tribe that chiefly inhabited in this area and practicing shifting cultivation in the forest.

The forests may be broadly classified into (i) Tropical Dry Deciduous, (ii) Tropical Moist Deciduous and (iii) SubTropical Forests. On the basis of composition, three major types are identified, viz. Teak, Sal and Mixed forests.

Tiger, the main species is found in the Reserve in good numbers but remains confined to good forest areas. Leopard are found all over the reserve. Gaurs the largest herbivore, are in large number but are largely localized in moist and semi-moist forests of Bori WLS and Satpura NP. Sambar, Chital, Barking Deer, Chinkara and Mouse deer are distributed all over Reserve. Chausingha or four horned antelope and nilgai are found throughout the area. Nilgai are found concentrated in drier parts of the Reserve. Sloth bear is also frequently seen in forests rich in fruit trees particularly mahua, tendu and achar. These animals are more frequently seen in Sonbhadra valley. Langurs are common throughout the Reserve. Rhesus monkeys are localized at Pachmarhi particularly close to habitation. Wild dog or dhole and Wolf are also found in the Reserve. Civet, Common fox, Jackal and Jungle cat are found throughout the Reserve. Wild boars are seen in plenty throughout the Reserve. Giant squirrels and flying squirrels are also seen in the Reserve. Giant squirrels are found all along the nala and rivers around Pachmarhi, Bori, Dhain and Churna. Among reptiles, Cobra, Russel's viper, Python, Chameleon and common Indian monitor are found in large numbers throughout the Park. Crocodiles are also found in water bodies of the Reserve.

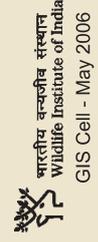
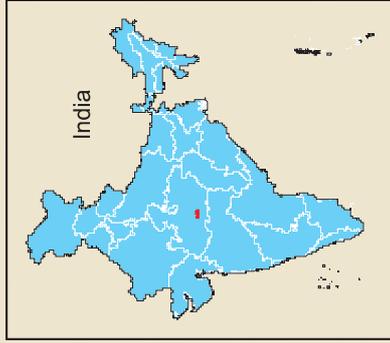
Important areas for wildlife viewing are Madai, Churna, Bori, Dhai, Paraspani etc. These places are rich in biodiversity and wildlife.

Bori-Satpura Tiger Reserve

Bori-Satpura

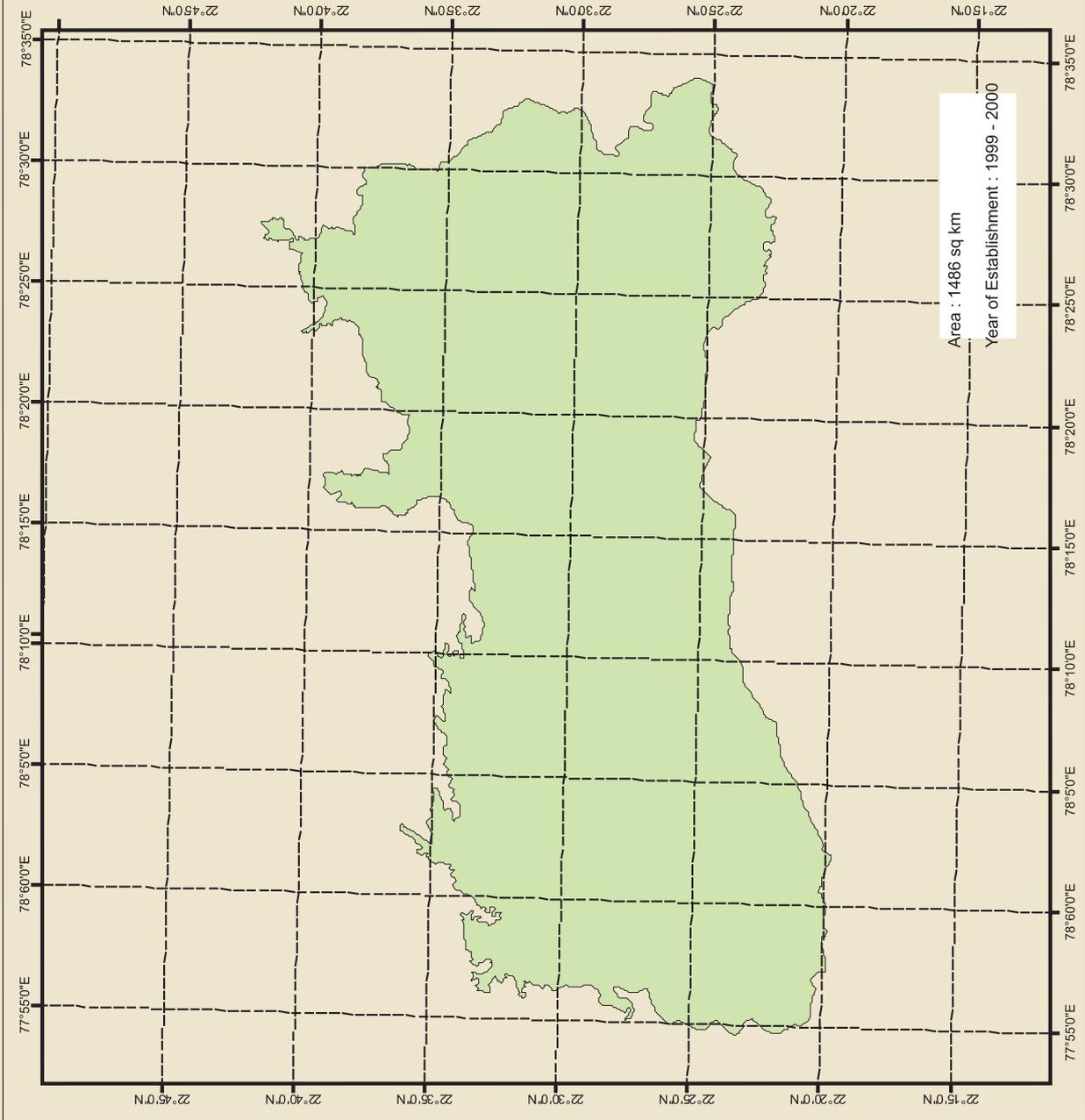
Bori-Satpura Tiger Reserve

Madhya Pradesh



GIS Cell - May 2006

Boundary Source : FSI, Dehradun, 2006



Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Satpura TR came into existence on 10.2.2000 comprising Satpura NP (524.37 km ²), Bori Sanctuary (485.72 km ²) and Pachmarhi Sanctuary (417.78 km ²), total area being 1427.87 km ² . This forms the core area of Pachmarhi Biosphere Reserve, which was created on 3.3.1999 with a total area of 4926.28 km ² .
	Delineation of buffer zone	3	3	Bori Sanctuary was notified in 1975 comprising of (1193.58 km ²), which was later divided into Bori and Pachmarhi Sanctuaries in 1977. Satpura NP (524.37 km ²) was carved out of these two sanctuaries in 1981. Final notification of Satpura NP has since been issued. Other than 3 Protected Areas (Satpura National Park, Bori & Pachmarhi Sanctuaries) no buffer zone has been delineated. However, the area of all the three PAs put together is substantial and the National Park, being sandwiched between the two sanctuaries in the major part, forms a good core area and in the NW North Denwa Reserve and Dunkadet Reserve act as good forest buffers. In the long run if these two Forest Reserves could be included as buffers then it could become an ideal Tiger Reserve.
	Unified control of buffer	3	3	All three Protected Areas are under the control of Field Director. There is no delineated buffer zone as yet and hence the question of unified control does not arise.
	Sub-Total	9	9	
2. Compatible Land Use	In the buffer	3	0	Land use in both the sanctuaries forming the buffer zone of the Tiger Reserve is satisfactory except for the large scale fishing that is being allowed in Tawa Reservoir which falls both in Bori Sanctuary and Satpura National Park. Land use beyond the Tiger Reserve is not compatible as there is no landscape plan to suggest better ways of land use beyond the buffer zone.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the land use is detrimental	0	-	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	There are 20 villages inside the Tiger Reserve, which are proposed to be relocated. 54 villages are in the periphery and exert pressure on the TR
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	Nearly 21,500 cattle in the villages situated inside the Tiger Reserve and equal number of cattle that come from outside, exert enormous grazing pressure on the Reserve.
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	In all the 20 villages inside the Tiger Reserve, cultivation is being practiced.
	Encroachment present	0	-	No encroachment was reported.
	Collection of NTFP in the core	0	-	NTFP and Fodder are collected by villagers situated inside the PAs mostly for bonafide use.
	Quarrying present in the core	0	-	
	Sub-Total	8	0	

Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
4. Use of the Area by other Departments	Yes	0	-	Defence (Army), Irrigation, Fisheries and Revenue departments are in occupation of substantial areas of the TR. Fishing in Tawa reservoir is leased out by Fisheries Department which causes great disturbance in Bori Sanctuary and Satpura NP.
	No	3	0	
	Sub-total	3	0	
5. Management Plan Updated	Yes	3	3	The Current Management Plan is valid only up to 2004-05. Immediate revision is called for.
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Regeneration status in the Core Area is very good except around the villages still inside the Core Area.
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Regeneration status in the Buffer Area is good in both the sanctuaries except in areas close to habitations.
	Poor	0	-	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	0	Staff position is not satisfactory as there are vacancies in all ranks of field staff.
	Inadequate	0	-	
	Sub-total	3	0	
9. Average Age of Staff	Satisfactory	3	0	Average age of the staff is above 45 years.
	Unsatisfactory	0	-	
	Sub-total	3	0	
10. Equipments	Adequate	3	3	More equipment like boats, binoculars, fire arms, tractors and tankers are required.
	Inadequate	0	-	
	Sub-total	3	3	
11. Vehicles	Adequate	3	3	More vehicles are required up to the Range level.
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	4	All releases from the Centre are timely.
	Delayed	0	-	
	Sub-total	4	4	
13. Strike Force Available	Yes	4	0	No Strike Force is available. Some selected staff in each of the Protected Areas could be trained and put under the charge of a Forest Ranger to form a Strike Force, which is essential.
	No	0	-	
	Sub-total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	0	Due to late release by State Government disbursement of allowances etc. is delayed.
	Unsatisfactory	0	-	
	Sub-total	4	0	
15. Field Data Collection & Research	Ongoing	3	3	The TR being new, not much of research and data collection has been done so far. However, checklists of birds and details of endemic and endangered species have been prepared. The TR, being a part of the Biosphere Reserve, much more research and data collection is expected to be done in near future. Lot of research has been done on Bori teak but it is mainly of commercial orientation. Satpura ranges have been explored by Geologists, BSI, ZSI and other research organizations and data collection by Forest Department from these organizations will be needed. Good historical data about Satpura & Bori forests have been depicted at Bison lodge museum at Pachmarhi. Wild animal estimation is being done every year. A research project on leopards is in progress by WII for the last 2 years. 4 leopards are to be tranquilized and their home range, behaviour etc are to be studied. There is a great scope of research which needs to be pursued.
	Not ongoing	0	-	
	Sub-total	3	3	

Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	Tourism zone has been demarcated and tourism is being regulated. The Tiger Reserve has great potential for eco-tourism due to its typical geological formations, mythological and geological heritage, richness of biodiversity of flora and fauna, the 80 km. long Tawa reservoir and the old historic teak forests. Pachmarhi is an important tourist destination and a hill station with elevation up to 1352 m above sea level. Though Pachmarhi township has been excluded from the National Park and Wildlife Sanctuary but due to its location between Satpura NP and Pachmarhi WLS its influence on the TR is very substantial as far as the tourism is concerned. The main entry points for visitors are from Pachmarhi and Madai (on the northern boundary of Satpura NP). The number of visitors per year is very high (1,94,608 during 2003-04) and most of them entered from Pachmarhi and visited few sight seeing places around the township falling in the NP and WLS. The wildlife or nature based tourism is yet to pick up. There are trained nature guides who accompany the visitors inside the TR. Most of the tourist facilities are managed by the Tiger Reserve Management except at Pachmarhi where there are private lodges and hotels.
	Not done as per CC	0	-	
	Sub-total	5	5	
17. Recycling of gate Receipts done	Yes	5	5	As in other Tiger Reserves of MP, the gate money is put in the Park Development Fund and used for development of the Tiger Reserve.
	No	0	-	
	Sub-total	5	5	
18. Field Staff Training	Yes	3	3	The Tiger Reserve being new, most of the field staff remains to be trained. Even most of the officers do not have formal training in wildlife. The State has a training centre at Bandhavgarh, where the frontline staff should be sent for training as quickly as possible, in order to orient them towards wildlife management.
	Not done regularly	0	-	
	Sub-total	3	0	
19. Weed Growth in the Habitat	Present	0	-	Weed is not a big problem in the Tiger Reserve. No serious efforts are being made towards weed eradication though some areas are infected with lantana and parthenium. This will have to be made a management practice in the Reserve.
	Not seen	3	3	
	Sub-total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	The Tiger Reserve has excellent woodlands. Some historical old teak stands are visited by IFS Probationers and other forestry trainees since olden days. Grasslands and meadows are not very common but in the open forests there is a mix of grassland and forests. The areas of Tawa reservoir act as vast meadows during summer.
	Managed	4	4	
	Sub-total	4	4	
21. Field Visits by Officers	Adequate	4	4	Field visits by the officers are adequate.
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	Staff Welfare measures are adequate. Family lines under construction at Suhagpur were inspected by the committee. 4 family quarters were constructed in the last financial year and 4 are nearing completion this year with the help of Nature Force, a Pachmarhi based NGO. This NGO has been taking genuine interest in the staff welfare measures. Forest Guards are also getting an incentive of Rs. 400/- per month from the Park Development Fund.
	Unsatisfactory	0	0	
	Sub-total	4	4	
23. Poaching	Common	0	-	Very few cases of poaching of large mammals have been registered. Most of the cases relate to illegal entry for grazing and illegal fishing.
	Negligible	4	4	
	Sub-total	4	4	

Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
24. Fires	Common	0	-	Very few cases of ground fire were noticed though the area being dry is vulnerable to fires.
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	No cases of epidemics have been noticed since last many years.
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	After the creation of the TR in 2000, regular estimation of tigers, leopards is being done by the traditional and user friendly pugmark method whereas for estimation of the prey species permanent transects have been laid in different types of terrain for block count. Monitoring is done by the field staff during their routine patrolling when they also collect the plaster casts of pugmarks and record their presence and observe other signs in the field. During the field visit by the Committee no direct sighting was possible and this TR was the only exception in MP where direct sighting could not be possible. However, pug marks and other signs were seen at some places. 36 to 42 tigers are estimated to be present in all the 3 Protected Areas constituting the TR. The prey base appears to be sufficient. The Committee could see Gaur, Sambar, Cheetal and Nilgai groups. High population of Gaur, Wild Pig and Sambar is a positive sign for the presence of a good tiger population. However, the high density of Wild Dogs and Leopards could cause intense competition for prey. Some areas in Bori and Pachmarhi Sanctuaries are hilly and have difficult terrain. These areas are vulnerable to poaching and should be constantly patrolled on foot. Sighting status of smaller mammals and pheasants is also given to the visitors.
	Irregular	1	-	
	Sub-total	3	3	
27. Patrolling Camps Present	Yes	5	3	Patrolling camps are present only in Satpura NP and Bori WLS. In Pachmarhi WLS these are yet to come up. The Committee visited Jerghat, Adidenwa, Dhaba and Madai patrolling camps. The number of staff in the camps needs to be increased. Patrolling schedule needs to be drawn up initially by the officers. Unless patrolling is frequently checked by officers and even led by them at times, it cannot be expected to yield results. Some more patrolling camps are required to be set up to check the illegal fishing in Tawa dam area In the long run poachers may take advantage of entering interior areas in the garb of fishermen.
	No	0	-	
	Sub-total	5	3	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Monitoring is done through wireless network which works very well at all the camping places. All patrol parties needs to be provided with wireless handsets. The system of keeping patrolling register and recording sightings and signs of tigers and their prey species, is yet to be started in this Tiger Reserve.
	No	0	-	
	Sub-total	4	4	
29. Networking Strategy Present	Yes	3	3	The wireless network is efficient and field staff report the important happenings through their chains of command on day to day basis.
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	3	Daily patrolling is done but needs improvement as suggested in item no. 27 above.
	No	0	-	
	Sub-total	5	3	

Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
31. Court Cases Monitored	Yes	4	4	Court cases are monitored at the level of the Field Director.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Ex-gratia/ Compensation are being disbursed in time. No outstanding payment was reported to the Committee.
	Not paid promptly	0	-	
	Sub-total	5	5	
33. Tourist Facilities	Adequate	2	2	Tourism facilities are not yet developed either by the Tiger Reserve management or MP Tourism Corporation or private people except at Pachmarhi. The TR has some Forest Rest Houses in the tourism zone which are being used by visitors. Bori, Dhain, Churna and Madai Forest Rest Houses visited by the Committee members are in good locations with limited accommodation. There are camp elephants for the use of the visitors at some selected places. Trained nature guides are available. There is good interpretation centre at Pachmarhi in the form of Bison lodge museum.
	Poor	0	-	
	Sub-total	2	2	
34. Relationship with Police	Good	1	1	The relationship of the Tiger Reserve management with the Police is satisfactory.
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Ecodevelopment Programmes are being taken up in the peripheral villages with the budget Government of India has provided to the Project Tiger. There is ample scope of this type of work in the Biosphere Reserve programme which needs to be carefully coordinated to benefit conservation in the Tiger Reserve which forms the core of the Biosphere Reserve. Main activities under the programme are formation of Eco Development Committees, providing irrigation facilities, leveling of agricultural land, resource development in villages, tree planting specially of improved variety of fruit plants, trust building etc.
	Lacking	0	-	
	Sub-total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	3	The villagers around the Tiger Reserve are being made aware of their commitment towards the Tiger Reserve through the eco-development programmes, biosphere reserve activities and extension and publicity. The response though slow, is being felt.
	Poor	0	-	
	Sub-total	5	3	
37. Cattle Immunisation In Villages	Done	5	5	Immunisation of cattle is being carried out with the help of the Animal Husbandry Department of the State Govt
	Not done	0	-	
	Sub-total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	3	At Pachmarhi there are a number of local nature guides, taxi drivers and others who are providing employment to local people in Hotels/Resorts etc. but elsewhere the involvement is very limited.
	No	0	-	
	Sub-total	5	3	
39. Registration of Arms	Done	4	4	The legal requirements of registration of arms are being observed.
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	Postmortem of all mortalities is done with the help of the Veterinary doctors posted in the area
	No	0	-	
	Sub-total	4	4	

Bori-Satpura Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
41. Trust Between Local People & TR Management	Good	5	5	Trust between the local people and the Tiger Reserve management requires to be improved through ecodevelopment, good and fair relocation programme for villagers living inside the core area and through involvement of local people in eco tourism. Relocation of 20 villages is proposed but only 11 proposals have so far been sent to the State Govt. out of which clearance for only 4 villages has been received from Govt. of India The relocation site has been selected at Kharda Khuntis, close to the railway station and approachable by road. The committee visited the site and found work in progress. The site is very good but the package needs to be made more attractive to the people. Relocation programme is one of the priority items of management and unless proper trust is built the programme is not going to succeed. The help of all the State Govt. Programmes needs to be taken for which a committee under the concerned District Magistrate could be formed to monitor and facilitate relocation. A Master Plan also needs to be drawn in order to make it a model village. The Field Director is paying due attention to this important programme.
	Poor	0	0	
	Sub-total	5	5	
42. Economic Benefits To Stake Holders	Good	3	2	Some economic benefits to the stakeholders are accruing to some extent at Pachmarhi, but elsewhere it needs to be improved upon through the development of ecotourism and involvement of local communities. Eco Development Committees should also be made more operative.
	Poor	0	-	
	Sub-total	3	2	
43. Control Over Use / Access of TR Resources	Good	5	0	So long as the 20 villages are inside the core and the WLS overuse of resources would be difficult to control.
	Poor	0	-	
	Sub-total	5	0	
44. Efforts Towards Sustainable Development	Good	4	0	Sustainable development without excessive use of the Tiger Reserve Resources can come about through eco development programmes, to be coordinated with other development agencies of the State Government.
	Lacking	0	-	
	Sub-total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	At the moment the Field Director has only 3 Protected Areas but no Reserve Forest buffer under his control. Hence the restoration input beyond the buffer zone is nil. In order to give restorative inputs beyond the Tiger Reserve, all the potential areas in contiguity of the Reserve would have to be identified and a landscape plan at the State level drawn and properly coordinated with the working plans of the territorial divisions.
	Lacking	0	-	
	Sub-total	5	0	
Grand total		185	128	

Profile

Buxa Tiger Reserve (BTR) lies in Alipurduar sub-division of Jalpaiguri district of West Bengal. Its northern boundary runs along the international border with Bhutan. The Sinchula hill range lies all along the northern side of BTR and the Eastern boundary touches that of the Assam State. National Highway No.31 C roughly runs along its southern boundary. Phipsu Wildlife Sanctuary of Bhutan is contiguous to North of BTR. Manas Tiger Reserve lies on east of BTR. BTR, thus, serves as a corridor for elephant migration between India and Bhutan.

Buxa Tiger Reserve created in 1983 comprises of entire forest areas of erstwhile Buxa Tiger Division and some territory of neighbouring Cooch Behar Forest Division. In 1986, Buxa Wildlife Sanctuary was constituted over 314.52 km² of the Reserve forests. In 1991, 54.47 km² area was added to Buxa Wildlife Sanctuary. A year later, in 1992, Government of West Bengal declared its intention to constitute a National Park over 117.10 km² of the Buxa Wildlife Sanctuary and finally declared National Park vide notification No.3403-For/11B-6/95 dt. 05.12.1997.

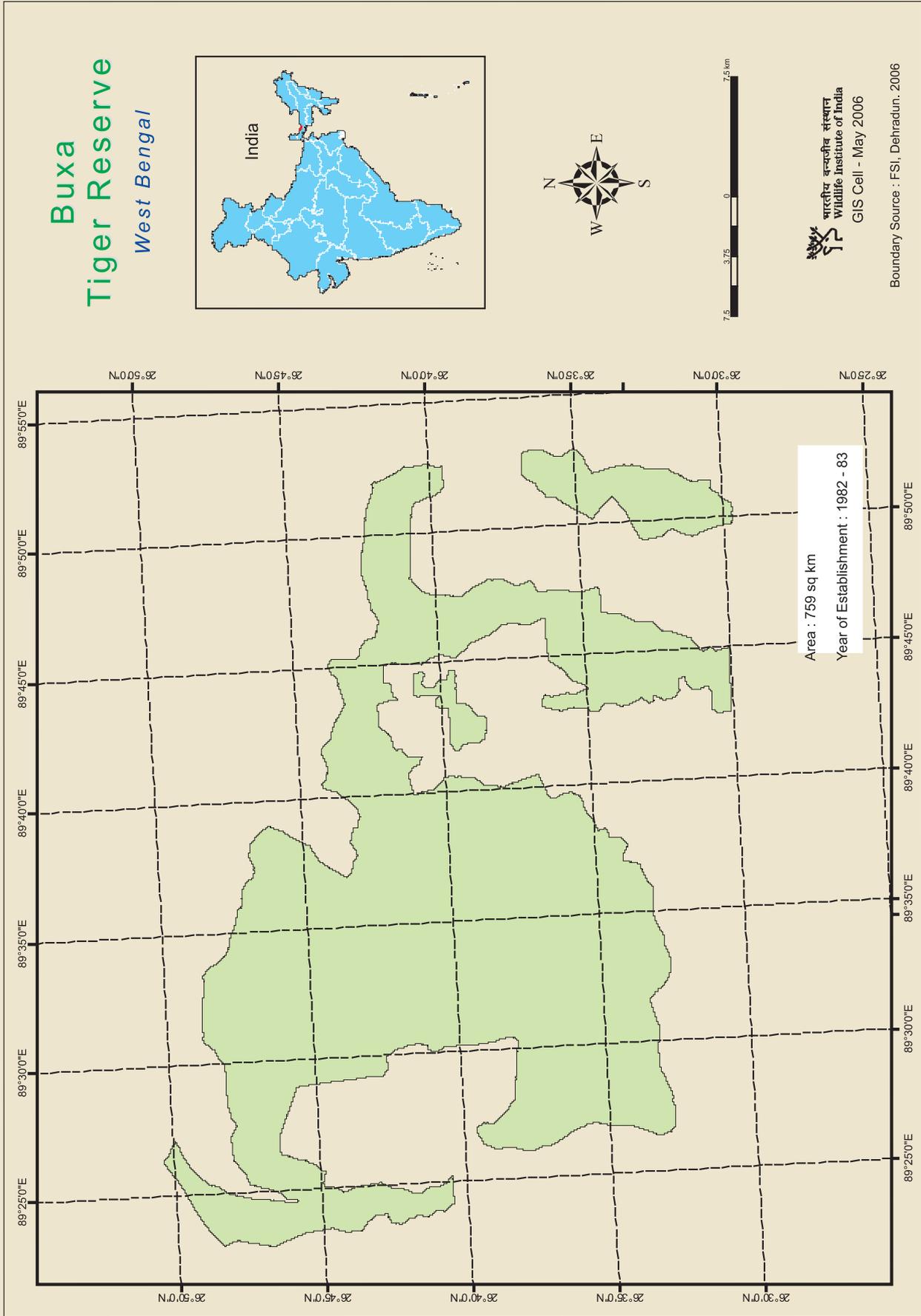
The Buxa fort (2600 feet above m.s.l.) has historical linkages with the independence movement. A sacred temple - Mohakal - lies in BTR.

More than 300 species of trees, 250 species of shrubs, 400 species of herbs, 9 species of cane, 10 species of bamboo, 150 species of orchids, 100 species of grass and 130 species of aquatic flora including more than 70 sedges have been identified so far. There are more than 160 species of other monocotyledons and ferns.

In the Reserve 390 species of birds, 73 species of mammals, 76 species of snakes, 5 species of amphibians have been identified so far. The endangered species of the Reserve include: Tiger, Asian Elephant, Leopard Cat, Bengal Florican, Chinese Pangolin, Hispid Hare and Hog Deer.

Buxa Tiger Reserve

Buxa



Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	The reserve has two PAs integral to it. The Buxa WLS, 268.97 km ² declared in 1986 and 1992 in two phases as additional areas were included. The Buxa NP 117.10 km ² was constituted during 1997. These are contiguous areas and together they constitute the core area of the reserve i.e., 386.07 km ² . It has been delineated with an extent of 374.80 km ² of PF, 1.4 km ² of unclassed forest and the rest of it is RF. Yes
	Delineation of buffer zone	3	3	
	Unified control of buffer	3	3	
	Sub-Total	9	9	
2. Compatible Land Use	In the buffer	3	2	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	2	
	Beyond buffer the land use is detrimental	0	-	
	Sub-Total	6	4	
3. Human Pressure	Habitation present within the core	0	-	Fringe areas have 30 Revenue villages and 33 tea gardens outside the reserve boundaries. The cattle population is estimated in the region of 100,000 heads. Livestock grazing is regulated in the buffer by rotational system. There is significant success in protecting the core area from grazing. It is an inherited problem that is difficult to control, however the efforts are commendable. Fuel wood collection, NTFP collection are other issues. Only dry fallen debris is collected. There are very good monitoring and enforcement efforts.
	No habitation within the core	4	2	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	2	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
Sub-Total	8	4		
4. Use of the Area by other Departments	Yes	0	-	Not an issue.
	No	3	2	
	Sub-Total	3	2	
5. Management Plan Updated	Yes	3	3	In place, duly approved and applicable for the period 2000-01 to 2009-10. It is appropriate, realistic and the strategies are honoured.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	2	Very Good.
	Poor	0	-	
	Sub-Total	3	2	
7. Regeneration Status in the Buffer	Satisfactory	3	1.5	With the exception of some degraded area, regeneration is satisfactory.
	Poor	0	-	
	Sub-Total	3	1.5	

Buxa Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
8. Staff in Position	Satisfactory	3	2	Considering the sanctioned strength of the frontline staff 82% personnel are in position.
	Inadequate	0	-	
	Sub-total	3	2	
9. Average Age of Staff	Satisfactory	3	2	Variable by cadres. Across these 40-45 years.
	Unsatisfactory	0	-	
	Sub-total	3	2	
10. Equipments	Adequate	3	1.5	Adequate, except that drugs for immobilization are not being received from Nandankanan. GIS software is needed and request is placed.
	Inadequate	0	-	
	Sub-total	3	1.5	
11. Vehicles	Adequate	3	2	More or less satisfactory. 2-3 ranges have only motorcycle. Field vehicles are hired when needed.
	Inadequate	0	-	
	Sub-total	3	2	
12. Timely Release of CA	Yes	4	3	More or less received in time.
	Delayed	0	-	
	Sub-total	4	3	
13. Strike Force Available	Yes	4	2	Available and located in three places. Actively involved in protection.
	No	0	-	
	Sub-total	4	2	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	Not an issue, however, allocation under TA is largely inadequate
	Unsatisfactory	0	-	
	Sub-total	4	3	
15. Field Data Collection & Research	Ongoing	3	2	Ongoing. Some very good projects till recently under IEDP. Currently, project on elephant ranging by Dr. Sukumar.
	Not ongoing	0	-	
	Sub-total	3	2	
16. Tourism Regulation	Done as per CC	5	3.5	In place. Eco-tourism activity zone has been identified. However, there are insufficient transport facilities.
	Not done as per CC	0	-	
	Sub-total	5	3.5	
17. Recycling of gate Receipts done	Yes	5	2.5	Provision exists. Due to low key visitor use these done not amount to much
	No	0	0	
	Sub-total	5	2.5	
18. Field Staff Training	Yes	3	1	Conducted from time to time for diverse managerial and technical themes
	Not done regularly	0	0	
	Sub-total	3	1	
19. Weed Growth in the Habitat	Present	0	0	Considerable on several sites mainly <i>Eupatorium</i> , <i>Mikania</i> , <i>Lantana</i> , <i>Leea</i> , <i>Ageratum</i> , <i>Clerodendrum</i> etc. More in plantation areas of past. Five different strategies of containment under implementation.
	Not seen	3	1	
	Sub-total	3	1	

Issue	Criteria	Maximum Score	Current Score	Comments
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Mainly riverine system and some Savannah woodland. Problems such as encroachment by woody species and weeds are being tackled by known and practical techniques. Livestock grazing is significant and attempts are more to control with the help of FPC/EDCs. Technique for raising grassland plantations is perfected with some excellent results. Will focus on degraded areas.
	Managed	4	2	
	Sub-total	4	2	
21. Field Visits by Officers	Adequate	4	3	Adequate and effective.
	Inadequate	0	-	
	Sub-total	4	3	
22. Staff Welfare Measures	Satisfactory	4	2	Every effort is made. For staff in the interior location drinking water, proper accommodation, lighting, education for children, health still not fully met. Good efforts are on.
	Unsatisfactory	0	-	
	Sub-total	4	2	
23. Poaching	Common	0	-	Effective control, considering odds.
	Negligible	4	2.5	
	Sub-total	4	2.5	
24. Fires	Common	0	-	Some areas are more vulnerable. Standard strategies strongly applied. No major fire in the last 3 years. FPC/EDCs are effective.
	Less than 1% of the TR area	5	3	
	Sub-total	5	3	
25. Epidemics	Common	0	-	Immunization of livestock regularly attempted. Awareness and consultative meetings. More support is needed.
	Rare	3	1.5	
	Sub-total	3	1.5	
26. Wildlife Estimation	Done regularly	3	2	Conducted on schedule. Not an easy task.
	Irregular	1	-	
	Sub-total	3	2	
27. Patrolling Camps Present	Yes	5	4	Present and effective.
	No	0	-	
	Sub-total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	3	Yes. There are diaries, duty registers. Monitoring of VFM, EDCs and FDC that is done independently. Use of impression prints and indirect evidences
	No	0	-	
	Sub-total	4	3	
29. Networking Strategy Present	Yes	3	3	Excellent, with Govt. Agencies, NGOs and local people
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	3	Yes
	No	0	-	
	Sub-total	5	3	

Buxa Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
31. Court Cases Monitored	Yes	4	4	Regularly done. Effective system in place.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	3	Provisions exist. Every attempt is made to settle payment, however funds are grossly inadequate and cases remain pending.
	Not paid promptly	0	-	
	Sub-total	5	3	
33. Tourist Facilities	Adequate	2	0.5	Inadequate accommodation, poor funding for creating infrastructure, insufficient transport, need adequate resources to augment audio-visual equipment, and publications, needs innovative publicity. For above reasons tourism is low key, Yet there is an outstanding visitor centre and education capability.
	Poor	0	-	
	Sub-total	2	0.5	
34. Relationship with Police	Good	1	1	Excellent
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	4.5	Wide range of activities and programmes to which people have responded very positively. A difficult situation addressed very effectively.
	Lacking	0	-	
	Sub-total	6	4.5	
36. Fulfilment of Reciprocal Commitments	Good	5	3	The evidence is very positive and encouraging.
	Poor	0	-	
	Sub-total	5	3	
37. Cattle Immunisation In Villages	Done	5	3.5	Regular and effective. Very good cooperation of FPC/EDCs.
	Not done	0	-	
	Sub-total	5	3.5	
38. Host Community Involvement In Ecotourism	Yes	5	2.5	For reasons stated under Sr. Nos. 16 and 33 there is someway yet for this. The environment is congenial. If adequate support is available community involvement will be positive.
	No	0	-	
	Sub-total	5	2.5	
39. Registration of Arms	Done	4	4	Done
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	Conducted in every case. There is an effective rescue centre to care for injured animals
	No	0	-	
	Sub-total	4	4	
41. Trust Between Local People & TR Management	Good	5	3.5	Strong evidence of trust in spite of difficult situation. Excellent leadership qualities is a feature of management.
	Poor	0	-	
	Sub-total	5	3.5	

Issue	Criteria	Maximum Score	Current Score	Comments
42. Economic Benefits To Stake Holders	Good	3	1.5	Progress achieved is highly encouraging. Indicators are positive.
	Poor	0	-	
	Sub-total	3	1.5	
43. Control Over Use / Access Of TR Resources	Good	5	5	Highly satisfactory
	Poor	0	-	
	Sub-total	5	5	
44. Efforts Towards Sustainable Development	Good	4	1.5	Indicators in evidence
	Lacking	0	-	
	Sub-total	4	1.5	
45. Restorative Inputs Beyond TR	Being done	5	2.5	With 33 tea estates and large number of villages the task is steep. Every effort is being made to identify dispersal corridors and maintenance. A good strategy is under way.
	Lacking	0	-	
	Sub-total	5	2.5	
Grand-Total		185	124	

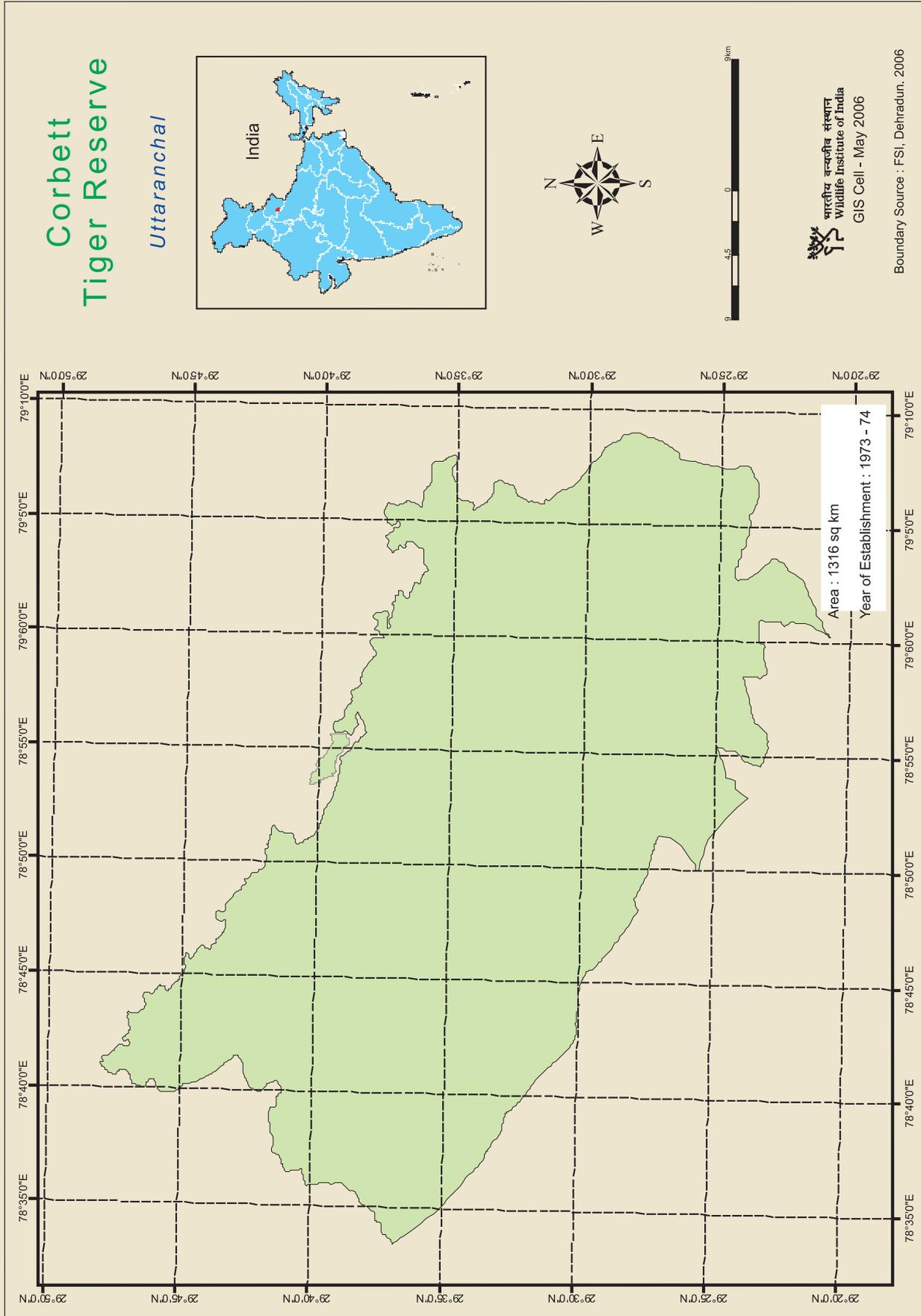
Profile

The Reserve area was named as 'Hailey National Park' in 1936. This was renamed in 1954-55 as 'Ramganga National Park' and again in 1955-56 as 'Corbett National Park'. It is the oldest National Park of India. It was one of the nine Tiger Reserves created at the launch of the Project Tiger in 1973. The original area of the Park was 323.75 km² to which 197.07 km² was added later. An area of 797.72 km² was added as buffer of the Corbett Tiger Reserve in 1991. This area includes the whole of Kalagarh Forest Division (including 301.18 km² area of Sonanadi Wildlife Sanctuary), 96.70 km² of Ramnagar Forest Division and 89 km². The administrative control over the entire area is that of the Field Director of the Reserve. The Corbett Tiger Reserve has a great variety of fauna on account of habitat diversity. It is also very rich in avifauna. Zoological Survey of India has recorded over 585 species of resident and migratory birds here.

Due to the location of the Reserve in the foothills of the Central Himalayas both Himalayan and peninsular flora and fauna is found in the Reserve. Grasslands locally known as Chaur, are notable for large congregation of wild animals. The largest grassland is the Dhikala Chaur. Some of the best grasslands including the famous Buxar Chaur and the Beri Chaur got submerged under the Ramganga reservoir in 1974. The areas made available as a result of the relocation of the villages, Dhara, Jhirna and Kothirau in 1994 are being developed into grasslands through habitat management. The Ramganga reservoir which came into being in 1974 stretches over an area of around 82 km² with one half each in Corbett National Park and Sonanadi Wildlife Sanctuary.

Forest types found in the Reserve are: Northern Moist Deciduous Forests, Northern Tropical Dry Deciduous Forests, Himalayan Subtropical Pine Forests.

Major fauna of the Reserve includes: Tiger, Leopard, Elephant, Cheetal, Sambar, Hog Deer, Barking Deer, Wild Pig Langur and Rhesus Monkey.



Corbett Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	2	Both Protected areas i.e. Corbett NP and Sonanadi WLS have got final notification done.
	Delineation of buffer zone	3	3	Buffer Zone is delineated. Core Zone - 822.00 km ² . Buffer Zone - 466.32 km ² .
	Unified control of buffer	3	3	Control of buffer is unified and exclusively under director Corbett TR for all purpose.
	Sub-Total	9	8	
2. Compatible Land Use	In the buffer	3	3	Used only as wildlife habitat.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	The land use is not incompatible in maximum portion of the buffer.
	Beyond buffer (5km. radius)	3	2	Mainly agriculture with farm land planting also taken up by the villagers.
	Beyond buffer the land use is detrimental	0	-	No
	Sub-Total	6	5	
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	4	Yes, there is no habitation at all within the core of CTR
	Livestock Grazing pressure present within the core	0	-	No livestock grazing pressure with in core except a few patches of Sonanadi WLS where some of family of Gujars reside.
	No livestock grazing pressure within the core or adjoining areas	4	3	Livestock grazing- pressure reported in case of narrow strips near the fringe villages of the buffer zone.
	Cultivation present in the core	0	-	No
	Encroachment present	0	-	No
	Collection of NTFP in the core	0	-	No
	Quarrying present in the core	0	-	No
	Sub-Total	8	7	
4. Use of the Area by other Departments	Yes	0	-	A very negligible piece of land has to be returned to Park by Irrigation Department at Kalagarh which is under process.
	No	3	2	
	Sub-Total	3	2	
5. Management Plan Updated	Yes	3	3	
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Satisfactory in the Core Zone.
	Poor	0	-	
	Sub-Total	3	3	

Corbett Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
7. Regeneration Status in the Buffer	Satisfactory	3	2	Satisfactory in the Buffer Zone also.
	Poor	0	-	
	Sub-total	3	2	
8. Staff in Position	Satisfactory	3	3	Satisfactory as almost all the vacant parts of the forest guards have been filled up except- 10%
	Inadequate	0	-	
	Sub-total	3	3	
9. Average Age of Staff	Satisfactory	3	2	Field Staff- Between 35 to 40 years - 19 % between 40 to 50 years - 58 % and above 50 years - 23 %
	Unsatisfactory	0	-	
	Sub-total	3	2	
10. Equipments	Adequate	3	3	Could be strengthened with more emphasis on communication network.
	Inadequate	0	-	
	Sub-total	3	3	
11. Vehicles	Adequate	3	3	Adequate in numbers but money for their maintenance is always a need.
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	3	Generally timely but this year got delayed. Can be more speedy.
	Delayed	0	-	
	Sub-total	4	3	
13. Strike Force Available	Yes	4	4	Yes. Four Police Guards are available and 270 extra labour provided for protection by the name of 'Operation Lord'.
	No	0	-	
	Sub-total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Regular and timely released. Project Allowance can be released timely.
	Unsatisfactory	0	0	
	Sub-total	4	4	
15. Field Data Collection & Research	Ongoing	3	2	Animal sighting and General observation are recorded on daily basis. Census is done religiously. Research on Otters is going on and GIS and remote sensing work have been undertaken in large scale in Corbett Tiger Reserve. An in house research facility is required to be developed for proper utilization of data.
	Not ongoing	0	-	
	Sub-total	3	2	
16. Tourism Regulation	Done as per CC	5	4	Regulated tourism. Not beyond carrying capacity.
	Not done as per CC	0	-	
	Sub-total	5	4	

Corbett Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
17. Recycling of gate Receipts done	Yes	5	0	No.
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	3	Done regularly at Corbett Training Center Kalagarh as money is obtained in Project Tiger and Project Elephant Schemes. More money for training can be released.
	Not done regularly	0	-	
	Sub-total	3	3	
19. Weed Growth in the Habitat	Present	0	-	Lantana spread is alarming mainly in the buffer area.
	Not seen	3	1	
	Sub-total	3	1	
20. Gregarious Woodland Advancement in Meadows	Present	1	1	Not noticed. Grasslands are being managed properly.
	Managed	4	3	
	Sub-total	4	4	
21. Field Visits by Officers	Adequate	4	4	All the officers perform their duties religiously and visit all the areas to check the ongoing works as well as presence/absence of field staff etc. Perfect Communication system works with repeater and base stations established at vantage sites and handsets provides to all the beat guards.
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	More improvement is required in providing them good accommodation and drinking water facility; so that they enjoy living in remotest places of Protected area. But till today, basic facilities have been tried to be provided in maximum part of the reserve.
	Unsatisfactory	0	-	
	Sub-total	4	4	
23. Poaching	Common	0	-	Fully Controlled.
	Negligible	4	3	
	Sub-total	4	3	
24. Fires	Common	0	-	Fully Controlled only within 2% of the Tiger Reserve area.
	Less than 1% of the TR area	5	4	
	Sub-total	5	4	
25. Epidemics	Common	0	-	Rare. Not yet reported.
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Done regularly in each alternate years for herbivores as well as flagship species like Tigers, Elephant, and Leopards
	Irregular	0	-	
	Sub-total	3	3	

Corbett Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
27. Patrolling Camps Present	Yes	5	4	Sufficient anti-poaching camps are present in whole of the Corbett Tiger Reserve at vantage sites where guarding is required. Few more are planned.
	No	0	-	
	Sub-total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Patrolling, monitoring and field observation are done regularly and filled up in register also and daily communicated from range office to headquarter (i.e. Director office)
	No	0	-	
	Sub-total	4	4	
29. Networking Strategy Present	Yes	3	3	Yes. Strong networking present with locals involved as intelligence gatherers.
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	5	Yes. Daily patrolling done as per the patrolling plan prepared by Range officer under the guidance of D.F.O./Deputy Director.
	No	0	-	
	Sub-total	5	5	
31. Court Cases Monitored	Yes	4	3	Yes. In many cases, conviction has been done and left cases are being dealt steel handedly.
	No	0	-	
	Sub-total	4	3	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Paid promptly.
	Not paid promptly	0	-	
	Sub-total	5	5	
33. Tourist Facilities	Adequate	2	2	Adequate
	Poor	0	-	
	Sub-total	2	2	
34. Relationship with Police	Good	1	1	Good
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	4	It is on going. E.DCs, are being tried to become more self sustaining and there is stress to promote more self-help groups (SHGs) creation.
	Lacking	0	-	
	Sub-total	6	4	
36. Fulfilment of Reciprocal Commitments	Good	5	3	Needs to be done through activation of EDCs. already constituted. But villagers provide help in management as and when required. They are not hostile.
	Poor	0	-	
	Sub-total	5	3	
37. Cattle Immunisation In Villages	Done	5	4	Done around buffer in peripheral villages specially in southern fringe of reserve. More fund can be made available.
	Not done	0	-	
	Sub-total	5	4	

Corbett Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	4	Local community has been involved around Corbett in Ecotourism in one way or the other. They are getting employment out of Corbett as Gypsy owners. Nature guides, Resort owners, Tour operators etc and have started community-based tourism as home stays.
	No	0	-	
	Sub-total	5	4	
39. Registration of Arms	Done	4	4	Done
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	3	It is done by utilizing the services of local veterinarian. A full time wildlife trained veterinarian needs to be posted.
	No	0	-	
	Sub-total	4	3	
41. Trust Between Local People & TR Management	Good	5	4	Good. It would be more strengthened as a dialogue has been set in with locals and they help in curbing the menace like forest fire, poaching, illicit felling.
	Poor	0	-	
	Sub-total	5	4	
42. Economic Benefits To Stake Holders	Good	3	2	Good as this has been augmented through Eco development activities, eco tourism initiatives etc.
	Poor	0	-	
	Sub-total	3	2	
43. Control Over Use / Access Of TR Resources	Good	5	4	Only in a few buffer blocks, grazing rights exist.
	Poor	0	-	
	Sub-total	5	4	
44. Efforts Towards Sustainable Development	Good	4	3	EDCs are being stressed with more activities to generate livelihood activities.
	Lacking	0	-	
	Sub-total	4	3	
45. Restorative Inputs Beyond TR	Being done	5	3	The adjoining reserve forest areas are being tried to be taken up with in the Tiger Reserve boundary so that the mandate would be much more sharpened and focused. Development of agro forestry/farm forest in the agricultural lands bordering buffer of Corbett TR is also being tried to be more, strengthened and villagers are being promoted to take up some of the agricultural models to keep away the wild animals from their crops which gets damaged very often by Elephants, Neelgai, Cheetal, Sambar, Wild Pig and Porcupines.
	Lacking	0	-	
	Sub-total	5	3	
Grand total		185	152	

Profile

Dudhwa Tiger Reserve has two core areas, Dudhwa National Park and Kishanpur Wildlife Sanctuary. These are 15 km apart, with agricultural land in between. Dudhwa National Park is situated on the Indo-Nepal border in the Lakhimpur-Kheri district in Uttar Pradesh. The Mohana river flowing along the Indo-Nepal border constitutes the northern boundary of the Park whilst the southern boundary is formed by the river Suheli. Kishanpur Sanctuary lies in the Lakhimpur-Kheri and Shahajahanpur districts in Uttar Pradesh.

The area of the Park is a vast alluvial plain, the doab of the Mohana and Suheli rivers, and interspersed with numerous rivulets, lakes and pools. The Sonaripur Sanctuary comprising 15.7 km² area was created in 1958 to specifically protect swamp deer (*Cervus duvaceli duvaceli*). The area was too small and was later enlarged to 212 km² and renamed as Dudhwa Sanctuary in 1968. Later, more area was added to the Sanctuary and in 1977, it was declared Dudhwa National Park. The total area of the Park was 616 km² of which 490 km² was core zone and balance 124 km² buffer zone. Dudhwa Tiger Reserve was created in the year 1987-88 comprising Dudhwa National Park and Kishanpur Sanctuary (203.41 km²). With an addition of 66 km² to the buffer zone in 1997, the present area of the Tiger Reserve is 884 km².

Remnants of a fort in Nagra block have been run over by wilderness. Remains of mud walls of old habitation are also found in Nawalkhad. Major flora of the Reserve include: Sal, Asna, Shisham, Bahera, Khair, Jamun.

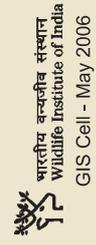
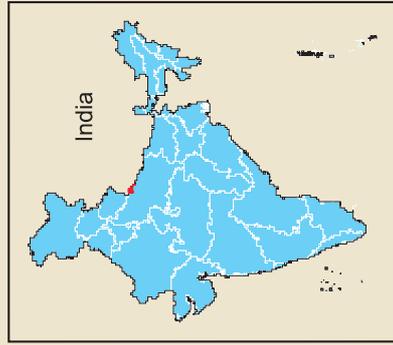
Major fauna of the Reserve are: Tiger, Leopard, Swamp deer, Rhinoceros, Cheetal, Hog deer, Barking deer, Sambar, Wild Pig and Ratel. Around 400 species of birds and 90 species of fishes have been identified at Dudhwa.

