



# **COMPENDIUM OF GUIDELINES/ ADVISORIES/ GAZETTE NOTIFICATION**

**UPDATED UPTO 31ST MARCH, 2010**

**NATIONAL TIGER CONSERVATION AUTHORITY**



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## GUIDELINES

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# GUIDELINES



# P R O J E C T   T I G E R

## GUIDELINES FOR EXECUTION OF THE PROJECT BY THE STATES

(J-11025/1/72-FRY(WLF)/Dt. 4.1.1974)

Government of India  
Ministry of Agriculture  
Department of Agriculture  
New Delhi

August, 1973



## PROJECT TIGER GUIDELINES FOR IMPLEMENTATION OF PROJECT

### GENERAL BACKGROUND

A Project called "Project Tiger" (hereinafter referred to simply as the Project) has been formulated by the Government of India. It will be in the Central Sector of the Fourth Plan for the year 1973-74 and it will also be included in the 5th Plan for all the five years. It will be in operation at present in the tiger reserves of 9 States for the aforesaid six years (1973-74 to 1978-79). Each tiger reserve shall have a core area in which work envisaged by the Project only shall be done to the exclusion of all other work. Thus in this core area there will be no forestry operation, collection of minor forest produce, bamboo extraction, grazing of domestic cattle and any human interference including tourism. The residual area in every reserve can, however, be used for wild life oriented forestry purposes. The table placed below shows the 9 States in which the project will be in operation, the relevant tiger reserve for each State, the core area of each reserve and the residual area:-

| State          | Tiger Reserve | Core area | Residual area (Buffer area)<br>(in sq. kms.) | Total area |
|----------------|---------------|-----------|--|------------|
| Assam          | Manas         | 360       | 2,477  | 2,837      |
| Bihar          | Palamau       | 201       | 699  | 900        |
| Orissa         | Similipal     | 301       | 2,199  | 2,500      |
| Uttar Pradesh  | Corbett       | 318       | 207  | 525        |
| Rajasthan      | Ranthambhore  | 150       | 148  | 298        |
| Madhya Pradesh | Kanha         | 600       | 500  | 1,100      |
| Maharashtra    | Melghat       | 301       | 1,271  | 1,572      |
| Mysore         | Bandipur      | 334       | 355  | 689        |
| West Bengal    | Sunderbans    | 1,330     | 1,256  | 2,596      |

The total cost of the Project, estimated at ₹40 million will be borne entirely by the Government of India.

- The Project will be administered centrally by the Government of India, Ministry of Agriculture (Department of Agriculture) and will be executed by the Government of the 9 States to which it extends.
- This Project owes its origin to the report of the Task Force set up by the Executive Committee of the Indian Board for Wildlife for examining the question of preserving the tiger in the wild in India. The report of the Task Force has already been forwarded to the State Governments. The Government of India have accepted almost all the recommendations contained in the report. That report, subject to the exceptions and modifications made by these guidelines, shall be the basis for the implementation of the Project and for this purpose shall be deemed to be a part of these guidelines. If on any particular point there is an inconsistency between the Report and these guidelines, the guidelines shall prevail.

### PROJECT SUPPLEMENTARY IN NATURE

- This Project is in addition to, and not in lieu of, the other efforts of the State Governments for the conservation of wildlife in general and the tiger in particular. There should not therefore be either a cessation or slackening of these efforts. The provisions normally made in the State budgets for this purpose and the entire staff, equipments and buildings now being used for the protection of wildlife and for the forests of the core areas should continue to be so used and under no circumstances could they be withdrawn and, on the contrary, they should be augmented to the maximum extent possible in the core area.



## MANAGEMENT PLANS

5. All State Governments have submitted management plans of the respective Tiger Reserves on the lines indicated in Chapter 8 of the Task Force Report to the Government of India for approval for the entire six year period, commencing from the year 1973-74, for which the Project will be in operation.
6. The Government of India have approved the Management Plans with modifications. The Govt. of India may also at any time, either on their own motion or on the motion of any State Govt., modify the Management Plans approved for that Government. Such amendment may also affect the financial allocation proposed for any State Government.

## THE ANNUAL PLAN

7. The Management Plans of every State will be executed in annual phases by means of an Annual Plan of Operations.
  - 7.1 As provided in para 4, the State Govts. will continue their efforts of preservation of wildlife of the Reserve under State Sector Schemes. The Annual Plan of Operation will , therefore, be an overall coordinated programme clearly indicating the works to be undertaken under the Central Sector Scheme wholly financed by the Central funds and the other works to be executed under State Sector financed from the resources of the State.
  - 7.2 The format of the Annual Plan will be found in Annexure 'A' (Pages i- vii).
8. The year for the purpose of this Project shall be the financial year and shall commence on the 1st April. The Plan of Operations (which shall include the estimate financial outlay) for any particular year should be submitted to the Government of India for approval by the 31st October of the year immediately proceeding, provided that for the year 1973-74 the plan should be submitted as soon as possible. Along with the plan of operation the annual expenditure incurred during first six months of the year, i.e., up to the 30th of September, should also be submitted to the Government of India. The annual plan will be executed by the State Governments with such modifications or amendments as may be made by the Government of India. In scrutinizing the annual plan of the State Governments, the Government of India will pay strict regard to the Management Plan and to the spirit and objectives of the Project within the framework of the Task Force Report. No deviation from the Plan will be permissible except with the prior approval of the Government of India.

## UNAUTHORISED EXPENDITURE NOT TO BE MET BY GOVERNMENT OF INDIA

9. The cost of any work undertaken by the State Governments outside the annual plan of operations in contravention of the instruction in paragraph 8 above and expenditure incurred on any item not covered by the plan will be a charge on the funds of the State Government and will not be met by the Government of India.

## NEED FOR SEPARATE ACCOUNT OF PROJECT FUNDS

10. In view of what has been said in paragraphs 8 and 9, it is necessary that a separate account be maintained for the funds to be provided by the Government of India for the Project.





## EQUIPMENT TO BE REGISTERED IN FAVOUR OF THE CENTRAL GOVERNMENT

11. If any equipment has to be registered with any authority under any law for the time being in force, the registration will be done in favour of the Director, Project Tiger, Ministry of Agriculture, Government of India. To give an example, licences for arms and ammunition, certificates of registration in respect of motor vehicles and watercraft licences for wireless equipment shall be in the name of the Director, Project Tiger. As far as arms are concerned, the Field Director or any other person nominated by the State Government can be the retainer.

## STATE GOVERNMENTS TO SANCTION WORKS

12. The estimates, specifications etc. of works included in the annual plan of operations shall be in accordance with the same scale and standards as have been prescribed by the State Governments for similar works executed under their own plans and financed from their own resources. Details of the works, including specifications and estimates, which are included in the annual plan need not be submitted to the Government of India for approval. As soon as any work is sanctioned, its particulars should be however furnished to Government of India.
13. Instead of reserving to themselves the power to sanction works, the Government of India have delegated it to the State Governments in the hope that this will facilitate the implementation of the Project. The Government of India have no doubt that sanctions will be issued in accordance with the normal procedure, rules and regulations of the State Government but there shall be utmost expedition without resort being made to unnecessary and wasteful administrative processes. Wasteful expenditure will be scrupulously avoided.

## DURABILITY OF ASSETS

14. The success of the Project will depend considerably upon the quality and durability of the assets that will be created in the process of its implementation. The purpose of the project will be defeated if, after the expiry of its life, the assets are not maintained properly. After expiry of the duration of the project in the Central Sector, it will automatically stand transferred to the State Sector along with all the assets and liabilities.
15. Responsibility for the maintenance of the assets will be that of the State Government. The greatest importance should be attached to this matter by the State Governments, and adequate financial provision shall be made by them in this regard.

## RELEASE OF FUNDS

16. At the commencement of every financial year, half of the cost of implementation of the annual plan sanctioned for that year will be advanced to the State Governments. After 2/3rds of the sum thus advanced has been spent, a report to this effect should be submitted to the Government of India, whereupon, if particulars of all works under execution have been furnished and the Government of India is satisfied with the progress made, the second and final installment of funds, will be released.
17. The first installment of funds will be in two parts. If the first part, equal to 1/6th of the total cost of the annual plan, will be released as soon as possible after the 1st April and the second part, which will be equal to 1/12th of the total cost will be released in June after the relevant Appropriations Bill has been voted by Parliament and accepted by the President.

## SPECIAL STAFF — CAREFUL SELECTION OF PERSONNEL — OVERALL RESPONSIBILITY OF CCF

18. The execution of the project in different States will be entrusted to staff to be especially and exclusively deputed for it. This staff will have two components. At present for the protection of the core area of tiger reserves there must be a number of forest officers, wildlife wardens, foresters, rangers, forest guards and others. This staff should be placed under the Field Director of the Tiger Reserve. This will be the first component of the Project staff and the expenditure for it will continue to be borne by the State Governments. But this staff will not be adequate. Additional staff will therefore, have to be deputed. The additional staff will be the second component and its entire cost during 1973-74 and the Fifth Plan period shall be met from the funds that will be placed at the disposal of the State Governments by the Government of India for the Project.
19. The success of the Project will naturally depend largely upon the staff selected for executing it. In the Government of India the overall responsibility for the Project will be that of the Inspector General of Forests who will be assisted by an officer especially and exclusively appointed for it and designated as the Director, Project Tiger. Similarly in the States the Project will be the specific responsibility of the Field Directors who will be working under the overall supervision and guidance of the Chief Conservator of Forests.
20. Management and administration of the core area (as specified in paragraph 1 above) shall be exclusive responsibility of the Field Director. In addition, however, to this responsibility, he will also bear responsibility for the protection of the wildlife in and the management of the buffer area of the Tiger Reserves. Other works like routine forestry operation and forest management in this residual area will, however, continue to be the responsibility of the territorial staff of the State's Forest Department.
21. The number and the nature of the staff of any particular State will depend upon the area of the reserves, the components of the Management Plans and the Annual Plan of Operations. Therefore, notwithstanding anything contained in Chapter 15 of the Task Force Report pertaining to administrative matters, a rigidly uniform staffing pattern will not be laid down. The pattern indicated in the Task Force Report is only for the guidance of the State Governments.
22. After carefully assessing the nature and volume of work that will have to be done from year to year the State Governments should prepare a realistic estimate of their requirement of additional staff and submit this estimate to the Government of India for approval. The salaries and allowances etc. of only such officers and staff as are specifically approved by Government of India will be borne from the funds to be provided by the Central Government.
23. The scale of pay and other allowances and facilities of the additional staff shall be in accordance with the norms and rules prevalent in the States. The Government of India however, expect that in consideration of the importance of the work involved and difficult and arduous nature of the duties of some of the officers / staff suitable special pays, if admissible according to the norms prevalent in the State concerned, may be allowed, so as to ensure that the best men are selected for the key posts.
24. The Government of India will approve the State Governments proposals for the administrative set up for the project with such modification, and subject to such conditions, as may be deemed fit and proper. Without prejudice to the generality of this provision, the Government of India shall impose the following conditions:-



- 24.1 The Field Director and other gazetted officers will be appointed only with the prior approval of the Government of India.
- 24.2 The Headquarters of the Field Director should preferably be within the tiger reserve in which he has to operate. If for any reason this does not prove practicable, his headquarters should be fixed, with the prior approval of the Government of India, at a place from which he will be able to visit the reserve daily and exercise close supervision over the works in progress, and
- 24.3 Personnel assigned to the Project shall remain in their posts for a minimum period of three years in order to ensure continuity in outlook and approach in the implementation of the Project. However, for some compelling reasons it may become necessary to transfer a person from his post before the completion of the three year period. If a Field Director or any other gazetted officer is to be transferred from the Project prematurely, prior approval of the Government of India shall be necessary. In respect to other officers and the staff, the Chief Conservator of Forests should satisfy himself that the transfer is necessary for compelling reasons before any officer is ordered to be transferred.
25. The staff to be appointed for the Project by the different State Governments will need some training as envisaged in Chapter 16 of the Task Force Report. Suitable arrangements for this purpose will be made by the Government of India.

## PERIODICAL REVIEWS AND REPORTS

26. State Governments will doubtlessly need to review from time to time the progress made in implementation of the Project with a view, inter alia, to evaluating the performance of the Project as a whole within their respective States. The Government of India will similarly need to know about the performance of the Project in the country as a whole. For this purpose, the basic data will have to be collected from the States. It is accordingly necessary that monthly and half yearly reports be compiled and submitted to the Government of India in the forms indicated in Annexe II, III and IV (pages-viii-xviii).
27. The monthly reports shall reach the Government of India not later than the 20th of the month following that to which it relates and the half-yearly report shall reach the Government of India within two months of the expiry of the half year to which it relates.
28. With the second half-yearly report an analytical annual report should also be submitted to the Government of India. This report should be comprehensive and in it the State Government should make a general assessment of the progress of the Project, analyse issues which might have cropped up and discuss the problems and make suggestions for their solution. This report will enable the Government of India to decide whether the Project is proceeding in the right direction or not and whether some reorientation is necessary. A suitable format for the Annual Report will be found in Annexe V (pages xix-xx).
29. State Government will have to make adequate internal arrangements for collection of the requisite data so as to ensure timely submission of the prescribed reports to the Government of India. Apart from anything else, release of funds will depend considerably upon timely submission of the reports and the progress of expenditure, having due regard to the progress in terms of the physical output of the Annual Plan of Operation.

## NEED FOR CLOSE SUPERVISION

30. It is necessary that the closest possible supervision is exercised over the execution of the Project both by the Government of India and the State Government, so as to ensure that its objectives are fulfilled. Central teams from the Government of India including Members of the Steering Committee set up by Government of India for Tiger Project will periodically visit State headquarters and also the sites where the Project is being executed. They will ascertain broadly how the project as such is being implemented in the country as a whole and will help in solving problems and difficulties which may arise. All State Governments should, also devise suitable machinery under the Chief Conservator of Forests to ensure that adequate supervision at all levels is maintained.

## CENTRAL ASSESSMENT OF THE PROJECT

31. The Government of India will assess, from time to time, on the basis of the reports furnished by the State Governments and the reports prepared by their own officials and by the members of the Steering Committee who might have visited the States, the progress made in the implementation of the Project and the performance of the State Governments individually. On the basis of such assessment the Government of India may, if necessary, divert funds and equipment from one State to another. For this purpose it has already been stipulated in paragraph 11 that certain equipment should be registered in favour of the Government of India.

## CONCLUSION

32. The success of the project will ultimately depend upon the help and cooperation of the State Governments and upon the interest that they take in its implementation. The Government of India have every hope that such help and cooperation will be readily forthcoming. On their own part, the Government of India give the fullest assurance of their own help and cooperation to the State Governments.

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# PROJECT TIGER ANNUAL PLAN OF OPERATION

## INTRODUCTION

Brief narrative of the Tiger Reserve based on

as per Management Plan

- (1) Background information
- (2) Objective and justification
- (3) Brief of physical targets
- (4) Brief of financial targets
- (5) Information about past achievements
- (6) Brief of State contribution - financial



# PROJECT TIGER ANNUAL PLAN OF OPERATION

1. State

2. Tiger Reserve

2.1 Name

2.2 Area - Total - Sanctum Sanctorum (in sq. km.)

3. Year

4. Date of Initiation

5. Plan provision

Central Sector

State Sector

5.1 Provision proposed for the year

6. Works

6.1 Capital

6.1.1 Buildings

| Type of Building | Location | Design | Financial allocation | State Sector |
|------------------|----------|--------|----------------------|--------------|
|------------------|----------|--------|----------------------|--------------|

6.1.2 Communication

6.1.2.1 Roads

| Location | Type | Length | Financial outlay | State Sector |
|----------|------|--------|------------------|--------------|
|----------|------|--------|------------------|--------------|

6.1.2.2 Wireless

| Location | Layout design | Units | Financial outlay | State Sector |
|----------|---------------|-------|------------------|--------------|
|----------|---------------|-------|------------------|--------------|

6.1.3 Equipment, scientific and others including arms and ammunitions

| Item | Specification | Cost | To be obtained indigenously | To be imported from abroad | State Sector |
|------|---------------|------|-----------------------------|----------------------------|--------------|
|------|---------------|------|-----------------------------|----------------------------|--------------|

6.1.4 Water development works

| Details | Location | Specifications | Design | Amount Required | State Sector |
|---------|----------|----------------|--------|-----------------|--------------|
|---------|----------|----------------|--------|-----------------|--------------|

6.1.5 Cost of shifting villages

| Name of Village | Location | Population | Details of expenditure like construction of |            |                                 | State Sector |
|-----------------|----------|------------|---|------------|---------------------------------|--------------|
|                 |          |            | (a) Wells                                   | (b) Houses | (c) Cost of forest produce etc. |              |

6.1.6 Cost of shifting cattle

| Name of village | No. of cattle | Cost of Shifting cattle | Designation | State Sector |
|-----------------|---------------|-------------------------|-------------|--------------|
|-----------------|---------------|-------------------------|-------------|--------------|

6.1.7 Miscellaneous. .Tools

| Details of each item | Amount required |
|----------------------|-----------------|
|----------------------|-----------------|

6.2 Works (Recurring)

6.2.1 Staff including special protection staff

| Name of post | New posts required | Scale of pay | Special pay if any | Qualifications needed | Method of rectt. | Non employed in State Sector |
|--------------|--------------------|--------------|--------------------|-----------------------|------------------|------------------------------|
|--------------|--------------------|--------------|--------------------|-----------------------|------------------|------------------------------|

6.2.2. Habitat Manipulation

6.2.2.1 Details of works

| Description | Felling operation | Cost required | Non employed in State Sector |
|-------------|-------------------|---------------|------------------------------|
|-------------|-------------------|---------------|------------------------------|

6.2.2.2 Planting

| Planting of Fodder species | Area | Cost | Give reasons narrative of operation | Non employed in State Sector |
|----------------------------|------|------|-------------------------------------|------------------------------|
|----------------------------|------|------|-------------------------------------|------------------------------|

6.2.2.3 Improvement of pastureland

| Description | Area | Cost | Narrative of operation | Non employed in State Sector |
|-------------|------|------|------------------------|------------------------------|
|-------------|------|------|------------------------|------------------------------|

6.2.3 Supplementary feeding

| Type of feeding | Amount required | Reasons | Non employed in State Sector |
|-----------------|-----------------|---------|------------------------------|
|-----------------|-----------------|---------|------------------------------|

6.2.3.1 Artificial salt lick

6.2.4 Water facilities

6.2.4.1 Transportation of water

| Means | Cost | Non employed in State Sector |
|-------|------|------------------------------|
|-------|------|------------------------------|

6.2.4.2 Running of pumping sets

| No. | Cost | State Sector |
|-----|------|--------------|
|-----|------|--------------|

6.2.4.3 Desilting of wells

| No. | Cost | State Sector |
|-----|------|--------------|
|-----|------|--------------|

6.2.4.4 Dugouts (Desilting of water holes)

| No. | Cost | State Sector |
|-----|------|--------------|
|-----|------|--------------|

6.2.4.5 Water trough

| No. | Cost | State Sector |
|-----|------|--------------|
|-----|------|--------------|



6.2.5 Fire Protection

6.2.5.1 Watch tower

| Location | Design | Cost | State Sector |
|----------|--------|------|--------------|
|----------|--------|------|--------------|

6.2.5.2 Layout of fire lines

| Location | Length | Cost | State Sector |
|----------|--------|------|--------------|
|----------|--------|------|--------------|

6.2.5.3 Fire fighting squads

| No. of squads | No. in each squad | Cost | Period of employment | State Sector |
|---------------|-------------------|------|----------------------|--------------|
|---------------|-------------------|------|----------------------|--------------|

6.2.6 Maintenance

6.2.6.1 Buildings

6.2.6.2 Livestock

6.2.6.3 Motor vehicles

6.2.6.4 Fire lines

6.2.7 Compensation to cattle owners

| Cash Awards | Cost | State Sector |
|-------------|------|--------------|
|-------------|------|--------------|

6.2.8 Veterinary care

| Short description of Veterinary care desired | Cost | State Sector |
|--|------|--------------|
|--|------|--------------|

6.2.9 Research

| Research title | Cost involved | (Give complete write up including details of financial requirement including requirement of equipment, staff and funds as an Appendix) | State Sector |
|----------------|---------------|--|--------------|
|----------------|---------------|--|--------------|

6.2.10 Training (Indicate staff to be trained during the year)

State Sector

6.2.10.1 Officers

6.2.10.2 Field Staff

6.2.11 Publicity and extension (Give details and the funds required for each item)

State Sector

6.2.12 Unforeseen and miscellaneous

7. Manpower requirement

7.1 Scientists

7.2 Educated

7.3 Skilled

7.4 Unskilled

Any other activity undertaken in the project under State Sector:

(a) Regular felling

Area Revenue

Other forestry Operations Revenue

(b) Protection Staff Financial target

8. Time table of works

8.1 First Quarter April - June

8.2 Second Quarter July - September

8.3 Third Quarter October - December

8.4 Fourth Quarter January - March  
Mention of State Sector works also

9. General remarks of the Field Director Date

10. Observations/ recommendations of the  
Chief Conservator of Forests Date

11. Approval of the State Government Date



## PROJECT TIGER MONTHLY REPORT FOR THE MONTH.....

1. State
2. Tiger Reserve
3. Date of initiation
4. Plan Provision
5. Provision for the current year

| Sl. No. | Item of works | Financial target for the year<br>(₹) | Achievements during the month<br>(₹) | Cumulative progress till the end of month | Remarks |
|---------|---------------|--------------------------------------|--------------------------------------|---|---------|
| 1.      | 2.            | 3.                                   | 4.                                   | 5.  | 6.      |

### 6. Works

#### 6.1 Capital

##### 6.1.1 Buildings

##### 6.1.2 Communication

###### 6.1.2.1 Roads

###### 6.1.2.2 Wireless

##### 6.1.3 Equipment, Scientific and others including arms and ammunitions

##### 6.1.4 Water development works

##### 6.1.5 Cost of shifting villages

##### 6.1.6 Cost of shifting cattle

##### 6.1.7 Miscellaneous — Tools

---

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 1. | 2. | 3. | 4. | 5. | 6. |
|----|----|----|----|----|----|

---

## 6.2 Works (Recurring)

### 6.2.1 Staff including special protection staff

### 6.2.2 Habitat Manipulation

#### 6.2.2.1 Details of works

#### 6.2.2.2 Planting

#### 6.2.2.3 Improvement of pasture land

### 6.2.3 Supplementary feeding

#### 6.2.3.1 Artificial salt lick

### 6.2.4 Water facilities

#### 6.2.4.1 Transportation of water

#### 6.2.4.2 Running of pumping sets

#### 6.2.4.3 Desilting of wells

#### 6.2.4.4 Dugouts

#### 6.2.4.5 Water trough

### 6.2.5 Fire Protection

#### 6.2.5.1 Watch tower

#### 6.2.5.2 Layout of fire lines

#### 6.2.5.3 Fire fighting squads

### 6.2.6 Maintenance

#### 6.2.6.1 Buildings

#### 6.2.6.2 Livestock

#### 6.2.6.3 Motor Vehicles

#### 6.2.6.4 Fire lines

### 6.2.7 Compensation to cattle owners



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|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 1. | 2. | 3. | 4. | 5. | 6. |
|----|----|----|----|----|----|

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6.2.8 Veterinary care

6.2.9 Research

6.2.10 Training

6.2.10.1 Officers

6.2.10.2 Field staff

6.2.11 Publicity and extension

6.2.11.1 Unforeseen and miscellaneous

7. Difficulty - Bottlenecks, Additional remarks.

Field Director



# PROJECT TIGER HALF-YEARLY REPORT 1<sup>ST</sup> REPORT ENDING SEPTEMBER

1. State
2. Tiger Reserve
3. Date of initiation
4. Plan provision
5. Provision for current year

## TARGETS

| Sl. No. | Item of works | Physical |          |                               |                | Financial |          |                               |                | Remarks      |    |
|---------|---------------|----------|----------|-------------------------------|----------------|-----------|----------|-------------------------------|----------------|--------------|----|
|         |               | Annual   | ½ yearly | Achievements ending September | Deficit/excess | Annual    | ½ yearly | Achievements ending September | Deficit/excess | State Sector |    |
| 1       | 2             | 3        | 4        | 5                             | 6              | 7         | 8        | 9                             | 10             | 11           | 12 |
|         |               |          |          |                               |                |           |          |                               |                |              |    |

6. Works
  - 6.1 Capital
    - 6.1.1 Buildings
    - 6.1.2 Communication
      - 6.1.2.1 Roads
      - 6.1.2.2 Wireless
    - 6.1.3 Equipment, scientific and others including arms and ammunitions
    - 6.1.4 Water development works
    - 6.1.5 Cost of shifting villages





- 6.1.6 Cost of shifting cattle
- 6.1.7 Miscellaneous Tools
- 6.2 Works (Recurring)
  - 6.2.1 Staff including special protection staff
  - 6.2.2 Habitat manipulation
    - 6.2.2.1 Details of works
    - 6.2.2.2 Planting
    - 6.2.2.3 Improvement of pasture land
  - 6.2.3 Supplementary feeding
    - 6.2.3.1 Artificial salt lick
  - 6.2.4 Water facilities
    - 6.2.4.1 Transportation of water
    - 6.2.4.2 Running of pumping sets
    - 6.2.4.3 Desilting of wells
    - 6.2.4.4 Dugouts
    - 6.2.4.5 Water trough
  - 6.2.5 Fire Protection
    - 6.2.5.1 Watch tower
    - 6.2.5.2 Layout of fire lines
    - 6.2.5.3 Fire fighting squads
  - 6.2.6 Maintenance
    - 6.2.6.1 Buildings
    - 6.2.6.2 Livestock
    - 6.2.6.3 Motor Vehicles
    - 6.2.6.4 Fire lines

- 6.2.7 Compensation to cattle owners
- 6.2.8 Veterinary care
- 6.2.9 Research
- 6.2.10 Training
  - 6.2.10.1 Officers
  - 6.2.10.2 Field Staff
- 6.2.11 Publicity and extension
- 6.2.12 Unforeseen and miscellaneous
- 7. Manpower employed
- 8. Bottlenecks if any or additional remarks
- 9. No. of cases of illicit grazing, hunting, forest cutting and others

|  |           |                |              |
|--|-----------|----------------|--------------|
|  | Detected- | Challaned      | Findings     |
| 10. No. of fires controlled -  |           | Area burnt     | Loss         |
| 11. Loss of any wild animal-   |           | Cause          | Action taken |
| 12. A brief narrative about evaluation of the Field Director about progress of the Project |           |                |              |
|  |           | Field Director | Date         |
| 13. Remarks of the Chief Conservator of Forests  |           |                |              |
|  |           | C.C.F.         | Date         |





# PROJECT TIGER HALF-YEARLY REPORT IIND REPORT ENDING MARCH

1. State
2. Tiger Reserve
3. Date of initiation
4. Plan provision
5. Provision for current year

## TARGETS

| Sl. No. | Item of works | Physical |                |                    |                            |                         | Financial     |          |                   |                    |                            |                         |        | Remarks |
|---------|---------------|----------|----------------|--------------------|----------------------------|-------------------------|---------------|----------|-------------------|--------------------|----------------------------|-------------------------|--------|---------|
|         |               | Yearly   | Deficit/excess | Net to be achieved | Achievements during ½ year | Cumulative for the year | Annual target | ½ yearly | Deficit or excess | Net to be achieved | Achievements during ½ year | Cumulative for the year | Annual |         |
| 1       | 2             | 3        | 4              | 5                  | 6                          | 7                       | 8             | 9        | 10                | 11                 | 12                         | 13                      | 14     | 15      |

6. Works
  - 6.1 Capital
    - 6.1.1 Buildings
    - 6.1.2 Communication
      - 6.1.2.1 Roads
      - 6.1.2.2 Wireless
    - 6.1.3 Equipment, scientific and others including arms and ammunitions
    - 6.1.4 Water development works
    - 6.1.5 Cost of shifting villages

- 6.1.6 Cost of shifting cattle
- 6.1.7 Miscellaneous Tools
- 6.2 Works (Recurring)
  - 6.2.1 Staff including special protection staff
  - 6.2.2 Habitat manipulation
    - 6.2.2.1 Details of works
    - 6.2.2.2 Planting
    - 6.2.2.3 Improvement of pasture land
  - 6.2.3 Supplementary feeding
    - 6.2.3.1 Artificial salt lick
  - 6.2.4 Water facilities
    - 6.2.4.1 Transportation of water
    - 6.2.4.2 Running of pumping sets
    - 6.2.4.3 Desilting of wells
    - 6.2.4.4 Dugouts
    - 6.2.4.5 Water trough
  - 6.2.5 Fire Protection
    - 6.2.5.1 Watch tower
    - 6.2.5.2 Layout of fire lines
    - 6.2.5.3 Fire fighting squads
  - 6.2.6 Maintenance
    - 6.2.6.1 Buildings
    - 6.2.6.2 Livestock
    - 6.2.6.3 Motor Vehicles
    - 6.2.6.4 Fire lines





6.2.7 Compensation to cattle owners

6.2.8 Veterinary cars

6.2.9 Research

6.2.10 Training

6.2.10.1 Officers

6.2.10.2 Field Staff

6.2.11 Publicity and extension

6.2.12 Unforeseen and miscellaneous

7. Manpower employed

8. Bottlenecks if any or additional remarks

9. No. of cases of illicit grazing, hunting, forest cutting and others

Detected-

Challaned

Findings

10. No. of fires controlled -

Area burnt

Loss

11. Loss of any wild animal-

Cause

Action taken

12. A brief narrative about evaluation of the Field Director about progress of the Project

Field Director

Date

13. Remarks of the Chief Conservator of Forests

C.C.F.

Date

# PROJECT TIGER .....TIGER RESERVE ANNUAL REPORT

## INTRODUCTION

Brief narrative of the Tiger Reserve  
 Background information  
 Objective - Justification

Narrative summary of targets proposed

Narrative summary of targets achieved

Highlight of project achievements  
 Performance in the State Sector

|   |   |  |                    |
|---|---|--|--------------------|
| <u>Protection</u><br>All over the project areas | from poachers                               | Mention cases detected and their results and their results                                       |                    |
|   | from wood poachers                          |  |                    |
|   | From fire -                                 | Give narrative of fire accidents, less and control measures applied both preventive and control. |                    |
|   | from grazing of domestic - cattle           | Shifting of village  | Shifting of cattle |
|   | from other human interference               | -----  |                    |
|   | Against diseases - Veterinary care provided |  |                    |
|   | Accidents - Veterinary care provided        |  |                    |
| <u>Construction works</u>                       | Building                                    | Central Sector   | State Sector       |
|   | Communication                               |  |                    |
|   | Roads                                       |  |                    |
|   | Water                                       |  |                    |



Facilities for animals -water-Construction works and achievements

State Sector

Food - Canopy development  
Artificial food  
Salt licks  
Pasture development

Shelter - Canopy manipulation

### Research

Progress of research  
Brief of each scheme

Research findings  
Papers published - Give brief summary in the Appendix  
  
New designs made

### Training

Narrative

Publicity and extension works - Extensions, lectures, Cinema shows.

### Man employed

#### Visitors

Scientists  
VIPs  
Tourists

With brief of remarks  
in the visitor's book

#### Evaluation

By the Field Director  
  
By the Chief Conservator of Forest

#### Appendix

- (1) Statement of II ½ yearly report
- (2) Photographs maps  
  
Census results, other material  
  
List of animals killed or poached.

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REVISED GUIDELINES FOR THE ONGOING  
CENTRALLY SPONSORED SCHEME OF  
PROJECT TIGER



National Tiger Conservation Authority  
Ministry of Environment & Forests  
Government of India

FEBRUARY, 2008

Government of India  
Ministry of Environment & Forests  
National Tiger Conservation Authority

## REVISED GUIDELINES FOR THE ONGOING CENTRALLY SPONSORED SCHEME OF PROJECT TIGER

### 1. INTRODUCTION:

Project Tiger is an ongoing Centrally Sponsored Scheme of the Ministry of Environment and Forest. The revised guidelines incorporate the additional activities for implementing the urgent recommendations of the Tiger Task Force, constituted by the National Board for Wildlife, chaired by the Hon'ble Prime Minister. These, inter alia, also include support for implementing the provisions of the Wildlife (Protection) Amendment Act, 2006, which has come into force with effect from 4.09.2006. The activities are as below:

- (i) Antipoaching initiatives
- (ii) Strengthening infrastructure within tiger reserves
- (iii) Habitat improvement and water development
- (iv) Addressing man-animal conflicts
- (v) Co-existence agenda in buffer / fringe areas with landscape approach
- (vi) Deciding inviolate places and relocation of villages from crucial tiger habitats within a timeframe by providing a better relocation package, apart from supporting States for settlement of rights of such people
- (vii) Rehabilitation of traditional hunting tribes living in and around tiger reserves
- (viii) Providing support to States for research and field equipments
- (ix) Supporting States for staff development and capacity building in tiger reserves.
- (x) Mainstreaming wildlife concerns in tiger bearing forests outside tiger reserves and fostering corridor conservation in such areas through restorative strategy involving local people to arrest fragmentation of habitats.
- (xi) Providing safeguards / retrofitting measures in and around tiger reserves and tiger bearing forest for wildlife conservation.
- (xii) Strengthening the infrastructure of National Tiger Conservation Authority at the Centre.
- (xiii) Carrying out independent monitoring and the evaluation of tiger reserves.
- (xiv) Establishment and development of eight new tiger reserves.
- (xv) Provision of project allowance to all categories of staff working in tiger reserves.
- (xvi) Providing residential amenities to facilitate basic education to children of frontline field staff posted in tiger reserves.
- (xvii) Providing assistance to States for fostering ecotourism to benefit local people.

1.1 "Project Tiger" was launched in April, 1973 with the objective "to ensure maintenance of a viable population of Tigers in India for scientific, economic, aesthetic, cultural and ecological values, and to preserve for all times, areas of biological importance as a national heritage for the benefit, education and enjoyment of the people".

1.2 The Project has been successfully implemented, and at present there are **28 Tiger Reserves in 17**



**States**, covering an area of **37761 sq. km.** Apart from above ‘in principle’ approval for creation of eight new Tiger Reserves has been accorded. The selection of reserves was guided by the need to conserve unique ecosystem/habitat types across the geographic distribution of tigers in the country.

- 1.3 Project Tiger is an ongoing Centrally Sponsored Scheme, which is continued, in the XIth FIVE-YEAR plan. Conservation of endangered species and their habitat, strengthening and enhancing the Projected Area Network, control of poaching, monitoring, research and ensuring people’s participation in Wildlife Conservation have been accorded high priority in the National Wildlife Action Plan and the Wildlife Conservation strategy, 2002.

## 2. PAST FUNDING PATTERN AND MAJOR ACTIVITIES SUPPORTED UNDER THE SCHEME

During present plan period, 100% Central Assistance is being made available to States for expenditure on all non-recurring items; for recurring items, the Central Assistance is restricted to 50% of the expenditure, while the matching grant is provided by the Project States. The activities / field inputs under Project Tiger, interalia, include : **(Non recurring)** strengthening of protection deployment of armed squads in tiger reserves, creating basic infrastructure for management, roads, wireless, civil works, habitat development, augmenting water resources, compensatory ameliorative measures for habitat restoration, eco-development, village relocation, use of Information Technology in crime detection, establishment of a digitized database in Tiger Reserves having collaborative linkage with Project Tiger Directorate in the GIS domain, monitoring and evaluation of tiger reserves, monitoring of habitat status, carrying out All India Estimation of Tigers, Co-predators and Prey animals in the GIS domain with the state of art technology, continuous monitoring of tiger populations in various tiger range states (tiger reserves and other forest area outside tiger reserves), fostering wildlife viewing for tourists in Tiger Reserves, providing compensation to villagers for human deaths/livestock depredation by carnivores in tiger reserves, staff welfare measures, providing ‘Project Allowance’ to all categories of staff working in Tiger Reserves, establishment of veterinary facility, and fostering research / research projects relating to tiger conservation, replacement and purchase of new vehicles for existing and new Tiger Reserves to ensure staff mobility. **(Recurring)** creation / deployment of local work force for patrolling/barriers, habitat improvement, providing salt licks, water facility, fire protection measures, maintenance of various items, publicity and extension and legal assistance.

## 3. CONSTITUTION OF THE NATIONAL TIGER CONSERVATION AUTHORITY (NTCA)

The Govt. of India had launched “Project Tiger” to promote conservation of the tiger, since the significance of its conservation has ramifications beyond State boundaries. Management of forests and wildlife is primarily the responsibility of concerned States. The field implementation of the project, protection and management in the designated reserves is done by the project States, who also provide the matching grant to recurring items of expenditure, deploy field staff/officers, and give their salaries. The Project Tiger Directorate of the Ministry of Environment and Forests was mandated with the task of providing technical guidance and funding support.

- 3.1 The implementation of Project Tiger over the years has highlighted the need for a statutory authority with legal backing to ensure tiger conservation. On the basis of the recommendations of National Board for Wild Life chaired by the Hon’ble Prime Minister, a Task Force was set up to look into the problems of tiger conservation in the country. The recommendations of the said Task Force, interalia include strengthening of Project Tiger by giving it statutory and administrative powers, apart from



creating the Wildlife Crime Control Bureau. It has also recommended that an annual report should be submitted to the Central Government for laying in Parliament, so that commitment to Project Tiger is reviewed from time to time, in addition to addressing the concerns of local people. Broadly the urgent recommendations of the said Task Force are as below:

- Reinvigorating the constitution of governance.
- Strengthening efforts towards protection of tiger, checking poaching, convicting wildlife criminals and breaking the international trade network in wildlife body parts and derivatives.
- Expanding the undisturbed areas for tiger by reducing human pressure.
- Repair the relationship with local people who share the tigers habitat by fielding strategies for coexistence.
- Regenerate the forest habitats in the fringes of the tigers protective enclaves by investing in forest, water and grassland economies of the people.

3.2 The Tiger Reserves are faced with ecological disturbances and various other problems. Fragmentation of habitats occur owing to overuse of forest habitats, apart from conflicting land uses leading to loss of habitat. There are also in some cases, significant village population with large number of cattle, which graze in the forests, leading to ecological degradation, apart from major sources of regular or intermittent disturbance, such as temples and commercial entities such as tea estates. This also leads to man-animal conflicts, resulting in tiger and prey mortality.

3.3 Several constraints affect field implementation of the project, viz. delayed release of Central Assistance given to the States for Field Units, staff vacancies, ageing of field staff, lack of capacity building initiatives, weak enforcement and monitoring of protection work etc. The events in the recent past have highlighted the fact that there is a need in the States for greater commitment and vigilance. The field administration managing the tiger reserves require capacity building and supervision.

3.4 There is also an urgent need to strengthen the system at the Central Government level (Project Tiger Directorate), which has the mandate to oversee and guide tiger conservation in the country. Involvement of Parliament is also required to ensure review and guidance. Likewise, involvement of Chief Ministers of States and strengthening the field administration, supervision of the project and building a participatory base by including interests of local people living in and around tiger reserves are extremely important.

3.5 Considering the urgency of the situation, Project Tiger has been converted into a statutory authority (NTCA) by providing enabling provisions in the Wild Life (Protection) Act, 1972 through an amendment, viz. Wild Life (Protection) Amendment Act, 2006. This forms one of the urgent recommendations of the Tiger Task Force appointed by the Prime Minister. The NTCA would address the ecological as well as administrative concerns for conserving tigers, by providing a statutory basis for protection of tiger reserves, apart from providing strengthened institutional mechanisms for the protection of ecologically sensitive areas and endangered species. The Authority would also ensure enforcing of guidelines for tiger conservation and monitoring compliance of the same, apart from placement of motivated and trained officers having good track record as Field Directors of tiger reserves. It would also facilitate capacity building of officers and staff posted in tiger reserves, apart from a time bound staff development plan.

3.6 The Wild Life (Protection) Amendment Act, 2006 has come into force with effect from the 4th of September, 2006, and the NTCA has also been constituted on the same date.





