

TIGER RESERVE ASSESSMENT CHECKSHEET

Name of area: MELGHAT, TIGER RESERVE

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Status

1 Is area duly (and fully) constituted

Comment:

Decision

As a sanctuary

The core area should be immediately constituted as a National Park

2 Extent of Reserve

Core Area .. 308.24 km<sup>2</sup>  
Buffer Zone .. 1288.99 km<sup>2</sup>

a) Does reserve adequately represent local biogeographic/ecological type?

Yes - Sub-group 5A of Group 5 according to the revised classification of Forest Types by Champion & Seth i.e. Southern Tropical Dry Deciduous Forests.

b) Does reserve contain sufficient 'range' for important species to be of genetically viable population size.

Yes

c) Does the reserve have a core/buffer zonation?

Yes

If YES Does it have a planned Core Buffer

Yes

If NO Are there steps to set up core/buffer zones

N.A.

If yes Are they adequately managed?

Core area is strictly protected with highly restricted entry. In buffer zone, commercial and other forest operations, grazing, agriculture, unrestricted traffic is permitted.

Does P.T. Manager have full say over buffer activities?

No - The buffer zone is controlled by the Territorial Wing of the Forest Department and other Govt. Departments such as Revenue, Tribal Welfare, Animal Husbandry, Agriculture, etc.

d) Other questions

The core area should be surrounded by a buffer zone on all sides, since the physical features presently separating the southern, south-western and western boundaries are not an adequate barrier.

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### 3 Management Plan

- a) Is there a properly drawn up to-date management No  
If not, is there an old plan still in force No  
Is a new plan under active preparation Yes - We understand this plan should be ready by June, 1987  
Is such preparation along established lines We understand all guidelines prescribed by Govt. of India will be followed whilst drawing up the Management Plan.
- b) If there is a management plan  
Are prescriptions being followed N.A.  
If not, are changes properly instituted N.A.  
Is there a practical annual work plan Yes  
Is work plan being followed We are given to understand the annual work plans are being followed.
- c) Do annual reports suggest major achievements made Yes  
Do annual reports suggest management is facing problems and present practical solutions One major problem is the uncertainty of Govt. of India pending for the project.
- d) Other questions Major achievements in the core area are strict protection. provision of water and fire protection.  
To continue the present good relationship with the local people, the quantum of compensation for cattle killed by predators should be raised from 75% of the market value to 100%.

### 4 Protection

- a) Are there adequate protection/management staff For Core Area - Yes  
For Buffer Zone - No  
If No: are there steps to increase numbers One mobile squad has been asked for.  
Have numbers of staff shown increase in time period Yes.

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#### 4 Protection

- b) Are remote areas adequately patrolled  
Core area is very strictly patrolled.
- Are there facilities for difficult season patrolling  
There are 8 horses - this number needs to be augmented.
- Is there a severe poaching problem  
No
- Are staff beginning to control problem  
N.A.
- Is there an efficient communication system  
Yes
- Has the system improved in past time period  
Yes
- c) Is there a fire policy  
Yes - for core area
- Is the policy ecologically sound  
Yes - for core area
- Are there investigations to evaluate fire effects  
Yes - for core area
- Is there adequate management input into fire policy  
Yes - for core area
- d) Other questions  
Because of the free movement of human beings in the buffer zone, fire hazards are much greater. Fires emanating from the buffer zone are likely to pose a continual danger to the core area despite steps taken to protect the core area. It is therefore absolutely essential to impose strict fire protection measures in the buffer areas also.