Dudhwa Tiger Reserve

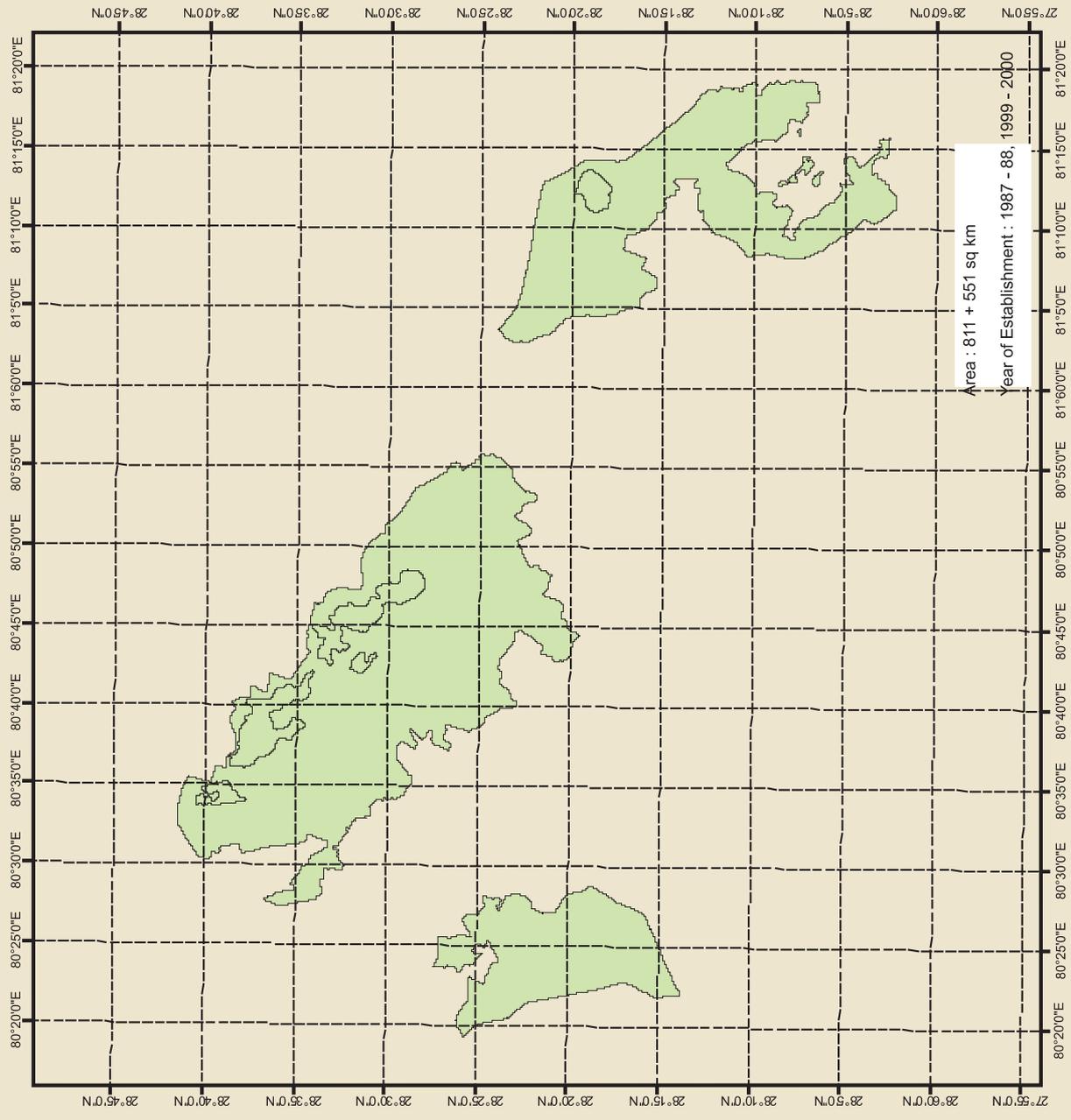
Dudhwa

Dudhwa Tiger Reserve

Uttar Pradesh



Boundary Source : FSI, Dehradun, 2006



Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	2	Dudhwa NP has got its final notification, whereas notification of Kishanpur WLS is under progress
	Delineation of buffer zone	3	3	Buffer zone is delineated Core zone - 693.70 km ² . Buffer zone - 190.03 km ² .
	Unified control of buffer	3	3	Control of buffer is unified and exclusively under Director Dudhwa TR for all purpose.
	Sub-Total	9	8	
2. Compatible Land Use	In the buffer	3	2	Used only as wildlife habitat.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	Save some rights and concessions the land use in Buffer area is almost compatible and the wildlife management practices are equivalent to that of the core area pattern.
	Beyond buffer (5km. radius)	3	2	Mainly agriculture with agro-forestry also taken up by the villagers. Eco-development project is playing a great role in providing nursery seedlings.
	Beyond buffer the land use is detrimental	0	-	No, as sugarcane is the main crop of this area, the sugarcane fields act as natural corridor between different protected areas and Reserve forest areas for the local migration of different wild animals.
	Sub-Total	6	4	
3. Human Pressure	Habitation present within the core	0	-	DTR does not have any major habitation in its core area. Only one area called 'Surma' is inside core area, for which the, Lucknow Bench of the Hon'ble High Court has passed its final order for is eviction and implementation of the order is awaited from the District administration as per the Court's order.
	No habitation within the core	4	3	As said above
	Livestock Grazing pressure present within the core	0	-	Nil
	No livestock grazing pressure within the core or adjoining areas	4	4	No livestock grazing pressure in the core area.
	Cultivation present in the core	0	-	240 ha
	Encroachment present	0	-	240 ha
	Collection of NTFP in the core	0	-	No
	Quarrying present in the core	0	-	No
	Sub-Total	8	7	

Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
4. Use of the Area by other departments	Yes	0	-	A railway line (N.G.) passes through the reserve
	No	3	1	As above
	Sub-total	3	1	
5. Management Plan Updated	Yes	3	3	Yes
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Good
	Poor	0	-	In the fringe areas of the Reserve.
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	2	Good
	Poor	0	-	In the fringe areas
	Sub-total	3	2	
8. Staff in Position	Satisfactory	3	2	Satisfactory as almost all the vacant post have been filled except 15%. Needs further staffing, proposal submitted to Government.
	Inadequate	0	-	
	Sub-total	3	2	
9. Average Age of Staff	Satisfactory	3	3	Satisfactory, 35 to 40 years - 25 % 40 to 50 years - 50 % above 50 years - 15 %
	Unsatisfactory	0	-	
	Sub-total	3	3	
10. Equipments	Adequate	3	2	Adequate
	Inadequate	0	-	Can be strengthened with more emphasis on communication network
	Sub-total	3	2	
11. Vehicles	Adequate	3	2	Adequate in quantity, but timely financial availability for their maintenance is required always.
	Inadequate	0	-	
	Sub-total	3	2	
12. Timely Release of CA	Yes	4	3	Yes. Release of second installment is delayed.
	Delayed	0	-	
	Sub-total	4	3	
13. Strike Force Available	Yes	4	4	Strike force is available in three groups including armed guards and watchers. During monsoon patrolling is possible only on foot.
	No	0	-	
	Sub-total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	Disbursement of salary is regular and timely. Project allowance is yet to be sanctioned from the State Government but Project Tiger sanctioned budget for Project allowance.
	Unsatisfactory	0	-	TA is not adequate.
	Sub-total	4	3	

Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
15. Field Data Collection & Research	Ongoing	3	3	Field data collection and analysis is a continuous process in DTR. Animal sightings and general observations are recorded on daily basis. Census is done sincerely with proper pre-census training. Research Projects on the subjects like GIS mapping of DTR, Spider diversity of DTR, Status behaviour pattern of Northern Swamp deer is going on. Grassland management practices have been developed by the joint effort of U.P. Forest Department and WII, Dehradun. More than two hundred scat samples of tiger has been collected and sent to CCMB, Hyderabad to develop a census technique on the basis of DNA finger printing. An in house research facility is required to be developed for proper utilization of data and further analysis.
	Not ongoing	0	0	No
	Sub-total	3	3	
16. Tourism Regulation	Done as per CC	5	4	Regulated tourism and as per the guidelines of the Project Tiger, GOI. Tourism is allowed only in the specified three tourism zones. Tourism has not reached its carrying capacity.
	Not done as per CC	0	-	
	Sub-total	5	4	
17. Recycling of gate Receipts done	Yes	5	0	No
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	2	Done frequently at Eco development center at Dudhwa and in various training centers located at Kanpur Man and Pratapgarh. Budget is made available from Project Tiger, GOI and also State Government. It is necessary to organise exposure visits of the senior field staff to other TRs.
	Not done regularly	0	-	No
	Sub-total	3	2	
19. Weed Growth in the Habitat	Present	0	-	Not seen in core area
	Not seen	3	2	Lantana has been totally eradicated from the core area and efforts are being made to eradicate it from the Buffer area.
	Sub-total	3	2	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Encroachment by woody succession in the grassland has been reported from various grasslands. Removal of woody succession to restore the original shape and area of the grasslands are under practice and grasslands are being managed properly as per the prescriptions given in management plan.
	Managed	4	3	Yes
	Sub-total	4	3	

Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
21. Field Visits by Officers	Adequate	4	4	All the officers perform their duties religiously and visit all the areas to check the on going works as well as presence/ absence of field staff etc. Perfect communication system with the combination of higher and lower frequency wireless system and half of the Reserve area being covered under the mobile network makes the communication system highly effective. Staff up to the Forester rank are given wireless handsets.
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	3	More improvement is required in providing them good accommodation and drinking water facility; so that they can enjoy living in the remote forest of Protected Area. Basic facilities including medical facilities even to the families of the staff is provided. Around 800 odd staff including their family members were vaccinated against Hepatitis B.
	Unsatisfactory	0	-	
	Sub-total	4	3	
23. Poaching	Common	0	-	Almost under control. Around 25 history sheeters are taken into custody while attempting for poaching and they are in judicial custody till date.
	Negligible	4	3	
	Sub-total	4	3	
24. Fires	Common	0	-	Almost under control. Assistance is taken from the nearby EDC members and also from the fire watchers to control forest fire.
	Less than 1% of the TR area	5	4	
	Sub-total	5	4	
25. Epidemics	Common	0	-	Not yet reported
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Done regularly in each alternate years separately for herbivores (including Elephant and Rhinoceros) and for Tiger/Leopard.
	Irregular	1	-	
	Sub-total	3	3	
27. Patrolling Camps Present	Yes	5	5	Sufficient anti-poaching camps are present in the total area of Dudhwa TR at sensitive sites. Few more are planned.
	No	0	-	
	Sub-total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Patrolling, monitoring and field observation are done regularly and filled up in register also and daily communicated from Range Officer to the head quarter, (i.e. Director's office)
	No	0	-	
	Sub-total	4	4	
29. Networking Strategy Present	Yes	3	3	Yes, Strong networking present with locals involved as private informers.
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	5	Yes. Daily patrolling done as per the patrolling plan prepared by Range officer under the close supervision and monitoring of D.F.O./Deputy Director.
	No	0	-	
	Sub-total	5	5	

Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
31. Court Cases Monitored	Yes	4	4	Yes, in many cases, conviction has been done and other cases are being pursued religiously with the Judiciary. Every month a crime meeting is being conducted in the D.F.O./Deputy Director's office to monitor the progress the court cases.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Paid promptly.
	Not paid promptly	0	-	
	Sub-total	5	5	
33. Tourist Facilities	Adequate	2	2	Adequate
	Poor	0	-	
	Sub-total	2	2	
34. Relationship with Police	Good	1	1	Good
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	Ecodevelopment activities are continuing. EDCs are being encouraged to become more self sustaining and there is stress to promote more self help groups (SHGs). 61 EDCs are operating in and around DTR, categorized in three types i.e. good, moderate aid poor.
	Lacking	0	-	
	Sub-total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	4	Needs to be done through activation of EDCs, already constituted. But villagers provide help in management as and when required. They are not hostile.
	Poor	0	0	
	Sub-total	5	4	
37. Cattle Immunisation In Villages	Done	5	5	Done around buffer in peripheral villages especially in southern fringe of DTR. More availability of funds will make the programme extensive and effective.
	Not done	0	0	
	Sub-total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	4	Local community has been involved around DTR in Eco-tourism in one way or the other. They are getting employment out of Dudhwa as gypsy owners, nature guides, hoteliers, tour operators etc and have started community-based tourism, as home stays.
	No	0	0	
	Sub-total	5	4	
39. Registration of Arms	Done	4	4	Done
	Not done	0	0	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	It is done by utilizing the services of local veterinarian. A full time wildlife trained veterinarian is needed.
	No	0	0	
	Sub-total	4	4	

Dudhwa Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
41. Trust Between Local People & TR Management	Good	5	4	Good. It would be more strengthened as a dialogue has been set in with locals and they help in curbing the menace like forest fire, poaching illicit felling.
	Poor	0	-	
	Sub-total	5	4	
42. Economic Benefits To Stake Holders	Good	3	2	Good as this has been augmented through Eco development activities, Eco-tourism initiatives etc.
	Poor	0	-	
	Sub-total	3	2	
43. Control Over Use / Access Of TR Resources	Good	5	4	Use/access of TR resources is being allowed only in some of the buffer areas as per the prescriptions for rights and concessions in the Management plan. In other areas save the above said areas it is totally restricted.
	Poor	0	-	
	Sub-total	5	4	
44. Efforts Towards Sustainable Development	Good	4	4	EDCs are being stressed with more activities to generate livelihood activities.
	Lacking	0	-	
	Sub-total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	4	It is being tried to include the adjoining reserve forest areas with DTR so that the mandate would be much more sharpened and focussed. Extensive practices of agro forestry in the agricultural lands beyond buffer of DTR is also being tried and villagers are being promoted to take up some of the agricultural models to keep away the wild animals from their crops which gets damaged very often by wild herbivores.
	Lacking	0	-	
	Sub-total	5	4	
	Grand-Total	185	154	

Profile

Dampa is situated in the western part of Mizoram State on the international border with Bangladesh. The Reserve consists of moist deciduous forests in the lower reaches and evergreen and semi-evergreen forests with the natural grassland at higher altitudes. The entire protected area is formed of undulating high and medium hills running from North to South direction with very high precipitous and inaccessible hills. The lower reaches of the area comprises of deep valleys with extensive flat land along the river namely Keisalam, Seling and Aivapui, which finally drain into the river Khawthlaktuipui.

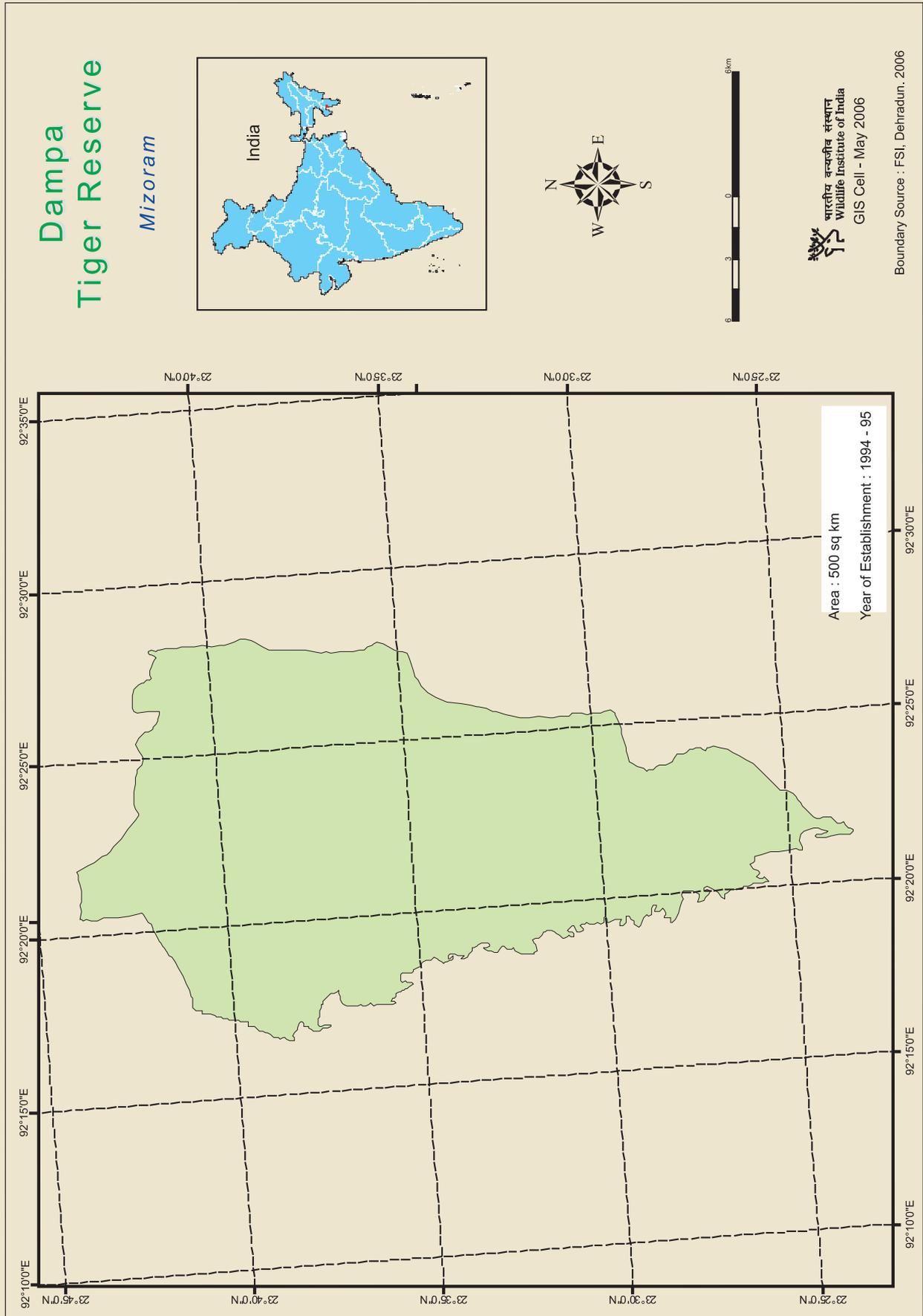
Dampa was under a Chieftain till 1950 and the main land use at that time was Jhum (shifting) cultivation in the lower areas. In early 1960s, small hamlets started establishing in the area for intensive shifting cultivation in the lower reaches. This had detrimental effect on the biodiversity of the area. With the objective of conserving the fast disappearing natural treasure, in 1974, Dampa was declared a Wildlife Sanctuary and re-notified in 1985. The Sanctuary was declared a Tiger Reserve in 1994. The riverine area towards the east and west along the Khawthland tuipui (also known as the Sazalui or the Tui-lianpui river towards west and the Teirei river towards east) was declared as Reserved Forest in 1952 during District Council period.

Forest types of the Reserve are: Tropical Evergreen and Semi-Evergreen Forests, Tropical Moist Deciduous Forests, Sub Montane Forests.

Major faunal species of the Reserve include: Tiger, Leopard, Clouded Leopard, Wild dog, Sambar, Barking Deer, Gaur, Sloth bear, Hoolock gibbon, Binturong, Porcupine, Slow loris, Jungle cat, Pangolin, Black Bear, Giant squirrel, Common langur, Rhesus macaque, Wild Pig, Otter etc.

Dampa Tiger Reserve

Dampa



Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Should now be upgraded to NP status as there are now no rights in the TR.
	Delineation of buffer zone	3	1	
	Unified control of buffer	3	1	The buffer is mainly controlled by local village councils.
	Sub-Total	9	5	
2. Compatible Land Use	In the buffer	3	0	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	0	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the land use is detrimental	0	0	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	0	
	No habitation within the core	4	4	
	Livestock Grazing pressure present within the core	0	0	
	No livestock grazing pressure within the core or adjoining areas	4	4	
	Cultivation present in the core	0	0	
	Encroachment present	0	0	Attempts to jhoom in TR were made lately.
	Collection of NTFP in the core	0	0	
	Quarrying present in the core	0	0	
	Sub-Total	8	8	
4. Use of the Area by other Departments	Yes	0	0	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	
	No	0	0	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	0	
	Sub-Total	3	3	

Dampa Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
7. Regeneration Status in the Buffer	Satisfactory	3	0	
	Poor	0	-	
	Sub-total	3	0	
8. Staff in Position	Satisfactory	3	3	
	Inadequate	0	-	
	Sub-total	3	3	
9. Average Age of Staff	Satisfactory	3	2	Staff has been brought from nearby forests.
	Unsatisfactory	0	-	
	Sub-total	3	2	
10. Equipments	Adequate	3	0	
	Inadequate	0	-	
	Sub-total	3	0	
11. Vehicles	Adequate	3	3	
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	2	The delay is from both Gol and from the State Govt.
	Delayed	0	-	
	Sub-total	4	2	
13. Strike Force Available	Yes	4	4	
	No	0	-	
	Sub-total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	
	Unsatisfactory	0	-	
	Sub-total	4	3	
15. Field Data Collection & Research	Ongoing	3	1	No research, sorely needed. Data collection by field staff.
	Not ongoing	0	-	
	Sub-total	3	1	
16. Tourism Regulation	Done as per CC	5	3	
	Not done as per CC	0	0	
	Sub-total	5	3	
17. Recycling of gate Receipts done	Yes	5	0	
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	2	
	Not done regularly	0	-	
	Sub-total	3	2	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	3	
	Sub-total	3	3	

Dampa Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
20. Gregarious Woodland Advancement in Meadows	Present	1	NA	There are no substantial grasslands in the TR.
	Managed	4		
	Sub-total	4	NA	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	2	
	Unsatisfactory	0	-	
	Sub-total	4	2	
23. Poaching	Common	0	-	Poaching prevalent, especially elephants
	Negligible	4	3	
	Sub-total	4	3	
24. Fires	Common	0	-	No habitation within TR and have no fire
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	
	Irregular	1	-	
	Sub-total	3	3	
27. Patrolling Camps Present	Yes	5	4	More needed, especially on Bangladesh side
	No	0	-	
	Sub-total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	3	
	No	0	-	
	Sub-total	4	3	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	5	
	No	0	-	
	Sub-total	5	5	
31. Court Cases Monitored	Yes	4	4	
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	0	
	Not paid promptly	0	-	
	Sub-total	5	0	

Dampa Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
33. Tourist Facilities	Adequate	2	0	
	Poor	0	-	
	Sub-total	2	0	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	4	More inputs needed, as it can be most helpful
	Lacking	0	-	
	Sub-total	6	4	
36. Fulfilment of Reciprocal Commitments	Good	5	5	
	Poor	0	-	
	Sub-total	5	5	
37. Cattle Immunisation In Villages	Done	5	3	Hardly any cattle
	Not done	0	-	
	Sub-total	5	3	
38. Host Community Involvement In Ecotourism	Yes	5	NA	
	No	0	-	
	Sub-total	5	NA	
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	2	Very few such cases
	No	0	-	
	Sub-total	4	2	
41. Trust Between Local People & TR Management	Good	5	5	
	Poor	0	-	
	Sub-total	5	5	
42. Economic Benefits To Stake Holders	Good	3	2	Scope for improvement
	Poor	0	-	
	Sub-total	3	2	
43. Control Over Use / Access Of TR Resources	Good	5	5	
	Poor	0	-	
	Sub-total	5	5	
44. Efforts Towards Sustainable Development	Good	4	3	
	Lacking	0	-	
	Sub-total	4	3	
45. Restorative Inputs Beyond TR	Being done	5	0	The lands outside are privately owned and little can be done except to change jhumming.
	Lacking	0	-	
	Sub-total	5	0	
Grand-Total		185	121	

Annexure

I visited Dampa after a gap of almost 10 years and was happy to note that despite its remoteness and the land tenure system whereby traditionally the local people have been practising jhoom cultivation, the TR has progressed noticeably. The matter is not easier by the fact that there is a minority community, the Bru Tribals who are not on good terms with the majority community of the Mizos, both of which live on the periphery of the TR. Yet the authority incharge of the TR has established very good rapport with both the communities and they are both enthusiastically supporting the TR. The powerful Young Mizo Association (YMA) is also supporting the TR and gives information to the authorities about the illegal poaching, encroachment etc. All this cooperation has been achieved despite the fact that seven villages have been resettled outside the TR and the jhoom practices of the people living in the periphery has not been allowed to invade the TR.

The vegetation does not permit the build up of a large prey base and it will be always very difficult to assess animal population in their dense forest. However, with the protection being afforded, both the prey base and the tiger numbers will increase to a certain extent.

It may be advisable to open out the forest canopy in a few places to allow open a few patches of grasslands to come up, which would benefit the ungulates. However, it has to be ensured that this does not lead to invasion of exotics nor poaching.

Poaching is still a problem, especially across the Bangladesh border. The elephant numbers still remain abysmally low and there are reports of tuskers being killed. This will have to be prevented. The park authorities have a very good rapport with the Border Security Force (BSF) and it would be advisable to have BSF posts in the park on the Bangladesh border, which could be manned by the staff of the TR as patrol camps. Thus, the BSF and the TR staff could compliment each other in the prevention of poachers and infiltrators. The Field Director, despite the remoteness, stays at Phaileng village which is just outside the park and controls the two roads which skirt the TR, there being no motorable road within the TR. The present Field Director H. LIANMAWIA seems to be a very dedicated person and keen on wildlife. He has been trained at WII and should be retained as Field Director as long as possible. He, however, does need the help of a Deputy Director, which should be a ACF. There is no Deputy Director at present. The TR, fortunately, has its full complement of staff with no vacancies and this must be quite unique. The staff also seems to be keen and well turned out.

The TR still has a sanctuary status. This is surprising, since all rights have been extinguished within the sanctuary, the human habitation shifted, there is no grazing and there is no reason

Dampa Tiger Reserve

Evaluator: M K Ranjitsinh

why the Dampa should not join the other two magnificent national parks of Mizoram - Murlen and Blue Mountain- as the state's third National Park. The state government should take urgent action in this regard.

As regards the research need, it needs a thorough survey of both its botanical and faunal biodiversity and species. The Botanical Survey of India and the Zoological Survey of India, in collaboration with the Wildlife Institute of India, should be assigned this task. This should provide the basic data necessary for the management of the Tiger Reserve.

Dr. M.K. Ranjitsinh

Profile

Madhya Pradesh Government established Indravati (formerly Kutru N.P.) National Park in 1981. In 1983, the Indravati National Park (1258.37 km²) along with buffer zone of 1540.71 km² was included in the Project Tiger. The total area of the Tiger Reserve is 2799.08 km². There is old Shiva temple (in ruins) near village Pasewada inside the Tiger Reserve.

Indravati Tiger Reserve is situated in Dantewad district of Chhattisgarh. The Tiger Reserve is named after the Indravati river which flows from East to West and forms northern boundary with Maharashtra.

The Reserve Forests are the catchment area of the perennial river Indravati. Numerous seasonal streams criss-cross the area. The terrain is undulating with most of the area covered with small hills – Kutroo, Kandlapatru and Matti Murka being the noteworthy.

There are a score of excellent grasslands. Wild buffalo, Chital, Barking deer, Neelgai, Gaur are seen grazing in these areas.

Forest Types of the Reserve are: Southern Moist Mixed Deciduous Forest with Teak, Southern Moist Mixed Deciduous Forest without Teak, Southern Dry Mixed Deciduous Forest.

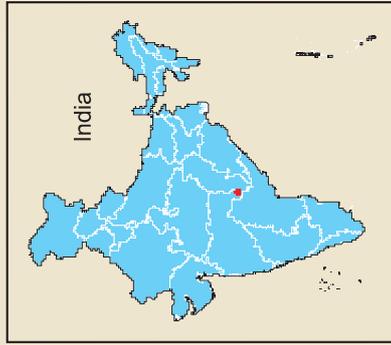
The main tree species found here include: Teak, Dhaora, Lendia, Saja, Salai, Moyan, Mahua, Dhoban, Siras, Tendu, Bija, Achar, Karra, Kullu, Shisham, Semal, Haldu, Arjun, Bel, Jamun, Rohan, Bahera, Mundi and Kasai.

Major fauna of the Indravati are: Tiger, Leopard, Striped Hyena, Wild Dog, Wolf, Sloth Bear, Flying Squirrel, Indian Fox, Spotted Deer, Sambhar, Barking Deer, Blue Bull, Wild Pig, Wild Buffalo and Gaur. Reptiles found are: Fresh Water Crocodile, Common Monitor Lizard, Indian Chameleon, Common Krait, Indian Rock Python, Cobra and Russell's Viper.

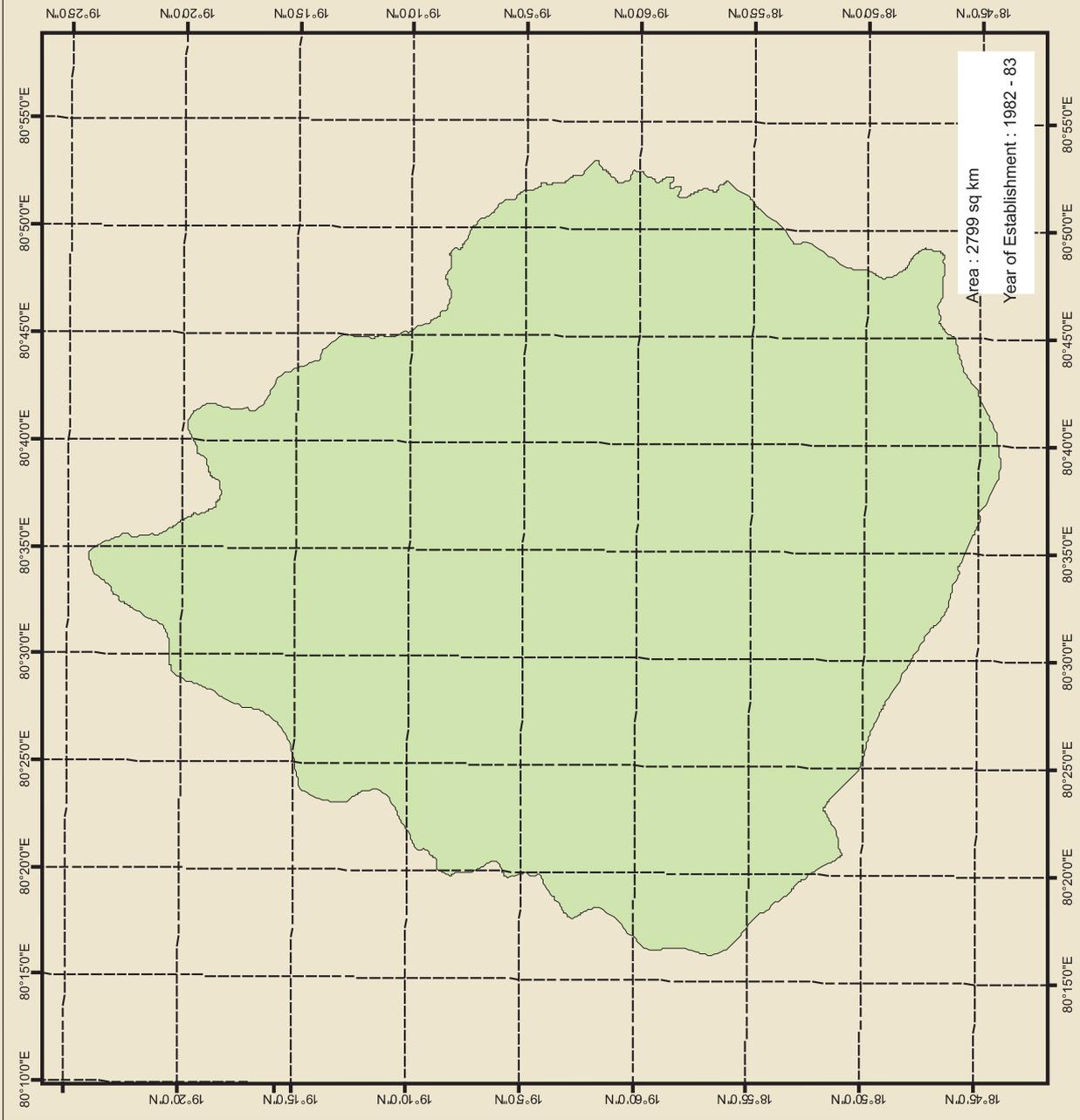
Indravati Tiger Reserve

Indravati

Indravati Tiger Reserve Chhattisgarh



Boundary Source : FSI, Dehradun, 2006



Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	0	<p>Intention to notify Indravati NP (formerly known as Kutru NP) was issued in 1981 in Dantewala (formerly part of Bastar district) in an area of 1258.372 km². In 1983 it was included in the Project Tiger along with a buffer area of 1540.714 km². Final notification has not yet been issued as relocation of 56 villages, with 882 families, mostly tribal, has not been possible as yet. Due to acute law and order problem (Naxalite problem) the relocation of these villages may not be possible in the near future.</p> <p>Though 1540.714 km² of buffer zone outside NP has been delineated comprising of 46.852 km² of RF, 31.756 km² of demarcated Protected Forest and 1462.108 km² of un-demarcated Protected Forests, but its control and management is not with the Project Tiger management.</p> <p>There is no unified control of buffer zone. Its control continues to remain with the Bijapur Territorial Division.</p>
	Delineation of buffer zone	3	0	
	Unified control of buffer	3	0	
	Sub-Total	9	0	
2. Compatible Land Use	In the buffer	3	0	<p>In spite of the fact that the Tiger Reserve has a large delineated buffer and continuity of forest areas beyond buffer, the control of even the delineated buffer is not with the Tiger Reserve Management. Approximately 1800 sq. km. of dense forest lies to the north of the Tiger Reserve which has never been surveyed and the area known as Abujhmad (unknown hills) is inhabited by primitive tribals and one needs Collector's permission to visit this area. There is no communication and other development in the area. The adjoining States of Maharashtra, Andhra Pradesh and Madhya Pradesh also have contiguous forest areas with the Tiger Reserve. This Tiger Reserve has become one of the most pristine wilderness area with continuity of forests all around and very little biotic pressure. This could become the most suitable tiger area but for the presence of Naxalites in a very significant way. It was reported that Abujhmad area is the base of Naxalite activities, where hardcore activists are also trained. This is the only area in India known to have a small population of pure wild buffaloes.</p> <p>Collection of NTFP including Tendu leaves continues in the designated buffer and hence there is no compatible land use in the designated buffer or beyond it. Main pressure on the forests is collection of NTFP by tribals and their age-old traditions of hunting by bow and arrow. There are 56 villages (mostly tribal) with 882 families inside the Reserve with significant cattle population.</p>
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the land use is detrimental	0	-	
	Sub-Total	6	0	

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	<p>As stated earlier there are all kinds of biotic pressures in the TR due to the presence of 56 villages in the core area. Tribals who are nearly primitive, mainly depending on forests for their livelihood, mostly inhabit the villages. They keep large herds of cattle, which freely graze in the core and buffer. Cultivation is traditional. The tribals freely do NTFP collection in the buffer area even for commercial purposes but in the core area the NTFP collection is con lined for bonafide use. Fodder collection is done only for bonafide use. Encroachment in buffer is present in un-demarcated forest land and Revenue land.</p> <p><i>The new dimension, which is most disturbing, that has been added to the human pressure is the presence of hardcore Naxalites in the core area of the TR. Due to their presence, planned management is not possible nor is it possible to enforce the legal provisions. Due to the vastness of the wilderness area and absence of roads and other communication systems and also due to the contiguity of the forests with other Naxalites infested areas of the adjoining states, it will need concerted and coordinated efforts to tackle this problem along with substantial help from Govt. of India. We were told that few battalions of CRPF are deployed in the area but due to extensiveness of the affected area, they are mostly protecting the State law and order machinery. The Project Tiger field staff has been forced to withdraw from the core area as their chowkis etc. are reported to be damaged and made uninhabitable by the Naxalites and even Forest Rest Houses have been damaged. Road repair is also not possible due to continuous threat from the insurgents. As a result all the field staff is putting up at Pharsegarh and Kuturu situated outside the core area which are a/s/o the locations of the newly created Naxli Thanas with some CRPF deployment. The third Range Head Quarter at Sandra located inside the core area has been damaged by Naxalites and the staff had to shift to the above two locations. Due to Naxalite terror the field staff can only go to their areas of deployment with great caution. We along with Field Director, Dy. Director and other staff could only be taken upto Pharsegarh and Kuturu as on reaching Pharsegarh we were told of the presence of a hardcore Naxalite group close to the road leading to Sandra. We could see the road blocks created by them by cutting trees and laying them across forest roads and displaying anti establishment slogan everywhere. Photocopy of slogans and some photographs depicting red banners and roadblocks as also the photocopy of the newspaper cuttings is enclosed herewith. We had long interaction with the frontline staff at the above two locations and we could clearly judge their demoralisation and helplessness. They were feeling bad that they are not free to go about doing their normal duty of protecting wildlife and their habitat. We could only share their helplessness for some moments and came back with a faint hope that the situation will ease out sooner or later. Any way our visit to these locations, when it was also possible for the Field Director to go to meet his frontline staff did bring some brightness in their faces, as they seldom come across officers going to these Naxalite infested areas.</i></p>
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
Sub-Total	8	0		

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
4. Use of the Area by other Departments	Yes	0	-	No such use of the land by other departments has been reported.
	No	3	3	
	Sub-total	3	3	
5. Management Plan Updated	Yes	3	3	Management Plan has been prepared for the period 2000-01 to 2009-10 but due to Naxalite problem, it cannot be implemented.
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Could not visit core area due to acute law and order problem but regeneration should not be a problem in such remote and dense forest areas.
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Visited some buffer areas and found satisfactory regeneration.
	Poor	0	-	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	-	It was reported that after bifurcation of the parent State of MP, there were some anomalies in distribution of the sanctioned strength, particularly the Forest Rangers. There are 3 ranges in the core but no post of Forest Ranger has been sanctioned and only one Forest Ranger is working. There are 50% vacancies in Forester and Dy. Ranger cadre and only 40 Forest Guards are in position against a sanctioned strength of 70. Thus the position is highly unsatisfactory. Buffer area is not under the control of Field Director.
	Inadequate	0	-	
	Sub-total	3	0	
9. Average Age of Staff	Satisfactory	3	3	The average age of the staff is approximately 45 years.
	Unsatisfactory	0	-	
	Sub-total	3	3	
10. Equipments	Adequate	3	-	Arms and Ammunition cannot be used due to law and order problem. Wireless sets were taken away by the Naxalists and cannot be reinstalled.
	Inadequate	0	0	
	Sub-total	3	0	
11. Vehicles	Adequate	3	3	Vehicles are adequate in number.
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	0	During the financial year 2004-05, the first installment was released by Govt. of India as late as on 21.2.2005, which reached the Tiger Reserve management on 5.3.2005. We were told that the delay was due to late compliance in shifting the Headquarter of Field Director from Raipur to Jagdalpur. In the previous years the position was reported to be satisfactory.
	Delayed	0	-	
	Sub-total	4	0	
13. Strike Force Available	Yes	4	0	There is no strike force, nor any such force can be of any use at the moment due to acute law and order situation in the TR.
	No	0	-	
	Sub-total	4	0	

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Reported to be satisfactory.
	Unsatisfactory	0	-	
	Sub-total	4	4	
15. Field Data Collection & Research	Ongoing	3	0	Since the area has Naxalite problem for a long time and there has been a complete stoppage of developmental works by Naxalites. Since 12.2.2000 there is no possibility of any research or field data collection. It is unfortunate that in spite of ample scope of research work in this Tiger Reserve, no work could be possible. The small wild buffalo population present in the core of the Tiger Reserve is claimed to be the only pure breed of wild buffaloes in India but their status and other aspects remain to be studied. It is hoped that the Govt. of India would continue to keep this area under Project Tiger inspite of all odds at the moment so that the future hopes and possibilities of research and data collection remain alive.
	Not ongoing	0	-	
	Sub-total	3	0	
16. Tourism Regulation	Done as per CC	5	0	In spite of immense potential for eco-tourism in this culturally, geographically, historically and scientifically important area there is no possibility of any tourism so long as the law and order problem is solved. At the moment the existing infrastructure such as Forest Rest Houses etc. have been destroyed or damaged and roads are also not in good condition.
	Not done as per CC	0	-	
	Sub-total	5	0	
17. Recycling of gate Receipts done	Yes	5	0	At the moment there is no collection of gate money.
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	3	The Field Director, Dy. Director, Park Superintendent, Game Ranger and Dy. Ranger all at senior level are untrained as far as wildlife training is concerned. Only the Field Director has good experience of working in Parks and Sanctuaries. It is encouraging to note that two of the Game Supervisors (out of 6) and 11 of the Game guards (out of 40) have undergone 6 months Wildlife Training Course.
	Not done regularly	0	-	
	Sub-total	3	3	
19. Weed Growth in the Habitat	Present	0	-	Though, weed has not been a problem in the Tiger Reserve but during past few years weeding of unpalatable vegetation has been taken up to improve the existing grasslands.
	Not seen	3	3	
	Sub-total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Gregarious woodlands are plenty both in the core and buffer areas but meadows are few. which need to be maintained.
	Managed	4	4	
	Sub-total	4	4	

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
21. Field Visits by Officers	Adequate	4	0	Visits by Senior Officers upto the core areas are almost non-existent. Visits even up to Bijapur are rare. Frontline staff living outside the core at Pharsegarh and Kutura are also not contacted frequently as a result of which there is demoralization among the field staff.
	Inadequate	0	-	
	Sub-total	4	0	
22. Staff Welfare Measures	Satisfactory	4	0	There are family quarters at Pharsegarh, Bijapur and Kuturu for the frontline staff. No other measures were brought to notice.
	Unsatisfactory	0	-	
	Sub-total	4	0	
23. Poaching	Common	0	-	Very few incidents of poaching have been recorded. The statement provided to us regarding poaching incidents in the Tiger Reserve shows only 4 cases of setting fire with the intention of poaching from 1997 to 2000. During personal discussion with officers and staff it was revealed that mass hunting inside the TR by tribals as part of an annual ritual extending sometime over one month had been a problem but due to Naxalite presence no outsiders are now going to the core area for mass hunting. However, poaching by tribals inside and outside the core cannot be ruled out altogether. Mass hunting as a ritual has been stopped by Naxalites since 2002.
	Negligible	4	0	
	Sub-total	4	0	
24. Fires	Common	0	-	There are incidences of only ground fire with no serious damage to wildlife or their habitat.
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	No cases of epidemics have been reported.
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	0	Though census figures from 1993 to 2005 of Tiger, Leopard, Wild dog, Sloth bear and important prey species were given to us but due to disturbed law and order situation and absence of staff in core area the reliability of latest census figures cannot be high. The number of tigers, which was reported to be 14 & 15 up to 1995 rose reportedly to 27 in 2004 and to 32 in 2005 census. Number of prey species that has been shown, all put together account for less than 10,000 Cheetal units. 32 tigers would need roughly over 2200 Cheetal units per annum. Some 40 leopards and 64 wild dogs reported in the census would also need considerable Cheetal units for their survival. It is unlikely that 10,000 Cheetal units can sustain 30 tigers. 40 leopards and 60 wild dogs. Due to Naxalite problem it may not be possible to verify the figures but in such an extensive area where tigers have survived since centuries inspite of mass hunting by tribals, tiger does have a chance for survival. Our hope is supported by the fact that stoppage of mass hunting by outsiders since 2000 and least possibility of hunting by tribals or even Naxalite hardcore for commercial gains, of which there are no reports so far will allow the tiger and its prey to survive for some more time. The Govt. of India under its Project Tiger may continue its support with this hope or else it may not be possible for these extensive wilderness areas to be brought back to the Project fold once the project support is withdrawn.
	Irregular	1	-	
	Sub-total	3	0	

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
27. Patrolling Camps Present	Yes	5	0	No staff is allowed by Naxalites to stay in the core area hence the question about the presence of patrolling camps does not arise.
	No	0	-	
	Sub-total	5	0	
28. Daily Monitoring done through Camps and Recorded	Yes	4	0	Due to inability of frontline staff to patrol the area regularly, and the absence of wireless communication, no monitoring is possible. However, under such circumstances, reporting of any kind by couriers or postal dak would be important. All the facts that come to the notice of staff even though by hearsay or personal communication with tribals or watchers, if recorded carefully in beat wise registers, would be of help.
	No	0	-	
	Sub-total	4	0	
29. Networking Strategy Present	Yes	3	0	Networking is not possible under the existing circumstances.
	No	0	-	
	Sub-total	3	0	
30. Daily Patrolling done	Yes	5	-	Patrolling is not possible due to Naxalite activity.
	No	0	-	
	Sub-total	5	0	
31. Court Cases Monitored	Yes	4	4	There is no monitoring of court cases.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	No cases of killing or injury of humans by wild animals have been recorded since 1999. However, compensation due to cattle loss has been paid up to date. Annual number of cattle killed by tiger/ elephant is not much.
	Not paid promptly	0	-	
	Sub-total	5	5	
33. Tourist Facilities	Adequate	2	0	There are no tourism facilities. Those existing in core area have also been destroyed or damaged by Naxalites.
	Poor	0	-	
	Sub-total	2	0	
34. Relationship with Police	Good	1	0	Due to Naxalite presence in core area the relationship with police is that of continuous suspicion.
	Poor	0	-	
	Sub-total	1	0	
35. Ecodevelopment Activities	Ongoing	6	3	No ecodevelopment activities are possible in the core area. There are 56 villages in the core area with over 8000 human populations and over 11000 cattle population (1998 census). In the buffer area ecodevelopment activities such as building earthen dams, check dams, earthen tanks, land leveling, hand pumps etc. are being done.
	Lacking	0	-	
	Sub-total	6	3	
36. Fulfilment of Reciprocal Commitments	Good	5	5	Due to typical situation prevailing in the area. people are being prevented by Naxalites to respond to Govt. programmes. However, in buffer area where such situation is not serious people are responding.
	Poor	0	-	
	Sub-total	5	5	
37. Cattle Immunisation In Villages	Done	5	0	No cattle immunization has been done so far.
	Not done	0	-	
	Sub-total	5	0	

Indravati Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	0	This is not possible due to Naxalite activity.
	No	0	-	
	Sub-total	5	0	
39. Registration of Arms	Done	4	4	It has been done once but is not being followed up.
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	No case of unnatural mortality came to the notice of management.
	No	0	-	
	Sub-total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	Inspite of Naxalite activities, the front line staff gets information about his area from local people even when he is not residing there.
	Poor	0	-	
	Sub-total	5	5	
42. Economic Benefits To Stake Holders	Good	3	0	Under the existing situations economic benefits are not possible to the stakeholders.
	Poor	0	-	
	Sub-total	3	0	
43. Control Over Use / Access Of TR Resources	Good	5	0	56 villages inside the core area and large number of villages in the buffer zone with minimum use of legal provisions would not prevent the overuse.
	Poor	0	-	
	Sub-total	5	0	
44. Efforts Towards Sustainable Development	Good	4	0	No development activity is being permitted freely by Naxalites.
	Lacking	0	-	
	Sub-total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	No efforts are being done by TR management. Even the notified buffer is not under the control of the Tiger Reserve. The only saving grace is the vast wilderness even outside the Tiger Reserve.
	Lacking	0	-	
	Sub-total	5	0	
Grand total		180	70	

Profile

Kalakad-Mundanthurai Tiger Reserve is situated in the south Western Ghats of India. It is bound by forests in west, north and south and by villages in the east. The Western Ghats is among the 18 world biodiversity hotspots. *Agasthiarmalai* (1681 m) which falls within the core zone of the Reserve is the 3rd highest peak in South India. Part of *Agasthiarmalai* hills in the core of the Reserve is considered as one of the five centres of plant diversity and endemism in India (IUCN). The topography is undulating. This is the only area of Western Ghats which has non-dipterocarp evergreen forest in the region and has a long raining period of about 8 months.

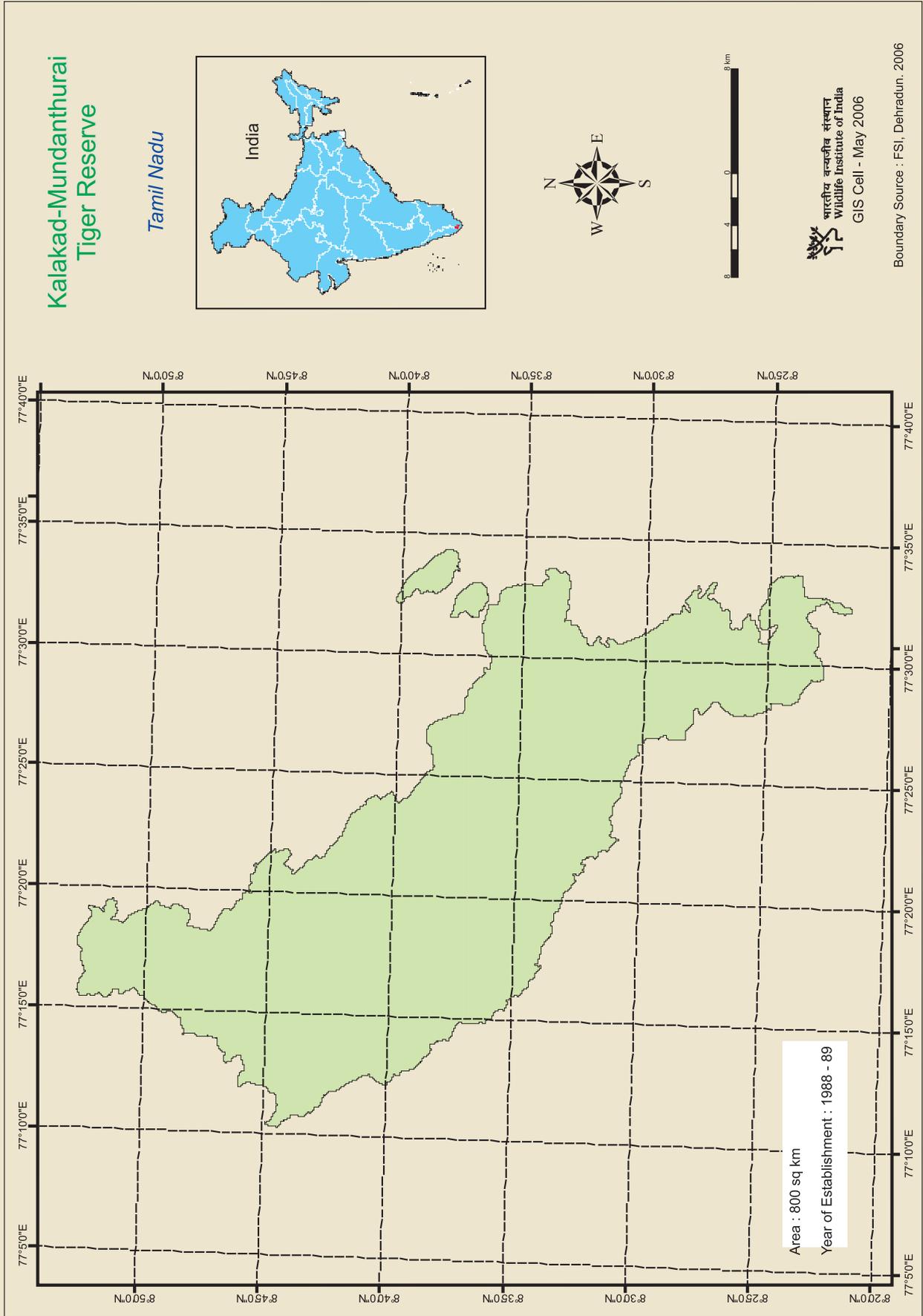
The rich forests of the Reserve form the catchment area of 14 rivers and streams. Among them the Tambraparani, Ramanadi, Karayar, Servalar, Manimuthar, Pachayar, Kodaiyar, Kadnar, Kallar form the back-bone of the irrigation network and drinking water for people of Tirunelveli, Turicorin and part of Kanyakumari district. Sever major dams - Karaiyar, Lower Dam, Servalar, Manimuthar, Ramanadi, Kadnanadi and Kodaiyar have been constructed on these rivers.

Papanasam Reserved Forests and Singampatty ex-zamindari Forests of Tirunelveli District were declared Tiger Sanctuary in 1962. The Wildlife (Protection) Act 1972 came into force in the state of Tamil Nadu in 1974. All the existing Sanctuaries were deemed Sanctuaries under the Wildlife (Protection) Act. The entire Kalakad Reserved Forests was notified as a Sanctuary in 1976. These Sanctuaries formed part of the Kalakad Mundanthurai Tiger Reserve in Tamil Nadu, the seventeenth Tiger Reserve in the country, created in 1988-89. Initially, it comprised two adjacent Wildlife Sanctuaries of Kalakad and Mundanthurai in district of Tirunelveli to which parts of Veerapuli and Kilamalai Reserve Forests (approx. 77 km²) of adjacent district Kanyakumari, were added in April 1996. The area of the Reserve is 895 km².

Forest types found in the Reserve are: Southern Hill Top Tropical Evergreen Forests, West Coast Tropical Evergreen Forests, Tirunelveli Semi-evergreen Forests, Dry Teak Forests, Southern Dry Mixed Deciduous Forests, Carnatic Umbrella Thorn Forests, Ochlandra Reeds, Southern Moist Mixed Deciduous Forests, Tropical Riparian Fringe Forests, Euphorbiaceous Scrub, High/ low attitude grasslands.

Major fauna of the Reserve include: Tiger, Elephant, Gaur, Mouse deer, Leopard, Rusty spotted cat, Brown palm civet, Leopard, Sambar, Spotted deer, Malabar giant squirrel, Nilgiri Langur, Bonnet Macaque, Slender Loris, Lion tailed Macaque, Sloth Bear, Brown mongoose, Nilgiri Martin and Indian pangolin etc.

Kalakad-Mundanthurai Tiger Reserve



Kalakad-Mundanthurai Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	1	For desired ecological security, issue of enclaves including eight encroachment areas need be resolved as they continue to exert pressure. Possibility of terminating long term, large areas [e.g.B.B.T.] and acquisition of private forest [Kattamalai] need be examined. P.A. manager to have 'dejure' control over Singampatty reserve lands. For harmonization of conservation goals with bonafide needs of people residing within and around core zone need be given status of NP and present habitations relocated. Buffer zone is within the sanctuary.
	Delineation of buffer zone	3	1	Boundaries need be redefined.
	Unified control of buffer	3	2	Need to have greater say in management of Reserve Forests [Kilamalai,Veerapuli].
	Sub-Total	9	4	
2. Compatible Land Use	In the buffer	3	3	Eco- development being carried out in 182 villages along the boundary of TR.
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	2	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	5	
3. Human Pressure	Habitation present within the core	0	-	Five Kani habitations, Electricity Board, Irrigation Staff Colony/ Unauthorized labour shanties exert pressure and unless curbed, will be a threat in future. Human pressures along eastern boundary is almost under control with massive Eco-development programme
	No habitation within the core	4	2	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	2	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	4	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	0	There is a draft management plan by WII but the same has not been approved by the competent authority.
	No	0	-	
	Sub-Total	3	0	

Kalakad-Mundanthurai Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	
	Poor	0	0	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	2	
	Inadequate	0	-	
	Sub-total	3	2	
9. Average Age of Staff	Satisfactory	3	-	
	Unsatisfactory	0	-	
	Sub-total	3	2	
10. Equipments	Adequate	3	2	
	Inadequate	0	-	
	Sub-total	3	2	
11. Vehicles	Adequate	3	2	Old vehicles need replacement
	Inadequate	0	-	
	Sub-total	3	2	
12. Timely Release of CA	Yes	4	4	Scope for improvement; during last two years only meager utilization of central assistance.
	Delayed	0	-	
	Sub-total	4	0	
13. Strike Force Available	Yes	4	1	Establishment of anti poaching camps [permanent] recommended.
	No	0	-	
	Sub-total	4	1	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	
	Unsatisfactory	0	-	
	Sub-total	4	4	
15. Field Data Collection & Research	Ongoing	3	1	Need to put in place regular units head by Research officer.
	Not ongoing	0	-	
	Sub-total	3	1	
16. Tourism Regulation	Done as per CC	5	2	Greater thrust required to develop nature education, ecotourism through EDCs.
	Not done as per CC	0	-	
	Sub-total	5	2	
17. Recycling of gate Receipts done	Yes	5	-	
	No	0	0	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	1	More emphasis on monitoring and extension as also environmental education/eco-tourism.
	Not done regularly	0	0	
	Sub-total	3	1	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	2	
	Sub-total	3	2	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	
	Managed	4	2	
	Sub-total	4	2	
21. Field Visits by Officers	Adequate	4	3	
	Inadequate	0	-	
	Sub-total	4	3	

Kalakad-Mundanthurai Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
22. Staff Welfare Measures	Satisfactory	4	2	Scope for improvement
	Unsatisfactory	0	0	
	Sub-total	4	2	
23. Poaching	Common	0	-	Funds provided by GOI not utilized by the state.
	Negligible	4	2	
	Sub-total	4	2	
24. Fires	Common	0	5	
	Less than 1% of the TR area	5	-	
	Sub-total	5	5	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	1	Need for more scientific and regular exercises
	Irregular	1	-	
	Sub-total	3	1	
27. Patrolling Camps Present	Yes	5	2	
	No	0	0	
	Sub-total	5	2	
28. Daily Monitoring done through Camps and Recorded	Yes	4	1	
	No	0	-	
	Sub-total	4	1	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	3	
	No	0	-	
	Sub-total	5	3	
31. Court Cases Monitored	Yes	4	2	
	No	0	-	
	Sub-total	4	2	
32. Ex-Gratia, Compensation	Paid promptly	5	4	
	Not paid promptly	0	-	
	Sub-total	5	4	
33. Tourist Facilities	Adequate	2	1	
	Poor	0	-	
	Sub-total	2	1	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	
	Lacking	0	-	
	Sub-total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	4	
	Poor	0	-	
	Sub-total	5	4	

Kalakad-Mundanthurai Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
37. Cattle Immunisation In Villages	Done	5	1	Allow and regulate grazing in multiple use areas, it will give better handle in immunization.
	Not done	0	-	
	Sub-total	5	1	
38. Host Community Involvement In Ecotourism	Yes	5	2	Scope for improvement through introduction of concept of trained guides.
	No	0	0	
	Sub-total	5	2	
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	0	
	No	0	-	
	Sub-total	4	0	
41. Trust Between Local People & TR Management	Good	5	2	
	Poor	0	-	
	Sub-total	5	2	
42. Economic Benefits To Stake Holders	Good	3	3	
	Poor	0	-	
	Sub-total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	3	
	Poor	0	-	
	Sub-total	5	3	
44. Efforts Towards Sustainable Development	Good	4	2	
	Lacking	0	-	
	Sub-total	4	2	
45. Restorative Inputs Beyond TR	Being done	5	2	
	Lacking	0	-	
	Sub-total	5	2	
Grand total		183	104*	

**corrected total*

Profile

Kanha Tiger Reserve, comprising parts of the Mandla and Balaghat districts of Madhya Pradesh, and located in the Maikal hills of the Satpuras, is internationally renowned for its rich floral and faunal attributes. The Reserve is an excellent interspersed area of the Dadars (flat hill tops), grassy expanses, dense forests and riverine forests. It is very rich in flora, largely due to the combination of landforms and soil types, apart from the moist character of the region. Besides harbouring a viable population of the tiger, Kanha has distinguished itself in saving the endangered hard ground barasingha from extinction, and supporting the last population of this deer species.