- 3.7 Despite three decades of Project Tiger and the efforts of the Centre and States, tiger continues to remain one of the most endangered large predators in the world. The causative factors are many, and to name a few, we may mention the important ones like loss of habitat due to agriculture expansion and development, revenge killings by the people due to man- animal conflicts and above all, the demand for the body parts and derivatives of tiger in the illegal international market. These factors contribute to the decimation of our in-situ population in the wild. Therefore, continuance of a focused, species-specific, multifaceted, ecosystem project like 'Project Tiger' becomes important and crucial at this juncture to address the threats faced by the tiger and its habitat.
- 3.8 The three key imperatives in tiger conservation which necessitate a 'project mode' are: a focused approach to prioritize actions, in the interest of tiger conservation (within and outside the tiger reserves), eliciting the support of local stakeholder communities and ensuring the necessary infrastructure for protection and management. Considering the fact that conservation of tiger has ecological and national significance transcending State boundaries, the Government of India provides funding support and technical guidance to States through the ongoing Centrally Sponsored Scheme of Project Tiger and other schemes for wildlife conservation. Tigers are present in the forests of seventeen states in our country at present, which also include their protected areas/ tiger reserves.
- 3.9 The distribution of tigers and their density vary in States due to several ecological and human reasons, viz. the forest cover, terrain, natural prey availability, presence of undisturbed habitat and the quality of managerial efforts taken towards protection. Since tigers are at the top of the ecological "food - chain", their conservation results in the overall conservation of all other species of plants and animals occupying the ecosystem. We can say that tiger are indicators of the well being of the ecosystem. A healthy tiger population indicates that the other ecological components in its habitat are equally robust, since tigers need large amount of prey and good habitat. The investments made in a project of this kind are more than justified.

#### 4. ONGOING ACTIVITIES AND ADDITIONALITIES TO BE SUPPORTED UNDER THE REVISED CENTRALLY SPONSORED SCHEME OF PROJECT TIGER:

- 4.1 Anti- poaching activities (ongoing) (non recurring for antipoaching squad/Tiger Protection Force deployment, and recurring for wages towards patrolling camp labourers/watchers)

The antipoaching operations in Tiger Reserves are site specific. However, the following activities, interalia, would form part of the protection strategy in Tiger Reserves:

- Deployment of antipoaching squads
- Establishing and maintenance of existing patrolling camps/chowkis and deployment of camp labourers for patrolling.
- Organising vehicular patrolling by constituting squads (Tiger Protection Force), comprising of field staff, labourers and police/SAF/ex-army personnel, with wireless handset and paraphernalia for apprehending offenders, apart from prescribing a patrolling calendar for the squad.
- Establishing and maintenance of wireless network.
- Organising surprise raids jointly with the local police in railway stations, local trains, bus-stops, buses, catchers and cafeteria.
- Ensuring special site-specific protection measures, during monsoon as 'Operation Monsoon' - considering the terrain and accessibility of Protected Areas.

- Deployment of ex-army personnel/home guards.
- Deployment of local work force for patrolling, surveillance of water holes, manning barriers.
- Procurement of arms and ammunition.
- Procurement/maintenance of elephant squads.
- Rewards to informers.
- Legal support for defending court cases.
- Procurement of vehicles, boats.
- Procurement field gear, night vision device.

#### 4.2 Strengthening of infrastructure within Tiger Reserves (ongoing) (non recurring for new civil works and recurring for maintenance)

The following activities, interalia, would form part of reinforcing the infrastructure of Tiger Reserves (including support to new tiger reserves):

- Civil Works (staff quarters, family hostels, office improvement, patrolling camp, house keeping buildings, museum, culverts).
- Maintenance / creation / upgradation of road network.
- Maintenance / creation of wireless tower.
- Maintenance / creation of fire watch tower.
- Maintenance / creation of bridges, dams, anicuts.
- Maintenance / creation of firelines / firebreaks.
- Maintenance / creation of earthen ponds.
- Procurement / maintenance of vehicles (Gypsy, Jeep, truck, Tractor).
- Habitat improvement works.
- Procurement of hardware, software / GIS.
- Procurement of compass, range finder, GPS, camera traps.
- Procurement of satellite imageries for management planning.
- Map digitization facility for management planning.

#### 4.3 Habitat improvement and water development (ongoing) (recurring)

These, interalia, may include: weed eradication, removal of gregarious plant growth from grasslands, grass improvement, water retention structures and the like. These initiatives would increase the forage and browse values of the habitat for wild animals.

#### 4.4 Addressing man-animal conflict (ensuring uniform, timely compensation for human deaths due to wild animals, livestock depredation by carnivores, crop depredation\* by wild ungulates) (compensation for crop loss is a new component)(non recurring)

This would involve:

- Payment of compensation for cattle lifting, death of human beings and crop depredation\* due to wild animals.
- Creation of crop protection structures.
- Procurement / deployment of traps, cages to catch problematic animals.
- Procurement of tranquilizing equipments, rescue vehicles and drugs.

The above initiatives are extremely important to avoid as well as redress the “park-people” interface conflicts.



(\*would be supported as per prevailing norms of the State, in the delineated buffer area as explained in Section 38V of the Wild Life (Protection) Act, 1972, as amended in 2006.)

- 4.5 Co-existence agenda in buffer / fringe areas (landscape approach/sectoral integration/ecologically sustainable development programme/livelihood options/eco-tourism) (new activity in case of tiger reserves where buffer has not been notified so far) (non-recurring)

The fringe areas around Tiger Reserve have corridor value, and their ecological sustainability is important to prevent the area from becoming ecological sinks on account of over use of resources and unwise land use. This calls for delineation of buffer zone around a tiger reserve to incorporate such fringe areas so that it can fulfill the following objectives:

- Providing ecologically viable livelihood options to local stakeholders for reducing their dependency on forests.
- Conserving the forest area through restorative inputs involving local people for providing habitat supplement to wild animals moving out of core areas.

A comparative assessment of the forest cover status of outer fringe areas of tiger reserves upto a radial distance of 10 kms. has been done in collaboration with the Forest Survey of India. The States are required to delineate the fringe/buffer area around the core zones of tiger reserves, and submit a Tiger Conservation plan as required under Section 38 V of the Wild Life (Protection) Amendment Act, 2006, to ensure wildlife conservation while addressing the livelihood issues relating to local people.

- 4.6 Rehabilitation package for traditional hunting tribes living around tiger reserves (new activity) (non recurring)

There is an urgent need to launch a rehabilitation and development programme for the denotified tribes and tribes involved in traditional hunting, living around tiger reserves and tiger corridors. The following denotified tribes / communities are involved in traditional hunting of wild animals : Behelias, Ambalgars, Badaks, Mongias, Bavariyas, Monglias, Pardhi, Boyas, Kailkads, Karwal Nat, Nirshikaris, Picharis, Valayaras, Yenadis, Chakma, Mizo, Bru, Solung and Nyishi. While this list is not exhaustive, around 5,000 such families are required to be taken up under a welfare programme (forming part of NTCA initiatives) during the Plan period. The rehabilitation / welfare package should be evolved in a site specific, consultative manner with livelihood options, to include : wages for such people towards their deployment in foot patrolling for protecting wildlife, providing agricultural land with irrigation, basic health care, housing and related community welfare inputs and basic education facilities. The experience gained in the past for settling denotified tribes by the salvation army is required to be considered dispassionately while structuring the programme.

- 4.7 Research and field equipments (ongoing) (non recurring)

The All India tiger estimation using the new methodology approved by the Tiger task Force has resulted in a permanent monitoring protocol for the field units. The format/protocol used for the Phase-I data collection in the new estimation process should be adopted for day-to-day field monitoring. Further, assistance would be provided for fostering field oriented research and to equip

the staff with facilities like GPS, camera traps, night vision, range finder and related accessories including hardware and software. As decided in the 1st meeting of the National Tiger Conservation Authority, the tiger reserves are required to carry out the day to day monitoring of wild animals using the refined process in the GIS domain, which would enable “forecasting” vis-à-vis wildlife protection.

#### 4.8 Staff development and capacity building (ongoing) (non recurring)

This would involve:

- Capacity building / training.
- Providing project allowance and special incentives.
- Specialized training in the use of GIS, antipoaching operations.
- Specialized training in jurisprudence and wildlife forensics.
- Study tours for appraisal of good practices in other reserves.
- Dissemination workshops.
- Specialized training in park interpretation.
- Specialized training in management planning.

The above inputs are extremely important for enhancing the skill of field staff. Several instances of poaching occur for want of specialized training in crime detection and related skills.

#### 4.9 Deciding inviolate spaces for wildlife and relocation of villagers from core or critical tiger habitats in Tiger Reserves within a timeframe and settlement of rights (settlement of rights is a new activity) (non recurring)

The Wild Life (Protection) Act, 1972, as well as the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, require that rights of people (Schedule Tribes and other traditional forest dwellers) recognized in forest area within core/critical tiger/wildlife habitats of tiger reserves/protected areas may be modified and resettled for providing inviolate spaces to tiger/wild animals. This requires payment of compensation (rights settlement in addition to the relocation package offered under the CSS at present). Chapter IV of the Wild Life (Protection) Act, 1972 (Section 24) provides for acquisition of rights in or over the land declared by the State Government under Section 18 (for constituting a Sanctuary) or Section 35 (for constituting a Natural Park). Sub-section 2 of Section 24 of the Wild Life (Protection) Act, authorizes the Collector to acquire such land or rights. Therefore, payment of compensation for the immovable property of people forms part of modifying / settling their rights which is a statutory requirement.

The ongoing study and the analysis of the available research data on tiger ecology indicate that the minimum population of tigresses in breeding age, which are needed to maintain a viable population of 80-100 tigers (in and around core) require an inviolate space of 800 - 1000 sq km. Tiger being an “umbrella species”, this will also ensure viable populations of other wild animals (co-predators, prey) and forest, thereby ensuring the ecological viability of the entire area / habitat. Thus, it becomes an ecological imperative to keep the core areas of tiger reserves inviolate for the survival of source populations of tiger and other wild animals.

Based on the recommendations of the Professional Agency, a new package for village relocation/rehabilitation has been proposed, with the following options / norms, which adequately



covers the “National Rehabilitation and Resettlement Policy, 2007”, while taking into consideration the difficulties / imperatives involved in relocating people living in forest areas:

The proposed packages has two options:

Option I - Payment of the entire package amount (Rs. 10 lakhs per family) to the family in case the family opts so, without involving any rehabilitation / relocation process by the Forest Department.

Option II - Carrying out relocation / rehabilitation of village from protected area / tiger reserve by the Forest Department.

- (i) In case of option I, a monitoring process involving the District Magistrate of concerned District(s) would be ensured so that the villagers rehabilitate themselves with the package money provided to them. In this regard, a mechanism involving handholding, preferably by external agencies should also be ensured, while depositing a considerable portion of the amount in the name of the beneficiary in a nationalized bank for obtaining income through interest generated.
- (ii) In case of option II, the following package (per family) is proposed, at the rate of Rs. 10 lacks per family:

|     |   |                          |
|-----|---|--------------------------|
| (a) | Agriculture land procuremnt (2 hectare) and development   | 35% of the total package |
| (b) | Settlement of rights  | 30% of the total package |
| (c) | Homestead land and house construction   | 20% of the total package |
| (d) | Incentive   | 5% of the total package  |
| (e) | Community facilities commuted by the family (access road, irrigation, drinking water, sanitation, electricity, tele-communication, community center, religious places of workship, burial/cremation ground) | 10% of the total package |

- (iii) The relocation process would be monitored / implemented by the following two Committees:

(State level Monitoring Committee)

- |   |   |                  |
|---|---|------------------|
| (a) Chief Secretary of the State  | - | Chairman         |
| (b) Secretaries of related departments                                  | - | Members          |
| (c) State Principal Chief Conservator of forests                        | - | Member           |
| (d) Non-official members of respective<br>Tiger Conservation Foundation | - | Members          |
| (e) Chief Wildlife Warden   | - | Member-Secretary |

(District Level Implementing Committee for ensuring covergence of other sectors)

- |   |   |                  |
|---|---|------------------|
| (a) District Collector  | - | Chairman         |
| (b) CEO   | - | Member           |
| (c) Representative officials from:<br>PWD, Social Welfare, Tribal Department,<br>Health Department, Agriculture Department,<br>Education Department, Power and Irrigation Departments | - | Members          |
| (d) Deputy Director of the Tiger Reserve/PA   | - | Member Secretary |

- (iv) The above cost norms are indicative in nature to facilitate flexibility for State/site specific situation, and may be modified to allow inter component as well as inter family adjustments by respective State Governments as per site specific requirements.
- (v) The relocated village would be taken up on a priority basis for eco development as well as local development through convergence of District level schemes.
- (vi) The Labour oriented works involved in the relocation process would be preferably implemented through the villagers who are being relocated, so that they derive benefits out of the same apart from ensuring the field implementation to their satisfaction.
- (vii) In case resettlement has been done on a forest land, the new settlement will be eligible for access to forest resources for their bonafide use through the village level committee and Gram Sabhas.
- (viii) The District Administration would facilitate fair price shop, education, health center close to the relocated site.
- (ix) “Handholding” after relocation would be ensured through the forest department with ongoing ecodevelopmental inputs through central assistance and district administration involving convergence of schemes. In this effort help of competent independent agencies may be sought wherever available.
- (x) The relocated villagers would be given priority for livelihood options emanating from the protected area.
- (xi) In case the cost of relocation including-settlement of rights per family exceeds Rs. 10 lakhs, the State Government has to meet the extra cost.

The relocation process would be an open ended one, since the progress of relocation process would depend on performance by States.

#### 4.10 Mainstreaming wildlife concerns in tiger bearing forests and fostering corridor conservation through restorative strategy involving locals to arrest fragmentation of habitats (new activity) (non-recurring)

The forests connecting Tiger Reserves or Protected Areas have tigers and other wild animals in most of the States. At present, there is no Scheme for addressing wildlife concerns in such areas, where restorative as well as protective inputs are required. The Wild Life (Protection) Amendment Act, 2006, provides for addressing such corridor areas. This, interalia, would involve:

- Redressing man-animal conflict.
- Capturing problematic / aberrant wild animals.
- Monitoring of wild animals.
- Antipoaching operations.
- Habitat improvement measures.

The communities living in fringe areas of National Parks, Sanctuaries and Tiger Reserves suffer from frequent depredation of their crops on account of damage caused by wild herbivores like blue bull, black buck, wild pig and elephants. The situation becomes acute in certain pockets, since people



depend on a single annual rain fed crop with low productivity. This is one of the major reasons for man-animal conflicts around our Tiger

Reserves and Protected Areas, and is a serious bottleneck in enlisting the much needed local support for wildlife conservation.

Under Section 11 of Wild life (Protection) Act, the State Chief Wildlife Wardens and officers authorized on his behalf can permit killing of wild animals causing destruction to life and property, including standing crops. However, rural communities do not favor such killings due to religious sentiments attached to these animals. Trapping and translocation of such wild animals which gain a pest value is neither feasible nor cost effective. Therefore, the situation calls for adequately compensating the stakeholder communities around Tiger Reserves from this recurring loss. This would be supported as per prevailing norms of the State, in the delineated buffer area as explained in Section 38V of the Wild Life (Protection) Act, 1972, as amended in 2006.

#### 4.11 Safeguards / Retrofitting measures in the interest of wildlife conservation (new activity) (non recurring)

Several Tiger Reserves are affected on account of heavily used infrastructure like roads, railway tracks and others. The high tension electric lines passing through many reserves cause mortality of wild animals due to electrocution by poachers. In the interest of wild animals several safeguards as well as retrofitting measures may be required, which would be supported on a site-specific basis.

#### 4.12 Providing basic infrastructure/ Project Tiger Headquarter expenditure for consultancy, all India tiger estimation/continuous monitoring of tigers outside tiger reserves, strengthening of NTCA at the Center and establishing a monitoring lab in the Wildlife Institute of India. The following are envisaged (new activity)(non recurring):

- Creation of office space at Delhi for National Tiger Conservation Authority.
- Creation of GIS outstation laboratory at Wildlife Institute of India.
- Carrying out All India Tiger Estimation, monitoring.
- Support to research work.
- Contractual arrangement for special studies.
- International / National Workshops.
- Contractual arrangement for data entry, analysis.

#### 4.13 Independent monitoring and evaluation of tiger reserves (ongoing) (non recurring)

The independent monitoring of tiger reserves was carried out using as many as 45 parameters by a panel of experts, based on IUCN format. The monitoring reports were peer reviewed by the IUCN and placed before the Parliament. This process would be continued during the XIth Plan period after further refinement.

#### 4.14 Establishment and development of eight new Tiger Reserves (new activity) (recurring and non recurring as indicated for various activities)

'Project Tiger' has a holistic ecosystem approach. Though the focus is on the flagship species 'tiger', the project strives to maintain the stability of ecosystem by fostering other trophic levels in the food chain. This is essential to ensure an ecologically viable population of tiger, which is at the 'apex' of



the ecological food chain. The community pressures on forests are ever on the increase in developing countries, and India is no exception. As a sequel, the tiger habitat has become fragile and weak at several places, warranting a focused conservation approach. Our protected areas / Tiger Reserves are analogous to “islands” in an ocean of the other-use patterns. Empirical evidences from ‘island biogeography’ indicate that “isolated” reserves lose their species rapidly owing to ‘ecological insularization’. Further, apart from fragmentation, the situation is aggravated by degraded forest cover owing to biotic pressure, dislocated prey - predator ratio, absence of effective measures to ensure the desired dwelling stake holders to reduce their dependency on forest resources. Since ‘Project Tiger’ would go a long way in redressing the above situation, the Steering Committee of Project Tiger in its meeting held on 23.1.2003 recommended inclusion of new Tiger Reserve areas so as to increase the total area of Project Tiger from existing 37761 sq. kms. to 50,000 sq. kms. during the X Plan period. Accordingly, proposals for new Tiger Reserves were received from some States, on which ‘in principle’ approval was accorded. The details are as below:

|  |                     |
|--|---------------------|
| (i) Anamalai -Parambikulam Wildlife Sanctuaries                | Tamil Nadu & Kerala |
| (ii) Udanti and Sita Nadi Wildlife Sanctuaries                 | Chattisgarh         |
| (iii) Satkosia Wildlife Sanctuary                              | Orrisa              |
| (iv) Kaziranga National Park                                   | Assam               |
| (v) Achanakmar Wildlife Sanctuary                              | Chattisgarh         |
| (vi) Dandeli Wildlife Sanctuary and Anshi National Park        | Karnataka           |
| (vii) Sanjay National Park and Sanjay Dubri Wildlife Sanctuary | Madhya Pradesh      |
| (viii) Mudumalai Wildlife Sanctuary                            | Tamil Nadu          |

A total of 8 new Tiger Reserves are proposed to be included in Project Tiger, with an additional financial implication of **Rs. 32.00 crores** during the plan period.

4.15 Provision of Project Allowance to staff (all categories) of Project Tiger (providing project allowance to Ministerial staff is a new component) (non recurring)

The officers / staff of Tiger Reserves receive Project Allowance as approved by the EFC/CCEA during IX plan period as detailed below:

|   |                         |
|---|-------------------------|
| (a) Field Director  | - @ Rs. 1,000 per month |
| (b) Deputy Director   | - @ Rs. 750 per month   |
| (c) Assistant Director/Research Officer/Veterinary Officer<br>(equivalent rank) | - @ Rs. 650 per month   |
| (d) Forest Ranger and equivalent rank   | - @ Rs. 500 per month   |
| (e) Forester and equivalent rank  | - @ Rs. 450 per month   |
| (f) Forest Guard and equivalent rank  | - @ Rs. 350 per month   |

The offices of Tiger Reserves are located in remote places. More often than not, the ministerial staff prefer postings elsewhere in regular Forest Division offices, as a result of which the routine official



working in the Project Tiger Office are adversely affected. Further, several ongoing complimentary schemes from the Collector Sector are also dovetailed in Tiger Reserves as a part of the eco development strategy to benefit the stake holders. Such ongoing schemes, enhance the office work and therefore, able ministerial support becomes extremely crucial. However, to attract the best talent, it is proposed to extend the project allowance to ministerial staff working in Tiger Reserves as indicated below:-

|           |   |                                  |
|-----------|---|----------------------------------|
| Class II  | : | Rs. 500 (per employee per month) |
| Class III | : | Rs. 350 (per employee per month) |
| Class IV  | : | Rs. 200 (per employee per month) |

#### 4.16 Staff welfare activities (ongoing) (non recurring)

The field staff of Tiger Reserves serve in remote and difficult areas, often subjected to endemic diseases like malaria, dengue, water-borne infections, apart from facing the risk of chance encounters with wild animals. Further, such postings are normally 'non-family postings', and the frontline personnel has to bear the cost of maintaining his family in a nearby village or town having the basic schooling and medical facilities. It is relevant to add, accommodation in such rural areas are seldom readily available. In addition, the field staff of a Tiger Reserve, unlike his counterpart in Territorial Forest Divisions, has also to bear the brunt of local community dwelling in fringe areas, owing to restrictions on the latter for free access to forest resources. Thus, the role of a frontline field personnel in a protected area or Tiger Reserve is different from his counterpart in regular Forest Divisions. The physical assault on the staff of Tiger Reserves/Protected Areas by people nurturing a grudge against the management is more common, often resulting in casualties. Therefore, it becomes essential to provide amenities for staff welfare, to attract the best talent in the working age group. During the Plan period, staff welfare inputs like residential accommodation for the children of frontline staff in nearby towns/villages, supply of kerosene, medicine, field kit, mosquito net, torch and the like would be supported.

#### 4.17 Fostering Eco-Tourism in Tiger Reserves (new activity) (non recurring)

'Ecotourism' in the context of Tiger Reserves is ecologically sustainable nature-tourism, which is emerging as an important component of tourism industry. It is distinct from 'mass tourism', having sustainable, equitable, community based effort for improving the living standards of local, host communities living on the fringes of Tiger Reserves. Ecotourism is proposed to be fostered with financial support to the host community through 'soft loans' from Ecodevelopment Committees, in accordance with site - specific 'Ecotourism plan' and carrying capacity of Tiger Reserves in the buffer areas. The core/critical tiger habitats would not be used for any form of tourism, and the ongoing tourism activities in such areas should be phased out in the fringe/buffer areas, without affecting its corridor value. The development of tourism related facilities within the buffer zones of Tiger Reserves would continue with inputs under Project Tiger. The opportunities for stakeholders would include management of low cost accommodation for tourists, providing guide services, providing sale outlets, managing excursions, organizing ethnic dances and the like.

## 5. THE TIGER RESERVE STATES WOULD BE REQUIRED TO ENTER INTO A MEMORANDUM OF UNDERSTANDING WITH THE MINISTRY OF ENVIRONMENT AND FORESTS, AS PROVIDED IN THE FORMAT AT ANNEURE-1.



6. THE TIGER RESERVES WOULD RECEIVE FUNDING SUPPORT UNDER THE ONGOING CENTRALLY SPONSORED SCHEME OF PROJECT TIGER ON THE BASIS OF A RESERVE SPECIFIC TIGER CONSERVATION PLAN AS REQUIRED UNDER SECTION 38-V OF THE WILDLIFE (PROTECTION) ACT, 1972, AS AMENDED IN 2006. THIS SHOULD BE PREPARED IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE NATIONAL TIGER CONSERVATION AUTHORITY VIDE ITS TECHNICAL DOCUMENT-NTCA/01/07.
7. THE CENTRALITY OF PANCHAYATI RAJ INSTITUTION SHOULD BE ENSURED THROUGH CONSULTATION FOR DEPLOYMENT OF LOCAL WORKFORCE, ISSUES RELATING TO MAN - ANIMAL CONFLICTS, LIVELIHOOD OPTIONS, VILLAGE RELOCATION AND ECO-TOURISM.
8. THE TENTATIVE COST TABLE FOR THE SCHEME IS PROVIDED AT ANNEXURE-II FOR GUIDANCE.

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MEMORANDUM OF UNDERSTANDING  
BETWEEN  
NATIONAL TIGER CONSERVATION AUTHORITY  
BIKANER HOUSE, SHAHJAHAN ROAD  
NEW DELHI  
AND GOVERNMENT OF .....

The National Tiger Conservation Authority, hereinafter referred to as the 'NTCA', and the State Government of \_\_\_\_\_, hereinafter referred to as the State Government, have agreed to enter into an understanding.

Whereas the State Government has submitted a proposal to NTCA seeking financial assistance for protection and development of ....tiger reserve, hereinafter referred to as the "\_\_\_\_\_".

And whereas the NTCA is ready and willing to extend financial support for the approved items of work as shown in Article-II, on the terms and conditions given below:

ARTICLE I

The State Government has agreed and affirmed that:-

- (a) The buffer zone around the core/critical tiger habitats shall be delineated as required under the Wildlife (Protection) Act, and a Tiger Reserve specific Tiger Conservation plan shall be prepared as per the statutory requirements.
- (b) The staff vacancies shall be filled up for ensuring effective implementation and field protection.
- (c) The money released by the National Tiger Conservation Authority shall not be taken in revenue account but shall be made available to tiger reserves for taking up the works proposed in the Annual Plan of Operations immediately, with due compliance of the normative guidelines and advisories of the said Authority.
- (d) The estimated cost worked out by the State Governments are based on actual approved rates of PWD of the concerned State.
- (e) The Director/Officer Incharge of the Tiger Reserve shall be empowered to spend the money provided by the National Tiger Conservation Authority for immediate execution of the schemes, as per the norms and procedures prescribed by NTCA and the State Government.
- (f) The proposal shall have reference to Tiger Conservation Plan, which forms the basis of APO.
- (g) The APO must indicate the location / area of proposed initiative / initiatives on a map, along with physical target, financial target and unit rate, with the basis of estimation.
- (h) The progress report should invariably indicate the physical achievement (viz., quantity, number, area indicating location) and the objectives fulfilled on implementation of proposed activities.



- (i) A year-wise photo catalogue of physical targets shall be maintained to facilitate verification during supervisory visits.
- (j) During execution, details of estimate, man-days involved etc. shall be displayed near the work site.
- (k) Utilization Certificate showing unspent balance, if any, shall be furnished to National Tiger Conservation Authority annually after the close of the financial year so that the same is reached in this office by 31st May of each year. Complete Utilization Certificate shall be submitted immediately on completion of the work.
- (l) The accounts of the grant released by National Tiger Conservation Authority shall be maintained properly as per audit requirement and shall be open to inspection by the NTCA/Audit. A copy of these accounts shall also be released to NTCA. In case of construction / habitat improvement works, photocopies of the measurement books (for the work which was executed from NTCA's grant) shall also be sent to NTCA. Details of unspent amount, if any, shall be intimated to the Authority for adjustment as unspent balance or revalidation.
- (m) The State Government will ensure that the Accounts of the grants released by NTCA are audited by Statutory Audit of the State Government on annual basis and a certificate to this effect will be sent to NTCA annually latest by 31st May each year.
- (n) The funds will be used only for the purpose of which it was sanctioned. Diversion of funds will not be allowed without the prior approval of NTCA.
- (o) The records of all assets acquired out of the grant released herewith by the NTCA, shall be made available for scrutiny of audit. Such assets shall not be, without the prior approval of Govt. of India/National Tiger Conservation Authority be disposed off, encumbered or utilized for the purpose other than those for which the grant is sanctioned.
- (p) A statement showing the extracts of the assets created out of the grants released by NTCA shall be furnished to NTCA annually by 31st May of each year.

ARTICLE II

NTCA has agreed to provide financial assistance as "NTCA share" as grant for execution of following items of work:-

| (Rs. in lacks) |              |        |
|----------------|--------------|--------|
| S. No.         | Item of work | Amount |
|                |              |        |
|                |              |        |
|                |              |        |
|                |              |        |

### ARTICLE III

If there is any delay in execution of the work, the State Govt. shall notify the National Tiger Conservation Authority in writing giving the reason for delay. If the NTCA feels that work is not progressing according to the work plan, it shall be at liberty to withhold the financial assistance or withdraw the financial assistance already granted. The unspent amount of grant as on the date of communication of the decision of the withdrawal of financial assistance by the NTCA shall be immediately returned to NTCA.

SIGNED ON BEHALF OF  
NATIONAL TIGER CONSERVATION AUTHORITY

SIGNED ON BEHALF OF  
GOVERNMENT OF INDIA

NAME & DESIGNATION  
(With Stamp)  
DATED:

NAME & DESIGNATION  
(With Stamp)  
DATED:



| S. No. | Name of Activities   | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | Total  |
|--------|--|---------|---------|---------|---------|---------|--------|
| 1      | Anti-poaching  | 5.00    | 5.00    | 5.00    | 5.00    | 5.00    | 25.00  |
| 2      | Strengthening of infrastructure within Tiger Reserves (including new Tiger Reserves)   | 11.00   | 10.00   | 10.00   | 10.00   | 10.00   | 51.00  |
| 3      | Habitat improvement and water development  | 2.00    | 3.00    | 3.00    | 3.00    | 3.00    | 14.00  |
| 4      | Addressing man-animal conflict (ensuring uniform, timely compensation for human deaths due to wild animals, livestock depredation by carnivores, crop depredation by wild ungulates)                   | 2.00    | 3.00    | 3.00    | 3.00    | 3.00    | 14.00  |
| 5      | Co-existence agenda in buffer / fringe areas (landscape approach/ sectoral integration/ecologically sustainable development programme/livelihood options/ eco-tourism)                                 | 7.50    | 12.00   | 12.00   | 12.00   | 12.00   | 55.50  |
| 6      | Rehabilitation / resettlement of denotified tribes / communities involved in traditional hunting.  | NIL     | 3.00    | 3.00    | 3.00    | 3.00    | 12.00  |
| 7      | Research, providing equipments (camera traps, GPS, etc.), computer softwares, All India Estimation of Tiger/Co-predators/Prey Animals, habitat monitoring and evaluation                               | 2.00    | 0.50    | 0.50    | 0.50    | 0.50    | 4.00   |
| 8      | Staff development and capacity building  | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 5.00   |
| 9      | Deciding inviolate spaces for wildlife and relocation of villagers from core or critical tiger habitats in Tiger Reserves within a timeframe and settlement of rights                                  | 30.00   | 78.75   | 78.75   | 78.75   | 78.75   | 345.00 |
| 10     | Mainstreaming livelihood and wildlife concerns in forests outside tiger reserves and fostering corridor conservation through restorative strategy involving locals to arrest fragmentation of habitats | NIL     | 1.50    | 1.50    | 1.50    | 1.50    | 6.00   |
| 11     | Safeguards / Retrofitting measures in the interest of wildlife conservation  | NIL     | 1.25    | 1.25    | 1.25    | 1.25    | 5.00   |

(Rs. in crores)

| S. No. | Name of Activities   | 2007-08      | 2008-09       | 2009-10       | 2010-11       | 2011-12       | Total         |
|--------|--|--------------|---------------|---------------|---------------|---------------|---------------|
| 12     | Providing basic infrastructure/<br>Project Tiger Headquarter<br>expenditure for consultancy, all<br>India tiger estimation/continuous<br>monitoring of tigers outside tiger<br>reserves, strengthening of NTCA<br>at the Center and establishing a<br>monitoring lab in the Wildlife<br>Institute of India | 2.00         | 1.50          | 1.50          | 1.50          | 1.50          | 8.00          |
| 13     | Independent Monitoring and<br>evaluation of tiger reserves   | NIL          | 0.25          | 0.25          | 0.25          | 0.25          | 1.00          |
| 14     | Establishment and development of<br>eight new tiger reserves   | NIL          | 8.00          | 8.00          | 8.00          | 8.00          | 32.00         |
| 15     | Provision of project allowance to all<br>categories of Project Tiger field staff   | 2.35         | 3.00          | 3.00          | 3.00          | 3.00          | 14.35         |
| 16     | Staff welfare activities   | 0.150        | 1.00          | 1.00          | 1.00          | 1.00          | 4.150         |
| 17     | Fostering ecotourism   | NIL          | 1.00          | 1.00          | 1.00          | 1.00          | 4.00          |
|        | <b>TOTAL</b>   | <b>65.00</b> | <b>133.75</b> | <b>133.75</b> | <b>133.75</b> | <b>133.75</b> | <b>600.00</b> |

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# GUIDELINES FOR PREPARATION OF TIGER CONSERVATION PLAN



National Tiger Conservation Authority  
Ministry of Environment & Forests  
Government of India

## 1. PERSPECTIVE

The Project Tiger guidelines made it mandatory that every Tiger Reserve should be managed in accordance with a site specific management plan, which is the road map for managing a tiger reserve. Project Tiger thus became a role model for scientific management of protected areas in India. It laid down the concept of core-buffer zonation, prescribed interventions for protection, habitat improvement, field data collection relating to change in the composition of flora and fauna on account of protection, animal estimation and other aspects.

The Wildlife (Protection) Act, 1972 was amended in 2006, and a separate Chapter (IVB) has been added on the 'National Tiger Conservation Authority', which has replaced Project Tiger. This Chapter, inter alia, has enabling provisions (Section 38V) for preparing a 'Tiger Conservation Plan' for the proper management of a tiger reserve, which will also include staff development and deployment plan.

## 2. OBJECTIVES

The objectives of the Tiger Conservation Plan are to ensure:

1. protection of tiger reserve and providing site specific habitat inputs for a viable population of tigers, co-predators and prey animals without distorting the natural prey-predator ecological cycle in the habitat;
2. ecologically compatible land uses in the tiger reserves and areas linking one protected area or tiger reserve to another for addressing the livelihood concerns of local people, so as to provide dispersal habitats and corridors for spillover population of wild animals from the designated core areas of tiger reserves or from tiger breeding habitats within other protected areas;
3. forestry operations of regular forest divisions and those adjoining tiger reserves are not incompatible with the needs of tiger conservation.

The 2006 amendment to the wildlife (Protection) Act, 1972 also specifies that subject to the provisions of the Act, the state Government shall, while preparing a Tiger Conservation Plan, ensure the agricultural, livelihood, developmental and other interests of the people living in tiger bearing forests or a tiger reserve. For the first time, the 'core' and 'buffer' areas of a tiger reserve have also been defined, the former being the critical, inviolate area, and the latter the peripheral area to foster coexistence with local people for safeguarding the integrity of the core.

## 3. APPROACH TO TIGER CONSERVATION PLANNING

Owing to habitat fragmentation on account of biotic pressures and ecologically unsustainable land uses, coupled with poaching pressures, the following approach is imperative in the present context for tiger conservation planning:

### 3.1 Consolidating and strengthening of 'source' populations of tiger in tiger reserves and protected areas

The management interventions would involve:

1. Protection, anti-poaching activities and networking

2. Strengthening of infrastructure within Tiger Reserves
  3. Habitat improvement including water development
  4. Rehabilitation package for traditional hunting tribes living around tiger reserves
  5. Staff development and capacity
  6. Delineating inviolate spaces for wildlife and relocation of villagers from critical habitats in Tiger Reserves within a timeframe (five years) and settlement of rights
  7. Safeguarding tiger habitats from ecologically unsustainable development
- 3.2 Managing 'source-sink' dynamics by restoring habitat connectivity to facilitate dispersing tigers to repopulate the core areas

The management interventions would involve:

1. Co-existence agenda in buffer / fringe areas (landscape approach/sectoral integration) with ecologically sustainable development programme for providing livelihood options to local people, with a view to reduce their resource dependency on the core. The strategy would involve reciprocal commitments with the local community on a quid-pro-quo basis to protect forests and wildlife, based on village level, participatory planning and implementation through ecodevelopment committees (EDC).
2. Addressing man-animal conflict issues (ensuring uniform, timely compensation for human injury and deaths due to wild animals, livestock depredation by carnivores, crop depredation by wild ungulates).
3. Mainstreaming wildlife concerns in the buffer landscape by targeting the various production sectors in the area, which directly or incidentally affect conservation Foundation', as provided in the wildlife (Protection) Amendment Act, 2006.
4. Addressing tiger bearing forests and fostering corridor conservation through restorative strategy in respective working plans of forest divisions, involving local communities, to arrest fragmentation of habitats.
5. Ensuring safeguards / retrofitting measures in the area in the interest of wildlife conservation.

#### 4. COMPONENTS OF TIGER CONSERVATION PLAN

The Tiger Conservation plan of a given landscape will have two major components, to address two different areas, viz. core and buffer. The constitution, area extent, objectives of management and the prescribed management interventions (zone and theme plans) covering all aspects of wildlife conservation in the core, with prescriptions for an inclusive agenda in the outer buffer zone for providing livelihood options to local people to reduce their resource dependency on forests would form part of the Tiger Conservation Plan. The buffer prescription need to ensure mainstreaming wildlife concerns in various production sectors operating in the area. Apart from this, the plan should also include an 'indicative strategy' for restorative management of adjoining areas having a corridor value,



which would be implemented by respective field formations based on directives from the state Chief Wildlife Warden.

Thus, tiger source populations in core areas falling in a larger landscape would be interspersed and juxtaposed in a matrix of various landuses, with mainstreaming of wildlife concerns to safeguard the source-sink dynamics of tiger populations. Wildlife conservation activities will be focused in the 'core' areas and the 'co-existence' agenda will be actively pursued in the 'buffer' and 'adjoining' areas providing connectivity/ corridor linkages.

## 5. STRATEGIES FOR MANAGEMENT

### 5.1 Protection Strategy

While no generalised approach can be prescribed for the entire country, certain broad points are highlighted below for planning, which may be used in evolving or improving the protection strategy in tiger reserves:-

1. Review of the existing patrolling camp/chowkis in Protected Areas, so that each chowki/ patrolling camp has, on an average, an area of 25-35 sq. km. under its jurisdiction to ensure the desired amount of legwork by best guards and his camp followers posted in such patrolling camps/ chowkis.
2. Prescribing a daily schedule of patrolling keeping in mind the vulnerability of the area from protection point of view.
3. Maintaining a monitoring/ daily observation register in each patrolling camp/ chowki in the local language preferably, in which the field personnel can record their daily observations based on patrolling.
4. Adopting a regular supervision schedule for field officers, along with minimum patrolling to be done by them jointly with patrolling camp/chowki staff.
5. Maintaining a system of "surprise checks" of chowkies/patrolling camps by senior officers.
6. Keeping a record of the local village level market days in the peripheral areas, and deploying staff in civil dress to keep track of any untoward incident/transaction relating to wildlife.
7. Organising vehicular partrolling by constituting squads comprising of field staff, labourers and police/SAF personnel, tools (if necessary), with wireless handset and paraphernalia for apprehending offenders, apart from prescribing a patrolling calendar for the squad.
8. Maintaining a list of vehicles passing through manned barriers, and surprise checks by senior officers at such points every month.
9. Evolving a monitoring system for collation of information regarding livestock depredation/ human injury/loss of human life/large scale crop depredation by wild animals through wireless network and prompt payment of compensation as per Citizens' Charter.

10. Wherever half eaten carcasses of livestock on account of carnivore depredation are reported, such carcasses should be incinerated in the presence of a gazetted officer to eliminate the possibility of poisoning for revenge killing retaliation by local people.
11. In areas where more than three incidents of livestock depredation are reported within a fortnight, continuous monitoring based on field evidences should be done by deploying trackers.
12. Ensuring monthly meetings with the neighboring district officials for exchanging wildlife crime dossiers to facilitate joint action.
13. Exchange of crime dossiers with local police to facilitate their updation, apart from organizing monthly review meetings with the District Superintendent of Police.
14. Periodic meetings with the District Judge to expedite the disposal of pending cases relating to wildlife offences.
15. Organising surprise raids jointly with the local police in railway stations, local trains, bus-stops, buses and cafeteria.
16. Ensuring special site-specific protection measures, during monsoon such as 'Operation Monsoon' - considering the terrain and accessibility of Protected Areas.
17. Organising inter-state meetings at least once in three months, to exchange wildlife crime data between border Parks/Tiger Reserves/Sanctuaries.
18. The area should be constantly monitored to ascertain the presence of gangs and wandering pastoral people, apart from keeping an inventory of their temporary settlements.
19. Wherever EDCs have been constituted, a village level crime register should be maintained at the EDC level to keep track of villagers involved in wildlife offences.
20. At the range level, dossiers of habitual/ incorrigible offenders should be maintained, to help in tracing new crimes to old offenders.
21. Identifying local persons and imparting them the basics of wildlife crime detection so as to avail their services as and when required as informers.
22. Preparing a monthly crime map of each Protected Area on a 1:50,000 scale indicating the locations of each crime with date. It should also highlight the recorded cases of live stock depredation by carnivores during the period.
23. Patrolling camp/chowki staff should be instructed to collect field evidences like pugmarks, plaster cast of foot-prints on a regular basis, so that individual identities of carnivores like tiger can be fixed. This would serve as a continuous monitoring also.
24. Laying out impression pads near water points in villages to ascertain the presence of carnivores in the area.



25. Constituting a Defence Squads comprising of local, pro-active villagers at the EDC level, which can assist the PA staff in apprehending miscreants involved in wildlife poaching.