#### 5 Habitat Problems

- a) Is there a domestic stock problem?  
Not in core area
- Have stock been removed from core  
Yes
- If No, are there adequate plans to do so  
N.A.
- Is there regulation of stock in buffer  
No
- If No, are there adequate plans to do so  
No

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5 Habitat Problems (Continued)

- b) Are there villages in core zone No
- Are there steps to remove them N.A.
- Are there villages in buffer zone which should be removed No
- Are there steps to remove or control them. No
- c) Has the reserve faced potentially damaging development Yes - for a milk chilling plant. Fortunately, this proposal has been turned down on the recommendation of the P.T. Field Director.
- Has management put up a sound conservation defence Yes.
- Are there further development in planning stage The P.T. Field Director is not aware of any development projects in the area. Unfortunately, PT Field Director is not a member of DP&DC and will also be unaware of any development projects planned in M.P. (along the northern boundary of the Project Tiger Reserve).
- Has management started planning a conservation defence. No
- d) Is there a weed problem Yes, mainly in buffer zone.
- Is there a policy to deal with weeds Yes, under experimentation.
- Is the policy based on sound ecological/conservation principles Bamboos are being planted to eradicate lantana. More study is required to determine the ecological implications.
- Is the weed problem decreasing No
- Is the policy given adequate management input No - the present efforts must be stepped up considerably in the Buffer Zone.
- e) Is there a problem of soil erosion due to past/present abuse Not a major problem.
- If yes, are there steps to control them N.A.
- Are these inputs sound N.A.
- Is there adequate management input N.A.

- f) Is there a problem of inadequate water Yes
- Are there steps to overcome problem Yes
- Has water supply policy adequately considered:
- i) tourism needs No
  - ii) need to ensure forage conservation No
  - animal dispersion Yes
- g) Have forestry operations been stopped/reduced in core area commensurate with existing policy Yes
- Is existing policy in best conservation interest Yes
- If no, has management attempted to change policy. N.A.
- h) Are forestry operations taking place in buffer Yes
- Are these regulated to reduce ecological disturbance No, though clear felling has been stopped.
- If No, are there plans to effect regulation No.
- i) Has habitat shown adequate improvement in time period Yes - in core area only.
- j) Other questions
- Habitat management, especially in the buffer zone, should be based on the needs of wildlife e.g.
- (i) creating and maintaining grasslands and meadows for herbivores,
  - (ii) retaining old trees to provide nesting sites for birds and small animals,
  - (iii) planting of understorey shrubs and bushes for forage such as bohenia racemosa, carissa carondens, zizyphus spp. etc.

## 6 Animal Populations

- a) Is predator prey ratio within expected limits Existing data is inadequate to arrive at any conclusion. However, assuming that the tiger population has been accurately counted during the last census, the per capita cattle kills works out to 2 per per tiger per year. This would indicate that the predator may prey ratio is ~~not~~ satisfactory.
- If No, can management explain discrepancy.
- Is discrepancy ecologically a problem.
- Is management planning to solve problem.

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6 Animal Populations (Continued)

- b) Is there an adequate policy of disease control Yes
- Is policy adequately put into practice Yes
- Has reserve good contact with veterinary assistance Yes - for domestic animals. For wildlife, no veterinary assistance is available.
- c) Are population trends for major species satisfactory Yes, as per the census figures given to us.
- If not, can management explain discrepancy N.A.
- Is discrepancy an ecological problem N.A.
- Is management planning to solve problem Except for protection, P.T. management is not taking any steps to enhance the animal population.
- d) Are there other endangered species of plant-animal Yes, (as per list attached)
- Are there programmes to adequately understand such species No - Research facilities need to be provided.
- Are such species under a special management consideration No
- ~~are-no-such-inputs-now,~~
- Are such considerations sound N.A.
- If no such inputs now, are they planned No
- Are populations of species showing adequate response N.A.
- e) Are monitoring programmes satisfactory Present monitoring programmes consists of observation sheets filled up by Forest Guards. The raw data needs to be processed.
- f) Other questions
- 7 People Problems
- a) Are relations with neighbouring populations adequate Apparently, there is no conflict at the moment.
- If No, are there steps to improve relations N.A.