Kanha Tiger Reserve is constituted on a core-buffer strategy. The entire National Park area of 940 km². is visualised as a core zone, free from all biotic disturbances. A buffer zone of 1009 km². surrounding the core is treated as a multiple use area. The buffer zone comprises almost 40 per cent of forest area and the rest is constituted by revenue and private land. This zone is characterized by an interspersed area of revenue and forest lands, dotted with numerous villages. Besides, the Phen Wildlife Sanctuary, a satellite micro-core of 110 km², is also under the administration of the Reserve Management. The significance of this micro-core lies in the exchange of gene-pool and dispersal of wildlife populations between the two conservation units. The buffer zone has been notified by the state government as a separate division and is under the unified control of the Reserve Management. Wildlife conservation practices and ecodevelopment in the National Park, Buffer Zone and Phen Wildlife Sanctuary are carried out under the Management Plan for the year 2001-2002 to 2010-2011.

The Reserve is a part of the Gondwana tract inhabited traditionally and chiefly by the Gond and Baiga tribes, the latter confining themselves largely to the upper valleys and dadars near the main Maikal range. The system of shifting cultivation, locally called "Bewar" - prevailed almost unhindered until 1870 on the hill slopes.

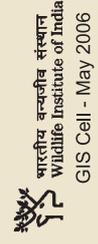
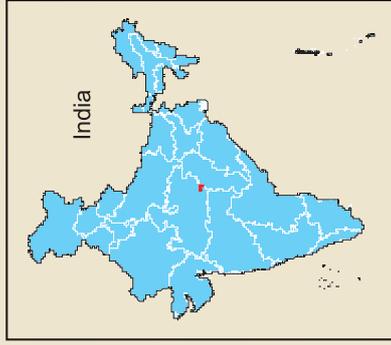
The following forest types are found in the Tiger Reserve: Moist Peninsular Sal Forests, Southern Tropical Moist Mixed Deciduous Forest Southern Tropical Dry Deciduous Mixed Forest.

The major tree species are Sal, Saja, Lendia, Dhawa, Tendu, Palas, Bija, Mahua, Aonla, Achar and Bamboo etc.

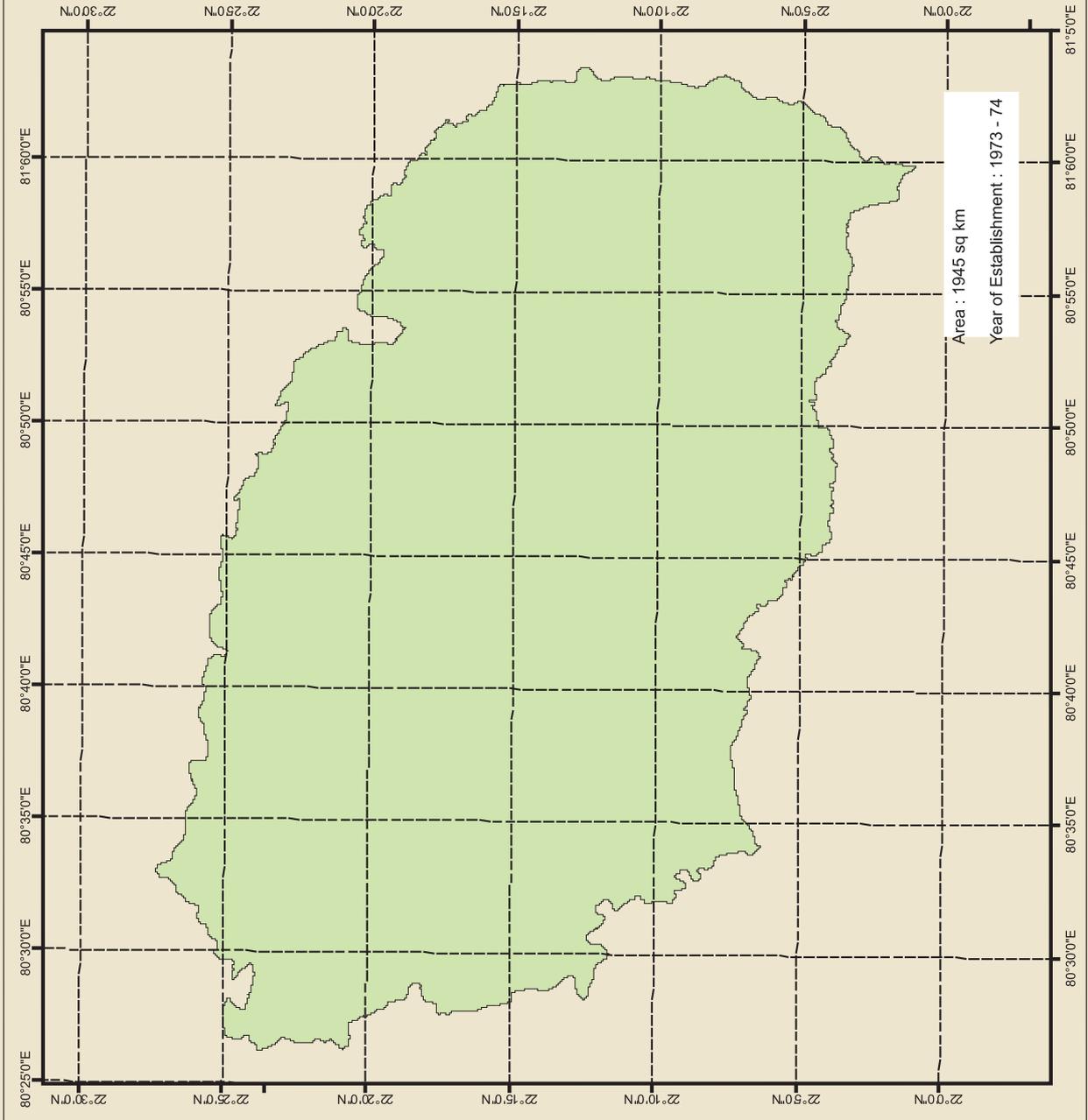
The major faunal species are: Chital, Sambar, Barasingha, Barking deer, Chousingha, Gaur, Langur, Wild pig, Jackal, Sloth bear, Wild dog, Leopard, Tiger.

Kanha Tiger Reserve

Kanha Tiger Reserve Madhya Pradesh



Boundary Source : FSI, Dehradun, 2006



Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments																				
1. Legal Status	Completion of legal procedures	3	3	Kanha NP (KNP) is one of the NPs which was notified prior to the enactment of the Wildlife Protection Act 1972. This was notified in 1955 and all legal processes have been completed. The area of the NP is 940 km ² , which falls in two revenue districts, namely Mandla (409.825 km ²) and Balaghat (53.122 km ²). KNP constitutes the core area of Kanha TR (KTR). Phen WLS with 110 km ² area is its Satellite Micro Core.																				
	Delineation of buffer zone	3	3	KTR has a buffer zone of 1009 km ² , which has been termed as Multiple Use Area. The buffer also falls in the above two revenue districts and area details of the Buffer Zone are as under: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Distt.</th> <th>RF (km²)</th> <th>PF (km²)</th> <th>Revenue Area (km²)</th> <th>Total (km²)</th> </tr> </thead> <tbody> <tr> <td>Mandla</td> <td>184.735</td> <td>36.130</td> <td>184.860</td> <td>405.725</td> </tr> <tr> <td>Balaghat</td> <td>275.284</td> <td>-</td> <td>328.694</td> <td>603.978</td> </tr> <tr> <td>Total</td> <td>460.019</td> <td>36.130</td> <td>513.554</td> <td>1009.703</td> </tr> </tbody> </table>	Distt.	RF (km ²)	PF (km ²)	Revenue Area (km ²)	Total (km ²)	Mandla	184.735	36.130	184.860	405.725	Balaghat	275.284	-	328.694	603.978	Total	460.019	36.130	513.554	1009.703
	Distt.	RF (km ²)	PF (km ²)	Revenue Area (km ²)	Total (km ²)																			
	Mandla	184.735	36.130	184.860	405.725																			
	Balaghat	275.284	-	328.694	603.978																			
Total	460.019	36.130	513.554	1009.703																				
Unified control of buffer	3	3	The core and buffer areas are under the control of the Field Director, KTR along with the Satellite Micro Core.																					
Sub-Total	9	9																						
2. Compatible Land Use	In the buffer	3	3	The land use is compatible in the buffer which is under the control of the Field Director but beyond the buffer zone the compatibility of land use cannot be ensured by the Tiger Reserve management. Unless a landscape plan is prepared for areas beyond the Tiger Reserve buffer zone, there is little hope that compatibility would be achieved. There is limited concern for wildlife and their habitat beyond the buffer zone nor are the corridors and connectivity being secured.																				
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-																					
	Beyond buffer (5km. radius)	3	0																					
	Beyond buffer the landuse is detrimental	0	-																					
	Sub-Total	6	3																					

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	KTR has been pioneer in relocation of villages from the core area. The efforts started as early as 1967 and by the year 1998 a total of 27 forest villages with 697 families had been successfully relocated. The sites vacated by the villages were developed in meadows and some of the prime swamp deer habitats are today on these sites, 18 forest villages with 1212 families still remain to be relocated from the core area which has a total population of 7827 and a cattle population of 8251. In addition to this, one village is to be relocated from the Phen WLS with 68 families and 405 human and 492 cattle population. There are about 150 Forest/Revenue villages in the buffer zone which affect the Multiple Use Area directly or indirectly. Relocation of some of the villages in the immediate vicinity of the NP has been creating some problems for the Park Management and it is now felt that their relocation should not be nearer than 10 km from the boundary of the PA. Village relocation programme has since gained inertia due to non attractive relocation package being offered to them. The package needs immediate revision so that this important activity does not get deferred.
	No habitation within the core	4	3	
	Livestock grazing pressure present within the core	0	0	With approximately 10,000 cattle in the villages inside the core and over 35,000 cattle in the buffer area the pressure is huge.
	No livestock grazing pressure within the core or adjoining areas	4	3	
	Cultivation present in the core	0	-	The villages in the core area are practising cultivation in their land. No encroachment has been reported.
	Encroachment present	0	-	Not reported in core or buffer zones.
	Collection of NTFP in the core	0	-	Villages inside core continue collecting NTFP and fodder for their bonafide use. In Multiple Use Area surrounding villages exert pressure for NTFP and fodder collection.
	Quarrying present in the core	0	-	
	Sub-Total	8	6	
4. Use of the Area by other Departments	Yes	0	-	A public highway between Baihar and Chilpi runs 28 km inside the NP and 20 km through the buffer zone and is used by all types of vehicles and pedestrians in all the seasons. Around 231.60 km of electric lines (201.60 km ² in buffer zone and 30 km in the NP) also run through the Tiger Reserve making many areas of the Reserve vulnerable to electrocution of wild animals.
	No	3	0	
	Sub-Total	3	0	

Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	3	Management Plan of the TR for 2001-02 to 2010-11 has been prepared. The concept of landscape planning in the forest areas beyond the buffer needs to be extended in order to secure the continuity of existing corridors and connectivity. The regular working plans of the adjoining Forest Divisions contiguous with the Tiger Reserve needs to be coordinated with the Management Plan of the Tiger Reserve to ensure compatibility of land use beyond the buffer zone.
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Regeneration status in the Core Area is very good.
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Regeneration status in the Buffer Area is good except close to habitations where degradation has set in.
	Poor	0	-	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	3	Overall staff position is good. In the cadres of Deputy Ranger and Forester, 13 and 12 persons respectively, are in excess of the sanctioned strength whereas in the cadre of the Forest Guard 12 posts are lying vacant, which is less than 8% of sanctioned posts. The post of Research Officer which was lying vacant for the past 12 years has since been filled up.
	Inadequate	0	-	
	Sub-total	3	3	
9. Average Age of Staff	Satisfactory	3	3	The average age of the staff is approximately 40 years.
	Unsatisfactory	0	-	
	Sub-total	3	3	
10. Equipments	Adequate	3	3	The equipments are adequate.
	Inadequate	0	-	
	Sub-total	3	3	
11. Vehicles	Adequate	3	3	Vehicles are adequate.
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	4	Central assistance is released in time and release by the State Govt. is also timely.
	Delayed	0	-	
	Sub-total	4	4	
13. Strike Force Available	Yes	4	0	There is no strike force as such but location of anti-poaching camps, their manning and patrolling of the border areas is very effective. The Tiger Reserve has enough man power and there should be no difficulty in picking up few capable staff and training them to form a strike force which can be used not only for combating the illegal activities but also for collecting intelligence about illegal trade in wildlife products.
	No	0	-	
	Sub-total	4	0	

Issue	Criteria	Maximum Score	Current Score	Comments
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Disbursement is being done regularly and there is no complaint about delayed disbursement of salary or allowances.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	<p>This Tiger Reserve was the pioneer in field research which was mostly done in house by the Research Officer and other field staff. Mr. Kotwal who had a D.Sc. degree remained as the Research Officer in the Reserve for a long duration before he got an appointment in IIFM, Bhopal and left. During his tenure, a large number of research projects were executed and good field data were generated. The post remained vacant for about 12 years during which period research was continued by Dr. Rajesh Gopal, the then Deputy Director and later Field Director, who had a special aptitude for research. Now a Research Officer has been appointed who happens to be associated with the Tiger Reserve for a long time. One D.Sc and 7 Ph.D. theses on various aspects of wildlife have been completed in the Tiger Reserve and many research and technical papers have been published in various national and international journals. There is a well-equipped field laboratory located at Kanha along with a network of computers and network technology at the Field Director's office at Mandla. Some of the important studies include:</p> <ul style="list-style-type: none"> • Ecological monitoring in the 60 research plots spread all over the NP. • Identification of limiting/inimical factors. • Data collection on population dynamics, dispersal pattern of wild animals, intra and inter specific relations, feeding habits of herbivores and carnivores. • Development and maintenance of herbarium. • Preparation of cover maps based on aerial photographs. • Use of radio-telemetry for studying land tenure of tigers. • Translocation and study of Barasingha, • Study of movement patterns of encumbered tigresses using GPS/software. • Study of Sal borer infestation.
	Not ongoing	0	-	
	Sub-Total	3	3	

Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	Tourism in the Tiger Reserve is well regulated. The Tiger Reserve remains open for tourism from 1st Oct. to 30th June.
	Not done as per CC	0	-	Nearly 60 to 65 thousand tourists visit the Reserve annually during these 9 months. Tourism zone is well defined. There is a road network of about 300 km in the Tourism Zone. Most of the accommodation is on the periphery of the TR. The visitors' load is shared by about 21 private lodges and hotels with about 450 bed capacity at Khalia and Mukki, M.P. Tourism Development Corporation Log Huts and Youth Hostel with 48 bed capacity and Tiger Reserve Management Hutments and Forest Rest Houses at Khatia, Kisli and Mukki with 62 bed capacity. The carrying capacity of the Tiger Reserve in the tourism zone has been proposed at 55 vehicles per day and it has also been incorporated in the Management. Plan. The income generation from tourism has reached over 2.21 crores in 2003-04 from gate receipts, Forest Rest Houses and elephant charges etc. and is being managed as Kanha Vikas Nidhi. All the money is recycled for Park management. <i>Though the visitor regulation is satisfactory but there is too much of rush of vehicles in the early hours for tiger sighting which are managed at different locations everyday by tracking the tigers. Some tigers in the tourism zone have become habituated to tracking and pinning down by camp elephants and that is how tiger sighting has become very popular in this Tiger Reserve. Due to the absence of elephants in the wild the tigers of central India get confused by the presence of camp elephants, as there is no natural interaction in the wild. Mahawats are able to pin them down at certain place after tracking and the tigers do not get away so long as one elephant is standing there. This makes the so called 'tiger show' easy and this has become very popular and the main attraction to the visitors. This activity could be very useful for the State Govt. to earn revenue from tourism but it needs to be carefully studied before it is continued further. The change of behaviour of tigers could be exploited by illegal trappers in the long run. On the other hand elephant safari for a longer duration of about 1½ to 2 hrs. could give visitors more satisfaction and jungle experience even if tiger sighting is not regular. With the continuance of such tiger shows the visitor number through private travel agencies could become unmanageable in the near future. Sighting of tigers in such a situation also gives a misleading understanding about tiger behaviour. THIS ASPECT REQUIRES TO BE THOROUGHLY LOOKED INTO IN ALL TIGER RESERVES (WHERE THIS KIND OF TIGER SHOW IS DONE) AT A VERY EARLY DATE.</i>
	Sub-Total	5	5	

Issue	Criteria	Maximum Score	Current Score	Comments
17. Recycling of gate receipts done	Yes	5	5	All gate receipts, receipts at Forest Rest Houses and elephant charges are being managed as Kanha Vikas Nidhi and the money is recycled for Park Management. M.P. is the pioneering State in the country- to recycle gate receipts for Park Management.
	No	0	-	
	Sub-total	5	5	
18. Field Staff Training	Yes	3	3	The Director of the TR Mr. K. Nayak has a long field experience as Deputy Director and now Field Director of Kanha Tiger Reserve. Both the Deputy Directors and Park Superintendent have done PG Diploma course in WII. The Veterinary Field Assistant has done PG Diploma as well as Wildlife Health Management course. Most of the Field staff are trained in structured wildlife training courses of 5-6 months duration at Bandhavgarh. The professional know how level of field staff is high and therefore their level of confidence, morale and commitment are also high.
	Not done regularly	0	-	
	Sub-total	3	3	
19. Weed Growth in the Habitat	Present	0	-	Continued weed control measures are being taken. This has been incorporated in the Management Plan and forms a regular practice. Kanha meadows are one of the well-managed meadows in the country. Unwanted ingressions of woody plants is also checked effectively.
	Not seen	3	1	
	Sub-total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Kanha TR is known for its ideal mosaic of woodlands and meadows. All the relocated village sites have been developed into excellent grasslands and swamp deer population has made a great progress due to proper management of these meadows. Woodlands are vast and the presence of large bamboo brakes, makes it an ideal tiger habitat.
	Managed	4	4	
	Sub-total	4	4	
21. Field Visits by Officers	Adequate	4	4	The Field Director himself is mostly on the move and has intimate knowledge of the Reserve. His officers are equally mobile and field visits by all officers are adequate.
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	A number of welfare measures are being undertaken by the TR Management to keep up the morale of the field staff. 'Kanha Workers Society' has been formed in which all employees of the Tiger Reserve up to the Field Director and including daily wage labourers are members. Interest free loans are given to needy employees from the society fund. Rupees four hundred per month are paid to all the Forest Guards from Kanha Vikas Nidhi as an incentive. The front line staff is posted in interior areas in the forests and they are required to patrol the forest area day and night with utmost vigilance due to which they have to face enormous difficulties. It would be necessary to have family lines for front line staff posted in interior areas with strict guidelines for allotment of such lines. This has already begun in some Tiger Reserves of MP and some NGOs are also coming forward to supplement this programme. Medical camps for the field staff are held twice a year and first aid kits have been distributed. Field kits have been given to the frontline staff by NGOs. Sick staff is immediately evacuated to hospitals in Govt. vehicles. Medical insurance of front line staff would also be necessary for which necessary help could be given by Tiger Project Directorate of Government of India.
	Un-satisfactory	0	0	
	Sub-total	4	4	

Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	8 cases of poaching were recorded in 2001-02 in the TR out of which 6 were in the buffer zone and 2 in Phen WLS. Poaching of a leopard on 1.7.2001 is a serious incident. During 2002-03, 15 cases of illegal entry, poaching and seizure of wildlife material were recorded out of which 6 were in the core area, 8 in the buffer zone and one was outside the buffer zone. One case of tiger poaching in the buffer on 2.9.2002 is reported to be subjudice. During 2003-04, 9 cases poaching and illegal entry were recorded, out of which 4 were in the core area, 4 in the buffer zone and one in Phen WLS. The case of tiger poaching is a very serious matter and needs a through enquiry besides pursuing the same in the court. Poaching of a leopard on 8.11.2002 also needs to be pursued seriously. Though the incidents of poaching during past 3 years do not indicate high degree of poaching in the TR but a strict vigil will have to be maintained and intelligence network would have to be developed to check the poaching incidents of tigers and panthers. During 1992, 3 cases of tiger and 7 cases of leopard poaching were detected by the Park Management, which shows the quantum of threat for these carnivores and degree of alertness with which these threats need to be guarded.
	Negligible	4	4	
	Sub-total	4	4	
24. Fires	Common	0	-	Around 1 to 1.5% of the Tiger Reserve gets ground fire every year due to high temperature during summer and biotic interference.
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	No epidemics have been noticed in wild animals during past several years. There is a permanent Veterinary Field Assistant posted in the Tiger Reserve. Nearly 35,000 cattle are inoculated every year in and around the Tiger Reserve to prevent epidemics.
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Direct sighting method (Block count) is employed for estimating the population of ungulates in the Tiger Reserve. The population estimate is generally carried out in the second or third week of July. The population estimates of tigers/ leopard are conducted in winter employing the general pugmark method. The data are corroborated/ complimented with the data collected throughout the year under the monitoring programme. Majority of the field staff of the TR is experienced in the field exercise of population estimation and utmost care is taken to keep the estimates as close to the reality as possible. NGOs, Private lodge owners' representatives, students and wildlife enthusiasts take part in these exercises to maintain transparency. The estimation of prey and predators is done regularly. A good deal of effort and research has been done in Kanha TR to refine the pugmark technique of field census. Kanha TR has been the pioneer in many fields of tiger conservation and management. The team saw 5 tigers, (2 males, one female and 2 grown up cubs) in one day in the tourism zone and also saw numerous signs of tigers in the areas visited by it.
	Irregular	1	-	
	Sub-total	3	3	

Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
27. Patrolling Camps Present	Yes	5	5	Kanha TR has the distinction of strategically locating its patrolling camps from the very beginning. There are about 73 patrolling camps located inside the Reserve. Due care has been taken to seal most of the points on the boundary from where locals can have access. Each camp is manned by 3 field people and the patrolling is regular and well monitored.
	No	0	-	
	Sub-total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	There is a system of regular monitoring of the camps through wireless network and frequent visits by the officers. There is a good culture of patrolling on foot. The Field Director involves himself in the patrolling activity which ensures the proper monitoring by other officers. A good record is kept at all the camps visited by the committee in which sightings are recorded and signs of tigers and leopards are also recorded.
	No	0	-	
	Sub-total	4	4	
29. Networking Strategy Present	Yes	3	3	There is an efficient network of wireless communication in the entire Tiger Reserve and the system of personal contact with remote camps by officers is commendable.
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	5	Daily patrolling by field staff is done from their camps spread all over the Tiger Reserve. Officers by their frequent visits to remote areas ensure the regularity" of patrolling.
	No	0	-	
	Sub-total	5	5	
31. Court Cases Monitored	Yes	4	4	Monitored properly at the Field Director's level.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Timely disbursement is being ensured in all cases of ex-gratia payment/ compensation.
	Not paid promptly	0	-	
	Sub-total	5	5	
33. Tourist Facilities	Adequate	2	2	There are 31 double bedded rooms at Khatia, Kisli and Mukki maintained by the Tiger Reserve. 16 double bedded rooms in Log Huts at Kisli and 3 dormitories of 8 beds each at Youth Hostel Kisli are being run by MP Tourism Development Corporation. There are nearly 450 beds available in 21 private lodges at Khatia and Mukki. A well laid and highly equipped interpretation centre is coming up for educating the visitors. There are trained guides who accompany the visitors. Tourism is well regulated.
	Poor	0	-	
	Sub-total	2	2	
34. Relationship with Police	Good	1	1	Relationship of the Tiger Reserve staff with the people is good.
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Till 2001-02 externally-aided Integrated Afforestation and Eco-Development Project (IAEP) was being implemented in the TR under which various Ecodevelopment activities were undertaken. In 2002-03, 2003-04 and 2004-05 Ecodevelopment activities were undertaken under the Project Tiger budget in which pasture development, gobar gas plants, leveling and bunding of agricultural fields, drinking water, solar equipment, stop dams and other irrigation facilities were taken up. Some income generation programmes were also taken up. Special attention was paid to relocated villages. The programmes have, by and large, been beneficial to conservation of tigers and their prey species.
	Lacking	0	-	
	Sub-total	6	6	

Kanha Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
36. Fulfilment of Reciprocal Commitments	Good	5	3	The village communities are responding to the TR management's efforts by cooperating in minimizing the pressures on the core and buffer.
	Poor	0	-	
	Sub-total	5	3	
37. Cattle Immunisation In Villages	Done	5	5	Over 35,000 cattle in the buffer villages are being inoculated every year since last 3 years and there has been no outbreak of any epidemic.
	Not done	0	-	
	Sub-total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	There is a large number of trained nature guides from the surrounding villages including many from the relocated villages. Taxi drivers taking visitors to the tourism zone are also locals. A large number of local people are engaged on various jobs in the private hotels being used by visitors. Due to increased tourism activity in the vicinity of the TR, many linked activities such as vegetable growing, production of dairy products, local artifacts, and supply of other needs etc. have increased and as a result the local economy is benefited.
	No	0	-	
	Sub-total	5	5	
39. Registration of Arms	Done	4	4	The legal requirement in the registration of arms in the vicinity of the Tiger Reserve is being met.
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	The Tiger Reserve has a Veterinary Field Assistant who pursues the postmortem in all cases of natural or unnatural deaths of wild animals.
	No	0	-	
	Sub-total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	There is a satisfactory level of trust of the people in the management of the Tiger Reserve.
	Poor	0	-	
	Sub-total	5	5	
42. Economic Benefits To Stake Holders	Good	3	3	Due to an increased volume of visitors, most of the stakeholders are immensely benefited. The village communities are benefited by the eco-development programmes which are conducted regularly.
	Poor	0	-	
	Sub-total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	3	In spite of 18 villages still remaining in the core areas efforts are being made to control the overuse of the Tiger Reserve resources. A large number of villages in and around the buffer zone is mainly responsible for overuse of resources in the buffer area which is being controlled through the ecodevelopment activities.
	Poor	0	-	
	Sub-total	5	3	
44. Efforts Towards Sustainable Development	Good	4	4	Sustainable development is being achieved through good ecodevelopment package, controlled tourism and effective management.
	Lacking	0	-	
	Sub-total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	2	There is a proposal to extend the Kanha NP to Phen WLS and to up grade the status of Phen WLS to that of a NP. WWF-India is currently conducting a study to develop connectivity and corridors with Bandhavgarh TR, Achanakmar WLS and Pench TR (MP). Bhairmgarh Wildlife Sanctuary in Chhatisgarh.
	Lacking	0	-	
	Sub-total	5	2	
Grand total		183	166*	

*corrected total

Profile

Manas Tiger Reserve in Assam was created in 1973 at the time of launch of the Project Tiger in India. The Reserve area falls in six districts, Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup and Darrang. Barnadi Wildlife Sanctuary is located in the buffer of the Reserve.

It is situated on the northern bank of the Brahmaputra river. There are numerous rivers criss-crossing the Reserve, namely, Sankosh, Saralbangha, Hel, Tanali, Courang, Sidli (Bhor) Aio, Manas, Beki, Pathimari, Kaladia, Tihunala, Morapagaldia, Nala, Braalia, Pbornodi and Dhansiri. The Reserve runs along the Indo-Bhutan international border, with contiguous wildlife habitats in Bhutan. The river Manas flows from the gorges of Bhutan and splits into two major streams as it enters India at Mathanguri.

While the core zone, the Manas National Park, offers fine wildlife habitat, the rest of the Reserve is a collection of eighteen Reserved Forests intertwined with revenue villages. While traversing the Reserve from West to East, one comes across Sal forests, both virgin and degraded, moist-deciduous forests, isolated patches of ever-green forests, riverine forests, grasslands of both savannah and terai types, and miscellaneous forests. Manas habitat provides an excellent abode to the tiger as well as prey species: Hog deer, Sambar, Swamp deer, Asiatic Wild Buffalo and Gaur. These species migrate freely across the international border.

Prior to declaration of the sanctuary, the area was Reserved Forest (R.F.) called Manas R.F. and North Kamrup R.F. The Raja of Gauripur and the Cooch-Bihar Royal Family were using these areas as a hunting preserve. The sanctuary was later extended by two successive additions in 1951 and 1955 to 391 km² by including the entire North Kamrup R.F. and the Manas R.F. Later the Kahitama R.F., the Kokilabari R.F. and the Panbari R.F. were added and the area was declared as Manas National Park in 1990.

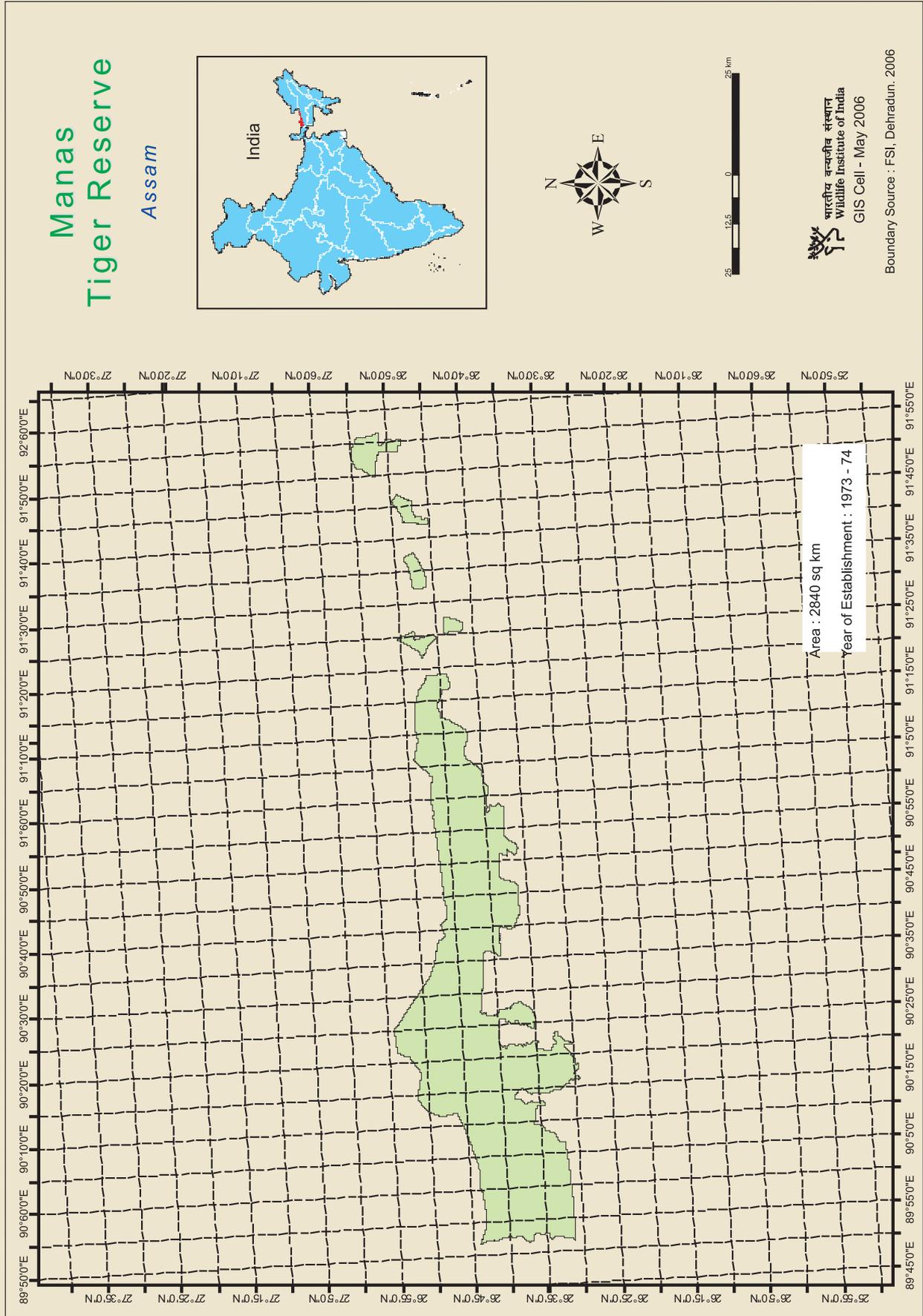
Sub-Himalayan High Alluvial Semi-Evergreen Forests, Eastern Valoor Type of Forests, East Himalayan Moist Mixed Deciduous Forests, Low Alluvial Savana Woodland, Assam Valley Semi-Evergreen Alluvial Grasslands are the major forest types in the Reserve.

The park is an abode for rare plants such as *Reinwardia indica*, *Desmoduim motoruim*, *Pueroria subspicota*, *Biden pilore*, *Exacum teres*, *Pygmaeoprema herbacea*, *Chiloschhiosta junifera*, *Oplismenus megaphyllus*, *Magnifera sylvetica* among others.

Endangered faunal species of the Reserve include: Capped Langur, Golden Langur, Slow Loris, Tiger, Black Panther, Leopard Cat, Clouded Leopard, Golden Cat, Fishing Cat, Sloth Bear, Asian Elephant, Indian Pangolin, One-horned Rhinoceros, Asiatic Water Buffalo, Swamp Deer, Flying Squirrel, Hispid Hare and Gangetic Dolphin.

Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar



Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	519.77 km ² declared as a NP through Gazette notification dated 5 th December 1990.
	Delineation of buffer zone	3	3	Comprises 2317.35 km ² 8 RFs to the east and 10 RFs to the west.
	Unified control of buffer	3	0	Controlled by the Conservator of Forests, Western Assam Circle that has 5 territorial divisions across the buffer.
	Sub-Total	9	6	
2. Compatible Land Use	In the buffer	3	1	125 forest villages in the western buffer, a few in the eastern buffer but the areas have moderate to bad encroachments.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	1	To the north beyond the core is the well-protected Royal Bhutan Manas NP across the Indo-Bhutan international boundary. On the Indian side there is very little opportunity as the landscape is dominated by human presence.
	Beyond buffer the land use is detrimental	0	-	
	Sub-Total	6	2	
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	3	There is an encroached human habitation over 1600 hectares and 500 households since the last ten years
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	3	Minimal and on the fringe
	Cultivation present in the core	0	-	Some on the fringe
	Encroachment present	0	-	As mentioned above
	Collection of NTFP in the core	0	-	Minimal
	Quarrying present in the core	0	-	None
	Sub-Total	8	6	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	Operational for the period 2002-2007
	No	0	-	
	Sub-Total	3	3	

Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
6. Regeneration Status in the Core	Satisfactory	3	3	Some edaphic changes are observed
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	-	
	Poor	0	0	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	1	Of the 431 field positions 109 are vacant. No recruitments are taking place.
	Inadequate	0	-	As above.
	Sub-Total	3	1	
9. Average Age of Staff	Satisfactory	3	-	
	Unsatisfactory	0	0	
	Sub-Total	3	0	
10. Equipments	Adequate	3	2	Ageing resulting in higher maintenance expenditure. Some 4WD vehicles will need replacement. A jet boat that can operate in very shallow water will be very useful. Inflatable rubber boats needed. Immobilizing equipment, accessories and drugs and also the firearms require a review <i>vis a vis</i> the need.
	Inadequate	0	-	
	Sub-Total	3	2	
11. Vehicles	Adequate	3	2	See remarks above.
	Inadequate	0	-	
	Sub-Total	3	2	
12. Timely Release of CA	Yes	4	0	There are inordinate delays and the full amount is not received. TA is highly inadequate, salary payment is delayed, Project allowance is not paid, and wage bills are poorly met. This is a serious setback. If the CA is routed through the North East Council to the Bodoland Territorial Council the problem could be resolved.
	Delayed	0	-	
	Sub-Total	4	0	
13. Strike Force Available	Yes	4	0	A proposal is pending.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	2	Remark as against Sr. No. 12.
	Unsatisfactory	0	-	
	Sub-Total	4	2	
15. Field Data Collection & Research	Ongoing	3	1	After the disturbances in Manas, regular work is on for a period of little more than a year therefore some lag is expected. Attempts are on. The Guwahati University has some projects completed and on going.
	Not Ongoing	0	-	
	Sub-Total	3	1	
16. Tourism Regulation	Done As Per CC	5	4	Tourism is picking up. A heartening development is that the local youth wish to join hands with the reserve management to conduct tourism based on the tenets of eco-tourism, e.g. Kokilabari area
	Not Done As Per CC	0	-	
	Sub-Total	5	4	

Issue	Criteria	Maximum Score	Current Score	Comments
17. Recycling of gate Receipts done	Yes	5	0	The current financial provisions will need to be amended to make this happen.
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	1	The seniors provide some on the job training to the field staff. Institutionalized regular training in different aspects is needed.
	Not done regularly	0	-	
	Sub-total	3	1	
19. Weed Growth in the Habitat	Present	0	-	Mikenia, Eupatorium, Leea and some Lantana are principal weeds and they seem to be affecting the areas along roadsides mainly. Mikenia appears to have a wider spread than the two.
	Not seen	3	1	
	Sub-total	3	1	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Understandably the control measures are of recent origin. It is estimated that grassland area is reduced by 10%.
	Managed	4	2	
	Sub-total	4	2	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	2	Poor inflow of funds is a problem. Housing, supply of uniforms, provision of subsidized ration, medical facilities, non-payment of project allowance are among the main issues. It is difficult to sustain the posts in the interior.
	Unsatisfactory	0	-	
	Sub-total	4	2	
23. Poaching	Common	0	-	There is some poaching but well within control. No poaching of tiger reported for the last several years, no rhino poaching reported since the year 2001 and not ivory poaching for the last year and a half. Local youth have assisted in nabbing poachers and curbing poaching this is truly encouraging
	Negligible	4	2	
	Sub-total	4	2	
24. Fires	Common	0	-	Mainly in grasslands and abutting woodlands.
	Less than 1% of the TR area	5	3	
	Sub-total	5	3	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	2	Regular since post insurgency period. Tiger, elephant and buffalo are the species addressed currently. The rhino population is reportedly down to few individuals; the swamp deer seems to have been locally extinct. The hog deer has a declined population so might be the case of the sambar but given the current protection these will recover. The gaur is doing well. A herd in excess of 40 animals was observed. The Pygmy hog reportedly has not suffered any decline. Attempts at sighting were not successful but then the time also was insufficient. Buffaloes are widely seen but physical appearance of several animals suggests that interbreeding with the domestic buffalo has taken place. This mostly must have happened during the period of insurgency. The rhino and the swamp deer can be brought back through restocking from the wild from within Assam but this may be considered only when the ground situation can meet the IUCN laid criteria with respect to restocking/reintroduction.
	Irregular	1	-	
	Sub-total	3	2	

Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
27. Patrolling Camps Present	Yes	5	3	Several patrolling camps existing previously have been destroyed during the period of insurgency. These are being slowly revived and the attempt is not helped by the erratic flow of funds. Long range patrolling is being conducted patrolling schedules are in place and patrol reports are regular, some verbal, some written.
	No	0	-	
	Sub-Total	5	3	
28. Daily Monitoring done through Camps and Recorded	Yes	4	2	The above situation has affected the system. Diaries are maintained to record and report the monitoring conducted. Analysis needs to go forward.
	No	0	-	
	Sub-Total	4	2	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	3	See remarks against Sr. No. 27.
	No	0	-	
	Sub-Total	5	3	
31. Court Cases Monitored	Yes	4	1	Cases are monitored but the progress is very slow and with low rate of convictions. Lawyers are reluctant because of pending payment of legal fees.
	No	0	-	
	Sub-Total	4	1	
32. Ex-Gratia, Compensation	Paid Promptly	5	0	Thus far since the park administration has started functioning regularly fortunately no human deaths or injuries have taken place. But considering the situation for Nameri TR. Ultimately shortage of funds may create problems in future. This item is not being considered for the final gradation of Manas.
	Not Paid Promptly	0	-	
	Sub-Total	5	0	
33. Tourist Facilities	Adequate	2	2	This is at the current influx of visitors. There are likely to be additional facilities as the Kokilabari local initiative develops. Political support is encouraging.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	2	Understandably it is taking off slowly after the insurgency The sign of encouragement is that the youth appear supportive and with their help there is every likelihood that initiatives will prosper in time but limitations placed by the encroachment situation. The government efforts at dealing with encroachments so far has not met with success anywhere in the state to speak of.
	Lacking	0	-	
	Sub-Total	6	2	
36. Fulfilment of Reciprocal Commitments	Good	5	3	Whatever initiatives have been taken over limited areas has attracted encouraging reciprocal response.
	Poor	0	-	
	Sub-Total	5	3	
37. Cattle Immunisation In Villages	Done	5	5	
	Not Done	0	-	
	Sub-Total	5	5	

Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	4	See remarks against Sr. No. 16 and 33 above.
	No	0	-	
	Sub-Total	5	4	
39. Registration of Arms	Done	4	2	This has started since the post insurgency period and expectedly cannot move at the desired pace. The problem is somewhat compounded because of the existence of locally manufactured illegal firearms
	Not done	0	-	
	Sub-Total	4	2	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	1	It is slowly but definitely beginning to happen. Properly steered eco-tourism is likely to play a significant role.
	Poor	0	-	
	Sub-Total	3	1	
43. Control Over Use / Access Of TR Resources	Good	5	5	As applicable to the core area.
	Poor	0	-	
	Sub-Total	5	5	
44. Efforts Towards Sustainable Development	Good	4	1	It is too early to expect results. This is going to move slowly especially considering the land-use in the buffer and beyond. Even with best of intentions of the reserve managers if the other agencies and local initiatives do not appear as players the park management can do very little.
	Lacking	0	-	
	Sub-Total	4	1	
45. Restorative Inputs Beyond TR	Being done	5	0	There are no opportunities at present.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	102*	

**corrected total*

Manas Tiger Reserve

Evaluators: M K Ranjitsinh and V B Sawarkar

Annexure

Manas biologically, zoologically and scenically is perhaps the finest protected area in the country. Unfortunately, it has had to play a subservient role to Kaziranga over the years and has not received the attention it deserves, either from the Government of Assam or from the people at large. It is a unique biome confined to Manas and contains the largest number of species in Schedule I of the Wildlife Protection Act, of any protected area in the country. In the recent past it has had to suffer more than a decade of insurgency, during which the staff had lost control over almost the entire TR and it has had a drastic reduction in the population of the major mammals. Not only has total number of elephants decreased very substantially, but the tuskers seem to have all gone. We saw none except a very young bull. The 50 odd Rhino that it had, are now reduced to less than 10. The eastern Swamp Deer whose second habitat in the world was Manas, is now perhaps extinct in Manas and the vast herds of Hog Deer and of the Wild Buffalo are now reduced to pitiful remnants. However, the number seem to be building back slowly, as the staff establishes its control over more areas and we were very happy to see the large population of Gaur which seems to have survived the onslaught of the poachers.

The morale of the staff is improving, but more progress needs to be made and the guard posts which were earlier manned at Uchila as well as on the eastern border and in the Panbari range, need to be re-established. This means that Manas must have more field staff by filling up vacant posts and by fielding daily-wage staff or some other. Only then elephant, rhino and ungulate population can be built up and the Rhinos and the Swamp Deer reintroduced in Manas.

Over the years, Dr Ranjitsinh has noticed the grasslands of Manas being increasingly invaded by exotics such as Mikania and Eupatorium and the indigenous *Leea asiatica*. The semul tree also seems to be spreading over into the grasslands. This could be because of a change in the texture and moisture of the soil. This edaphic change could be because of repeated fires for livestock grazing or some other factors. Continuous grasslands research is required to determine management prescriptions for grasslands. If fire is to be applied, the rotation period and the when, where and how frequently it has to be applied, has to be determined, and it can vary from area to area within the park. This is most important and we would suggest that the task be given to the IIFM Bhopal and involve Dr. P.C. Kotwal for the purpose.

Dr. Ranjitsinh could also observe the change in the composition of the forest and the trees, specially in the middle and northern segments of the park which seem to be deciduous than before.

Grazing is now not prevalent except on the periphery of the park. The Bodoland Territorial Council (BTC) does not oppose the stoppage of grazing. What is more important, they seem to be taking a genuine interest and pride in Manas and extending their cooperation. This must be encouraged and taken full advantage of.

There are about 500 encroachers in the Panbari range, occupying about 16 kilometers. They need to be rehabilitated outside the Park. An area for this purpose had not identified about 15 km from the southern

boundary of the park. Government of India must provide adequate funds for this purpose, but a detailed programme needs to be worked out for this purpose and the BTC must be involved in this from the outset.

As far as Kokilabari Seed Farm of 2020 acres, the lease has lapsed and the land must revert back to the Tiger Reserve. It can be made into a Sanctuary. However, about 700 people are cultivating it and it would be very difficult to evict them. The BTC wants them to continue, but will not allow its spread any further. They also want to establish ecotourism in this area. Under the circumstances, this can perhaps be allowed but on the condition that they protect the remaining area of the grassland which is not cultivated and do not allow any poaching or fire.

We were sorry to note the obvious degeneration of the wild buffalo. Manas was the last hope for the survival of a viable population of the truly wild buffalo. In the past, there has been some inter-breeding with domestic buffalo along the southern periphery of the Park, but the population around Uchila and further northwards was of the original wild stock and the animals very extremely large and impressive. This, alas, is not the case now and we saw degenerated buffalos even near Mathanguri on the northern border. A detailed study needs to be carried out about the genetic purity or otherwise of the buffalo of Manas.

There has been delay this financial year in the release of funds from GOI for the Tiger Reserve, but even otherwise there is an annual feature of funds from GOI not being released to the TR till the very end of the financial year. The result of this is that the TR is totally starved of funds. A mechanism has to be evolved to overcome this and perhaps funds provided straight into a Trust Fund for the Park and the GOI funds channelled through it. Last year, the GOI contribution was Rs 179 lakhs, of which only 39 lakhs was released from the 100% quota and 11 lakhs from the 50% shared quantum. As a result of this, 67 daily wage staff have not been paid for 15 months. Salaries are being paid, but there is no money for POL, car repair, road repair etc. The project allowance has also not been given this financial year.

It is noteworthy that the drawing and disbursing powers have been withdrawn from the Field Director of Manas and now vest with the Deputy Director.

The southern periphery has always been a problem for Manas and the old road which existed along the southern boundary must be re-established.

Poaching is reduced but still exists and we heard a rifle shot during our visit, in the middle of the Park.

Eco-development activity in the buffer zone is still minimal. This needs to be augmented to win the support of the local people especially in view of the recent past of Manas, and the BTC must be involved in it.

Once the poaching is brought under control, Rhinos must be re-introduced into Manas and thereafter after proper investigation, a herd of Swamp Deer also needs to be re-introduced into Manas.

Profile

Melghat Tiger Reserve is located on southern offshoot of the Satpura Hill Range in Central India, also called Gavilgarh hills. The high ridge running East-West which has highest point at Vairat (1178 m above msl) forms the South Western boundary of the Reserve. It is a prime habitat of Tiger. The forest is Tropical Dry Deciduous in nature dominated by Teak (*Tectona grandis*). The area is catchment to the five major rivers viz Khandu, Khapra, Sipna, Gadga and Dolar, all of which are tributaries of the river Tapti. The North-Eastern boundary of the Reserve is marked by River Tapti. Melghat is a prime biodiversity repository of the Maharashtra State.

Makhala, Chikhaldara, Chiladari, Patulda and Gugamal are the large plateaus amidst rugged terrain. Contiguity of forests in Satpura Hill Range augments long term conservation potential of the area. Gavilgarh fort on the Chikhaldara plateau and Narnala fort abetting South Eastern part of Melghat Tiger Reserve add to the aesthetic values of the area.

Melghat was declared a Tiger Reserve in 1974. Presently, the total area of the Reserve is 1676.93 km². The core area of the Reserve, the Gugarmal National Park with an area of 361.28 km² and buffer area of the Reserve, the Melghat Tiger Sanctuary with an area of 788.28 km² (of which 21.39 km² is non-forest) were together re-notified by the state government in 1994 as Melghat Sanctuary. The remaining area is managed as 'multiple use area'. Previously, Melghat Tiger Sanctuary was created in 1985 with an area of 1597.23 km² Gugamal National Park was carved out of this Sanctuary in 1987.

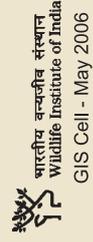
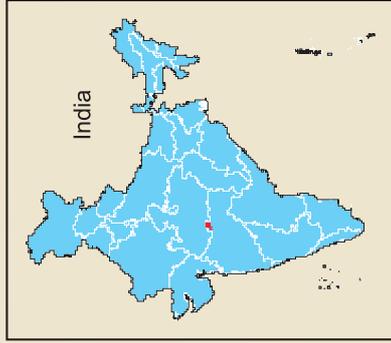
The forests of this Reserve are classified as: Southern Tropical Dry Deciduous Forests according to Champion and Seth (1968). More than 700 naturalised plant species have been enlisted in flora of Melghat. These species belong to about 400 genera representing as many as 97 families. There are 90 tree spp., 66 shrubs spp., 316 herbs spp., 56 climbers, 23 sedges and 99 grass species alongwith 60-70 newly identified species.

Major fauna of the Reserve includes: Tiger, Leopard, Sloth bear, Wild dog, Jackal, Sambar, Gaur, Barking deer, Nilgai, Cheetal, Chousinga, Ratel, Flying Squirrel, Wild Pig, Langur, Rhesus monkey, Porcupine, Pangolin, Mouse deer, Python, Otter, Caracal, Black napped hare.