Effective 'Anti Poaching' measures and 'Patrolling Strategy' should be accorded topmost priority in a Tiger Reserve management. The need for a reliable, round the clock wireless system, strategically placed forest patrolling camps and an ever vigilant, motivated frontline staff requires no elaboration.

## 5.2 Strategy for the buffer: mainstreaming wildlife concerns in various production landscapes

A number of production sectors operate in the buffer area of a tiger reserve, which directly (d) or incidentally (I) affect tiger conservation (Plate 1). Therefore, the basic managerial strategy for the buffer area should focus on mainstreaming wildlife concerns amongst such sectors. Some of the common production sectors in the buffer areas are:

- (a) Forestry (D)
- (b) Agriculture (D)
- (c) Integrated Development (ecodevelopment, development through District Administration) (D)
- (d) Tourism (D)
- (e) Fisheries (D)
- (f) Tea/Coffee Estates (I)
- (g) Road / Rail transport (D)
- (h) Industry (D)
- (i) Mining (I)
- (j) Thermal power plants (I)
- (k) Irrigation projects (D)
- (l) Temple tourism (I)
- (m) Communication projects (D)

The above list is only indicative and not exhaustive.

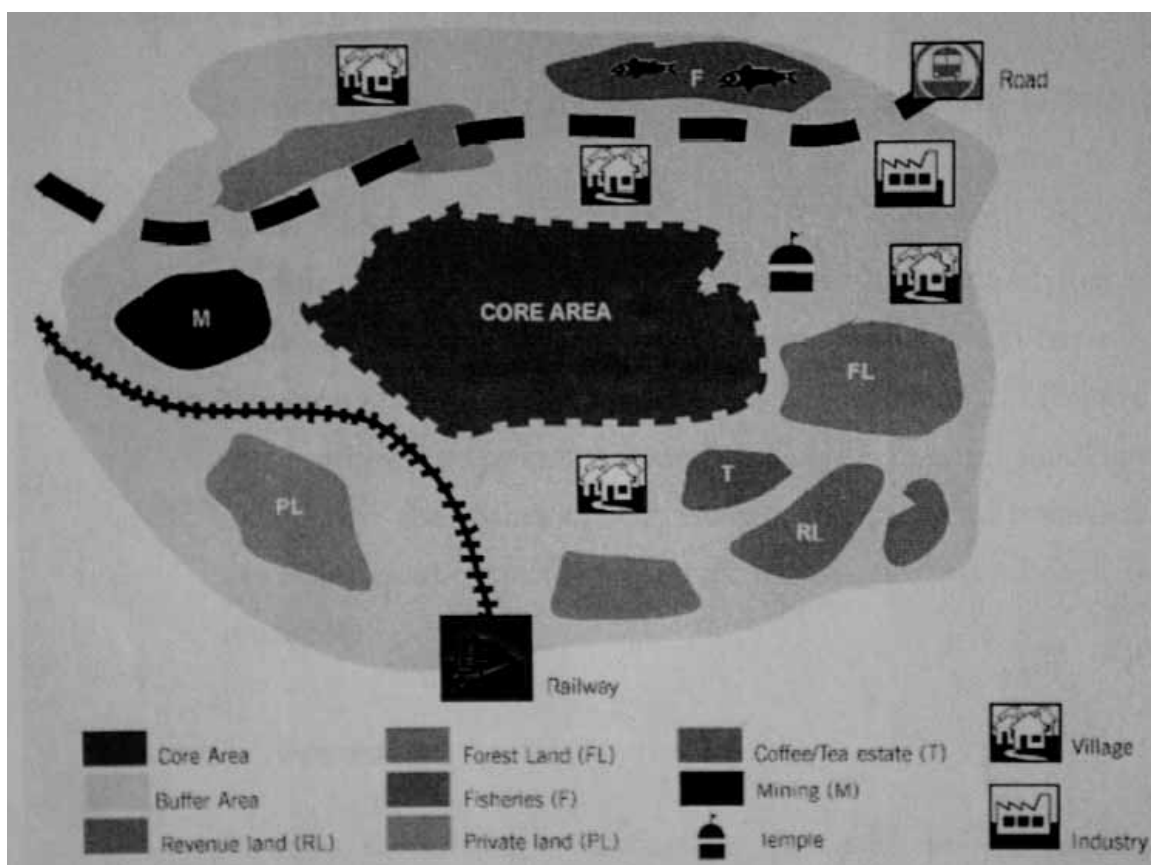


Plate 1: Production Sectors in a Tiger Landscape

### 5.3 What is 'Mainstreaming'?

Mainstreaming of wildlife concerns should be understood as a process to integrate wildlife conservation in various production sectors of the buffer zone where the primary emphasis is not conservation. This would safeguard wildlife interests by ensuring habitat supplements in outer areas beyond the core for tiger spatial land tenure dynamics. Further, it would also strengthen conservation by reducing the possible interface conflicts between various production sectors and conservation, which otherwise leads to wild animals earning a 'pest value' and eventually getting eliminated from the area. Thus, mainstreaming of wildlife concerns in the outer buffer landscape is essential to prevent such area from turning into 'ecological sinks'.

### 5.4 Process of mainstreaming

Mainstreaming tiger (wildlife) conservation concerns in various production sectors is imperative for the buffer zone to be viable and fulfill its objectives. This would involve modification of developmental activities /practices in the key production sectors to make them more 'conservation friendly'. The process is sector as well as landscape specific. However, some generic suggestions based on environmental guidelines issued by the Ministry of Environment and Forests for developmental projects in different sectors, are given below for guidance:

#### 5.4.1 Forestry

- Monitoring wildlife/tiger presence in standardized formats on a daily basis
- Foot patrolling by staff to ensure protection

- Exchange of tiger/wildlife presence data with nearby protected area or tiger reserve
- Monitoring of carnivore kills
- Monitoring of water points
- Timely payment of compensation for livestock depredation by wild carnivores
- Regulating livestock grazing in area prone to wild ungulates
- Payment of compensation for crop damage by wild animals
- Fire protection Village Forest Committees
- Review of wildlife status in the meetings of Forest Development Agency
- Regulating collection of Non Timber Forest Produce
- Monitoring village cattle for disease
- Maintenance of village level wildlife crime dossier
- Protection of riparian margins
- Retention of old/dead trees
- Stagging of forest stands belonging to different age groups
- Maintaining grassy blanks
- Retention of endemic species
- Incentives to local communities from the fund accruing through recycling of gate receipts, as a reciprocal commitment for their involvement in addressing wildlife concerns, forming part of a MoU with the Tiger Conservation Foundation in the village level micro plan

#### 5.4.2 Agriculture

- adoption of 'écoagriculture' as a land use to produce food as well as to conserve wildlife
- maintaining non-domestic habitat
- discouraging sudden change in cropping patterns (viz lure crops) to avoid accentuating man-wild animal conflicts
- maintaining a habitat mosaic, viz. fallow land, cultivation field, fruit orchard, plantation, under planting of spices, small timber etc. to mimic natural forest
- promoting soil conservation
- providing economic incentives for safeguarding wildlife concerns
- providing incentive for carbon, water and other environmental services to local people
- compensating losses due to wildlife
- recognizing the value of traditional farming in conservation
- fostering use of green manure and discourage use of chemical manures and pesticides
- facilitating marketing of local products through the Tiger Conservation Foundation
- recognizing property rights of farmers for genetic resources
- fostering rural tourism
- use of market instruments through the Tiger Conservation Foundation (production certificate for organic products)

#### 5.4.3 Integrated Development

##### (i) Ecodevelopment

- participatory village level planning and preparation of village level micro plans for eco development
- providing inputs for resource substitution, income generation, community welfare,



ecotourism for reducing the resource dependency of local people on surrounding forests

- ensuring reciprocal commitments with the local people through respective ecodevelopment committees, forming part of a MoU in the micro plan for safeguarding wildlife interests

(ii) Development through District Administration

This involves a multiplicity of sectors operating in the landscape pursuing development, where wildlife concerns have to be integrated through formal contracts/ agreements between the Tiger Conservation Foundation, district authorities and ecodevelopment committees. The responsibilities of various parties should be spelt out in the contract/agreements for safeguarding wildlife concerns along with reciprocal commitments. Normally, such contracts/ agreements should discourage any detrimental practice and assign responsibility to the community for carrying out some interventions. In return, the community should receive an assurance from the tiger reserve authorities for access to certain natural resources in the area or benefits.

5.4.4 Tourism

- facilitating wildlife ecotourism involving local host communities
- facilitating wildlife tourism on private lands in the vicinity as per normative guidelines
- obtaining contributions from private commercial tour operators and lodge owners for local community development
- obtaining contributions from tour operators for maintaining tourist facilities, staff welfare
- recycling of tourist gate receipts for community welfare through the Tiger Conservation Foundation

5.4.5 Fisheries

- granting permits to ecodevelopment committees (EDCs)
- regulation through the Tiger Conservation Foundation
- MoU with EDCs for safeguarding nesting sites, breeding areas
- Reciprocal commitments for patrolling, fire protection etc
- Facilitating marketing through the Tiger Conservation Foundation

5.4.6 Tea/coffee plantations

- Facilitating marketing through Tiger Conservation Foundation
- Supplementing its economy (in case the situation warrants)
- Providing livelihood options, relief to displaced workers through EDCs
- Fostering rural tourism

5.4.7 Road / rail transport

- Safeguarding floral / faunal values en route
- Speed level
- Regulation of traffic flow
- Maintenance of noise level as per noise abatement criteria

- Adoption of cut and fill technology in construction
- Establishment of local vegetation on filled up area and road side land
- Adoption of erosion control measures
- protection of drainage system
- dumping of excavated material on ecological principles
- safeguards to prevent road / train hits to wild animals
- safeguards to prevent fires
- compensation for habitat fragmentation and barrier effect

#### 5.4.8 Industry

- maintaining a zone of 5 km from the periphery of core zone as a "no developmental zone" to foster wildlife corridor
- construction activities should not lead to depletion of forests
- preventing pollution on account of gaseous and other effluents
- organizing service systems relating to drinking water, drainage, garbage disposal so as not to disturb the wildlife habitat

#### 5.4.9 Mining projects

- treatment of effluents as per standard procedures
- use of treated water for raising plantations of local species for stabilizing mine waste dumps
- establishing solid waste management area away from natural water courses
- disposing off wastes with high concentrations of reactive elements in sanitary land fields
- use of over-burden and mine waste in reclamation of the terrain
- providing for drainage of water discharged with the tailings to decantation wells and establishing plantations as wind belts to minimize the dry tailings being airborne
- control of acid mine drainage
- providing an attractive relocation / rehabilitation package of relocation (if any) with provisions for handholding beyond the process

#### 5.4.10 Thermal power plants

- locating the power plant at least 25 km away from the core periphery
- an exclusion zone of 2 km should be provided around the project area located on the leeward side with respect to wind direction
- avoiding forest or prime agricultural land for setting up the power project or disposal of ash

#### 5.4.11 Irrigation project

- safeguards for preventing landslides on the periphery of reservoir
- safeguards for potential seismic impact on account of reservoir loading
- monitoring recharge of ground water
- identification of areas prone to siltation and erosion
- retention of trees in the impounded area to facilitate roosting of birds
- fostering ecotourism through the Tiger Conservation Foundation in the impounded area



- assisting the management in patrolling the water body
- providing an attractive relocation / rehabilitation package for relocation (if any) with provisions for handholding beyond the process

#### 5.4.12 Temple tourism

- preparation of a master plan and adherence to its normative standards for crowd regulation and visitor facilitation
- ensure proper garbage disposal
- providing accommodation facilities for pilgrims in nearby satellite township
- architectural code of civil works as contained in the master plan should blend with the environment
- avoiding / safeguarding passages / corridors used by wild animals
- avoiding contamination / pollution of local streams and water bodies
- providing local shopping facilities to tourists through the Tiger Conservation foundation, involving the Ecodevelopment Committees

#### 5.4.13 Communication projects

- avoiding wetlands, animal corridors and habitats rich in wildlife
- avoiding agricultural land, streams, forest areas
- avoiding slopes
- institutionalizing a system of patrolling for safeguarding the use of transmission lines and cleared strips for poaching
- the maximum width (w) of Right of Way for the transmission lines on forest land for varying kv lines is 7 m (11kv), 15 m (33 kv), 180 m (66 kv), 22 m (111 kv), 27 m (132 kv), 35 m (220 kv) and 52 m (400 kv)
- maintaining the prescribed clearances for different kv lines within the Right of Way, which may be widened in areas having tall trees or elephants

### 5.5 Implementation Strategy

- 5.5.1 The buffer zone of a tiger reserve will not have the status of a national park or sanctuary. However, as a "multiple use area", it may encompass conservation or community reserves, apart from revenue lands, private holdings, villages, towns and other production sectors as indicated above.
- 5.5.2 The buffer zone should be notified as required under the Wild Life (Protection) Amendment Act, 2006, and should be placed under the unified control of the Field Director of the tiger reserve.
- 5.5.3 Subject to the provisions of the Wild Life (Protection) Act, 2006, the existing land uses in the buffer zone can continue with due mainstreaming of wildlife concerns as indicated above.
- 5.5.4 The role of Deputy Director (Buffer Zone) of a tiger reserve would be to carry out implementation of inputs (Forestry/Joint Forest Management/Ecodevelopment) in forest areas, while ensuring coordination with other sectors. Wildlife protection would be an overlapping mandate for the entire area.

5.5.5 To facilitate coordination and mainstreaming of wildlife concerns at the field as well as state level, the following Committees are suggested:

(a) (State level Monitoring Committee)

|  |   |                  |
|--|---|------------------|
| (i) Chief Secretary of the State   | - | Chairman         |
| (ii) Secretaries of related departments  | - | Members          |
| (iii) Chief Wildlife Warden<br>(assisted by the Field Director of tiger reserve) | - | Member-Secretary |

(b) (District Level Implementing Committee for ensuring coverage of other sectors)

|   |   |                  |
|---|---|------------------|
| (i) District Collector  | - | Chairman         |
| (ii) CEO  | - | Member           |
| (iii) Representative officials from:<br>PWD, Social Welfare, Tribal Department,<br>Health Department, Agriculture Department,<br>Education Department, Power and Irrigation Departments | - | Members          |
| (iv) Representatives of various Government/<br>private production sectors   | - | Members          |
| (v) Deputy Director of the Tiger Reserve/PA   | - | Member Secretary |

5.5.6 The working plan provisions for forest areas in the buffer zone would be implemented after duly mainstreaming wildlife concerns.

5.5.7 The existing rights/concessions of local people would be regulated as per the legal provisions invogue.

5.5.8 As provided in Section 38-V of the Wild Life (Protection) Act, 1972 (as amended in 2006), the provisions of sub-section (2) of section 18, sub-section (2), (3) and (4) of section 27, sections 30, 32 and clauses (b) and (c) of section 33 shall apply to the buffer zone of a tiger reserve, to accord protection to wildlife in the area.

5.5.9 Ecodevelopment as well as Joint Forest Management activities in the area would be implemented using a participative strategy as codified by the State, through village forest committees and eco-development committees.

5.5.10 Buffer zone management should address threats to wildlife conservation emanating from regional developmental activities such as forest concessions, industrial pollution, highway development, extensive high value farming or ecologically unsustainable and intensive land uses like mining through appropriate mainstreaming in such sectors.

5.5.11 Integrated development (ecodevelopment and developmental activities of District Administration) should be innovatively used for addressing conflicts arising on account of pressures on forest resources from local people.

5.5.12 For areas with ongoing conflicts on account of law and order, insurgency and the like, integrated development should be complemented by deploying native workforce and homeguards/ex-army personnel to contain the situation, as the site specific situation warrants.



## 6. IMPORTANCE OF A BUFFER ZONE VIS-À-VIS THE TIGER LAND TENURE DYNAMICS

- 6.1 Tiger is a territorial animal, which advertises its presence in an area and maintains a territory. It is a well known fact that partial overlaps of resident male territories in an area do occur. However, the degree of overlap increases lethal internecine combats. Several female territories do occur in an overlapping manner within the territory of a male tiger. The tiger land tenure dynamics ensures presence of prime adults in a habitat which act as source populations, periodically replacing old males by young adults from nearby forest area (Plate 2).
- 6.2 The ongoing study and analysis of available research data on tiger ecology indicate, that the minimum population of tigresses in breeding age, which are needed to maintain a viable population of 80-100 tigers (in and around core areas) require an inviolate space of 800 - 1000 sq km (see Annexure I). Tiger being an "umbrella species", this will also ensure viable populations of other wild animals (co-predators, prey) and forest, thereby ensuring the ecological viability of the entire area / habitat. Therefore, buffer areas with forest connectivity are imperative for tiger dynamics, since such areas foster sub adults, young adults, transients and old members of the population. The young adults periodically replace the resident ageing males and females from the source population area.
- 6.3 The buffer area, absorbs the "shock" of poaching pressure on populations of tiger and other wild animals. In case of severe habitat depletion in buffer areas, the source population would get targeted and eventually decimate.

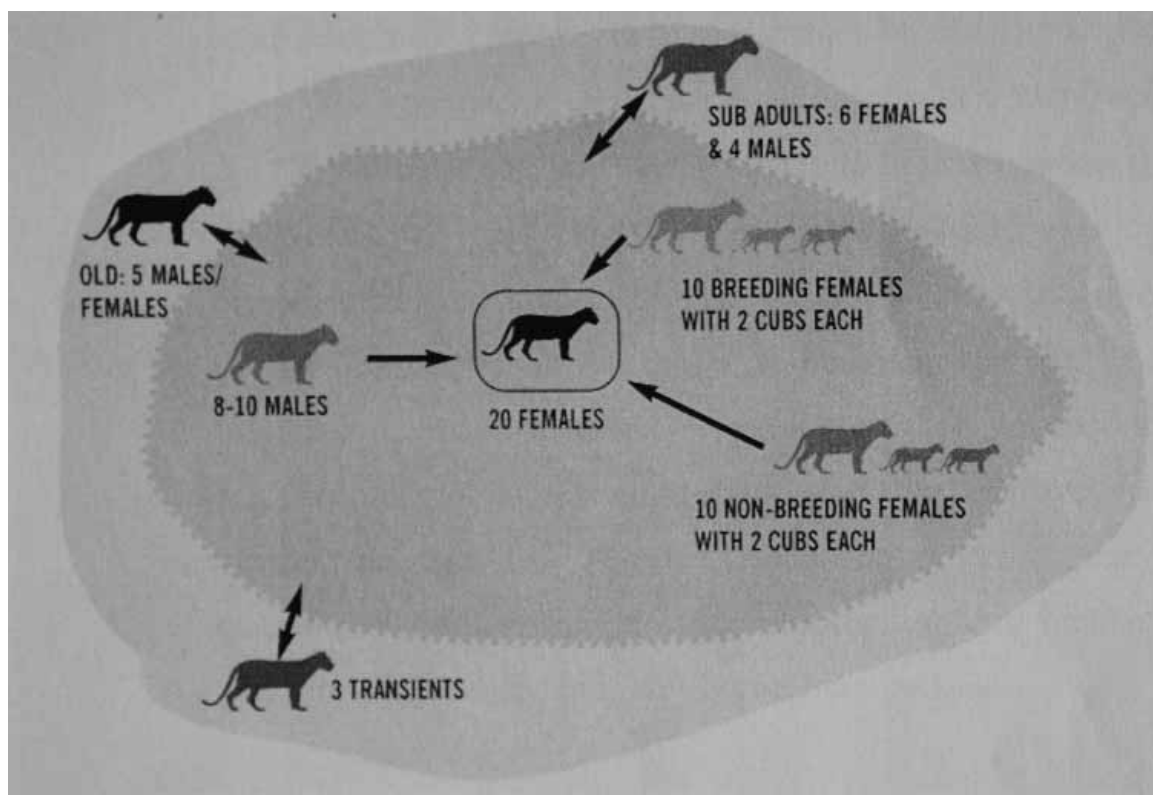


Plate 2: Tiger Land Tenure Dynamics. Minimum population of tigers in breeding age needed for maintaining a viable population (80-100 tigers), which require an inviolate space of 800-100 square kilometers.

## 7. TIGER CONSERVATION FOUNDATION

- 7.1 The Wild Life (Protection) Amendment Act, 2006 (Section 38X provides for establishment of a Tiger Conservation Foundation in each tiger reserve, to facilitate and support management, apart from taking initiatives for involving people in conservation. The Foundation is a new institutional framework which can complement the tiger reserve management and liaison with various ecodevelopment committees and their confederations apart from production sectors in the landscape. The Foundation should be registered under the relevant rules of the State as a Trust, and as prescribed in the guidelines, will have a State level Governing Body, apart from a field level executive committee under the Chairmanship of the Field Director with representatives of the ecodevelopment committees as nominated by the Governing Body. The Foundation would act as a "non profit center" by increasing local participation. It can secure the tiger reserve from financial constraints by providing funding support through various sources: recycling of gate receipts, service charge, donations and the like. The Foundation, may undertake various activities related to mainstreaming of conservation: ecodevelopment, staff welfare, visitor regulation, field research, facilitating ecodevelopment committees for market access, conducting capacity building programs, ecotourism and Joint Forest Management.

## 8. VALUE OF CORRIDORS

- 8.1 Isolated populations of wild animals face the risk of extinction owing insularization. Habitat fragmentation adversely affects wildlife due to decreased opportunity available for wild animal movement from different habitats. This in turn prevents gene flow in the landscape. The equilibrium theory of island biogeography predicts greater species richness in large wildlife areas or in smaller areas connected by habitat corridors owing to increased movements of wild animals. Such connecting habitats, apart from facilitating animals movements also act as refuge for spill over populations from the core areas.. They may also act as smaller "source" by facilitating breeding and movement of native wildlife populations to colonize adjoining habitats. Natural linear features like rivers or mountain ranges may act as boundaries for wildlife populations. However, disturbance of corridors on account of human interventions (highways, canals, industries, roads, railway tracks, transmission lines) is deleterious to wildlife.

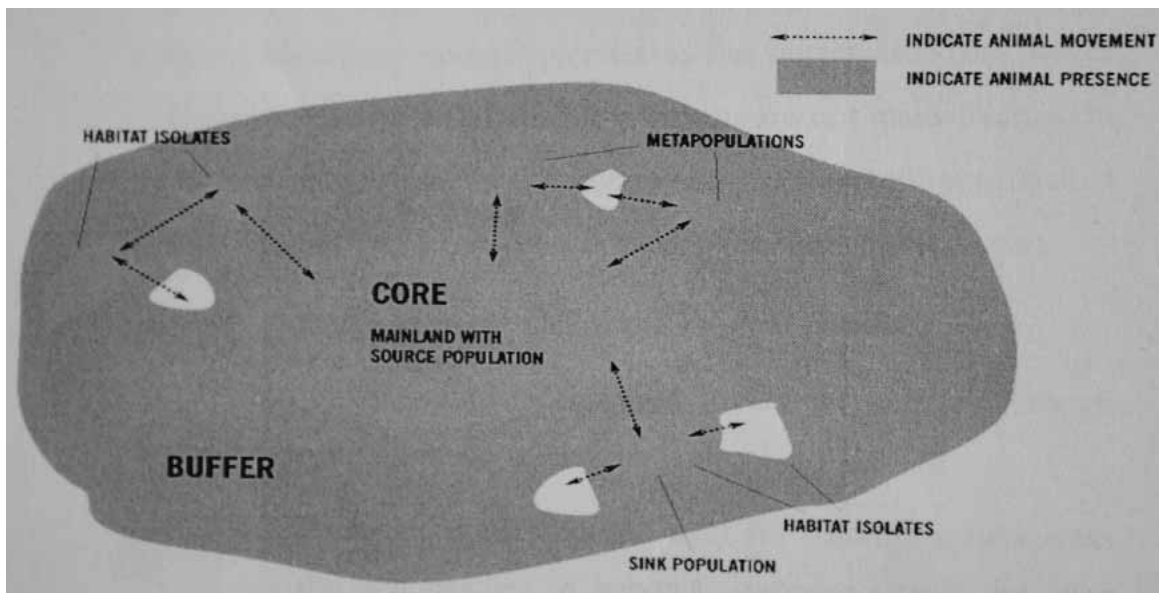


Plate 3: Tiger Land Tenure Dynamics



- 8.2 "source" populations are those which produce a surplus of animals which are potential colonizers. On the other hand, "Sinks" are those populations in which deaths exceed births, and their persistence depends on regular influx of immigrants.
- 8.3 Patches of suitable habitats in the landscape may support wildlife populations (local populations), which may be separated from one another on account of various disturbance factors. Collectively, such patches of local populations are known "regional populations". This general situation of sub divided populations interacting with one another in a landscape to supplement new genes through movement, is known as a "meta population". In the context of tiger land tenure dynamics, the core-buffer areas conform to the "island-mainland" or "core-satellite" form of meta population model. The core area of a tiger reserve provides a source of colonizers for the surrounding local populations of different sizes and varying degree of isolation. The core area may not readily experience extinction owing to the protection inputs for maintaining its inviolate nature. However, the surrounding isolated patches in the buffer area may suffer from local extinction if wildlife concerns are not mainstreamed in the area. Therefore, a meta population management approach is required for the buffer zone as well as corridors to facilitate:
- Supplementing declining local tiger populations
  - Facilitating re-colonization in habitat patches through restorative management
  - Providing opportunity to tiger for colonizing new areas through patches of habitats (stepping stones) between isolated populations (Plate 4)

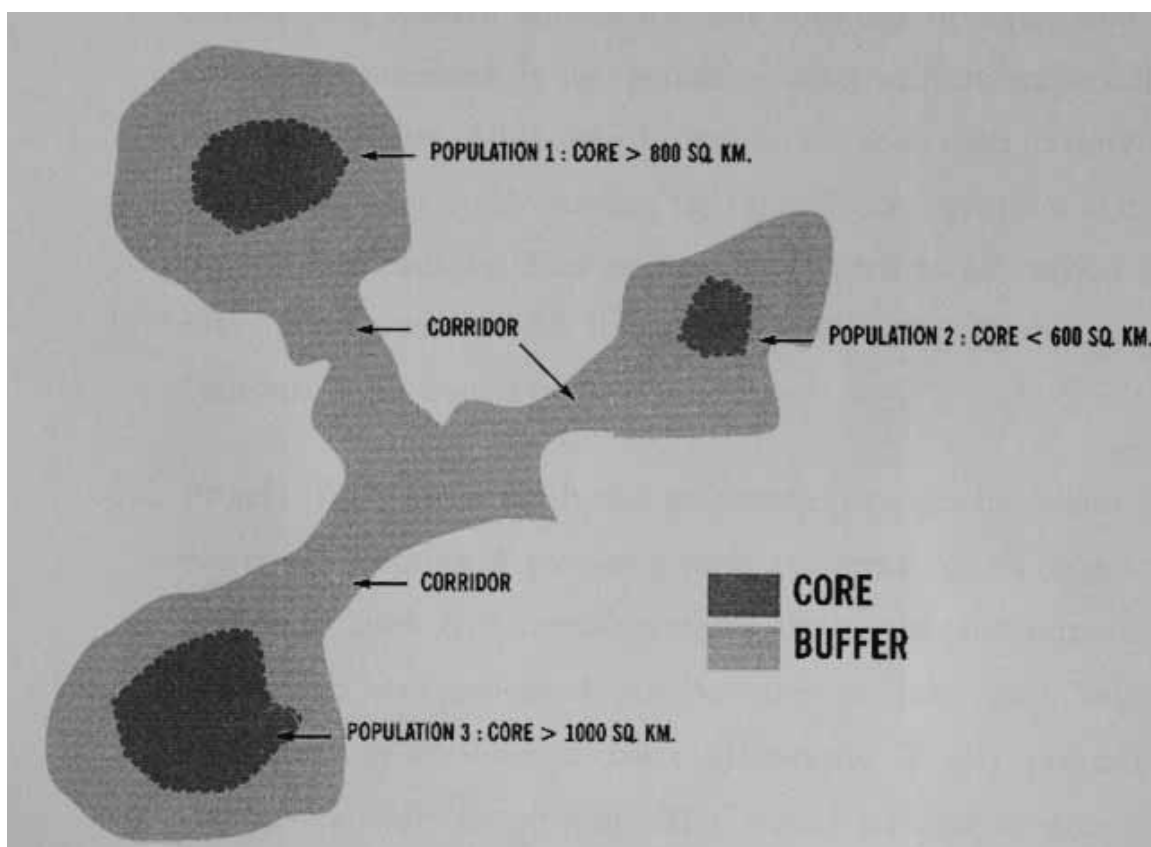


Plate 4: Meta population dynamics. Corridors become crucial for maintaining viability of Population 2 as by itself it does not have the habitat to sustain greater than 20 breeding tigers.

## 9. MONITORING TIGER CO PREDATOR, PREY AND THEIR HABITAT

- 9.1 Monitoring status of tigers, co predator prey base and evaluating habitat quality constitutes on of the most important components of the conservation plan. The existing methodology of tiger estimation has been reviewed and refined methodology has been developed. This refined methodology has been endorsed by the National Tiger Conservation Authority (NTCA) in its first meeting held on 28.11.2006. The details of the methodology are given as Annexure V(a). It comprises of a three stage process involving primary data collection at forest guards beat level, its collation and analysis. As output of the process, spatial distribution, relative abundance and densities of tigers and its biotope is generated. It also generates other information relating to habitat quality. All these information are then used to develop relationships for understanding tiger population in tiger occupied landscapes. This process is required to be carried out every fourth year at All India Level under the supervision of National Tiger Conservation Authority.
- 9.2 Project Tiger areas are home to source populations which are extremely important for long conservation of tigers at landscape level. It is therefore necessary to intensively monitor tigers and its associated components of prey and habitat attributes on continuous basis. Annexure V (b) prescribes format for daily monitoring. This would generate information on regular basis for evaluating data in a suitable manner to generate tiger occupancy maps. The analyzed information thus generated should be sent to NTCA every month.
- 9.3 Apart from above, Project Tiger Management should also carry out estimation of Tiger as per process prescribed for All India Tiger Monitoring on annual basis. The data collection format are given in Annexure V (c). They are also expected to monitor the source population intensively by using camera traps/ radio telemetry and other modern tools. This intensive monitoring could be done by each Tiger Reserve in association with a local, regional or national level institution of repute.

## 10. RELOCATION OF HUMAN SETTLEMENTS FROM CORE

It is essential to have a minimum inviolate area (forming the core of the Tiger Reserve) capable of supporting 20 breeding tigresses. On an average, a tigress requires 40-60 km of territory for successful breeding. Pressure of human habitation is detrimental in sustaining high density breeding tiger populations. Settlements, therefore, need to be re-habilitated from the core area of a tiger reserve. The translocations/ rehabilitation package should be such that people should readily be willing to relocate. The relocation site should be so chosen so as not to compromise the conservation value of the Tiger Reserve i.e. it should be as far away from the core as possible and not located in connecting habitat corridors. Networking with local institutions and NGO's should be established so that post relocation assistance is provided to the relocated population for some time atleast. Effort should be made to wean the resettled population away from their dependence on forest resources. This would be possible by providing assistance (both technically and financially) in developing alternative livelihood options.

## 11. TEMPLATE FOR PREPARING A TIGER CONSERVATION PLAN

Name of the Tiger Reserve:

### 11.1 Introduction of the Area

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



11.1.2 Map of Tiger Conservation Unit/ Landscape.

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

11.1.4 Delineation of Area into Core, Buffer and Adjoining Landscape.

11.2 Tiger Conservation Plan: Core Area

### **Part A: The Existing Situation**

Chapter 1: Introduction of the Area

1.1 Name, Location, Constitution & Extent

1.1.1 Name

1.1.2 Location

1.1.3 Constitution

1.1.4 Extent (Area statement and Legal Status)

1.1.5 Notification

1.2 Approach & Access

1.3 Statement of Significance

Chapter 2: Background Information and Attributes

2.1 Geology, Rock and Soil

2.2 Hydrology and Water Sources

2.3 Vegetation Cover Types

2.4 Wild Fauna, Habitats and Trophic Niches

2.5 Major Conspicuous Changes in the Habitat Since Inception

Chapter 3: Status of Tiger and Co-Predators

3.1 Distribution

3.2 Abundance Status

3.3 Prey - Predator Relationships

3.4 Assessment of Threats

Chapter 4: History of Past Management and Present Practices

4.1 Conservation History

4.2 Habitat Management

4.3 Protection and Intelligence Gathering

4.4 Tourism and Interpretation

4.5 Research and Monitoring

4.6 Relocation of Villages

4.7 Administration and Organization



## Chapter 5: Land use Patterns & Conservation- Management Issues

- 5.1 Land use Classification
- 5.2 Socio- economic Profile of Villages
- 5.3 Resource Dependence of Villages
- 5.4 Human-Wildlife Conflicts
- 5.5 Assessments of Inputs of Line Agencies/ Other Departments

### **Part B: The Proposed Management**

## Chapter 6: Visions, Goals, Objectives and Problems

- 6.1 Vision
- 6.2 Management Goals
- 6.3 Management Objectives
- 6.4 Problems in Achieving Objectives
- 6.5 Strengths- Weaknesses-Opportunities- Limitations (SWOT) Analysis

## Chapter 7: Management Strategies

- 7.1 Delineation of Critical Wildlife Habitats and Inviolable Areas
- 7.2 Zone and Theme Approaches to Management Strategies
  - 7.1.1 Zone Plans
  - 7.1.2 Theme Plans

## Chapter 8: Research, Monitoring and Training

- 8.1 Research Priorities
- 8.2 Research Projects
- 8.3 Monitoring Framework
- 8.4 Training Needs Assessment
- 8.5 HRD Plan

## Chapter 9: Tiger Population and Habitat Assessment

- 9.1 Daily Monitoring and Forecasting
- 9.2 Tiger Population Estimation and Monitoring Framework (Phase I, II, III and IV)
- 9.3 Habitat Assessment and Monitoring Framework
- 9.4 Spatial Database Development
- 9.5 Analysis and Reporting Framework

## Chapter 10: Protection and Intelligence Gathering

- 10.1 The Tiger Cell
- 10.2 The Strike Force
- 10.3 Strategy for Protection and Communication
- 10.4 Fire Protection
- 10.5 Intelligence Gathering and Coordination



## Chapter 11: Ecotourism and Interpretation

- 11.1 Organization Setup and Management
- 11.2 Determination of Carrying Capacity
- 11.3 Implementation of Ecotourism Guidelines
- 11.4 Park Interpretation Programme

## Chapter 12: Miscellaneous Issues

- 12.1 Housekeeping of Departmental Elephants
- 12.2 Wildlife Health Monitoring
- 12.3 Mortality Survey

## Chapter 13: Organization, Administration and Budget

- 13.1 Tiger Steering Committee
- 13.2 Tiger Conservation Foundation
- 13.3 Coordination With Line Agencies/ Departments
- 13.4 Staff Deployment
- 13.5 Fund Raising Strategies
- 13.6 Schedule of Operations
- 13.7 Activity Budget

## Chapter 14: Monitoring and Evaluation

- 14.1 Criteria
- 14.2 Process

- i. List of Maps
- ii. List of Appendices (Will include all relevant and compiled data/ information relating to the Tiger Conservation Unit such as All Notifications/ Circulars constituting Tiger reserve, Guidelines, Committees; Flora and Fauna indicating threatened and Invasive alien species status; Administration and Protection Infrastructure such as Buildings, Anti Poaching camps, Vehicles and Boats, Working Elephants, Wireless Communication network; Habitat attributes such as important water bodies, rivers and streams etc.; Staff; Arms and ammunition; Tourism and interpretation facilities; Visitors and revenue statistics; Roads, patrolling Path; Past Expenditure; List of research projects/ studies undertaken and publications; Any other relevant information for the Area.

### 11.3 Tiger Conservation Plan: Buffer Area

As per section 38V (4ii) of the Wildlife (Protection) Amendment Act - 2006, each Tiger Reserve is required to create a Buffer of Peripheral area consisting of areas peripheral to critical tiger habitat or core area, where a lesser degree of habitat protection is required to ensure the integrity of the critical tiger habitat with adequate dispersal for tiger. This area will promote the co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of local people. This area will have to be determined on the basis of scientific and

objective criteria in consultation with the concerned Gram Sabha and an expert committee constituted for the purpose. The Buffer area of a Tiger Reserve will have following major functions:

1. To provide habitat supplement to the spill over population of tiger and its prey from the core area, conserved with the active cooperation of stakeholder communities.
2. To providing site specific, need based, participatory eco-development inputs to local stakeholders for rationalizing their resource dependency on the Tiger Reserve and strengthen their livelihoods, so as to elicit their support for conservation of the area.
3. Mainstreaming wildlife concerns in various production sectors in the area.

The management of the Buffer Area will have to be carried out on following broad principles:

1. Implementation of forestry activities after mainstreaming wildlife concerns.
2. Implementation of ecodevelopmental activities for reducing resource dependency of local people on surrounding forests.
3. Coordination with governmental / non governmental production sectors in the landscape for mainstreaming conservation.
4. Habitat management and improvement activities will be carried out in the existing habitat of tiger and its prey species through active involvement of local communities. The existing silvicultural operations be accordingly modified to promote conservation of the area and the management will be based on specific forest lands forming part of village level micro plans. Community will be involved in the overall management of the buffer area.
5. Site specific ecodevelopment initiatives based on participatory village level micro plans will be carried out for the local communities for strengthening their livelihoods through a balanced approach of rationalization of resource use, biomass regeneration and alternatives, so that the ecological status of the area could be improved and maintained (See Annexure-II for menu of options from best practices under India Ecodevelopment Project and Annexure-III for possible ecodevelopment activities in different type of areas in the buffer).
6. Reciprocal commitments by the local people through specific measurable actions as per MoUs for improving protection and conservation of the area will be implemented. This may include rationalization of resource use from the forest, participation in the fire protection and anti-poaching efforts.
7. Ecotourism activities in the Buffer Area will be used as an important component of ecodevelopment for strengthening the livelihood of the local people and the protection of the area.
8. Capacity building of the field staff as well as ecodevelopment committee member will be undertaken on a regular basis through the Tiger Conservation Foundation. Similarly intensive nature conservation awareness programme should be part of the buffer area management plan with a focus on different stakeholders particularly local communities.