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7 People Problems (Continued)

- b) Are there plans for 'ecodevelopment' in cooperation with local authorities
- No, except for provision of water to villages in the buffer zone by anicuts and windmills.
- If No, can management justify no plans.
- The preparation of an eco-development plan, whilst necessary, does not seem to have a high priority at the moment.
- c) Is there a problem with crop damage/stock theft
- No.
- Is management attempting to reduce problem level
- N.A.
- d) Is there a programme of wild-life/conservation education
- Yes. The relevance and the qualitative aspects of this programme needs to be upgraded. Since Hindi is ~~the~~ commonly understood by the locals, such programmes must be in Hindi.
- Is the programme adequate?
- If No, is management attempting to improve programme
- Management's efforts are presently confined to upgrading their equipment.
- e) Is tourism adequately planned/controlled
- No, except in core area, where no tourism is permitted.
- 1) Are lodges etc. well sited and maintained.
- There are no tourist lodges.
- ii) Is tourist activity controlled and regulated adequately.
- No, except in core area, where no tourism is permitted.
- iii) Is tourist education properly done
- No
- If No, are there plans to do so.
- Yes
- a) Is there a visitor centre
- Yes, one is planned
- b) Are there brochures, upto date and useful
- There is one brochure.
- c) Are there trained guides
- No
- f) Are well informed visitors remarks objectively critical of management at all.
- We are not aware of any such remarks.
- g) Is there right of access across the park?
- Yes, access <sup>to</sup> the buffer zone.
- If yes, is such movement adequately controlled
- There are no controls, except for forest check-post on the main roads.

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7 People problems (Continued)

h) Other questions

There should be no night traffic in the sanctuary. Crop protection guards must be withdrawn; instead crop damage should be compensated. EGS funds should be applied for protecting fields by building rubble walls/ditches.

8 Any other <sup>features</sup> ~~features~~ of management which are not adequately covered above

Free grazing must be prohibited. Presently, cattles are freely grazing in the sanctuary area. Instead, FD must supply fodder to the villagers free of cost. This would ensure that this area becomes a surplus producer of grass that can be exported.

9 Any particular positive feature of management which may be considered to have led to improved knowledge or practice of wildlife management in India (e.g. papers, reports or ideas), or in general be specially noteworthy.

Strong leadership qualities have resulted in high morale amongst PT staff. A lot of equipment has been made available and is being used and properly looked after e.g. cameras, binoculars, etc. Physical fitness of the staff seems to be exceptionally high. 60% of the forest staff seem to have been recruited from the local population, which certainly has paid dividends. The present team seems to be working exceptionally well, and should be permitted to continue as a unit, notwithstanding normal Govt. constraints

10 Research

Does the reserve have a permanent research Cadre?

No, though there is a post of Research Officer.

What are the methods of data collection?

Transects, quadrats, observation study, pug mark census.

Are species status being monitored?

Yes

What are the census techniques used for a) the tiger:

Pug mark

b) Prey:

Visual block count method

Do you consider the methods and results satisfactory

No

Have the research staff published any papers?

Yes

What is your assessment of the research output?

Inadequate, since the staff available, though efficient, is very limited.

Melghat Tiger Reserve (MTR) has been constituted as a sanctuary vide Gazette Notification No. WLP-1978/10553(a)P-5 dated 5th September 1985. The Core Area of 308.24/km<sup>2</sup> which generally represents local biogeographic type needs to be constituted as a National Park. The buffer area of 1288.99 km<sup>2</sup> is at present open to forest operations, grazing, agriculture, unrestricted traffic, etc. and is being managed by the Territorial Wing of the Forest Department needs to be managed as an integral part of the MTR. The Buffer Zone should be expanded to encircle the Core Area on all sides.

The MTR is at present managed on the basis of Annual Plans. The major achievements have been the enforcement of strict protection in the Core Area, protection from fires (the core area affected by fire has been reduced from 36% in 1984 to 23% in 1986) and provision of water for wild animals. However, there seems to be some uncertainty about future funding from Government of India.

In the Buffer Zone, there is a need to enforce strict protection. This can be brought about by creation of mobile squads and total prohibition of vehicular movement at night.

The fire policy in the Buffer Zone should be on par with that of the Core Area, especially since fires started in the Buffer Zone spread to the Core Area. The Project Tiger Management should be more effectively involved in the management of the Buffer Zone.