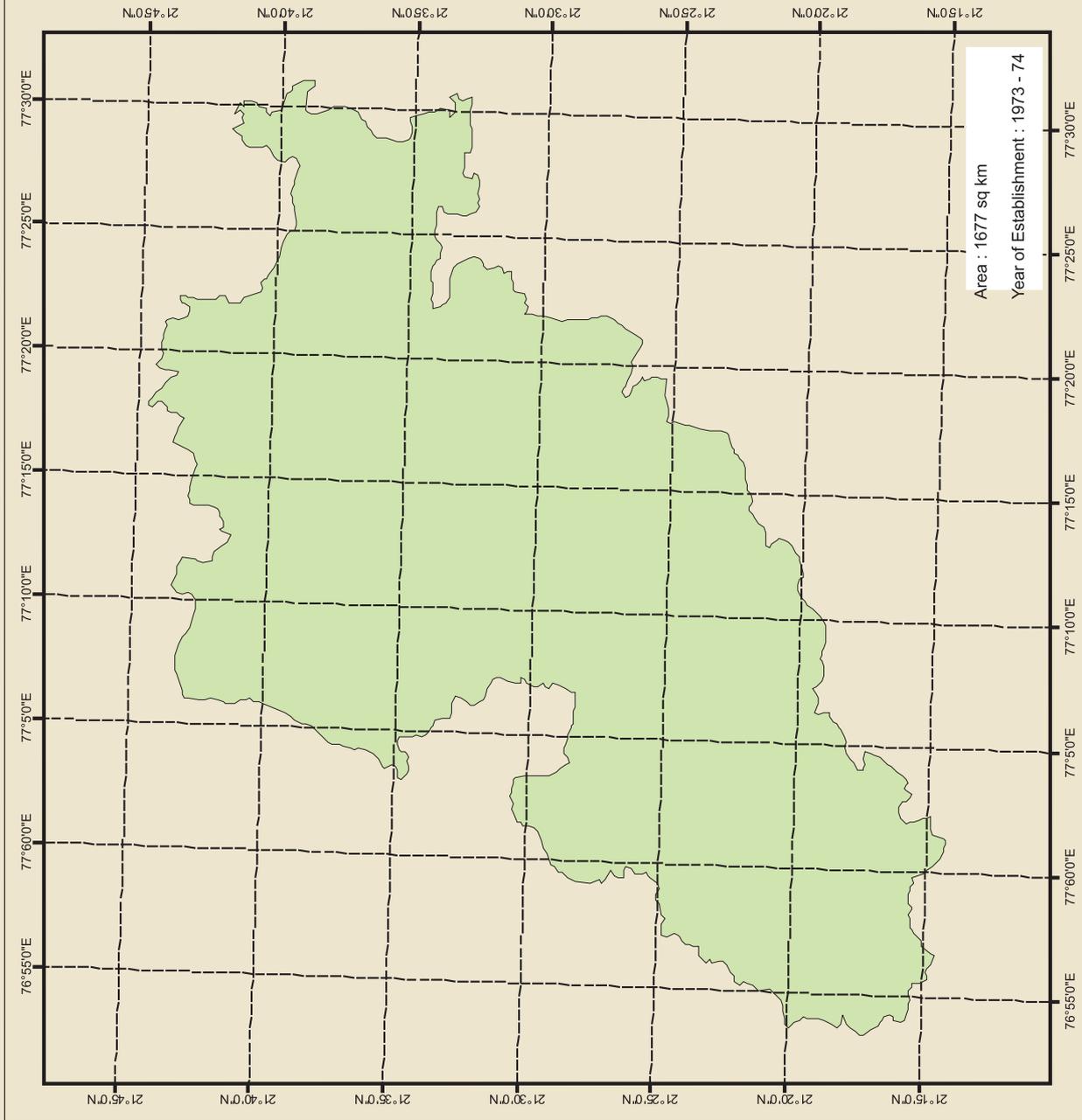
Melghat Tiger Reserve

Melghat Tiger Reserve

Maharashtra



Boundary Source : FSI, Dehradun, 2006



Melghat

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Melghat Tiger Reserve (MTR) is one of the 9 TRs which came into existence in the first phase of the Project. MTR came into existence on 22.2.74 and initially its area was 1571.74 km ² , which was subsequently extended to 1676.93 km ² . The TR comprises Gugamal NP (Core area) with 361.28 km ² , Melghat WLS with 788.75 km ² area and the Multiple Use Area (MUA) with 526.90 km ² . Melghat WLS and MUA have 21.39 km ² and 57.15 km ² area respectively of non Reserve Forest. The final notification for core area (Gugamal NP) was issued in August 2000 and for the Melghat Sanctuary in November 2000.
	Delineation of buffer zone	3	3	The area of Melghat WLS together with the MUA acts as buffer of the MTR. The three WL Sanctuaries viz. Wan, Narnala and Ambabarwa situated to the South west of the TR and in contiguity of MUA also act as buffer of the TR. The total area of these three WL Sanctuaries is 350.47 km ² and all are under the control of FD MTR. One unique feature of this TR is presence of RF all around the TR except at few places.
	Unified control of buffer	3	3	MTR has the best position as far as the unified control of buffer is concerned. Not only is the entire TR of 1676.93 km ² under the unified control of the FD but all the three WL Sanctuaries to the South-West of the TR with an area of 350.47 km ² are also under him. For the purpose of the administration the area under the FD MTR is divided into three divisions, namely, Wildlife Division 1 & 2 controlling Melghat WLS and Gugamal NP with Hqrs. at Paratwada and Dy CF(WL) controlling Akot Wildlife Division (3 Wildlife Sanctuaries) with HQrs at Akot.
	Sub-Total		9	9
2. Compatible Land Use	In the buffer	3	3	The land use in the buffer is compatible with the objectives of the TR as the buffer is under the control of the FD
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the land use is detrimental	0	-	Beyond buffer the land use is incompatible as it includes timber and bamboo operations and working of NTFP for commercial purposes. Unless the working plans of the adjoining East and West Melghat Forest Divisions are coordinated with the Management Plan of the TR, compatibility would be hard to come.
	Sub-Total		6	3

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	There is no habitation in the core area of the TR nor there is any grazing, cultivation, encroachment or NTFP/grass collection in the core area. In the Melghat WLS there are 19 villages still present after relocation of 3 villages recently. In all these 19 villages there are 1563 families out of whom only 40% have land holdings. All these villages have sizable human and cattle population and cultivation is practiced in all the villages. There is immense grazing/fuel wood collection/NTFP collection and grass cutting pressure around all these villages. All these villages are proposed to be relocated out of the TR but the progress is very slow. Most of the inhabitants are Korku, Gond and Nihal tribals and Gaoli non tribals. So long as the relocation is done the pressure will continue and herbivores as well as carnivores will have to suffer in terms of numbers and quality. The MUA has influence of 39 villages which exert grazing pressure and collection of fuel wood, timber, bamboo, NTFP and fodder is also rampant resulting in continued degradation of the TR. Though due to unified control of MUA with the FD, Tendu leaf collection, bamboo working, cutting and thinning of timber lots has been stopped but there is immense pressure on the Forest Department to open commercial operations in this area. It would be most unfortunate if the department succumbs to these pressures and resumes all these commercial operations in the MUA. Already cattle from far off villages force their way into different parts of the TR for illicit grazing. Thousands of cattle are also transitory, moving from Gujrat through the TR to other forest areas. The grazing pressure can also be judged from the figures of 250 to 300 cattle killed by tigers every year for which compensation has to be paid by the TR Management. In order to keep these disturbances under control the TR management would be required to have strict regulations for grazing, fuel wood and bamboo collection and collection of NTFP and fodder grasses. Any commercial utilization of forest produce in the MUA would be detrimental to tiger population of the TR.
	No habitation within the core	4	2	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	2	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	4	
4. Use of the Area by other Departments	Yes	0	-	There is a network of roads in the TR being maintained by the Public Works Department. It was noticed that more and more forest roads are being handed over to the PWD who are making them black top roads. This is likely to increase the disturbances including road kills, in spite of whatever precautions may be taken by the TR management. No further transfer of TR roads should be done to PWD department.
	No	3	0	
	Sub-Total	3	0	

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	3	The Management Plan (MP) for the period 2004-05 to 2013-14 for the MTR is already sanctioned by the CWLW. The coordination of MP with Working Plans of adjoining Forest Divisions would be necessary.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	It is satisfactory but adversely affected by frequent fire incidents.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	1	Satisfactory except in the vicinity of the 19 villages inside WLS, where it is poor. Regeneration status in MUA is also poor.
	Poor	0	-	
	Sub-Total	3	1	
8. Staff in Position	Satisfactory	3	3	Against the sanctioned strength, there are 5 vacancies in the Forest Ranger cadre, 35 in Forest cadre and 16 in F.Gd. cadre, which are 22%, 26% and 5.5% respectively of the sanctioned strength. The vacancies in Forester cadre are high but few in F.Gd. cadre.
	Inadequate	0	-	
	Sub-Total	3	3	
9. Average Age of Staff	Satisfactory	3	3	It is about 41 in F.Gd. cadre and about 50 in Forester cadre.
	Unsatisfactory	0	-	
	Sub-Total	3	3	
10. Equipments	Adequate	3	3	Adequate
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	Adequate
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	4	It is timely but State Govt. takes unduly long time to release it.
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	0	There is no strike force as such but ad-hoc arrangement has been made in each Division whereby under a RFO, 5-6 staff act as a mobile squad. A properly trained strike force is required to combat the day-to-day cases of wildlife crime. The will also work as intelligence gathering machinery around the TR. particularly about illegal trade of wildlife parts.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Salary disbursement is timely but disbursement of project allowance, TA etc. to field staff takes time due to delayed processing at State Govt. level.
	Unsatisfactory	0	-	
	Sub-Total	4	4	

Issue	Criteria	Maximum Score	Current Score	Comments																																			
15. Field Data Collection & Research	ongoing	3	3	<p>Regular estimation of important carnivores and herbivores is done on yearly basis and record is being kept. Tiger and leopard estimation is done through pugmark analysis method and other animals are estimated by waterhole count and block count method. For verification of pugmark method camera traps were also used in part of the area during 2002-03.</p> <p>Though block count method is regularly used but the figures normally reported are those of waterhole count for ungulates and other herbivores. The comparative figures for 2002 by two methods are as under:</p> <table border="1"> <thead> <tr> <th>Species</th> <th>Water-hole</th> <th>Block count</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Gaur</td> <td>1165</td> <td>1120</td> <td rowspan="10">Except in case of Sambar, barking deer and wild pig the difference is nominal. Wild dog population in block count is very low due to the uncertain/ erratic movement pattern of the species.</td> </tr> <tr> <td>Sambar</td> <td>1019</td> <td>1416</td> </tr> <tr> <td>Nilgai</td> <td>117</td> <td>59</td> </tr> <tr> <td>Chital</td> <td>323</td> <td>325</td> </tr> <tr> <td>Chausingha</td> <td>139</td> <td>35</td> </tr> <tr> <td>Barking Deer</td> <td>824</td> <td>35</td> </tr> <tr> <td>Wildpig</td> <td>1318</td> <td>2976</td> </tr> <tr> <td>Langur</td> <td>4475</td> <td>3906</td> </tr> <tr> <td>Sloth Bear</td> <td>197</td> <td>108</td> </tr> <tr> <td>Wild dog</td> <td>222</td> <td>3</td> </tr> </tbody> </table> <p>61 vegetation monitoring plots have been laid down scientifically in the TR and observations are being recorded regularly. Research projects are also conducted in collaboration with Amrawati University and other researchers for studies on food habits, prey-predation relationship, sloth bear ecology etc. There is a post of Research Officer in the TR on which at present an Assistant Conservator of Forests is working. The most important research in the TR would be about the effect of frequent fires on fodder availability during critical period (summer). This appears to be a single factor responsible for low ungulate density in the TR and the affect would have to be studied for all the important prey species. Other important factor to study could be the competition between wild dogs and tigers and leopards for important prey species. These two criticalities could explain the higher Gaur and Wild pig population and lower population of other ungulates. 24 technical bulletins and several papers have so far been published on Melghat TR. There is a Medicinal Plant Conservation Area in TR which is monitored regularly.</p>	Species	Water-hole	Block count	Remarks	Gaur	1165	1120	Except in case of Sambar, barking deer and wild pig the difference is nominal. Wild dog population in block count is very low due to the uncertain/ erratic movement pattern of the species.	Sambar	1019	1416	Nilgai	117	59	Chital	323	325	Chausingha	139	35	Barking Deer	824	35	Wildpig	1318	2976	Langur	4475	3906	Sloth Bear	197	108	Wild dog	222	3
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	Not ongoing	0	-																																				
	Sub-Total	3	3																																				

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	<p>Tourism in the TR is well regulated. Tourism zone is in the Melghat WLS and all the FRH available to visitors are outside core area and mostly in MUA. Entry is through manned gates. Trained nature guides accompany the visitors inside the TR. Two busy highways namely Amarawati-Dharani and Harisal- Akot cut across the TR, one of them through the core area and there is no regulation of traffic on these two roads. At least some regulations would have to be imposed at night and traffic should be made to pass through the TR in convoys with an interval of at least 20-30 minutes between the convoys. Some forest roads have been handed over to PWD for up gradation and maintenance on which no night driving is allowed.</p> <p>For the education of visitors there are interpretation centres at Semadoh, Marisal, Gullarghat and Amrawati. The centres have been developed with purely local theme and local material. In the tourism zone there are wildlife viewing routes, nature trails, machans, hideouts etc. Good brochures, handbills and a quarterly in house bulletin- Melvyaghra are available for guidance of tourists.</p>
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	yes	5	0	It is not being done.
	no	0	-	
	Sub-Total	5	0	
18. Field Staff Training	yes	3	0	<p>There is no formal structured wildlife training for the frontline staff. However, short training/ workshops are arranged at local level for them on important day to day matters. Field visits to other PAs of the State are also arranged annually.</p>
	Not done regularly	0	-	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	present	0	-	<p>Weeds are not a problem in the TR. Some areas have weeds like <i>Strobilanthus</i>, <i>Lantana</i> etc. Eradication of Lantana is being taken up under Employment Guarantee Scheme of the State Government.</p>
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	present	1	-	<p>Most of the TR has a hilly, undulating and difficult terrain with some grassy patches in the valleys. Due to frequent fires there is no advancement of woodlands into grassy meadows. The forest being dry deciduous, there is good growth of grasses under the tree cover but in critical dry season the grasses are burnt due to fires almost every year.</p>
	managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	adequate	4	4	<p>Adequate field visits are done by officers. This has resulted in revival of some patrolling camps located in remote areas.</p>
	inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	satisfactory	4	4	<p>There is a Medical Dispensary at Tarubanda and a well equipped ambulance which visits the interior areas of the TR. Recreational facilities for the staff exist at Semadoh tourist complex. A 20 bed hostel building for the children of field staff at Paratwada is also proposed. Some NGOs have provided hunter shoes, jackets, water bottles, cycles, torches, caps, mini trucks, jeeps, medical van, binoculars etc. for the use of field staff.</p>
	unsatisfactory	0	-	
	Sub-Total	4	4	

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	Poaching of predators and prey is not common. In Feb. 2003 a case of tiger poaching by electrocution in Harisal Range was detected. Cases of illegal fishing are common.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	Fire is the most important limiting factor in Melghat TR. Due to hilly and very difficult terrain control of fire is very tough. Once there is a fire, all the affected hill sides look like landslide areas with red soil totally exposed and not a blade of grass or a leaf of shrub or herb is visible. The Committee member visited the TR during last week of April 2005 and till then very few area was affected with fire but wherever there was a fire, the area was totally devoid of any grass or herb or shrub. Due to steep hill slopes and very few valleys, once the area is burnt, nothing is left for the herbivores on the ground. This criticality during long summer is responsible for low density of ungulates. The wild pigs and gaur survive respectively on roots and bark and twigs and that is how their population is higher. The carnivores, specially the tiger survive on gaur, wild pigs and langurs. The incidents of killing of adult gaur by tigers are common and more frequent than in other areas with gaur as one of the prey species. Prevention of fire is one single management practice in MTR which would need the greatest attention of the management. Early burning in valleys and strictly no control burning on slopes would be the best practice suited to this TR.
	Less than 1% of the TR area	5	0	
	Sub-Total	5	0	
25. Epidemics	Common	0	-	No epidemics has been reported in the TR.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Estimation is done on yearly basis. Pugmark census for tigers and leopards is followed. Verification by camera traps by a NGO has shown higher figures than reported by the pugmark method. Local knowledge and patrolling records are used in arriving at the estimates. Ungulates are estimated with the help of waterhole count and verified by block count method. Figures finally arrived at are those found in waterhole count. Involvement of NGOs etc. in the census makes it transparent. Direct sighting of tigers in MTR is very rare and even the Field Directors have to wait for long periods before they can sight a tiger.
	Irregular	1		
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	75 Patrolling camp sites have been identified at strategic locations all over the TR. These sites were being used for patrolling camps since long but in between due to negligence of some of the FDs these camps were discontinued and frontline staff fell back to easier locations like traditional beat guard chowkis, section HQrs, Range HQrs or the nearby habitation. Abandoning these camps resulted in negligence, heavy fires, grazing and other illegal activities. The present FD has revived most of these patrolling camps and construction of makeshift camps with the help of local material has been undertaken at most of the sites. One F.Gd. and 4 DL wage local tribal labourers have been engaged at these camps as firewatchers and for general watch and ward. The Committee member had an opportunity to see many of these camps and it was encouraging to see the locations and arrangements for patrolling etc. at these sites. As a result of revival of these camps the fire incidents till end of April were very minimum compared to devastating fires of previous years.
	No	0	-	
	Sub-Total	5	5	

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	The daily monitoring is being done by a well established wireless network and frequent contacts by superior officers through a good road network. Though the system of fortnightly diaries of frontline staff exists but it would be necessary to keep monitoring registers at each of these patrolling camp for recording animal sightings and sighting of their signs apart from the important events like fires, illegal activities etc.
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	0	Networking of intelligence system is not in place around the TR. It would be necessary to plan an intelligence network in all important towns and cities around the TR and keep it activated through properly trained strike force.
	No	0	-	
	Sub-Total	3	0	
30. Daily Patrolling done	Yes	5	5	It is being done by the staff of patrolling camps which is closely monitored by FROs, ACFs, Dy. Directors and the Field Directors. The Dy. Director of Wildlife Division-II Mr. R.K. Wankhade's efforts in reviving the patrolling camps and taking keen interest in the patrolling activity personally is worth mentioning here.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	Proper monitoring is being done at Range level, Division level and Field Director's level.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	The payment in all cases of human death and injury and cattle predation is being made promptly and no pendency was brought to notice. The ex-gratia payment rates fixed by the State Govt. are much better than in other States. Rs. 2 lakh is paid for human deaths/incapacitation and up to Rs. 9000/-or up to 75% of market value is paid for cattle predation.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	5 Dormitories, 76 beds and 10 huts are available at Semadoh and Kolkaz. There are 12 tent platforms at Harisal and Gullarghat for visitors. A mini bus to move about in tourism zone is available for visitors at nominal cost. 4 interpretation centres are run for visitors education and slide shows, interpretive talks are given at these places. Seminars are also held occasionally. Interpretation centre at Semadoh needs renovation but the theme should remain as indigenous as before. There are trained nature guides. Elephant ride is also available at Semadoh.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	Good. A Divisional level 'Tiger Cell' has been established to deal with the matters related to wildlife poaching in which full cooperation of Police is available.
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Ecodevelopment programme is to be taken up in 47 villages out of which 39 villages have so far been covered under the programme funded by Project Tiger Directorate. Soil and moisture conservation works, formation of self help groups, distribution of LPG, Health care in Tribal areas is being taken up. Against demand of about 100 lakhs only 10 to 20 lakhs are sanctioned due to which the impact is negligible. The FD has prepared ambitious schemes for meeting employment needs of local people under Employment Guarantee Scheme to avoid malnutrition among local tribals and submitted to the State Govt. Malnutrition in this area is much talked about subject and large number of projects relating to malnutrition are being funded by Govt. of India and State Government.
	Lacking	0	-	
	Sub-Total	6	6	

Issue	Criteria	Maximum Score	Current Score	Comments
36. Fulfilment of Reciprocal Commitments	Good	5	3	The population in and around MTR is law abiding and simple. Their day to day needs are very meager and it is because of their eco friendly way of life that Melghat TR is in its present State. Indirectly the reciprocal commitment of the communities is immense but by continued extension and publicity and involvement of villagers in eco tourism and eco development activities their direct reciprocal commitment can also be solicited which is being done though very slowly.
	Poor	0	-	
	Sub-Total	5	3	
37. Cattle Immunisation in Villages	Done	5	5	Regular camps are held with the help of State Veterinary Department.
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	3	Local tribal youth are being involved as trained guides to accompany the visitors. Bamboo articles prepared by the adivasis are sold at interpretation centres to tourists. Involvement of locals in visitors centres as house keepers, cooks etc. is also done. Looking at the tourism potential of MTR more involvement of local people could be expected.
	No	0	-	
	Sub-Total	5	3	
39. Registration of Arms	Done	4	4	It is being regularly done with license renewal every year.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	Post mortem of all the cases of unnatural deaths of wild animals is being carried out with the help of local veterinary doctor of Zilla Parishad.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	As already mentioned the tribal and non tribal communities living and in and around the TR are law abiding and have faith in Government agencies. Due to ecocodevelopment programmes and involvement of local people in ecotourism the trust has further been strengthened. The employment of tribal youths in patrolling camps etc. is also helpful in trust building. Efforts by TR Management through meetings in villages are also made to win the confidence of local people. It will be desirable to conduct ecocodevelopment programmes more intensively in all the villages around MUA and inside WLS.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	2	Apart from wages to local people for working as watchers and daily wage workers, large number of people are engaged on various seasonal works of habitat improvement, water and soil conservation, road repairs, fire-line maintenances and other departmental works. The local trained nature guides earn livelihood from visitors during tourist season. Taxi owners and drivers and hotel owners in nearby towns get employment from tourism activity. Ecocodevelopment programme benefit the local people directly.
	Poor	0	-	
	Sub-Total	3	2	

Melghat Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
43. Control Over Use / Access of TR Resources	Good	5	3	There is good control over TR resources due to unified control of core and buffer. The State Govt. is contemplating the idea of restarting forestry operations like coupe working, bamboo cutting and NTFP collection in the MUA, which will be very detrimental to TR. This should in no case be allowed to restart as there is already immense pressure of surrounding villages on the MUA and part of Melghat WLS.
	Poor	0	-	
	Sub-Total	5	3	
44. Efforts Towards Sustainable Development	Good	4	0	The only effort at the moment is the Ecodevelopment activity taken up on a small scale in surrounding villages. Overall sustainable development can only be expected if all the development activities in surrounding villages are integrated into the ecodevelopment programme and implemented by District authorities and TR Management jointly with the help of a Coordination Committee formed under concerned District Magistrate. The tribal development programme should also be made integral part of ecodevelopment.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	At present restorative inputs are ensured in the core, buffer and MUA as well as the three Wildlife Sanctuaries that are under the control of the FD. No such inputs are being ensured beyond TR. There are two important Forest Divisions in the close vicinity of the TR, East and West Melghat where such inputs are urgently required. The working plans of these two Forest Divisions should be coordinated with the Management Plan of the TR and implementation ensured through a joint committee. This will take care of corridors and connectivity for free movement of important wild animals.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	137	

Profile

Nagarjunasagar Srisailam Tiger Reserve spreads over five districts viz. Nalgonda, Maheboobnagar, Kumool, Prakasam and Guntur in Andhra Pradesh. The Krishna river flows through the Reserve over a length of 130 km. The multipurpose reservoirs, Srisailam and Nagarjunasagar, which are important sources of irrigation and power in the State are located in the Reserve. The reservoirs and temples of Srisailam are major attractions for a number of tourists and pilgrims from all over the country and abroad.

The area is hilly, considerably varying from plains to precipitous cliffs. High hills, deep- valleys and gorges are characteristic features. The hill ranges contain number of plateaus of which Amrabad, Srisailam, Peddacheruvu, Sivapuram, Nekkanti are note worthy.

Nagarjunasagar receives rains from South-West monsoon as well as North-East monsoon. The South-West monsoon is active from second half of June to end September. After a dry spell of one month during October, North-East monsoon becomes active. The River Krishna is the oldest river in the country, which has cut its basin almost 200 m deep with water falls at Ethipothala, Pedda Dukudu, Gundam and Chaleswaram.

The wildlife is generally confined to the plateaus during monsoon and in valleys during summer. The perennial water sources are generally located in the valleys and the plateaus suffer from acute scarcity for water during summer.

The Nagarjunasagar-Srisailam Sanctuary was notified in 1978 and declared a Tiger Reserve in 1983. The Reserve was renamed as Rajiv Gandhi Wildlife Sanctuary in 1992. Before independence, the southern half of the Reserve area was under the control of the British while the northern half was controlled by the rulers of princely State of Hyderabad, who maintained it as a reserve for royal hunting.

Forest Types of the Reserve are: Southern Tropical Dry Mixed Deciduous Forest, Hardwickia Forest, Southern Thorn Forest, Southern Euphorbia Scrub. The dominant species are: *Anogeissus latifolia*, *Cleisthanthus collinus*, *Terminalia spp.*, *Pterocarpus marsupium*, *Hardwickia binata*, *Boswellia serrata*, *Tectona grandis*, *Mandelia suberora*, *Albizia spp.*

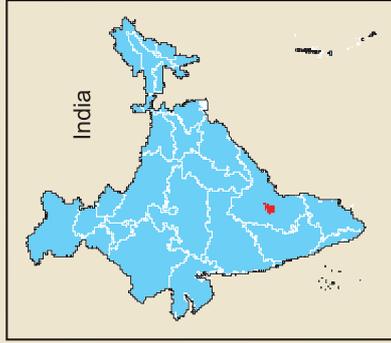
Animal species of the Reserve include: Tiger, Leopard, Sloth Bear, Wild Dog, Pangolin, Spotted Deer, Sambar, Mouse Deer, Black Buck, Chinkara, Chowsinga, Muger, Python, Cobra, Peafowl, etc.

NagarjunSagar-Srisailam Tiger Reserve

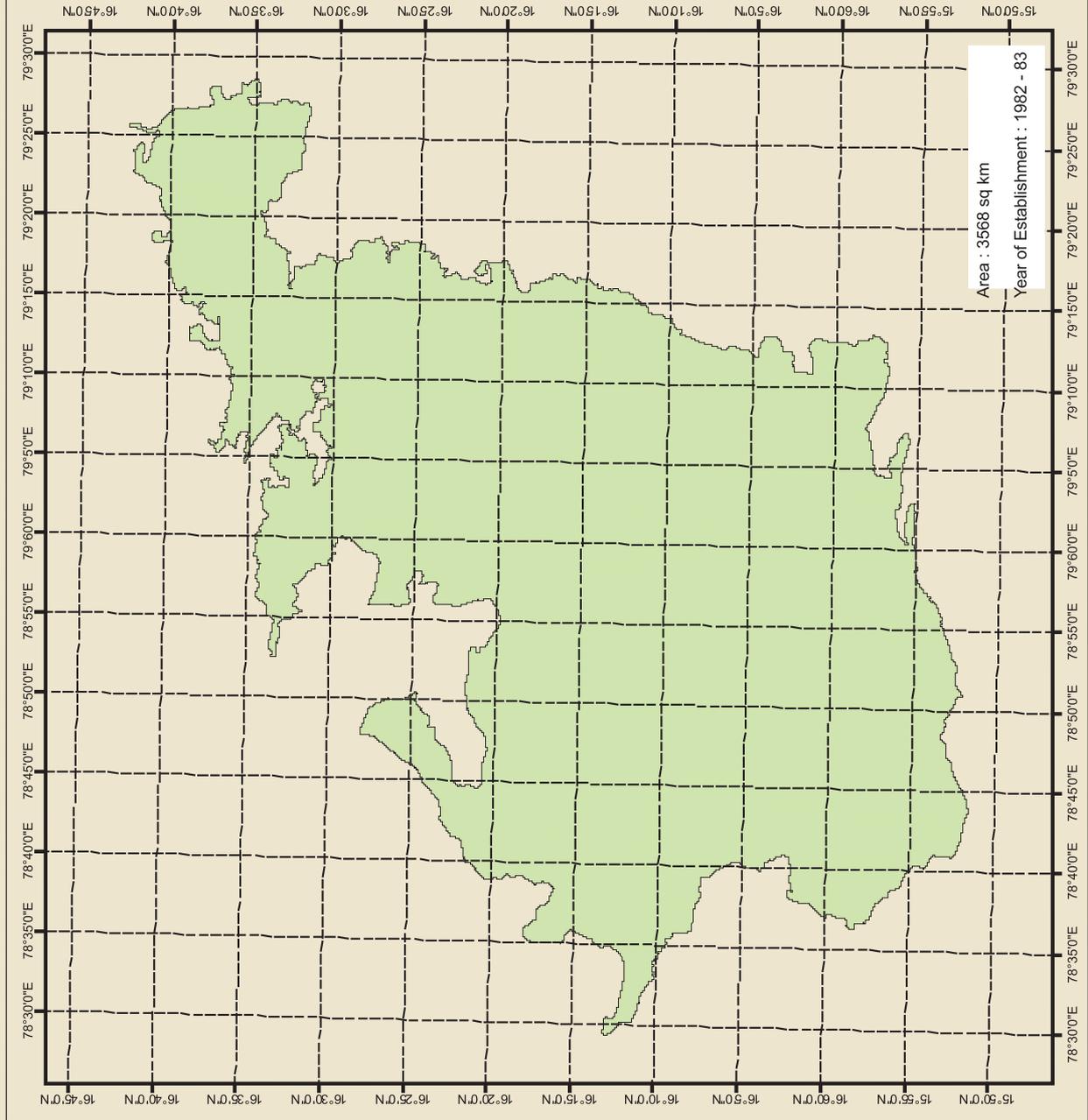
NagarjunSagar-Srisailam

Nagarjunsagar-Srisailam
Tiger Reserve

Andhra Pradesh



Boundary Source : FSI, Dehradun. 2006



NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Nagarjun Sagar- Srisailam Tiger Reserve (NSTR) in Andhra Pradesh was established in 1983. It has an area of 3568 km ² . This is situated in the central Nallamalai Hill ranges - an offshoot of Eastern Ghats. The area was notified as WLS under section 26A of Wildlife Protection Act 1972 in the year 1978. Out of the total area of 3568 km ² , core and buffer areas have been delineated for management purposes. The extent of the core area is 1200.68 km ² and that of the buffer area 1300 km ² . The TR falls in 5 Revenue Districts. The TR management is run through 4 Wildlife Management Division namely Nagarjun Sagar, Achampet, Markapur and Atmakur- under the unified command of the Field Director.
	Delineation of buffer zone	3	3	
	Unified control of buffer	3	3	
	Sub-Total	9	9	
2. Compatible Land Use	In the buffer	3	0	After the inclusion of the area in the Project Tiger in 1983, attempts were made to enforce the Wildlife Protection Act in the already declared Sanctuary in order to make the habitat suitable for tiger and its prey species. Tribals inhabiting the core and buffer of the TR were fully cooperating and even relocation of villages from the core area had been started and the index of peoples' cooperation reflected in a substantial increase in the tiger population from 43 in 1978 (at the time of declaration of the Sanctuary) to 65 when this was included in the Project Tiger. There was further increase in the tiger population till 1989 when the census figures indicated the presence of 94 tigers in the Sanctuary. The Naxalites entered the Nallamalai range of Forests in 1987 and started their activities initiating action on middle men who used to harass the poor. By 1989 they took up issues related to Forest Department. This adversely affected the NSTR. Their activities against Govt. programmes including the Tiger Reserve management reached the peak during 1989 and 1994 and the tiger numbers started falling drastically. By 1994 the number went to the lowest figure of 34. During all these periods there was no land use compatibility due to habitat destruction and poaching of tigers as well as their prey species. Due to a very bad law and order situation the TR management was totally thrown out of gear. One Forest Ranger was killed. Govt. buildings were blasted and tigers were poisoned. Morale of the staff was naturally at its lowest level. The situation started improving after 1995 when an eco-development programme was started with the help of the Project Tiger Directorate of Govt. of India. The credit goes to one officer, Mr. Thulasi Rao, ACF who went out of the way to implement the Ecodevelopment Project by taking Andhra Pradesh Civil Liberties Committee (APCLCS) and Organization of Protection of Democratic Rights (OPDRS) in confidence. These organizations were sympathizers of Naxal movement. Several training programmes and motivational sessions were held by this officer and his team to convince people about the usefulness of the Project Tiger Programme. The tiger numbers are reported to be improving and the 2004 census has indicated the presence of about 70 tigers in the TR. The habitat destruction and poaching has also come to a halt. Now certain amount of forestry' operations in the buffer zone and limited grazing, grass cutting and collection of NTFP by tribals in the core and the buffer zones are being allowed as a compromise to the situation.
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	0	

NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	Though, there are 'Chinchu' tribal settlements in the core area, they traditionally do not cultivate. They keep some cattle who graze both in the core and the buffer zones. NTFP collection by Chinchus and Lambanis continues to be done both in core and buffer areas. Fodder collection for bonafide use is also done both in core and buffer areas but there is by and large no habitat degradation even in buffer areas due to limited use of resources by Chinchus. Lambanis are more destructive and keep larger herds of cattle and practise good cultivation and also trade in NTFP. There is no encroachment in the core area but encroachment problem to a limited extent is present in the buffer.
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	0	
4. Use of the Area by other Departments	Yes	0	-	There were about 9 large areas, totaling 5366.18 ha. under the use of irrigation and hydroelectric projects, transmission lines and Srisailam Temple. These areas existed even before the formation of the TR and were excluded from the TR. They fall in Kurmool Mahboobnagar, Nalgonda, Prakasham and Guntur districts. Another 27 settlements called enclosures, totaling 20244.41 ha. are dotting different parts of the TR in Prakasham, Guntur, Nalgonda and Mahaboob Nagar districts, which technically do not fall in the TR.
	No	3	3	
	Sub-total	3	3	
5. Management Plan Updated	Yes	3	3	Management Plan has been prepared up to 2009-2010.
	No	0	-	
	Sub-total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Inspite of rocky areas with very thin soil depth and poor rainfall, the regeneration status of all the indigenous species is good.
	Poor	0	-	
	Sub-total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Regeneration status is good.
	Poor	0	-	
	Sub-total	3	3	
8. Staff in Position	Satisfactory	3	0	There are almost 50% vacancies for Forest Rangers, 20% for Dy. Rangers, 10% for Foresters and less than 10% vacancies for Beat officers. It is encouraging to note that the vacancy position in case of Forest Guards and other lower field functionaries is less than 10% but 50% vacancies for Forest Rangers is a matter of concern.
	Inadequate	0	-	
	Sub-total	3	0	
9. Average Age of Staff	Satisfactory	3	0	Reported to be about 45 years.
	Unsatisfactory	0	-	
	Sub-Total	3	0	

NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
10.Equipments	Adequate	3	0	Inspite of large water bodies such as Nagarjun Sagar and Srisailam dams in the TR, there are no patrolling boats. There is acute shortage of water during summer months but there are no tankers available to fill the water holes. At times there is shortage of drinking water even for the field staff and Chinchu settlements. At least 2 motor boats and 6 water tankers with tractors are essentially required. There is need for water bottles, firefighting equipments also.
	Inadequate	0	-	
	Sub-total	3	0	
11. Vehicles	Adequate	3	0	There is only one vehicle per WLM Division for Atmakur and Markapur Divisions available at Range level against 7 and 5 ranges respectively. For Nagarjun Sagar 2 vehicles are available against 4 ranges and for Achampet WLM Division, there are 3 vehicles available against 7 ranges. The vehicle position for patrolling such a large area with law and order problem needs to be improved immediately.
	Inadequate	0	-	
	Sub-total	3	0	
12. Timely Release of CA	Yes	4	0	No release of central share has been done till the visit of the expert committee (24th to 26th Dec. 2004). The Director, NSTR reported that an APO of Rs. 82.00 lakh (Non recurring Rs. 28.00 lakh and recurring Rs. 54.00 lakh) was submitted by him to the PCCF, Andhra Pradesh vide his letter RC No. 1597/2004/PT7, dated 25-03-2004 but no sanction has yet been received by him. On return to Delhi one of the committee members intimated the position to the Director, Project Tiger, Government of India on 30.12.2004 who responded that the delay was mainly due to lack of coordination at the State Govt. level and he assured that the central assistance would be released by him within a week's time. During the previous year the release of central assistance was in time. It would be in the fitness of things if the Field Director keeps a direct liaison with the Project Tiger Directorate of Government of India and holds liaison meetings with him at Delhi to expedite timely release of central assistance. The Chief Wildlife Warden, AP may kindly ensure this.
	Delayed	0	-	
	Sub-total	4	0	
13. Strike Force Available	Yes	4	0	The Project Tiger Management has deposited all the weapons with the Police due to the Naxalite problem in the area. Only Sidhapuram Special Party (SS Party), a flying squad with Atmakur WLM Division goes with weapons due to illicit felling and timber smuggling problems in that Division. The situation at the moment in NSTR is such that no strike force would be effective and only ecocodevelopment, extension and motivation efforts would keep the situation under control, which is being done by the PT Management with utmost sincerity.
	No	0	-	
	Sub-total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	0	Disbursement of salary is regular but due to non receipt of central assistance, project allowance, TA etc. are not being paid. Proposals for extension of the payment of project allowance to the Assistant Beat Officers and Drivers @ Rs. 250/- per month for the year 2003-04 were submitted to Govt. of India vide Field Director's RC No. 1926/2003/PT 7, dated 31.07.2003 and 03.11.2004 but there has been no response from Government of India so far. The matter needs immediate attention of Government of India.
	Unsatisfactory	0	-	
	Sub-total	4	0	

NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
15. Field Data Collection & Research	Ongoing	3	3	This is perhaps the only TR where a field laboratory has been established for research and data collection at Srisailam. Mr. Thulasi Rao and his team of two Research Assistants are doing an excellent job of collecting and preserving samples of butterflies, moths, dragon flies, spiders, reptiles, amphibians, fishes and small mammals. A detailed data base of various species has been maintained. With the help of scientists from various fields, they have been able to identify certain species of spiders etc. for the first time in science. The laboratory also has excellent data of tiger census and census of other important mammals and prey base. A project on Star Turtle and Bustards is also in progress, Director Project Tiger, Govt. of India has himself seen the work and has assured central assistance for sustaining and improving the facility. The Field Director, Project Tiger, NSTR would be required to send a suitable proposal to Govt. of India which, hopefully, would get positive support from the present Director, Project Tiger, Govt. of India who himself has an aptitude for research work. Director Project Tiger, Govt. of India is also requested to bring this excellent work to the notice of other Project Tiger areas in the States who can be requested to visit this facility individually or in groups so that the work can be replicated in some other areas also.
	Not ongoing	0	-	
	Sub-total	3	3	
16. Tourism Regulation	Done as per CC	5	0	Due to the Naxalite problem the TR is closed for tourism. Few tourist facilities developed inside the TR by AP Tourism Department have been demolished by the Naxalites. There is a large inflow of pilgrims visiting the holy shrine of Sri Sailam from all directions, which has not been affected by the Naxalite activities.
	Not done as per CC	0	-	
	Sub-total	5	0	
17. Recycling of gate Receipts done	Yes	5	0	There is no gate fee collection at the moment.
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	0	Adequate training programmes for the field staff on different subjects are being imparted. There is more emphasis on PRA/awareness and Micro planning for Ecodevelopment. The training institute at Dulla Pally (Hyderabad) has a capacity to impart training to all cadres on all subjects. Training of field staff on fire arms, their handling, cleaning and upkeep will also be necessary which may be planned in future.
	Not done regularly	0	-	
	Sub-total	3	0	
19. Weed Growth in the Habitat	Present	0	-	Areas in the interior part of the TR are not affected much by weed growth. Areas around habitation and roadsides have growth of Parthenium and Lantana. which were being eradicated till 2000-01 but after that no weed eradication programme has been taken up.
	Not seen	3	3	
	Sub-total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	The TR has mixed woodlands with moderate to excellent diversity. Sufficient opening for grasses are available and there is good availability of fodder for all herbivores.
	Managed	4	3	
	Sub-total	4	3	

NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
21. Field Visits by Officers	Adequate	4	4	It is sufficient. FD spends 12-15 days out in field and DFOs/ACFs tour for 15-20 days in a month.
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	0	These aspects need attention specially drinking water at field outposts, medical facilities and solar lights. Project Tiger Directorate would, hopefully, be willing to provide an ambulance, which can be provided in the APO. This ambulance can be used not only for attending to the field staff but also the remotely located 'Chinchu' tribal settlements whose medical facility is greatly neglected and who cannot afford treatment of even common ailments from private practitioners.
	Unsatisfactory	0	-	
	Sub-total	4	0	
23. Poaching	Common	0	-	Poaching has been contained of late and it is rare.
	Negligible	4	4	
	Sub-total	4	4	
24. Fires	Common	0	-	Ground fires are reported to be common but no noticeable damage has been found to affect the forest cover.
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	It has not been noticed so far but inoculation programme for domestic cattle particularly those in settlements inside the TR and in close vicinity of it should be done even year for which Govt. of India will happily provide financial support.
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	The research cell of the TR is very active under the able guidance of Mr. Thulasi Rao, ACF. The TR is keeping excellent record of pug mark census of tigers and leopards as also of their major prey spp.
	Irregular	1	-	
	Sub-total	3	3	
27. Patrolling Camps Present	Yes	5	5	In spite of major disturbances from extremists 2 patrolling camps per Wildlife Management Division are present, functioning satisfactorily.
	No	0	-	
	Sub-total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	0	There is difficulty in daily monitoring as use of wireless sets in Naxal infested areas is risky. It would be necessary to provide mobile phones to field staff under these special circumstances. Help of Govt. of India may be sought in this regard.
	No	0	-	
	Sub-total	4	0	
29. Networking Strategy Present	Yes	3	0	The networking is through cautious use of wireless and cell phones. It would be necessary to improve the road network, which at the moment, is in bad shape.
	No	0	-	
	Sub-total	3	0	
30. Daily Patrolling done	Yes	5	5	Daily patrolling by field staff is done.
	No	0	-	
	Sub-total	5	5	
31. Court Cases Monitored	Yes	4	4	Being monitored.
	No	0	-	
	Sub-total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	0	Till last year it was being given regularly. During this year due to non sanctioning of the central assistance claims of about Rs. 5-6 lakh are pending payment.
	Not paid promptly	0	-	
	Sub-total	5	0	
33. Tourist Facilities	Adequate	2	0	Under the present circumstances it is not possible to have any tourism facility inside the TR. Few facilities that were created with the help of AP Tourism Department have been blasted and demolished by Naxalites.
	Poor	0	-	
	Sub-total	2	0	
34. Relationship with Police	Good	1	1	The relationship is fair, the limiting factor being law and order situation due to Naxalite presence in the TR.
	Poor	0	-	
	Sub-Total	1	1	

NagarjunSagar-Srisailam Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
35. Ecodevelopment Activities	Ongoing	6	6	NSTR was identified as one of the Ecodevelopment Programme implementation sites. The programme was planned and executed under an Ecodevelopment team headed by a trained Ecodevelopment Officer. Under the programme various activities were undertaken. The programmes consisted of sensitization of organizations sympathetic to people's needs, boosting the morale of the staff, wage earning programmes through habitat restoration works, repair of irrigation bundhs and providing irrigation facilities etc. On the popular demand of people the relocation programme was also postponed. Under entry point activities water harvesting structures were constructed which have a positive effect. All these activities changed the attitude of the people in general and naxalites in particular resulting in stoppage of poaching and illicit felling. This programme of Ecodevelopment needs to be continued with greater vigour even if Project Tiger Directorate has to deviate from its general guidelines. This is the only approach which can ensure conservation of tigers and their habitat in NSTR.
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	5	At the moment the people have positive response to the project which can be sustained by earning out Ecodevelopment activities in the villages with the help of the Govt. of India and the State Govt.
	Poor	0	-	
	Sub-Total	5	5	
37. Cattle Immunisation in Villages	Done	5	0	The APO for NSTR has not been making provisions for cattle immunization programme. Provision needs to be made immediately to carry out the programme.
	Not done	0	-	
	Sub-Total	5	0	
38. Host Community Involvement In Ecotourism	Yes	5	0	Due to adverse law and order situation no such involvement is possible at the moment.
	No	0	-	
	Sub-Total	5	0	
39. Registration of Arms	Done	4	0	This programme cannot be completed due to the present law and order situation.
	Not done	0	-	
	Sub-Total	4	0	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	Postmortem is being done. The committee examined one such report of 2001 of unnatural death of a leopard and found it to be in order.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	At the moment it is good. Extra efforts would, however, be needed to continue to get their trust.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	3	They are accruing in the traditional manner. Ecotourism is not being allowed by the Naxalites which could bring much better benefits. However, NTFP collection, grazing etc. are benefiting the locals immensely.
	Poor	0	-	
	Sub-total	3	3	
43. Control Over Use / Access of TR Resources	Good	5	0	There are some overuse to some extent with certain compromises in the larger interest of the TR.
	Poor	0	-	
	Sub-Total	5	0	
44. Efforts Towards Sustainable Development	Good	4	4	Being achieved through the Ecodevelopment programme which needs to be supported by Govt. of India and State Govt.
	Lacking	0	-	
	Sub-Total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	0	The Core and the Buffer zones being under the control of Forest Department, restorative inputs are possible but beyond TR, it may not be possible due to dual control and different objects of management.
	Lacking	0	-	
	Sub-Total	5	0	
Grand Total		185	91*	

*corrected total

Profile

Namdapha Tiger Reserve is named after the river Namdapha originating from Daphabum, the highest mountain peak in the Reserve. Almost the whole of the protected area has a dense cover of vegetation with high hills, and numerous rivers and seasonal streams. More than 60 per cent of the area of the PA is remote. It has only one motorable road, that also up to 40th mile during winter season. These bottlenecks and remoteness of the large part of the Reserve act as a natural barrier for its protection but at the same time handicap management activities.

The area was originally established as a Reserved Forest and was declared as Wildlife Sanctuary in 1972 under Assam Forest Regulation. It was declared a National Park in 1983. In the same year, it was declared a Tiger Reserve under Project Tiger Scheme of the Government of India. An area of 177.42 km² of Reserved Forest was added to the Tiger Reserve in 1986.

Forest Types of the reserve are: Assam Valley Tropical Wet Evergreen Forest, Upper Assam Valley Tropical Wet Evergreen, Assam Valley Tropical Semi Evergreen Forests, Sub Himalayan Light Alluvium Semi Evergreen Forests, Secondary Moist Bamboo, Eastern Hollock Forest, East Himalayan Moist Temperate Forest, Moist Alpine Scrub .

More than 700 naturalised plant species have been enlisted in flora of Namdapha TR. The dominating floral species are: *Dipterocarpus macrocarpus*, *Terminalia myriocarpa*, *Shorea assamica*, *Abies delavayi*, *Pinus merkusi*.

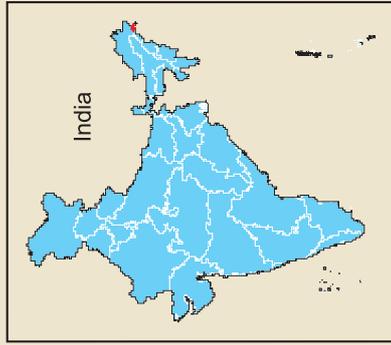
Four big cats viz. Tiger, Leopard, Clouded leopard and Snow Leopard range in Namdapha. Hoolock Gibbon, Golden Cat, Marbled Cat, Mishmi Takin, Red Panda, Namdapha Flying Squirrel, White Wing Wood Duck, are indicative of the unique faunal diversity of Namdapha.

Namdapha Tiger Reserve

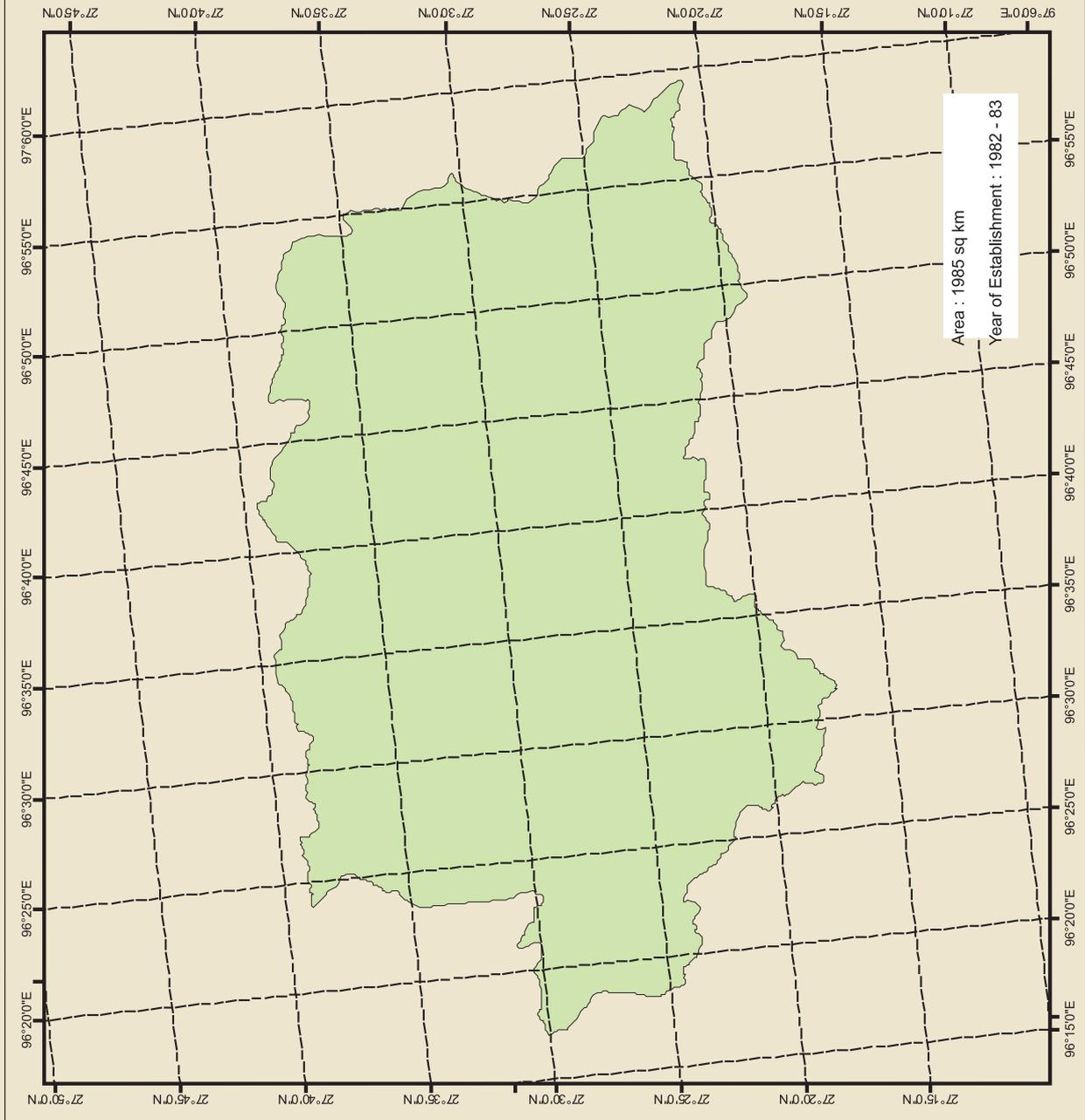
Namdapha

Namdapha Tiger Reserve

Arunachal Pradesh



Boundary Source : FSJ, Dehradun, 2006



Namdapha Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	
	Delineation of buffer zone	3	1	It has been proposed to make a 10 km buffer on N.W. and eastern boundary of the Park. None on the southern side where there is RF.
	Unified control of buffer	3	0	No control of Park authority
	Sub-Total	9	4	
2. Compatible Land Use	In the buffer	3	3	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	The RF to the South of the Park is not a buffer now but should now be added. Some portions of Park constitute border with Myanmar
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	28 Lisu families in 2 habitations continue to exist. Some more huts have come up on the M.V. route.
	No habitation within the core	4	4	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	3	Livestock pressure is there in adjoining areas. None in the park.
	Cultivation present in the core	0	-	By the 28 families mentioned and some recent hutments.
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
Sub-Total	8	7		
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	0	Management plan submitted to CWLW two years ago but not yet approved.
	No	0	-	
	Sub-total	3	0	
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	0	
	Poor	0	-	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	0	One Ranger posted as against 3 sanctioned posts. 3 foresters as against 6 posts.
	Inadequate	0	-	
	Sub-Total	3	0	
9. Average Age of Staff	Satisfactory	3	3	35 years
	Unsatisfactory	0	-	
	Sub-Total	3	3	

Namdapha Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
10. Equipments	Adequate	3	3	
	Inadequate	0	-	
	Sub-total	3	3	
11. Vehicles	Adequate	3	3	
	Inadequate	0	-	
	Sub-total	3	3	
12. Timely Release of CA	Yes	4	0	Delay by both GOI and the State government
	Delayed	0	-	
	Sub-total	4	0	
13. Strike Force Available	Yes	4	0	
	No	0	-	
	Sub-total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	TA is not given/ delayed endlessly. Other two is okay
	Unsatisfactory	0	-	
	Sub-total	4	3	
15. Field Data Collection & Research	Ongoing	3	0	
	Not ongoing	0	-	
	Sub-total	3	0	
16. Tourism Regulation	Done as per CC	5	5	Adequately conducted
	Not done as per CC	0	-	
	Sub-total	5	5	
17. Recycling of gate Receipts done	Yes	5	0	
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	2	
	Not done regularly	0	-	
	Sub-total	3	2	
19. Weed Growth in the Habitat	Present	0	-	Mikania and Eupatorium in forest openings.
	Not seen	3	1	
	Sub-total	3	1	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Advancement not occurring naturally
	Managed	4	3	
	Sub-total	4	3	
21. Field Visits by Officers	Adequate	4	0	Interior areas are not visited at all.
	Inadequate	0	-	
	Sub-total	4	0	
22. Staff Welfare Measures	Satisfactory	4	0	
	Unsatisfactory	0	-	
	Sub-total	4	0	
23. Poaching	Common	0	-	Trapping by Lisus of birds and smaller animals is prevalent
	Negligible	4	2	
	Sub-total	4	2	
24. Fires	Common	0	-	
	Less than 1% of the TR area	5	5	
	Sub-total	5	5	

Namdapha Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	
26. Wildlife Estimation	Done regularly	3	3	
	Irregular	1	-	
	Sub-total	3	3	
27. Patrolling Camps Present	Yes	5	1	Tents are used for infrequent patrolling
	No	0	-	
	Sub-total	5	1	
28. Daily Monitoring done through Camps and Recorded	Yes	4	0	
	No	0	-	
	Sub-total	4	0	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling done	Yes	5	0	
	No	0	-	
	Sub-total	5	0	
31. Court Cases Monitored	Yes	4	0	
	No	0	-	
	Sub-total	4	0	
32. Ex-Gratia, Compensation	Paid promptly	5	2	Compensation for livestock paid reasonably quickly. However, death takes long to receive compensation.
	Not paid promptly	0	-	
	Sub-total	5	2	
33. Tourist Facilities	Adequate	2	2	
	Poor	0	-	
	Sub-total	2	2	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	
	Lacking	0	-	
	Sub-total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	0	
	Poor	0	-	
	Sub-total	5	0	
37. Cattle Immunisation in Villages	Done	5	5	
	Not done	0	-	
	Sub-total	5	5	

Namdapha Tiger Reserve

Evaluator: M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	3	
	No	0	-	
	Sub-Total	5	3	
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	2	
	Poor	0	-	
	Sub-Total	3	2	
43. Control Over Use / Access Of TR Resources	Good	5	5	
	Poor	0	-	
	Sub-Total	5	5	
44. Efforts Towards Sustainable Development	Good	4	0	
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	
	Lacking	0	-	
	Sub-Total	5	0	
Grand Total		185	95	

Annexure

I visited the Namdapha National Park from the 14th to the 17th of January, 2005. On the 15th and 16th I marched to the Farmbase area and camped there for the night, travelling via the Bulbulia sulphur spring and returned via the Nadapha - Noadihing confluence, on the Deban - Vijaynagar Road. The habitat is still excellent, the forest magnificent but exotics like Eupatorium and Mikania have appeared in the openings and may pose problems in the future.

The remoteness of Namdapha and the lack of population pressure are amongst its greatest assets. However, they are also responsible for the fact that the staff does not patrol the TR, occasionally travelling only to Farmbase and up the Vijaynagar Road with tourists. They do not maintain daily diaries of what they see on patrol. No officer nor staff have ever visited the eastern border of Namdapha such as the Tushar Valley and the upper region of the Daphabum area, even in the summer months. As a result, no one can say what situation is there in the remoter areas of the park and whether there are any encroachments or poaching camps etc in these areas. There is no complete survey of the fauna and avifauna of the TR. No one knows whether in fact there are any snow leopard or bharal in the upper reaches, or whether in fact there are takin and whether the hog deer which were reported in the grasslands close to Farmbase in 2000 are still there or not.

Dr Chandiramani who joined in Namdapha 19 years ago with one break in between, is not active at all. On the other hand, no effort has been made by the park authorities to sit with Dr. Chandiramani and work out that is required to be investigated in Namdapha, both with regard to baseline data as well as in applied research, the findings of which would assist park management. This needs to be done urgently and what Chandiramani cannot do himself, needs to be done with the involvement of some university on a continued basis. There is no use having research staff which carries out no research.

On the other hand, it must be stated that the park is extremely understaffed. It has only one ranger with 3 vacancies, 3 also of foresters, 2 of game watchers and 12 vacancies of forest guards. A huge park of this size has only 12 forest guards in place with 3 game watchers to assist them and 6 foresters. Besides, some of the forest guards are women and cannot be posted in the field. Namdapha needs its full complement of field staff but then all the staff must not be posted between Deban and Miao. There is no alternate to the footpath from Miao to Vijaynagar. No motorable road should be allowed between these two points, but people have to travel by track to reach the Vijaynagar area. The journey takes 5 days and there are 4 places where travellers stay the night. Unofficial and illegal hutments have come up, manned by Lisu tribals themselves which are encroachments and which may become permanent. It is likely that poaching takes place from these encampments. These Lisu hutments should be evicted and the Park itself should establish 4 encampments, each manned by two guards and one daily wage person, which will exercise control over the people who pass through the Park on foot. It can then be made mandatory that the travellers on the footpath, including porters etc., only camp at these designated places and not in between. The other temporary hutments for crossing the stream and boat camps

Namdapha Tiger Reserve

Evaluator: M K Ranjitsinh

etc can then also be controlled similarly. The presence of these chowkis on the main track through the Park will also be useful for monitoring and countering poaching and encroachment etc.

Furthermore, at least 3 times in a year if not more, trekking parties must travel by different routes to the eastern most parts of the park such as the Tushar Valley and the upper reaches on the northern side of the park. This is most important.

During my two day trek, I saw barefooted human footprints on sand, camp sites and burnt patches of grass, all of which was the work of poachers. I am convinced that poaching is widely prevalent in the park, carried out mainly by the Lisu tribals. While actual sighting of animals and birds is very difficult in the thick vegetation, the presence of animals and birds cannot be hidden. There would be footprints in sandy patches and muddy bottoms of valleys, calls of vocal animals especially the Hoolock Gibbon and the noisy flights of birds and their calls. During my two day walk, I heard Gibbon call only thrice and saw just one specimen. In my previous visit 19 years ago, every morning was a cacophony of Gibbon calls. Unlike my last visit when I saw large numbers of the larger Hornbills- the great Indian and the pied, I saw none this time, only the smaller and more common rufous-necked and the wreathed.

The park authorities said that there are only 28 families of Lisu encroachers, most of them living across Farmbase for a number of years, and a new lot which have come in and occupied land on Mile 52 on the Vijaynagar Road. In the absence of any patrolling, it cannot be said with any certainty that this is in fact the correct figure- It is quite possible, indeed likely that existing settlements have increased and that new ones have been established in parts of the park. The park authorities were not aware of the hutments which have come up even on the Vijaynagar Road which we came upon on our walk. It would be one of the main functions of the park to rehabilitate the encroachers outside the park, by giving a resettlement package to the old encroachers and just evicting the recent arrivals. They can be given alternative forest land and if no other land is available, and financial help to the rehabilitation package must be provided for by GOI. This is of primary importance and the park authorities must prevent further encroachments in the future. The experience in the past of employing Lisu tribals has not been successful. However, further attempts should be made to give them employment and to try and get the Lisu employees themselves to stop their own tribesmen from poaching and encroachments. The Chakmas have reportedly killed all the elephant tuskers in the past, but are reportedly not troublesome now. The road from Miao to Deban should be made all weather, for otherwise the officers of the park will not even go to Deban from Miao in the rainy period.

The beautiful rest house in Deban is having its bank eroded by the river. This needs to be prevented by providing reinforcement of the bank.