The suggested/ indicative format for the buffer area plan is given below:

## **Part A: The existing Situation**

### Chapter 1: Introduction of the Area

- 1.1 Name, Location, Constitution & Extent
  - 1.1.1 Name
  - 1.1.2 Location
  - 1.1.3 Constitution
  - 1.1.4 Extent
- 1.2 Approach & Access
- 1.3 Statement of Significance
- 1.4 Geology, Rock and Soil
- 1.5 Hydrology and Water Sources
- 1.6 Vegetation Cover Types
- 1.7 Wild Fauna, Habitats and Trophic Niches
- 1.8 Major Conspicuous Changes in the Habitat Since Inception

### Chapter 2: Status of Tiger and Co-Predators

- 2.1 Distribution
- 2.2 Abundance Status
- 2.3 Prey-Predator Relationships
- 2.4 Assessment of Threats

### Chapter 3: History of past Management and Present Practices

- 3.1 Conservation & Forest Management History
- 3.2 Protection of Tiger, its Prey and Habitat
- 3.3 Other Land use - Villages, Agriculture, Developmental Programmes, Tourism etc.
- 3.4 Research, Monitoring and Wildlife Health
- 3.5 Nature Education and Interpretation
- 3.6 Administration and Organization

### Chapter 4: Production Sectors in the Landscape

- 4.1 Forestry (affects directly) (D\*)
- 4.2 Agriculture (D)
- 4.3 Integrated Development, Ecodevelopment & Development through Dist. Administration) (D)
- 4.4 Tourism (D)
- 4.5 Fisheries (D)
- 4.6 Tea/Coffee Estates (affects incidentally) (I\*\*)
- 4.7 Road / Rail transport (D)
- 4.8 Industry (D)
- 4.9 Mining (D)
- 4.10 Thermal power plants (I)
- 4.11 Irrigation projects (D)



- 4.12 Temple tourism (D)
- 4.13 Communication projects (D)

\* D = Affects wildlife directly  
\*\* I = Affects wildlife incidentally

#### Chapter 5: Land use Patterns and Conservation-Management Issues

- 5.1 Land use Classification
- 5.2 Socio-economic Profile of Villages
- 5.3 Resource Dependence of Villages
- 5.4 Human-Wildlife conflicts
- 5.5 Assessments of Inputs of Line Agencies/ Other Departments

### **Part B: The proposed Management**

#### Chapter 6: Visions, Goals Objectives and Problems

- 6.1 Vision
- 6.2 Management Goals
- 6.3 Management Objectives
- 6.4 Problems in Achieving Objectives
- 6.5 Strengths-Weaknesses-Opportunities-Limitations (SWOT) Analysis

#### Chapter 7: Management Strategies

- 7.1 Delineation of Buffer Areas and Other Zones within the Buffer Area (e.g. Ecodevelopment Zone, Forestry Zone, Production Sector Zone, etc.)
- 7.2 Zone and Theme Approaches to Management Strategies
  - 7.2.1 Zone Plans
  - 7.2.2 Theme Plans

#### Chapter 8: Ecodevelopment and Livelihoods

- 8.1 Policy and Institutional Framework
- 8.2 Livelihood Support Initiatives through Village Micro-plans
- 8.3 Integration of rural Development Programmes
- 8.4 Monitoring and Evaluation

#### Chapter 9: Implementation Strategy

- 9.1 State level Monitoring Committee
- 9.2 Tiger Conservation Foundation and District level Coordination Committee.
- 9.3 Formation of Ecodevelopment Committees (EDCs), Confederation of EDCs and Other Supporting Institutions like Self Help Groups (SHGs) and Nature Clubs
- 9.4 Livelihood Support Initiatives through Village Micro Plans
- 9.5 Integration of Rural Development Programmes
- 9.6 Monitoring and Evaluation



## Chapter 10: Mainstreaming Strategy with various Production Sectors

- 10.1 Forestry (affects directly) (D\*)
- 10.2 Agriculture (D)
- 10.3 Integrated Development (ecodevelopment, development through Dist. Administration) (D)
- 10.4 Tourism (D)
- 10.5 Fisheries (D)
- 10.6 Tea/Coffee estates (affects incidentally) (I\*\*)
- 10.7 Road / Rail transport (D)
- 10.8 Industry (D)
- 10.9 Mining (D)
- 10.10 Thermal power plants (I)
- 10.11 Irrigation projects (D)
- 10.12 Temple tourism (D)
- 10.13 Communication projects (D)

\*D = Affects wildlife directly

\*\*I = Affects wildlife incidentally

## Chapter 11: Research, Monitoring, Training & Wildlife Health

- 11.1 Research Priorities, Main Projects and Implementation
- 11.2 Monitoring Framework
- 11.3 Training Needs Assessment
- 11.4 HRD Plan
- 11.5 Wildlife Health Monitoring
- 11.6 Mortality Survey

## Chapter 12: Tiger Population and Habitat Assessment

- 12.1 Daily Monitoring Protocol
- 12.2 Tiger Population Estimation Framework (Phase I, II and III)
- 12.3 Habitat Assessment Framework
- 12.4 Spatial Database Development
- 12.5 Analysis and Reporting Framework

## Chapter 13: Protection and Intelligence Gathering

- 13.1 Deployment of native workforce
- 13.2 Patrolling Strategy including Joint Patrolling
- 13.3 Maintenance of Village level Crime Dossiers
- 13.4 Fire Protection
- 13.5 Intelligence Gathering and Coordination

## Chapter 14: Ecotourism, Interpretation and Nature Education

- 14.1 Tiger Conservation Foundation and Management of Community Based Ecotourism Programmes
- 14.2 Ecotourism Guidelines and Constitution of Park Welfare Funds

14.3 Interpretation Programme

14.4 Nature Education

#### Chapter 15: Organization, Administration and Budget

15.1 Buffer Areas Coordination Committee and its Linkages with Tiger Steering Committee & Tiger Conservation Foundation

15.2 Coordination with EDCs, Confederation and other Line Agencies/ Departments/ Production Sectors

15.3 Staff Deployment

15.4 Fund Raising Strategies

15.5 Schedule of Operations

15.6 Activity Budget

i. References

ii. List of Maps

iii. List of Appendices

11.4 Indicative Plan for Adjoining Areas Providing Connectivity / Corridors (to be implemented by the Chief Wildlife Warden)

Conservation of Tiger will not only require the management of core and the buffer areas but it will also be the necessary to maintain connectivity to other core areas for ensuring gene flow as an ecological requirement for long term survival of the species. Therefore, it will be necessary to identify these areas of connectivity /corridors between two source populations. Infact management of these critical areas will be as important as the core areas. In most of the cases such areas will be under traditional forestry practices and other landuses. These areas will also the under tremendous pressures due to habitations and human activities. Therefore in such areas the existing management practices will have to be modified so as to upgrade and maintain the ecological status of the connectivity/ corridors. Obviously the agenda of co-existence will have to be implemented for such areas with a focus on the wildlife habitat parameters and the livelihoods/developmental needs of the local communities. Role of the local communities, line agencies and other stakeholders will be extremely important for the management of such areas.

The plan for these areas has to be very simple and focused. Many of the activities of extension, research/ monitoring and HRD will have to be linked with the Buffer Area Plan.

Following indicative format is proposed for the Management Plan of adjoining areas (corridors):

#### **Part A: The existing Situation**

##### Chapter 1: Introduction of the Area

1.1 Brief Description of the Area and significance for tiger conservation.

1.1.1 Natural Habitat Corridors

1.1.2 Remnant Habitat Corridors

1.1.3 Regenerated Habitat Corridors





- 1.1.4 Planted Habitat Corridors (from plantations, shelter belts, etc.)
- 1.1.5 Disturbances in Habitat Corridors (railway lines, cleared transmission line, etc.)
- 1.1.6 Stepping stones (suitable habitat patches)

- 1.2 Map showing landscape beyond Core and Buffer Areas.
- 1.3 Major Land use Classification in the Area.

- 1.3.1 Reserve Forest/ Proposed Reserve Forests/ Unclassified States Forests (Divisions/ Range/ Blocks/ Beats)
- 1.3.2 Villages/ Towns/ Citities (Districts, Sub-Divisions, Blocks, Panchayats)
- 1.3.3 Other uses (Agriculture, Tea Gardens, Plantations etc.)
- 1.3.4 Government Lands
- 1.3.5 Quality of Habitat

- 1.4 Statement of Significance (not covered under 1.1 above).
- 1.5 Geological attributes and Hydrology.
- 1.6 Vegetation Types
- 1.7 Wild Fauna and Habitats.
- 1.8 Major changes in the landscapes (Settlements/ other infrastructure).
- 1.9 Administration and Organization.

## Chapter 2: Status of Tiger and Co-Predators

- 2.1 Distribution and Abundance Status with type of use by the tiger and co-predators.
- 2.2 Prey-Predator Relationships.
- 2.3 Assessment of Threats.

## Chapter 3: Land use Patterns and Conservation-Management Issues

- 3.1 Socio-economic Profile of Villages and Resource Dependency and Human-Wildlife Mutual Impacts.
- 3.2 Assessments of Inputs of Line Agencies/ Other Departments.

## **Part B: The Proposed Management**

### Chapter 4: Visions, Goals, Objectives and Problems

- 4.1 Vision
- 4.2 Management Goals
- 4.3 Management Objectives
- 4.4 Problems in Achieving Objectives
- 4.5 Strengths-Weaknesses-Opportunities-Limitations (SWOT) Analysis

### Chapter 5: Management Strategies

- 5.1 Delineation of Corridors and other habitat used by tigers and co-predators.
- 5.2 Prioritization of co-predators.
- 5.3 Development of Integrated Landuse Approach for the Area commensurate with tiger conservation and co-existence agenda (Formulation and Coordination).

- 5.4 Wildlife management in territorial forest areas (Identification and inclusion of prescriptions in the Working Plans of respective divisions as per Working Plan Code).
- 5.5 Zone Plan Management Strategies (Protection, Habitat Management and Habitat Restoration, Supplementing Declining Local Populations and Facilitating their Recolonisation)

#### Chapter 6: Ecodevelopment and Livelihoods

- 6.1 Constitution of Adjoining Corridor Area Management Committee (with representation of different Forest Divisions, Line agencies and other Stakeholders) and Linkages with Tiger Conservation Authority
- 6.2 Formation of Ecodevelopment Committees (EDCs) and supporting institutional framework (Confederation of EDCs, Self Help Groups and Nature Clubs)
- 6.3 Livelihood Support Initiatives through Village Micro-Plans supported by Tiger Conservation Foundation and Other Line Agencies
- 6.4 Monitoring and Evaluation

#### Chapter 7: Tiger Population and Habitat Assessment

- 7.1 Day to Day Monitoring Protocol
- 7.2 Tiger Population Estimation Framework (Phase I and II)
- 7.3 Analysis and Reporting Framework and Periodicity.

#### Chapter 8: Organization, Administration and Budget

- 8.1 Coordination Committee for effective implementation and management and Linkages with Tiger Steering Committee and Tiger Conservation Foundation.
- 8.2 EDC Coordination.
- 8.3 Staff deployment, Protection Strategy and Linkages with Tiger Cell and Buffer Zone Striking Force.
- 8.4 Schedule of Operations.
- 8.5 Activity Budget.
  - i. References
  - ii. Lit of Maps
  - iii. List of Appendices

## 12. PLANNING PROCESS (ACTION POINTS)

- Procure / obtain maps (beat level)
- Digitize maps
- Procure hardware
- Procure GIS software (arc view / arc info)
- Organize capacity building workshops for staff and other stakeholders
- Prepare local flora for identification
- Prepare guides / photo templates for identification of wild animals
- Collate secondary data relating to past management
- Collate secondary data relating to socio-economic profile
- Collate official data relating to villages and cattle

- Organize training workshops for data collection, use of range finder, compass, GPS and data collection formats
- Translate the data collection forms in local language (if necessary)
- Acquaint data entry operators with the excel spreadsheets for data collection
- Collect field data in standardized new formats used for all India tiger estimation
- Supervise data collection through independent panel of experts
- Transfer / attach beat level data to GIS maps at beat level
- Compute relative abundance of animals and vegetation values in the GIS domain.
- Use this knowledge for prescribing appropriate zonation and management interventions.

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## Simulation Results for Viable Tiger Population

To achieve the goals of the National Tiger Conservation Authority which are:

- i. To prevent the extinction of wild tigers,
- ii. To maintain and perpetuate viable free ranging tiger populations,
- iii. To maintain representative viable free range populations so as to conserve unique genetic, behavioral and ecological adaptations of the tiger,
- iv. To restore tiger populations in the remnants of their historical range.

The Wildlife Protection Act and Tribal and Forest Dwellers Act has the provision to declare ecological critical areas as inviolate.

To establish guidelines for deciding on the size of critical areas needed for achieving the above objective of tiger conservation, published data on tiger ecology, demography, and those available to the NTCA were used.

Data from the all India tiger status monitoring exercise jointly taken up by NTCA along with State Forest Departments and the Wild Life Institute of India wherein all potential tiger bearing forests were extensively surveyed with a systematic sampling design between November 2006 and March 2006, were used. A total effort of about 700,000 man days were invested with 396,000 km of transect walks for prey and habitat assessment, and 660,000 km of carnivore sign surveys were conducted. The effort resulted in the mapping of tiger occupancy and relative abundance, prey abundance indices, anthropogenic pressure indices and habitat quality across 17 states known to harbor tiger populations. A team of 50 researchers simultaneously estimated absolute abundance of tigers and prey by double sampling in a stratified sample of different tiger sign abundance. Relationship between indices and absolute abundance were evaluated and calibrated for predicting tiger densities. This research has demonstrated that tiger occupancy of forests were dependent on availability & human use of the forests. Good source populations of tigers were found in areas devoid of human settlements and least human impact. Thus, to ensure perpetuation of the above goals it is essential to have an inviolate area for a minimum viable source population of tigers. A minimum of two such populations should be ensured in each bioregion so as to preserve the unique behavioral, ecological and genetic adaptations of the tiger.

Based on the demographic parameters and life history traits of tigers population (Box 1) simulation models suggest that if a core area having territories of 20 breeding tigresses were made inviolate, the resultant tiger population with an adequate buffer (multiple use area with eco-sensitive land use) has a very low probability of extinction (<5% in 100 years, See Box 2). Tigress's territories are determined by prey availability which in turn are dependent on the productivity of the area. The size of this inviolate area depends on the average territory size of tigresses. These range between 40 to 60 km<sup>2</sup> within most of the tiger areas in the sub-continent. Thus, for a population of 20 tigresses we need an inviolate area of 800-1200 km<sup>2</sup>. An ecological sensitive zone (buffer, Co-existence area, multiple use area) around this inviolate space is needed for sustenance of dispersal age tigers, surplus breeding age tigers and old displaced tigers of 100-300 km<sup>2</sup>. This buffer and the tiger population within it is essential to make the core of 20 breeding females viable for long term, since it sustains the dynamics of source and sink. Such a tiger reserve will sustain a population of 75-100 tigers (Box 3).

In tiger areas where there is no possibility of securing habitat for the minimum core needed for 20 territorial

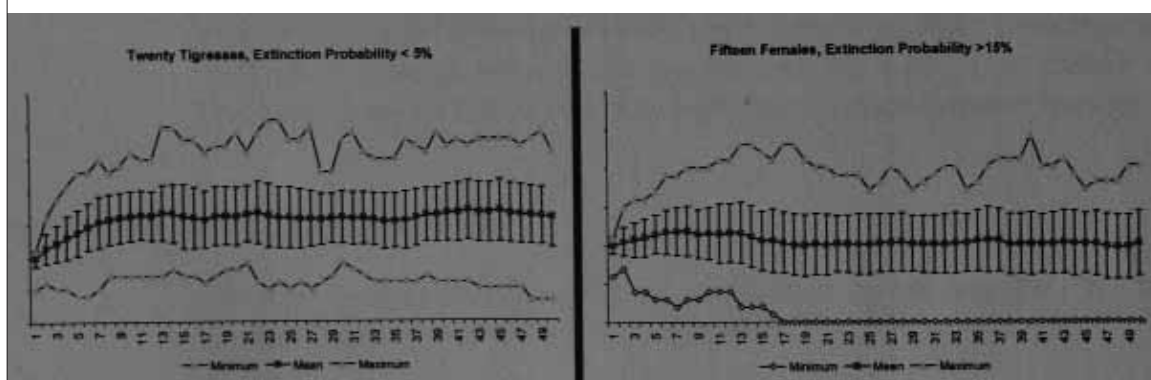
breeding females the maintenance of inviolate corridors connecting these populations to other source populations of tigers is crucial. An inviolate core as large as possible needs to be made in such reserves and tiger population viability ensured by an inviolate immigration corridor connecting this reserve to a major tiger source population.

In some small tiger reserves it may not be possible to either have sufficient space for 20 breeding females nor have habitat for an immigration corridor, in such cases an inviolate area as large as possible needs to be declared and the tiger population actively managed for demographic and genetic viability. This option needs to be exercised as a last resort after the first two options have been explored and found to be infeasible.

### Box 1 Demographic Parameters of Tigers used for Simulation Models

- Adult sex ratio 2.4 tigresses : 1 male tiger
- Birth Interval 20-28 months
- Sex ratio at birth 50:50
- Survival of Cubs up to 1 year : 50%, 40-80% Range
- Survival of 1 year Old : 70% (CV 15% )
- Survival of 1-2 Year Old : 85% (CV 15% )
- Survival of >2 Year Old : 95% (CV 10% )
- Fecundity : litter size average 2.4, range 1 to 5

### Box 2 Results of the Simulation of female population



### Box 3 Expected Tiger Population in an Typical Tiger Reserve

For 20 breeding Tigresses  
 Core Area Required (Inviolate ) 800-1000 km<sup>2</sup>  
 Total Population in the Core (inviolate)  
 Male Tigers 8-10  
 Cub < 1 Year 10-15  
 Cub 1-2 Year 10-15  
 Buffer (Co-Existence Area with eco-sensitive land use)  
 Area Required 1000-3000 km<sup>2</sup>  
 2-3 Year old tigers (recent dispersers) 10-15  
 3-4 Year old tigers older dispersers 10-15  
 Old tigers & Surplus breeding age 10-15  
 Total Tiger Population in the Tiger reserve 75-100 Tigers

# Menu of Options Emerging from Best Practices Under the India Ecodevelopment Project (Based on a Study By the “Peace Institute”, New Delhi)

(These are indicative only: each site has to innovatively evolve its site specific approach)

## A. POLICY AND LEGAL MATTERS

1. It is evident that sites like Periyar TR, Kanha TR, KMTR, Gir NP, Buxa TR and Pench TR which have benefitted from clear policy directives and enabling legal regime/s have produced commendable results. Clearly in the future timely planning and action on devising national / state level eco-developing policies that facilitate institution building would be sine quo non for achieving lasting results. Further any policy sans enabling legal regime/s shall remain at best a half hearted step.
2. States need to see the results of IEDP as more than just a short term project's outputs but devise policy tools that address threats that go beyond the control of the PA management.
3. Reciprocal commitments by the beneficiaries for park protection as provided by the IEDP has gone a long way in improving park's protection and built good synergy between the people and the park. This should be incorporated as an essential element of any future eco-development strategy.

## B. INSTITUTIONAL MATTERS

1. Effective management planning as experienced by Periyar TR, KMTR, Kanha TR and Gir NP needs to be emphasized.
2. Specialized EDCs at Periyar has been a singular exceptional initiative under the IEDP. Periyar TR model should accordingly be adapted elsewhere too.
3. Transfer of responsibility to manage EDC affairs at Kanha TR and Pench TR in form of an EDC member being nominated as the Joint Secretary of EDC is a positive development whose success needs to be monitored and replicated elsewhere if experiment at Kanha and Pench show encouraging results in from of EDC empowerment.
4. Unified Buffer division at Kanha TR is a success story which should be replicated in other such PAs.
5. Capacity Building of frontline staff and the local people at Gir NP through focused training and long term EE has changed attitudes and empowered staff as well as the local people. The Gir experience needs to be widely disseminated and adapted at other sites.

### C. CROSS CUTTING INNOVATIONS

1. Income Generating Activities (IGAs) for social change at KMTR is an excellent example of visionary leadership and team effort.
2. Women' saving and credit groups (SHGs) at GHNP are again a remarkable effort resulting from motivated leadership.
3. Eco tourism and use of 'Mowgli' as the Park's mascot at Pench TR is an innovative use of historical/ literary fame for attracting tourists.
4. Pilgrim management at Periyar that has transformed a recurring problem into an opportunity is a glaring example of successful conflict management.

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# Menu of Options in Ecodevelopment Practices

## (Based on a Study by the IIFM, Bhopal)

(These are indicative only: each site has to innovatively evolve its site specific approach)

| S. No. | Problems (General for all PAs) Nature of problems       | Strategies to tackle problems (General)   | Strategies (Special)  | PAs where practiced                      |
|--------|---|---|---|--|
| 1      | Large human and cattle population (Dependent on forest) | <ul style="list-style-type: none"> <li>■ Alternative employment in collaboration with other departments.</li> <li>■ Awareness generation</li> <li>■ Alternative livelihood provided</li> <li>■ Start stall feeding</li> </ul>   | <ul style="list-style-type: none"> <li>■ Measures for trans-boundary cooperation</li> </ul>   | Buxa                                     |
| 2      | Grazing   | <ul style="list-style-type: none"> <li>■ Epidemic control by prophylactic immunization</li> <li>■ Alternative employment in collaboration with other departments.</li> </ul>  | <ul style="list-style-type: none"> <li>■ People sold away cattle</li> </ul>   | KMTR                                     |
| 3      | Poverty & Livelihood problems                           | <ul style="list-style-type: none"> <li>■ Trust building efforts</li> <li>■ Installation of bio-gas, distribution of pressure cookers, LPG</li> </ul>  | <ul style="list-style-type: none"> <li>■ Micro-credit scheme for women empowerment</li> <li>■ Training and tourism centers</li> <li>■ Pavitra van around temple</li> <li>■ Adoption of school by Forest Department</li> </ul> | Buxa<br>GHNP<br>Nagarhole                |
| 4      | Illicit felling & Encroachments                         | <ul style="list-style-type: none"> <li>■ Environmental education and awareness generation</li> <li>■ Effective management planning</li> </ul>   | <ul style="list-style-type: none"> <li>■ Boundary pillars created to demarcate park boundary</li> </ul>   | Pench /<br>Ranthambhore, Gir,<br>Periyar |
| 5      | Fire  | <ul style="list-style-type: none"> <li>■ Fire control</li> <li>■ Regular patrolling</li> <li>■ Increase of staff strength</li> <li>■ Alternative employment in collaboration with other departments.</li> <li>■ Maintenance of roads, fire lines, trenches, patrolling tracks etc.</li> </ul> | <ul style="list-style-type: none"> <li>■ 6250 kms of 'D' lines &amp; fire lines cleared</li> </ul>  | Nagarhole                                |





| S. No. | Problems (General for all PAs) Nature of problems | Strategies to tackle problems (General)  | Strategies (Special)  | PAs where practiced   |
|--------|---|--|---|---|
| 6      | Poaching  | <ul style="list-style-type: none"> <li>■ Equipping staff with rifles, wireless &amp; vehicle etc.</li> </ul> | <ul style="list-style-type: none"> <li>■ Creating EDC of ex-poachers to stop poaching</li> <li>■ A team of anti-poaching watchers created</li> <li>■ Formulation of forest protection force</li> <li>■ Yearly census of wild animals</li> <li>■ Aranya Sena</li> </ul>  | Periyar<br>Ranthambhore<br>Nagarhole<br>Periyar                 |
| 7      | Human animal conflict crop raiding                | —  | <ul style="list-style-type: none"> <li>■ Feed back from tourists</li> </ul>   | Ranthambhore<br>Periyar   |
| 8      | Low participation of women                        | <ul style="list-style-type: none"> <li>■ Gender empowerment through training programmes</li> </ul>           | <ul style="list-style-type: none"> <li>■ Capacity building of the local people</li> </ul>   | Gir   |
| 9      | People's Participation                            | —  | <ul style="list-style-type: none"> <li>■ Transfer of responsibility.</li> <li>■ Joint Secretary of EDC</li> <li>■ Three types of specialized EDCs: Neighbourhood, user-group &amp; professional groups.</li> <li>■ EDCs. Pilgrim management and conservation.</li> <li>■ Mowgli' as a park Mascot - and its impact on tourism</li> <li>■ Providing a legal basis to Ecodevelopment.</li> <li>■ Clear Govt. orders for effective institutionalization</li> <li>■ Reciprocal commitments from people</li> </ul> | Pench<br>Periyar<br>Periyar<br>Pench<br>KMTR<br>Periyar<br>GHNP |

# Illustrative, Inventory of Possible Activities under Ecodevelopment in Conservation and Extension Buffer Zones of Protected Areas (Source: WII)

(These are indicative only: each site has to innovatively evolve its site specific approach)

**Note:**

Depending upon site attributes (climate, terrain, soils, present patterns of farming, fishing, livestock raising, practices of other resource use, status of conservation/degradation, potential for restoration, variety of non-wood forest products, local skills, existing and possible infrastructure etc.) a holistic site-specific package of measures in an appropriate combination most suited to the given site should emerge as a result of a fully participatory planning process, involving local people, NGOs (Is) and government agencies (concerned with land and resource use, and rural development) as conducted by the PA management with the coordinating assistance of district administration.

## A. IN FORESTS, GRASSLANDS & SCRUB-SAVANNA LANDS

- (i) Orientation of forestry operations for the concurrent promotion of biodiversity conservation and meeting resource needs of and generating employment for local people.
- (ii) Joint management for forest, grasslands and scrub-savanna lands with formalized prior agreements for substantial sharing of (even exclusive claim on) usufructs, in return for direct contribution to protection and conservation.
- (iii) Organized collection of important non-wood forest products with measures to ensure long term sustenance of productivity.
- (iv) Cultivation and/or organized collection of medicinal plants, essential oil bearing herbs, mushrooms, pepper, cardamom, other species, tussar silk cocoons etc, which is compatible with other forestry objectives, especially conservation and other local interests.
- (v) Preferential and concessional availability of wood and non-wood resources to local people directly participating in conservation of forest and other resources.
- (vi) Pasture improvement through weed suppression/eradication and enrichment planting with complete or rotational closures.
- (vii) Economic employment generation through weed suppression e.g. Lantana harvests for pulp, chipboard or basket making on small or cottage industry scale.
- (viii) Providing green fodder at beginning of monsoon by hiring irrigated fields, at least during the 'gestation period' to enable people to take to rotational grazing/lopping and stall feeding.
- (ix) Rotational lopping and promotion of goatary subject to stall feeding based on sustainable lopping regimes.
- (x) Harvest of green grass and plant fodder during monsoon in designated areas (if necessary, rotational) in the 'conservation' and 'extension' buffer zones.
- (xi) Harvest of grass at the end of monsoon and providing hay in return for cooperation in observance of regulated grazing/lopping.



- (xii) Special consideration to exclusive pastoralists in above measures, backed where necessary by relocation from forests and a viable package of rehabilitation in other nearby lands (or forests where non-forest land is unavailable) with green fodder farms (grass and/or fodder trees/plants).
- (xiii) Simple water harvesting and catchment treatment works.
- (xiv) Preferential employment to locals in all the above works.

## B. IN PRIVATE FARMS

- (i) Improved dry farming techniques (improved seed, manure/ fertilizer regimes).
- (ii) Efficacious water harvesting (surface and ground water).
- (iii) Soil conservation measures.
- (iv) Preference to cash crops e.g. pulses, oil seeds, spices cotton, medicinal plants.
- (v) Agro forestry.
- (vi) Sericulture & horticulture with assured employment through these on one's own land and from other community works, in order to tide over the 'gestation period'.
- (vii) Jhumming areas.: 1} Partial switch over to agro-forestry and/or cash crops (including medicinal plants and plantation crops) with assured employment through these work on one's own land and on other community works, in order to tide over the 'gestation period'.
- (viii) Apiculture.

## C. MINOR IRRIGATION

- (i) Simple diversion or diversion cum storage type micro-minor irrigation schemes including development of village tanks with preferential employment to local people.
- (ii) Lift irrigation schemes using micro-hydel (or grid where available) power or pump sets, based on rivers, reservoirs and wells.
- (iii) Bore well irrigation, where feasible.

## D. ANIMAL HUSBANDRY, DAIRYING AND WOOL CRAFTS

- (i) Phased reduction in population of scrub livestock and improvement of breed through controlled fertilization of female stock in proper health and age with males of better local breeds, aided by sterilization of scrub bulls.
- (ii) Goatary and sheep raising subject to stipulations suggested under 'A' above.
- (iii) Cooperative dairying with marketing support.
- (iv) Support to small scale enterprises based on meat and wool.

## F. FISHERIES

- (i) Exclusive rights to organized cooperatives/user groups of local people in all situations, subject to observance of regulations for sustainability and optimal economic productivity-especially, closed areas/seasons and mesh size of fishing nets, and cooperation in ensuring ban on use of explosives and other forms of poaching.
- (ii) Marketing support backed by cold storage and appropriate transport arrangements.
- (iii) Special to deltaic mangroves: Sustainable prawn culture without prejudice to natural regeneration in the estuaries.
- (iv) Special to coasts: Sustainable harvests using sail and/or powered boats with appropriate back up to keep away large scale commercial operators exploiting directly. The latter should acquire the catch on reasonable payments from user groups.

## F. ECOTOURISM:

- (i) Obligatory use of local guides (after training) on nature trails, trekking and mountaineering routes.
- (ii) Preferential and assisted allocation of way side lodges on long trekking mountaineering routes to locals, with a back up of micro-hydel power and fodder development to mitigate pressures on forests and pastures in high altitude areas.
- (iii) Development of trekking routes in tracts which have potential for ecotourism.
- (iv) Preferential employment to locals in protected areas and tourism facilities, after education and training as necessary.
- (v) Promotion of local handicrafts as tourist souvenirs with appropriate sale outlets.

## G. INFRASTRUCTURE

- (i) Microhydel/ grid/ solar power for energy for cottage industries and local value addition by processing.
- (ii) Ropeways or trails, especially for goods movement in difficult and remote high altitude areas so as to ensure better economic returns from products exported and economic prices for goods (including food) imported.
- (iii) Wind mills/water mills for food processing and crafts e.g. turnery.
- (iv) Piped (gravity) supply, hand pump or open wells for drinking water.

## H. COTTAGE INDUSTRY & HANDICRAFTS

- (i) Promotion based on local skills with appropriate technological and infrastructure support.
- (ii) Curing/processing of collected/cultivated products e.g. medicinal herbs and essential oil for value addition.
- (iii) Investigation of potential plants/products by pursuing ethno-botanical and ethno-zoological studies and rich development for consumption/marketing.

## I. DEVELOPMENT PROJECTS

- (i) Obligated to have a local orientation so that they become part of local area development and in no case upset local people's resource equations, especially in relation to CPRs. Appropriate compensation/alternatives to be built into project costs.
- (ii) Obligated to compensate by providing inputs into site-specific packages of ecodevelopment measures e.g. lift irrigation along reservoir and along the river upstream and downstream.
- (iii) Obligated to allow (where admissible vis-à-vis the PA) local people to farm in draw down areas by providing lift irrigation facilities.
- (iv) Preferential employment to locals, if necessary after arranging education and/ or training.

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# Tiger Task Force (Report Joining the Dots)

## Methodology for estimating and monitoring tiger status and habitat

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- RAJESH GOPAL, *Director, Project Tiger*

The only form of tiger population monitoring undertaken in the country is a total count (census) of the country-wide tiger population every four years and within tiger reserves every on-two years. The census is based on intensive monitoring of tigers within areas, identifying individual tigers by visual inspection of the pugmark tracings/plaster casts, mapping tiger distribution at the local scale and inferring total numbers from the above information (Choudhury 1970, Panwar 1979, Sawarkar 1987 and Singh 1999). This methodology has come under severe criticism (Karanth et al. 2003). The major limitations of the above technique are that

1. it relies on subjective (expert knowledge) identification of tigers based on their pugmarks;
2. the pugmarks of a tiger are likely to vary with substrate, tracings/casts and the tiger's gait;
3. it is not possible to obtain pugmarks of tigers from all tiger occupied landscapes, and
4. the method attempts a total count of all tigers (Karanth et al. 2003)

An alternative proposed by tiger biologists is to use individually identified tiger by camera traps in a capture-recapture statistical framework to estimate tiger densities (Karanth 1995 and 1998, Karanth and Nichols 1998, 2000 and 2002, Karanth et al 1990). The method has been useful in determining tiger densities in small areas, within tiger reserves having high to medium density tiger populations. The method has a high potential for monitoring source population and smaller sample areas within tiger occupied landscapes. However, due to the technical nature of the technique, high cost, security issues of the equipment and low performance in low density tiger populations this method has its limitations for a country-wide application for monitoring tigers (Carbone et al 2001, Karanth 1995 and 1998, Karanth and Nichols 1998, 2000 and 2002, Karanth et al 2004 and Kawanishi and Sunquist 2004).

The other two potential methods that can be used in smaller sample areas for monitoring source tiger populations are the individual identification of tigers from digital images of their pugmarks (Sharma et al, in press) and tiger DNA profiles obtained from scats and other non-invasive techniques (Broquet and Petit 2004, Prugh et al 2005 and Xu et al 2005).

Here, we propose an alternative technique based on a four-stage approach:

### STAGE I: SPATIAL MAPPING AND MONITORING OF TIGERS, PREY AND HABITAT

This stage consists of mapping

- (a) tiger presence and relative abundance (Karanth and Nichols 2002);
- (b) tiger prey presence and relative abundance and
- (c) habitat quality and anthropogenic pressures at a high spatial resolution of 15-20 km<sup>2</sup>.



We consider a forest beat (an administrative unit. 15-20 sq km in size. Delineated primarily on natural boundaries) as the unit for sampling. Since each beat is allocated to a beat guard for patrolling and protection, the boundaries of a beat are well recognized by forest staff. The sampling would be systematically distributed in all beats of tiger occupied forests (tiger reserves, revenue and reserve forests). Thus, in effect, the entire landscape where tigers are likely to occur is sampled (beats are not stratified or randomly sampled, but all beats are sampled as large humanpower is available for sampling). In forest areas, where beat boundaries are not delineated (<20 per cent of tiger occupied forests in the country) - such as the northeast - 15-20 sq km sampling units will be identified on the basis of natural boundaries (ridges, drainage, etc). The detailed methodological approach for sampling carnivore signs, ungulate encounter rates, pellet/dung counts, habitat and anthropogenic pressures are presented in the 'Field Guide' (Jhala and Qureshi 2004)

The target data are extremely easy to collect and require no high level of technical skills or equipment. It is crucial that the forest department staff is primarily responsible for the data collection due to the sheer magnitude of the task involved. Furthermore, the involvement of the forest department staff instills ownership and accountability of this agency which is primarily responsible for the protection and management of wildlife resources. The forest department staff will be trained in the data collection protocol and tested for consistency.

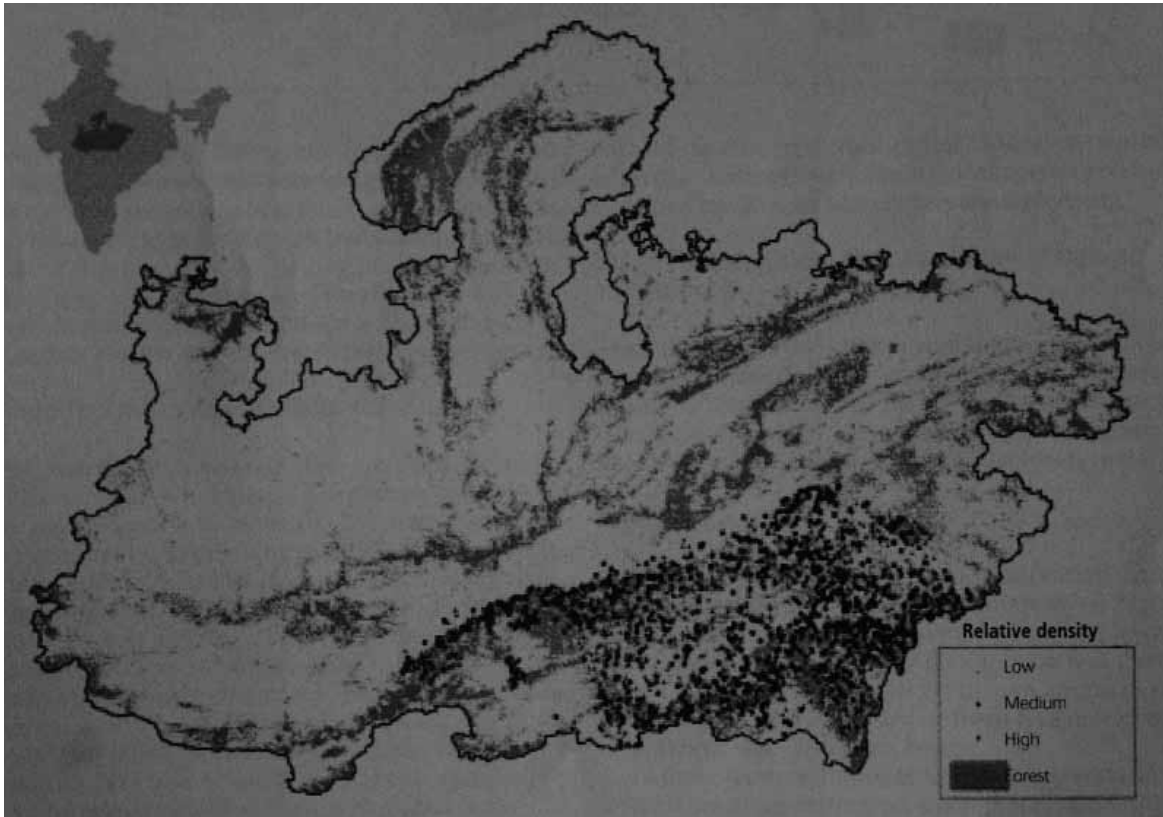
The spatial data generated will be scientifically robust, and amenable for statistical analysis and inference. Since several replicate surveys will be undertaken in each beat, we shall be able to model tiger occupancy, detection probability of tiger signs, and relative sign density at a high spatial resolution (stratified on the basis of ecological characteristics, range or a superimposed grid of varying scale ) using the approach of MacKenzie et al (2002), Royale and Nicholes (2003) and Royle (2004). Since the data will be analysed in a GIS domain, several spatial and attribute data like human density, livestock density, road network, topographical features, forest type and cover, meteorological data, poaching pressures and landscape characteristics will be used as covariates to model tiger occupancy and relative abundance in a landscape and individual forest patches. Time-series analysis of the data at a larger spatial resolution is likely to have sufficient precision for monitoring spatial occupancy of tigers in association with changes in tiger prey, habitat quality and anthropogenic pressures.

We have tried to address the issue of reporting inflated numbers by laying emphasis on animal signs instead of numbers. Furthermore, the resolution of the data generated will be reduced to four-five categories (high, medium, low and absent). Several corroborating variables like prey encounter rates, pellet group counts and habitat condition will help in ensuring quality data; discrepancies in reporting will be easy to pinpoint. There will be an audit mechanism in place to scrutinize the data collection, compilation and analysis. National and international experts would act as observers while officers in-charge will ensure adherence to the prescribed protocol and transparency of protocol implementation.

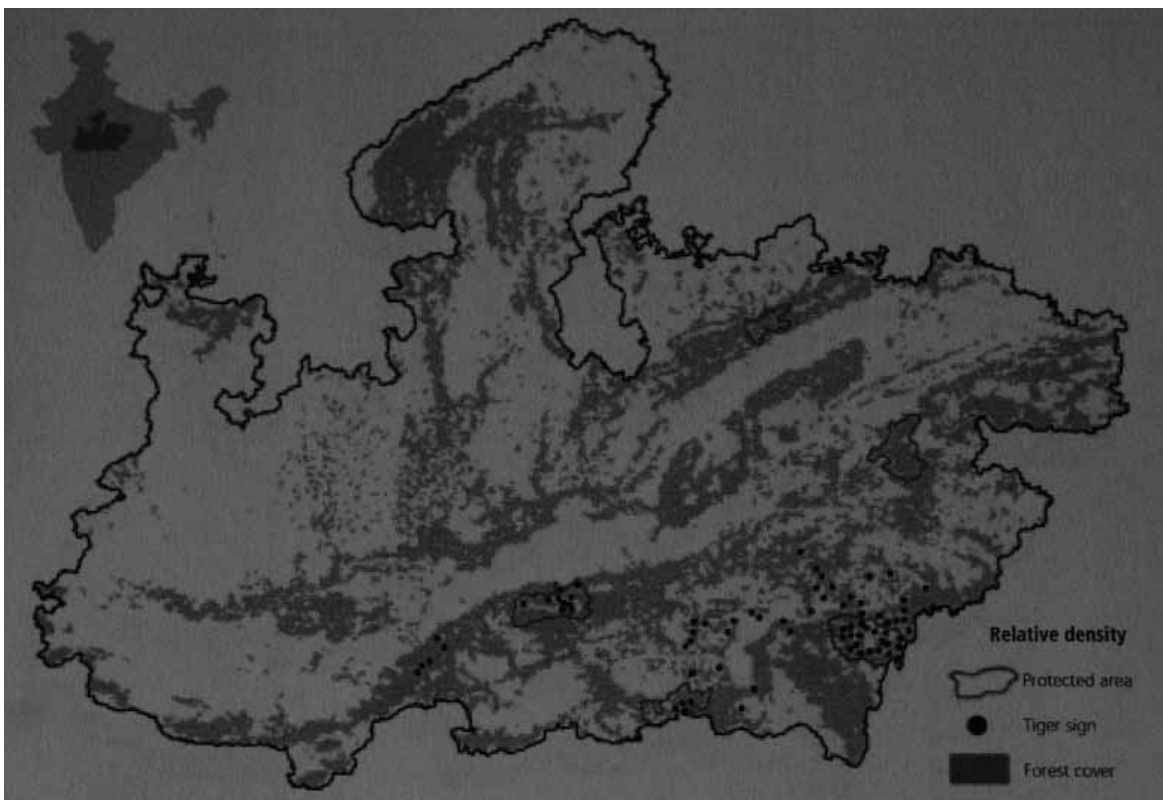
The system, once institutionalized and implemented, will not only serve to monitor tiger populations but will also monitor the status of other biodiversity resources of all tiger occupied landscapes, truly exemplifying the role of the tiger as a flagship. It will serve as an effective tool for decision makers, managers and conservationists alike and will help guide and plan land use policy at a landscape level.