There are no villages and cattle in the Core Area, as this area is not suitable for human habitation. However, it is likely that the buffer zone may face increased development pressures. As such, the Field Director, PT, should be involved with planning bodies such as DP&DC. Some mechanism for liaison should also be created with development agencies in MP across the northern and eastern boundaries of the MTR so that any plans for unwellcome development may be forestalled.

It is also necessary to prepare a comprehensive eco-development plan for the Buffer Zone so as to reconcile the long-term requirements of man and wildlife. The present habitat management is to concentrate on enforcement of protection and provision of water for wild animals as well as human beings living in the Buffer Zone. However, the management

should increasingly be based on a consideration of the needs of wildlife such as :

- (1) creation and maintenance of grasslands and meadows,
- (2) retention of old trees that provide nesting sites for birds and small animals, and
- (3) planting of understorey shrubs and bushes for forage.

~~Forestry~~<sup>Forestry</sup> operations in the Buffer Zone also need to be modified to harmonise with the needs of wildlife. Only commercially ~~valuable~~ teak may be cut - other species of trees should not be touched.

Existing data suggests that the wildlife population is viable and healthy. The low frequency of cattle killed by predators indicates that the predator-prey ratio is satisfactory. However, it is very difficult to assess the wildlife population because the rugged nature of the terrain makes the actual sighting of animals few and far between. Animal calls are also not heard very frequently. Habitat management as mentioned above would lead to greater visibility and more reliable estimation of numbers. Apart from protection, more positive steps need to be taken to enhance the wildlife population. Though veterinary assistance for domestic animals is available, no specialised expertise is available for sick or wounded wild animals. We feel, therefore, that PT should have its own veterinary unit.

The MTR also harbours threatened/endangered animals such as the leopard, four-horned antelope, rat~~el~~, flying squirrel, gaur, python, etc. It is necessary that their requirements are properly understood and catered for. As the MTR also offers excellent opportunity for the study of forest birds, it may be desirable to have a full-time ornithologist who may be able to suggest better habitat management by the study of birds.

There appears to be no conflict between the people of the buffer zone and the PT staff. Provision of water by the PT staff should be a great help in maintaining harmonious relation. This harmony can be further strengthened by compensating fully for the loss of their cattle. The programme of wildlife and conservation education needs to be qualitatively improved and made socially more relevant. Management efforts are presently confined to upgrading and modernising the

equipment. They should also bring in professional help in preparing audio-visuals, films, etc. As the tribals understand Hindi better, it would be in the interest of PT to present these programmes in Hindi. The PT should consider adopting Ashram Schools (for the Adivasis) so that the Adivasi's children are involved in understanding the project and the project is ensured of trained and interested pool of young people.

The Committee went into all aspects of encouraging tourism and were of the opinion that tourism at present should not be encouraged actively. <sup>lack</sup> ~~lack~~ of water and low visibility of wild animals due to the nature of <sup>horrors</sup> ~~tourism~~ will prove a great disappointment to the average tourist. If animals cannot be seen in the buffer zone, the pressures will be built up to open the core area for tourism. Since tourism is a new venture for MTR, it is recommended that great care be taken in introducing additional human intrusion into Melghat before considerable thought has been given to have the entire aspect examined. The tourism complex planned at \_\_\_\_\_ may be profitably utilized to accommodate regular workers.

It is surprising that crop protection guards are allowed in the sanctuary area. They should be withdrawn with immediate effect. For protecting crops, the farmers should be encouraged to build rubble walls through E.G.S. funds. Free grazing of cattle and goats should not be allowed in the sanctuary area. EGS funds may be utilized to cut grass and provide it to farmers.

The success of the present management depends on the strong leadership qualities that result in the high morale of the PT staff. The present team working well should be continued.

The Committee was impressed by the physical fitness and smart turnout of the PT staff and such equipment as binoculars and cameras is being used. It is also gratifying to note that a number of local people are employed and their traditional skills in tracking are made use of.

While the present research officer is very keen and knowledgeable, his efforts should be supplemented by personnel from Universities and Scientific academics for sustained and long-term studies. A lot of rare data which are being collected through detailed observation sheets translated into Marathi and suitably modified by the present Director, should be procured and analysed for proper management output.