Funds are very late in coming from the State government. This year apparently they were released late even by the GOI, in the month of November rather than in the month of April-May. This has to be prevented in the future.

The museum at Miao is good and well maintained. However, there is no need to have a mini zoo. It is a luxury which is totally unnecessary for the TR.

Profile

Nameri Tiger Reserve is situated in the District of Sonitpur. The area is criss-crossed by the river Jia- Bhoroli and its tributaries namely the Diji, Dinai, Doigurung, Nameri, Dikorai, Kharietc. A few jheels (during the rainy seasons) also dot the area. The inaccessibility and contiguity with neighbouring forest areas has helped the wildlife of Nameri to flourish.

Nameri and the adjoining forest areas, declared reserved for a considerable time, also qualify to be an Elephant Reserve. Nameri and Sonai-Rupai are only Protected Areas on the North Bank of the Brahmaputra in the Civil District of Sonitpur, Lakhimpur and Dhemaji.

Forest types available within the reserve are: Assam Valley Tropical Evergreen Forests, Assam Alluvial Plains Semi Evergreen Forests, Sub Himalayan Light Alluvial Semi- Evergreen Forests, Eastern Alluvial Secondary Semi Evergreen Forests, Wet Bamboo Brakes, Northern Secondary Moist Mixed Deciduous Forests, Low Alluvial Savanna Woodland, Eastern Hollock Forests, Eastern Seasonal Swamp Forests, Eastern Dillenia Swamp Forests, Eastern Wet Alluvial Grassland.

The habitat of Nameri is made up of tropical evergreen, semi-evergreen, moist deciduous forests with cane and bamboo brakes and narrow strips of open grassland along rivers. Grassland comprise less than 10% of the total area of the park while the semi-evergreen and moist deciduous species dominate the area.

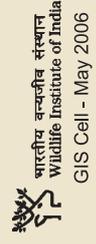
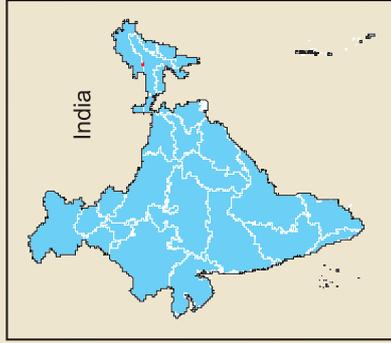
The most prized and significant finding is the White Winged Wood Duck which has a flourishing population in Nameri. Till now 315 avian species have been recorded in the Park.

More than 30 species of mammals are recorded including: Tiger, Leopard, Black Panther, Clouded Leopard, Sloth Bear, Himalayan Black Bear, Elephant, Indian Bison, Dhole, Sambar, Barking Deer, Dog Deer, Fox, Hispid Hare, Indian Hare, Capped Langur, Slow Loris, Assamese Macaque, Rhesus Macaque, Himalayan Yellow throated Martin, Malayan Giant Squirrel, Flying Squirrel, Wild Pig etc.

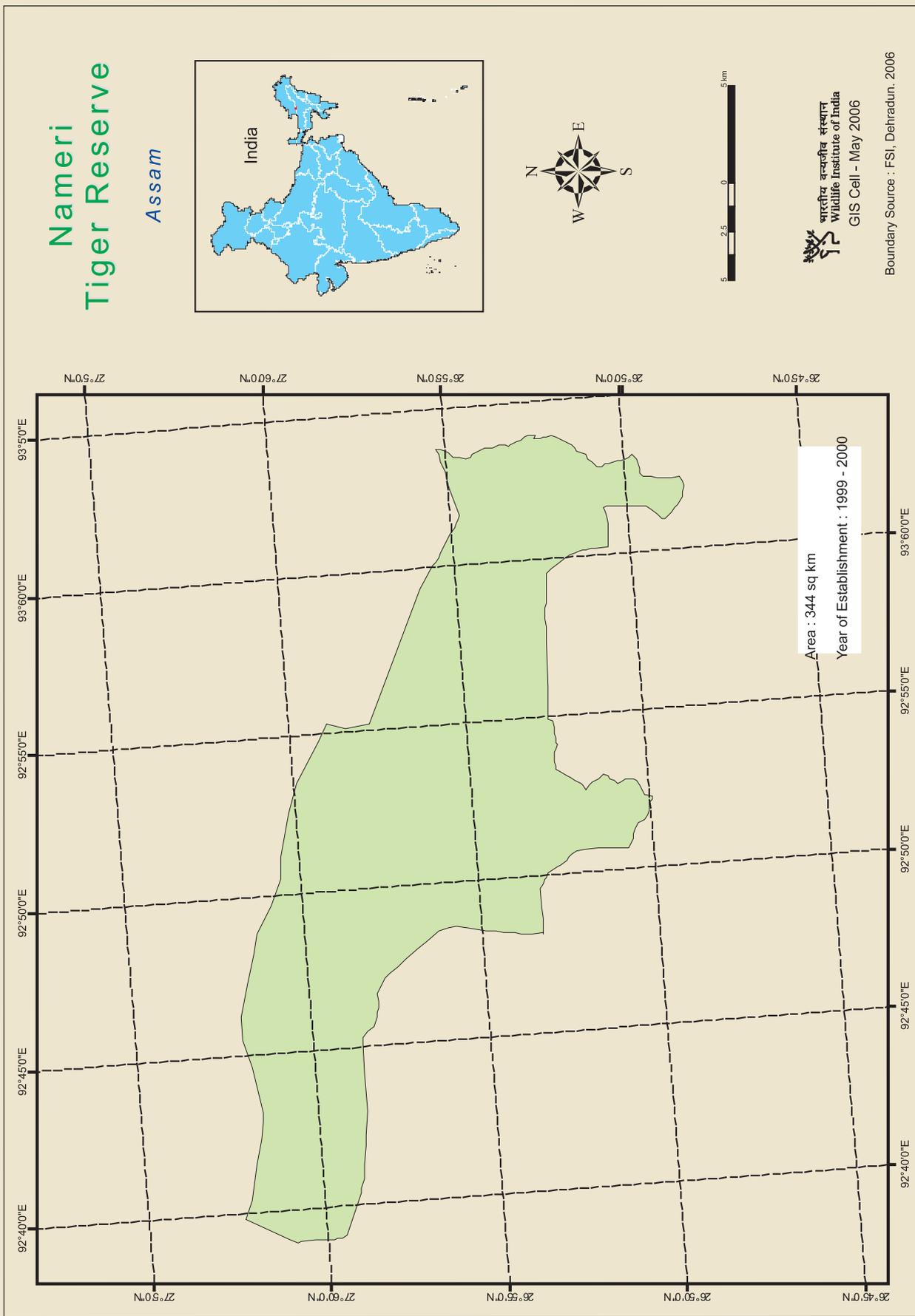
Nameri Tiger Reserve

Nameri Tiger Reserve

Assam



Boundary Source : FSI, Dehradun, 2006



Nameri Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Nameri NP notified by No. FRW-11/96/81 dated 13-8-1998, Area 200 km ² This is core area.
	Delineation of buffer zone	3	3	East buffer 80 sq. km.; West buffer 64 km ² notified by No. FRW-95/99/70 dated 1-3-2000. Notified TR is 344 km ² .
	Unified control of buffer	3	0	Controlled respectively by DFOs East and West Sonitpur territorial divisions.
	Sub-Total	9	6	
2. Compatible Land Use	In the buffer	3	0	The buffers are under heavy encroachment. East buffer has 44 illegal hamlets, 1850 households. The finest low-lying forests are gone. 23 eviction operations have been undertaken without success. State Election Commission has recently decided to confer voting rights to the illegal occupants. This will further encourage the encroachers here and elsewhere. The corridor connecting Sonai Rupai is destroyed. 65 km ² out of 80 are under encroachment. The Western buffer situation is even worse. Very little of it remains. Encroachers in Western buffer have proven political support and encouragement. The core area is severely threatened.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	As above
	Beyond buffer (5km radius)	3	0	
	Beyond buffer the land use is detrimental	0	-	Occupied by human habitations
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	2	No legal habitations. Approximately 15 km ² area is under re-encroachment 640 households. 2800 cattle and 50 khutis. Eviction operation had taken place during April 2002 and about 20 km ² area was cleared, thereafter the sitting MLA set ablaze the Rangajan camp. Case is lodged in the Rangapara PS. This has encouraged the encroachers who re-encroached the evicted sites. Eviction operation is again being undertaken shortly. This exemplifies the very steep odds.
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	As noted above
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	None
	Quarrying present in the core	0	-	None
	Sub-Total	8	2	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	

Nameri Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	3	Plan for the period 2003-04 to 2007-08 in place. A very well conceived plan but the approval of the government is pending since 24-5-2004.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	As per the reasons stated before.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	0	Includes daily wages engaged for protection, use and unkeep of elephants.
	Poor	0	-	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	2	
	Inadequate	0	-	
	Sub-Total	3	2	
9. Average Age of Staff	Satisfactory	3	3	
	Unsatisfactory	0	-	
	Sub-Total	3	3	
10. Equipments	Adequate	3	2	A new range is being raised. The additional requirements includes wireless sets: 3 fixed, 7 mobile, 3 hand sets; Batteries: 16 for hand held sets, 5 for solar chargers. Rifles 5 with ammunition, GPS 2 with mapping software, LCD projector 1, Digital camera with zoom 1 (there is no camera at present), Small tents 5 with sleeping bags, and a fax machine.
	Inadequate	0	-	
	Sub-Total	3	2	
11. Vehicles	Adequate	3	1	The following are needed in addition to what the reserve has. A 4WD vehicle1, Mini truck 1, Motorcycle 1, Country boats 4, Rubber rafts 2 (the entire southern boundary is defined by Jiye Bholeli river. River crafts are therefore critically important for protection and monitoring. 3 of the 8 country boats are unserviceable and likewise 2 out of 4 rubber rafts. The requirement of the new range is included.
	Inadequate	0	-	
	Sub-Total	3	1	
12. Timely Release of CA	Yes	4	0	The CA is timely received by the state but there is an inordinate delay in the funds reaching the reserve. Year 2002-03: a shortfall of Rs. 3.5 lakh in funds received by the reserve. Year 2003-04: Against GOI sanction of Rs. 45.80 lakhs no release to the reserve. Year 2004-05: An amount of Rs. 23.55 lakhs from unspent funds of 2003-04 revalidated, however the APO for the year is Rs. 80.18 lakhs thus the progress is severely affected. The situation is serious. The working season extends to some 5 months and if release of funds were delayed and reduced, as is the current situation, in time the backlog of progress will mount exponentially and management would be meaningless.
	Delayed	0	-	
	Sub-Total	4	0	
13. Strike Force Available	Yes	4	0	Technically yes, practically, no since there are internal problems of splitting the force to locations that are important. Task force is not accountable to the reserve managers and at times its maintenance is considered to be a burden on the reserve and the local inhabitants rather than help to the management. The locally raised force of daily wagers is considered more suitable and will need adequate funding support. Needs further consideration.
	No	0	-	
	Sub-Total	4	0	

Issue	Criteria	Maximum Score	Current Score	Comments
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	2	Salary disbursement to the regular staff is timely but no project allowance is paid. There is no provision under TA. The position of daily wagers is very pathetic. The payment of wages are pending for the past 7 months and credit with ration suppliers is standing at nearly rupees one lakh. It is understood that wage payment is shared by the state and GOI on 50:50 basis. The problem is rooted in the state share and the inordinately delayed release of CA by the state though CA is received timely. This is serious and somehow needs to be resolved since the daily wagers are primarily engaged in protection work and the morale of the concerned personnel is expectedly low.
	Unsatisfactory	0	-	
	Sub-Total	4	2	
15. Field Data Collection & Research	Ongoing	3	3	
	Not ongoing	0	-	
	Sub-Total	3	3	
16. Tourism Regulation	Done as per CC	5	5	
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	Yes	5	0	Provision does not exist.
	No	0	-	
	Sub-Total	5	0	
18. Field Staff Training	Yes	3	1	Some training in techniques of population estimation of wild animals is imparted from time to time but training as a whole is inadequate.
	Not done regularly	0	-	
	Sub-Total	3	1	
19. Weed Growth in the Habitat	Present	0	-	Formerly grazed areas by livestock in the southern portion have <i>Lantana. Mikenia</i> is seen in some of the open areas. The problem at present is not serious.
	Not seen	3	2	
	Sub-Total	3	2	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	2	There needs to be some thinking on supply of ration to the staff posted in isolated anti poaching camps at subsidized rates. Medical facilities are not satisfactory and it is a problem especially to staff posted in the interior areas. Reimbursement of medical expenses for injuries sustained by reserve personnel in line of duty are inordinately delayed. Ring wells are needed at six camps for providing drinking water. Uniforms and protective gear are not supplied regularly. Staff using boats need safety vests currently not available. WTI has rendered some help.
	Unsatisfactory	0	-	
	Sub-Total	4	2	

Nameri Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	Out of the 15 anti-poaching camps three at Bhalupung, Doigurung and Khari are badly damaged by wild elephants. These need to be reconstructed, Two camps at Owbari, and Upar Dikari need renovation. The Nameri camp needs major repairs. A new camp needs to be constructed at Koroibari adjoining the eastern buffer. Adequate funding is needed
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	Occasional, Efficient containment
	Less than 1% of the TR area	5	3	
	Sub-Total	5	3	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	2	Regular, Estimation of ungulate population not yet attempted, nor is it easy in the dense evergreen forests.
	Irregular	1	-	
	Sub-Total	3	2	
27. Patrolling Camps Present	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	3	Whenever a staff member is in the field and observes animals or events these are recorded in the duty registers.
	No	0	-	
	Sub-Total	4	3	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	3	Settled promptly by the two DFOs who are in charge of the buffers. Funding is inadequate.
	Not paid promptly	0	-	
	Sub-Total	5	3	
33. Tourist Facilities	Adequate	2	2	
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	3	There are 12 ecodevelopment committees and every effort is made to implement some relevant programs, however in the face of the adverse situation in the buffers, the overwhelming presence of encroachers and the political interference and active support to encroachers the gains are not as they ought to be under the normal circumstances.
	Lacking	0	-	
	Sub-Total	6	3	

Nameri Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
36. Fulfilment of Reciprocal Commitments	Good	5	2	Some
	Poor	0	-	
	Sub-Total	5	2	
37. Cattle Immunisation In Villages	Done	5	2	Effort is on but the situation is discouraging in the face of the adversity in the buffers.
	Not done	0	-	
	Sub-Total	5	2	
38. Host Community Involvement In Ecotourism	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
39. Registration of Arms	Done	4	4	Many licenses have been cancelled by the administration in view of the insurgency.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	3	
	Poor	0	-	
	Sub-Total	5	3	
42. Economic Benefits to Stake Holders	Good	3	1	Some benefits accrue to the stakeholders.
	Poor	0	-	
	Sub-Total	3	1	
43. Control Over Use / Access of TR Resources	Good	5	2	This score is on account of extremely adverse situation in the buffers that constitute a portion of the TR. Core area is also considered for the purpose that counts towards the full score awarded.
	Poor	0	-	
	Sub-Total	5	2	
44. Efforts Towards Sustainable Development	Good	4	0	Unless there is political support, or even stoppage of interference there is very little that the managers can do. It is a demoralizing situation.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	The area is fully inhabited with no jurisdiction of the forest department and no opportunities either
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	112*	

**corrected total*

Profile

Pakke Tiger Reserve is located in the East Kameng District of Arunachal Pradesh with head quarters at Seijusa, 21 km from Saibari in Assam off National Highway-52. The total area of the Tiger Reserve is 862 km² bounded by Kameng River in the west. The area of present Pakke Tiger Reserve was originally constituted as Pakke Reserve Forest.

At present Pakke Tiger Reserve is under the administrative control of Divisional Forest Officer Pakke Wildlife Sanctuary Division with its head quarter at Seijusa, District- East Kameng, Arunachal Pradesh, comprising 2 ranges i.e (i) Seijusa Wildlife Range with headquarters at West Bank, (ii) Tipi Wildlife Range with headquarters at Tipi in West Kameng District.

Forest types of the area according to Champion and Seth's classification (1968) are: Assam Valley Tropical Semi Evergreen Forest, Sub Himalayan Light Alluvial Semi Evergreen Forest, Eastern Hollock Forest, Upper Assam Valley Tropical Evergreen Forest, Tropical Riverain Forest, Secondary Moist Bamboo Tract

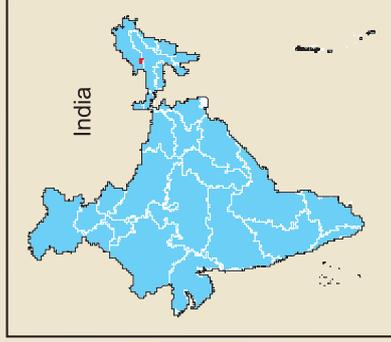
The major tree species include, *Terminalia myriocarpa* (Hollock), *Ailanthus excelsa* (Barpat), *Duabanga grandiflora* (Khokan), *Canarium resiniferum*, *Trewia nudiflora*, *Tetramelus nudiflora*, *Sterculia villosa*, *Macropanax dapermus*, *Syzigium macrocarpum*, *Garcinia* spp., *Quercus lamaliosa*, *Castonopsis indica*, *Phoebe goalparensis*, *Amora wallichii*, *Ailanthus grandis*, *Pterspermum scerifolium*, *Dillenia indica*, *Artocarpus chaplas*, *Bischofia japonica* (uriam), *Albizia procera* and *Bombax ceiba* (simul).

The important bamboo species are *Dendroclamus hamitonii*, *Bamboosa pelida* and *Pseudostachym polymorphism*. The cane species are *Calams crectus*, *Calamus tenuis* and *Calamus flagella*.

Major fauna in the Tiger Reserve include: Tiger, Leopard, Clouded Leopard, Jungle Cat, Wild Dog, Jackal, Himalayan Black Bear, Biturong, Elephant, Gaur, Sambar, Hog Deer, Barking Deer, Wild Pig, Yellow Throated Martin, Malayan Giant Squirrel, Flying Squirrel, Civet, Capped Langur, Rhesus Macaque, Assamese Macaque, Gaur etc. The presence of stump tailed macaque has been reported. Notable avifauna includes: Hornbill, White Winged Wood Duck, Jungle Fowl, Peacock Pheasant, Khaleej Pheasant, Dove, Barbets, Drongo, Serpent Eagle, Baaz Eagles etc.

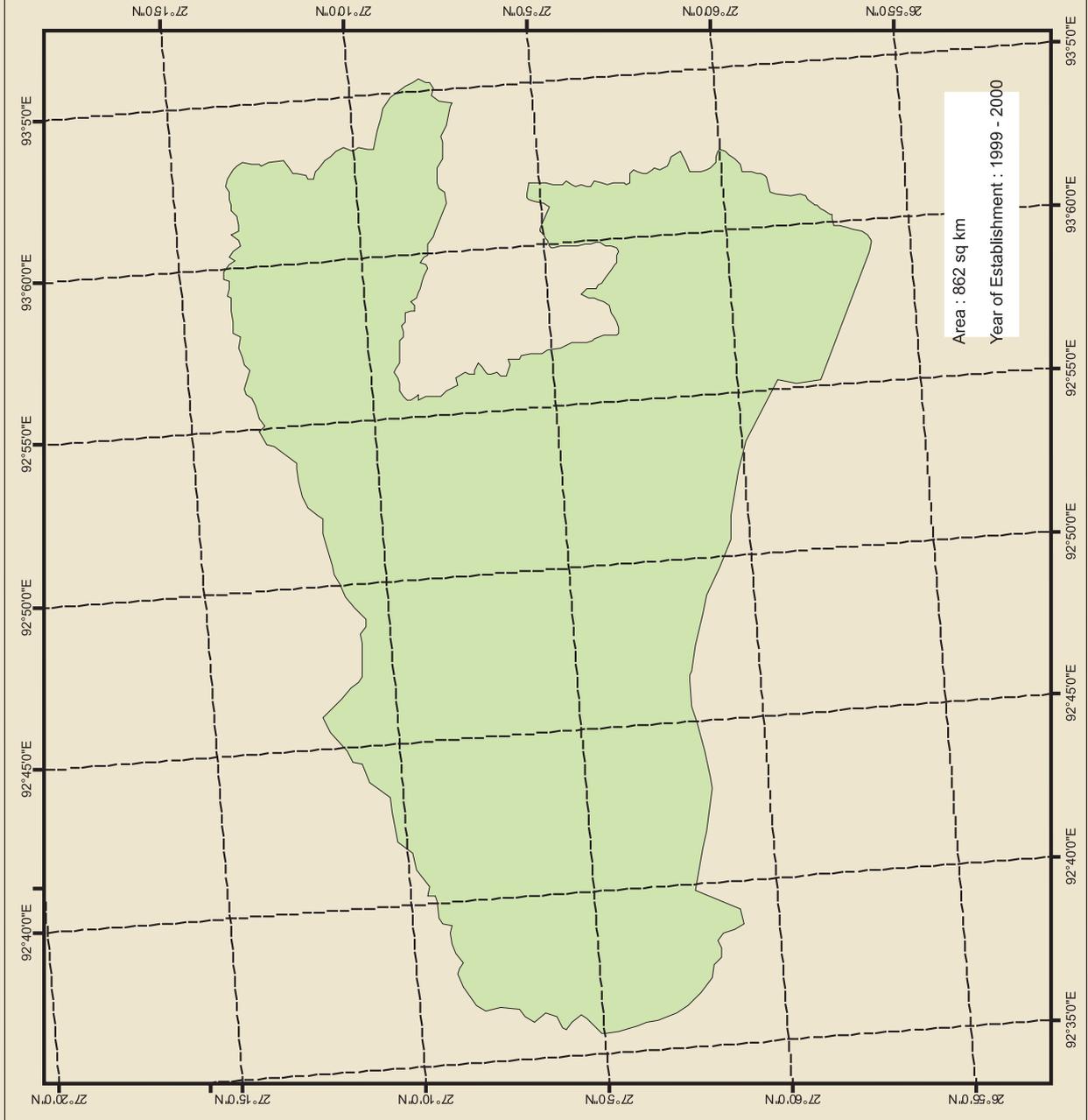
Pakke Tiger Reserve

Arunachal Pradesh



GIS Cell - May 2006

Boundary Source : FSI, Dehradun. 2006



Pakke

Pakke Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	
	Delineation of buffer zone	3	0	No buffer zone has been identified
	Unified control of buffer	3	0	Not applicable
	Sub-Total	9	3	
2. Compatible Landuse	In the buffer	3	0	Discounted as buffer is non existent
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	Not applicable.
	Beyond buffer (5km. radius)	3	3	Although there is no identified buffer there are extensive forests with little disturbance Westward there is a continuum of the Eagle Nest Sanctuary (217 km ²); Sessa Orchid Sanctuary (100 km ²) and the proposed Panchnoi WLS within the further westward Amartala RF. South of Eagle Nest WLS is the Doimara RF; to the north are the unclassified State forests and the Tenga RF of the Shergaon forest division. Eastward there is Papum RF and the forests continue to join with the Itanagar WLS. There are few and very small human habitations in these areas. It is estimated that if these areas are considered Pakke TR could be enlarged to more than 2000 km ² some of this could qualify for additional PAs and an effective buffer could be identified. Detailed area information and assessment is further needed. This presents an excellent opportunity. South of Pakke TR lies the Nameri TR of Assam as a continuum.
	Beyond buffer the land use is detrimental	0	-	See the comments above. Within the Tenga RF a big hydroelectric project is coming upon the Kameng river that is expected to generate 680 MW power. The powerhouse is located at Kimi between Pakke and Sessa WLS. Futher south another project is proposed at Pinjuli joining with Kimi that is expected to create significant submergence in Pakke and Sessa. Kameng project reportedly has been cleared and work is progressing. Clear information on Pinjuli was not available. The projects expectedly are likely to significantly affect the Golden mahseer and waterfowl habitats in the Kameng river and further downstream in the renamed Boreli river as Kameng river enters Assam along the Nameri TR. Severe fragmentation of terrestrial habitat is expected. Reportedly some 70 crore rupees have been granted to the forest department for catchment treatment and compensatory afforestation. No funds have been allocated for Pakke or Eagle Nest or Sessa. Pakke has proposed a beat office in this area for which funds are necessary.
	Sub-Total	6	3	

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	4	
	Livestock grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	4	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	8	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-total	3	3	
5. Management Plan Updated	Yes	3	1	By Umesh Kumar, 2003-04 to 2007-08. Needs a re-look and site-specific revision.
	No	0	-	
	Sub-Total	3	1	
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration status in the Buffer	Satisfactory	3	0	Not applicable
	Poor	0	-	Not applicable
	Sub-total	3	0	
8. Staff in Position	Satisfactory	3	0	An ACF is holding charge of the TR considered to be a division though the present incumbent is doing an admirable job. At the frontline there are 3 Range Officers, 1 Deputy RFO, 3 Foresters and 8 Guards that works to 287 km ² per RFO, same for the Forester and the average jurisdiction of the Guard works to 107 km ² in an extremely mountainous and dense forest with hardly any roads or tracks. The field staff is grossly inadequate.
	Inadequate	0	-	
	Sub-Total	3	0	
9. Average Age of Staff	Satisfactory	3	0	
	Unsatisfactory	0	-	
	Sub-Total	3	0	
10. Equipment	Adequate	3	1	Six hand held wireless sets needed. A tele-inject gun is necessary. Supply of immobilizing drugs is uncertain. A camera with telephoto lens and six pairs of binoculars are needed. If new vehicles are granted two mobile wireless sets will be needed. A fax machine is an urgency.
	Inadequate	0	-	
	Sub-Total	3	1	

Pakke Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
11. Vehicles	Adequate	3	1	One 4 WD Gypsy and a 4WD small truck is needed for patrolling the peripheries and to carry equipment, materials and supplies. The area is rugged with few tracks except one road inside the TR currently connecting the Khari camp. The staff in the interior area and management tasks including protection cannot be sustained without at least three additional elephants and six ponies. Pakke also has the Pakke river and the Kameng river along its periphery. The TR does not have any river craft though they have a boatman on the staff. At least two rubber rafts and four country boats are necessary (kindly see comments against S.N. 22). Since the Nameri TR is contiguous the respective FDPTs have agreed to undertake joint patrolling and sharing intelligence which is excellent. Therefore it is all the more important thus the above minimum logistic support is provided for. A suggestion where TRs are contiguous it is for consideration to formalize joint patrolling, sharing intelligence and evolving management strategies of common interest that are duly recorded in the respective management plans. This may be included as an additional clause in the PT guidelines since there are other such examples.
	Inadequate	0	-	
	Sub-total	3	1	
12. Timely Release of CA	Yes	4	0	The funds for 2004-05 were yet to be released at the time of the visit. Such delays are a regular feature. Reportedly the funds earmarked are even diverted elsewhere. It is reiterated that the working season is short, approx. 5 months and if funds are not released on time or they are diverted the objectives of the TR will be severely compromised. Pakke shares this problem with Nameri.
	Delayed	0	-	
	Sub-total	4	0	
13. Strike Force Available	Yes	4	0	Currently there is no Task Force. Similar observations as in case of Nameri. The reserve would very much prefer to raise its own force if enabled. A proposal has been sent to CWLW on 26-12-2000. There is no response.
	No	0	-	
	Sub-total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	2	Salary disbursement is timely but there is no payment of Project Allowance. Funds under TA are grossly inadequate.
	Unsatisfactory	0	-	
	Sub-total	4	2	
15. Field Data Collection & Research	Ongoing	3	1	There is no system of collecting field data on regular basis. A number of projects have been conducted by outside agencies. WTI has a project on rehabilitation of rescued bears with very high scientific standards. The TR personnel are actively participating. WTI as an external agency has considerable inputs. The TR management could do better but for other managerial concerns it is fighting to resolve.
	Not ongoing	0	-	
	Sub-total	3	1	
16. Tourism Regulation	Done as per CC	5	2	CC is not relevant given the present situation. It is too early to consider tourism aspects. Some visitors come to Khari inside the TR and some to Bhalupung on the western edge. The TR is doing its best under the circumstances. As it is tourism is low key.
	Not done as per CC	0	-	
	Sub-total	5	2	

Issue	Criteria	Maximum Score	Current Score	Comments
17. Recycling of Gate Receipts done	Yes	5	0	Provision does not exist.
	No	0	-	
	Sub-total	5	0	
18. Field Staff Training	Yes	3	0	
	Not done regularly	0	-	
	Sub-total	3	0	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	3	
	Sub-total	3	3	
20. Gregarious Woodland Advancement	Present	0	-	
	Managed	4	4	
	Sub-total	4	4	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-total	4	4	
22. Staff Welfare Measures	Satisfactory	4	0	Staff posted in the interior areas need minimum facilities to include some arrangement for the education of their children, insurance coverage, health care, supply of subsidized ration, regular supply of uniforms, especially warm clothing, raincoat, footwear and sleeping bags. Though theoretically the staff in the interior here share the typical hardships with those posted in the interior areas elsewhere, the reserve area is very remote and rugged with very poor communication therefore the situation is extremely tough, very different and requires fullest consideration.
	Unsatisfactory	0	-	
	Sub-total	4	0	
23. Poaching	Common	0	-	Protection Beat offices/camps at Dichu and Dibru were washed away in the floods of 2004. These need to be reconstructed. Anti-poaching camps are proposed at Firing nallah, Doigurung, Upper Dikorai Nameri, Denai and Deji. Link roads to all such camps and patrolling paths are essential. The road from Khari camp needs to be extended up to Bhalupung westward, some 40 km in length. This would be crucial for protection and effective communication. The current alternative is to take a circuitous route through Assam twice the length of the proposed road with no connection with Pakke reserve. Such detour is meaningless. Funding support is needed for this essential infrastructure.
	Negligible	4	4	
	Sub-total	4	4	
24. Fires	Common	0	-	
	Less than 1% of the area	5	5	
	Sub-total	5	5	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-total	3	3	

Pakke Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
26. Wildlife Estimation	Done regularly	3	1	Techniques can be improved upon by developing site-specific robust methods for application in the dense evergreen forests. These will also benefit the Nameri TR
	Irregular	0	-	
	Sub-total	3	1	
27. Patrolling Camps present	Yes	5	5	
	No	0	-	
	Sub-total	5	5	
28. Daily Monitoring done through camps and recorded	Yes	4	2	The staff is grossly inadequate to undertake this in the evergreen dense forest tracts where sighting is also very poor. However along the stream and river courses this is done as and when the staff patrols such areas. The indirect evidences in such areas are rich and are good indicators.
	No	0	-	
	Sub-total	4	2	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-total	3	3	
30. Daily Patrolling Done	Yes	5	5	
	No	0	-	
	Sub-total	5	5	
31. Court Cases Monitored	Yes	4	-	There are no court cases.
	No	0	-	
	Sub-total	4	-	
32. Ex-Gratia Compensation	Paid promptly	5	3	There are provisions for human injury, disabilities and loss of life and also for crop damage and property. There are no provisions for cattle killing by carnivores. Cases relating to Mithun are culturally sensitive. Local people are very unhappy about lack of such provisions.
	Not paid promptly	0	-	
	Sub-total	5	3	
33. Tourist Facilities	Adequate	2	1	Tourism is very low key. Visitors may go up to Khari. There used to be some day visitors to areas around Siejosa till the bridge across the Pakke river was heavily damaged and rendered unusable during the unprecedented floods of 2004.
	Poor	0	-	
	Sub-total	2	1	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	There are 14 small villages along the eastern boundary and 4 along the west. Village Forest Councils are helping in protection.
	Lacking	0	-	
	Sub-total	6	6	
36. Fulfillment of Reciprocal Commitments	Good	5	5	As above
	Poor	0	-	
	Sub-total	5	5	
37. Cattle Immunization in Villages	Done	5	5	
	Not done	0	-	
	Sub-total	5	5	
38. Host Community Involvement in Ecotourism	Yes	5	0	Kindly vide comments against SN 33 above.
	No	0	0	
	Sub-total	5	0	

Issue	Criteria	Maximum Score	Current Score	Comments
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-total	4	4	
40. PM done in all cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-total	4	4	
41. Trust between Local People & TR Management	Good	5	3	
	Poor	0	-	
	Sub-total	5	3	
42. Economic Benefits to Stake Holders	Good	3	0	Kindly vide earlier comments.
	Poor	0	-	
	Sub-total	3	0	
43. Control over use/ access of TR Resources	Good	5	5	
	Poor	0	-	
	Sub-total	5	5	
44. Efforts Towards Sustainable Development	Good	4	2	As relevant to Sr. No. 35
	Lacking	0	-	
	Sub-total	4	2	
45. Restorative inputs beyond TR	Being done	5	0	
	Sub-total	5	-	
	Total Score	183	106	

Profile

The Palamau Tiger Reserve lies in the western part of the Chhotanagpur plateau in Jharkhand state of India. The forest stretches from the edge of the Netarhat hill range in the south to the Auranga river in the north and from the Latehar-Sarju road in the east to Madhya Pradesh border in the west. The forest of Palamau is the catchment of the river North Koel.

Palamau is the land of Palas and Mahua (and represents the biological richness of the dry and moist deciduous eastern peninsular forests with an interesting association of Sal and Bamboo. The verdant landscape of the Reserve is clothed with stately Sal in the valleys and lower slopes, and with dry deciduous forests on the upper slopes and on the mound caps in the northern part. Copious bamboo and scattered open grassy patches are common. Almost pure patches of Bel (*Aegle marmelos*) are unique vegetation types mostly found in the northern part of the Reserve.

There are many water falls. viz - Mirchaia near Garu, Suga Bandh Water Fall near Baresand and Lodh Fall, which is the highest water fall in the Jharkhand State - are major tourist attractions. There is a hot water spring, Tataha Pani, near Barwadih.

Forest types of the Reserve are: Moist Peninsular Sal, Dry Peninsular Sal, Dry Bamboo Brakes, Northern Dry Mixed Deciduous, Moist Peninsular Low Level Sal, Northern Secondary Moist Deciduous, Aegle Forests

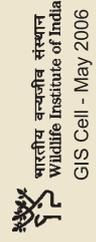
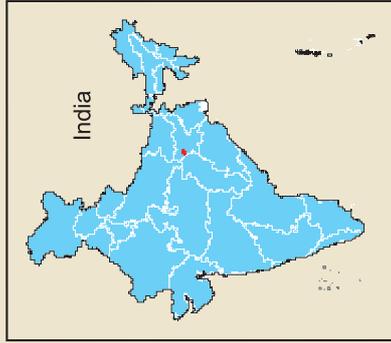
Major floral species include: *Shorea robusta*, *Acacia catechu*, *Butea monosperma*, *Madhuca indica*, *Terminalia tomentosa*, *Pterocarpus marsupium*, *Adina cardifolia*, *Anogeisus latifolia*, *Indigofera pulchela*, *Moghania spp*, *Mallotus philippinensis*, *Holarrhena antidysentrica*, *Albizia lebbek*, *Bauhinia spp.*, *Chloroxylon swietnia*, *Lagerstroemia parviflora*, *Diospyros melanoxylon*, *Buchhanania lanzan*, *Bridelia retusa*, *Bombax ceiba*, *Mitragyna parviflora*, *Lannea coromandlica*, *Holoptelia integrifolia*, *Imperata arudinacea*, *Dendrocalamus strictus*

Mammals found in the area include: Tiger, Leopard, Cheetal, Sambar, Barking Deer, Wolf, Wild Dog, Elephant, Mouse Deer, Pangolin, Fourhorned Antelope and Indian Ratel.

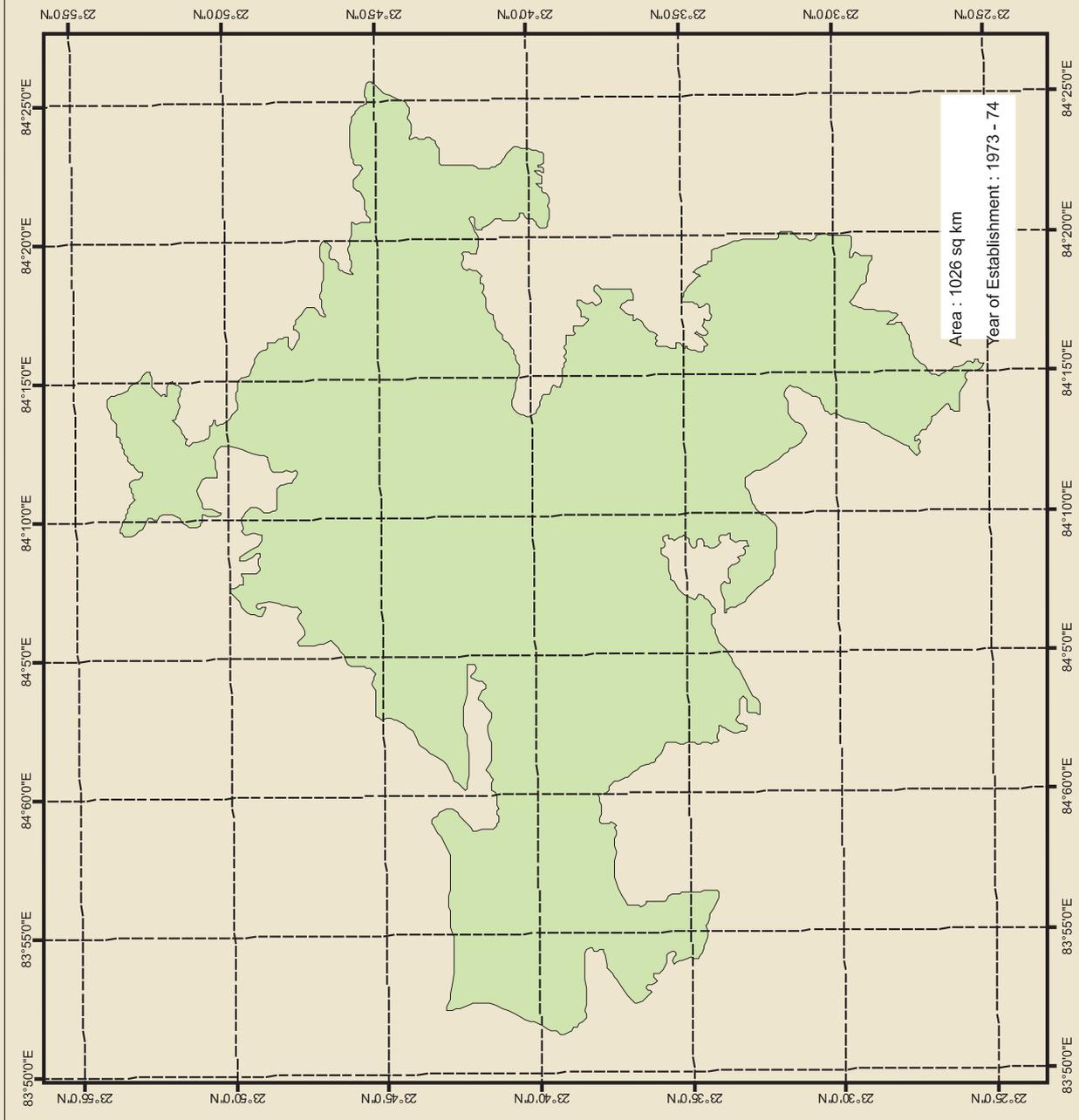
Palamau Tiger Reserve

Palamau Tiger Reserve

Jharkhand



Boundary Source : FSI, Dehradun, 2006



Palamau

Palamau Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments	
1. Legal Status	Completion of legal procedures	3	1	Final Notification to be issued.	
	Delineation of buffer zone	3	3		
	Unified control of buffer	3	3		
	Sub-Total	9	7		
2. Compatible Land Use	In the buffer	3	2		
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-		
	Beyond buffer (5km. radius)	3	1		
	Beyond buffer the landuse is detrimental	0	0		
	Sub-Total	6	3		
3. Human Pressure	Habitation present within the core	0	3	3 Forest villages still present	
	No habitation within the core	4	-		
	Livestock Grazing pressure present within the core	0	2		Grazing in above 3 villages plus a few from buffer villages
	No livestock grazing pressure within the core or adjoining areas	4	0		
	Cultivation present in the core	0	-		
	Encroachment present	0	-		No encroachments.
	Collection of NTFP in the core	0	-		Local bonafide use.
	Quarrying present in the core	0	-		Not present.
Sub-Total	8	5			
4. Use of the Area by other Departments	Yes	0	-		
	No	3	3		
	Sub-Total	3	3		
5. Management Plan Updated	Yes	3	3		
	No	0	-		
	Sub-Total	3	3		
6. Regeneration Status in the Core	Satisfactory	3	3		
	Poor	0	-		
	Sub-Total	3	3		
7. Regeneration Status in the Buffer	Satisfactory	3	3		
	Poor	0	-		
	Sub-Total	3	3		
8. Staff in Position	Satisfactory	3	2	Needs to filled up urgently	
	Inadequate	0	-		
	Sub-Total	3	2		
9. Average Age of Staff	Satisfactory	3	1	Too many over-aged, not very effective for management	
	Unsatisfactory	0	-		
	Sub-Total	3	1		
10. Equipments	Adequate	3	2	Needs some essentials to be supplied/acquired.	
	Inadequate	0	-		
	Sub-Total	3	2		

Palamau Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
11. Vehicles	Adequate	3	3	
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely release of CA	Yes	4	2	Delay needs to be looked into.
	Delayed	0	-	
	Sub-Total	4	2	
13. Strike Force Available	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	Project allowance sanctioned this year but yet to be disbursed.
	Unsatisfactory	0	-	
	Sub-Total	4	3	
15. Field Data Collection & Research	Ongoing	3	1	Observations being made but not recorded as being not essential.
	Not ongoing	0	-	
	Sub-Total	3	1	
16. Tourism Regulation	Done as per CC	5	4	
	Not done as per CC	0	-	
	Sub-Total	5	4	
17. Recycling of gate Receipts done	Yes	5	1	Proposal being moved to Government.
	No	0	-	
	Sub-Total	5	1	
18. Field Staff Training	Yes	3	1	Senior staff not trained.
	Not done regularly	0	-	
	Sub-Total	3	1	
19. Weed Growth in the Habitat	Present	3	2	Progress is noticed.
	Not seen	0	-	
	Sub-Total	3	2	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	
	Managed	4	3	
	Sub-Total	4	3	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	3	
	Unsatisfactory	0	-	
	Sub-Total	4	3	
23. Poaching	Common	0	-	
	Negligible	4	3	
	Sub-Total	4	3	
24. Fires	Common	0	-	
	Less than 1% of the TR area	5	4	
	Sub-Total	5	4	

Palamau Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	4	
	No	0	-	
	Sub-Total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy present	Yes	3	2	For fire protection and control by wireless and lamps
	No	0	-	
	Sub-Total	3	2	
30. Daily Patrolling done	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	3	
	No	0	-	
	Sub-Total	4	3	
32. Ex-Gratia, Compensation	Paid promptly	5	4	Delay due to late sanction by Government
	Not paid promptly	0	-	
	Sub-Total	5	4	
33. Tourist Facilities	Adequate	2	2	
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	
	Lacking	0	-	
	Sub-Total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	4	
	Poor	0	-	
	Sub-Total	5	4	
37. Cattle Immunisation In Villages	Done	5	5	
	Not done	0	-	
	Sub-Total	5	5	

Palamau Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	3	Satisfactory.
	No	0	-	
	Sub-Total	5	3	
39. Registration of Arms	Done	4	2	But needs to be updated.
	Not done	0	-	
	Sub-Total	4	2	
40. PM done in all Cases of Unnatural Mortality	Yes	4	3	Do not have own veterinary facility, however post mortem is carried out.
	No	0	-	
	Sub-Total	4	3	
41. Trust Between Local People & TR Management	Good	5	4	
	Poor	0	-	
	Sub-Total	5	4	
42. Economic Benefits To Stake Holders	Good	3	3	
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	5	
	Poor	0	-	
	Sub-Total	5	5	
44. Efforts Towards Sustainable Development	Good	4	3	
	Lacking	0	-	
	Sub-Total	4	3	
45. Restorative Inputs Beyond TR	Being done	5	3	Not completely in surrounding areas
	Lacking	0	-	
	Sub-Total	5	3	
Grand Total		183	141	

Profile

Panna is situated in the Vindhyan Range and lies in Panna and Chhatarpur districts in the northern part of the Madhya Pradesh. The Reserve is dotted with ancient rock paintings, which are believed to be around two thousand years old. Old relics of Gondwana period (rule of the tribal people of Central India) are scattered all over the Reserve.

One of the most significant ecological aspects of the Reserve is that the district Panna makes the northern most boundary of natural distribution of teak and the eastern limit of teak-kardhai mixed forests. Panna Tiger Reserve is most important PA in the north-central highlands of India, as it links the eastern and western populations of wild animals through the NE-SW running Vindhyan ranges.

The Ken river, which flows through the Reserve from south to north, is the home for long snouted crocodile (gharial) and Marsh Crocodile (muggar) and other aquatic fauna. It is one of the sixteen perennial rivers of M.P. and is the lifeline of the Reserve. It meanders for about 55 km through the Reserve.

The terrain of the Reserve is characterised by extensive plateaus and gorges. The topography of the Panna district part of the Reserve can broadly be divided into three distinct tablelands - the upper Talgaon Plateau, the middle Hinouta Plateau and the Ken valley while there are series of undulating hills and plateaus on the other side of Ken river in the Chhatarpur district.

Panna National Park was created in 1981. It was declared a Project Tiger Reserve in 1994, 22nd in the country and fifth in the state. The Tiger Reserve consists of areas from the former Gangau Wildlife Sanctuary created in 1975. The reserved forests of the Reserve in Panna district and some protected forests on Chhatarpur district were the hunting preserves of the erstwhile rulers of Panna, Chhatarpur and Bijawar princely states.

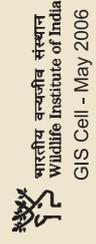
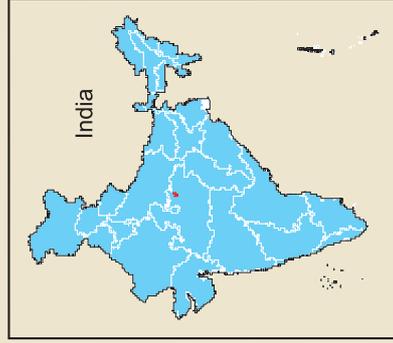
Forest types found in the Reserve are: Southern Tropical Dry Deciduous Dry Teak, Northern Tropical Dry Deciduous Mixed Forest, Dry Deciduous Scrub Forest, Boswellia Forest, Dry Bamboo Brakes, Anogeissus Pendula Forest.

Main formal species of the Reserve are: Tiger, Jungle Cat, Leopard, Hyena, Wild Dog, Wolf, Sloth Bear, Sambhar, Chital, Nilgai, Chinkara, Chausinga, Porcupine, Jungle Cat, Rusty Spotted Cat, Hare, Ratel and Tree Shrew. Long snouted crocodile (gharial) and marsh crocodile (muggar) are found in the Ken river.

Panna Tiger Reserve

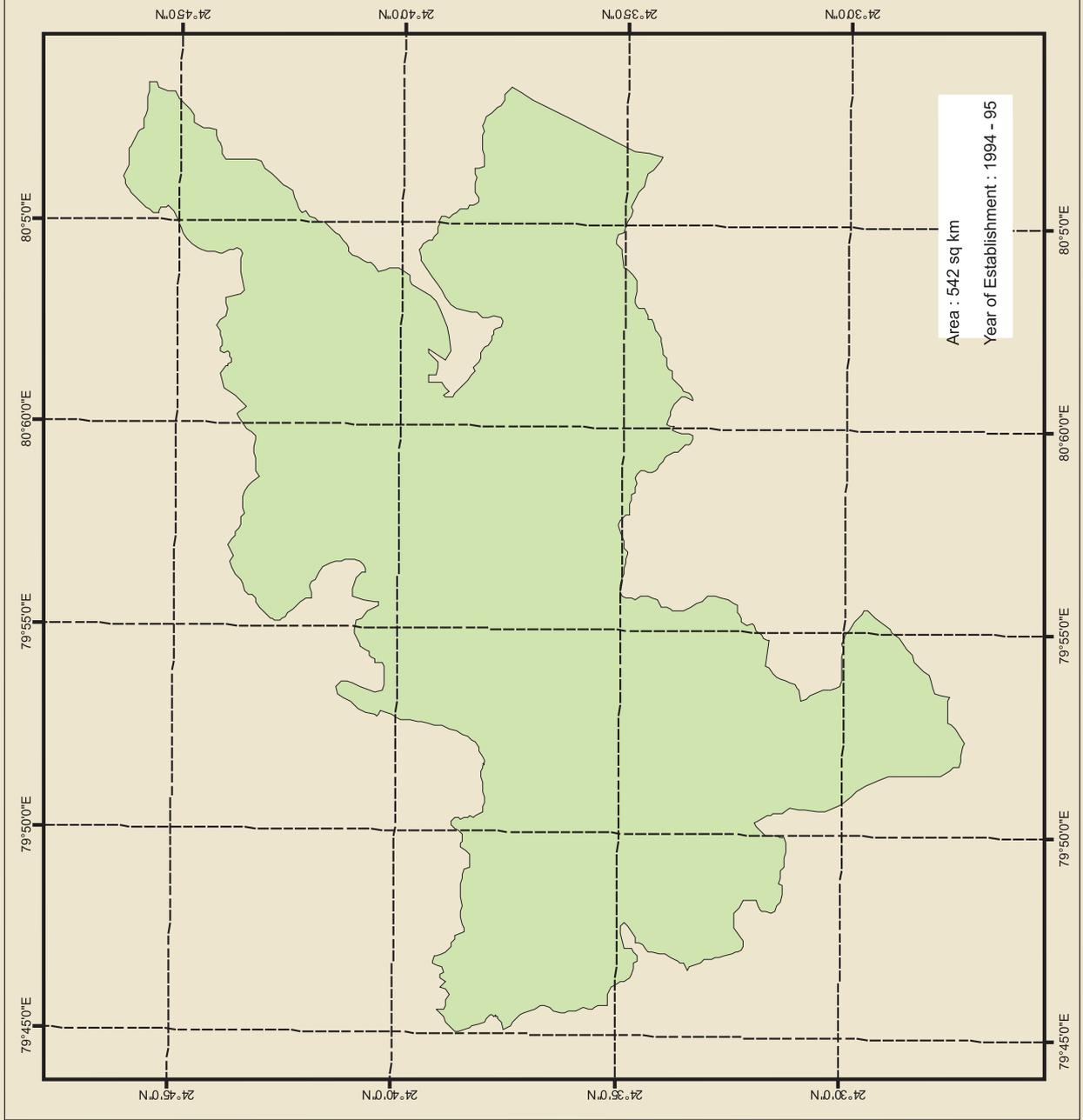
Panna Tiger Reserve

Madhya Pradesh



GIS Cell - May 2006

Boundary Source : IFSI, Dehradun, 2006



Panna

Panna Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	0	Intention for the notification of Panna NP (542.66 km ²) was issued on 17.10.1981 but so far the Final notification under Wildlife Protection Act-1972 has not been issued. The presence of some villages in the core area, which are proposed to be relocated, has been cited as the main reason due to which the final notification could not be issued.
	Delineation of buffer zone	3	0	An area of approx. 1000 km ² covering north and south territorial divisions of Panna and Chhattarpur has been identified as the buffer zone of this TR. But the unified control of Panna TR over the identified Buffer Zone is yet to come.
	Unified control of buffer	3	0	
	Sub-Total	9	0	
2. Compatible Land Use	In the buffer	3	0	As the identified buffer area is presently not under the unified control of the TR Management there is no compatible land use in effect. There are 125 villages situated in the identified buffer zone area and unless a comprehensive Ecodevelopment Programme is launched, it will be difficult to make this zone compatible with the Project Tiger objectives.
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	There are 13 villages situated inside the core area with 5753 human population and 7104 cattle population, exerting considerable pressure on the TR in the form of collection of NTFP grazing, fodder collection etc. The pressure of 125 villages in the identified buffer zone is also of considerable extent.
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	4	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	0	
4. Use of the Area by other Departments	Yes	0	-	NMDC have been mining diamond close to the Hinauta Range Headquarters of the Panna TR, which has considerable adverse impact on the Reserve. There is a large colony of workers of the mines just outside the TR boundary and large mountain like heaps of dug up material are also lying close to the TR. The noise of machines, which work day and night, is also a disturbing factor for the TR. The project is likely to continue for a further period of 15 to 20 years. Talking to the NMDC local manager revealed that their survey has located some diamond occurrence inside the TR. Extreme care would have to be taken to see that this does not become an operational mine in future, otherwise the future of the TR will be jeopardized. Gangau dam over Ken river constructed during pre-independence era is under the control of the Irrigation Department, which has some submergence area inside the TR.
	No	3	0	
	Sub-Total	3	0	

Panna Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	3	Management Plan has been prepared and is valid up to 2012.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Adequate regeneration occurs in the Reserve except around the 13 villages, where due to grazing by domestic cattle regeneration is inadequate.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Due to the existence of a large number of villages in the proposed buffer area, the regeneration status in most of the area is inadequate.
	Poor	0	-	
	Sub-Total	3	3	
8. Staff in Position	Satisfactory	3	3	There are 5 vacancies in the cadre of Range Forest Officers, 7 vacancies in the cadre of Game Supervisors but only 4 vacancies in the cadre of Forest Guards. Thus the staff position is satisfactory except at the Range Forest Officers' and Supervisors' levels.
	Inadequate	0	-	
	Sub-Total	3	3	
9. Average Age of Staff	Satisfactory	3	3	The average age of Game Guards/Forest Guards is 42 years and that of Game Supervisors is 46 years.
	Unsatisfactory	0	-	
	Sub-Total	3	3	
10. Equipments	Adequate	3	3	The inadequacy of equipment that has been reported by the TR management is in the form of camera traps, arms, GPS. Survey instruments, fire fighting instruments, equipments related to forensic studies and wireless.
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	One vehicle for the Veterinary Doctor and water tankers for all the four ranges with tractors are required for providing water during lean hot season, which is also the fire season.
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	4	The release of Central assistance is timely.
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	4	A group of 4-5 persons per range has been set aside after careful selection from among the frontline staff to act as a Strike Force, as and when required. An Anti-poaching squad has also been created with a Range Forest Officer as its in-charge. This squad together with the staff selected in each range patrols the sensitive areas of the TR and also collects intelligence from the peripheral villages. They also carry out surprise checking in sensitive markets and villages adjoining the TR.
	No	0	-	
	Sub-Total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Disbursement of salary is satisfactory.
	Unsatisfactory	0	-	
	Sub-Total	4	4	