We have tested the logistics of implementation of the above methodology in the Satpura-Maikal landscape (about 48,000 sq km) in Madhya Pradesh covering 3,150 beats in 178 forest ranges and mapped tiger and ungulate abundance. Tiger presence was recorded in 290 beats with 78 beats having high, 57 having medium and 155 having low abundance of tiger signs. Ungulate tiger prey was recorded in 1,678 beats. Spatial distribution of these is shown in Figures 1, 2a and 2b. The analysis of this data is in progress.

Map1: DISTRIBUTION OF UNGULATE TIGER PREY IN THE SATPURA-MAIKAL LANDSCAPE



Map 2a: TIGER SIGN PRESENCE WITHIN THE SATPURA-MAIKAL LANDSCAPE



## STAGE II: SPATIAL AND ATTRIBUTE DATA

The spatial and aspatial data that are likely to influence tiger occupancy of a landscape will be used for modeling in a GIS domain. The vegetation map, terrain model, night light satellite data, drainage, transportation network, forest cover, climate data, Normalised Difference Vegetation Index, livestock abundance, human density, socio-economic parameters, etc will be used for modeling habitat condition and tiger occupancy. Beat-wise vegetation sampling will be done to generate broad vegetation map. IRS (KISS3 and AWIFS). LANDSAT and AVHRR satellite data will be used. Part of this component will be done in collaboration with Forest Survey of India. This modeling will help in determining current spatial distribution of tigers, potential habitats, threats to crucial linkages between occupied landscapes and conservation planning.

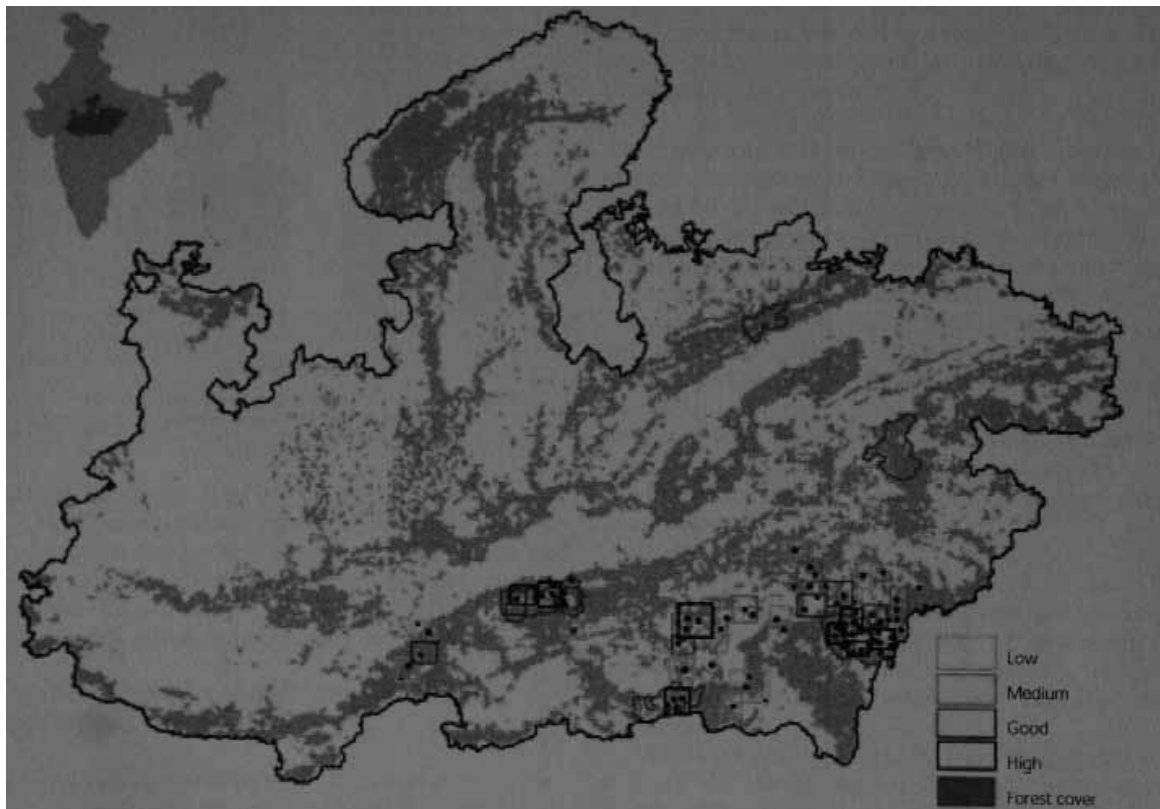
## STAGE III: ESTIMATING THE POPULATION OF TIGERS AND ITS PREY

Stage 3 of the proposed methodology answers the question of how many tigers and ungulates are there. Teams of researchers will be deployed in each landscape complex for estimating tiger density and ungulate densities within stratified sampling units.

### Tiger numbers

We propose to stratify a Tiger Conservation Unit (TCU) into tiger sign abundance classes of high, medium, low and no tiger sign at the beat and larger spatial resolution (range 100 sq km). In each of these strata, within a landscape (TCU), we propose to estimate actual tiger density in three-five replicates of sufficient size (50-200 sq km).

Map 2b: 100 SQ KM HABITAT BLOCKS WITH DIFFERENT ABUNDANCE RANKING OF TIGER SIGNS WITHIN THE SATPURA-MAIKAL LANDSCAPE







All known techniques of tiger density estimates will be used depending on the logistic possibility within each landscape: capture-recapture based on camera traps (Karanth 1995 and 1998, Karanth and Nichols 1998, 2000 and 2002, Karanth et al 2004, Pollock et al 1990, Carbone et al 2001 and Per Wegge et al 2004), mark-recapture based on pugmarks (Sharma et al in press) and DNA profile obtained from tiger scats (Broquet and Petit 2004, Prugh et al 2005 and Xu et al 2005). These densities will then be extrapolated for the areas under various density classes within the landscape to arrive at a tiger population estimate (Figure 3). We do realize that these population estimates are likely to have high variances, but since these estimates will not be used for monitoring trends (which is proposed to be done through the site occupancy and relative abundance data), they should suffice the need for converting a relevant ecological index to a more comprehensible concept of numbers.

## Tiger prey

Stage I of the protocol would be reporting encounter rates on line transects (Buckland et al 1993); these would suffice for monitoring trends in ungulate population and site-specific occupancies. To convert encounter rates to density, an estimate of the effective strip width of these transects would be essential. The effective strip width of a transect primarily depends on the visibility (vegetation and terrain type), ability to detect ungulates by different observers and animal behaviour response (Buckland et al 1993). We modeled effective strip widths in different vegetation types of a landscape in the Satpura-Maikal landscape using model

ungulate cutouts (Figure 4). Effective strip widths determined from the model and actual sightings of ungulates for different vegetation types estimated for the same season did not differ (Mitra 2004) within Kanha (a protected area). However, ungulate response is likely to play an important role in disturbed areas in determining effective strip widths. We intend to determine habitat and terrain-specific effective strip widths by actually sampling selected sampling units and by modeling. Since the transect line in a beat is habitat-specific (Jhala and Qureshi 2004), we would be able to use these estimates of effective strip widths for converting encounter rates of ungulates to density estimates by modeling detection probabilities.

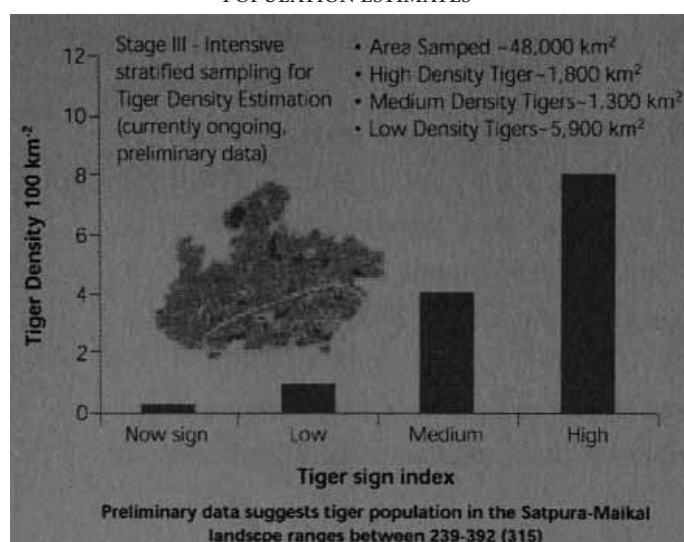
Pellet group counts on transects would serve as an index to the presence of ungulate species and pellet relative abundance (and are not used for absolute density estimation), especially in disturbed areas where actual sightings may be difficult.

## STAGE IV: INTENSIVE MONITORING OF SOURCE POPULATIONS

We propose that source populations of tigers (tigers in tiger reserves and protected areas) in each tiger landscape complex be monitored intensively. We propose the following methodology for this monitoring:

**Photo registration of tigers:** Pictures of individual tigers obtained by camera traps or by regular cameras should be maintained in the form of a photo identity album. Records should be kept on the location,

EXTRAPOLATING TIGER SIGN INDEX TO TIGER DENSITIES AND POPULATION ESTIMATES



condition (breeding status, injury, etc) and associated tigers whenever a tiger is sighted. This will provide crude data on ranging patterns, demography and mortality.

**Tiger Pugmark and other signs:** Regular monitoring of tiger signs (pugmark tracings, plaster casts, etc) should be undertaken in every beat at a weekly interval with monthly compilation of data. With experience and exposure to the resident tigers and their pugmarks, the forest staff may be able to identify individual tigers from their track set characteristics (Panwar 1979, Smith et al 1999 and Sharma 2001). Sign surveys and individual tiger monitoring should become a regular task for every guard as was the practice some years ago and is currently practiced in some tiger reserves. The monthly data should be mapped and maintained to analyse trends.

**Monitoring by telemetry in select areas:** Use modern technology of VHF, GPS and satellite telemetry to study and monitor aspects of demography, metapopulation dynamics (dispersal, ranging patterns), mortality, predation ecology and behaviour.

In all source populations, tiger abundance and density should be estimated using camera traps, digital images of pugmarks and /or DNA profile from non-invasive methods biannually.

The Project Tiger directorate will play the overall supervisory and coordination role for all the phases and tasks under each phase of the monitoring.

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**Protocol for daily monitoring/forecasting of tiger presence in a habitat**

1. Lay 10 pugmark impression pads (PIPs) in a beat, preferably in areas frequented by tigers.
2. The distance between two successive PIPs should be 1 km.
3. The size of PIPs should be 3m X 2m.
4. Monitor the PIPs once a week for tiger evidences (pugmarks/scats) or use camera traps if available.
5. Take photographs as well as plaster casts of pugmarks; if possible.
6. Sudden, drastic reduction in tiger evidences is warning (forecasting)

Date: \_\_\_\_\_ RANGE: \_\_\_\_\_ BEAT NAME: \_\_\_\_\_

PIOP No.: \_\_\_\_\_ GPS Coordinate: \_\_\_\_\_ Time: \_\_\_\_\_

| Put tick marks in appropriate columns |                          |                 |              |
|---------------------------------------|--------------------------|-----------------|--------------|
| S. No.                                |                          |                 |              |
| 1.                                    | Tiger pugmark            | Present         | Absent       |
| 2.                                    | Plaster cast of pug mark | Taken           | Not taken    |
| 3.                                    | Habitat Type             |                 |              |
| 4.                                    | Male                     | Tracks recorded | Not recorded |
| 5.                                    | Female                   | Tracks recorded | Not recorded |
| 6.                                    | Cubs                     | Tracks recorded | Not recorded |
| 7.                                    | Other Carnivore Tracks   | Present         | Not Present  |
| 8.                                    | Hyaena                   |                 |              |
| 9.                                    | Leopard                  |                 |              |
| 10.                                   | Sloth bear               |                 |              |
| 11.                                   | Wild dog.                |                 |              |

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# Data collection protocol

(Source: Monitoring Tiger, Co-predators, prey and their habitat: Field Guide, Jhala, Y.V. Qureshi, Q & R. Gopal 2005. Project Tiger Directorate and Wildlife Institute of India)

## 1. SAMPLING FOR TIGER, LEOPARD, AND OTHER CARNIVORE SIGN ENCOUNTER RATE

To obtain data on the presence, absence and intensity of use of a beat by tigers and other carnivores, we shall quantify the relative abundance of tiger, leopard, and carnivore signs in an area. The following procedure needs to be followed for data collection:

- A beat will be considered as a sampling unit.
- Areas within the beat that have the maximum potential for tiger occupancy will be intensively searched.
- Since tigers & leopards have a tendency of using dirt roads, trails, foot paths, river beds and nullahs, these landscape features within the beat need to be searched intensively (Figure 1).
- One to three persons who know the terrain and habitat features of the beat should conduct the search for tiger sign.
- There should be 3-5 separate searches (in different compartments within the beat and/or at different times 1-5 days apart) each search covering about 4-6 km distance in areas having the best potential for tiger presence. It is important to record the distance covered and the time spent during each search separately (in the data sheet-1) and accurately. If time is spent resting or in other activities while conducting the search, this duration should be reported separately. If possible the GPS coordinate of the beginning point of each search path should be recorded.
- The total minimum distance covered while searching for tiger and other carnivore sign should be 15 km per beat.
- Tiger & leopard signs should be classified into the following categories 1)

Figure 1. Sampling for Tiger



pugmark trails, 2) Scats (Old : dry with hair and bones visible; Fresh: dry but intact with shiny surface; Very Fresh: soft, moist, and smelly, 3) Scrapes, 4) Scent marks (spray, rolling), 5) Rake marks on trunks, 6) Actual sighting, 7) Roaring (vocalization).

- A brief description of the topography and forest type is to be recorded for each sign.
- In case of pugmark trails, each trail set is considered as one sign (not each pugmark as one sign). In case a tiger (or other carnivore) continues to walk along a direct road for a long distance (say 1 km), then this should be considered as one sign, and a comment recorded in the remarks section of the data regarding distance covered by a pugmark trail of a single tiger.
- Tiger and leopard signs if encountered outside of the sampling route should also be recorded with GPS coordinates (if available) and with appropriate comments.
- Special emphasis should be given to sign of tigress & leopards with cubs, and any authentic evidence of tiger cubs (sightings of cubs, lactating tigress, tracks, etc.) obtained within the past twelve months should be mentioned in the data sheet.
- While sampling for tiger and leopard signs, record should also be kept for signs of any other carnivore that are encountered.
- The number of livestock that are killed by predators within the past three months needs to be recorded in the questionnaire following the data sheet.
- It is important to report data sincerely. It is likely that there may be reliable information that tiger/leopard is present in the beat being sampled, but no tiger/leopard signs are recorded during the intensive search survey. In such cases, mention should be made in the remarks column of the data sheets. However, failure in obtaining tiger sign from a beat is equally important as recording tiger/leopard signs and for appropriate analysis of this data, the actual data should be reported.

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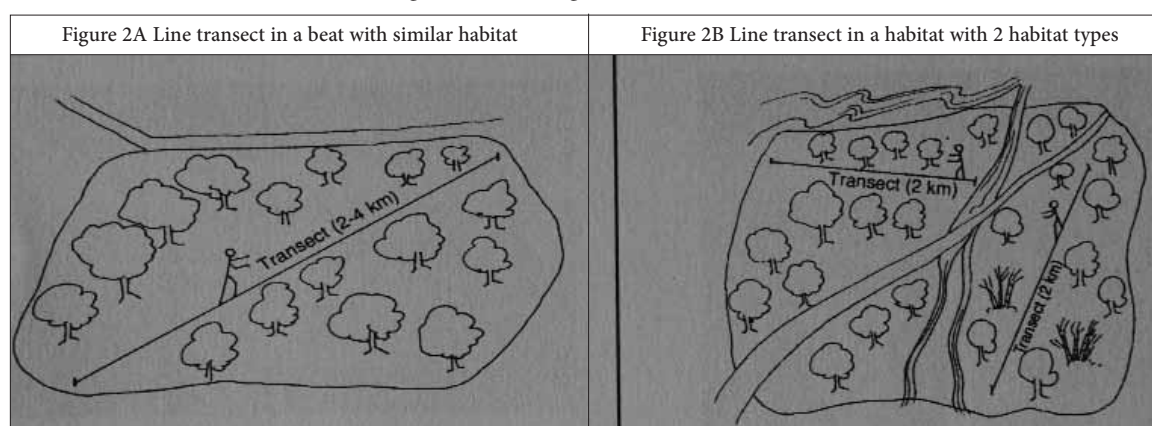
- 4) In case leopards are known to be present in the beat, but no sign was obtained during the sampling period then mention on what evidence was this conclusion made (pugmark, direct sighting, scat, other sign)\_\_\_\_\_.
- Approximate date/month\_\_\_\_\_ leopard presence was last recorded in the beat.
- 5) How many livestock predation events have been recorded in the past 3 month,\_\_\_\_\_ by tigers,\_\_\_\_\_ by leopards,\_\_\_\_\_ by dhole,\_\_\_\_\_ by other carnivores\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_, specify which carnivores if known\_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_.
- 6) Comments & Remarks:
- 

## 2. SAMPLING FOR UNGULATE ENCOUNTER RATES

This protocol outlines a simple method for quantifying ungulate abundance in an area based on visual encounters while walking along fixed line transects. The following procedure needs to be followed for data collection:

- A beat would be considered as the unit for sampling.
- After considering the shape, size, vegetation, and terrain type of the beat, a transect line of a minimum of 2 km and not exceeding 4 km will be marked for sampling.
- The transect line should traverse similar habitat (broad vegetation type) as far as possible. If the beat is composed of 2 or 3 distinct vegetation types eg. Mixed Teak Forest comprising 40% of the beat and the remaining 60% comprised of Miscellaneous forest with bamboo, then 2 separate line transects should be marked for sampling as shown in Figure. 2b.
- As shown in figure 2b, the line transect within a beat may be broken up into 2 or more segments so that each segment has a minimum length of 2 km and traverses similar habitat
- Care should be taken that a line transect is not located near a busy road nor should it run parallel to a river or other features of the landscape which may bias sighting of ungulates.

Figure 2. Marking Transects in a Beat



- For each transect the point of beginning and end point coordinates (Latitude and Longitude) should be recorded by a global positioning system.
- The Broad forest type and terrain type that the transect traverses needs to be recorded.
- Each transect should be walked by 1-2 persons during the early morning hours (6:30 AM to 8:30 AM). Preferably one of the persons walking should be a good field person who is able to spot wildlife.
- A record should be kept of all mammals and peafowl seen during the walk in the prescribed format (see data sheet). For each animal sighting the following needs to be recorded: 1) serial no of the sighting, 2) time of the sighting, 3) species (eg. Sambar, chital, wild pig, peafowl, langur, etc.), 4) group size - numbers of animals of the same species in the group sighted, it is important to try to count the number of animals in the group as accurately as possible. Animal are considered to belong to two different groups if the closest animals from the two groups are separated by a distance of over 30 m.
- If possible the number of young fawns/calves less than 1 year of age) seen in the group should also be recorded.
- A broad habitat category (vegetation and terrain type) needs to be recorded for each sighting eg. S. No.5. 12 chital (10 adults and 2 young) were seen at 6:40 am, in mixed teak forest, gently undulating terrain.
- Each line transect needs to be walked at least on three different morning for estimating ungulate encounter rates.

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Data Sheet - 2

## Encounter Rate on Line Transects

Observer's name: ..... Start Time: .....

Date: ..... End Time:.....

ID no. of Line Transect: .....N, Total Length: .....km

Forest Circle: ..... Forest Division: .....

Range: ..... Beat: .....

Transect Forest Type: ..... Transect Terrain Type: .....

Weather condition: Cloudy/Clear sky

Beginning GPS Lat: .....N Long:.....E

End GPS Lat:.....N Long:.....E

| Sl. No. | Time | Species* | Total Nos. (Adults & Young) | Young | Forest Type | Terrain Type | Remarks |
|---------|------|----------|-----------------------------|-------|-------------|--------------|---------|
| 1       |      |          |                             |       |             |              |         |
| 2       |      |          |                             |       |             |              |         |
| 3       |      |          |                             |       |             |              |         |
| 4       |      |          |                             |       |             |              |         |
| 5       |      |          |                             |       |             |              |         |

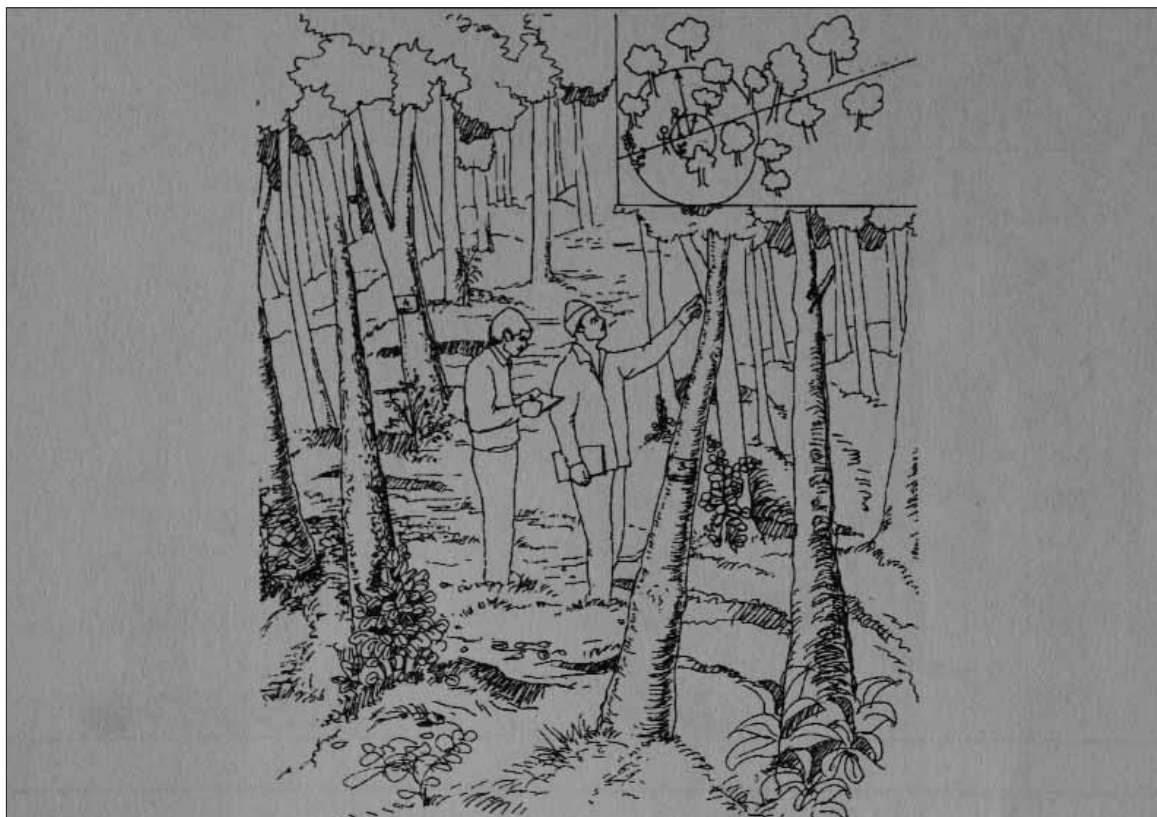
\* Species that need to be recorded on the transect: chital, sambar, nilgai, gaur, barking deer, elephant, rhino, wild buffalo, swamp deer, hog deer, chowsingha, blackbuck, chinkara, wild pig, langur, peafowl, hare, cattle (live stock), and other mammalian species seen.



Figure 3 Ungulate Encounter



Figure 4 Vegetation



### 3 SAMPLING FOR VEGETATION, HUMAN DISTURBANCE, AND UNGULATE PELLETS

To quantify the habitat parameters and determine relative abundance of ungulates sampling will be done along the same line transect on which ungulate encounter rates were estimated. For economy of time and effort it would be possible to first sample the line transect during early morning hours for ungulate encounter rate and then while returning along the same line, sample for vegetation and ungulate pellets. Sampling for vegetation, ungulate dung and human disturbance will be done only once on a transect.

- Again a beat will be the sampling unit, and sampling will be done along the established line transect.
- The beginning and end point coordinates of the line transect need to be recorded using a GPS unit.
- The same principal of laying line transects as explained in the section on ungulate encounter rates is applicable here (see Figure 2).
- Vegetation would need to be sampled every 400 m along the transect.
- The vegetation would need to be quantified visually at the following categories for each plot:

Figure 5. Estimating canopy cover



Figure 6. Estimating the ground cover

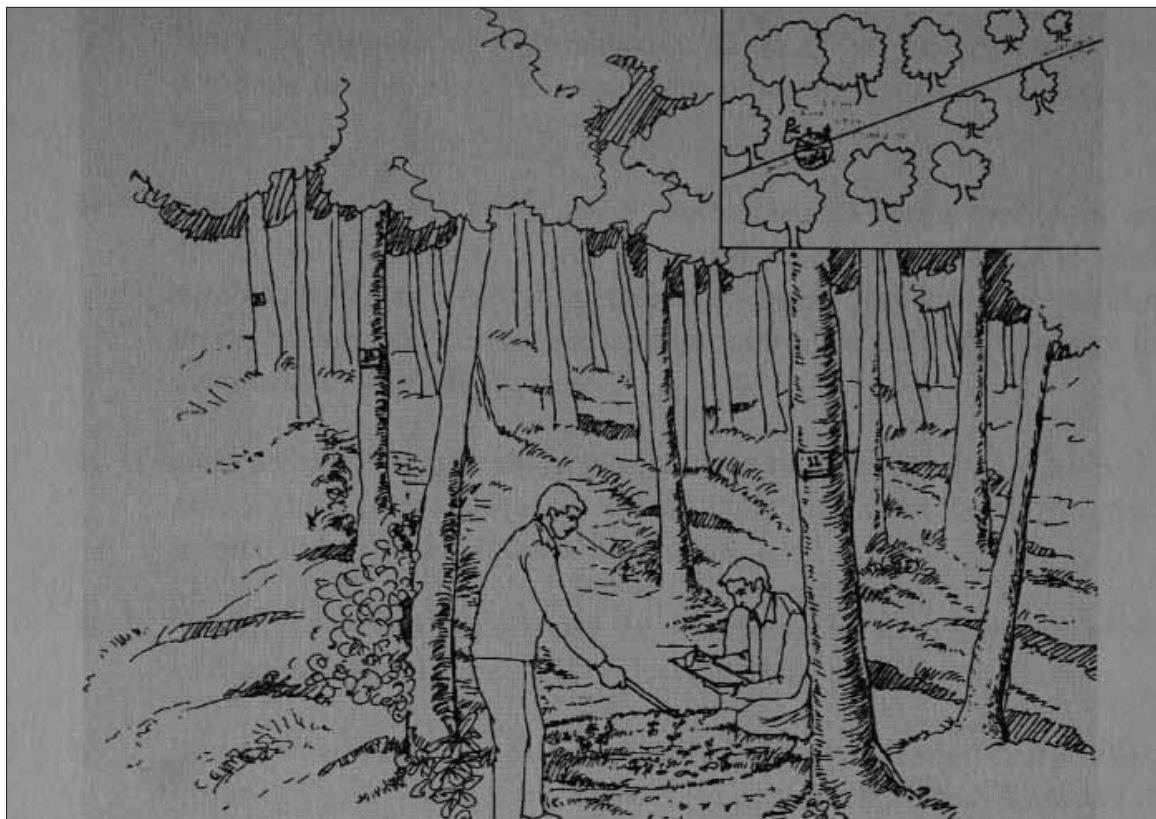


Figure 7. Quantifying ungulate fecal pellets





### In 15 m. radius circular plot

- 1) Broad vegetation type and associated terrain type eg. Mixed teak forest on hilly terrain, sal forest on flat land, etc.
- 2) Within a distance of approximately 15 m of the observer the five most dominant trees need to be listed in the order of dominance (abundance) (see Figure 4).
- 3) The observer needs to list the 5 most dominant shrub species in order of dominance (abundance) within 15m of the location. He needs to categorize shrub density (under-storey vegetation) as absent, very low, low, medium, and dense. Shrubs will be assessed on five point scale (0 to 4 i.e. absent to most abundant) for density estimation.
- 4) If weeds are present, their abundance needs to be scored on 0 to 4 scale (0 being absent and 4 high abundance) and the three most common weeds seen in 15 m need to be listed in order of abundance.
- 5) Within the same 15 m distance the observer needs to record number of signs of lopping, wood cutting, and presence/absence of human foot trail.
- 6) The observer needs to visually quantify the canopy cover at the location. The observer should subjectively classify the proportion of the sky above him that is covered by canopy foliage and categorize it into <0.1, 0.1-0.2, 0.2-0.4, 0.4-0.6, 0.6-0.8, >0.8 canopy cover (see Figure 5).
- 7) A mention needs to be made in the data sheet regarding the number of permanent human settlements, human population, and livestock population present in the beat (to the best of his knowledge).
- 8) A mention needs to be made based on the observers knowledge if any non timber forest product is collected from the beat. If yes, which NTFP and to score the magnitude of collection on a 5 point scale (0- no collection 4-high rate of collection).

### In 1 m radius circular plot

The observer needs to use a 2m long stick to define an imaginary circle around him with the stick as the diameter. Within this circular plot (2m diameter) the observer needs to a) quantify the percent ground cover, i.e. the proportion of the ground covered by herbs, grasses, litter, and bare ground, b) List the 3 most dominant grass species, and herb species in order of dominance (see Figure 6).

## 4 SAMPLING FOR UNGULATE PELLETS

Ungulate abundance will also be indexed by enumerating their fecal pellets. This exercise will be done on the same line transect that has been sampled for ungulate encounter rate. To save time, this exercise could be done after the line transect has been sampled in the early morning for ungulate encounters.

- At every 400 m along the transect (line of walk) the observer needs to sample an area of 2 m by 20 m, perpendicular to the transect for quantifying ungulate pellets. This is done by using the 2 m long stick held at the center horizontally in his hand and by walking slowly, 20 m right and left of the transect alternately at every 400 m (see Figure 7).



- All ungulate pellets encountered need to be recognized to ungulate species and recorded in appropriate columns of the attached data sheet (see Appendix 3).
- The number of fecal pellets need to be counted. In cases where the pellets occur in large heaps, then they should be categorized into the following categories: A (50-100), B (100-200) and C (>200).
- In areas where small livestock like sheep and goat are known to graze, it is possible that fecal pellets of these can be confused with wild ungulates especially those of chital. In such areas, a mention needs to be made that goat or sheep graze the area.
- In the last row of the data sheet the observer needs to report if ungulate/animal listed in the data sheet occurs in the sampled beat to the best of his knowledge irrespective of whether its pellets/dung were recorded in the plots.

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DATA SHEET - 3A

## Vegetation (15 m. Plot)

Name of Observer: ..... Date: ..... Forest Circle: ..... Forest Division: .....

Range: ..... Beat: ..... ID No. of Line Transect: .....

Name of Observer: ..... Date: ..... Forest Circle: ..... Forest Division: .....

Range: ..... Beat: ..... ID No. of Line Transect: .....

| Plot No. | Conopy Cover (0-1) | Tree Species (Descending Order of Dominance) |   |   |   |   | Shrub Species (Descending Order of Dominance) |   |   |   |   | Shrub Abundance<br>0 to 4<br>0-absent to<br>4-very high | Weed Species (Descending Order of Dominance) |   |   | Weed Abundance<br>0 to 4<br>0-absent to<br>4-very high |
|----------|--------------------|--|---|---|---|---|---|---|---|---|---|---|--|---|---|--|
|          |                    | 1  | 2 | 3 | 4 | 5 | 1   | 2 | 3 | 4 | 5 |   | 1  | 2 | 3 |  |
| 1        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 2        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 3        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 4        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 5        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 6        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 7        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 8        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 9        |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |
| 10       |                    |  |   |   |   |   |   |   |   |   |   |   |  |   |   |  |



DATA SHEET - 3B

## Human Disturbance (15 m. Plot)

Name of Observer: ..... Date: ..... Forest Circle: ..... Forest Division: .....

Range: ..... Beat: ..... ID No. of Line Transect: .....

| Plot No. | Human Disturbances            |                |                             |  |                       |                    |                       |
|----------|-------------------------------|----------------|-----------------------------|--|-----------------------|--------------------|-----------------------|
|          | 0-4 Rating, 0-No, 4-Very high |                |                             |  |                       |                    |                       |
|          | Wood Cutting<br>0-4           | Lopping<br>0-4 | Grass/Bamboo<br>cutting 0-4 | Presence of<br>human/<br>livestock/<br>trail 0-4 | Wood<br>Abundance 0-4 | People Seen<br>Y/N | Livestock Seen<br>Y/N |
| 1        |                               |                |                             |  |                       |                    |                       |
| 2        |                               |                |                             |  |                       |                    |                       |
| 3        |                               |                |                             |  |                       |                    |                       |
| 4        |                               |                |                             |  |                       |                    |                       |
| 5        |                               |                |                             |  |                       |                    |                       |
| 6        |                               |                |                             |  |                       |                    |                       |
| 7        |                               |                |                             |  |                       |                    |                       |
| 8        |                               |                |                             |  |                       |                    |                       |
| 9        |                               |                |                             |  |                       |                    |                       |
| 10       |                               |                |                             |  |                       |                    |                       |

Are there any permanent human settlement in the beat? (Yes/No). If yes, how many? \_\_. Approximate human population \_\_\_\_,  
Approximate livestock population \_\_ Cattle, \_\_ Goat/Sheep, \_\_ Other Livestock.

Is there NTFP collection in the beat \_\_ Yes/No. If yes, what NTFP is collected \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_,

Rate NTFP collection on a scale of 0-4, 0-No to 4-Very High \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_,



DATA SHEET - 3C

## Recording Ground Cover (1 m radius or 2 m diameter plot)

Name of Observer: ..... Date: ..... Forest Circle: ..... Forest Division: .....

Range & Circle: ..... Beat: ..... ID No. of Line Transect: .....

| Plot No. | Ground Cover<br>0-4 Rating, 0-No, 4-Very high<br>(The following 5 columns should total 100%) |               |                       |         |               | Dry leaf litter % | Grass Species<br>(Report in descending order of numbers ½) |   |   | Herb Species<br>(Report in descending order of numbers) |   |   | Remarks |
|----------|--|---------------|-----------------------|---------|---------------|-------------------|--|---|---|---|---|---|---------|
|          | Dry Grass %  | Green Grass % | Herb (Small Plants) % | Weeds % | Bare Ground % |                   | 1  | 2 | 3 | 1   | 2 | 3 |         |
| 1        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 2        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 3        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 4        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 5        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 6        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 7        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 8        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 9        |  |               |                       |         |               |                   |  |   |   |   |   |   |         |
| 10       |  |               |                       |         |               |                   |  |   |   |   |   |   |         |



DATA SHEET - 4

## Pellet Counts of Ungulates

Name of Observer: ..... Date: ..... Forest Circle: ..... Forest Division: .....

Range & Circle: ..... Beat: ..... ID No. of Line Transect: .....

| Plot No.        | Forest Type | Terrain Type | Chital | Sambar | Wild Pig | Nilgai | Gaur | Barasingha | Barking Deer | Chinkara | Chowsingha | Mouse deer | Hare | Blackbuck | Wild buffalo | Elephant | Rhino | Langur | Cattle | Goat & Sheep | Other Domestic livestock | Others/Unid. |  |  |
|-----------------|-------------|--------------|--------|--------|----------|--------|------|------------|--------------|----------|------------|------------|------|-----------|--------------|----------|-------|--------|--------|--------------|--------------------------|--------------|--|--|
| 1               |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |
| 2               |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |
| 3               |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |
| 4               |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |
| 5               |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |
| *Present/Absent |             |              |        |        |          |        |      |            |              |          |            |            |      |           |              |          |       |        |        |              |                          |              |  |  |

\* To the best of your knowledge do the above mentioned species occur in the sampled beat irrespective of whether their dung was recorded or not.

1. Do goat/sheep graze the sampled area? Yes/No
2. In case pellets are obtained in large piles then these could be categorized into the following categories:

| No. of Pellets | Category |
|----------------|----------|
| 50-100         | A        |
| 100-200        | B        |
| >200           | C        |

EXCEL DATA ENTRY WORKSHEETS  
Carnivore Sign — Form-1

| Sl. No. | Forest Circle | Forest Division | Range | Circle | Beat | Tigress with cubs reported in past 12 months (Q1A)<br>Y/N | Type of evidence for Tigress with cubs (Q1B) | No Cubs (Q1C) | Age of Cubs (Q1D) | How Tiger Presence Ascertained (Q2A) | Approx Date of Tiger Presence (Q2B) | Leopard with cubs reported in past 12 months (Q3A)<br>Y/N | Type of evidence for Leopard with cubs (Q3B) | No of Leopard Cubs (Q3C) | Age of Leopard Cubs (Q3D) | How Leopard Presence Ascertained (Q4A) |
|---------|---------------|-----------------|-------|--------|------|---|--|---------------|-------------------|--------------------------------------|-------------------------------------|---|--|--------------------------|---------------------------|--|
| 1.      |               |                 |       |        |      |   |  |               |                   |                                      |                                     |   |  |                          |                           |  |
| 2.      |               |                 |       |        |      |   |  |               |                   |                                      |                                     |   |  |                          |                           |  |
| 3.      |               |                 |       |        |      |   |  |               |                   |                                      |                                     |   |  |                          |                           |  |

| REPLICATE - 1                         |  |  |  |   |      |                |            |          |                  |                                  |         |      |        |      |          |              |
|---------------------------------------|--|--|--|---|------|----------------|------------|----------|------------------|----------------------------------|---------|------|--------|------|----------|--------------|
| Approx Date of Leopard Presence (Q4B) | No. of Livestock killed by Tiger in three months (Q5A) | No. of Livestock killed by Leopard in three months (Q5B) | No. of Livestock killed by Dhole in three months (Q5C) | No. of Livestock killed by other carnivores in three months | Date | Observers Name | Start Time | End Time | Total Kms Walked | Time spent in any other activity | Tiger   |      |        |      |          |              |
|                                       |  |  |  |   |      |                |            |          |                  |                                  | Pugmark | Scat | Scrape | Rake | Sighting | Vocalization |
|                                       |  |  |  |   |      |                |            |          |                  |                                  |         |      |        |      |          |              |



DATA SHEET ENCOUNTER RATE ON LINE TRANSECTS

Form-2

| Sl. No. | Observers Name | Date | ID No. of Line Transect | Forest Circle | Forest Division | Range | Circle | Best | Weather Condition<br>Cloudy / Clear Sky | Start Time | End Time | Total Length (KM) |
|---------|----------------|------|-------------------------|---------------|-----------------|-------|--------|------|---|------------|----------|-------------------|
| 1.      |                |      |                         |               |                 |       |        |      |   |            |          |                   |
| 2.      |                |      |                         |               |                 |       |        |      |   |            |          |                   |
| 3.      |                |      |                         |               |                 |       |        |      |   |            |          |                   |

| Beginning GPS |     |     |           |     |     | Ending GPS |     |     |           |     |     |
|---------------|-----|-----|-----------|-----|-----|------------|-----|-----|-----------|-----|-----|
| Latitude      |     |     | Longitude |     |     | Latitude   |     |     | Longitude |     |     |
| Deg           | Min | Sec | Deg       | Min | Sec | Deg        | Min | Sec | Deg       | Min | Sec |
|               |     |     |           |     |     |            |     |     |           |     |     |

| General For The Beat |              | Species                         |                  |                               |                                |                                 |                   |             |              |
|----------------------|--------------|---------------------------------|------------------|-------------------------------|--------------------------------|---------------------------------|-------------------|-------------|--------------|
|                      |              | Chital                          |                  |                               |                                | Sambar                          |                   |             |              |
| Forest Type          | Terrain Type | Chital Total with Adult + Young | Chital Young One | Forest Type for each sighting | Terrain Type for each sighting | Sambar Total with Adult + young | Sambar Young ones | Forest Type | Terrain Type |
|                      |              |                                 |                  |                               |                                |                                 |                   |             |              |

**VEGETATION & HUMAN DISTURBANCE IN 15M RADIUS PLOT**

**Form-3A & 3B**

|         |                  |      |               |                 |       |        |      |                         |   |                              |                        |                      |              |                  |  |
|---------|------------------|------|---------------|-----------------|-------|--------|------|-------------------------|---|------------------------------|------------------------|----------------------|--------------|------------------|--|
| SI. No. | Name of Observer | Date | Forest Circle | Forest Division | Range | Circle | Beat | ID No. of Line Transect | Are there any permanent human settlements Y/N | No. of permanent settlements | Total Human Population | Cattle/ Buffalo No.s | Goat & Sheep | Other Live-stock | NTFP collection (0 to 4) (0=No NTFP collection, 4=very high NTFP collection) |
|---------|------------------|------|---------------|-----------------|-------|--------|------|-------------------------|---|------------------------------|------------------------|----------------------|--------------|------------------|--|

**PLOT 1**

| NTFP Products collected |   |   | Trees species in decending order of abundance |   |   |   | Shrub species in decending order of abundance |                        |   |   | Shrub density | Canopy cover          | Weed Species in decending order of abundance                  |              |   |   |   |
|-------------------------|---|---|---|---|---|---|---|------------------------|---|---|---------------|-----------------------|---|--------------|---|---|---|
| 1                       | 2 | 3 | 5<br>high<br>abundance                        | 4 | 3 | 2 | 1<br>low<br>abundance                         | 5<br>high<br>abundance | 4 | 3 | 2             | 1<br>low<br>abundance | 0 to 4 scale<br>(0=no shrubs & 4=very high density of shrubs) | 0 to 1 scale | 3 | 2 | 1 |

|   |  |   |  |                                  |                      |                         |
|---|--|---|--|----------------------------------|----------------------|-------------------------|
| Weed abundance (0 to 4) (0=No weeds, 4= very high weed density) | Wood Cutting (0 to 4) (0=No cutting, 4= very high cutting) | Lopping (0 to 4) (0=No cutting, 4= very high cutting) | Grass/ Bamboo Cutting (0 to 4) (0=No cutting, 4= very cutting) | Presence of Human trail (Yes/No) | People seen (Yes/No) | Livestock seen (Yes/No) |
|---|--|---|--|----------------------------------|----------------------|-------------------------|







DHOLE



BEAR



LEOPARD



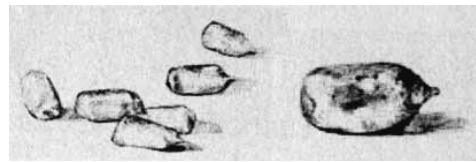
TIGER



HYENA



BARKING DEER



CHITAL



CHOWSINGHA



NILGAI

## Fecal pellets of wild ungulates and their characteristics

### Sambar

Though sambar occur in most forest areas, their preferred habitat is forested hilly areas with ample water availability. Their fecal pellets are characterized by a barrel shape, the base of which is flattened to concave in shape. The tip of the pellet tapers to a flattish point. Adult sambar pellets range in size from 1.5 to 2 cm in length and 0.8 to 1.4 cm in diameter. Small size pellets from young sambar can sometimes be confused with chital pellets due to overlap in size.

### Chital

Chital are restricted to flattish or undulating forested terrain. They normally avoid steep hilly terrain. Their fecal pellets are cylindrical with the bottom end rounded and the apical region tapering to a point. Adult chital pellets range in size from 1.2 to 1.8 cm, but are much slender in comparison to sambar and nilgai pellets. In degraded areas chital pellets can be confused with goat pellets.

### Nilgai

Nilgai occur in open forests, scrub and thorn jungle, and degraded areas. They can also be found at low densities in prime forests. Nilgai have a tendency to defecate at fixed latrine sites forming dung piles. The fecal pellets of nilgai are similar in size to sambar but are distinguished by a cylindrical shape with flat or smooth angular surfaces. The base of nilgai pellets is not as flat as that of sambar. Adult nilgai pellets 1.5 to 2 cm in length with a diameter of 1 to 1.4 cm on the average. The color is often dark brown to blackish.

### Barking Deer

Barking deer pellets are likely to be found throughout forested areas except in dry forested tracts. The fecal pellets are elongated and crinkled often with a twisted look and dented surface. The pellets taper towards both ends giving a spindle shape, the tips vary from being long and hook like to blunt. In a clump it is often common to encounter a large variation in size and shape between individual pellets from the same animal. They range in size between 1-1.8cm and about 0.4 to 0.7 cm in diameter.

### Chausingha

Chausingha pellets are small in size. They vary in shape, being ovoid or slightly elongated. The length of the pellets vary between 0.6 to 1.2 cm and the diameter is between 0.6 to 0.8 cm. There is a distinct habitat separation between chausingha and blackbuck and therefore there is less likelihood of confusing the pellets of the two species. Often habitats of chital, chausingha and barking deer may overlap.

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# (MODEL CALCULATION) ESTIMATION OF VISITOR CARRYING CAPACITY

(Example: KANHA TIGER RESERVE)

(a) **Physical Carrying Capacity (PCC):** This is the "maximum number of visitors that can physically fit into a defined space, over a particular time". It is expressed as:

$$PCC = A \times V/a \times RF$$

Where, A = available area for public use

V/a = one visitor / M<sup>2</sup>

Rf = rotation factor (number of visits per day)

In order to measure the PCC to Kanha, the following criteria must be taken into account:

- Only vehicular movements on forest roads are permitted
- The "standing area" is not relevant, but "closeness" between vehicles is important
- There is a required distance of at least 500 m (½ km.) between 2 vehicles to avoid dust (2 vehicles / km.)
- At least 3½ hours are needed for a single park excursion
- The PA is open to tourists for 9 months in a year and 9 hours per day
- Linear road lengths within the tourist zone are more relevant than area, and the total lengths are:

|              |                          |
|--------------|--------------------------|
| Kanha        | 107.20 km.               |
| Kisli        | 72.56 km.                |
| Mukki        | 103 km.                  |
| <b>Total</b> | <b>282.76 or 283 km.</b> |

- Due to constant vehicular use, the entire road length of 283 km. is prone to erosion, out of which around 90 km. is affected more

$$\text{Rotation Factor (Rf)} = \frac{\text{Opening period}}{\text{Average time of one visit}}$$

$$\begin{aligned} \text{Physical Carrying Capacity (PCC)} &= 283 \text{ km.} \times 2 \text{ vehicles / m.} \times 2.6 \\ &= 1471.6 \text{ or } 1472 \text{ visits / day} \end{aligned}$$

(b) **Real Carrying Capacity (RCC):** RCC is the maximum permissible number of visits to a site, once the "reductive factors" (corrective) derived from the particular characteristics of the site have been applied to the PCC. These "reductive factors" (corrective) are based on biophysical, environmental, ecological, social and management variables.



$$RCC = PCC - Cf_1 - Cf_2 \dots\dots\dots Cf_n$$

Where Cf is a corrective factor expressed as a percentage. Thus, the formula for calculating RCC is:

$$RCC = PCC \times \frac{100 - Cf_1 \times 100 - Cf_2 \times \dots\dots\dots 100 - Cf_n}{100}$$

Corrective Factors are “site-specific”, and are expressed in percentage as below:

$$Cf = \frac{M_1}{M_t} \times 100$$

Where: Cf = corrective factor;  $M_1$  = limiting magnitude of the variable  
 $M_t$  = total magnitude of the variable

- (i) **Road erosion:** Here is the susceptibility of the site which is taken into account.

Total road length = 283 km. ( $M_t$ )  
 Medium erosion sink = 50 km. (weighting factor: 2)  
 High erosion risk = 40 km. (weighting factor: 3)  
 $M_1 = 50 \times 2 + 40 \times 3 = 100 + 120 = 220$  km.  
 $M_t = 283$  km.  
 $Cfe = \frac{220}{283} \times 100 = 77.8$  or 78%

- (ii) **Disturbance to Wildlife:** Here, species which are prone to disturbance owing to visitation are considered. The Central Indian barasingha, a highly endangered, endemic species found only in Kanha has a courtship period of about 1 month in winter, during which it is extremely sensitive to disturbance. Likewise, the peak courtship activity for spotted deer lasts for two months before the onset of regular monsoon. As far as tigers are concerned, newborns are seen between March and May and also during the rains, hence an average value of two months in a year can be considered as the matter phase.

$$\text{Corrector Factor (Cf)} = \frac{\text{limiting months / year} \times 100}{12 \text{ months / year}}$$

**Corrective Factor barasingha**

$$Cfw_1 = \frac{1}{9} \times 100 = 11.1\%$$

**Corrective Factor for spotted deer**

$$Cfw_2 = \frac{2}{9} \times 100 = 22.2\%$$

**Corrective Factor for tiger**

$$Cfw_2 = \frac{2}{9} \times 100 = 22.2\%$$



Overall corrective factor for disturbance of wildlife in  
Kanha National Park = Cfw = Cf<sub>1</sub> + Cf<sub>2</sub> + Cf<sub>3</sub>  
= 11.1 + 22.2 + 22.2 = 55.5 or 55%

- (iii) **Temporary Closing of Roads:** For maintenance or other managerial reasons, visitation to certain roads may be temporary restricted within the park. The Corrective Factor in this regard is calculated as:

$$Cf_t = \frac{\text{limiting weeks/ year} \times 100}{\text{Total weeks / year}}$$

In Kanha, an average value of 2 limiting weeks per year may be considered as the “limiting weeks”, and thus the corrective factor works out to:

$$Cf_t = \frac{2 \text{ weeks/ year} \times 100}{36 \text{ weeks / year}} = 5.5\%$$

Computation of RCC

$$\begin{aligned} RCC &= 1472 \times \frac{100}{100} - 78 \times \frac{100}{100} - 55 \times \frac{100}{100} - 5.5 \\ &= 1472 (0.22 \times 0.45 \times 0.95) \\ &= 138.4 \text{ or } 1328 \text{ visits / day} \end{aligned}$$

- (c) **Effective Permissible Carrying Capacity (ECC):** ECC is the maximum number of visitors that a site can sustain, given the management capacity (MC) available. ECC is obtained by multiplying the real carrying capacity (RCC) with the management capacity (MC). MC is defined as the sum of conditions that PA administration requires if it is to carry out its functions at the optimum level. Limitations in management like lack of staff and infrastructure limit the RCC.

For Kanha, owing to the paucity of staff the MC is around 30%. Hence, ECC= 138 x 0.30 = 41.4 or 40 vehicles / day.

Thus, the Effective Permissible Carrying Capacity on any single day is only 40 vehicles, which should be allowed entry as below:

(Forenoon) = 25 vehicles (inclusive of both entry points)

(Afternoon) = 15 vehicles (inclusive of both entry points)

During peak season (winter months), the staff strength may be increased (only 10%) by deploying “special duty” personnel, and this would enhance the ECC to 55 vehicles per day. Further, increase in the number of vehicles would lead to deleterious effects on the habitat.

# LIST OF CONTRIBUTORS

## PRIMARY CONTRIBUTORS

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### **(Wildlife Institute of India)**

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### **Art Work**

Courtesy : Shri Ananda Banerjee (Plates 1,2,3 and 4)

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**All India meeting of field Directors of Tiger Reserves held at Sawai Madhopur  
(27th - 28th, June, 2007)**

1. Shri R.N . Mehrotara
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41. Shri Samir Sinha
42. Shri Prem Singh Chauhan

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# NATIONAL TIGER CONSERVATION AUTHORITY

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Member Secretary

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Shahjahan road, New Delhi-110011  
Tele fax: 011-23384428  
E-mail:dirpt-r@nic.in

No. 1-4/99-PT

Dated the 13th March, 2010

To,

The Principal Chief Conservator of Forests (Wildlife)  
Maharashtra State,  
Ramgiri Road,  
Civil Lines, Nagpur-440001.

**Sub: Tiger Conservation Plan Guidelines- clarification about continuance of forestry operations in buffer zone.**

**Ref: Letter No. Desk 22(8)/C. No./3764/2009-09 dated 11.02.2010.**

Sir,

Please refer to the correspondence cited above.

2. In this context, it is stated that section 38V (3) (c) of the Wildlife (Protection) Act, 1972 provides for ensuring that the forestry operations of regular forest divisions and those adjoining tiger reserves are not incompatible with the needs of tiger conservation. This should not be interpreted / misconstrued to mean that the said provision acknowledges that regular forestry operations are compatible with the needs of tiger conservation. Had it been so, the regular forests areas would be abounding in tigers and their prey base, which unfortunately is not the case, as revealed in the recent all India tiger estimation using the refined methodology.





3. Therefore, the guidelines prescribed by the National Tiger Conservation Authority (technical Document: NTCA/01/07) are in order, which may please be followed, There is a provision in the said guidelines for staggering of forests stands belonging to different age groups, which may be innovatively prescribed to modify the field operations. It is reiterated, the forestry operations in the buffer areas need to be made compatible and fine tuned vis-à-vis the requirements for addressing the source-sink dynamics of tiger, as prescribed in the NTCA guidelines under reference.
4. The buffer areas may have forest/ non-forest areas. Hence, it needs to be managed as a "multiple use area" to provide habitat supplement to the spill over population of wild animals form the core area, beside providing site specific, need based, participatory ecodevelopmental inputs to local people with livelihood options, for reducing their resources dependency on the core area. In this context, extracts of possible interventions in the buffer area, forming part of an advisory issued from this end in 2005 are enclosed for ready reference (**Annexure-I, II and III**).

Yours sincerely,

Encl: As above.

Sd/-  
Member Secretary

Copy to:

1. PPS to ADG (WL), MoEF.



## IMPACT OF IEDP INPUTS IN VARIOUS SITES VIS-A-VIS ILLEGAL ACTIVITIES/ REDUCTION IN CRIME INVOLVING THE FRINGE DWELLERS

| PA      | Relevant Inputs  | Impact  | Remark  |
|---------|--|---|---|
| Periyar | <p><b>A.</b> Revised Management Plan, Staff training, Staff welfare measures, patrolling camps, watch towers, improvement of roads, trek paths, and vehicles for improved mobility</p> <p><b>B.</b> Formations of EDCs and participatory micro planning. Reciprocal commitments by EDCs.</p> <p><b>C.</b> Awareness campaigns and EE of people in fringe areas</p> | <ol style="list-style-type: none"> <li>1. Illegal Ganja collection reduced by 80 %</li> <li>2. Illegal Sandalwood felling reduced by 90%</li> <li>3. The ex-Vayana (Cinnamon bark collector EDC apprehended 77 cases of illegal extraction leading to full control over illegal extraction which was found to be about 30,000 kg (10,000 trees) annually as per a study conducted in the year 2000.</li> <li>4. Forests fire incidences have stabilized due to greater transparency, better reporting and patrolling.</li> <li>5. Regulation of Sabarimala pilgrimage attracting around 50 lakh pilgrims per year by the SAPP EDC have protected forests from illegal felling of trees for fuel wood by substituting fire wood by LPG.</li> </ol> | Periyar is an excellent example of park local people synergy that benefits both Park and the Park fringe dwellers.  |
| Pench   | <p><b>A.</b> Establishment of patrolling and anti-poaching camps, effective wireless network, fleet of vehicles and motorized boats, improvement of roads, labour huts and staff</p>   | <ol style="list-style-type: none"> <li>1. There has been no incidence of wild animal poaching in 2002 and 2003.</li> <li>2. The menace of illegal fishing in the Totladoh reservoir has been effectively stopped</li> </ol>   | As a result of IEDP there is now a better understanding and appreciation of each other's problems and build up of good trust between the Park and the people in the fringe villages |



| PA   | Relevant Inputs   | Impact   | Remark   |
|------|---|--|--|
|      | <p>quarters, Surveillance along HT lines, Erection of Game Proof Walls.</p> <p>Strategic creation of water bodies in the Park.</p> <p><b>B.</b> Participatory micro planning and the formation of EDCs. Distribution of Bio gas plants, fuel efficient stoves and LPG connections. Pasteur development in fringe villages. Development of informer networks with EDC assistance (Reciprocal commitment).</p> <p><b>C.</b> Promotion of Eco-tourism.</p> | <p>during the year 2002-03.</p> <p><b>3.</b> Incidences of forests fires and illegal grazing have been effectively controlled.</p> <p><b>4.</b> Illegal collection of fire wood from the Park has been brought under control as the people have reduced their dependence on fire wood.</p> <p><b>5.</b> Incidence of road kills along the National Highway have been effectively controlled by judicious creation of water bodies for animals so that they no longer require to cross the NH in their search for water</p> |  |
| Gir  | <p><b>A.</b> PA consolidation. Strengthening of check posts, improvement in wireless communications, erection of watch towers, vehicles. Training of staff and EDC members.</p> <p><b>B.</b> Participatory micro planning and formation of EDCs</p> <p><b>C.</b> Environmental Education and awareness generation amongst the people of the fringe villages.</p>  | <p><b>1.</b> Park boundary better defined and demarcated by rubble wall over 41 km.</p> <p><b>2.</b> Long standing encroachments over Park land voluntarily withdrawn by the fringe villagers.</p> <p><b>3.</b> Reduction and regulation in grazing by the Maldhari and other cattle.</p> <p><b>4.</b> Reduction in instances of illegal forests fires in the Park.</p> <p><b>5.</b> Reduction in instances of illegal fuel wood collection from the Park</p>  | By addressing social issues the PA authorities have been able to reduce Park people conflicts.                                   |
| Buxa | <p><b>A.</b> Upgradation of Management Plan, training of staff, construction of staff quarters, consolidation of roads and boundary surveys</p>   | <p><b>1.</b> No poaching of mega fauna in last 4 years.</p> <p><b>2.</b> No fire in BTR for last 4 years.</p> <p><b>3.</b> No assault on</p>   | <p>Clear Government orders have formed the basis of EDC and FPC formation.</p> <p>A confederation of FPCs/EDCS at beat level</p> |

| PA          | Relevant Inputs  | Impact  | Remark   |
|-------------|--|---|--|
|             | <p>and demarcation augmentation of wireless communications.</p> <p><b>B.</b> Participatory micro planning, constitution of EDC and FPC, Reciprocal commitments.</p> <p><b>C.</b> Environmental education and awareness activities.</p>   | <p>staff in last 4 years.</p> <p><b>4.</b> Illegal firewood collection reduced by 70%</p> <p><b>5.</b> Reduction in illegal grazing.</p> <p>Some of the fringe FPC/EDC have invested in a cattle pound have been quite effective in controlling grazing in their areas.</p>   | <p>for better synergy is good innovation.</p>  |
| Ranthambore | <p><b>A.</b> Preparation of Management Plan, enhancement of park infrastructure including staff quarters, roads, wireless network, survey demarcation and fixing of boundary pillars, training of staff and EDC members.</p> <p><b>B.</b> Establishment of EDCs and participatory micro planning. Village Development activities.</p> <p><b>C.</b> EE and awareness activities</p> | <p><b>1.</b> Illegal grazing significantly controlled.</p> <p><b>2.</b> Poaching of animals under control.</p> <p><b>3.</b> Distribution of LPG and other fuel saving measure has reduced incidences of illegal felling of trees and removal of fuel wood as head loads.</p> <p><b>4.</b> Boundary demarcation has controlled encroachment over park land.</p> <p><b>5.</b> Incidences of forest fires have virtually been eliminated in the core and the buffer areas of the park.</p> | <p><b>a.</b> Tiger population in the park has shown an increasing trend.</p> <p><b>b.</b> The Park has faced severe fund flow and timely sanction of works problem during the IEDP implementation.</p> |
| Palamau     | <p><b>A.</b> New Management plan prepared. Regional planning Committee established and functional. Roads improvement, staff quarter, Field equipment sets for frontline staff, new vehicles for improved mobility.</p> <p><b>B.</b> Participatory micro planning and formation of EDCs in 65</p>   | <p><b>1.</b> Reduction in grazing pressure on forests.</p> <p><b>2.</b> Joint patrolling of park by staff and the EDC members.</p> <p><b>3.</b> EDC in villages in Kechki east range have assisted the FD in effective two major seizures of timber smuggling in 2003.</p>  | <p><b>a.</b> Palamau suffers from a serious law and order problem in form of extremists inside the park.</p>   |

| PA        | Relevant Inputs  | Impact   | Remark  |
|-----------|--|--|---|
|           | villages. Gender considerations taken into account through a women coordinator, Women SHGs constituted. Funds channelled through the EDC account for ED activities.  |  |   |
| Nagarhole | <p><b>A.</b> Solar fencing of park boundary, Elephant proof wall and trench, Field staff quarters, anti poaching camps, road maintenance, watch towers, new vehicles</p> <p><b>B.</b> Participatory micro planning and establishment of 108 EDCs. ED activities like fuel saving devices, housing construction material, EPTs and repairing of community halls and schools, Income Generation. Tribal relocation programme.</p> <p><b>C.</b> Awareness generation and EE of local communities.</p> | <p><b>1.</b> Illicit grazing of livestock from the EDC villages in the park has been almost eliminated.</p> <p><b>2.</b> EDC villagers have formed village forest protection force (VPF) which supports FD in protection of park against fire, illegal felling and poaching of wild animals.</p> <p><b>3.</b> Solar fences have reduced elephant — man conflicts.</p> <p><b>4.</b> The number of forest — Wildlife offences have dropped from over 300 in 1997-98 to under 150 in 2002-03.</p> | <p><b>a.</b> Park- people relations have improved significantly as a result of the project.</p> |
| GHNP      | Non IEDP site  | —  | —   |
| KMTR      | Non IEDP site  | —  | —   |
| Kanha     | Non IEDP site  | —  | —   |

FORMAT FOR PREPARATION OF VILLAGE  
RELOCATION PLAN FROM CORE/CRITICAL  
TIGER HABITATS



Government of India  
Ministry of Agriculture  
Department of Agriculture  
New Delhi

FEBRUARY, 2008

## FORMAT FOR PREPARATION OF VILLAGE RELOCATION PLAN FROM CORE / CRITICAL TIGER HABITATS

### BACKGROUND

1. The Wild Life (Protection) Act, 1972, as well as the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, require that rights of people (Schedule Tribes and other traditional forest dwellers) recognized in forest areas within core/critical tiger/wildlife habitats of tiger reserves/protected areas may be modified and resettled for providing inviolate spaces to tiger/wild animals. This requires payment of compensation (rights settlement in addition to the relocation package offered under the CSS at present). Chapter IV of the Wild Life (Protection) Act, 1972 (Section 24) provides for acquisition of rights in or over the land declared by the State Government under Section 18 (for constituting a Sanctuary) or Section 35 (for constituting a National Park). Sub-section 2 of Section 24 of the Wild Life (Protection) Act, authorizes the Collector to acquire such land or rights. Therefore, payment of compensation for the immovable property of people forms part of modifying /settling their rights which is a statutory requirement.
2. The ongoing study and the analysis of the available research data on tiger ecology indicate that the minimum population of tigresses in breeding age, which are needed to maintain a viable population of 80-100 tigers (in and around core) require an inviolate space of 800 - 1000 sq km. Tiger being an "umbrella species", this will also ensure viable populations of other wild animals (co-predators, prey) and forest, thereby ensuring the ecological viability of the entire area / habitat. Thus, it becomes an ecological imperative to keep the core areas of tiger reserves inviolate for the survival of source populations of tiger and other wild animals.

### GUIDELINES

3. Based on the recommendations of a Professional Agency, a new package for village relocation/rehabilitation has been proposed, with the following options / norms, which adequately covers the "National Rehabilitation and Resettlement Policy, 2007", while taking into consideration the difficulties / imperatives involved in relocating people living in forest areas:
4. The proposed package has two options:
  - 4.1 **Option I** — Payment of the entire package amount (Rs. 10 lakhs per family) to the family in case the family opts so, without involving any rehabilitation / relocation process by the Forest Department.
  - 4.2 **Option II** — Carrying out relocation / rehabilitation of village from protected area / tiger reserve by the Forest Department.
    - 4.2.1 In case of option I, a monitoring process involving the District Magistrate of concerned District(s) would be ensured so that the villagers rehabilitate themselves with the package money provided to them. In this regard, a mechanism involving handholding, preferably by external agencies should also be ensured, while depositing a considerable portion of the amount in the name of the beneficiary in a nationalized bank for obtaining income through interest generated.
    - 4.2.2 In case of option II, the following package (per family) is proposed, at the rate of Rs. 10 lakhs per family:

|     |   |   |                          |
|-----|---|---|--------------------------|
| (a) | Agriculture land procurement (2 hectare) and development  | : | 35% of the total package |
| (b) | Settlement of rights  | : | 30% of the total package |
| (c) | Homestead land and house construction   | : | 20% of the total package |
| (d) | Incentive   | : | 5% of the total package  |
| (e) | Community facilities commuted by the family (access road, irrigation, drinking water, sanitation, electricity, telecommunication, community center, religious places of worship, burial/cremation ground) | : | 10% of the total package |

4.2.3 The relocation process would be monitored / implemented by the following two Committees:

**(State level Monitoring Committee)**

- |     |  |   |                  |
|-----|--|---|------------------|
| (a) | Chief Secretary of the State                                     | - | Chairman         |
| (b) | Secretaries of related departments                               | - | Members          |
| (c) | State Principal Chief Conservator of Forests                     | - | Member           |
| (d) | Non-official members of respective Tiger Conservation Foundation | - | Members          |
| (e) | Chief Wildlife Warden  | - | Member-Secretary |

**4.2.4 (District Level Implementing Committee for ensuring convergence of other sectors)**

- |     |   |   |                  |
|-----|---|---|------------------|
| (a) | District Collector  | - | Chairman         |
| (b) | CEO   | - | Member           |
| (c) | Representative officials from:<br>PWD, Social Welfare, Tribal Department,<br>Health Department, Agriculture Department,<br>Education Department, Power and Irrigation Departments | - | Members          |
| (d) | Deputy Director of the Tiger Reserve/PA   | - | Member Secretary |

4.2.5 The above cost norms are indicative in nature to facilitate flexibility for State/site specific situation, and may be modified to allow inter component as well as inter family adjustments by respective State Governments as per site specific requirements.

5. The relocated village would be taken up on a priority basis for eco development as well as local development through convergence of District level schemes.

5.1 The Labour oriented works involved in the relocation process would be preferably implemented through the villagers who are being relocated, so that they derive benefits out of the same apart from ensuring the field implementation to their satisfaction.

5.2 In case resettlement has been done on a forest land, the new settlement will be eligible for access to forest resources for their bonafide use through the village level committee and Gram Sabhas.

5.3 The District Administration would facilitate fair price shop, education, health center close to the relocated site.

5.4 "Handholding" after relocation would be ensured through the forest department with ongoing ecodevelopmental inputs through central assistance and district administration involving convergence of schemes. In this effort help of competent independent agencies may be sought wherever available.



- 5.5 The relocated villagers would be given priority for livelihood options emanating from the protected area.
- 5.6 In case the cost of relocation including-settlement of rights per family exceeds Rs. 10 lakhs, the State Government has to meet the extra cost.
- 5.7 The relocation process would be an open ended one, since the progress of relocation process would depend on performance by States.
6. The funding support for village relocation from the core / critical tiger habitats in the Tiger Reserves would be provided through the Annual Plan of Operations, based on the reserve-specific Tiger Conservation Plan, on a case-to-case basis.
7. The provisions contained in Section 38V of the Wild Life (Protection) Act, 1972, as amended in 2006, should be strictly complied with during the relocation process.
8. The centrality of Panchayati Raj Institution should be ensured through consultation during the village relocation.
9. Format for preparing a village relocation plan
  - 9.1 Introduction
    - 9.1.1 Name of the Tiger Reserve
    - 9.1.2 Name of the village
    - 9.1.3 Total area of the village
    - 9.1.4 Legal Status : Revenue / Forest / Other category
    - 9.1.5 Summary
      - 9.1.5.1 Number of families (category-wise)
      - 9.1.5.2 Total Human population
      - 9.1.5.3 Total livestock population
      - 9.1.5.4 Proposed site for relocation (in case of option-II)
      - 9.1.5.5 Area of the proposed site and its legal status
10. Details of families identified.
11. Details relating to settlement of rights.
12. Details of incentives provided.
13. Description of relocation site (in case of option-II), with a map showing the layout of homestead land, houses and community facility.



14. Details of proposed work at the relocation site:

- Agriculture land (procurement / development)
- Transportation
- House building
- Pasture / woodlot
- Access road
- Irrigation
- Drinking water facility
- Sanitation
- Electricity
- Telecommunication
- Community centre
- Places of worship
- Burial / Cremation ground

15. Other related details:

- Access to forest resources
- Access to irrigation facility
- Access to Anganwadi / School
- Access to Hospital
- Access to fare price shop
- Access to telecommunication facility

16. Details of livelihood support and handholding.

17. Grievance redressal system.

18. Monitoring and evaluation (State level).

19. Suggested implementation matrix:

| Scale of nature of intervention         | Relocation Site  | Park/PA  | District  | State  | National   |
|---|--|--|---|--|--|
| Location and livelihoods                | <ol style="list-style-type: none"> <li>Overall site location and implementation of the R&amp;R package</li> <li>Ensuring basic infrastructure</li> <li>Individual plots for housing and farming</li> <li>Off-farm livelihood options</li> <li>Demographic based specific inputs</li> </ol> | <ol style="list-style-type: none"> <li>Tiger Reserve planning for relocation</li> <li>Ensuring biodiversity gains expected on relocation are actualized</li> <li>Benefit sharing systems with hotel and tourism operators</li> <li>Ensuring convergence with other programmes</li> </ol> | <ol style="list-style-type: none"> <li>Ensuring access to basic infrastructure</li> <li>Linking relocated communities with district</li> <li>Providing State support to the handholding agency</li> </ol> | <ol style="list-style-type: none"> <li>Enabling policies for land purchase</li> <li>Linking State level financial and training institutions</li> <li>Formalizing benefit sharing system</li> </ol> | <ol style="list-style-type: none"> <li>Set up institutional framework for enterprises.</li> <li>Enabling financial decisions and transfers in time</li> <li>Interface with all concerned institutions</li> </ol> |
| Responsible person/ implementing agency | Coordinator, Handholding Institution   | Field Director   | District level Implementing Committee   | Chief Wildlife Warden  | NICA   |
| Management & Administration             | <ol style="list-style-type: none"> <li>Baseline establishment</li> <li>Proper record keeping</li> <li>Ensuring entitlements</li> <li>Capacity building</li> <li>Interface with various agencies</li> </ol>   | <ol style="list-style-type: none"> <li>Land identification</li> <li>Discharge of entitlements</li> <li>Creating linkages for livelihood support</li> <li>Establishing a grievance redressal system</li> </ol>  | <ol style="list-style-type: none"> <li>Land acquisition for R&amp;R</li> <li>Ensuring integration with revenue and development administration</li> </ol>  | <ol style="list-style-type: none"> <li>Ensuring time-bound completion of R&amp;R tasks</li> <li>Ensuring tenure continuity for officials involved in R&amp;R</li> </ol>                            | <ol style="list-style-type: none"> <li>Trouble shooting</li> <li>Sharing best practices</li> <li>Introducing central schemes for community development</li> </ol>  |
| Monitoring & Evaluation                 | NTCA Monitoring Committee  | NTCA   | State level monitoring Committee  | State level monitoring Committee   | NTCA   |
| Legal aspects                           | <ol style="list-style-type: none"> <li>Providing information on legal situation - rights and duties</li> <li>Highlighting discrepancies if any in the process.</li> </ol>  | <ol style="list-style-type: none"> <li>Approval of land addition owing to relocation</li> <li>Clearance under FC Act for relocation (if required)</li> <li>Providing inputs for compliance under various relevant Acts and Rules</li> </ol>  | <ol style="list-style-type: none"> <li>Conducting the LA process</li> <li>Ensuring extinction of rights in PA and establishing rights in relocation area.</li> </ol>                                      | <ol style="list-style-type: none"> <li>Ensuring compliance with Wildlife Act</li> <li>Ensuring compliance with Tribals &amp; OFD Act</li> </ol>  | <ol style="list-style-type: none"> <li>Ensuring compliance with Wildlife Act</li> <li>Ensuring compliance with Tribals and OFD Act</li> </ol>  |

20. Cost table and phasing

**NO. 3-1/2003-PT**  
**National Tiger Conservation Authority**

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
E-mail: dirpt-r@nic.in  
Telefax: 2338 4428

**Dated the 25th February, 2008**

To

The Chief Wildlife Wardens(s)  
All Tiger States

**Sub: Revised guidelines of the ongoing Centrally Sponsored Scheme of Project Tiger.**

**Ref: Letter dated 21.2.2008 of even number from this Ministry.**

Sir,

Kind reference is invited to the correspondence cited above, relating to the revised guidelines of the ongoing Centrally Sponsored Scheme of Project Tiger. The following clarification is provided relating to definition of a "family" vis-à-vis the revised / enhanced relocation package from the core / critical tiger habitats:

**Definition of an eligible family**

A "Family" would mean a person, his or her spouse, minor sons and daughters, minor brothers or unmarried sisters, father, mother and other members residing with him/her and dependent on him/her for their livelihood. A family would be eligible for the package from only one location where it normally resides even if it own land in other settlements requiring relocation.

1. A major (over 18 years) son irrespective of his marital status
2. Unmarried daughter/sister more than 18 years of age
3. Physically and mentally challenged person irrespective of age and sex
4. Minor orphan, who has lost both his/her parents
5. A widow or a woman divorcee

All other definitions will strictly follow the provisions described in Wild Life (Protection) Act, 1972, and the Scheduled Tribes and Other Traditions Forest Dwellers (Recognition of Rights) Act, 2006.

Yours faithfully,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF
3. The Principal Secretary (Forest Department), All Tiger Range States
4. The Principal Chief Conservator of Forests, All Tiger Range States
5. All Field Directors including Officers in-charge of Protected Areas which have been accorded in principle approval for declaration as Tiger Reserves.



**NO. 3-1/2003-PT**  
**National Tiger Conservation Authority**

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**Dated the March 19, 2008**

To

The Chief Wildlife Wardens(s)  
All Tiger States

**Sub: Revised guidelines of the ongoing Centrally Sponsored Scheme of Project Tiger.**

**Ref: Letters of even number dated 21-02-2008 and 25-02-2008 from this Ministry.**

Sir,

I am directed to draw your kind attention to the correspondence cited above and to say that the definition of a "family" vis-à-vis the revised/enhanced village relocation package from core/critical tiger habitats may be adopted as below, as defined in the National Rehabilitation and Resettlement Policy, 2007:

"Family" includes a person, his or her spouse, minor sons, unmarried daughters, minor brothers, unmarried sisters, father, mother and other relatives residing with him or her and dependent on him or her for their livelihood; and includes "nuclear family" consisting of a person, his or her spouse and minor children".

This is in supersession of the reference second cited above, which were issued earlier in this regard.

Yours faithfully,

Sd/-  
Member Secretary (NTCA)

# PROTOCOL FOR TIGER RE-INTRODUCTION NATIONAL TIGER CONSERVATION AUTHORITY

(adapted from the IUCN Guidelines for Re-introductions)

CAPTURE AND TRANSLOCATION OF TIGERS COULD BE UNDERTAKEN TO ADDRESS THE FOLLOWING TWO GOALS:

**Re introduction** means an attempt to establish a tiger population in an area which was once part of its historical range, but from which it has been extirpated or become extinct.

**Re-inforcement/Supplementation:** addition of tigers to an existing population to enhance its long-term viability.

## AIMS AND OBJECTIVES OF RE-INTRODUCTION

### a. Aims:

The principle aim of any reintroduction should be to establish a viable, free-ranging population in the wild, of tigers which has become locally extinct in the wild. It should be re-introduced within the tigers' former natural habitat and range and should require minimal long-term management.

### b. Objectives:

The objectives of a re-introduction may include: to enhance the long-term survival of wild tigers in a manner that they could potentially perform their ecological and evolutionary role.

**At no times should tiger translocation be viewed as an alternatives to, or compromise on habitat connectivity's for sustaining and promoting natural dispersal between populations.**

The Team will consist of representatives from Wildlife Institute of India, State Forest Departments, Qualified Veterinarian and a Qualified Wildlife Biologist. The Team leader would be responsible for coordination between the various bodies and provision should be made for publicity and public education about the project. The provisions of the Wildlife Protection Act shall be adhered to at all times. The proposal, progress, and activities of the translocation exercises should be transparent and communicated through appropriate forum and media so as to gain public support.

**The National Tiger Conservation Authority (NTCA)** will keep an oversight on the translocation process and may also depute a representative as and when considered necessary.

## PRE-PROJECT ACTIVITIES

### BIOLOGICAL

#### Feasibility study and background research

- An assessment should be made of the taxonomic status of tigers to be re-introduced. They should preferably be of the same evolutionary significant unit as those which were extirpated, unless adequate



numbers are not available. Potential source/founder populations should be identified, assessed and prioritized based on a) genetic and geographical closeness to the proposed reintroduction population, b) Impact of removals on the host/founder population (assessed by a PVA if necessary). Preference should be given to tigers obtained from wild stock for reintroduction. If appropriate wild stock is not available then captive stock should be considered. An investigation of historical information about the loss and fate of individuals from the re-introduction area, as well as molecular genetic studies, may be undertaken in case of doubt as to individuals' taxonomic status.

- In the absence of genetic data tigers from the nearest population that likely had habitat connectivity in the historical past with the area where reintroduction is to be made should be the preferred founder population.
- A Population and Habitat Viability Analysis will aid in identifying significant environmental and population variables and assessment of their potential interactions, which would guide long-term population management and reintroduction. Population and management plans for the long term (>25 years) should be prepared on the basis of the above analysis. It should be clear from the onset of the reintroduction program that some reintroduced populations will require continuous management and/or supplementation for long term viability. Commitments from the concerned authority and funding support for this sustained effort are a prerequisite for reintroduction.

#### **Choice of Release site and type**

- Site should be within the historic range of tigers. For an initial reinforcement there should be few remnant wild individuals. For a reintroduction, there should be no remnant population to prevent disease spread, social disruption and introduction of alien genes. In some circumstances, a re-introduction or re-enforcement may have to be made into an area which is fenced or otherwise delimited, but it should be within the species' former natural habitat and range.
- The re-introduction area should have assured long-term protection (whether formal or otherwise).

#### **Evaluation of re-introduction site**

- Availability of suitable habitat: re-introductions should only take place where the habitat and landscape requirements of tigers are satisfied, and likely to be sustained for the foreseeable future. The possibility of natural habitat change since extirpation must be considered. Likewise, a change in the legal/political or cultural environment since species extirpation needs to be ascertained and evaluated as a possible constraint. The area should have sufficient carrying capacity to sustain growth of the re-introduced population and support a viable (self-sustaining) population in the long run.
- Identification and elimination, or reduction to a sufficient level, of previous causes of decline: could include disease; over-hunting; poisoning; competition with or predation by introduced species; commercial poaching, habitat loss; and adverse effects of earlier management programmes;. Where the release site has undergone substantial degradation caused by human activity, a habitat restoration programme and/or programmes to resettle humans should be initiated before the re-introduction is carried out.

#### **Suitability of release stock of Tigers**

- It is desirable that source tigers come from wild populations. If there is a choice of wild populations to



supply founder stock for translocation, the source population should ideally be closely related genetically to the original native stock and show similar ecological characteristics to the original population.

- Removal of individuals for re-introduction must not endanger the wild source population. Stock must be guaranteed available on a regular and predictable basis, meeting specifications of the project protocol.
- Individuals should only be removed from a wild population after the effects of translocation on the donor population have been assessed, and after it is guaranteed that these effects will not be negative.
- To minimize impact on the founder / host population, preferably tigresses between the age of 2-3 years (Sub-adults) who have become independent of their mother but are yet to establish their own territories should be targeted. This cohort also has the highest reproductive potential and therefore ideal for starting a new population. Male tigers become sexually mature at the age of 2 years but rarely can they breed till 4 years of age in the wild. This age group (2-3 years) is ideal for translocation for reintroduction as their removal from the host population will not result in male turnovers and subsequent infanticide episodes. All effort should be made not to translocate established breeding individuals from the host population. Potential individual tigers that are to be translocated should be monitored prior to their capture to ascertain their social status, health, and behavior.

#### **Release of captive tigers**

- Tigers rely heavily on individual experience and learning as juveniles for their survival; they should be given the opportunity to acquire the necessary information to enable survival in the wild, through training in their captive environment; a captive bred individual's probability of survival should approximate that of a wild counterpart.
- Care should be taken to ensure that potentially dangerous captive bred tigers that might be a danger to local inhabitants and/or their livestock are not released. All tigers should be equipped with radio collars and monitored intensively. If the newly released tiger shows behavior that is likely to cause problems for the local people, it should be removed immediately.