Panna Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
15. Field Data Collection & Research	Ongoing	3	3	<p>Large number of research projects have been carried out in the TR by the Wildlife Institute of India with support from USFWS and MP Forest Department. Some projects worth mentioning are as under:</p> <ol style="list-style-type: none"> 1. Study on Tiger Ecology (1995-2000) 2. Study on Sloth Bear Ecology (1996-2000) 3. Planning and Developing Interpretive Facilities for Panna NP (1998-99) 4. Strengthening Tiger Conservation through understanding predator prey relationship in dry tropical forest in India (2000 onwards). It is being carried out by Dr. R.S. Chundawal, an individual scientist . 5. Population Structure, Group Dynamics and Habitat Use of Sambar being conducted by Mr. R.T. Sanago, Range Forest Officer. 6. Study on Ecology and Behavior of Chowsingha by BNHS from 2002 onwards. <p>Though a large number of research projects have been carried out in the Panna TR, the findings and field data are yet to be received by the TR management. It will be necessary to fix up a schedule of submitting findings and data of research projects before the Chief Wildlife Warden clears them.</p>
	Not ongoing	0	-	
	Sub-Total	3	3	
16. Tourism Regulation	Done as per CC	5	5	<p>A steep rise in the number of tourists both Indian and Foreigners has been noticed from 1998-99 to 2002-03. From 1753 visitors in 1998-99 it reached a level of 11435 visitors during 2002-03. The TR is open for visitors during October to June ever year. The tourists visiting Khajuraho are also attracted to Panna TR mostly for viewing the tiger. A practice of locating tigers with the help of trackers and elephants every day and arranging for their sighting by tourists has contributed to a rise in visitor number during the last five years. Tourism regulations appear to be satisfactory, but sighting tigers after tracking sometimes causes rush of vehicles with a large number of tourists at a particular place. This is an issue requiring a serious review at the highest possible level.</p>
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	Yes	5	5	<p>Recycling of gate fees is being done in all the TRs of M.P. This has been a pioneering effort, setting an example in the entire country.</p>
	No	0	-	
	Sub-Total	5	5	
18. Field Staff Training	Yes	3	3	<p>It is encouraging to note that most of the officers selected for managing the TR have undergone training in Wildlife Management. The Veterinary Doctor who has been taken on deputation from the Stale Animal Husbandry Department has also been trained in Wildlife Management. Most of the Range Forest Officers are also trained wildlifers. Large number of frontline staff has also been imparted basic training in wildlife management in Bandhavgarh Wildlife Training Center and the process is continuing.</p>
	Not done regularly	0	-	
	Sub-Total	3	3	
19. Weed Growth in the Habitat	Present	0	-	<p>Only some areas closer lo habitations are infested with weeds such as <i>Lantana</i>. The control of weed growth is being done regularly according to availability of funds.</p>
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	<p>About 60% of the core area constitutes open woodlands and meadows.</p>
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	<p>The Headquarters of the TR being close to the boundary of the TR, it is convenient for the officers to visit the TR area frequently. As there are only 4 ranges in the TR with a total area of 542.66 km² with a good road network in all the ranges, the TR officers are expected to tour the area more frequently.</p>
	Inadequate	0	-	
	Sub-Total	4	4	

Issue	Criteria	Maximum Score	Current Score	Comments
22. Staff Welfare Measures	Satisfactory	4	0	The routine staff welfare measures like distribution of first-aid boxes, uniforms, raincoats etc. are being carried out. The staff posted in remote areas, feel that their families should get accommodation at nearby towns during the period they are posted in remote areas. In Kanha and Bandhavgarh some cash incentives are being paid to the frontline staff out of the gate receipts. This practice could also be followed in Panna TR.
	Unsatisfactory	0	-	
	Sub-Total	4	0	
23. Poaching	Common	0	-	During 1999-2000 to 2003-04 15, 8, 10, 12 and 16 cases of poaching including fishing were reported in the TR respectively. Poaching, as reported by the TR management is not common but occasional hunting of prey animals is noticed. The TR is porous from all sides and possibilities of poaching tigers and leopards by traps cannot be ruled out. The recent incidents of Sariska should be taken as eye opener and very strict vigil on tiger poaching especially by unconventional methods like traps, poisoning etc. should be very strictly maintained.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	The TR has dry deciduous forests and there are long spells of dry period with very high temperatures, as a result of which ground fires are common. However, no fire has been noticed which has caused lasting damages to the habitat.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	Epidemics have not been noticed in the TR.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	We visited all the ranges situated in different plateaus and found that patrolling registers have been maintained by the Forest Guards in which day to day entries of sighting of tigers and other prey animals is recorded. At Nararan camp such a register for Pipartola (West) Block compartment nos. 504, 503, 513 and 514 was posted up to date by one Forest Guard and two patrolling Guards. These entries help the management during annual census operations. Using census techniques more realistically has refined the estimation of wild animal populations. The staff has been trained in census methodology and with their experience in recording the presence of animals during day-to-day patrols, it is hoped that the figures are quite realistic. The pugmark census of tigers shows the figure to be 30-35 tigers in the TR. The herbivore population estimation was carried out by using pellet group count method. The trend shows increase in the population of Sambar, Cheetal and Neelgai. Chinkara appears to be restricting itself to the peripheral areas as a result of improved ground cover. The sighting of prey species even during daytime in good numbers was encouraging. Sighting of a large male tiger by the team close to Hinauta Range HQ on a Neelgai kill and presence of a tigress in close vicinity was a delightful experience. We could also come across pug marks of tigers in almost all the ranges. Personal communication with staff and perusal of the sighting register maintained at all Anti-poaching camps shows the presence of some breeding tigresses in the area. The relocation of villages from the Ken river banks will help the prey to recover very fast, which in turn will help more breeding tigresses in that area, which has a vast potential.
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	The patrolling campsites in all the ranges have been strategically located and old campsites have been reorganized. One Forest Guard and two Patrolling Guards have been posted in each patrolling camp. 45 beats that constitute the TR have been reorganized into 54 patrolling camps for effective protection. Area of each patrolling camp varies from 605 ha. to 1450 ha. Each camp is expected to maintain basic documentation of day-to-day observations and patrolling details.
	No	0	-	
	Sub-Total	5	5	

Panna Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	As stated above daily monitoring records are kept at each patrolling camp. Each range has a vehicle for effective patrolling. Patrolling schedule for day-night patrolling is provided to the camps and patrolling details are reported to Range Officers on wireless network.
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	3	All the patrolling camps have been provided with wireless handsets. All the ground fixed stations are directly connected with the TR control. Daily reporting of important events is done at all levels
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	5	All the patrolling camps do daily patrolling. It was reported that range wise weekly night patrolling is also done for which a roster is maintained. Night patrolling is done in sensitive areas by range vehicle as well as on foot.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	The monitoring of court cases is being done and one forest guard has been posted at the FD Headquarter to monitor the pending court cases.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid Promptly	5	5	Ex-gratia compensation is paid regularly and without undue delay.
	Not Paid Promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	Tourism is permitted in certain areas of Hinauta and Mandla Ranges. There are two huts in each of the above ranges with two suites. Hotels and Resorts are also coming up outside the Park near Mandla. A well-established Interpretation Centre known as Karunawati Interpretation Centre, just outside the TR is very educating. There are five elephants available for ride and a speedboat is available for boat rides in Ken river. No more tourism facilities should be created inside the core area as lots of such facilities are coming up outside the TR on private land. Stricter tourist regulations would be helpful.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	A district level tiger-monitoring cell has been constituted to sort-out matters relating to the TR with the district administration.
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	0	Ecodevelopment activities are being carried out in the peripheral villages. 24 Ecodevelopment Committees have been constituted. The TR management feels that more funds would be needed for effectively earning out the Ecodevelopment work in the surrounding villages to get active support of the people.
	Lacking	0	-	
	Sub-Total	6	0	
36. Fulfilment of Reciprocal Commitments	Good	5	5	People's role in discharging reciprocal commitments is satisfactory.
	Poor	0	-	
	Sub-Total	5	5	
37. Cattle Immunisation in Villages	Done	5	5	Regular cattle immunization of all the villages inside the TR and within 5 km from TR boundary is being done for diseases like HS, BQ and FMD.
	Not Done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	It was reported that a group of host community has been involved in nature trekking and providing base camp at Jhinna. A community group also runs the cafeteria at Karunawati Interpretation Centre. About 25 youths have been registered as guides and they have been given training. Visitors for safari inside the TR also engage large number of vehicles.
	No	0	-	
	Sub-Total	5	5	

Issue	Criteria	Maximum Score	Current Score	Comments
39. Registration of Arms	Done	4	4	Legal procedures on registration of arms are followed satisfactorily.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	A young veterinary doctor exclusively for the Panna TR has been taken on deputation who has been given wildlife management training at the WII. The doctor is very enthusiastic and carries out postmortem of all the cases of unnatural mortality of wild animals.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	During the last 10 years of TR management trust building between the Park management and the local people has been taking shape by regular contacts of the Park management with the local communities and safeguarding the interest of the communities by promptly paying compensation for human and cattle losses and creating barriers to prevent crop damage.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits to Stake Holders	Good	3	3	Same as the above.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access of TR Resources	Good	5	0	The heavy pressure of grazing, fuel wood collection around the villages inside and outside the TR boundary is responsible for degradation of some habitats. Relocation of villages from inside the TR is being attempted. In the Madla range, 3 large villages remain to be shifted. The team visited the relocation site. The efforts would have to be more focused and the confidence building of the villages proposed to be relocated require to be enhanced in order to succeed in the relocation programme. The villages on the bank of Ken river have irrigated and fertile lands and their successful relocation could only be possible if lucrative packages are offered to them. In Pipartola village though large number of families with small land holdings have been shifted. 7 families with almost 50% of the landholding of the village have not moved because they will get quantitatively less and qualitatively poorer land compared to their present holdings. Village relocation programme has to be given priority at State level then and only then the tiger population will increase and be conserved successfully.
	Poor	0	-	
	Sub-Total	5	0	
44. Efforts Towards Sustainable Development	Good	4	0	Efforts for sustainable development in villages in the close vicinity of the TR are being made through Ecodevelopment Programmes. The quantum of this programme needs to be increased and a coordinated development programme for these villages needs to be evolved by integrating all the rural development programmes to make it more meaningful, substantial and sustainable.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	Since the identified buffer has not come under the control of TR Management the restorative inputs beyond the TR are lacking. A landscape planning would be necessary for this purpose.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	135	

Profile

The Pench Tiger Reserve is named after the Pench river, which flows from north to south through the Reserve. The Reserve is located in the southern reaches of the Satpura hill ranges in the Seoni and Chhindwara districts of Madhya Pradesh. The terrain is undulating, with most of the area covered by small hill ranges, steeply sloping on the sides. The description of its natural beauty, richness in flora and fauna has appeared in numerous accounts dating back to 17th century. Books written in the 19th and early 20th century by famous naturalists like Captain J. Forsyth and Rudyard Kipling's Jungle Book explicitly describe the detailed panorama of nature's abundance in this tract.

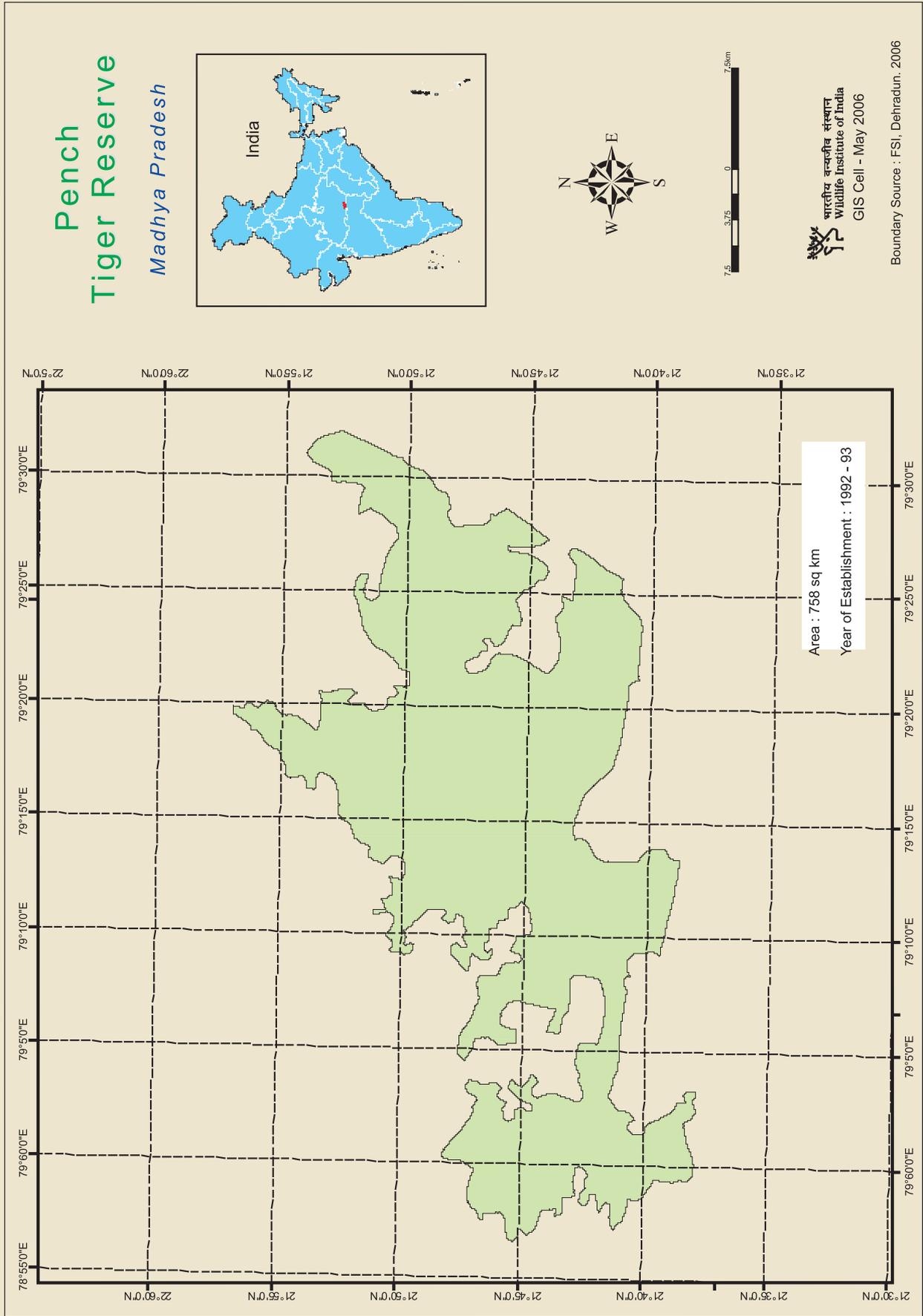
An extensive forest belt extends in three directions, north, east and south, covering forest tracts of Seoni, Balaghat and Nagpur districts. The contiguous forest on the southern side in Maharashtra, initially notified as Pandit Jawaharlal Nehru National Park has been recently included in the Project Tiger network by the same name. A dam was constructed on the Pench river on south-eastern boundary of the Reserve.

As the prey concentration is high along the Pench river, tigers usually inhabit this belt. Leopards, though, generally operate in the peripheral areas but are occasionally seen in deep forests also. Jungle cats are commonly seen. Leopard cats, Small Indian Civets and Palm Civets are common but seen very rarely.

Wild dogs are commonly seen in packs of 12 to 15, near Chhedia, Jamtara, Bodanala and Pyorthadi areas of the Reserve. Wild Pig is ubiquitous. Sloth bear occupy hilly, rocky out crops and favour mahul bel infested forest. Chinkara is present in very small numbers and is found in open areas around Turia, Telia, Dudhgaon villages. Jackals are seen occasionally near Tekadi, Alikatta and Chhindimatta villages

Forest Types of the Reserve are: South Indian Tropical Moist Deciduous Forest, Southern Tropical Dry Deciduous Teak bearing Forest, Southern Dry Mixed Deciduous Forest. The main species are: Teak and its associates Moyan, Mahua, Mokha, Tendu, Bija, Achar, Garari and Aonla, Bhaman, Ghont, Baranga, Amaltas, Kihamali, Khair, Bhirra, Palas. Bamboo occurs sparsely, restricted to some valleys.

Pench Tiger Reserve (Madhya Pradesh)



Pench (Madhya Pradesh)

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	0	Pench TR of Madhya Pradesh consists of 292.860 km ² of Indira Priyadarshini Pench NP and 118.307 km ² of Mowgli Pench WLS (total area 411.167 km ²). Pench WLS has been finally notified and legal process to finally notify the Pench NP is at the final stages at the State Government level. Settlement process has been completed. The TR is situated in two revenue districts namely Seoni and Chhindwara.
	Delineation of buffer zone	3	0	Buffer zone of 346.740 km ² has been identified and delineated on the ground but its control and management remain with the respective territorial Forest Divisions i.e. South Seoni and East and South Chhindwara Forest Divisions.
	Unified control of buffer	3	0	The control of the Buffer Zone is not vested with the Field Director. It is imperative that it is handed over to the Field Director at the earliest. Major part of the Buffer zone is rich in wildlife and tiger population, specially in part of the south Seoni Forest Division, which forms the eastern and north eastern part of the buffer. This buffer area lying to the west of NH-7 (Nagpur-Jabalpur Highway) is an excellent habitat and most of the spill over tiger population needs focused management in order to take care of the entire tiger population of this important TR, which has another TR (Pench TR) of Maharashtra State to its south in contiguity. Due to the large contiguous area in both the States these two TRs together with their rich buffer areas have a great potential to hold a rich tiger population provided that the buffer could also be managed with the same level of intensity as the core. This is possible only when the management of the designated buffer is also with the Field Director of the TRs.
	Sub-Total	9	0	
2. Compatible Land Use	In the buffer	3	0	As stated above the buffer has not been brought under the management of the TR and hence compatible land use is not possible. In order to make the land use compatible beyond buffer, it will be necessary to adopt a landscape approach for management of the tigers in M.P. There is a very great extent of contiguous habitat of Tigers from Pench (MP and Maharashtra) to Kanha and just a landscape approach by the State Government would help the future development activities to be planned carefully without disturbing vital corridors and connectivities.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	0	

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	4	There are no villages in the core area (both NP and WLS). The number of villages in the immediate vicinity of the boundary of the core is high. 35 villages are within 1 km., 16 between 1 and 2 km, 35 between 2 and 5 km and 13 above 5 km but less than 6 kms. Thus a total of 99 villages have their adverse influence on the core and buffer. Out of about 50,000 population approximately 62% are ST, 16% SC and 13% OBC. Among ST, 'Gonds' forms major population. Literacy percentage is very low (13-15%).
	Livestock Grazing pressure present within the core	0	-	The livestock population in above villages is around 40,000.
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	There is no cultivation inside the core area. 45% of the population of above villages has no access to cultivation and are therefore mainly dependant on forests for their livelihood.
	Encroachment present	0	-	There is no encroachment in the core area but in buffer area it cannot be ruled out.
	Collection of NTFP in the core	0	-	There is no NTFP collection in core area but in the designated buffer there is no restriction on the collection of NTFP. Same is the case with fodder collection also.
	Quarrying present in the core	0	-	
	Sub-Total	8	4	
4. Use of the Area by other Departments	Yes	0	-	In the core area 54 km ² out of a total 76 km ² of submergence area falls in the TR. There is a hydroelectricity dam over river Pench at Totladoh (border of MP and Maharashtra). Status of use of area by other departments in the designated buffer could not be known, as the area is not under the control of the Field Director.
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	Management Plan of the TR was prepared by Mr. L.K. Choudhary for the period 2001-10, but it has been approved only up to 2005. This deals only with the core area and does not mention the designated buffer. The revised plan should necessarily cover the designated buffer area also. We were told that the Management Plan is now under revision.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Regeneration Status in the Core Area is very good.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	0	In parts of south Seoni Division, regeneration status is good but in parts of South Chhindwara it is poor due to excessive biotic pressure.
	Poor	0	-	
	Sub-Total	3	0	

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
8. Staff in Position	Satisfactory	3	3	There are 6 Forest Rangers, 5 Deputy Rangers, 33 Foresters and 60 Forest Guards/Game Guards posted in the core area at the moment. Hence the position is satisfactory. There are very few vacancies in frontline staff.
	Inadequate	0	0	
	Sub-Total	3	3	
9. Average Age of Staff	Satisfactory	3	0	50 years (Approx).
	Unsatisfactory	0	-	
	Sub-Total	3	0	
10. Equipments	Adequate	3	3	Equipments are reported to be adequate. TR has motorboats for patrolling the submergence area.
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	Vehicles are adequate in numbers. There are vehicles up to the Range level.
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	4	Although the release of central assistance is adequate, in 2003-04 out of an allotment of Rs. 1,25,46,000 by Project Tiger, an expenditure of only Rs. 98,17,211 was incurred.
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	2	There is no independent strike force as such but the Field Director keeps a group of selected field staff ready with vehicles and arms, which can strike at short notice, as and when required. Intelligence gathering through Eco Development Committees is also relied upon.
	No	0	-	
	Sub-Total	4	2	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Disbursement of all claims is timely.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	<p>Pench TR is fortunate to have a combination of the Field Director and the Deputy Director, who are both very keen in research work. Both have an aptitude for research and data keeping. Even in the past there has been a good deal of research and collection of field data. The Field Director is a keen field botanist and the Deputy Director is a keen bird watcher.</p> <p>There are 43 permanent transects laid on the ground in the TR for animal population monitoring. The annual census operations are carried out sincerely and as accurately as possible. Intensive studies carried out include:</p> <ol style="list-style-type: none"> Ecology of Gaur (by Wildlife Institute of India) Ecology of Wild dog (by WII) Bird diversity (by WII) Faunal diversity (efforts by TR officers and staff) Floral diversity (efforts by TR officers and staff) <p>In addition to it, Indore School of Social Works, Dalai consultants, Ahmadabad, IIFM, Bhopal, State Forest Research Institute, Jabalpur, ZSI & Division of Biodiversity and Ecology, SFRI, Jabalpur, have also taken up some research work.</p>
	Not ongoing	0	0	
	Sub-Total	3	3	

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	<p>The TR has great tourism potential. A brief research into the history of the area and perusal of relevant books on the region revealed that the Seoni region was the original setting of Rudyard Kipling's Jungle Book. Robert Armitage Strendal's books 'Seonee', 'Mammalia of India & Ceylon' and 'Denizens of the Jungle' have amply described the topography, wildlife and its ways in these books, which are believed to have been borrowed by Kipling. 'An account of wolves nurturing children in their dens' was a pamphlet designed by Sir William Henry Sleeman in which Mowgli was the character described as a wolf-boy captured in Seoni district near the village of Sant Baori in 1831. Many of 'Jungle Books' locations are actual locations in Seoni district.</p> <p>Rise in number of tourists from less than a thousand to over twenty thousand in the past 7 years has been ascribed to the popularity of the character Mowgli in Jungle Book projected by TR Management as a unique selling strategy.</p> <p>Authorized and trained guides conduct the tourists in the tourism zone through specified routes of the TR. Tourism regulations in the TR are well managed.</p>
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	Yes	5	5	<p>100% of the gate and Forest Rest House receipts are deposited in the Park Development Fund under the control of the TR management and recycled for development and management of the Reserve.</p>
	No	0	-	
	Sub-Total	5	5	
18. Field Staff Training	Yes	3	3	<p>Most of the officers are trained in WII. Large number of frontline staff has also been given training at Bandhavgarh Wildlife Training Centre (5-6 month structured course). The Field Director is keenly conducting training of field staff in identification of flora, fauna, wildlife crime detection and forensics. One pioneering effort in this direction is field data collection for updating Compartment Histories and preparation of Management Plan, Ecodevelopment, Habitat Improvement and Wildlife Census.</p>
	Not done regularly	0	-	
	Sub-Total	3	3	
19. Weed Growth in the Habitat	Present	0	-	<p>Major weed <i>Parthenium</i> is present in submergence area, which comes after the water recedes. It was reported that intensive uprooting of the weed has resulted in meadows now comparatively free from weeds. <i>Lantana</i> is not a big problem and is being eradicated from some area where other cover is enough.</p>
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	0	<p>In the NP area there is a well-distributed mosaic of woodland and meadows but the sanctuary habitat being hilly the meadows are few.</p>
	Managed	4	2	
	Sub-Total	4	2	
21. Field Visits by Officers	Adequate	4	4	<p>Regular field visits by Field Director, Dy. Director and other officers were indicated by their knowledge of the area.</p>
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	<p>Apart from regular welfare measures such as timely disbursement of salary/ wages and other dues and providing dress and other equipment, the staff posted in Park Sanctuary is paid Rs. 400/- per month in addition to the project allowance out of the Park Development Fund generated from the gate receipts. Two residential complexes for families of staff posted in remote areas have been developed. This has been a long felt need of PA staff.</p>
	Unsatisfactory	0	-	
	Sub-Total	4	4	

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	As reported by the TR Management, from 1993-94 to 2004-05 (Jan. 2005) 22 cases of poaching of wild animals, 183 cases of illegal fishing, 420 cases of illegal felling of trees inside the TR, 55 cases of illicit grazing, 6 cases of illegal NTFP collection and 31 cases of trespass were recorded in the Reserve.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	Fire incidents are rare. Only ground fires are reported.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	No epidemic has been reported.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	43 permanent transects have been laid in the TR for estimation of ungulates. Tiger census by pug mark method is being done regularly under strict and proper guidance of officers. Field staff takes plaster casts of tiger pugmarks during their routine field visits, which are used for authenticating the annual census. The rise in Tiger numbers from 36 in 1992 to 57 in 2004 appears very steep. Verification by some other scientific methods such as camera traps would be necessary at some sites. Territorial staff does wildlife estimation in buffer area. 26 tigers are reported to be present in the South Seoni Forest Division buffer, which also needs verification, by trained experts
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	Patrolling camps are strategically located in the TR. There are 40 camps that have sufficient manpower.
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Daily monitoring is done through wireless network, which covers all the patrolling camps of the TR. The events are reported vertically from patrolling camps to the office of the Field Director.
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	3	Networking is present and in good working order.
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	5	Patrolling is regular and is supervised by officers.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	Court cases are monitored at the Field Director's level.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Ex-gratia compensation is paid regularly and without undue delay.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	Sufficient facilities for tourism exist. There are 9 double bed rooms and one dormitory in the tourism zone. The facilities at Karmajheri are modestly and neatly done. The Interpretation Centre is under preparation.
	Poor	0	-	
	Sub-Total	2	2	

Pench Tiger Reserve (Madhya Pradesh)

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
34. Relationship with Police	Good	1	1	The interdepartmental relationship with the Police is Good.
	Poor	0	0	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Ecodevelopment works under India Ecodevelopment Project (1997-2004) in all the 99 villages around the TR were done in which water harvesting structures (repair and construction), pasture development, barriers against crop raiding, plantations, drinking water facilities, soil conservation works, self help employment, etc. were undertaken. The team visited two villages in Chhindwara district- Nahar Jhiri and Gumtara and it was found that the villagers were satisfied with the result. The villages have generated enough funds for upkeep and repair of these works.
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	3	By and large all eco-development committees (EDCs) are responding to the aims and objectives of the TR, specially by keeping down the biotic pressure and providing intelligence regarding poaching, fire etc.
	Poor	0	-	
	Sub-Total	5	3	
37. Cattle Immunisation In Villages	Done	5	5	Immunization of cattle is being done regularly for HS, BQ & FMD.
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	Provision of local guides in each tourist vehicle, engagement of vehicles of local people, running of rafting programmes by the EDC of Jamtara village, coming up of tourist resorts around the TR, running of 'dhaba' by a tribal woman at Karmajheri etc. are some of the examples of host community involvement.
	No	0	-	
	Sub-Total	5	5	
39. Registration of Arms	Done	4	4	All legal provisions are being followed for the registration of arms.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	The departmental Veterinarian does postmortem in all cases of unnatural deaths of wildlife regularly. Some of the postmortem reports were seen and were found to be in order.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	Very strong signals of trust between the people and the Park management were noticeable.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits to Stake Holders	Good	3	3	Economic benefits to the stakeholders accrue from ecotourism, eco-development and employment in the TR works.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access of TR Resources	Good	5	0	No overuse of resources in the core area was noticed but due to non-transfer of designated buffer zones to the TR management the overuse of resources cannot be overruled.
	Poor	0	-	
	Sub-Total	5	0	
44. Efforts Towards Sustainable Development	Good	4	4	Good efforts have been done towards sustainable development through eco-development activities in 99 villages around the TR provided for in the India Ecodevelopment Project.
	Lacking	0	-	
	Sub-Total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	0	Due to the control of area beyond the TR not coming under the TR Management, no such efforts are underway at present. It will need landscape planning at State Govt. level for all TRs.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	144	

Profile

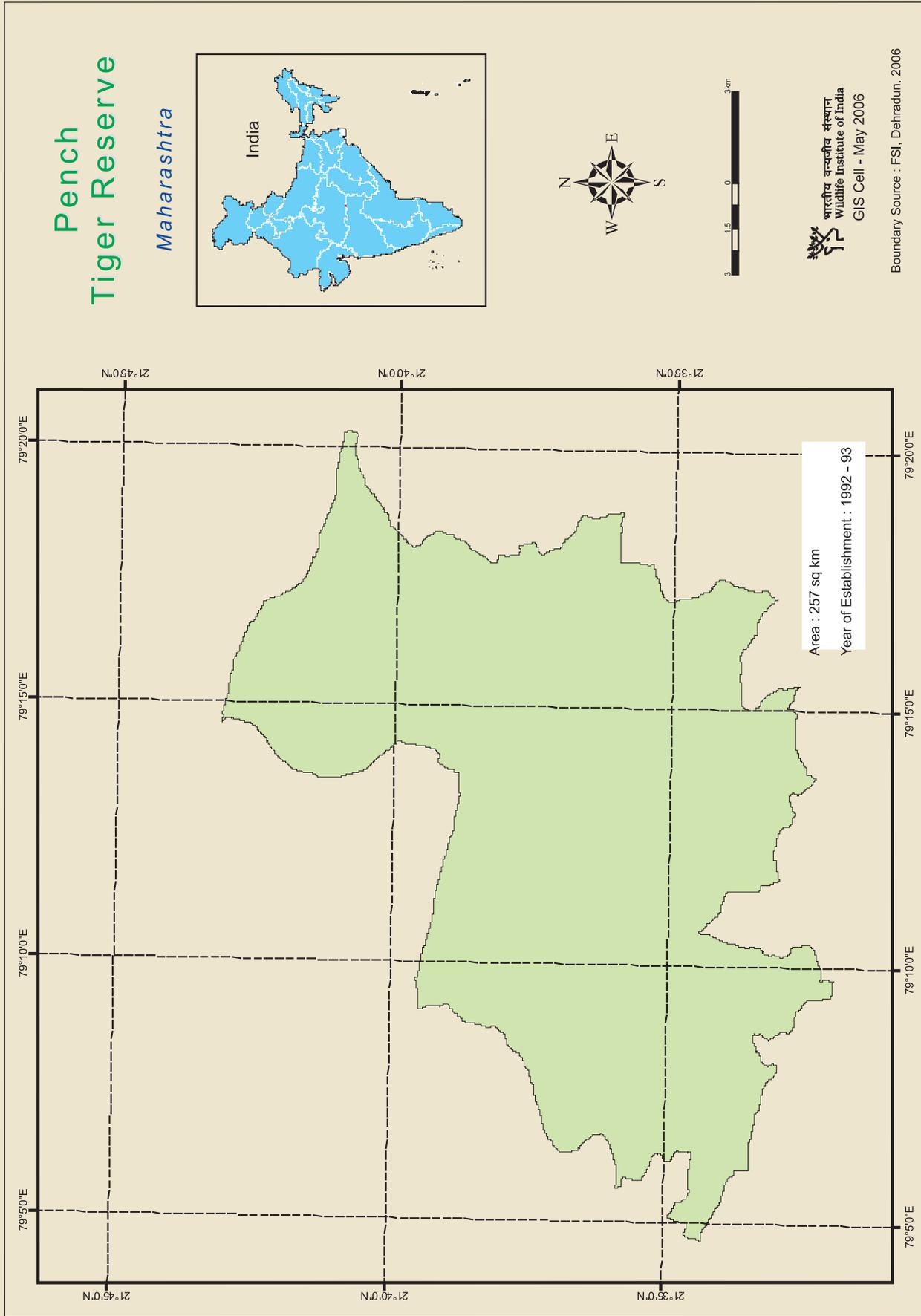
Pench Tiger Reserve has a great ecological significance as it represents the floral and faunal wealth of Satpura-Maikal hill range. The Reserve is rich in natural features like Nagdeo Pahadi, Ambakhori Waterfall (seasonal), Totaladoh Dam, Meghdoot Jalashaya (Pond) etc. Ghuggusgarh Fort is situated on the western bank of river Pench.

Prior to re-organisation of State, in the Pench Tiger Reserve area, shooting block system was initiated in 1927. The Bombay Wild Animals and Wild Birds Act, 1951 was extended to Vidarbha Region from 1.6.1961, which prescribed a closed season between 1st of April to 31st of October every year for hunting and also prescribed registration of arm license holders with the Wildlife Preservation Officer. The area was declared as Pench National Park by the Government of Maharashtra vide notification no. R&F.D./1395/212768/F-1 dated 22/11/1975 with an area of 257.26 km². Government of India declared the area as Pench Tiger Reserve vide notification no.III(I)-25/98-PT dated 11.2.1999. This was reinforced with Government of Maharashtra declaration of Pench National Park as Pench Tiger Reserve vide resolution no.WLP-1095/CR-110/F-1 dated 23.2.1999.

Forest Types of the Reserve are: Dry Teak Bearing Forest, Southern Dry Deciduous Mixed Forests. The main floral species to be found in the Reserve are: *Hardwickia binata*, *Chloroxylon swietenia*, *Pterocarpus marsupium*, *Adina cordifolia*, *Terminalia leucophloea*, *Mitragayna parviflora*, *Acacia catechu*, *Dolichandrone falcata*, *Madhaca longifolia*, *Scherbera swietenoides*, *Butea monosperma*, *Soymida febrifuga*, *Tectona grandis*, *Terminalia tomentosa*, *Dalbergia latifolia*, *Diospyros melanoxylon*, *Ougenia ogeinensis*.

Major fauna of the Reserve includes *Presbytis entelius*, *Canis aureus*, *Canis alpinus*, *Melursus ursinus*, *Herpestes edwardsi*, *Hyaena hyaena*, *Panthera tigris*, *Panthera pardus*, *Felis chaus*, *Sus scrofa*, *Axis axis*, *Cervus unicolor*, *Muntiacus muntjak*, *Bos gaurus*, *Boselaphus tragocamelus*, *Tetraceros quadricornis*, *Ratufa indica* and *Hystrix indica*.

Pench Tiger Reserve (Maharashtra)



Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	Pench NP was notified (intention) in 1975. The NP was declared as 25 th TR in 1999. The final notification of Pench NP has been issued in June 2000.
	Delineation of buffer zone	3	0	At present the TR is coterminous with Pench NP. Some areas in the surrounds of the NP are rich in flora and fauna and contain the spillover population of tigers and prey species. A proposal for inclusion of 125.93 km ² area as the buffer of the TR is under the consideration of the State Government This area is also being considered for being notified as MansinghDeo WLS. Notification of buffer as sanctuary is most welcome step but delay in handing over of control of this area to the Field Director till it is notified as a Sanctuary is not justified. The area of TR being too small (257.26 km ²) it will be in the interest of tiger conservation that this area is also managed by FD to focus management on the spillover population of tigers and their prey species.
	Unified control of buffer	3	0	The designated buffer of 125.93 km ² is still under the control of Territorial Forest Divisions and needs to be handed over to FD at the earliest.
	Sub-Total		9	3
2. Compatible Land Use	In the buffer	3	0	Due to control of designated buffer not being with the TR management, there is no compatible land use in buffer nor there is any compatible land use beyond buffer. The Pench TR of MP lies to the North of this TR and is contiguous in the catchment of same river (Pench). The land use in this area is compatible and most helpful for this TR.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total		6	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	There is one village (Fulzari) inside the core area with 52 families and 240 individuals, mostly Schedule Tribes. This village is proposed to be relocated. A proposal for transfer of 85 ha. forest land has been submitted to Government of India, which needs to be expedited early. A colony of Irrigation Department at Toltadoh over an area of 15 ha. has a sizable population. Though the Hon'ble High Court of Maharashtra has ordered shifting of this colony outside the NP but no action has yet been taken.
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total		8	
4. Use of the Area by other Departments	Yes	0	-	15 ha. of land at Toltadoh is under the illegal occupation of Irrigation Department. The Hydroelectric Project at Toltadoh is joint venture between Maharashtra and MP Govts and about 20 km ² of TR land is under submergence. Most of this area remains under water throughout the year as it is close to the dam head.
	No	3	0	
	Sub-Total	3	0	
5. Management Plan Updated	Yes	3	3	A Management Plan covering only the NP area is in operation from 2001 to 2010.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Very Good.
	Poor	0	-	
	Sub-Total	3	3	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
7. Regeneration Status in the Buffer	Satisfactory	3	0	Due to good quality forest the regeneration status close to the NP is good but elsewhere due to high biotic pressure the regeneration status is not satisfactory.
	Poor	0	-	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	3	Staff position is good. There are only 3 vacancies in Forest Guard cadre and 2 in Forester cadre which is less than 10% of total sanctioned strength. The FD feels that the sanctioned strength needs to be revised to increase some posts needed for anti-poaching squad, anti fishing squad and ecotourism regulations.
	Inadequate	0	-	
	Sub-Total	3	3	
9. Average Age of Staff	Satisfactory	3	3	Around 40 years.
	Unsatisfactory	0	-	
	Sub-Total	3	3	
10. Equipments	Adequate	3	3	Equipment is stated to be satisfactory. The only difficulty in near future would be its maintenance and replacement for which more funds would be required. Some motor boats for checking illegal fishing and patrolling during rainy season are required. Arms and ammunition are also needed.
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	Position is satisfactory. Some vehicles need replacement which is only possible when the old ones are written off. More vehicles are needed for effective patrolling.
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	4	Release by Govt. of India is in time. Some delay is reported at the State Govt. level. Late release of budget at the State Govt. level has adverse affect on management.
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	0	One anti-poaching squad drawn from field staff is stationed at Nagpur under a Forest Ranger. Location of this squad inside TR and their training would be necessary to make it more effective.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	It is done regularly.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	A Wildlife Training Centre has been established at Ranidoh in Pench TR. Checklist of birds of Pench TR has been prepared. ZSI is doing research in this TR on regular basis but data generated by them is not being maintained by the TR. A short term research project on insect fauna of Pench NP has been completed by a NGO under contractual research project of MFP. Census records of mammals are kept and up dated every year. There is ample scope for research and further collection of data in this TR. Rehabilitation of leopards from Junnar area of Western Maharashtra has successfully been done here.
	Not ongoing	0	-	
	Sub-Total	3	3	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	<p>Tourism in Pench TR is mainly based on sight seeing around two large water bodies viz. lower Pench reservoir and Meghdoot reservoir, Ghuggusgarh Fort and Silver fall at Ambakheri. Tourism zone within the core area of NP has also been carved out keeping these sites in view. The park remains open to visitors between 1st October to 30th June. Entry is regulated through manned gates between 6 to 11 am and 3 to 6 pm. All types of vehicles are allowed up to 15 seat capacity. The visitors are required to take services of trained nature guides who are available at the entry gates. Some nature trails have also been made. The Field Director has prepared an ambitious eco-tourism plan for the TR in which adequate reception, stay and canteen facilities, development of Interpretation centres cum auditorium and museum cum library facility at different places have been proposed. Involvement of local communities for promotion and regulation of tourism has also been provided. Before embarking on any ambitious ecotourism plan, it would be necessary to get a study on carrying capacity of the TR done so that there are no adverse impacts on flora and fauna. The ecotourism plan has been made keeping in view the strategic location of the Nagpur city which has been depicted as the 'Gateway to Central India'. Carrying capacity at present has been tentatively fixed at 45 vehicles and 400 persons per day. It is being highlighted that Pench TR of both MP and Maharashtra form the heart of Gondwana lands of central India with glorious past endowed with rich and varied nature-cultural changes and transformations over the ages. It is also believed that Meghdootam and Shakuntala- the epic creations of Kalidas- describe awesome scenic beauty, richness and mystery of these tracts. Ain-i-Akbari is also believed to describe richness and diversity of natural wealth, including diverse wildlife of central tracts, constituting this NP. Foresyth's 'Highlands of Central India' also present a panoramic view of nature's beauty and abundance of floral and faunal composition of these tracts. R.A. Strendale's 'Camp life in Satpura Hills' was an inspiration behind the Rudyard Kipling's Jungle Book. Due to all these uniquenesses, Pench NP of both the States are said to constitute as 'Gateway to the Tiger lands of Central India'.</p> <p>At the moment most of the visitors to the TR are day visitors who come for sightseeing. A good interpretation centre has been developed at Sillari with touch of local culture.</p>
	Not done as per CC	0	-	
	Sub-Total		5	
17. Recycling of gate Receipts done	Yes	5	0	<p>The gate receipts are not being recycled for the development of the TR.</p>
	No	0	-	
	Sub-Total	5	0	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
18. Field Staff Training	Yes	3	0	There is no formal training of wildlife management being imparted to the lower field staff. Only few officers, R.O and above are trained from WII. The field staff was taken to Melghat TR for exposure and study tour. There is lot of scope for training in the TR.
	Not done regularly	0	-	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	Present	0	-	Due to good canopy diversity, weed growth in the forested area is limited and under control. However, the draw down areas of Toltadoh Dam do attract <i>Parthenium</i> , <i>Lantana</i> and <i>Ipomea</i> . Efforts are made to keep these weeds under control.
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Pench NP is part of Satpura-Maikal landscape, a unique biogeographical unit of great ecological significance in central India. It has rich southern tropical dry deciduous forests with dry teak bearing forests and southern dry deciduous mixed forests. The TR has good over wood, under wood, shrubs, grasses, climbers, herbs and epiphytes. There is a mosaic of grassy patches and woodlands with bamboo brakes all favoured by herbivores. The part west of Pench river is more hilly, undulating and steep with less of grassy patches. The drawdown area of Toltadoh dam become rich meadows during summer when it is pinch period for green grass.
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	Area of the TR being limited the field visits by officers are quite frequent. Visit to some remote areas during closed period would help in intensive patrolling by field staff and subsequent control on illegal activities.
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	4	Nothing special except organization of 5-6 health camps for the staff in interior areas and providing reasonable accommodation and drinking water at remote locations for anti poaching camps. More amenities for field staff are needed to keep up their morale.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
23. Poaching	Common	0	-	Incidents of animal poaching in the TR are rare. No such cases have been recorded during past few years. The illegal fishing in Toltadoh reservoir is a problem on which lot of energy of the field staff is consumed. 120 fishing boats, 2 vehicles, 150 bicycles and 1000 fishing nets were seized during surprise checks and routine patrolling.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	No fires were seen by the Committee during their visit in the peak fire season nor many fire affected areas were seen. It was reported that during 2005 fire season so far only 16 ha. area was effected by ground fires.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	No epidemic was noticed during past 5 years.
	Rare	3	3	
	Sub-Total	3	3	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
26. Wildlife Estimation	Done regularly	3	3	<p>Wildlife estimation is being done on the yearly basis. It is reported that 33 species of mammals, 164 species of birds, 50 species of fishes, 10 species of amphibians, 30 species of reptiles of which 6 species are of endangered status, 45 butterflies and 54 moths have been recorded in the TR. 23 tigers, 15 leopards and large number of their prey species are recorded including 310 gaur, 966 Sambar and 2032 Cheetal. The population increase in tigers has been recorded from 6 individuals in 1992 to 23 in 2004. User friendly pug mark method is used for estimation of tigers and leopards where as block count method is used for herbivores. The waterhole census is also done to collaborate figures. The personal knowledge of frontline staff is given due weightage while analyzing the results.</p> <p><i>It was a coincidence that the animal census operations were being done at the same time when the Committee member was visiting the TR. It was heartening to note that the Principal Chief Conservator of Forests of the State was personally supervising the census in the field and PCCF (Wildlife) was with us during two days to supervise the census and discuss various matters with us. A large number of students including those in professional colleges, NGOs and media persons were involved in the field census. A NGO member was doing pug mark and scat analysis on scientific lines on the behest of the FD. We had the opportunity to talk to a range of people at different places in the TR who were taking very keen interest in the operation including staying on Machans for waterhole count all 24 hours. The field staff was well trained and committed and it is hoped that realistic results would come out.</i></p>
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	<p>16 patrolling squads have been located at strategic locations. The presence of young local tribal youth for this purpose is encouraging. These persons are also looking after the waterholes and filling water from the hand pumps in them. These camps are mostly on the boundary of the TR. The same set of people is also being used for preventing and controlling fires.</p>
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	<p>Daily monitoring is done though the wireless networks that works all 24 hours. The wireless is connected to Range HQrs, Circle HQrs. and FD Headquarter at Nagpur. The field staff is also keeping diaries in which day to day happenings are recorded including sighting of animals and tiger pug marks and other signs.</p>
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	3	<p>It is reported that networking study has been proposed for creating informers/vigilance network in the TR.</p>
	No	0	-	
	Sub-Total	3	3	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
30. Daily Patrolling done	Yes	5	5	16 patrolling squads located at strategic points carry out patrolling which covers almost entire area of the Park. The field staff located elsewhere in the TR also carries out the patrolling. No patrolling could be effective unless occasionally officers also take part in them and do surprise checking. Sometimes it is very useful to give patrolling plans to these squads and see if they are being carried out as per the plan.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	No separate cell has been created at FD's office. However, it was reported that court cases are monitored during monthly meetings of Forest Rangers.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	In most of the cases it is being paid promptly.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	There are limited tourist facilities in the TR. 2 suites each of FRH at Sillari and Koltimara and 6 suites in Irrigation Department Guest House at Toltadoh are the only available accommodation. Besides 6 tents each at Sillari and Koltimara are available. Maharashtra Tourism Development Corporation has 12 self contained rooms at Sillari. No private facilities have come up as yet and day visitors come from Nagpur itself. Private vehicles are available and trained nature guides can be taken from the entry points. Some cottages are coming up at Sillari. Interpretation Centre at Sillari is nicely made with local touch. Tourism potential is under utilized except for the sight seeing of Silver Falls, Ghuggusgarh Fort and Irrigation Department Dams.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	Relations with police are said to be good and supportive and there are Divisional and District Tiger Cell Committees, which in their meetings discuss the law and order issues for redressal.
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	Ecodevelopment activities are being taken up under the centrally sponsored scheme under Tiger Project in the surrounding villages. The scheme includes soil and moisture conservation, drilling of bore wells for drinking water, establishing gober gas plants, organizing health camps, capacity building by training of local youth and creation of job opportunities in the shape of Eco-guides and ecotourism etc. For any eco-development work to be sustainable, it is necessary to form Eco Development Committee and encourage them to generate revolving funds. This aspect is yet to be addressed by the TR Management. The Committee member saw the deepening of village tank at Ghat Pendri village under eco-development programme, which was appreciated by villagers.
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	3	Though efforts to win over the local people living in the immediate surrounds of the TR are being made by Ecodevelopment programmes and publicity and extension programme but the reaction of villagers in reciprocating is slow. The intensity of such programmes needs to be enhanced in order to get the desired response.
	Poor	0	-	
	Sub-Total	5	3	

Pench Tiger Reserve (Maharashtra)

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
37. Cattle Immunisation In Villages	Done	5	5	Cattle immunization of about 5000 cattle in 13 villages close to the TR is carried out every year.
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	3	The opportunities being limited there is little such involvement. However, 50 nature guides are trained and working on part time job. A proposal for establishment of Pench Foundation is under consideration which will involve the host community in a larger way.
	No	0	-	
	Sub-Total	5	3	
39. Registration of Arms	Done	4	0	This is yet to take off with the help of Nagpur Forest Division.
	Not done	0	-	
	Sub-Total	4	0	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	This is being done with the help of State Animal Husbandry Department.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	The trust building efforts through ecodevelopment and extension and publicity is going on. The atmosphere on the whole is friendly.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	3	To the village communities through ecodevelopment and to some nature guides through ecotourism. The opportunities are there but tourism is limited.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	0	TR resources would continue to be overused by Fulzari village inside the core so long as it is not relocated. The buffer is not managed by the TR management where overuse continues. Felling by Forest Development Corporation in the designated buffer is one glaring example of overuse.
	Poor	0	-	
	Sub-Total	5	0	
44. Efforts Towards Sustainable Development	Good	4	0	Limited efforts through ecodevelopment programmes. The Divisional and District level Tiger Cell Committees should also take up issues of sustainable development around the TR which at present is ignored. The development programmes should become part of ecodevelopment irrespective of the fact that who is funding the programme. TR management should be made the nodal agency for developmental works in villages situated in immediate vicinity of the TR.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	The buffer not being under the control of TR management, it is not possible to plan the restorative inputs even in immediate surrounds of the TR. Presence of another TR in MP and a good forested buffer in both the States should be utilized to make a landscape plan for the entire area so that some restorative efforts could be planned beyond TR and prescriptions in Working Plans of adjoining Forest Divisions could be made to suite the management of TR.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	125	

Profile

Periyar Tiger Reserve lies in the Western Ghats in the Idukki District of Kerala. The terrain of the Reserve is undulating and the drainage is dendritic. North-eastern boundary of the Reserve is a ridge, which also forms boundary between Kerala and Tamil Nadu states for 90 km. Mangaladevi - Kannagi Temple lies on the Northern boundary of the Reserve. The Sabarimala Ayyappan Temple in Periyar Tiger Reserve attracts 5 million pilgrims every year during a sixty day period.

A dam was constructed across the Periyar river in 1895 to provide irrigation facilities in Tamil Nadu. The forest around the reservoir, along with the Periyar lake, was declared as Reserve Forest known as Periyar Lake Reserve in 1899. This area was declared as Nellikkampetty Sanctuary (600 km²) in 1934. The Sanctuary was extended to 777 km² in 1950 and renamed as Periyar Wildlife Sanctuary. It was declared as a Tiger Reserve in 1978. The Reserve is contiguous with Ranni extending up to Achancovil. The core area of the Reserve 350 km² was declared a National Park in 1982.

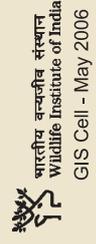
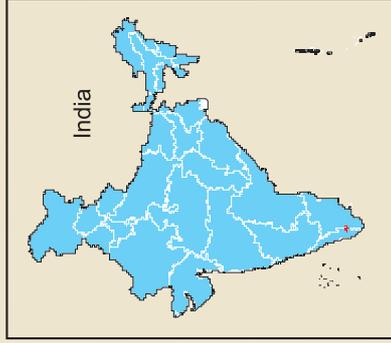
The Periyar lake with an area of 26 km² is the nucleus of the Tiger Reserve. Due to the diverticular shape, it caters to a much more extensive area of forest than would be possible if it was a compact lake.

The forest types found in the Reserve are: West Coast Tropical Evergreen Forests, West Coast Semi Evergreen Forests, Moist Deciduous Southern Montane Wet Grassland and Eucalyptus Plantations. So far 1963 flowering plant species belonging to 823 genera and 159 families have been documented by Dr. N. Sasidharan, Kerala Forest Research Institute and Kerala Forest Department (1998).

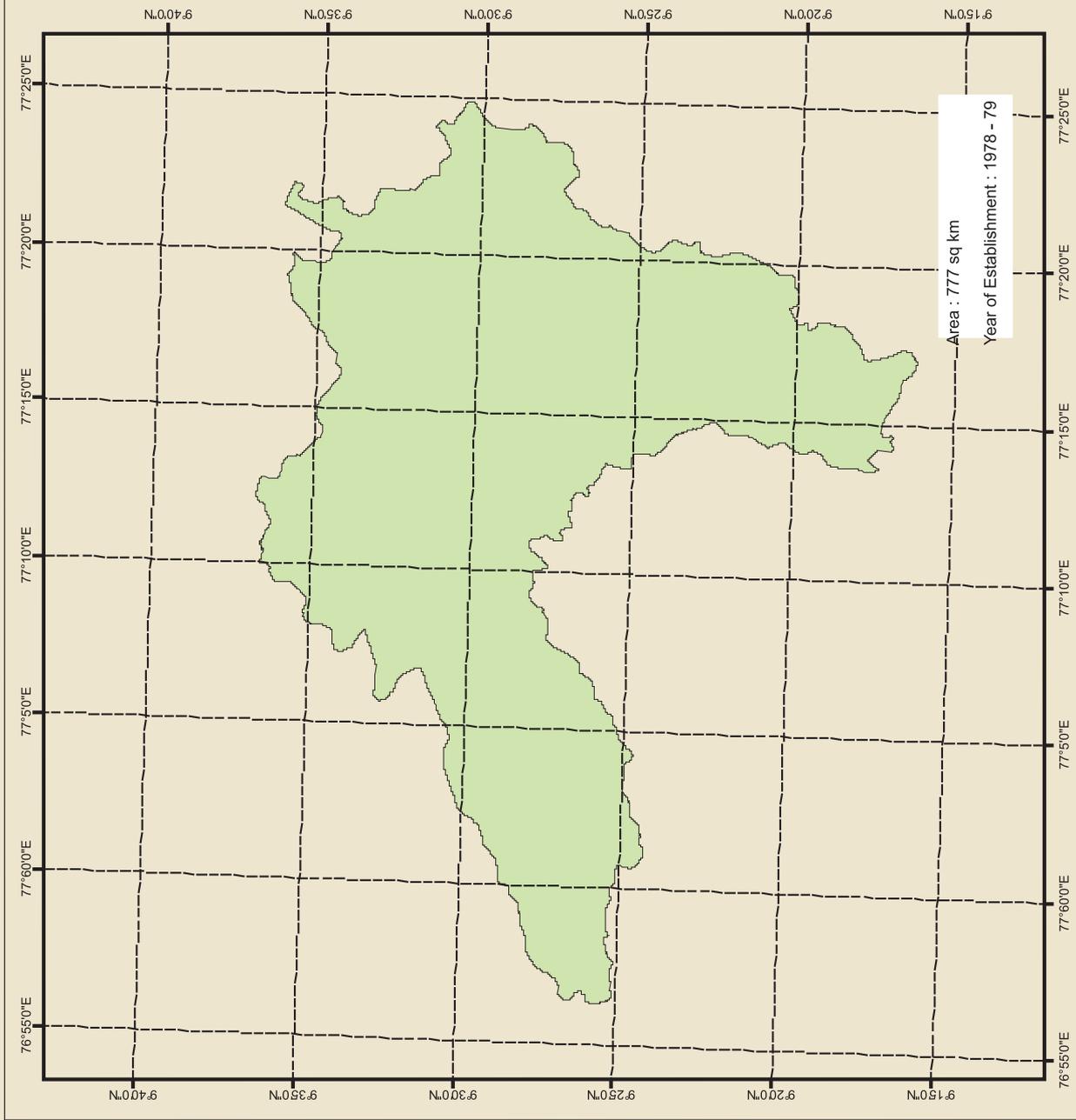
In Periyar Tiger Reserve, 49 species of mammals, 265 species of birds, 36 species of reptiles, 12 species of amphibians, 35 species of fishes and 160 species of butterflies have been identified so far. The main species are: Elephant, Gaur, Sambar, Tiger, Leopard, Wild Dog, Barking Deer, Lion Tailed Macaque, Nilgiri Langur and Nilgiri Tahr.