#### **SOCIO-ECONOMIC REQUIREMENTS**

- Re-introductions are generally long-term projects that require the commitment of long-term financial and political support.
- Socio-economic studies should be made to assess impacts, costs and benefits of the re-introduction programme to local human populations.
- A thorough assessment of attitudes of local people to the proposed project is necessary to ensure long term protection of the re-introduced population, especially if the cause of species' decline was due to human factors (e.g. over-hunting, over-collection, loss or alteration of habitat). The programme should be fully understood, accepted and supported by local communities.
- Where the security of the re-introduced population is at risk from human activities, measures should be taken to minimize these in the re-introduction area. If these measures are inadequate, the re-introduction should be abandoned or alternative release areas sought.
- If tigers pose potential risk to life or property, these risks should be minimized and adequate provision

made for compensation where necessary; where all other solutions fail, removal of the released individual should be considered.

## PLANNING, PREPARATION AND RELEASE STAGES

- Construction of a multidisciplinary team with access to expert technical advice for all phases of the programme.
- Identification of short- and long-term success indicators and prediction of programme duration, in context of agreed aims and objectives as per the PVA and population management plan.
- Securing adequate funding for all programme phases.
- Design of pre- and post- release monitoring programme so that each re-introduction is a carefully designed experiment, with the capability to test methodology with scientifically collected data. Monitoring the health of individuals, as well as the survival, is important; intervention may be necessary if the situation proves unforeseeably unfavourable.
- If release stock is wild-caught, care must be taken to ensure that: a) the tigers are free from infectious or contagious pathogens and parasites before translocation and b) the stock will not be exposed to vectors of disease agents which may be present at the release site (and absent at the source site) and to which it may have no acquired immunity.
- If vaccination prior to release, against local endemic or epidemic diseases of wild stock or domestic livestock at the release site, is deemed appropriate, this must be carried out during the "Preparation Stage" so as to allow sufficient time for the development of the required immunity.
- Appropriate veterinary measures as required to ensure health of released stock throughout the programme. This is to include adequate quarantine arrangements, especially where founder stock travels for or crosses international boundaries to the release site.
- Development of transport plans for delivery of stock to the site of re-introduction, with special emphasis on way to minimize stress on the individuals during transport.
- Determination of release strategy (acclimatization of release stock to release area; behavioural training - including hunting and feeding; group composition, number, release patterns and techniques; timing). Preferably "Soft release" should be the norm.
- Development of conservation education for long-term support; professional training of individuals involved in the long-term programme; public relations through the mass media and in local community; involvement where possible of local people in the programme.

## POST-RELEASE ACTIVITIES

- Post release monitoring is required of all tigers. This most vital aspect may be by direct (e.g. telemetry/Satellite tracking) methods as suitable.
- Demographic, ecological and behavioural studies of released stock must be undertaken.



- Study of processes of long-term adaptation by individuals and the population.
- Collection and investigation of mortalities.
- Interventions (e.g. supplemental feeding; veterinary aid) when necessary.
- Decisions for revision, rescheduling, or discontinuation of programme where necessary.
- Habitat protection or restoration to continue where necessary.
- Continuing public relations activities, including education and mass media coverage. Evaluation of cost-effectiveness and success of re-introduction techniques. Regular publications in scientific and population literature.

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
NATIONAL TIGER CONSERVATION AUTHORITY

Annexe No. 5 Bikaner House,  
Shahjahan Road, New Delhi-110011

Dated the 28th November, 2011

To,

1. Chief Wildlife Warden(s)  
All Tiger Range States
2. Field Director(s)  
All Tiger Reserves

**Sub: Additional guidelines for the ongoing Centrally Sponsored Scheme of Project Tiger relating to new components — reg.**

Sir,

With the approval of the competent authority, I am directed to send herewith a copy of additional guidelines for the ongoing Centrally Sponsored Scheme of Project Tiger relating to new components for information and necessary action.

Yours faithfully,

Encl: As above

Sd/-

(S.P. YADAV)

Deputy Inspector General (NTCA)

Copy to:

1. PS to MEF.
2. PPS to Secretary (E&F).
3. PPS to DGF & SS, MoEF.
4. PS to ADG (WL), MoEF.
5. PS to AS & FA.
6. Director (IFD), MoEF.
7. Regional Office of NTCA, Nagpur/Guwahati
8. DIG / AIGs — NTCA (HQ).

ADDITIONAL GUIDELINES FOR THE  
ONGOING CENTRALLY SPONSORED  
SCHEME OF PROJECT TIGER RELATING TO  
NEW COMPONENTS



PROJECT TIGER /  
NATIONAL TIGER CONSERVATION AUTHORITY

MINISTRY OF ENVIRONMENT & FORESTS

GOVERNMENT OF INDIA

Government of India  
Ministry of Environment & Forests  
Project Tiger / National Tiger Conservation Authority

**Additional guidelines for the ongoing Centrally Sponsored Scheme of Project Tiger relating to new components**

Based on the approval of the competent authority in August, 2011, the additional guidelines relating to new components included in the ongoing Centrally Sponsored Scheme of Project Tiger are indicated below, which would be in addition to the earlier guidelines of the said Scheme issued vide F.N. 3-1(2003)-PT in February, 2008.

- 1. Change in the funding pattern in respect of North Eastern States by increasing the central share from the existing 50% to 90% for Recurring Expenditure, with the States' share becoming 10% The ongoing support for Non-Recurring Expenditure would continue to be 100%.**

There is considerable delay in the release of central assistance to the field formations (Tiger Reserve) by the North Eastern States under the Project Tiger Scheme, owing to non availability of matching State share for recurring activities, despite allocation from the Centre. There has been a demand for increasing the central share in the recurring component of funding support. Accordingly, the central share has been increased from 50% to 90% for recurring items of expenditure.

- 2. Raising compensation for man-animal conflict to Rs. 2 lakhs in case of loss of human life, 30 per cent of the same for grievous injury and cost of treatment for minor injury (Non-Recurring).**

The human-wildlife interface is extremely sensitive due to spill over of wild animals from core areas of tiger reserves. The loss on account of such depredation needs to be compensated adequately in a time bound manner to avoid 'revenge killings'. The compensation on man-wildlife conflict has been doubled from Rs. 1 lakh to Rs. 2 lakh in the case of loss of human life, while the compensation for serious injury has been retained at 30% of the amount of compensation on death, besides meeting the cost of treatment of minor injuries to people due to wildlife.

- 3. Acquisition of private land for making the core/critical tiger habitat inviolate (Non-Recurring).**

In several tiger reserves, there are private land holdings/estates within the core/critical tiger habitats of Tiger Reserves. The above component has been included under the PT Scheme for providing 100% central assistance to States to acquire such areas, if necessary, for making the core/critical tiger habitat inviolate.

- 4. Establishment of Tiger Safari, interpretation/awareness centres under the existing component of 'co-existence agenda in buffer/fringe areas', and management of such centres through the respective Panchayati Raj Institutions (creation — non-Recurring; maintenance — Recurring).**

The Tiger Safaris may be established in the buffer areas of tiger reserves which experience immense tourist influx in the core/critical tiger habitat for viewing tiger. The interpretation/awareness centres would also be supported in such buffer areas to foster awareness for eliciting public support. The management of such centres would be through the respective Panchayati Raj (PR) institutions.

**5. Re-introduction of Cheetah in the States of madhya Pradesh and Rajasthan under the Scheme at a cost of Rs. 50 crore after ensuring the historical co-existence of Cheetah with other carnivores, especially the tiger.**

Reintroduction of large carnivores has increasingly been recognised as a strategy to conserve threatened species and restore ecosystem functions. The cheetah is the only large carnivore that has been extirpated, mainly by over-hunting in India in historical times. Based on the recommendations of an expert group involving the Wildlife Institute of India, the Ministry of Environment and Forests has decided to take up reintroduction of Cheetah in the States of Rajasthan (Shahgarh area) and Madhya Pradesh (Kuno-Palpur and Noradehi Wildlife Sanctuaries). The said States would receive 100% support towards village relocation, habitat management/restoration, holding facility, veterinary facility, training professionals, monitoring, procurement of cheetah, eco-development in the fringes and maintenance.

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# PROTOCOL/GUIDELINES FOR VOLUNTARY VILLAGE RELOCATION IN NOTIFIED CORE/CRITICAL TIGER HABITATS OF TIGER RESERVES

## PREAMBLE

The Wildlife (Protection) Act, 1972 has been amended in 2006, and a separate chapter (Chapter IV-B) has been provided, which inter alia, provides for constituting the National Tiger Conservation Authority (NTCA), its powers and functions, reporting requirements, constitution of State level Steering Committees, preparation of Tiger Conservation Plan, explanation regarding the core or critical tiger habitat and the buffer or peripheral areas of a tiger reserve and establishment of the Tiger Conservation Foundation. The said amendment came into force with effect from 4th of September, 2006. The above statutory provisions have been incorporated to strengthen tiger conservation in the country vis-à-vis urgent recommendation of the Tiger Task Force constituted by the National Board for Wildlife. The purpose of this Protocol is to facilitate the State Forest Departments to carry out village relocation provisions of the Wildlife (Protection) Act, 1972, read with the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, while complying with the earlier advisories issued in this regard.

## 1. BACKGROUND

- 1.1 The tiger continues to remain one of the most endangered large predators in the world. Based on scientific empirical data and simulation results for a viable tiger population, it has been established that a minimum inviolate area of 800-1,200 sq.km. is required for a viable population of tiger (20 breeding tigresses). An ecologically sensitive zone (buffer, coexistence area, multiple use area) of 1,000-2,000 sq.km. is required around this inviolate space for sustenance of dispersal age tigers, surplus breeding age tigers and old displaced tigers. Together with the core area, this would sustain the dynamics of source-sink while sustaining a population of 75-100 tigers. The scientific simulation results have been provided in the 'Guidelines for Preparation of Tiger Conservation Plan' issued by the NTCA (Technical Document; NTCA/01/07), which constitute the scientific criteria for identifying the core/critical tiger habitats.
- 1.2 A tiger reserve consists of two parts, viz., 'a core or critical tiger habitat' and 'a buffer or peripheral area'. Section 38V 4(i) of the Wildlife (Protection) Act, 1972 (hereinafter referred to as WPA, 1972) explains the core or critical tiger habitats, identified on the basis of scientific and objective criteria, areas of National Parks and Sanctuaries to be kept as inviolate for tiger conservation, without affecting the rights of the Scheduled Tribes and Other Traditional Forest Dwellers, and notified as such by the State Government in consultation with an expert Committee constituted for the purpose.
- 1.3 Section 38V 4(ii) of the Wildlife (Protection) Act, 1972 (hereinafter referred to as WPA, 1972) explains the buffer or peripheral area consisting of the area peripheral to the critical tiger habitat or core area, where a lesser degree of habitat protection is required to ensure the integrity of the critical tiger habitat, providing habitat supplement for dispersing tigers, besides offering scope for coexistence of human activity. The limits of the buffer/peripheral areas are to be determined on the basis of scientific and objective criteria in consultation with the concerned Gram Sabha and an expert Committee constituted for the purpose.



- 1.4 Thus, the voluntary relocation of people needs to be done only in the identified core/critical tiger habitats of a tiger reserve.
- 1.5 The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (hereinafter referred to as FRA, 2006) came into force on 31.12.2007 (midnight). The said Act provides for recognition of and vesting of forest rights in forest dwelling Scheduled Tribes and Other Traditional Forest Dwellers. Section 4(2) (a) to (f) provide for satisfying several conditions while modifying the recognised Forest Rights in critical wildlife habitats of National Parks and Sanctuaries. These, *inter alia*, include completion of the process of recognition and vesting of rights as specified in section 6 of the said Act, estbalishing by the concerned agencies of the State Government vis-à-vis their powers under the Wildlife (Protection) Act, 1972, that the activities/impact the Wildlife (Protection) Act, 1972, that the activities / impact of right holders are sufficient to cause irreversible damage to wild animals, concluding the non-availability of other coexistence options by the State Government, preparation of resettlement package while providing a secure livelihood and free informed consent of the Gram Sabha.

## 2. OBJECTIVE

- 2.1 The NTCA has issued a set of guidelines for implementing the Centrally Sponsored Scheme of Project Tiger, after its revision by the competent authority in February, 2008, alongwith a format for preparation of village relocation plan from core/critical tiger habitats. Further, guidelines for ensuring the centrality of the Panchyati Raj Institutions, defining the 'family' for relocation and the need for ensuring the implementation of the Wildlife (Protection) Act, 1972, read with the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (after the coming into force of the latter) have also been issued. The instant protocol/guidelines consolidate the same to facilitate the implementing agnecies in States. The guidelines have necessarily been kept broad tand generic in nature, for States to refine procedures as per their requirements to facilitate implementation.
- 2.2 The instant protocol/guidelines aim to ensure that all necessary statutory procedures required for the effective implementation of relocation are undertaken, and that in the process of conservation and protection of tigers and their habitats, the rights of forest dwellers are respected, and the process of recognition and determination of rights is complete.

## 3. RELEVANT PROVISIONS

The relevant provisions of the FRA, 2006, and the WPA, 1972 relating to relocation from core/critical habitats of tiger reserves are detailed below:

- 3.1 Section 4(1) of the FRA, 2006 recognizes and vests forest rights in Scheduled Tribes and other traditional forest dwellers. The Forest Rights are listed in Section 3 of the FRA,. 2006, which *inter alia*, secure individual or community tenure or both.
- 3.2 The said forest rights (under Section 3 of the FRA, 2006), can subsequently be modified or resettled outside of Critical Wildlife Habitats, conditional upon all the relevant provisions being met under Section 4(2) (a) to (f) of the said Act. As per the said Act, payment of compensation for the immovable property of people forming part of modifying/setting their rights is a statutory requirement.

- 3.3 Chapter V of the WPA, 1972 (Section 24) provides for acquisition of rights in or over the land declared by the State Government under Section 18 (constituting a Sanctuary) or Section 35 (constituting a National Park).
- 3.4 Under the WPA, 1972, as amended in 2006, section 38V (4)(i) the core or critical tiger habitat and the process of its notification have been explained as ‘core or critical tiger habitat areas of National Park and Sanctuaries, where it has been established, on the basis of scientific and objective criteria, that such areas are required to be kept as inviolate for the purposes of tiger conservation, without affecting the rights of the Scheduled Tribes or such other forest dwellers, and notified as such by the State Government in consultation with an Expert Committee constituted for the purpose’.
- 3.5 Under the WPA, 1972, as amended in 2006, requirements have been laid down for voluntary relocation of people on ‘mutually agreed terms and conditions’, for the purpose of creating inviolate areas for tiger conservation:
- 3.5.1. “the process of recognition and determination of rights and acquisition of land or forest rights of the Scheduled Tribes and such other forest dwelling persons is complete;
  - 3.5.2 the concerned agencies of the State Government, in exercise of their powers under this Act establishes with the consent of the Scheduled Tribes and such other forest dwellers in the area, and in consultation besides with an ecological and social scientist familiar with the area, that the activities of the Scheduled Tribes and other forest dwellers or the impact of their presence upon wild animals is sufficient to cause irreversible damage and shall threaten the existence of tigers and their habitat;
  - 3.5.3 the State Government, after obtaining the consent of the Scheduled Tribes and other forest dwellers inhabiting the area, and in consultation with an independent ecological and social scientist familiar with the area, has come to a conclusion that other reasonable options of co-existence, are not available;
  - 3.5.4. resettlement or alternative package has been prepared providing for livelihood of affected individuals and communities and fulfills the requirements given in the National Relief and rehabilitation Policy;
  - 3.5.5. the informed consent of Gram Sabhas concerned, and of the persons affected, to the resettlement programme has been obtained;
  - 3.5.6. the facilities and land allocation at the resettlement location are provided under the said programme, otherwise their existing rights shall not be interfered with.”

#### 4. COMPATIBILITY OF SECTION 38V OF THE WILDLIFE (PROTECTION) ACT, 1972 (RELATING TO RELOCATION FROM CORE/CRITICAL TIGER HABITATS) WITH THE SCHEDULED TRIBES AND OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHTS) ACT, 2006

- 4.1 The phrase ‘core or critical tiger habitat’ is mentioned only in the Wildlife (Protection) Act, 1972 as a sequel to amendment made to the said Act in 2006. It is **NOT** defined in the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.





- 4.2 The phrase 'critical wildlife habitat' is defined only in the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, **NOT** in the Wildlife (Protection) Act, 1972.
- 4.3 'Core or critical tiger habitat' is different from the 'critical wildlife habitat'. Since tigers are territorial big cats, hence considering their social land tenure dynamics, the 'core/critical tiger habitat' has been viewed separately from the 'critical wildlife habitat', which is applicable to other wild animal species.
- 4.4 Based on deliberations with experts and simulation results from scientific data, it has been found that a minimum inviolate area of 800-1,200 sq.km. is required to sustain a viable population of tigers (20 breeding females).
- 4.5 Establishing the core/critical tiger habitat as 'inviolate' involves two steps as per the Wildlife (Protection) Act, 1972:
- Identifying the core/critical tiger habitats as per section 38V 4(i) of the Wildlife (Protection) Act, 1972 by establishing on the basis of scientific and objective area that such areas are required to be kept as inviolate for the purpose of tiger conservation, without affecting the rights of the Scheduled Tribes or such other forest dwellers, and notified as such by the State Government in consultation with an expert committee constituted for the purpose.
  - Establishing the identified core / critical tiger habitat as inviolate through voluntary relocation on mutually agreed terms and conditions as per section 38V (5)(i) to (vi) of the Wildlife (Protection) Act, 1972, read with section 4(2) (a) to (f) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, provided that such terms and conditions satisfy the requirements laid down in the Wildlife (Protection) Act, 1972.
- 4.6 The above provisions laid down in the Wildlife (Protection) Act, 1972 (Section 38V), subsequent to the 2006 amendment are specific to tiger conservation, and are not only compatible but more stringent than the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.
- 4.7 Under the revised Centrally Sponsored Scheme of Project Tiger (2008), two options have been given to people:
- Option-I:** Payment of Rs. 10 lakhs per family in case the family opts so, without any rehabilitation / relocation process by the Forest Department.
- Option-II:** Carrying out relocation / rehabilitation by the Forest Department with the following per family norms out of Rs. 10 lakhs:

|     |   |                          |
|-----|---|--------------------------|
| (a) | Agricultural and procurement (2 ha.) and development  | 35% of the total package |
| (b) | Settlement of rights  | 30% of the total package |
| (c) | Homestead land and house construction   | 20% of the total package |
| (d) | Incentive   | 5% of the total package  |
| (e) | Community facilities (access road, irrigation, drinking water, sanitation, electricity, telecommunication, community centre, places of worship, cremation ground) | 10% of the total package |

- 4.8 The cash option has been provided for catering to people who are not interested in a resettlement and are prepared to establish themselves elsewhere under ‘mutually agreed terms and conditions’, as indicated in the Wildlife (Protection) Act, 1972. This has checks and balances as the money is provided through the District Collector after the villager produces evidence of his procuring land etc.
- 4.9 The relocation is voluntary, and is done only if people are willing to move.
- 4.10 Monitoring committees at the District as well as State levels are required to be constituted by the States.

## 5. ‘CRITICAL TIGER HABITAT’ VIS-À-VIS ‘CRITICAL WILDLIFE HABITAT

- 5.1 The salient points relating to ‘critical tiger habitat’ (CTH) and ‘critical wildlife habitat’ (CWH) are comparatively indicated below:

| CTH   | CWH  |
|---|--|
| Legal mention in WLPA (2006) amendment  | Legal mention in FRA (2006 Sec. 2(b))  |
| Process outlined in WLPA  | Process outlined in MoEF guidelines  |
| Recognition, vesting of rights as per FRA, read with WLPA   | Recognition, vesting and resettlement as per FRA   |
| Clear criteria based on existing scientific knowledge/simulation data pertaining to tiger         | Necessity for generic criteria that encompass diversity of species and landscapes  |
| Informed consent of concerned Gram Sabha and affected persons required for resettlement programme | Free informed consent of Gram Sabha pertaining to the area vis-à-vis proposed resettlement/relocation package is essential |

- 5.2 Section 4(2)(a) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 necessitates that the process of recognition and vesting of rights as specified in section 6 of the said Act is complete in all the areas under consideration before modification or resettlement.
- 5.3 Section 4(2)(b) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 necessitates that the concerned agencies of the State Governments should establish in exercise of their powers under the Wildlife (Protection) Act, 1972 that the activities or impact of the presence of holders of rights upon wild animals is sufficient to cause irreversible damage and threaten the existence of the said species and their habitat, before modification or resettlement.
- 5.4 Section 4(2)(c) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 necessitates that the States Government has to conclude that other reasonable options such as coexistence are not available, before modification or resettlement.
- 5.5 Section 13 of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 provides that the said Act shall be in addition to and not in derogation of the provisions of any other law for the time being in force.
- 5.6 It has been established on the basis of existing scientific knowledge that an area of 800-1,200 sq.km. of inviolate core/critical habitat is required for a viable population of tiger. Section 38V 4(i) of the



Wildlife (Protection) Act, 1972, as amended in 2006, specifically provides for establishing the core/critical tiger habitats on the basis of scientific and objective criteria, in consultation with an expert Committee, without affecting the rights of the Scheduled Tribes or such other forest dwellers. Therefore, under section 4(b) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, the field authorities / Field Director of a Tiger Reserve may identify the core/critical tiger habitat as per section 38V 4(i) of the Wildlife (Protection) Act, 1972, using the criteria of 800-1,200 sq.km., which has to be notified by the State Government in consultation with an expert Committee constituted for the purpose. The latter takes into account the impact of biotic disturbance on tiger resulting in man-tiger conflicts, besides underlining the need for such minimal area of inviolate space for tiger where no coexistence is possible.

## 6. GUIDELINES FOR IDENTIFICATION/NOTIFICATION OF CORE/CRITICAL TIGER HABITAT IN TIGER RESERVES AND VILLAGE RELOCATION

A checklist of steps and documents for all stages is contained in **Annexe 1**.

### **Step I: Identification/notification of the core/critical tiger habitat**

The identification should be done as provided under section 38V (4)(i) of the Wildlife (Protection) Act 1972.

### **Step II: Establishing the core/critical tiger habitat for creating inviolate area for tiger involving relocation of families/villages from such areas**

The provisions contained in the FRA sections 4 and 6 and the provisions contained in the Wildlife (Protection) Act 1972 section 38V (5) should be followed.

In case of voluntary relocation also, the rights of people should be recognized and settled before relocation.

#### **6.1 Operational guidelines for Step II (Village relocation)**

[Involving provisions of Wildlife (Protection) Act, 1972 read with provisions contained in the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006]

##### **6.1.1 Recognition/settlement of Rights**

Recognition and vesting of rights as per section 6(1) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006:

- (a) Constituting a Sub-Divisional Committee by the State Government as provided in the FRA (section 6) for examining the resolution passed by the Gram Sabha, besides preparing the record of forest rights and forwarding it through the Sub-Divisional Officer to the District level Committee for a final decision.
- (b) Initiation of the process for determining the nature/extent of individual/community forest rights or both by the local Gram Sabha, involving consolidation, verification, area delineation on a map, passing a resolution and forwarding a copy to the Sub-Divisional Committee as provided in the FRA.

- (c) Disposal of petitions, if any, from persons aggrieved by the Gram Sabha resolution by the Sub-Divisional Committee as provided in the FRA.
- (d) Constituting a District level Committee by the State Government for considering and finally approving the record of forest rights prepared by the Sub-Divisional level Committee.
- (e) Disposal of petitions, if any, from aggrieved persons by the District level Committee within 60 days from the date of decision by the Sub-Divisional level Committee, as provided in the FRA.

#### **6.1.2 Relocation of villages after recognition/settlement of rights as above (Identification/prioritization of villages, cut off date for residing families, choice of options etc.)**

- 6.1.2.1 Following the notification of the core/critical tiger habitat, the Field Director must identify the village/villages in notified core area.
- 6.1.2.2 A prioritization of villages to be relocated should be done based on man-tiger conflicts, presence of tiger den sites, grazing areas of wild ungulates, grazing pressure from livestock, presence of water and other welfare factors, site specific attributes etc.
- 6.1.2.3 A meeting of the concerned Gram Sabha should be convened with the active participation of the villagers to be relocated. The villagers must be informed about the details of the core/critical tiger habitat, its importance, man-tiger conflicts, options available under voluntary resettlement, options for payment, process of relocation/rehabilitation, and grievance redressal system.
- 6.1.2.4 The proposed package has two options:
  - Option I:** payment of the entire package amount (Rs. 10 lakhs per family) to the family, in case the family opts for this, without involving any rehabilitation/relocation process by the Forest Department.
  - Option II:** carrying out relocation/rehabilitation of village from protected area/tiger reserve by Forest Department.
- 6.1.2.5 Free informed consent of the Gram Sabha and affected villagers must be taken in writing regarding the proposed resettlement package/option.
- 6.1.2.6 The recognition/settlement of rights must be done as indicated in Step-II (para 6.1 above)
- 6.1.2.7 Records of the rights vested in the said villages/forest dwellers must be obtained from the Gram Sabha, as have been approved by the District level Committee under section 6(5) of the FRA, 2006. In case where records of forest rights are unavailable, the matter should be taken up with the District Collector.
- 6.1.2.8 After obtaining the details of rights as above, a meeting of the District level



Implementing Committee, as indicated at para 4.2.7. of the Guidelines issued from Project Tiger/NTCA [F.No. 3-1/2003-PT (relocation)] should be convened for deciding the 'cut off date' vis-à-vis the definition of the 'family' provided in the Guidelines (Advisory No. 3-1/2003-PT dated 19.3.2008 as per the National Rehabilitation and resettlement Policy, 2007).

- 6.1.2.9 The valuation of the recognised rights/assets of the villagers to be relocated must be obtained from the District Collector.
- 6.1.2.10 The Field Director should submit a Village Relocation Proposal (VRP) to the National Tiger Conservation Authority/Project Tiger for funding support, through the Chief Wildlife Warden/State Government. The format for a VRP document is detailed in **Annexe 2**.

## 6.2 Field implementation

- 6.2.1 Once the VRP is approved for central assistance under Project Tiger and the options are decided, the following steps may be ensured:

### **Option-I (payment of the entire package amount of Rs. 10 lakhs per family)**

- 6.2.1.1. On receipt of central assistance under Project Tiger vis-à-vis the relocation proposal sent by the Field Director, the funds should be deposited in the account of the District Collector and a joint savings bank account must be opened for each beneficiary/family with a deposit of Rs. 10 lakh each.
- 6.2.1.2 In case of forest villagers having no tenurial rights, two bank accounts should be opened for each family viz., a savings account with a deposit of Rs. 1 lakh, and a joint savings account with the District Collector for an amount of Rs. 9 lakhs. Out of the latter, a minimum amount of Rs. 3 lakhs should be earmarked as a fixed deposit for a period of three years to ensure interest payment to the relocated villagers. On production of documentary evidence by the villagers (within a prescribed time period) relating to proposal for acquiring immovable property/agriculture land, funds should be made available to the seller from the joint savings account after due verification by the District level Committee through a Demand Draft, which should be mentioned in the sale agreement. The balance amount, if any, in the joint savings account, alongwith the interest accrued, should be transferred to the savings account of the villager/beneficiary.

- 6.1.2.3 In case of revenue villages, the following two options are suggested under option-I:

**Option A:** In case, the villagers through the Gram sabha agree for receiving a payment of Rs. 10 lakhs per family (inclusive of the valuation for their assets), then the said amount would be deposited in the name of the beneficiary (a joint account with spouse in case of a married individual).

**Option B:** In case the villagers through the Gram Sabha do not agree for the above (option A) and demand due compensation for their assets then the following may be adopted:

— Compensating the beneficiaries in proportion to the assets as per valuation done by the Collector.

— Distributing the balance amount equally to all eligible families/beneficiaries.

The shortfall, if any, of compensation amount in proportion to the assets will be met by the State Government.

### **Option-II (Carrying out relocation/rehabilitation through the Forest Department)**

6.2.1.4 2 hectares of agriculture land should be provided per family. In case revenue land is not available for this purpose, diversion of degraded forest land may be obtained after due clearance under the Forest (Conservation) Act, 1980.

6.2.1.5 Payment of compensation for the assets owned by individual family should be done based on the evaluation, amounting to 30% of the total package of Rs. 10 lakhs.

6.2.1.6 In case the amount for compensation for such assets covering the entire village exceeds 30% of the package, then the balance amount should be provided through funding support from the State Government.

6.2.1.7 Payment amounting to 20% of package should be provided to each beneficiary for homestead land and house construction.

6.2.1.8 An incentive amounting to 5% of the total package should be provided per beneficiary/family.

6.2.1.9 In case agricultural land is made available free of cost to the beneficiaries then the amount earmarked for the same (35% of the total package alongwith the balance amount, if any, remaining after settlement of rights) should be used for community facilities as indicated in the Guidelines of Project Tiger alongwith the 10% of the total package (to be used after depositing in a PDA account).

6.2.1.10 A community development plan should be prepared for each relocated village in consultation with District Collector while ensuring integration of other ongoing District level schemes.

6.2.1.11 The balance amount, if any, after the community development works should be deposited in the respective Gram Sabha to benefit the relocated villagers.

6.2.1.12 A special monitoring Committee involving members of the Gram Sabha, relocated villagers, civil society institution, should be created for periodic reporting to the District Collector and the Field Director.

### **6.3 Related complementary guidelines**

6.3.1 The requisite amount for each beneficiary must be deposited into a joint savings account as indicated earlier in a Nationalized Bank, and passbooks should be handed over to the



- beneficiaries. The Zilla Parishad should be involved in monitoring the payment and utilization of the compensation package, whether under Option I or Option II.
- 6.3.2 Annuity mechanisms must be developed for beneficiaries to obtain a monthly income through interest (eg. 1 lakh in savings, Rs. 3 lakhs in fixed deposit in case of option I).
- 6.3.3 In case of option I, the beneficiary should be given a timeline for purchase of agricultural land, construction of house etc. The amount should be allowed for withdrawal from the fixed deposit only for the creation of fixed assets.
- 6.3.4 The agreed amount should be given to the seller through a bank draft, and the beneficiary must indicate this in the sale deed.
- 6.3.5 The Forest Department (through the Field Director) must execute a MoU on stamp paper with the beneficiary as a proof of voluntary settlement.
- 6.3.6 Individual records of beneficiaries must be maintained at the office of the Field Director of the Tiger Reserve as well as the District Collectorate.
- 6.3.7 The Collector must provide each beneficiary a certificate indicating their eligibility for all schemes applicable to relocated people.
- 6.3.8 Handholding after relocation must be ensured through the Field Director and a District level Monitoring Committee under the Chairperson of the Zilla Parishad. In this effort, assistance of competent civil society organization having the domain expertise may be obtained.
- 6.3.9 Implementation and monitoring of district level schemes in relocated villages should be done through Gram Panchyat/Gram Sabha.
- 6.3.10 Village Relocation Committees (F.No. 15-63/2008-NTCA, 23rd April 2010) will monitor the progress of village relocation, and a State level Monitoring Committee must oversee the process.
- 6.3.11 The relocation of villages from the core areas of tiger reserves should be dovetailed preferably in a State level 'Rehabilitation Act for Project Affected Persons' (as done for national park/sanctuary) by the Government of Maharashtra vide its Act No. XI of 2001. This would enable the project authority under the said Act for ensuring the ongoing development of the relocated families.

## 7. CLARIFICATION

- 7.1. A 'Family' includes a person, his or her spouse, minor sons, unmarried daughters, minor brothers, unmarried sisters, father, mother and other relatives residing with him or her and dependent on him or her for their livelihood; includes "nuclear family" consisting of a person, his or her spouse and minor children (as per order No. 3-1/2003-PT).

## Annexe 1: Village Relocation Proposal Format

| Stage      | Y/N  |
|------------|--|
| <b>I</b>   | Notification of core/critical habitat? If yes, copy of notification.   |
|            | Certificate that village is within core area of Tiger Reserve  |
|            | Consent of villagers, Gram Sabha obtained  |
|            | Survey and Master list   |
|            | Record of Rights   |
|            | Village relocation Proposal drawn up with involvement of District Administration   |
|            | Certificate that the detailed relocation plan has been formulated on the basis of voluntary consent of beneficiaries;  |
|            | Indicative time frame within which relocation will be completed  |
| <b>II</b>  | Collector Committee constituted  |
|            | Cut-off date   |
|            | Rights and property evaluation by Committee  |
|            | In case of option II: where relocated land is forest land, copy of forest clearance received from FC Division of this Ministry, and certificate stating that terms and conditions of FC have been complied with. |
|            | District Level and State Level Monitoring Committee established?   |
| <b>III</b> | Joint Account created for beneficiary and spouse   |
|            | Money deposited into JA, with fixed deposit plan, passbooks to beneficiaries   |
|            | MoU between FD and beneficiary   |
|            | Individual files of beneficiaries maintained at Range Office, Tiger Reserve Office and Collector Office  |
|            | Collector certificate to beneficiaries   |
|            | Handholding procedures and Monitoring Committee  |

ॐ ॐ ॐ ॐ ॐ



## Annexe 2: Village Relocation Proposal Format

### 1. Introduction

- Name of Tiger Reserve
- Name of Village
- Total area of village
- Legal Status: Revenue/Forest/Other
- Summary: Number of families, total human population, total livestock population, proposed site for relocation (in case of Option II), Area of proposed site and its legal status, total allocation required

### 2. Master List of families identified

### 3. Details of settlement rights

### 4. Details of incentives provided

### 5. In case of Option II:

- (a) Description of relocation site, with a map showing layout of homestead land, houses and community facility
- (b) Details of proposed work at relocation site: agricultural land (procurement/development), transportation, construction, pasture/woodlot, road access, irrigation, drinking water facility, sanitation, electricity, community centre, places of worship, burial/cremation ground
- (c) Other details: access to forest resources, irrigation, Anganwadi/school, hospital, fair price shop, telecommunication

### 6. Details of livelihood support and handholding

### 7. Grievance redressal system

### 8. State level monitoring and evaluation

### 9. Cost table and phasing

❧ ❧ ❧ ❧ ❧



# ADVISORIES



विश्वनाथ आनंद  
VISHWANATH ANAND



सचिव  
पर्यावरण एवं वन मंत्रालय  
भारत सरकार

SECRETARY  
MINISTRY OF ENVIRONMENT & FOREST  
GOVERNMENT OF INDIA

D.O NO. 1-128/WN/96

February 25, 2000

Dear Sir,

As you are aware the issue of implementation of the provisions of Wildlife (Protection) Act, 1972 (Amended 1991) have been raised before the Hon'ble Supreme Court of India. The petitioner prayed that the State Governments are not paying due attention to the development and management of protected areas and are also not providing adequate funds from the State budget. Even the funds provided by the Central Government do not reach the implementing agencies expeditiously and it is one of the major reasons for non implementation of the provision of Wildlife (Protection) Act, 1972.

The Hon'ble Supreme Court in its interim order dated 2.2.2000 has permitted Union Government to issue suitable directions to all the States for implementation of Wildlife (Protection) Act. In this regard you are requested to ensure that the financial assistance received by the State Government for development and conservation of protected area should be released to Chief Wildlife Warden within 6 weeks from the date of receipt with the state.

With regards,

Yours sincerely,

(VISHWANATH ANAND)

To Chief Secretaries of All States

**GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
(PROJECT TIGER)**

Annexe No. 5 Bikaner House,  
Shahjahan Road, New Delhi-110011

Dated the 11th September, 2001

To,

The All Field Directors of Tiger Reserves

Sub: Patrolling Strategy and Anti Poaching Initiatives

Sir,

Effective "Anti Poaching" measures and "Patrolling strategy" should be accorded topmost priority in a tiger reserve management. The need for a reliable, round the clock wireless systems, strategically placed forest patrolling camps and an ever vigilant, motivated frontline staff requires no collaboration. However, in the recent past, in several tiger reserves, mortality of wild animals has not been timely detected by the field staff, which poorly reflects on the management and degree of protection. Since Govt. of India allocates considerable resources for anti poaching and patrolling under Project Tiger, this is a matter of serious concern. Therefore, the following minimum initiatives should be ensured in the overall protection strategy of your Tiger Reserve:

1. Creation of Patrolling Camps at sensitive points with deployment of staff/labour as required.
2. Listing of Staff/Camps with duty allocation and route chart.
3. Appropriately equipping the patrolling team with fire arms and mobile wireless sets.
4. Special instructions to squads/ parties covering several aspects viz.
  - Surveillance : hotels, tourist points, vehicle, bus stand
  - Surveillance: traditional hunters etc.
  - Coordination with local police
  - Networking
  - Issue of Special 'Preliminary Offence Report' books
  - Preparation of daily schedule
  - Local Country side market checking
  - Surprise checking of barriers
5. Preparation of monthly wildlife "crime maps" (preferably in this GIS domain using GPS or on a 1:50,000 scale map)
6. Monitoring Cattle kill, human kill, injury.



7. Monitoring water points near habitation.
8. Preparation of crime gang dossiers.
9. Monitoring / updating at the level of Field Director/Dy. Director through wireless.
10. Maintenance of 'village level' crime registers through village committees.
11. Taking note of offence registered in local police station.
12. Using tape recorder/camera to record evidences.
13. Registration of fire arm license holders as per the directives of the Hon'ble Apex Court

While situations in field units would vary necessitating site-specific strategy, the success of Wildlife Protection and crime risk management depends on good surveillance, timely reporting and networking, prompt situation analysis and immediate action. You are required to send the 'crime map' on a 1:50,000 scale along with (soft copy) details of wildlife crime registered, criminals prosecuted and convicted every 3 months to the PT monitoring cell of this office.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
(PROJECT TIGER)

Annexe No. 5 Bikaner House,  
Shahjahan Road, New Delhi-110011

Dated the 18th June, 2002

To,

The Chief Wildlife Warden  
(All States)

Sub: Protection initiatives in Tiger Reserves/ National Parks/Sanctuaries.

Sir,

As you are perhaps aware, many gangs of poacher have been recently apprehended from Areas like Nagarhole (Karnataka) and Nagarjunasagar Srisailam (Andhra Pradesh). These miscreants hail from States like Rajasthan, Haryana, M.P. and travel along with their kith and kin in small groups. They sneak inside Tiger Reserves/National parks/Sanctuaries and other forest areas and carry on their activities. Basic interrogation has revealed their linkages with some notorious poachers. (This calls for dispassionate view of protection initiatives of our Protected Areas for reinforcing the same with site-specific strategies based on past experience.) While no generalized approach can be prescribed for the entire country, certain broad points are highlighted below, which may be of use in evolving or improving the protection strategy in-vogue:-

- (1) Review of the existing patrolling camps/chowkis in Protected Areas, so that each chowki/patrolling camp has, on an average, an area of 25-30 sq. km under its jurisdiction to ensure the desired amount of legwork by beat guards and his camp followers posted in such patrolling camps/chowkis.
- (2) Prescribing a daily schedule of patrolling keeping in mind the vulnerability of the area from protection point of view.
- (3) Maintaining a monitoring/daily observation register in each patrolling camp/chowki in the local language preferably, in which the field personnel can record their daily observations based on patrolling.
- (4) Adopting a regular supervision schedule for field officers, along with minimum patrolling to be done by them jointly with patrolling camp/chowki staff.
- (5) Maintaining a system of "surprise checking" of chowkies/patrolling camps by senior officers.
- (6) Keeping a record of the local village level market days in the peripheral areas, and deploying informer/staff in civil dress to keep track of any untoward incident/transaction related to wildlife.





- (7) Organizing vehicular patrolling by constituting squads comprising of field staff, labourers and police/SAF personnel (if necessary), with wireless handset and paraphernalia for apprehending offenders, apart from prescribing a patrolling calendar for the squad.
- (8) Maintaining a list of vehicles passing through manned barriers, and surprise checks by senior officers at such points during every month.
- (9) Evolving a monitoring system for collation of information regarding livestock depredation/human injury/loss of human life/large scale crop depredation by wild animals through wireless and prompt payment of compensations as per Citizens' Charter.
- (10) Wherever half eaten carcasses of livestock on account of carnivore depredation are reported, such carcasses should be incinerated in the presence of a gazetted officer to eliminate the possibility of poisoning for revenge killing by local people.
- (11) In areas where more than three incidents of livestock de-predation are reported within a fortnight, continuous monitoring based on field evidences should be done by deploying trackers.
- (12) Ensuring periodic monthly meetings with the neighbouring district officials for exchanging wildlife crime dossiers to facilitate joint action.
- (13) Exchange of crime dossiers with local police to facilitate their updation, apart from organising monthly review meetings with the Superintendent of Police.
- (14) Periodic meetings with the District Judge to expedite the disposal of pending cases relating to wildlife offences.
- (15) Organizing surprise raids jointly with the local police in railway stations, local trains, bus-stops, buses, catchers and cafeteria.
- (16) Ensuring special site-specific protection measures, during monsoon as 'Operation Monsoon' — Considering the terrain and accessibility of Protected Areas.
- (17) Organising inter-state meetings at least once in three months, specially to exchange wildlife crime data between border Parks/Tiger Reserves/Sanctuaries.
- (18) The area should be constantly monitored to ascertain the presence of gangs and wandering pastoral people, apart from keeping an inventory of their temporary settlements.
- (19) Wherever EDCs have been constituted, a village level crime register should be maintained at the EDC level to keep track of villagers involved in wildlife offences.
- (20) At the range level, dossiers of perpetual offenders should be maintained, which may help in tracing new crimes to old offenders.
- (21) Identifying pro-active local persons and imparting them the basics of wildlife crime detection so as to avail their services as and when required as informers.
- (22) Preparing a monthly crime map of each Protected Area on a 1:50,000 scale indicating the locations of

each crime with date. It should also highlight the recorded cases of live stock depredation by carnivores during the period.