Periyar Tiger Reserve

Kerala



Boundary Source : FSI, Dehradun, 2006



Periyar Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	1	For ensuring ecological security, core buffer zonation need be developed, as provided in the Management Plan. Additional two satellite cores be formed and along with existing core, accorded status of NP.
	Delineation of buffer zone	3	2	
	Unified control of buffer	3	2	
	Sub-Total	9	5	
2. Compatible Land Use	In the buffer	3	2	Dowton Pachakanam will provide effective corridor with Ranni forest.
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	2	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	4	
3. Human Pressure	Habitation present within the core	0	-	Settlements of tribals, S.C.s, areas allotted and encroachments abutting there needs to be demarcated. Management is alive to problems related to Sabarimalai pilgrimage. [para 9.4 and 9.5 of the Management Plan]. A policy decision at Govt. of Kerala level is called for, routes to temple minimized, traffic regulated.
	No habitation within the core	4	3	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	3	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	;	
Sub-Total	8	6		
4. Use of the Area by other Departments	Yes	0	-	Leases to P.W.D-reservoir/dam site, need re-consideration. Electricity supply to Holiday Homes to be such that threats of electrocution are obviated.
	No	3	2	
	Sub-Total	3	2	
5. Management Plan Updated	Yes	3	3	Long history of Management Plans for the area. Plan drafted by Mr. Kaler has been duly approved by competent authority
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
8. Staff in Position	Satisfactory	3	2	
	Inadequate	0	-	
	Sub-Total	3	2	

Periyar Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
9. Average Age of Staff	Satisfactory	3	2	
	Unsatisfactory	0	-	
	Sub-Total	3	2	
10. Equipments	Adequate	3	2	
	Inadequate	0	-	
	Sub-Total	3	2	
11. Vehicles	Adequate	3	2	
	Inadequate	0	-	
	Sub-Total	3	2	
12. Timely Release of CA	Yes	4	2	Scope for improvement
	Delayed	0	-	
	Sub-Total	4	2	
13. Strike Force Available	Yes	4	2	As proposed, additional camps be established [Bandipara, Mavady Eravangalar.etc] along Tamil Nadu border.
	No	0	-	
	Sub-Total	4	2	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	2	
	Not ongoing	0	-	
	Sub-Total	3	2	
16. Tourism Regulation	Done as per CC	5	4	Sabarimala pilgrimage need be handled with greater concern for preserving eco -security of Poonkvanam. As recommended in the Management Plan, camping be encouraged outside the PA rather than expanding facilities on the plateau. Greater involvement of Eco-Development committees be fostered.
	Not done as per CC	0	-	
	Sub-Total	5	4	
17. Recycling of gate Receipts done	Yes	5	4	
	No	0	-	
	Sub-Total	5	4	
18. Field Staff Training	Yes	3	2	
	Not done regularly	0	-	
	Sub-Total	3	2	
19. Weed Growth in the Habitat	Present	0	-	Weeds present and thus habitat amelioration is called for in some places (tourism zone in particular).
	Not seen	3	1	
	Sub-Total	3	1	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	In past Eucalyptus plantations have been raised in the grass lands, thus as discussed in the Management Plan, habitat improvements be carried out and material thus available utilized to meet needs of pilgrims. State Government to approach the Supreme Court to get clearance, if need be.
	Managed	4	2	
	Sub-Total	4	2	
21. Field Visits by Officers	Adequate	4	3	
	Inadequate	0	-	
	Sub-Total	4	3	
22. Staff Welfare Measures	Satisfactory	4	2	Staff of G.L.A.D, as also other territorial division in the zone of influence should get incentives.
	Unsatisfactory	0	-	
	Sub-Total	4	2	

Periyar Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	
	Negligible	4	3	
	Sub-Total	4	3	
24. Fires	Common	0	-	Grasslands are vulnerable and thus more efforts are called for, particularly so, in the Sabarimala zone of influence.
	Less than 1% of the TR area	5	3	
	Sub-Total	5	3	
25. Epidemics	Common	0		
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	1	More rigorous and scientific population estimation are essential.
	Irregular	1	-	
	Sub-Total	3	1	
27. Patrolling Camps Present	Yes	5	4	
	No	0	-	
	Sub-Total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	2	
	No	0	-	
	Sub-Total	4	2	
29. Networking Strategy Present	Yes	3	2	
	No	0	-	
	Sub-Total	3	2	
30. Daily Patrolling done	Yes	5	2	
	No	0	-	
	Sub-Total	5	2	
31. Court Cases Monitored	Yes	4	2	
	No	0	-	
	Sub-Total	4	2	
32. Ex-Gratia, Compensation	Paid promptly	5	4	
	Not paid promptly	0	-	
	Sub-Total	5	4	
33. Tourist Facilities	Adequate	2	1	Opportunity to out reach and sensitize society through large number of visitor to Sabarimala be utilized optimally. Devotion towards Lord Appayya could be channelized into strong conservation movement.
	Poor	0	-	
	Sub-Total	2	1	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	5	Excellent work done so far ,must be sustained
	Lacking	0	-	
	Sub-Total	6	5	
36. Fulfilment of Reciprocal Commitments	Good	5	4	
	Poor	0	-	
	Sub-Total	5	4	
37. Cattle Immunisation In Villages	Done	5	2	Present arrangement of temporary veterinarian et need be improved
	Not done	0	-	
	Sub-Total	5	2	
38. Host Community Involvement In Ecotourism	Yes	5	4	
	No	0	-	
	Sub-Total	5	4	

Periyar Tiger Reserve

Evaluators: P K Mishra and M G Gogate

Issue	Criteria	Maximum Score	Current Score	Comments
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	2	
	No	0	-	
	Sub-Total	4	2	
41. Trust Between Local People & TR Management	Good	5	4	
	Poor	0	-	
	Sub-Total	5	4	
42. Economic Benefits to Stake Holders	Good	3	2	
	Poor	0	-	
	Sub-Total	3	2	
43. Control over use / Access of TR Resources	Good	5	4	
	Poor	0	-	
	Sub-Total	5	4	
44. Efforts Towards Sustainable Development	Good	4	3	
	Lacking	0	-	
	Sub-Total	4	3	
45. Restorative Inputs Beyond TR	Being done	5	3	Inter state co-ordination required to address issues incidental to fringe areas in Tamil Nadu.
	Lacking	0	-	
	Sub-Total	5	3	
Grand Total		185	127*	

**corrected total*

Profile

Ranthambhore Tiger Reserve, comprises distinct areas with varied conservation history and virtually separated geographically with mere narrow corridors linking them to the core, Ranthambhore National Park. These are mainly, the Ranthambhore National Park, Keladevi Sanctuary and Sawai Mansingh Sanctuary.

Gorges due to high moisture retention and cooler temperature are nature's treasure houses. They are locally known as "Khoh" and are covered with dense forest. These Khohs are the most suitable habitat for wildlife. The main Khohs in Keladevi are Nibhera, Kudka, Chiarmul, Ghanteshwar, Jail and Chidi. The forest cover is fairly sparse and spread out in the other parts.

Ranthambhore Tiger Reserve was among the first nine Tiger Reserve declared in 1973 at the launch of Project Tiger in India. It comprised the former Sawai Madhopur Wildlife Sanctuary of 392.5 km².

Ranthambhore National Park with an area of 274.5 km² was constituted within the Tiger Reserve in 1980. In the then Tiger Reserve, the National Park area was being managed as the core and the rest as buffer until in 1992, Keladevi Sanctuary having area of 674 km² of Protected Forest (constituted in 1983), Sawai Mansingh Sanctuary with an area of 127 km² (constituted in 1984). Kualji Closed Area of 7.58 km² and some other forest areas were added to the Reserve. Ranthambhore fort and temples of medieval period are the notable archeological features of the Reserve.

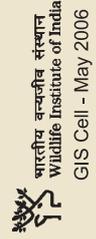
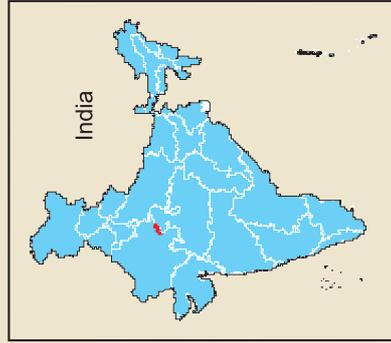
Northern Tropical Dry Deciduous Forests containing Dhok mixed with Khair, Raunj, Goya, Chhela, Pipal, Vad, Amaltas, Gurjan, Siris Saintha, Gular, Tendu are found in the Reserve.

Major fauna of the Reserve include: Tiger, Leopard, Caracal, Ratel, Jungle Cat, Chital, Sambar, Blue Bull, Chinkara, Sloth Bear, Wild Boar, Jackal, Hyena, Common Langur, Common fox.

Ranthambhore Tiger Reserve

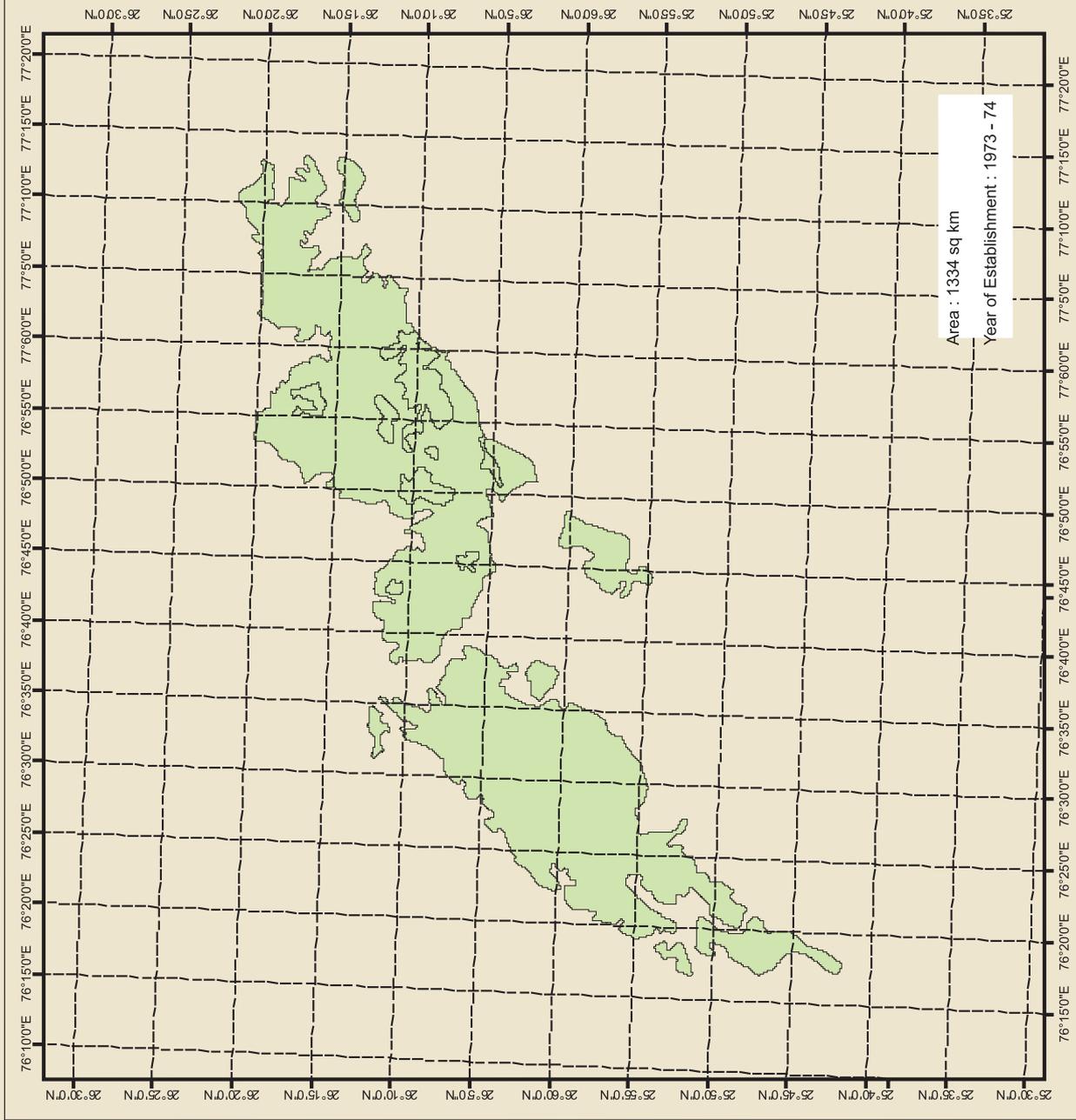
Ranthambhore Tiger Reserve

Rajasthan



GIS Cell - May 2006

Boundary Source : FSI, Dehradun, 2006



Ranthambhore

Ranthambhore Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments	
1. Legal Status	Completion of legal procedures	3	3		
	Delineation of buffer zone	3	3		
	Unified control of buffer	3	3		
	Sub-Total	9	9		
2. Compatible Land Use	In the buffer	3	1	The presence of villages, agricultural areas and livestock grazing pressures do not allow compatible use.	
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	As above.	
	Beyond buffer (5km radius)	3	-	There are no opportunities. The area is human dominated.	
	Beyond buffer the land use is detrimental	0	0		
	Sub-Total	6	1		
3. Human Pressure	Habitation present within the core	0	-		
	No habitation within the core	4	2		
	Livestock Grazing pressure present within the core	0	-		
	No livestock grazing pressure within the core or adjoining areas	4	2		There is some livestock grazing pressure.
	Cultivation present in the core	0	-		
	Encroachment present	0	-		
	Collection of NTFP in the core	0	-		
	Quarrying present in the core	0	-		
	Sub-Total	8	4		
4. Use of the Area by other Departments	Yes	0	-		
	No	3	3		
	Sub-Total	3	3		
5. Management Plan Updated	Yes	3	3	Applicable for the period 2002 to 2012.	
	No	0	-		
	Sub-Total	3	3		
6. Regeneration Status in the Core	Satisfactory	3	3		
	Poor	0	-		
	Sub-Total	3	3		
7. Regeneration Status in the Buffer	Satisfactory	3	1	There are some patches where regeneration is much better.	
	Poor	0	-		
	Sub-Total	3	1		
8. Staff in Position	Satisfactory	3	-	Recruitment has been banned for the past several years resulting in vacancies. The situation in Keladevi is especially precarious. In a highly disturbed area of 754 km ² , there are only 31 Guards. Of these, only 13 are effectively available for the field as others are manning wireless and duties at Range HQs. The requirement is at least four times of that in position.	
	Inadequate	0	0		
	Sub-Total	3	0		
9. Average Age of Staff	Satisfactory	3	1	Approximately 70 percent of the staff falls in the category of age ranging between 45 to 49 years.	
	Unsatisfactory	0	-		
	Sub-Total	3	1		

Ranthambhore Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
10. Equipments	Adequate	3	1	A complete review is necessary. There is shortage of hand held wireless sets and weapons. Also binoculars and camera.
	Inadequate	0	-	
	Sub-Total	3	1	
11. Vehicles	Adequate	3	1	In the Keladevi WLS, each Range needs a 4WD vehicle likewise one such vehicle for Sawai Mansingh WLS.
	Inadequate	0	-	
	Sub-Total	3	1	
12. Timely Release of CA	Yes	4	4	
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	There is shortage of funds to meet the cost of TA.
	Unsatisfactory	0	-	
	Sub-Total	4	3	
15. Field Data Collection & Research	Ongoing	3	2	There is no Research Officer. Tigers are being monitored on daily basis in the Ranthambhore NP. The Deputy director has maintained excellent photo identifications of individual tigers. Sightings by staff and visitors are recorded separately and reviewed. Pugmarks recorded are likewise documented. All these have site references. However, the pugmark traces are not regularly analyzed. This is essential. Monitoring other species is not institutionalized. At the time of the visit, sightings of male tigers was reported as reduced. Pug marks of two males have not been seen for the last some days.
	Not ongoing	0	-	
	Sub-Total	3	2	
16. Tourism Regulation	Done as per CC	5	0	This is the biggest worry and threat to the survival of Ranthambhore NP. No visitors are interested in Keladevi and Sawai Mansingh WLS. Further, there is large volume religious tourism at the temple in Ranthambhore fort.
	Not done as per CC	0	-	
	Sub-Total	5	0	
17. Recycling of gate Receipts done	Yes	5	0	This needs financial reforms. During the year 2004-2005 the number of visitors to the park were 1,30,196 and the gate receipts amounted to Rs. 215,53644.
	No	0	-	
	Sub-Total	5	0	
18. Field Staff Training	Yes	3	1	Apart from training in population estimation procedures when operations are due there is very little else. This is a neglected area and to a much greater degree in the two sanctuaries.
	Not done regularly	0	-	
	Sub-Total	3	1	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	1	
	Sub-Total	3	1	

Ranthambhore Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
20. Gregarious Woodland Advancement in Meadows	Present	1	-	It is not a serious issue.
	Managed	4	3	
	Sub-Total	4	3	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	1	There is one staff welfare society for the NP. The conditions in the sanctuaries in particular are very harsh and welfare measures are very poor.
	Unsatisfactory	0	-	
	Sub-Total	4	1	
23. Poaching	Common	0	-	There is some poaching in the sanctuary related areas although no poaching of tigers recently. There is next to no evidence of the presence of tigers in the two sanctuaries but it is not necessarily poaching related.
	Negligible	4	2	
	Sub-Total	4	2	
24. Fires	Common	0	-	
	Less than 1% of the TR area	5	3	
	Sub-Total	5	3	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	2	Kindly peruse the comments at SN 15.
	Irregular	1	-	
	Sub-Total	3	2	
27. Patrolling Camps Present	Yes	5	2	Established chaukis have taken on this role.
	No	0	-	
	Sub-Total	5	2	
28. Daily Monitoring done through Camps and Recorded	Yes	4	2	Please see remarks at SN 15 and 27. The poorly equipped sanctuaries are trying to make the best use of the resources at their command.
	No	0	-	
	Sub-Total	4	2	
29. Networking Strategy Present	Yes	3	2	With government agencies. The Keladevi Temple Trust is helpful. Several NGOs nurse considerable hostility towards the reserve but all causes do not necessarily originate with the reserve management. This issue is rather complex and riddled with negative stakes affecting the interest of the reserve.
	No	0	-	
	Sub-Total	3	2	
30. Daily Patrolling done	Yes	5	2	The NP is well served but there is a struggle in the sanctuaries though the best efforts are being made of the available sources. Shortage of staff, lack of welfare measures and inadequate mobility remain the issues that need to be resolved.
	No	0	-	
	Sub-Total	5	2	
31. Court Cases Monitored	Yes	4	2	
	No	0	-	
	Sub-Total	4	2	

Ranthambhore Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
32. Ex-Gratia, Compensation	Paid promptly	5	3	The occasions are not frequent. Delays sometime occur due to late reports and shaky evidence. The amount for loss of human life is only Rs. 15000/- through the cases are rare.
	Not paid promptly	0	-	
	Sub-Total	5	3	
33. Tourist Facilities	Adequate	2	2	Nature based visitors have facilities outside the reserve ranging from modest to highly sophisticated and extremely expensive resorts offering package deals. None from this category are interested in the sanctuaries. In the minds of all and sundry, the reserve is the NP only. Religious tourism is adequately supported. The pace at which the hotel and tourism infrastructure is developing in Sawai Madhopur is a matter of grave concern for the integrity of the NP and interest in tiger.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	-	There never has been a systematic approach at ecodevelopment. Some start was made under the India Ecodevelopment Project of the Government of India. On the periphery of the Ranthambhore NP, within the Keladevi and Sawai Mansingh WLS out of 90 villages 11 villages were addressed. EDCs were formed. Initially local people responded and initiatives like the 'Kulhadi bandh' indicated excellent promise. At places people set apart pasturelands for protection through social fencing. Some anicuts and ponds were created. The system collapsed at the end of the project as the department could not sustain the program, people lost their enthusiasm and the activities petered out not so much due to lack of funds but for the want of will.
	Lacking	0	0	
	Sub-Total	6	0	
36. Fulfilment of Reciprocal Commitments	Good	5	0	
	Poor	0	-	
	Sub-Total	5	0	
37. Cattle Immunisation In Villages	Done	5	2	This is partially successful
	Not done	0	-	
	Sub-Total	5	2	
38. Host Community Involvement In Ecotourism	Yes	5	-	Nature based tourism is almost completely dominated by starred resorts. It is confined to the NP. Undoubtedly some of the local residents have found employment and small business, however the forest dwelling rural community has not benefited. Involvement in ecotourism goes much beyond small time employment, As the matters stand the host community has very little opportunity of involvement.
	No	0	0	
	Sub-Total	5	0	

Ranthambhore Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	3	Yes, but at times when the interregnum between the event and detection is long the postmortem has reduced value in terms of detection of cause. Local veterinarians are not fully experienced with animals unfamiliar to them.
	No	0	-	
	Sub-Total	4	3	
41. Trust Between Local People & TR Management	Good	5	-	
	Poor	0	0	
	Sub-Total	5	0	
42. Economic Benefits To Stake Holders	Good	3	1	Those who already are rich are receiving maximum benefits. Further, please see the comments at SN 38.
	Poor	0	-	
	Sub-Total	3	1	
43. Control Over Use / Access Of TR Resources	Good	5	2	While the controls are strong over the NP area, they are inadequate relating to the sanctuaries.
	Poor	0	0	
	Sub-Total	5	2	
44. Efforts Towards Sustainable Development	Good	4	1	
	Lacking	0	-	
	Sub-Total	4	1	
45. Restorative Inputs Beyond TR	Being done	5	-	There are no opportunities as the immediate surrounds are under human dominated landuse.
	Lacking	0	0	
	Sub-Total	5	0	
Grand-Total		185	89	

Profile

Sariska Tiger Reserve was created in 1978. The present area of the Reserve is 866 km². In the pre-independence period the forests within the Reserve were a part of the erstwhile Alwar State and maintained as hunting preserve for the royalty. The reserve was upgraded to a Sanctuary in 1958. Later on, in view of the preservation of wild animals in a better way few forest areas contiguous to the Sanctuary were also incorporated. The primary notification to declare part of the core as National Park was issued in 1982. Final notification is pending in view of relocation of few villages from the Park.

Kankwari Fort is situated in the middle of the Reserve. Archaeological treasures-Neelkanth and Garh Rajor of 9th and 10th century are ruins of Shiva and Jain temples, contemporary of the world famous Khajuraho. Tropical Dry Deciduous and Tropical Thorn Forest are found in this Reserve. Dhok (*Anogeissus pendula*) is the dominant tree species, covering over 90 percent area of the forest. *Boswellia serreta* and *Lannea coromandelica* grow at rocky outcrops. Kattha (*Acacia Catechu*) and Bamboo are common in the valleys. Some valleys support Palas (*Butea monosperma*) and Ber (*Zizyphus spp.*) Besides these some noteworthy tree species are Arjun (*Terminalia arjuna*), Gugal (*Commiphora wightii*), Kadaya (*Sterculia urens*), Amla (*Emblica officinalis*), Bahera (*Terminalia bellerica*).

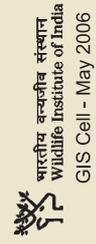
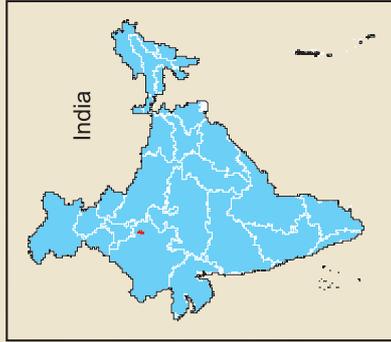
The major faunal species of the Reserve are: Leopard, Caracal, Rusty Spotted Cat, Jungle Cat, Four-horned Antelope, Sambar, Spotted Deer, Wild Pig, Blue Bull, Jackal, Hyena etc.

Sariska Tiger Reserve

Sariska

Sariska Tiger Reserve

Rajasthan



Boundary Source : FSI, Dehradun, 2006



Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	3	
	Delineation of buffer zone	3	3	
	Unified control of buffer	3	3	
	Sub-Total	9	9	
2. Compatible Land Use	In the buffer	3	0	There are 195 villages and an estimated population of 2.70 lakh cattle It is a sea of humanity. There are no opportunities.
	The land use is totally incompatible in the buffer(includes forestry operations also)	0	-	
	Beyond buffer (5km radius)	3	0	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total	6	0	
3. Human Pressure	Habitation present within the core	0	-	There are 28 villages in the reserve. Proposal to relocate 2 villages from core 1 is prepared. Land has been identified. Awaiting clearance under the FC Act.
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	0	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	There is an excellent Management Plan for the period 2004 to 2014 and ought to be used for proposing APOs
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	2	In patches there is some good regeneration. There is evidence of heavy lopping. If this is not controlled the habitat will continue to degrade.
	Poor	0	-	
	Sub-Total	3	2	
7. Regeneration Status in the Buffer	Satisfactory	3	-	
	Poor	0	0	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	-	Even the sanctioned strength of frontline staff is inadequate. The norms need to go beyond simple archaic standards and need to be based realistically on functions, terrain difficulties and the nature and intensity of pressures. Role assessment is essential.
	Inadequate	0	0	
	Sub-Total	3	0	
9. Average Age of Staff	Satisfactory	3	1	The average is between 45 to 50 years.
	Unsatisfactory	0	-	
	Sub-Total	3	1	

Sariska Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
10. Equipments	Adequate	3	2	To mention examples, the Range HQs do not have telephones. FD's office does not have email and fax facilities.
	Inadequate	0	-	
	Sub-Total	3	2	
11. Vehicles	Adequate	3	1	The vehicles are aging. These need to operate on very bad roads. Maintenance cost is high. The reserve needs 2 4WD vehicles and one canter. Mobility is crucial.
	Inadequate	0	-	
	Sub-Total	3	1	
12. Timely Release of CA	Yes	4	4	Although there is some delay, the managers do not see it as a problem
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	2	These are Home Guards. Funding is inadequate to sustain force. There are 60 men from the State Armed Constabulary but managers consider this force as inadequate.
	No	0	-	
	Sub-Total	4	2	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Not expressed as a problem.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	1	The position of Research Officer is not effective. Data collection is not regular and supervision is inadequate. The data for the last three years has been collated but not analyzed. It is difficult to predict what the data might reveal about the decline of tigers in the absence of the analysis. However if the data being collected is neglected it does not bode well.
	Not ongoing	0	-	
	Sub-Total	3	1	
16. Tourism Regulation	Done as per CC	5	2	This mainly concerns religious tourism to the temple at Pandupole. There is a stream of visitors and the pressure is very heavy during the months of June to August and there is a <i>mela</i> during September. A considerable number of frontline staff is deployed for control when they should be deployed for protection from heavy cattle grazing on the plateau areas. Poachers can easily mingle with the herdsmen who already are hostile towards reserve. This situation would always attract high risk to wildlife and the habitat.
	Not done as per CC	0	-	
	Sub-Total	5	2	
17. Recycling of gate Receipts done	Yes	5	-	
	No	0	0	
	Sub-Total	5	0	
18. Field Staff Training	Yes	3	-	
	Not done regularly	0	0	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	Present	0	-	In patches. Approximately some 40 km ² area is affected.
	Not seen	3	1	
	Sub-Total	3	1	

Issue	Criteria	Maximum Score	Current Score	Comments
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Rather than attributing this to management intervention the grassy patches are maintained through grazing and to some extent by wild fires.
	Managed	4	2	
	Sub-Total	4	2	
21. Field Visits by Officers	Adequate	4	1	Considering the unprecedented disaster, the visits whatever they have been have clearly not been effective.
	Inadequate	0	-	
	Sub-Total	4	1	
22. Staff Welfare Measures	Satisfactory	4	-	
	Unsatisfactory	0	0	
	Sub-Total	4	0	
23. Poaching	Common	0	0	Severe with unprecedented consequences. There was no evidence of presence of even a single tiger in the reserve. The poaching pressure on other species is unclear but is likely to be considerable as well.
	Negligible	4	-	
	Sub-Total	4	0	
24. Fires	Common	0	0	
	Less than 1% of the TR area	5	-	
	Sub-Total	5	0	
25. Epidemics	Common	0		
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	0	Stated to be an annual event. If so it is difficult to believe that the decline of tigers did not feature as a grave concern. The more or less stable numbers of tigers are already on record while the origin of rapid decline can be traced to the year 1998. This casts a shadow of serious doubt on the recorded estimates of other species as well.
	Irregular	1	-	
	Sub-Total	3	0	
27. Patrolling Camps Present	Yes	5	-	
	No	0	0	
	Sub-Total	5	0	
28. Daily Monitoring done through Camps and Recorded	Yes	4	1	Reportedly done through staff chaukis. Reports both on wireless and in writing are made but results do not support utility.
	No	0	-	
	Sub-Total	4	1	
29. Networking Strategy Present	Yes	3	1	Reportedly efforts are made but networking is poor.
	No	0	-	
	Sub-Total	3	1	
30. Daily Patrolling done	Yes	5	1	Reportedly yes, during the visit staff was met in the field at difficult locations. If patrolling has been conducted similarly in past it has resulted in failure.
	No	0	-	
	Sub-Total	5	1	
31. Court Cases Monitored	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	-	The provision is not used.
	Not paid promptly	0	0	
	Sub-Total	5	0	

Sariska Tiger Reserve

Evaluator: V B Sawarkar

Issue	Criteria	Maximum Score	Current Score	Comments
33. Tourist Facilities	Adequate	2	1	This relates to religious tourism. Kindly see comments against SN 16
	Poor	0	-	
	Sub-Total	2	1	
34. Relationship with Police	Good	1	-	
	Poor	0	0	
	Sub-Total	1	0	
35. Ecodevelopment Activities	Ongoing	6	-	
	Lacking	0	0	
	Sub-Total	6	0	
36. Fulfilment of Reciprocal Commitments	Good	5	-	
	Poor	0	0	
	Sub-Total	5	0	
37. Cattle Immunisation In Villages	Done	5	3	Cattle are addressed but not goats.
	Not done	0	-	
	Sub-Total	5	3	
38. Host Community Involvement In Ecotourism	Yes	5	-	
	No	0	0	
	Sub-Total	5	0	
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	-	
	Poor	0	0	
	Sub-Total	5	0	
42. Economic Benefits To Stake Holders	Good	3	-	
	Poor	0	0	
	Sub-Total	3	0	
43. Control Over Use / Access Of TR Resources	Good	5	1	
	Poor	0	-	
	Sub-Total	5	1	
44. Efforts Towards Sustainable Development	Good	4	-	
	Lacking	0	0	
	Sub-Total	4		
45. Restorative Inputs Beyond TR	Being done	5	-	There are no opportunities. The managers are hard pressed to manage the habitats and animals even inside the Reserve. Even if hypothetically opportunities were to exist, under the support available to the managers currently it would still not be possible for them to address strategies beyond the TR.
	Lacking	0	0	
	Sub-Total	5	0	
Grand Total		185	61	

Profile

Similipal is situated in the biotic province, Chhotanagpur Plateau in the heart of the erstwhile Mayurbhanj State and derives its name from the magnificent and enchanting Simul (Silk Cotton Tree). The hill range has been aptly described as “Salmali Saila” (the hill of Simul) in the poem ‘Usha’ written by the famous Oriya poet Radhanath Ray.

The hills with numerous peaks and valleys in between, rise steeply from the plains of Udala in the south and Baripada in the south-east and extend up to Jashipur in the north-west, Bisnoi in the north and Thakurmunda to the west. There are several streams flowing in all directions and ultimately draining into the Bay of Bengal. Major perennial streams are the Budhabalanga, Palpala, East Deo, Nekedanacha (Salandi), West Deo, Khairi, Bhandan and Khadkei.

The riparian zones, perennial streams and meadows form key areas. The Bhadrageoda valley, Tarinvilla area, Patbil and numerous small swamps and marshes form the riparian zone. Prominent meadows are Devasthali, Bachhurichara, Sapaghar, Matughar, Tarinivilla, Tiktali, Chahala and upper Barakamuda.

Similipal Tiger Reserve was created in 1973. The Government of Orissa declared Similipal Sanctuary with an area of about 2200 km² in 1979. Government of Orissa proposed 303 km² area of the Similipal Sanctuary as National Park in 1980. The area of the proposed National Park was increased to 845 km² in 1986. Government of India in 1994 declared the creation of Similipal Biosphere Reserve.

There are 1076 species of plants of which 92 are orchids having similarities to the Northern and Southern Indian orchids. Seven percent of the Indian species of flowering plants and eight percent of orchids of India are found in Similipal. Northern Tropical Semi Evergreen Forests extend over an area of about 80 km². Northern Tropical Moist Deciduous Forests extend over an area of about 1540 km². It is found all over Similipal except the moist valleys on the Southern and Eastern aspects of the hills.

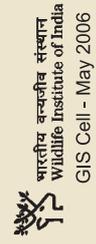
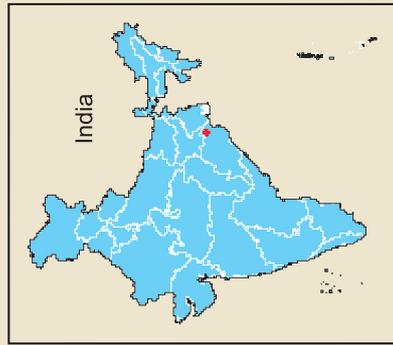
Forty-two species of mammals, 242 species of birds and 30 species of reptiles have been recorded so far in the Reserve. Tiger, Leopard, Elephant, Gaur, and Four horned antelope etc. are found in different levels of abundance. Ratel, Pangolin, Giant squirrel, Sambar and Cheetal also occur in the Reserve.

Simlipal Tiger Reserve

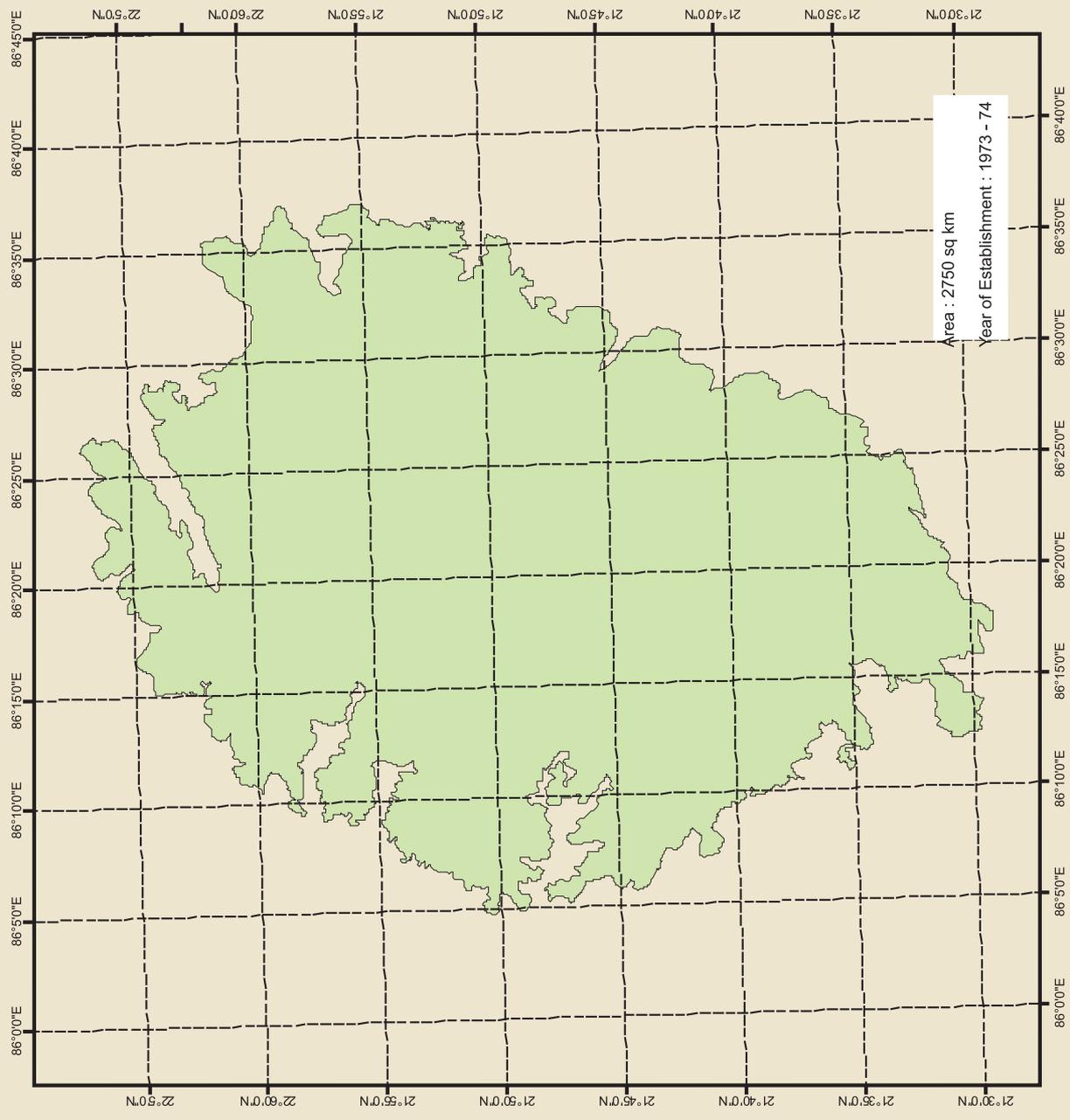
Simlipal

Simlipal Tiger Reserve

Orissa



Boundary Source : FSI, Dehradun, 2006



Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	0	2151.73 km ² of Reserved Forest and 598.27 km ² of other forest area was declared as Simlipal TR in 1973. Later in 1979, 2200 km ² area including the whole of the above 2151.73 km ² RF was declared as Simlipal Wildlife Sanctuary. A notification was issued subsequently in 1980 declaring the intention of the Government to notify 845.70 km ² of the core area of the sanctuary as Simlipal NP, although the records show that this area should have been 888.25 km ² . The discrepancy is yet to be corrected in the Initial Notification at the State Government level. Final notification is still pending due to the non-completion of relocation of certain villages proposed for relocation from the NP. Though, relocation is being attempted since 1994, but as per TR records 108 families from four villages inside the proposed NP still remain to be shifted.
	Delineation of buffer zone	3	3	The buffer zone has been well delineated and there are three buffer divisions under the control of the Field Director.
	Unified control of buffer	3	3	There is unified and effective control of core and buffer with the Field Director.
	Sub-Total		9	6
2. Compatible Land Use	In the buffer	3	3	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	The land use in the buffer zone is compatible with the aims and objectives of the Tiger Project and there are no commercial forestry operations being carried out in the buffer area. The rights of the villagers (70% of whom are tribals) in respect of grazing, thatching grass, agricultural implements, construction of dwelling huts and NTFP collection etc. are mostly allowed from the buffer area except for four inhabited villages situated in the core, whose rights are met from the core area itself. Tribal population whose usage of forest produces is minimal and no visible adverse affect has been noticed as a result of their presence and usage of forest produce inhabits these villages. Apart from 65 villages in the core and buffer area in TR there are nearly 1200 villages within 10 km from the boundary of the TR. Socio-economic survey of 52 villages indicates pressure for fodder, fuel and NTFP on the TR from these villages, Ecodevelopment activities have been taken up under funding from Global Environmental Facility & World Bank, and schemes like Centrally Sponsored Scheme of Simlipal TR and World Food Programme aiming to reduce the negative impact of local people on biodiversity, carrying out improved PA management programmes and to execute ecological and human research and education. Ecodevelopment programmes in many of the villages are still in progress under Biosphere Reserve Programme of Simlipal Biosphere Reserve.
	Beyond buffer (5 km. radius)	3	3	
	Beyond buffer the landuse is detrimental	0	-	
	Sub-Total		6	

Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments																				
3. Human Pressure	Habitation present within the core	0	0	As stated above four villages with an estimated population of about of 377 still remain to be shifted though efforts are continuing since 1994.																				
	No habitation within the core	4	-																					
	Livestock Grazing pressure present within the core	0	0	The livestock grazing pressure to a very limited extent is present in the core.																				
	No livestock grazing pressure within the core or adjoining areas	4	-																					
	Cultivation present in the core	0	0	Cultivation by families yet to be shifted is present in the core.																				
	Encroachment present	0	-	There is no encroachment in the core area.																				
	Collection of NTFP in the core	0	-	Collection of NTFP is confined to tribal population living in the core area for their bonafide use.																				
	Quarrying present in the core	0	-	There is no quarrying in the core area.																				
	Sub-Total	8	0																					
4. Use of the Area by other Departments	Yes	0	-	The TR management has reported no such use.																				
	No	3	3																					
	Sub-Total	3	3																					
5. Management Plan Updated	Yes	3	3	The Management Plan is updated.																				
	No	0	-																					
	Sub-Total	3	3																					
6. Regeneration Status in the Core	Satisfactory	3	2	Satisfactory.																				
	Poor	0	-																					
	Sub-Total	3	3																					
7. Regeneration Status in the Buffer	Satisfactory	3	3	Satisfactory.																				
	Poor	0	-																					
	Sub-Total	3	3																					
8. Staff in Position	Satisfactory	3	-	<table border="1"> <thead> <tr> <th></th> <th>Sanctioned strength</th> <th>Staff in position</th> <th>Vacant</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Core only</td> <td>145</td> <td>90</td> <td>55</td> <td>38</td> </tr> <tr> <td>Buffer only</td> <td>104</td> <td>94</td> <td>10</td> <td>10</td> </tr> <tr> <td>Total</td> <td>249</td> <td>184</td> <td>65</td> <td>25</td> </tr> </tbody> </table> <p>The position of Forest Guards, Foresters and Forest Rangers in the core area is very unsatisfactory as there are respectively 40, 24 and 60% vacancies on these posts.</p>		Sanctioned strength	Staff in position	Vacant	%	Core only	145	90	55	38	Buffer only	104	94	10	10	Total	249	184	65	25
		Sanctioned strength	Staff in position		Vacant	%																		
	Core only	145	90		55	38																		
	Buffer only	104	94		10	10																		
	Total	249	184		65	25																		
	Inadequate	0	0																					
Sub-Total	3	0																						
9. Average Age of Staff	Satisfactory	3	0	No fresh recruitment has taken place for a long time and hence the average age is high i.e. approx. above 50 years.																				
	Unsatisfactory	0	-																					
	Sub-Total	3	0																					
10. Equipments	Adequate	3	3	Adequate.																				
	Inadequate	0	-																					
	Sub-Total	3	3																					
11. Vehicles	Adequate	3	3	Adequate.																				
	Inadequate	0	-																					
	Sub-Total	3	3																					
12. Timely Release of CA	Yes	4	4	No complaint was given to the committee. The expenditure in non-recurring head has been satisfactory during the last two financial years but before that the expenditure against allotment was low.																				
	Delayed	0	-																					
	Sub-Total	4	4																					

Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
13. Strike Force Available	Yes	4	0	Due to age old ritual of mass hunting (Akhand Shikar) in the TR by tribal people, the TR management had to seek help from APR forces of the State Govt, and deploy large number of home guards and forest staff from the plains area to prevent this activity. Other than the field staff the TR has no special strike force. The present Field Director has organized tribal youths from the neighbouring villages to form a green brigade (locally known as SABUJA BAHINEE) and motivated and trained them to counter the mass hunting. This has proved useful and it was reported that there were no incidences of mass hunting during 2003-04. The effort is laudable and needs to be continued and strengthening further.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Satisfactory.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	Due to the presence of a Research Officer in the TR since 1987, the quality of field data collection and research is of a very high order. The Research Officer has since moved to the Headquarters of the CWLW at Bhubneshwar to coordinate wildlife research of the State and is still very helpful for the TR due to his long presence in Simlipal. The present Field Director has an aptitude for research and has also done his Doctorate on Elephants of Simlipal. Therefore, field data collection and research are continuing with the same zeal. The contribution to research in this TR of Padmashri late S.R. Choudhury, the Founder Director of Simlipal TR is legendary.
	Not ongoing	0	-	
	Sub-Total	3	3	
16. Tourism Regulation	Done as per CC	5	5	Regulation of tourism is being done as per CC. In spite of a large buffer area, some attractive tourist spots such as high and perennial waterfalls and a splendid drive through dense forest areas, the number of visitors is limited to approximately 20,000 per annum. The number of wildlife enthusiasts is limited locally although a large number of outstation tourists coming mostly from Kolkata do visit the Park regularly. Simlipal TR has very little meadows and forest cover is extremely dense, hence visibility of wild animals during day is very negligible, though large number of elephants, sambars, barking deer, wild pig and cheetal congregate at artificial salt licks created in core area. There is scope for some regulated tourism through selected forest rest houses without jeopardising the peace and tranquility of the abode of the wild animals. This will enhance the awareness among people about the TR and vigilance of some more areas. The idea of conducted tours limited to specific numbers can be thought of. Though, some local guides are available they would need more training in interpretation and nature guide programmes.
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of Gate receipts done	Yes	5	-	There is no scheme for implementation as yet
	No	0	0	
	Sub-Total	5	0	

Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
18. Field Staff Training	Yes	3	-	Apart from the training imparted by the visiting TR Officers and Research Officer from time to time and presence of some experienced field staff in the core area, no formal and regular training is being imparted to the field staff. Presence of Padmashri Late S.R. Choudhury, the Founder Director of Simlipal TR for a long period and his dedication and foresight has left some indelible impressions in the TR. His field experience and aptitude for wildlife management will remain a landmark in wildlife management in India. Some of the field staff trained by him are still to be found here and there in the TR and their dedication to the cause of wildlife can still be felt. Some formal training of short duration to the field staff in wildlife management, handling and care of fire arms, latest trends in the field of wildlife management, identification of flora and fauna specially the birds and orchids, ecodevelopment, public relation, interpretation is an essential requirement.
	Not done regularly	0	0	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	Present	0	-	There is hardly any weed growth present in the TR due to high density of crown cover. Studies have been done by creating vegetation plots at sites where unpalatable grasses have established in order to prescribe the habitat manipulation practices.
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	There are already very limited meadows in Simlipal TR especially in the core area. The only meadows that are present lie in deep valleys prone to frost collection. Studies have been conducted to prescribe proper management practices to check such invasion. Existing grasslands would need regular burning.
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	Adequate
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	0	Unsatisfactory
	Unsatisfactory	0	-	
	Sub-Total	4	0	
23. Poaching	Common	0	0	Negligible during 2003-04. Prior to it the age-old practice of mass hunting by tribals has been a problem. During 9 years from 1992-93 to 2000-01, 33 cases of seizure of guns were reported from the TR, 13 of them from the core area. Organization of local tribal youths in Sabuja-Bahini and their training and motivation by the present Field Director has helped in stopping this illegal practice.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	0	Due to dense under growth and evergreen forest patches, incidences of big fires are rare. However, ground fires are controlled with the help of firewatchers and Sabuja Bahini members. Large network of roads (863.5 km) and core line, which is maintained between core and buffer act as fire control lines.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0		Very rare
	Rare	3	3	
	Sub-Total	3	3	

Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
26. Wildlife Estimation	Done regularly	3	3	It is done regularly. This TR has the distinction of starting pugmark census of tigers with utmost accuracy since its inception as Padmashree Late S.R. Choudhury, the Founder Director of the TR was among the early stalwarts who advocated pugmark census field technique for the big cat. The presence of Dr. L.A.K. Singh as Research Officer for a long time has helped the census being standardised. Well-rehearsed research has been conducted in pugmark sizes of tigers and leopards as also the sizes of adult, sub adult, cubs and male and female tigers. The territory of male tigers have been identified and marked on the ground with indication of presence of females and cubs in his territory. Simlipal is one TR among few others who have been advocating the significance and reliability of the pugmark techniques again and again, the only economic method applicable in Indian field conditions. Census is carried out in winters. Census of all other important mammals is also done annually by scientific methods.
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	Patrolling camps are present inside core area. The committee visited one such camp at Mahabeer Sal.
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Daily monitoring is done through the wireless network of the TR, which is very effective. The location of a repeater station at an elevation of over 1000 m helps smooth functioning of the network. All incidents of significance are regularly recorded.
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	0	Negative
	No	0	-	
	Sub-Total	3	0	
30. Daily Patrolling done	Yes	5	5	Daily patrolling is done in the core area and some sensitive part of the buffer zone. The frequency and strength of patrols increase during the period when the tribals attempt traditional mass hunting and during fire season. Sabuja-Vahini volunteers are also used in sensitive periods and sensitive areas.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	Yes, the court cases are regularly monitored.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	Paid promptly. The cases of crop raiding by elephants are negligible. Cases of man-eating and cattle lifting are also very few.
	Not paid promptly	0	0	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	Tourism facilities are adequate with 90 beds at different locations including dormitories within the tourism zone. 54 extra persons are also allowed to stay in the above facility. However, there is scope for increasing the facilities in some other areas including the core area. This will help in better vigilance and wildlife viewing for education and awareness.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	Good
	Poor	0	0	
	Sub-Total	1	1	

Simlipal Tiger Reserve

Evaluators: A S Negi and S K Chakrabarti

Issue	Criteria	Maximum Score	Current Score	Comments
35. Ecodevelopment Activities	Ongoing	6	6	Simlipal TR is coterminous with Simlipal Biosphere Reserve and Simlipal ER. Ecodevelopment activities are part of all the programmes in the above projects. As a result there are a number of ecocodevelopment activities going on in the villages around the TRs. Main activities are creation and repairs to water harvesting structures and irrigation facilities, sabai rope making, sal leaf plate making, health camps, eradication of malaria etc.
	Lacking	0	0	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	5	The idea of reciprocal commitments is being understood gradually. The creation of Sabuja Vahini is bringing awareness in stopping Akhand Shikar and helping in patrolling and gathering intelligence about poaching and illegal woodcutting. They are also helpful in prevention of fires.
	Poor	0	0	
	Sub-Total	5	5	
37. Cattle Immunisation In Villages	Done	5	5	It is being done regularly for the last two years.
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	92% of the visitors to Simlipal TR hire vehicles from local market. The drivers and owners of these vehicles have been identified and orientation training to them is being imparted since 1993. Limited number of nature guides are also involved, who need more training in interpretation etc.
	No	0	-	
	Sub-Total	5	5	
39. Registration of Arms	Done	4	0	Not yet done.
	Not done	0	-	
	Sub-Total	4	0	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	Yes, regularly done.
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	The relationship of trust is good. There is awareness among ecocodevelopment committee members, Sabuja Vahini members and local NGOs.
	Poor	0	-	
	Sub-Total	5	5	
42. Economic Benefits To Stake Holders	Good	3	3	Good. It is by way of availability of plenty of water from the TR, moderation of micro-climate, NTFP from buffer area, grazing facilities around the villages located within the TR boundaries and collection of fuel wood, thatching material etc. for bonafide use. Local jeep drivers, tourist guides, shopkeepers etc. are benefited from the tourist activities of the TR.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	5	Good
	Poor	0	-	
	Sub-Total	5	5	
44. Efforts Towards Sustainable Development	Good	4	4	Effective and adequate
	Lacking	0	-	
	Sub-Total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	0	The present Field Director also holds charge of the territorial circle outside the TR and it is hoped that he will initiate restorative inputs beyond the TR.
	Lacking	0	-	
	Sub-Total	5	0	
Grand Total		183	140	

Profile

Sundarbans in West Bengal is the estuarine phase of the Ganges as well as Brahmaputra river systems. The typical littoral forests of Sundarbans comprises a host of trees species adapted to the peculiar estuarine condition of high salinity, lack of soil erosion and daily inundation by high tides. Because of their intimate association with the estuarine environment, sizeable portion of aquatic and semi-aquatic animal communities are inter-related with the animals inhabiting the land areas.

The tiger and the fishing cat are getting effective protection here. The creeks of Sundarbans are home to Estuarine Crocodile, Salvator Lizard (Water Monitor), River Terrapin and Horse Shoe or King Crab. This area serves as the nesting ground for endangered marine turtles like Olive Ridley, Green Turtle and Hawk's Bill Turtles. The aquatic endangered mammals like Gangetic Dolphins thrive within mangrove creeks close to sea. Number of heronries form here during monsoon as well as during winter. It is home for Trans-Himalayan migratory birds.

The Sundarbans Tiger Reserve, created in 1973, was the part of the then 24-Parganas Division. Subsequently, the area comprising of the present Tiger Reserve was constituted as Reserve Forest in 1978. The area of the Reserve is 2585 km² covering land area of 1600 km² and water body over 985 km².

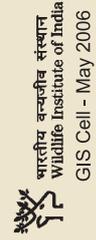
Within this area 1330.12 km² is designated as core area, which was subsequently declared as Sundarban National Park in 1984. Sajnekhali Wildlife Sanctuary was created in 1976 covering an area of 362.335 km². Considering the unique biodiversity, the National Park area of the Reserve was included in the list of World Heritage Sites in 1985. Whole Sundarbans area was declared as a Biosphere Reserve in 1989.

Forest types found in the Reserve are: Tidal Swamp Forests, Saline Water Type Mixed Forests, Brackish Water Type Mixed Forests etc.

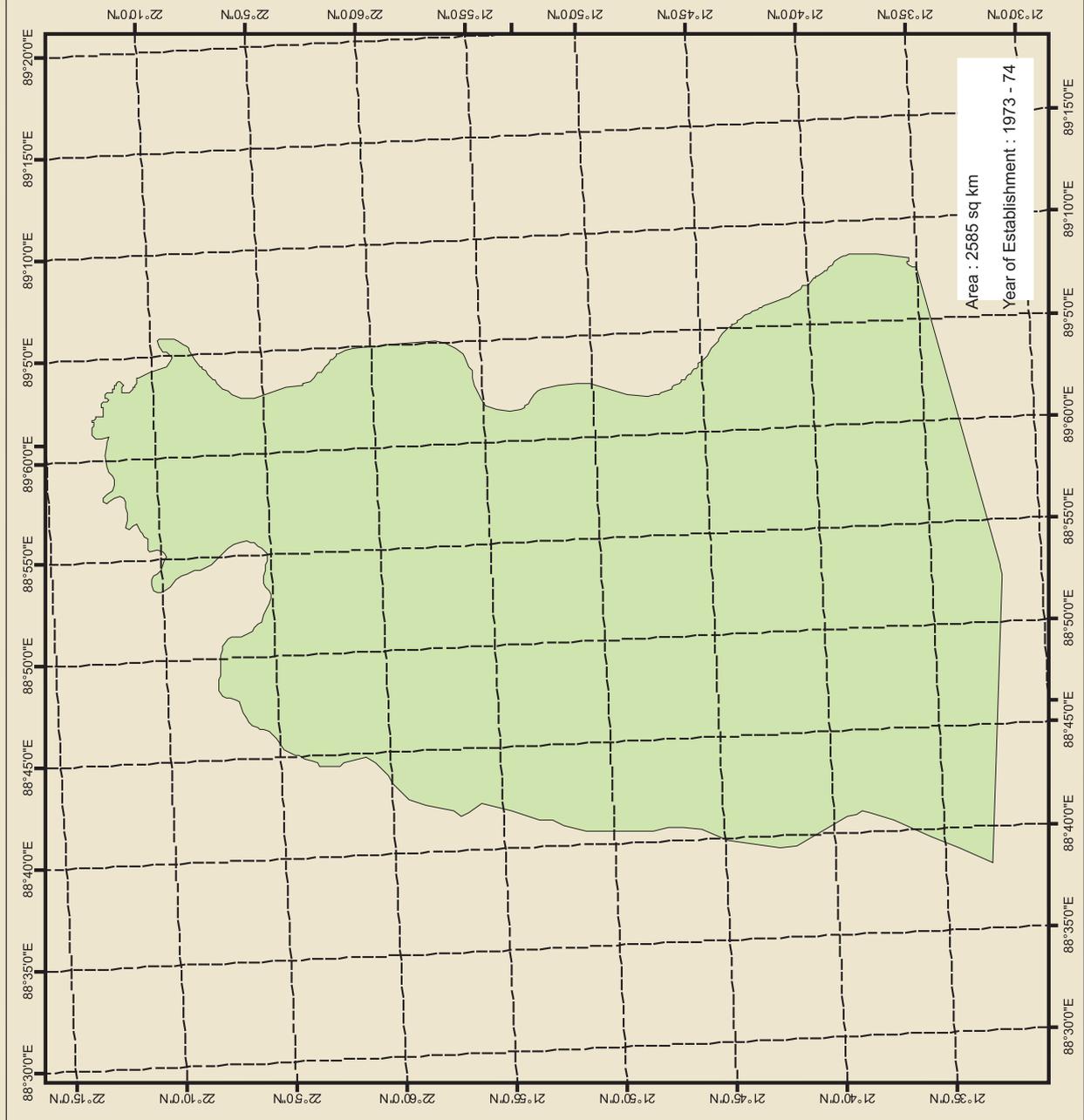
Sunderbans Tiger Reserve

Sunderbans Tiger Reserve

West Bengal



Boundary Source : FSI, Dehradun, 2006



Sunderbans Tiger Reserve

Evaluators: V B Sawarkar and M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	2.5	Kindly peruse the relevant contents under sub-title 'some additional specific observations' under the General Comments. No acquisition proceedings are needed but a final notification would be useful.
	Delineation of buffer zone	3	2.5	
	Unified control of buffer	3	3	
	Sub-Total	9	8	
2. Compatible Land Use	In the buffer	3	3	
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	
	Beyond buffer (5km. radius)	3	N.A.	
	Beyond buffer the landuse is detrimental	0	-	The area is heavily populated and there is little scope to change the land-use
	Sub-Total	6	3	
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	4	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	4	
	Cultivation present in the core	0	-	Some illegal fishing and honey collection in the core
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	8	
4. Use of the Area by other Departments	Yes	0	-	
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	
	Poor	0	-	
	Sub-Total	3	3	
8. Staff in Position	Satisfactory	3	2	Partly satisfactory
	Inadequate	0	-	
	Sub-Total	3	2	
9. Average Age of Staff	Satisfactory	3	2	Partly satisfactory
	Unsatisfactory	0	-	
	Sub-Total	3	2	

Sunderbans Tiger Reserve

Evaluators: V B Sawarkar and M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
10. Equipments	Adequate	3	2	Another fiber glass speed boat is required
	Inadequate	0	-	
	Sub-Total	3	2	
11. Vehicles	Adequate	3	2	Kindly peruse the note
	Inadequate	0	-	
	Sub-Total	3	2	
12. Timely Release of CA	Yes	4	4	
	Delayed	0	-	
	Sub-Total	4	4	
13. Strike Force Available	Yes	4	4	Two sections of police force placed at the disposal of the FDPT
	No	0	-	
	Sub-Total	4	4	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	3	Inadequate funds to meet the TA claims.
	Unsatisfactory	0	-	
	Sub-Total	4	3	
15. Field Data Collection & Research	Ongoing	3	1.5	There is scope to enlarge the range of data being collected.
	Not ongoing	0	-	
	Sub-Total	3	1.5	
16. Tourism Regulation	Done as per CC	5	5	
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	Yes	5	4	There is some variation. 25% of the Gate Receipts go to the local communities through EDCs.
	No	0	--	
	Sub-Total	5	4	
18. Field Staff Training	Yes	3	2	There is scope for additional programmes. Only two officials, the Field Director and one Range Officer are trained at the WII. The training of junior staff by their superiors is reported.
	Not done regularly	0	-	
	Sub-Total	3	2	
19. Weed Growth in the Habitat	Present	0	-	
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	N.A.	
	Managed	4	N.A.	
	Sub-Total	4	N.A.	
21. Field Visits by Officers	Adequate	4	4	
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	2	Complete medical coverage for staff families is lacking. Conditions are harsh. Double family establishment is obligatory. Better amenities to alleviate the conditions are needed. Some proposals are made by the FDPT.
	Unsatisfactory	0	-	
	Sub-Total	4	2	

Sunderbans Tiger Reserve

Evaluators: V B Sawarkar and M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	Some illegal fishing takes place.
	Negligible	4	2	
	Sub-Total	4	2	
24. Fires	Common	0	-	
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	
	Irregular	1	-	
	Sub-Total	3	3	
27. Patrolling Camps Present	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	3	
	No	0	-	
	Sub-Total	3	3	
30. Daily Patrolling done	Yes	5	5	
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	2.5	Slight delay in case of cattle kills, 2-3 month delay in case of human deaths.
	Not paid promptly	0	-	
	Sub-Total	5	2.5	
33. Tourist Facilities	Adequate	2	1	Scope for improvement of the facilities at Sajnekhali being maintained by the tourism department.
	Poor	0	-	
	Sub-Total	2	1	
34. Relationship with Police	Good	1	1	
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	6	
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	5	
	Poor	0	-	
	Sub-Total	5	5	
37. Cattle Immunisation In Villages	Done	5	4	Not regular and not complete.
	Not done	0	-	
	Sub-Total	5	4	

Sunderbans Tiger Reserve

Evaluators: V B Sawarkar and M K Ranjitsinh

Issue	Criteria	Maximum Score	Current Score	Comments
38. Host Community Involvement In Ecotourism	Yes	5	3	There is some involvement but this has to move considerably ahead, hopefully as an enlargement of the ecodevelopment activities.
	No	0	-	
	Sub-Total	5	3	
39. Registration of Arms	Done	4	4	
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	4.5	Considering the level of animosity in the past the achievement is significant.
	Poor	0	-	
	Sub-Total	5	4.5	
42. Economic Benefits To Stake Holders	Good	3	1	It is a difficult situation but with enlargement of programmes under ecodevelopment and tourism linked benefit potential the conditions will improve. The direction seems to be on track.
	Poor	0	-	
	Sub-Total	3	1	
43. Control Over Use / Access of TR Resources	Good	5	4	Some illegal fishing and honey collection is present.
	Poor	0	-	
	Sub-Total	5	4	
44. Efforts Towards Sustainable Development	Good	4	4	
	Lacking	0	-	
	Sub-Total	4	4	
45. Restorative Inputs Beyond TR	Being done	5	3	Please peruse remarks, last row, SN2 above. The territorial divisions are lending all the support they can muster.
	Lacking	0	-	
	Sub-Total	5	3	
Grand-Total		185	152*	

**corrected total*

Annexure

MONITORING AND EVALUATION OF TIGER RESERVES, SUNDERBAN TIGER RESERVE, WEST BENGAL, GENERAL COMMENTS

The Inheritance

For the purpose of monitoring and evaluation it is felt necessary to consider inherited issues and problems. The management performance can then be reasonably assessed. Although the evaluation is focused on the current status of performance criteria it is difficult to conduct an assessment in isolation of the inherited situation and the conservation progression therefrom.

Sunderban obviously poses one of the most challenging situations. It is widely acknowledged that natural areas have highly porous boundaries. In case of Sunderbans this is especially underscored, given the large number of islands scattered across several river systems, and the influence of tides via the Bay of Bengal. The mangrove forests may be seen as almost impenetrable with the high risk of encountering tigers that have aggressive proclivities, however adversities can come over land as well as riding over waters. Cyclones and rough weather are natural features. Contending with their implications is not easy. The abutting international border with Bangladesh, lanes open to the passage of ships add a serious dimension to management and provide to poachers and other anti-social elements opportunities to play hide and seek.

Tigers in Sunderbans have acquired a reputation for being aggressive and attacking people unlike those elsewhere in the country. The terai is possibly an exception. Since the inception of the reserve the annual human toll by tigers had varied between 25-35 people. During the past ten odd years it has lowered significantly due to rigid control over people's access to the PA, effective monitoring and quick response to a developing situation. During a period often years from 1963 to 1972, a total of 360 people had lost their lives to tiger attacks, with the Chamta block registering the highest figure of 80 deaths. Considering the vocations, honey collectors accounted for the highest toll of 58% followed by the Golpatta and Hetal collectors 23%, coupe workers 13% and fishermen 6%. Old records of undivided Sunderbans provide some startling figures:

Year	No. of men killed by tigers	No. of tigers shot (Mostly in what is now Bangladesh)
1881-82	161	3
1883-84	168	8
1907-08	120	9
1911- 12	112	61
1914- 15	79	86

(A.B.Chaudhury and Kalyan Chakrabarty, 1972, *Wildlife Biology of the Sunderbans Forests*, Cheetal 15 (1) pp 11 -33)

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Evaluators: V B Sawarkar and M K Ranjitsinh

During the several initial years the local resident community had extremely adversarial relationship with the reserve management. It has taken a great amount of sustained effort in painstakingly earning the trust of the people. The management strategies addressing protection, habitats, ecological requirements and the human interface via innovative eco-development program have demonstrated their effectiveness. Strong netting of some 43 km running length at the interface of forests and human habitations has effectively lowered the incident of tigers reaching within the village areas. An expert team is now available to quickly reach spots where a tiger has entered a village to conduct a capture operation and subsequent release in the wild. The overall effectiveness has resulted in people having stopped taking retaliatory measures.

The outreach programs are efficient; soon an attractive feature would be the 'Sunderban Express'. It is a boat being fitted with "walk through" interpretive material, including facility of projecting slides and films. This boat will then visit various destinations in the buffer zone. Protection strategies have been augmented through floating protection/anti-poaching posts and vulnerable entry points on waterways have been cordoned off to stop unauthorized entry. Outermost outposts are maintained on distant islands till rough weather makes it impossible to sustain such camps.

Regular training schedules are reported to be maintained to train the staff in capture techniques, monitoring animal sightings and population estimation of tigers and orientation for eco-development programs. A visitor center is maintained at Sajenakhali.

Some additional specific observations

The state government notification 5369-for of 24th June 1976 declaring the Sajenakhali wildlife sanctuary has referred only to section 18(i) of the Wildlife (Protection) Act, 1972. This section addresses only the intention of creating the wildlife sanctuary. This area has enjoyed the status of the Reserved Forests since 9th August 1928. The Amendments to the Act in 1991 and 2002 therefore deems it a finally declared sanctuary. This subsequently is nowhere reflected. If not accordingly rectified through an appropriate notification, this may pose some legal problems one day. A new Ambassador car is essential for the Field Director, since the only Gypsy he has is old and unreliable. Funds for TA are significantly inadequate.

There is a need to assess the food items especially the principal food of the tiger via scat analysis. This would also probably vary between the tigers living in the northern and southern parts of the PA. It is conceded that obtaining sufficient samples of scats may not be easy. The home ranging/territorial behavior of tigers is worth an investigation. This could significantly contribute not only to science but is most likely to provide a stronger basis to conservation; and can provide some indication to the total 'holding' capacity of the PA *vis-a-vis* tigers as there is no way to precisely enumerate the tiger population within it.

Fortunately the full control over the TR and its resources vests with the Field Director. Nine hundred fishing permits can be given outside the core area but normally only 700 are given each year and 80 for honey collection. No permits are issued in the core area, however illegal fishing in the core

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area appears to be quite prevalent and this constitutes the biggest problem. The permit holders are insured. In case of death the government gives Rs.30, 000/- and the rest is paid by the insurance company.

There is considerable emphasis on ecodevelopment in the buffer. Poultry and piggery is encouraged and supported. Care should be taken that the Red Junglefowl and the Wild Pig in the reserve do not have any access to the population of their domestic counterparts so as to prevent interbreeding. Growing bamboo and making bamboo products by the local people in the buffer zone should be encouraged. The ongoing development schemes of the district administration like the Indira Awas Yojana and others could be harnessed and integrated for the inhabitants of the buffer, the Field Director being the catalyst. Periodic joint visits by the representatives of the various departments of the District administration could be arranged, say about thrice a year so that projects could start in the buffer and the people do not have to go to distant offices. The Veterinary officer should visit the villages once a month, if not, once every two months at least. The local people must be given to feel that these benefits are flowing through the good offices of the Field Director. All this will help reduce the animosity against the PA.

The watchtowers are too large and the colours are garish. The whole impact is too jarring. A park visit should be communion with nature and the construction if any and its colouring should merge and harmonize with the surroundings.

The proposed release of captive bred chital in the TR must be scrapped. The chital in the Sunderban are specially adapted. They also are free from contagion because of the remoteness. Captive bred animals in India are almost never free from pathogens, especially T.B. It is simply not worth introducing a few dozen captive animals if that, and risking the whole wild population.

There is a great need for applied research in a number of fields. One is on the tiger itself- its food habits, territoriality etc. Other topics could be the lack of water birds and the small population of saltwater crocodile. Are these two factors interlinked? Is the Sunderban becoming a sub-optimal habitat for the saltwater crocodile and waterfowl because it is becoming more saline than before due to diversion of freshwater upstream and any slow rise of sea level due to global warming? Saltwater crocodiles are not poached, one presumes. So why so few? They periodically need freshwater and now perhaps need to go too far upstream into populated areas. There are a host of topics that need answers to.

Profile

Tadoba-Andhari Tiger Reserve is a pristine and unique ecosystem situated in the Chandrapur district of the Maharashtra State. The Reserve contains some of the best forest tracts and is endowed with rich biodiversity. It is famous for its natural heritage. Tadoba-Andhari Tiger Reserve is the second Tiger Reserve in the State.

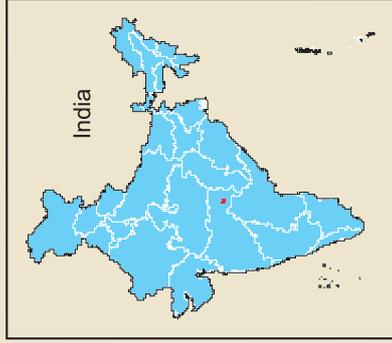
Tadoba-Andhari Tiger Reserve was created in 1995. The area of the Reserve is 625.40 km². This includes Tadoba National Park, created in 1955 with an area of 116.55 km² and Andhari Wildlife Sanctuary created in 1986 with an area of 508.85 km². The Reserve is constituted with 577.96 km² Reserve Forest, 32.51 km² Protected Forest and 14.93 km² other areas.

Southern Tropical Dry Deciduous Forest are found in this Reserve. Major flora includes: Teak, Ain, Bija, Dhaua, Haldu, Salai, Semal, Tendu and Bamboo.

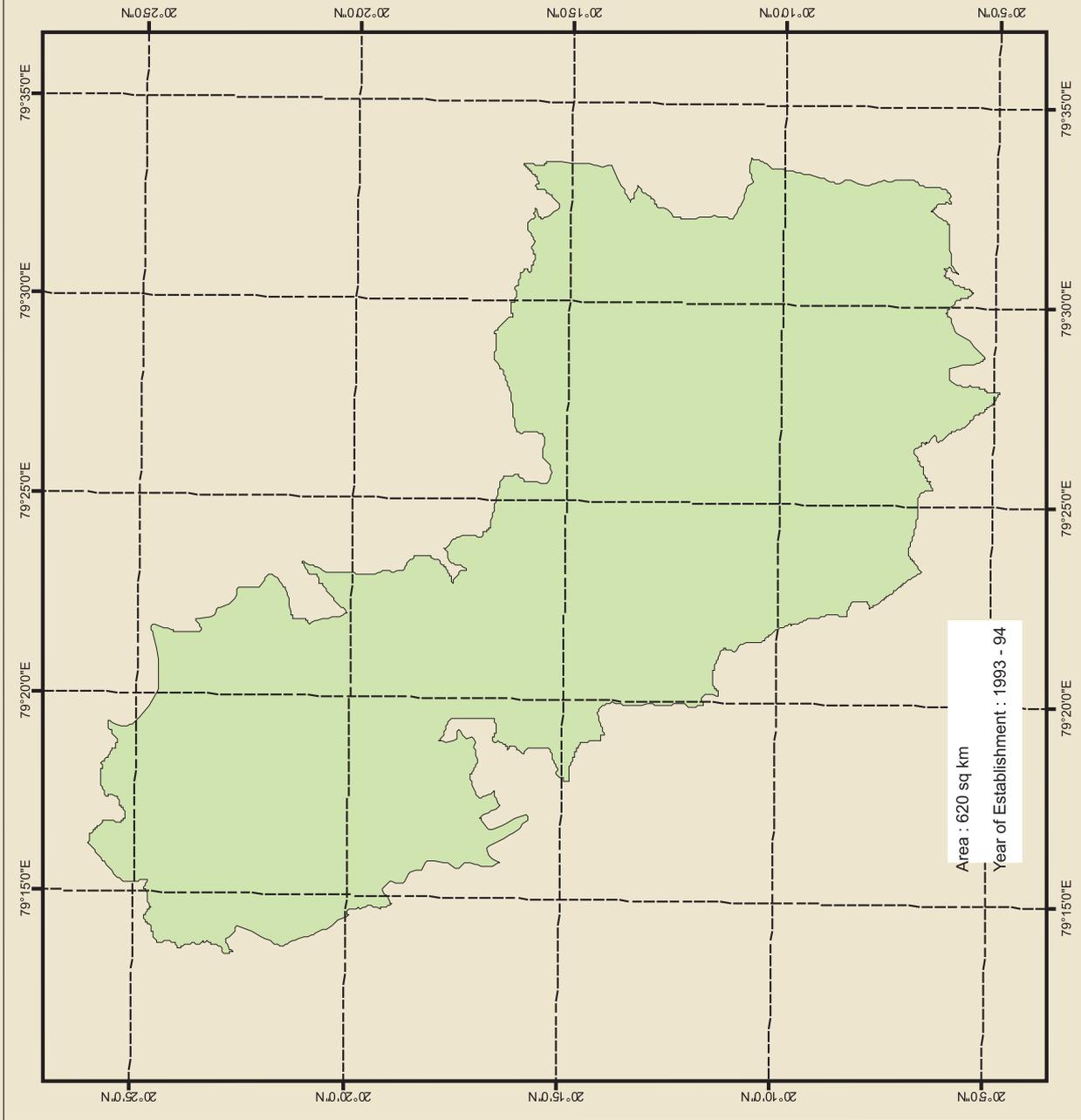
Major fauna found in the Reserve includes: Tiger, Leopard, Sloth Bear, Gaur, Rusty Spotted Cat, Ratel, Indian Mouse Deer, Spotted Deer, Sambar, Wild Pig, Four Horned Antelope, Wild dog, Flying Squirrel etc.

Tadoba - Andhari Tiger Reserve

Maharashtra



Boundary Source : IFSI, Dehradun, 2006



Tadoba

Tadoba Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments							
1. Legal Status	Completion of legal procedures	3	3	<p>Tadoba-Andhari TR extends over an area of 625.40 km². Type of areas in the TR are as under :</p> <table style="margin-left: 20px;"> <tr> <td>1. Tadoba NP</td> <td>116.55 km²</td> </tr> <tr> <td>2. Andhari WLS</td> <td>508.55 km²</td> </tr> <tr> <td>Total</td> <td><u>625.40 km²</u></td> </tr> </table> <p>Tadoba NP was notified in 1955 and is one of the oldest NPs in the country to have been notified before enactment of Wildlife Protection Act of 1972. Out of 508.85 km² of Andhari WLS, 461.76 km² has been finally notified. 12.57 km² is yet to be finally notified, due to acquisition process of 6 villages living inside the Sanctuary not being completed. 34.52 km² area shall not be notified as WLS and will remain as buffer of the TR.</p>	1. Tadoba NP	116.55 km ²	2. Andhari WLS	508.55 km ²	Total	<u>625.40 km²</u>	
	1. Tadoba NP	116.55 km ²									
	2. Andhari WLS	508.55 km ²									
	Total	<u>625.40 km²</u>									
Delineation of buffer zone	3	0	<p>Due to non transfer of forest buffer to TR management, the area of NP and WLS has been readjusted to form all the zones (core, buffer and tourism). Under core area there is 218.76 km² (Entire area of NP) and the remaining area of WLS is as under:</p> <table style="margin-left: 20px;"> <tr> <td>1. Core area</td> <td>218.76 km²</td> </tr> <tr> <td>2. Buffer Zone</td> <td>357.02 km²</td> </tr> <tr> <td>3. Tourism Zone</td> <td>49.62 km²</td> </tr> <tr> <td>Total</td> <td><u>625.40 km²</u></td> </tr> </table> <p>Presence of good forest buffer on almost 3 sides of this TR could be utilized for inclusion of RF buffer and whole of Chandrapur FD and Chimur Range of Bramhapuri FD could be included to form a great Tadoba-Andhari TR. A proposal has been submitted by the Field Director on these lines, which needs immediate attention of the State Government.</p>	1. Core area	218.76 km ²	2. Buffer Zone	357.02 km ²	3. Tourism Zone	49.62 km ²	Total	<u>625.40 km²</u>
1. Core area	218.76 km ²										
2. Buffer Zone	357.02 km ²										
3. Tourism Zone	49.62 km ²										
Total	<u>625.40 km²</u>										
Unified control of buffer	3	0	<p>Other than NP and WLS, no other area has been identified as buffer and control of both the PAs is with the Ft). Unified control in real sense would require transfer of whole of Chandrapur FD and Chimur Range of Bramhapuri FD under the control of FD to take care of good breeding population of tigers in core area.</p>								
Sub-Total		9	3								
2. Compatible Land Use	In the buffer	3	3	<p>The land use in so called buffer (Andhari WLS) is compatible to the wildlife management as it is under the control of TR management. Beyond buffer, out of 187.6 km boundary length, 47.4 km of western boundary and 12.75 km of boundary in the northern part has no forested buffer. Remaining 127.47 km of the boundary of the TR has good forest areas of Chandapur FD and Bramhapuri FD where all forestry operations including coup working by Forest Divisions and Forest Development Corporation, bamboo working and NTFP working is in progress which is not compatible with TR management.</p>							
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-								
	Beyond buffer (5km. radius)	3	0								
	Beyond buffer the landuse is detrimental	0	-								
	Sub-Total	6	3								

Issue	Criteria	Maximum Score	Current Score	Comments
3. Human Pressure	Habitation present within the core	0	-	Six villages are proposed for relocation from Andhari WLS which exert enormous pressure on the TR. The human and cattle population of these villages is 2450 and 2365 respectively. All these villages practice cultivation. The designated core has no habitation, cultivation, encroachment etc. and even the NTFP and fodder collection is limited. There are 59 villages in the immediate vicinity of the TR with 37434 human and 39716 cattle population. 60.15 km boundary of the TR is porous, coming in direct contact with the villages and cultivations. There is tremendous pressures of all kinds up to 2 to 3 km depth inside the TR on these sides. Illicit grazing, fuel wood and fodder collection and NTFP collection by adjoining villages is a big problem.
	No habitation within the core	4	0	
	Livestock Grazing pressure present within the core	0	-	
	No livestock grazing pressure within the core or adjoining areas	4	0	
	Cultivation present in the core	0	-	
	Encroachment present	0	-	
	Collection of NTFP in the core	0	-	
	Quarrying present in the core	0	-	
	Sub-Total	8	0	
4. Use of the Area by other Departments	Yes	0	-	None except few metal road of PWD going through the TR. with limited and controlled traffic.
	No	3	3	
	Sub-Total	3	3	
5. Management Plan Updated	Yes	3	3	Management Plan of the TR is sanctioned for a period of 10 years from 1997-98 to 2006-07.
	No	0	-	
	Sub-Total	3	3	
6. Regeneration Status in the Core	Satisfactory	3	3	Very good. Bamboo stand of same age group is present in the form of thickets in most of the area.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	0	Good except in the vicinity of 6 villages situated inside Andhari WLS and along the 60.15 km boundary with habitation and cultivation where regeneration is poor.
	Poor	0	-	
	Sub-Total	3	0	
8. Staff in Position	Satisfactory	3	3	There are only 4 vacancies in FGd. cadre against a sanctioned strength of 56 and 3 in Forester Cadre against 11 sanctioned posts. The average beat size is 10 km ² . whereas the State Govt. directive for Protected Areas is 7.5 km ² . Field Director has proposed 50 more beats which needs to be pursued with the State Govt. by the CWLW. Field Director also feels that for the better management of the TR he would need one post each of Office Superintendent, Chief Accountant, Range Surveyer, Deputy Forest Engineer and Draughtsman.
	Inadequate	0	-	
	Sub-Total	3	3	
9. Average Age of Staff	Satisfactory	3	3	Average age of F.Gds. is 39 years and that of the field staff RO and below it is above 40 years.
	Unsatisfactory	0	-	
	Sub-Total	3	3	
10. Equipments	Adequate	3	3	Adequate Modern equipments such as night visions, GPS, digital camera, computer network with all facilities, pedometer, phone etc. should also be procured if not already acquired
	Inadequate	0	-	
	Sub-Total	3	3	
11. Vehicles	Adequate	3	3	Adequate.
	Inadequate	0	-	
	Sub-Total	3	3	
12. Timely Release of CA	Yes	4	4	Central Assistance is released in time but there is considerable delay at State Govt. level.
	Delayed	0	-	
	Sub-Total	4	4	

Tadoba Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
13. Strike Force Available	Yes	4	0	An ad-hoc strike force under a Forest Ranger has been prepared with 1 Forester. 3 Forest Guards and 2 labourers. A well-trained strike force is the need of the day, which can also collect intelligence about wildlife crimes outside the TR. Recruitment of Ex-Army; Ex-Paramilitary personnel for this purpose could be more appropriate.
	No	0	-	
	Sub-Total	4	0	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Salary, Project Allowance etc. is disbursed promptly but the Traveling expenses of lower field staff are pending for payment for last 2-3 years.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	3	<p>A good deal of research work has been conducted in the TR by different agencies as under:</p> <ul style="list-style-type: none"> (i) BSI has prepared flora of Tadoba NP. (ii) A pilot research project for preparing a data base for the TR using satellite imagery and ground truthing was initiated in 1994 and field work was been completed in 1997. (iii) ZSI has taken up detailed survey of insects and other micro fauna of the TR. (iv) Tropical Forestry Institute, Jabalpur has taken up studies on vegetation ecology of the TR. (v) A NGO known as VHNS based at Nagpur has completed a study of birds of TATR. (vi) Dr. Milind Walve of Life Research Foundation, Pune, has also done a study on relationship of predation and presence of parasites in prey species. (vii) Wildlife Conservation Society has taken up a Project of camera trapping and transect survey in TATR for a period of 3 years to estimate the population of tigers and their prey species. <p>It has been noticed that the research taken up by Institutions and individuals takes all the inputs from the TR and also takes all help, guidance and data from the TR management but the research findings are either unduly delayed or not conveyed to the TR management at all. All research work by institutions and individuals should be reviewed periodically at least once every year and their progress monitored. It should be allowed to continue only if the progress is satisfactory. The research data base of the TR should be built up with all findings and properly categorized at the Headquarters of the Field Directors. The periodical census is being done for predators and prey species and data being utilized for management etc.</p>
	Not ongoing	0	-	
	Sub-Total	3	3	

Issue	Criteria	Maximum Score	Current Score	Comments
16. Tourism Regulation	Done as per CC	5	5	The number of visitors during last 5 years has been between about 30500 to 41000 and the number of vehicles entering the TR has been about 4400 to 5900. Tourism zone has been earmarked which covers about 49.62 sq. km. and is in three subzones, viz. Moharli, Nawegaon (Ramdegi) and Kolsa. No. of vehicles allowed to enter the TR are tentatively fixed at 50 at a time. No study has been done to assess the carrying capacity which needs to be done urgently. Visitor regulations are generally good. About 30 trained nature guides are available at different entry points to accompany the visitors. Taking a guide is mandatory. The visitor rush is more at Tadoba. Most of the visitors are day visitors from Nagpur and Chandrapur.
	Not done as per CC	0	-	
	Sub-Total	5	5	
17. Recycling of gate Receipts done	Yes	5	0	No arrangement for recycling of gate receipts exists.
	No	0	-	
	Sub-Total	5	0	
18. Field Staff Training	Yes	3	0	There is no arrangement for formal training of field staff either at the time of entry to the service or in-service training. Only one Forest Ranger and one ACF are trained in Diploma/ Certificate course in WII. However, workshops are held at the FD level to give exposure to the staff.
	Not done regularly	0	-	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	Present	0	-	There is no problem of weeds in the TR. Some common weeds found closer to habitations are being uprooted as a management practice.
	Not seen	3	3	
	Sub-Total	3	3	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	TATR has excellent mix of woodlands, bamboo brakes and grassy patches. This makes an excellent habitat for the prey and good cover for the predator. Gregarious bamboo growth on roadsides and fire lines needs to be checked. Grasslands are being maintained by annual burning. 40 % area is covered with bamboo and 76% forest is mixed crop. Grasslands are over 7%.
	Managed	4	4	
	Sub-Total	4	4	
21. Field Visits by Officers	Adequate	4	4	The FD and his officers are generally mobile. Frequent surprise checking by FD keeps the field staff on their toes. Foot patrolling and night halts at patrolling huts is also being done by FD and other officers.
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	2	Other than routine measures no special measures were brought to notice. The staff posted in patrolling camps has drinking water facility and good staying arrangement. There is no thinking of family lines for the frontline staff posted in the remote places. This should be introduced looking at the efforts by adjoining State of M.P.
	Unsatisfactory	0	-	
	Sub-Total	4	2	

Tadoba Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
23. Poaching	Common	0	-	Poaching is not a problem. One case of tiger killing by poisoning is recorded in 2002-03 which was poisoned due to excessive cattle lifting by a particular tiger who had his territory close to the habitation. During past 10 years, 16 cases of poaching of major prey species were recorded. The incidents were high during 2001-02 and 2002-03. However, large number of cases of illicit cutting of trees, fire, grazing and encroachment have been recorded during last 10 years. Two tiger poaching incidents in the adjoining Forest Division were reported, one about 4 km from the boundary of TR, 7 years ago and one about 25 km from TR boundary about 4 years back. In both the incidents jaw traps were used and in both the cases Bahelia tribes from Katani (MP) were found involved. This is enough indication of the poachers interest in the area and calls for urgent transfer of adjoining RF area to TR management.
	Negligible	4	4	
	Sub-Total	4	4	
24. Fires	Common	0	-	Fire is not common and the area burnt during last 5 years starting from 2004-05 is 1.98%, 4.88%, 0.93%, 2.20%, and 4.97% respectively. TATR is an unique example where fire control and prevention is done by Forest Development Corporation under 'Modern Forest Fire Control Project'. The fire lines are also maintained by the Corporation. It was very strange to notice that only one side of the road was being cut and burnt and other side was left unattended and the reason given was lack of funds. On roadsides it should be mandatory to clear and burn the fire line on both sides to avoid accidental fires. Any operation regarding fire control should be done in consultation with the Field Director.
	Less than 1% of the TR area	5	5	
	Sub-Total	5	5	
25. Epidemics	Common	0	-	No case noticed during past several years.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	3	Estimation of predators and prey species is made every year. Tiger and Leopard are estimated by user friendly pugmark method whereas major prey species are estimated by block counts using transects. Looking at the figures reported for last 5 years, the prey-predator ratio appears convincing. Wild pig, spotted deer, sambar, blue bull, gaur and langur are the main prey species. During the visit of Committee member, very good sighting of prey species was done and two sub adult tigers were also sighted close to a group of 16 blue bulls. Leopard and wild dogs are the main predators competing with tiger. Incidentally, the annual census operations being carried out in the State (18 th to 24 th) coincided with the visit of Committee member. One very unique feature of the waterhole census was very high incidents of direct sighting of tigers from watch towers. Each waterhole was covered and as many as 40 sightings were reported. The team consisted of one Forest staff and one individual from among students/NGO/media/nature lovers. The FD himself had a sighting of a tigress with 4 cubs, tigresses with cubs were also sighted by two-three other teams. Tadoba is known for breeding tigresses with 3 to 4 cubs. Lot of signs of tigers were seen during our field visit. Large number of students, NGOs, Naturalists and media persons took part in the census to make it more transparent. It would be interesting to see the estimation figures of adjoining Forest Divisions as the successful breeding in the TR should reflect in increase in tiger population in adjoining forest divisions. It would be very unfortunate to breed tigers successfully in TRs and loose them in the adjoining buffer area just because there is no focused management in these areas simply because their control has not been given to Field Director (FD) by the State Govt. We had an opportunity to see the analysis of one Certificate Course trained Forest Ranger of the TR. He had marked the territories of male tigers on the Range map and shown females and cubs within these territories based on census results and field experience of field staff. He had taken due care of the results of adjoining Beats.
	Irregular	1	-	
	Sub-Total	3	3	

Tadoba Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
27. Patrolling Camps Present	Yes	5	5	At present there are 13 patrolling camps in the TR located at strategic locations. There is one patrolling camp for 3 beats and 3 daily wage local tribals are posted at each camp and the Forest Guards of 3 beats stay at these camps on rotation of 2 days each and accompany the patrols. A Forester known as Round Officer checks the patrols. Tiger monitoring register is being maintained at each camp in which relevant details about direct sighting and signs are recorded and plaster casts/tracing is taken of pugmarks. 4 more patrolling camps have been constructed recently which shall be operative from coming monsoon. 60.15 km. open boundary with habitation would need more patrolling camps to minimize disturbances including poaching. Two patrolling camps on N-W sensitive boundary were inspected by the Committee.
	No	0	-	
	Sub-Total	5	5	
28. Daily Monitoring done through Camps and Recorded	Yes	4	4	Daily monitoring through network of wireless is done of all important events including patrollings and reported to Range headquarters and FD HQR. Monitoring through field diaries of frontline staff and patrolling registers of patrolling camps is also done. Frequent visit by FD/ACF and Forest Rangers also helps proper monitoring.
	No	0	-	
	Sub-Total	4	4	
29. Networking Strategy Present	Yes	3	1	Due to poaching danger outside TR, it would be necessary to create a network of intelligence collection and provision of secret money to pay for important information. At present it is on a limited and ad-hoc basis, which needs to be properly spelled out in the Management Plan.
	No	0	-	
	Sub-Total	3	1	
30. Daily Patrolling done	Yes	5	5	It is quite effective and regular.
	No	0	-	
	Sub-Total	5	5	
31. Court Cases Monitored	Yes	4	4	At the field level court cases are being monitored by the Round Officers (Foresters) for the beats falling under them. It was a pleasure to see the details of court cases in a small office room of the Round Officer at Astha village written on the wall. Our visit was surprise visit. At Field Director's level a person is monitoring the court cases regularly.
	No	0	-	
	Sub-Total	4	4	
32. Ex-Gratia, Compensation	Paid promptly	5	5	No pending case has been reported. Cattle kills by tigers and leopards are high. As high as 124 in 2003-04. Human death and injury is low.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	2	Reasonable staying facilities for visitors exist. One FRH with 4 suites, one Holiday Home with 3 suites and a Youth Hostel with 36 beds are available at Tadoba. One FRH with 4 suites is at Kolsa and a tourist complex at Moharli on the boundary of the TR with 15 suites has recently come up. One Faculty House and 3 tents each with 10 bed capacity are also available at Moharli gate. A 25 seater departmental minibus is available at Chandrapur to bring visitors to Tadoba and a 12 seater departmental minibus is available at Tadoba for Jungle Safari. 35 trained guides are available who accompany the visitors on their jungle trips. There is a visitor centre cum museum at Tadoba with film and LCD projector and slide projector. There is an interpretation centre at Moharli based totally on local theme. It was delightful to be guided in this centre by a local guide who explained well in English and Hindi. Canteen facilities are also available at all the three places.
	Poor	0	-	
	Sub-Total	2	2	
34. Relationship with Police	Good	1	1	Relationship is cordial. Regular meetings with Police Superintendent is held under Tiger Cell and necessary cooperation is available.
	Poor	0	-	
	Sub-Total	1	1	

Tadoba Tiger Reserve

Evaluator: A S Negi

Issue	Criteria	Maximum Score	Current Score	Comments
35. Ecodevelopment Activities	Ongoing	6	6	<p>Ecodevelopment Programme under World Bank aided Maharashtra Forestry project was started in 10 villages inside and in the zone of influence of PA since 1994 under which following activities were taken up:</p> <ul style="list-style-type: none"> • Training the village youth under self employment programmes. • Solar fencing and animal proof trenches to reduce man-animal conflicts. • Health care camps. • Biogas plants and LPG for cooking. • Developing degraded community land and forest land into pastures and fuel woods lots. <p>Biogas and LPG results were seen in Astha village by Committee member and found successful. The programme is ongoing with the help of Govt. of India funds under Project Tiger. The FD feels that the present scale of funding is insufficient looking at the large number of villages in the close vicinity of the TR. He feels that these programme could be fruitful if at least 5 lakh per village is spent per year initially and a corpus fund is raised to sustain the programme.</p>
	Lacking	0	-	
	Sub-Total	6	6	
36. Fulfilment of Reciprocal Commitments	Good	5	5	<p>Reciprocal commitment by majority of villagers remains much below expectation. However, due to improvement of relations between TR management and communities, it is easier to get intelligence about few notorious people and outsiders intending to harm the TR. This also helps to continue a dialogue with villagers for their support.</p>
	Poor	0	-	
	Sub-Total	5	5	
37. Cattle Immunisation In Villages	Done	5	5	<p>It is being done for communicable cattle diseases every year in the inside and peripheral villages with the help of local veterinary officers.</p>
	Not done	0	-	
	Sub-Total	5	5	
38. Host Community Involvement In Ecotourism	Yes	5	5	<p>35 eco guides from nearby village are engaged to guide the visitors, they earn about Rs 8000/- on an average during one tourist season. All the canteens are run by local people. A large number of vehicles are hired by tourists which belong to local people. Looking at the tourist volume the involvement of host community could be much more.</p>
	No	0	-	
	Sub-Total	5	5	
39. Registration of Arms	Done	4	0	<p>It has not yet been done.</p>
	Not done	0	-	
	Sub-Total	4	0	
40. PM done in all Cases of Unnatural Mortality	Yes	4	4	<p>Being done in all cases of unnatural deaths with help of concerned veterinary officers.</p>
	No	0	-	
	Sub-Total	4	4	
41. Trust Between Local People & TR Management	Good	5	5	<p>There has been marked improvement in the trust after launching of eco development programme. Training of eco guides for local villages and their engagement with tourists has also helped in building the trust. Large number of daily wage workers in the TR are also local and contribute in trust building. Efforts have to be continued.</p>
	Poor	0	-	
	Sub-Total	5	5	

Issue	Criteria	Maximum Score	Current Score	Comments
42. Economic Benefits To Stake Holders	Good	3	3	The tourist guides, daily wage labourers, taxi drivers, hotel owners etc. get direct benefit, whereas sale of fruits, vegetables and dairy products, laundry work and other jobs in Government and private lodges also benefit the stakeholders. Ecodevelopment programme has helped in training local youth for self help programme.
	Poor	0	-	
	Sub-Total	3	3	
43. Control Over Use / Access Of TR Resources	Good	5	3	There is good control over TR resources due to unified control of core and buffer. The State Government is contemplating the idea of restarting forestry operations like coupe working, bamboo cutting and NTFP collection in the MUA, which will be very detrimental to TR. This should in no case be allowed to restart as there is already immense pressure of surrounding villages on the MUA and part of Melghat WLS.
	Poor	0	-	
	Sub-Total	5	3	
44. Efforts Towards Sustainable Development	Good	4	0	Very little efforts through ecodevelopment programme are being done. Sustainable development is only possible if all development works are coordinated and conducted on the lines of eco-development programme.
	Lacking	0	-	
	Sub-Total	4	0	
45. Restorative Inputs Beyond TR	Being done	5	0	There is no such inputs as all forestry works including extraction of timber, bamboo, NTFP is in progress in all the Ranges of adjoining Forest Divisions. These are possible only if the adjoining Forest Divisions. These are possible only if the adjoining RF is handed over to TR Management and a landscape plan is prepared and integrated with the working plans of these and other Forest Divisions.
	Lacking	0	-	
	Sub-Total	5	0	
Grand-Total		185	134*	

**corrected total*

Profile

The Valmiki Tiger Reserve is located in the northern most part of the West Champaran district of Bihar. Core area was declared as a National Park in 1989. Government of Bihar had notified 464.60 km² area as Valmiki Wildlife Sanctuary in 1978. Later on, in 1990 an area of 419.18 km² was added to the Sanctuary. Thus Valmiki Wildlife Sanctuary embraces a total area of 880.78 km².

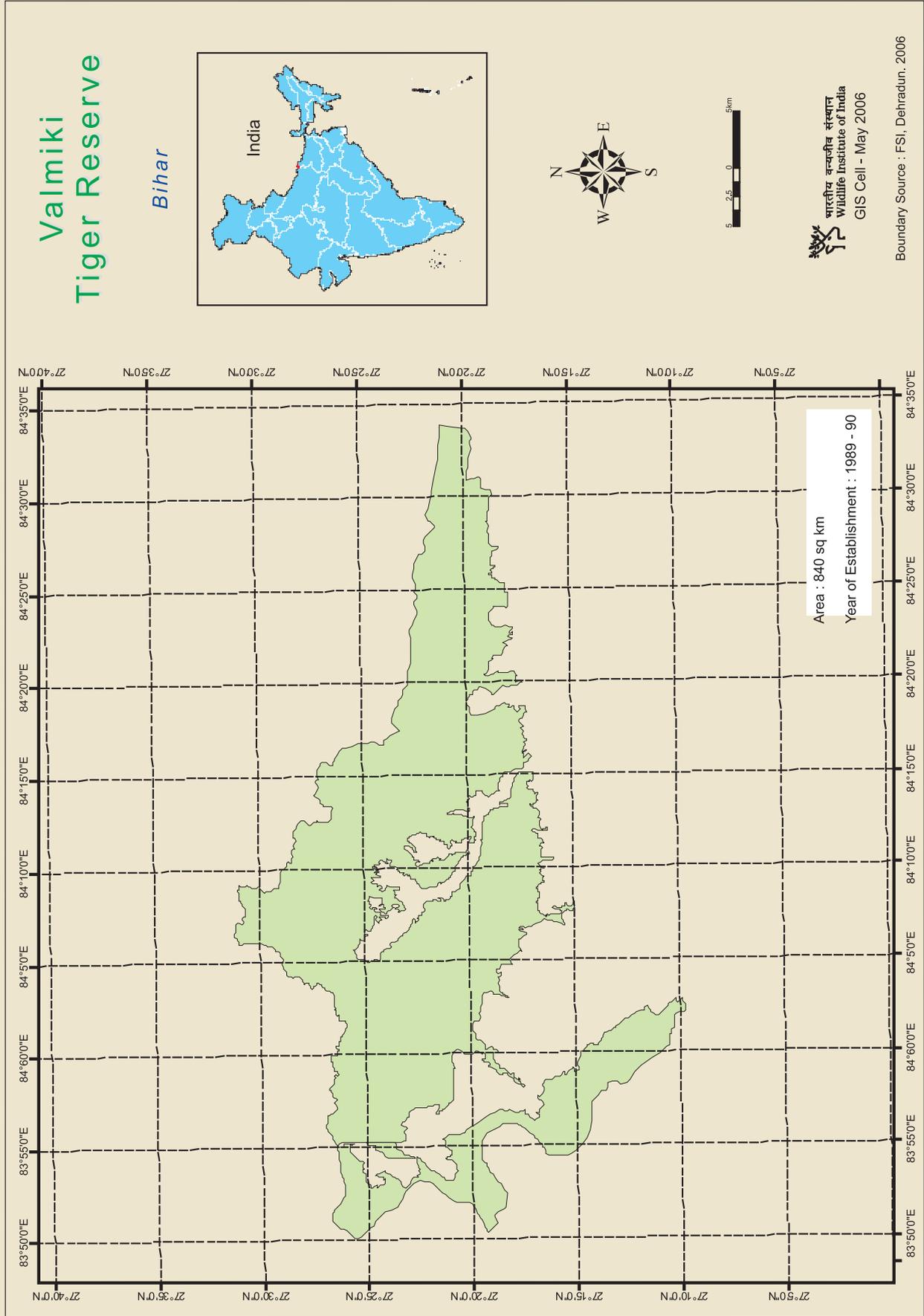
Being part of the Siwalik Range, the landscape is largely made of imperfectly compacted and ill-formed sandstone dotted with pebbles and boulders. Owing to the fragile nature of parent rock material, the soil produced at the foothill is immature with, loose sand.

At Lauriya Nanadan garh there is a 2000 year old lion pillar of Ashoka, which is a single block of polished sand stone, 32'-9.5" in height with a diameter of 35'.5" at base and 26.2" at the top. The pillar is over 2000 year old and in excellent condition. Nandangarh is a huge mound composed of bricks and is about 80 feet high.

At Triveni Gandak, Sonha and Pachanad rivers merge. It is also believed to be the site at which the fight commenced between Lords of Forest and Water (the Elephant and Crocodile).

Forest Types of Valmiki TR are: Bhabar Dun Sal Forest, Dry Siwalik Sal Forest, West Gangetic Moist Mixed Deciduous Forest, Khair - Sissoo Forest, Cane brakes, Eastern Wet Alluvial Grassland, Barringtonia Swamp Forest .

Main faunal species include: Tiger, Leopard, Fishing Cat, Leopard Cat, Chital, Sambar, Hog Deer, Black Buck, Gaur, Sloth Bear, Langur and Rhesus Monkey.



Valmiki Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
1. Legal Status	Completion of legal procedures	3	1	Final Notification in case of Valmiki WLS to be issued; process under section 19 to 25 initiated in 1998. Hearings have been held, final notification yet to be done, in case of Valmiki NP, no rights exist as the same constitutes notified forests without any rights.
	Delineation of buffer zone	3	3	Buffer zone delineated (505 km ²) Core zone: 335 km ²
	Unified control of buffer	3	3	Control of buffer is unified under exclusively under Valmiki Tiger Project and CCF Wildlife
	Sub-Total	9	7	
2. Compatible Land Use	In the buffer	3	3	Only as wildlife habitat.
	The land use is totally incompatible in the buffer (includes forestry operations also)	0	-	Incompatible over maximum portion of the Buffer.
	Beyond buffer (5km. radius)	3	2	Mainly cultivation with tree vegetation also
	Beyond buffer the land use is detrimental	0	-	No
	Sub-Total	6	5	
3. Human Pressure	Habitation present within the core	0	-	
	No habitation within the core	4	4	No habitation within the Core Zone of 335 km ² .
	Livestock Grazing pressure present within the core	0	-	Livestock of one village only out of the 16 Villages situated in the fringe areas in Naurangia Done and Raghia Block area grazing mainly seasonal during Kharif crop, limited to plains in a narrow belt/strip of 2 km maximum width;
	No livestock grazing pressure within the core or adjoining areas	4	2	Livestock grazing pressure to a limited extent in case of narrow strips near the fringe villages of the buffer zone
	Cultivation present in the core	0	-	No
	Encroachment present	0	-	No encroachments in core area.
	Collection of NTFP in the core	0	-	Only grasses for bonafide use to a limited extent in close proximity to villages
	Quarrying present in the core	0	-	Not present
	Sub-Total	8	6	
4. Use of the Area by other Departments	Yes	0	-	Very tiny fraction under the use by other departments: I. Two public roads with total length :26 km only in the buffer area II. 6 Km railway tracks in the Western extremity and the buffer area of Reserve, Canal system of km in length in only Madanpur Block and fine part of Triveni Block in Buffer zone constructed in 1960s prior to constitution Sanctuary and TR. III. SSB for patrolling in the straddling over Indo Nepal Border (or National Security Reasons and establishment of several border outposts at intervals affecting only negligible area with minimal interference.
	No	3	2	
	Sub-Total	3	2	

Valmiki Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
5. Management Plan Updated	Yes	3	2	Under Revision: Final Draft prepared
	No	0	-	
	Sub-Total	3	2	
6. Regeneration Status in the Core	Satisfactory	3	3	Satisfactory over larger portion.
	Poor	0	-	
	Sub-Total	3	3	
7. Regeneration Status in the Buffer	Satisfactory	3	3	Satisfactory over larger portion. Landuse change by waterlogging over 1600 ha in Madanpur Block due to Railway line
	Poor	0	-	
	Sub-Total	3	3	
8. Staff in Position	Satisfactory	3	1	About 30 % posts are lying vacant
	Inadequate	0	-	
	Sub-Total	3	1	
9. Average Age of Staff	Satisfactory	3	1	Field Staff ;4% between 35 to 40 yrs;63%% between 40 to 50 yrs; 33% % above 50 yrs;
	Unsatisfactory	0	-	
	Sub-Total	3	1	
10. Equipments	Adequate	3	1	Needs rapid strengthening.
	Inadequate	0	-	
	Sub-Total	3	1	
11. Vehicles	Adequate	3	1	Needs rapid strengthening.
	Inadequate	0	-	
	Sub-Total	3	1	
12. Timely Release of CA	Yes	4	2	Last two years the CA released before third quarters of financial year. This can be speeded up.
	Delayed	0	-	
	Sub-Total	4	2	
13. Strike Force Available	Yes	4	1	Home Guards being utilised, Efforts for constitution of Strike Force under way.
	No	0	-	
	Sub-Total	4	1	
14. Disbursement of Salary/ Project Allowance/ TA	Satisfactory	4	4	Salary. TA disbursement regular and timely since 2001. Project Allowance disbursed after release of CA only Payment of Project Allowance up to date.
	Unsatisfactory	0	-	
	Sub-Total	4	4	
15. Field Data Collection & Research	Ongoing	3	1	Irregular, Needs to be streamlined.
	Not ongoing	0	-	
	Sub-Total	3	1	
16. Tourism Regulation	Done as per CC	5	2	Not required due to negligible incidence of tourism.
	Not done as per CC	0	-	
	Sub-Total	5	2	
17. Recycling of gate Receipts done	Yes	5	3	Not required due to negligible incidence of tourism.
	No	0	-	
	Sub-Total	5	3	
18. Field Staff Training	Yes	3	0	Staff training inadequate and irregular.
	Not done regularly	0	-	
	Sub-Total	3	0	
19. Weed Growth in the Habitat	Present	0	0	A climber (<i>Mikania spp</i>) spreading like weed in some wet/moist localities; Invasion of <i>Eupatorium</i> shrub coming up over fringe areas. Both needs to be checked.
	Not seen	3	-	
	Sub-Total	3	0	
20. Gregarious Woodland Advancement in Meadows	Present	1	-	Gregarious advancement not noticed, yet meadows need management
	Managed	4	3	
	Sub-Total	4	3	

Valmiki Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
21. Field Visits by Officers	Adequate	4	4	Sufficiently visited. There are too many hurdles-poor communication, threat from extremists.
	Inadequate	0	-	
	Sub-Total	4	4	
22. Staff Welfare Measures	Satisfactory	4	1	Needs to be increased to provide adequately good working facilities in adverse conditions and better living conditions - adequate safe accommodation.
	Unsatisfactory	0	-	
	Sub-Total	4	1	
23. Poaching	Common	0	-	Negligible. Intelligence network for detection of poaching to be strengthened.
	Negligible	4	3	
	Sub-Total	4	3	
24. Fires	Common	0	-	Within 2% of the T R area.
	Less than 1% of the TR area	5	4	
	Sub-Total	5	4	
25. Epidemics	Common	0	-	Rare.
	Rare	3	3	
	Sub-Total	3	3	
26. Wildlife Estimation	Done regularly	3	2	1997, 2002 (Tiger Census only) 2003. Since 1994 when Tiger Project commenced in this Reserve
	Irregular	1	-	
	Sub-Total	3	2	
27. Patrolling Camps Present	Yes	5	4	Seven camps (adequate in number present); operationalised with Home Guards. Present situation precarious with extremists - provision of safer accommodation with composite living is suggested.
	No	0	-	
	Sub-Total	5	4	
28. Daily Monitoring done through Camps and Recorded	Yes	4	1	To be firmed up and field observation of wildlife to be recorded and monitored more intensely.
	No	0	-	
	Sub-Total	4	1	
29. Networking Strategy Present	Yes	3	1	
	No	0	-	
	Sub-Total	3	1	
30. Daily Patrolling done	Yes	5	4	Yes.
	No	0	-	
	Sub-Total	5	4	
31. Court Cases Monitored	Yes	4	3	Yes-many cases in court being pursued.
	No	0	-	
	Sub-Total	4	3	
32. Ex-Gratia, Compensation	Paid promptly	5	5	No claims since creation of TR in 1994.
	Not paid promptly	0	-	
	Sub-Total	5	5	
33. Tourist Facilities	Adequate	2	1	Available, but not in demand due to certain adverse factors like poor road access and security perception.
	Poor	0	-	
	Sub-Total	2	1	
34. Relationship with Police	Good	1	1	Satisfactory working relation exists.
	Poor	0	-	
	Sub-Total	1	1	
35. Ecodevelopment Activities	Ongoing	6	1	Initiated recently; needs to be intensified need to visit adjoining.
	Lacking	0	-	
	Sub-Total	6	1	
36. Fulfilment of Reciprocal Commitments	Good	5	2	Needs to be done through activation of EDCs already constituted.
	Poor	0	-	
	Sub-Total	5	2	

Valmiki Tiger Reserve

Evaluators: M K Naidu and S K Patnaik

Issue	Criteria	Maximum Score	Current Score	Comments
37. Cattle Immunisation in Villages	Done	5	0	Not done as yet; proposed to be initiated in APO 2004-05.
	Not done	0	-	
	Sub-Total	5	0	
38. Host Community Involvement In Ecotourism	Yes	5	0	Not done as yet due to negligible incidence of Tourism; potential of ecotourism needs to be harnessed gradually with involvement of host community.
	No	0	-	
	Sub-Total	5	0	
39. Registration of Arms	Done	4	4	Done, commenced in 1998 and completed in 2003.
	Not done	0	-	
	Sub-Total	4	4	
40. PM done in all Cases of Unnatural Mortality	Yes	4	2	Done utilising the services of Veterinarians of Animal Husbandry Department available at nearby Block towns.
	No	0	-	
	Sub-Total	4	2	
41. Trust Between Local People & TR Management	Good	5	4	Trust exists, it needs to be sustained by mobilizing the EDCs constituted and taking up adequate ecodevelopment activities which have been still in nascent phase.
	Poor	0	-	
	Sub-Total	5	4	
42. Economic Benefits to Stake Holders	Good	3	1	Direct economic benefit presently Inadequate; needs to be augmented through Ecodevelopment activities; Ecotourism; habitat management activities to a considerable extent.
	Poor	0	-	
	Sub-Total	3	1	
43. Control Over Use / Access of TR Resources	Good	5	3	Adequate and effective control in place over major portion of the TR.
	Poor	0	-	
	Sub-Total	5	3	
44. Efforts Towards Sustainable Development	Good	4	2	To a good extent. Needs more diverse inputs.
	Lacking	0	-	
	Sub-Total	4	2	
45. Restorative Inputs Beyond TR	Being done	5	2	Needs to be strengthened where there is scope (Like development of agro and farm forestry in the areas adjoining the buffer zone)
	Lacking	0	-	
	Sub-Total	5	2	
Grand Total		183	106*	

*corrected total



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