- (23) Patrolling camp/chowki staff should be instructed to collect field evidences like pugmarks, plaster cast of foot-prints on a regular basis, so that individual identities of carnivores like tiger can be fixed. This would serve as a continuous monitoring also.
- (24) Laying out impression pads near water points in villages to ascertain the presence of carnivores in the area.
- (25) Constituting a Defence Squads comprising of local, pro-active villagers at the EDC level, which can assist the PA staff in apprehending miscreants involved in wildlife poaching.

It is requested, keeping the above in mind, suitable directives may be issued to the field formations under intimation to this Ministry.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:-

1. Addl. DGF (WL)
2. Forests Secretaries (All States)
3. Director, Project Elephant.
4. Deputy Directors, Wildlife Preservation (Northern/Southern Eastern/ Western Region).
5. Joint Director (WL ) & Joint Director, Project Tiger

Sd/-  
Member Secretary (NTCA)







सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Ph (O)3389645 (R) 6264266 Telefax: 3384428  
E-mail: (O) dirpt@envfor.delhi.nic.in  
(R) rajeshgopal@vsnl.net

No. 1-16/2002-PT

Dated the 21st June 2002

To,

Chief Wildlife Wardens  
(All States)

Sir,

As you are kindly aware, the guidelines for execution of Project Tiger has laid down mandatory provisions for States Governments to review, from time to time, the progress in implementation of the project with a view to evaluate its performance. In this regard, a directive was sent from this Ministry vide letter No. F. No. 1-6/2001-PT dated 10th September, 2001, for constituting a 'Monitoring and Evaluation Committee' at the level of State Government, in consultation with identified Institutes/Centres of excellence in States. The action taken in this regard from your end has not been communicated to this Ministry so far.

For close monitoring at the level of Government of India, the formats for monthly, half yearly and annual reports are appended for ready reference, It is requested that the information sought in these formats may be sent to this Ministry as below:-

1. Monthly Report - by the 20th of the month following to which it relates.
2. Half Yearly Report - within 2 months of the expiry of the half year to which it relates.

With the Second Half Yearly Report an analytical report should also be submitted which should contain a comprehensive assessment of the project, highlighting the problems, current issues and achievement of physical and financial targets and bottlenecks.

3. Annual Report - 1st Week of June following the financial year being reported upon.

It is requested that the Field Directors may please be directed for needful action and compliance in this regard.

Yours sincerely,

Sd/-

Member Secretary (NTCA)



सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

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(R) rajeshgopal@vsnl.net

F.No. PS (DIR)-PT 2003

Date 9th April, 2003

To,

Field Director  
(All Tiger Reserves)

**Sub: Regulation of Tourist Visitation in Tiger Reserves**

Sir,

As you are aware, there is considerable tourist influx (both inland and foreign) in many of our Protected Areas and Tiger Reserves, which necessitate regulation of such visitation in the interest of minimizing the biotic disturbance to wild animals and their habitat. It must be borne in mind, ecotourism should be fostered in the right perspective in these areas, so that there is no compromise or trade-off in wildlife interests, since our Tiger Reserves are ecotypical repositories of valuable gene pool. Hence, the following may be ensured in this regard:

- The tourist visitation should be regulated as per the carrying capacity of the area.
- In place of open gypsies and smaller vehicles, medium sized buses, with a closed body and sliding windows, may be used for park excursions. This will minimize the risk of close encounters with wild animals, apart from reducing the number of vehicle inside the park at any point of time.
- A minimum mandatory distance of at least 500 meters should be maintained between two vehicles plying on the same road.
- A minimum mandatory distance of 30 meters should be maintained by tourist vehicles while spotting a tiger or any other wild animal.
- The route guides should be more professionally trained and penalty should be imposed on visitors in case they violate park rules.



Further, a model calculation of the Tourist Carrying Capacity is also appended for ready reference, which is fairly robust and can be computed in a site-specific manner by collecting some basic field data. It is requested, this computation may please be done for your Reserve and this Ministry may be apprised accordingly. Since a certain amount of risk is always involved in jungle excursions despite all precautions, a standardized 'Indemnity Bond' may also be prescribed indemnifying the park authorities from litigation / arbitration which may arise on account of accidents suffered by tourist during park round. All due formalities in this regard may be completed before the tourists are allowed entry into the Tiger Reserve. Under no circumstance tourist excursions should be allowed during the night. It goes without saying, apart from causing immense disturbance to wild animals, such ventures are extremely risky. It is also reiterated, no tourist facilities should be created in the 'Core Zone' of a Tiger Reserve.

Yours Sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to: All Chief Wildlife Wardens



# MODEL CALCULATION

## KANHA TIGER RESERVE

### a. Visitation Data

(Average of last 5 years)

Visitors (Indian) : 42971.8

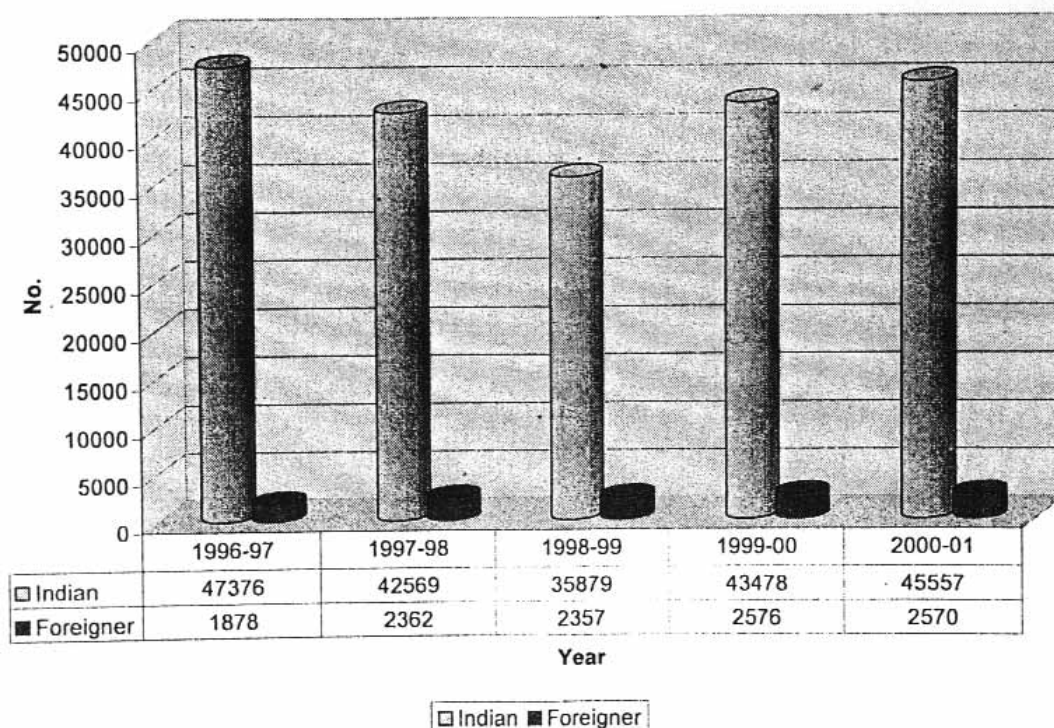
Visitors ( Foreign) : 2348.6

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Total : 45320.4

Number of tourist vehicles per day (average) = 50

### b. Carrying Capacity Computation



#### i Physical Carrying Capacity (PCC)

$$PCC = A \times v/a \times Rf$$

- ✓ Only vehicular movements permitted on forest roads, hence road length is more relevant than area
- ✓ “Standing area” is not relevant, but closeness between vehicles is important

- ✓ There is a required distance of at least 500 m. (½ km.) between 2 vehicles to avoid dust (2 vehicles / km.)
- ✓ At least 3½ km. hours are needed for single visit
- ✓ The PA is open to tourists for 9 months in a year and 9 hours per day
- ✓ Linear road length (for tourists) = 283 km

$$\text{Rotation Factor (Rf)} = \frac{9 \text{ hours}}{3.5 \text{ hours}} = 2.6$$

$$\begin{aligned} \text{PCC} &= 283 \text{ km} \times 2 \text{ vehicles / km.} \times 2.6 \\ &= 1471.6 \text{ or } 1472 \text{ visits / day} \end{aligned}$$

**ii Rear Carrying Capacity (RCC)**

**❑ Road Erosion**

Total Road Length = 283 km. (Mt.)

Medium erosion risk = 50 km. (weightage factor = 2)

High erosion risk = 40 km. (weightage factor = 3)

$$M_1 = 50 \times 2 + 40 \times 3 = 100 + 120 = 220 \text{ km.}$$

$$Cf_2 = \frac{220}{283} \times 100 = 77.8 \text{ or } 78\%$$

**❑ Disturbance to Wildlife**

$$\begin{aligned} \text{Barasingha} = Cf_{w_1} = & \frac{1}{9} \times 100 = 11.1\% \\ \text{(1 month)} & \end{aligned}$$

$$\begin{aligned} \text{Chital} = Cf_{w_1} = & \frac{2}{9} \times 100q = 22.2\% \\ \text{(2 months)} & \end{aligned}$$

$$\begin{aligned} \text{Tiger} = Cf_{w_1} = & \frac{2}{9} \times 100 = 22.2\% \\ \text{(2 months)} & \end{aligned}$$

Overall corrective factor for disturbance of wildlife in Kanha National Park =

$$Cfw = Cf_1 + Cf_2 + Cf_3 = 11.1 + 22.2 + 22.2 = 55.5 \text{ or } 55\%$$

**❑ Temporary closing of sites**

$$Cft = \frac{2 \text{ limiting weeks / year}}{36 \text{ weeks / year}} \times 100 = 5.5\%$$

$$RCC = PCC \times \frac{100 - Cf_e}{100} \times \frac{100 - Cf_w}{100} \times \frac{100 - Cf_t}{100}$$

$$1472 \times \frac{100 - 78}{100} \times \frac{100 - 55}{100} \times \frac{100 - 5.5}{100}$$

$$1472 (0.22 \times 0.45 \times 0.95)$$

138.4 or 138 visits / day

### iii Effective Permissible Carrying Capacity

(MC = Managerial Capacity = 40%)

$$EPCC = RCC \times MC$$

$$138 \times 0.40 = 55.2 \text{ or } 55 \text{ vehicles / day}$$



IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India



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(R) rajeshgopal@vsnl.net

No.PS/Dir(PT)/2004-Misce.

Dated the July 22, 2004

To

The Field Directors  
(All Tiger Reserves)

**Sub: Preventive measures/surveillance for Trypanosomiasis in wild, free ranging conditions.**

Sir,

As you are aware, Trypanosomiasis (commonly known as Surra), is an acute, sub-acute or chronic disease caused by a protozoa (*Trypanosoma evansi*). The disease is characterized by fever, progressive emaciation, anemia, neural symptoms and death. While in dogs and cats the disease is a acute and fatal, it may become chronic in ruminants. The disease is reportedly an enzootic one occurring in domestic animals. However, several references are available relating to free ranging wild animals also, and the outbreak has been observed during the onset of monsoon synchronizing with the breeding activities of flies. In our country, the transmission of this disease occurs due to blood sucking flies belonging to genera *Tabanus* and *Stomoxys* which serve as vectors. The wild animal may get infection by feeding on an infected carcass/prey animal or through the flies. The *Tabanus* fly lives along fresh water ponds or rivers, whereas *Stomoxys* breed on decomposing fecal or waste matter, especially from cattle shed. Since chances of infection to in-situ population of wild animals exists, the following preventive measures are suggested:-

1. Population control of flies around cattle sheds by destroying their breeding area in peripheral villages of Tiger Reserves.
2. Control of disease in domestic animals in villages in and around Tiger Reserves.
3. Controlling the movement of nomadic and village cattle inside Tiger Reserves.
4. Surveillance of the disease and prophylactic treatment of sick and reservoir domestic animals at the periphery of Protected Areas/Tiger Reserves.
5. Periodical surveillance of diseases in wild and domestic animals at waterholes and grazing lands near peripheral villages.
6. Treatment of suspected animals particularly of threatened species.
7. Ensuring a regular monitoring system through wireless, involving the Eco-development Committees.

Yours Sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to :

1. Principal Secretary /Secretary. Forest Department (All States having Tiger Reserves)
2. Principal Chief Conservator of Forests (All States)
3. Chief Wildlife Wardens (All States having Tiger Reserves)

# DEPARTMENT OF WILDLIFE HEALTH AND MANAGEMENT

College of Veterinary Science & Animal Husbandry,  
Jawaharlal Nehru Krishi Vishwa Vidyalaya, JABALPUR-482001

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**DR. A.B. SHRIVASTAV**  
M.V.Sc&AH(Path), Ph.D(Hons), PG Dip Wildlife Mgt.(WII)

MPVC Reg.No. 0563/96  
RMP Reg.No. MP/32871/87

Professor & Incharge  
and  
Wildlife Health Co-ordinator  
Tele: 0761-627150(o)  
Email: avadh@mantrafreenet.com

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WILDLIFE HEALTH MONITORING DISEASE DIAGNOSIS AND RESEARCH CELL - Principal Investigator  
(A Collaborative Project Between INKVV and State forest Department )  
CENTRAL REGION, INDIA WILDLIFE HEALTH CO-OPERATIVE - Co-ordinator for Central India

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No./CZA/ letter /Vety/2004

Date 20.7.2004

## TRYPANOSOMIASIS

Surra (Trypanosomiasis) is an acute, subacute or chronic diseases caused by *Trypanosoma evansi* and is characterized by fever, progressive emaciation, anemia, subcutaneous oedema, nervous signs and death. In dogs and cats disease may be acute and fatal, whereas in ruminants, camel and horse the disease may run a chronic course.

From present knowledge it is likely that Trypanosomiasis is an enzootic disease and depend on large durations of infection available, refers almost exclusively to domestic animals and only a few references to free range wild animals have been found (Wells and Lumsaen. 1971). Generally the disease is observed during the onset of monsoon along with increase breeding and activities of flies.

In India, the disease is transmitted by blood sucking biting flies of genera *Tabanus* and *Stomoxys*. These flies mechanically transmit the disease from infected animals to healthy animals (Domestic to domestic, wild to wild or wild to domestic or vice versa). The wild carnivore may get infection by feeding on infected carcasses / prey.

The vector blood sucking flies *Stomoxys* breed on decomposing faeces or waste of cattle-shed. The *Tabanus* fly live in fresh water of river or pond or on the banks.

### Control:

1. Population control of flies around cattle sheds by destroying their habitat.
2. Control of disease in domestic animals
3. Control of the movement of nomadic animals
4. Surveillance of the disease and prophylactic treatment of sick and reservoir domestic animals at the periphery of Protected Areas.
5. Periodical surveillance of diseases in wild and domestic animals at common interaction (waterholes and grazing lands) of peripheral villages.
6. Treatment of suspected animals particularly or threatened species.

Drugs: Triquin Trypanil, Antrypal, Antricide prosalt, Berenil







सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

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(R) rajeshgopal@vsnl.net

No.PS-DIR(PT)/2005-MISCE.

Dated February 28, 2005

To

Principal Chief Conservator of Forests  
(All Tiger Reserve States)

Sir,

The All India estimation of tigers co-predators and prey animals would be conducted from November, 2005 to February, 2006. This Ministry would be deputing a panel of experts /supervisors for assisting and overseeing the estimation work in States. While detailed guidelines in this regard would be sent in the near future, you are requested to maintain a monthly monitoring data of tigers seen in the various forest divisions and protected area outside the Tiger Reserve, in the prescribed format annexed with this letter w.e.f. 01-04-2005. the number of evidences pertaining to tiger presence (pug mark, seats, kills) should be recorded during the last seven days in a month by field staff. While counting pugmarks, care should be taken to take note of only one pug mark from a track pertaining to a single animal. The total number of pug marks/scats/kills pertaining to tiger in the area should be compiled range-wise for each division, and the collated circle level information has to be maintained month-wise in the office of the Chief Wildlife Warden.

The field staff may be directed to maintain the range level records for supervisory checks by the expert team of this Ministry. This may please be accorded the most priority. As the information is crucial to ascertain the status of tiger presence in areas outside the Tiger Reserves, all Conservators, Divisional Forest Officers and Protected Area Managers may be directed accordingly under intimation to this Ministry.

Yours Sincerely,

Encl: As above.

Sd/-  
Member Secretary (NTCA)

Copy to :

1. Forest Secretary ( All Tiger Reserve States)
2. Chief Wildlife Warden (All Tiger Reserve States)
3. Field Director (All Tiger Reserve States)

Sd/-  
Member Secretary (NTCA)

No.PS-DIR(PT)/2005-MISCE.

Dated the March 7, 2005

To

The Field Directors  
(All Tiger Reserves)

**Sub: Sighting frequency of tigers.**

Sir,

I am enclosing a datasheet on tiger sightings as seen by tourists/staff in the Tiger Reserve. It is requested, the yearly data from 1999 to 2004 (Calendar Years) may please be furnished in the enclosed format along with the number of tourists who visited the reserve and the total number of tigers estimated during the year.

This may please be given topmost priority as the information is urgently required for a review.

Yours sincerely,

Encl.: As above.

Sd/-  
Member Secretary (NTCA)







सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

Bikaner House, Annexe-V  
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E-mail: (O) dirpt\_r@hub.nic.in  
(R) rajeshgopal@vsnl.net

No.PS-DIR(PT)/2005-MISCE.

Dated the April 11, 2005

To

The Field Directors  
(All Tiger Reserves)

Sir,

This Ministry has been informed about the incidence of foot and mouth disease (FMD) in gaur recently in the Periyar Tiger Reserve. You are advised to alert the field staff for necessary preventive measures in consultation with local veterinarians. The peripheral areas of the Tiger Reserve close to human settlement may be carefully observed for the occurrence of this disease. Note on this disease is enclosed for guidelines.

Yours sincerely,

Encl.: As above.

Sd/-  
Member Secretary (NTCA)



# NOTE OF FOOT AND MOUTH DISEASE (FMD)

## FMD :

Foot-and-mouth disease (FMD), sometimes called hoof-and-mouth disease, is a highly contagious but not-fatal viral disease of cattle and pigs. It can also infect deer, goats, sheep, and other animals with cloven hooves, as well as elephants, rats and hedgehogs. Horses are not susceptible to FMD. The cause of FMD was first shown to be viral in 1897 by Friedrich Loeffler.

FMD occurs throughout much of the world, including parts of Europe, Africa, Asia and South America. While currently (July 2001) some countries, including Canada, the United States, and Australia have been free of FMD for some time, its wide host range and rapid spread represent cause for international concern. There was an outbreak of FMD in Britain in 2001 which resulted in the slaughter of many animals. There has been a recent alert in the EU regarding this disease.

## SYMPTOMS:

In cattle, foot-and-mouth disease is characterized by high fever that declines rapidly after two or three days; blisters inside the mouth that lead to excessive secretion of stringy or foamy saliva and to drooling; and blisters on the feet that may rupture and cause lameness. Adult animals may suffer weight loss from which they do not recover for several months, and in cows, milk production can decline significantly, though most animals eventually recover from FMD, the disease can lead to myocarditis (inflammation of the heart muscle) and death, especially in newborn animals. Some infected animals remain asymptomatic, that is, they do not suffer from or show signs of the disease; but they are carriers of FMD and can transmit it to others.

Infection with foot-and-mouth disease tends to occur locally, that is, the virus is passed on to susceptible animals through direct contact with infected animals or due to contamination. The clothes and shoes of persons coming in contact with infected animals, standing water, infected animal products can harbor the virus as well. Cows can also catch FMD from the semen of infected bulls. Control measures include quarantine and destruction of infected animals.

## CLINICAL SIGNS:

The interval between exposure to infection and appearance of symptoms varies between twenty-four hours and ten days, or even longer. The average time is three to six days.

FMD can be transmitted to susceptible animals when they are exposed to the following: people wearing contaminated clothing or footwear ; infected animals added to a herd or flock; contaminated facilities or equipment or the farm; contaminated transport vehicles; or contaminated water, hay, feedstuffs, hides, or pharmaceuticals. Airborne spread is possible up to 40 miles over land and 180 miles over water.

Authorities must dispose of carcasses by burial or burning, and disinvest facilities. Restocking is done after the facility has been vacant for a minimum of 30 days, and new animals are closely observed for recurrence of infection.

## PREVENTIVE MEASURES:

- Put staff on high alert and have any incident of FMD reported immediately.
- Grazing of animals to be totally prohibited in the sanctuary.
- Cattle in the vicinity to be vaccinated.
- Footpaths and rights of way to be closed in the core area of disease occurrence.
- No outside individual to be allowed inside forests. All trekking programmes inside forests to stand suspended.
- An individual visiting an infected area, should disinfect all footwear and clothes used at time of visit. Wash with plenty of soap and water; and disinfect any item that may have come into contact with infected animal.
- To disinfect use acid or alkali ph and make sure that no organic material clings to shoe or clothing.





सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Ph (O) 3389645 (R) 24652901 Telefax: 3384428  
E-mail: (O) dirpt\_r@hub.nic.in  
(R) rajeshgopal@vsnl.net

No.PS-DIR(PT)/2005-MISCE.

Dated the April 13, 2005

To

The Field Directors  
(All Tiger Reserves)

Sir,

I am enclosing a note on the DNA typing facility available at the CCMB Hyderabad, which would be useful for establishing identity of seizures. The contact address is as below:

Dr. Lalji Singh  
Director  
Centre of Cellular and Molecular Biology  
(Council of Scientific & Industrial Research)  
Uppal Road,  
Hyderabad - 500 007.  
(Phone: 040-27160789)

Yours sincerely,

Encl.: As above.

Sd/-  
Member Secretary (NTCA)



# Centre for Cellular and Molecular Biology, Hyderabad

## ESTABLISHING THE IDENTITY OF THE FORENSIC SAMPLES TO LEVEL OF FAMILY, GENUS AND SPECIES.

### How does this approach work?

The approach, which we are using for forensic identification of the species of the biological samples, is based on a set of novel indigenous primers developed in CCMB. This approach works based on a well known and widely accepted concept that each and every species of animal kingdom can be distinguished and identified based on the signature sequences present in its genome. Our approach delineates these molecular signature from an unknown biological sample, which when compared with the molecular database generated and maintained at the CCMB, reveal its identity to the level of its family, genus and species. The PCT and US patent for this approach has already been filed (*Verma, S.K.Singh , L.Universal approach of species identification for forensic applications*).

### What are the different samples that can be examined?

Since our approach examines the DNA profile (molecular signatures) of the unknown samples to reveal their identity, any type of biological material that may yield the DNA can be used for examination. Both fresh as well as dried tissue samples can be used for DNA extraction. It may include whole blood, blood stains, hairs, bones, meat flesh , skin pieces, tooth pulp etc.

### Who should collect the biological samples?

It is essential for persons who collect biological samples to have some knowledge of DNA extraction and testing procedures so that he or she can take precautionary measures to ensure the integrity of DNA during collection.

### What should be the quantity/ amount of different biological material?

Although small quantities of biological samples can yield sufficient DNA for profiling, it is always prudent to obtain as much forensic specimens as reasonable.

### How to store and transport various biological samples?

To minimize loss of quantity and quality of DNA, it is necessary to properly store the samples after collection. Recommended storage conditions for fresh samples are 40C, for storing 1-2 days and -200C to -700C for storing more than 2 days. In case of blood samples, EDTA should be added as an anticoagulant at the time of collection. Proper hygiene must be maintained while collecting the samples.

Dry samples should be collected in clear envelopes to avoid any possible contamination. These packets should be kept either in a cool and dry place or in frozen condition.





Autopsy specimens should be properly wrapped in aluminium foil, closed in polythene bags and frozen quickly.

All relevant information, like type of specimen, date of collection, etc, must accompany each and every sample.

Sometimes, the quantity of forensic specimens is small and limited and cannot be obtained second time. These materials should essentially be stored at low temperatures, as described, or fixed in a solution like normal saline (0.85% solution of sodium chloride). They can also be placed in lysis buffer containing 100 mM Tris-HCl, pH 8.0, 50 mM EDTA and 0.2% SDS and then transported at room temperature for short periods or low temperature (in dry ice) for long period transportation.

### **Can the cooked /half cooked meat and putrefied samples also be examined?**

It all depends on the recovery of moderately good quality of DNA from such samples. It may be successful in some cases, which of course can be tried in our laboratory.

### **Who is the forwarding authority?**

Any investigation officer (Government or private ) can be a forwarding authority.

### **Is there any specific proforma for details of the samples/identity cards etc?**

As such there is no a strict and specific proforma for the details of samples. However, the minimum information required for examination of a sample , such as information about the handling and storage condition of the sample, date of collection, signed forwarding letter etc, should accompany the forwardal.

### **What, if the scientific evidence is to be submitted and defended in the court of law?**

In such situation the case should be forwarded through the State or Central forensic laboratory, following the regular norms of forwarding a case for forensic investigation. We will submit the report of examination to that particular laboratory, which may later be defended by the scientific representative of that laboratory.

### **What is the current fee for analysis?**

Presently, the examination fee is Rs. 3000 per sample examined. Any number of samples can be forwarded. The number of samples required to be examined and therefore, the total fee of examination depends on the questions that are asked in the forwarding letter to resolve a particular case. The fee of examination can be submitted by demand draft drawn in favour of Director, CCMB, payable at Hyderabad.

This document is examined and approved by Director, CCMB on August 3, 2002.





सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

**PRIORITY**

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Ph (O) 3389645 (R) 24652901 Telefax: 23384428  
E-mail: (O) dirpt-r@hub.nic.in  
(R) rajeshgopal@vsnl.net

No.PS-DIR(PT)/2005-MISCE.

Dated the May 9, 2005

To

The Field Directors  
(All Tiger Reserves)

**Subject: Special anti-poaching strategy for the monsoon.**

**Reference: (1) This Ministry's letter No. F.1-6/2001-PT, dated 11-09-2001  
(2) This Ministry's letter No.1-18/2002-PT, dated 18-06-2002.**

Sir,

Reference is invited to the circulars cited above. As you are aware, during monsoon our Protected Areas and Tiger Reserves become inaccessible, which calls for a specific protection strategy considering the terrain and other site specific problems. During this period, the Tiger Reserve/Protected Area is vulnerable to illicit grazing, felling of trees as well poaching which necessitate surveillance at some sensitive places, viz.:

- Footpath/bridal paths linking Protected Area/Tiger Reserve to outside
- Natural salt licks
- Habitat close to electric transmission lines
- Beehive bearing trees
- Habitat close to human settlements and prone to cattle influx
- Areas close to weekly countryside markets

An appraisal of sensitive points in the habitat and evolving a protection strategy with a round the clock communication through wireless network is absolutely necessary to deal with the situation. The chowkies/patrolling camps may be designated as nodal points for dissemination of information, which should be regularly supervised by senior officers. Special care should be taken of the staff posted in such remote areas to ensure necessary medical assistance, as and when required. Since some areas are endemic to malaria (including cerebral malaria), prophylactic dose may also be required as per medical advice. In

case the Tiger Reserve has trained department elephants, such squads may be deployed at sensitive areas to complement foot patrolling. Some staff members may specifically be deployed for gathering information relating to poaching with a mechanism for day -to- day exchange for vital information. A roster may also be prepared indicating the details of officers/staff and the area entrusted to each for protection.

The Centrally Sponsored Scheme of Project Tiger provides funding support for deployment of anti-poaching squads as well as paramilitary forces (if required). Therefore, in case the situation warrants, proposal for such a deployment may be sent to this Ministry at the earliest. The funding support required for anti-poaching measures may please be faxed to this Directorate at the earliest for the needful.

The field staff may be directed to exercise considerable care and caution, so that the local people are not subjected to undue harassment while implementing the protection strategy. To make the effort participatory, the possibility of establishing reciprocal commitments with locals for protecting the habitat should be given top priority to prevent undue park-people conflicts in the landscape.

An early response in this regard is requested from your end.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. Principal Secretary /Secretary (Forests) (All Tiger Reserve States)
2. Principal Chief Conservator of Forests (All Tiger Reserve States)
3. Chief Wildlife Wardens (All Tiger Reserve States)

Sd/-  
Member Secretary (NTCA)

- Copy also to :
1. PPS to Secretary (E&F)
  2. PPS to DGF & SS
  3. PPS to Addl. DGF (Wildlife)

Sd/-  
Member Secretary (NTCA)





सत्यमेव जयते

IGF & Director (Project Tiger)  
Ministry of Environment & Forests  
Government of India

**INFECTIOUS  
DISEASE ALERT**

Bikaner House, Annexe-V  
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Ph (O) 23389645 (R) 24652901 Telefax: 23384428  
E-mail: (O) dirpt-r@hub.nic.in  
(R) rajeshgopal@vsnl.net

No.PS-IGF(PT)/2005-MISCE.

Dated the November 29, 2005

To

Chief Wildlife Wardens  
(All States)

Sir,

I am enclosing a copy of a research article on probable tiger to tiger transmission of avian influenza. It is learned that the H5N1 virus is fatal to tiger, specially those fed on raw chicken carcasses. You are requested to alert the Zoo Directors as well as Protected Area Managers and Field Directors of Tiger Reserve in this regard. Meanwhile, we are requesting the IVRI for prophylactic measures, which will be communicated to you soon.

Yours sincerely,

Encl: As above.

Sd/-  
Member Secretary (NTCA)

Copy to :

1. PPS to Secretary (E&F)
2. PPS to DGF & SS
3. PPS to Addl. DGF (Wildlife)

Sd/-  
Member Secretary (NTCA)

Copy also to : Field Directors (All Tiger Reserves)

# Probable Tiger-to Tiger Transmission of Avian Influenza H5N1

Roongroje Thanawongnuwech,\* Alongkorn Amonsin,\* Rachod Tantilertcharoen,\* Sudarat Damrongwatanaokin,† Apiradee Theambooniers,\* Sunchai Payungporn,\* Kamonchart Nanthapornphiphat,‡ Somchuan Ratanamungklanon,§ Eakchai Tunak,§ Thaweesak Songserm,¶ Veravit Vivatthanavanich,# Thawat Lekdumrongsak,\* Sawang Kesdangsakonwut,\* Schwann tunhikorn,\*\* and Yong Poovorawan\*

During the second outbreak of avian influenza H5N1 in Thailand, probable horizontal transmission among tigers was demonstrated in the tiger zoo. Sequencing and phylogenetic analysis of those viruses showed no difference from the first isolated obtained in January 2004. This finding has implications for influenza virus epidemiology and pathogenicity in mammals.

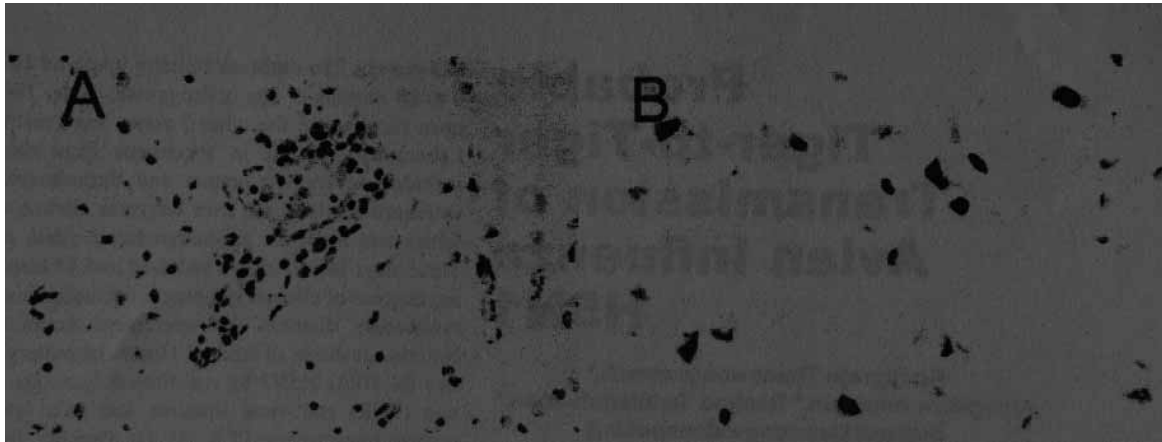
In mid-January 2004, an epizootic outbreak of highly pathogenic avian influenza (HPAI H5N1 strain) was reported in poultry and various other birds in Thailand (1). Two tigers (*Panthera tigris*) and 2 leopards (*P.pardus*) in a zoo in Suphanburi, Thailand, died after experiencing high fever and respiratory distress; H5N1 infection was later confirmed as the cause of the illness (2). The animals has been fed raw chicken carcasses that were possibly contaminated with the HPAI H5N1 virus. A tiger zoo in Srirach, Chonburi, Thailand, was affected by HPAI beginning of October 11, 2004.

## The Study

The site of the HPAI outbreak is the biggest tiger zoo in Thailand, housing 441 tigers in 3 zones; breeder nursery, and grower. The outbreak initially involved 16 tigers from 6 to 24 months of age in the grower zone. This zone was open for display, the other 2 zone were restricted areas. Laboratory findings in specimens from these animals included severe leucopenia and thrombocytopenia and increased levels of the liver enzymes alanine aminotransferase and aspartate aminotransferase (data not shown) Three day later, 5 tiger had died and 14 displayed varying degrees of clinical symptoms, including high fever and respiratory distress. All specimens submitted to the National Institute of Animal Health laboratory were positive for HPAI H5N1 by real-time polymerase chain reaction (PCR) and virus isolation and later confirmed by reverse transcriptase-PCR (3). On October 16, 2004, the tigers were fed cooked chicken carcasses or pork. Samples of raw chicken carcasses from the local suppliers were tested by using egg inoculation; 1 sample was positive for H5N1 virus. All animals that died had serosanguinous nasal discharge, and some had neurologic signs of infection. Necropsy was performed on 3 tigers on October 18. The lungs were severely congested and had been hemorrhaging. Serosanguinous exudate was seen throughout the tracheal and bronchiolar lumen, and pleural effusion was also seen. Microscopic findings showed moderate congestion of the brain with mild non-suppurative meningoencephalitis (Figure 1A ), severe diffuse lung hemorrhage and edema, and moderate multifocal necrotizing hepatitis. Immunohistochemical procedures were performed on all tissue by using mouse monoclonal antibody to the nucleoprotein of influenza A H5N1 (B.V European Veterinary Laboratory, Woerden, the Netherlands). Strongly positive, brown staining was prominently displayed in the

\*Chulalongkorn University, Bangkok, Thailand, †National Institute of Animal Health Bangkok, Thailand ; ‡Sriracha Tiger Zoo, Chonburi, Thailand; §Eastern Veterinary Development Center, Chonburi, Thailand, ¶Kasetsart University, NakornPathom, Thailand; Chonburi Governor office, Chonburi, Thailand; and \*\* National Park Wildlife and Plant Conservation Department, Bangkok, Thailand





**Figure 1** Histopathologic and immunohistochemical evidence of H5N1 virus in tiger:  
 A) Mild multifocal nonsuppurative encephalitis;  
 B) Influenza A virus antigen in nuclei and cytoplasm visible as brown staining.

nuclei of the hepatocytes and in the cerebral neurons. Positive staining of both nuclei and cytoplasm was also apparent in the neurons (Figure 1B) and bronchiolar epithelium.

Because the number of sick animals increased, the moribund animals were euthanized on October 20, 2004. Oseltamivir (Roche, Basel, Switzerland) (75mg/60 kg) was administered twice daily to the healthy tigers (4). On October 23, another sick tiger was found in the grower zone. The increasing numbers of sick tiger demonstrated the potential of tiger-to-tiger transmission (Figure 2). The incubation period was determined to be = 3 days, since the infected tigers died 3 days after clinical signs were observed. Nasal swabs and blood samples were obtained from both infected and healthy tigers in the other 2 zones only 3 nasal swab samples from the infected zone were positive. Rectal swabs were then taken from the 3 sick animal; I was positive on egg inoculation. The remaining 42 tigers in the infected zone were euthanized to stop tiger-to-tiger transmission on October 28; a total of 147 tigers died or were euthanized. One week after the tiger in the grower zone were euthanized, 55 nasal swabs and serum samples (18.7%) obtained from the tigers in the other 2 zones were tested every week for a 2-week period by using real time-PCR and egg inoculation. None of the samples was positive. Four weeks after the last tiger was infected, 58 serum samples were obtained from all humans that had been in contact with either the animals or their tissue or fluid, including veterinarians; these samples were tested twice by microneutralization for the H5N1 virus. Seroconversion (1:80, =1:640) occurred 6 weeks after the incident in only 2 (3.5%) persons who had shown no clinical signs of illness. To mitigate the risk for human infection and the potential for genetic reassortment, all persons involved in the incident were advised to take the commercially available human influenza vaccine (H3N2) for the 2003 - 2004 season.

Epidemiologic surveillance tests for the H5N1 virus were performed on the zoo animals and 11 wild avian species near the tiger zoo. Neither sickness nor death from the H5N1 virus had been observed in any of these animals before. Before reopening the zoo 3 weeks after the last infected tigers had died or been euthanized, water and soil samples or swabs from the tiger cages were tested by using egg inoculation. None of the samples was positive.

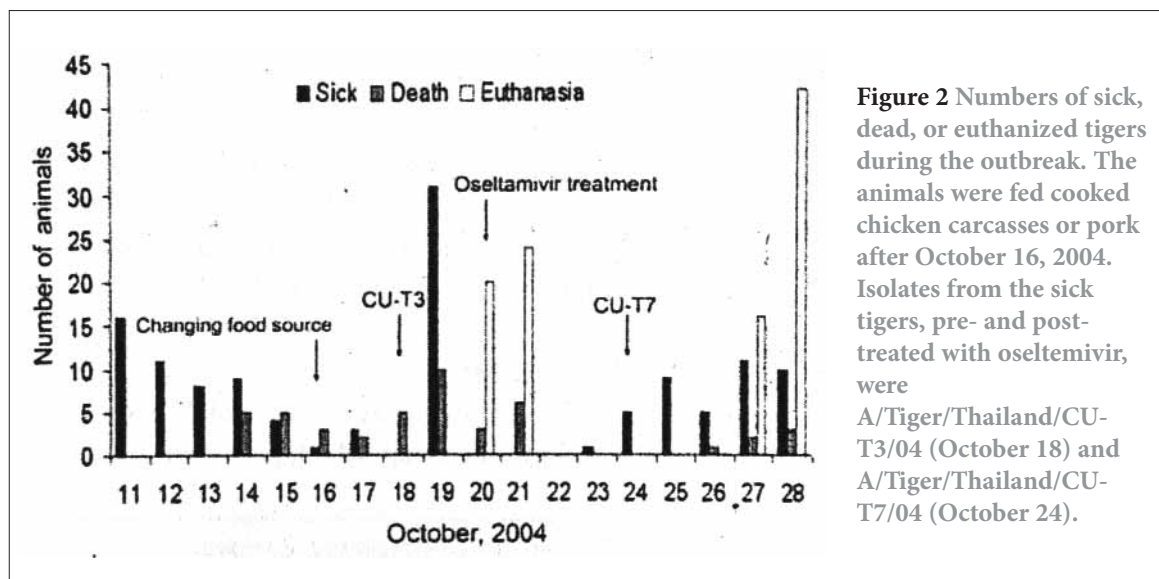
Influenza A virus was isolated from the sick tigers nasal swabs; A/tiger/Thailand/CU-T3/04 (HA and NA gene; AF842935-6; PB2 and NS gene; AY907672-3) was initiated from those pretreated with oseltamivir, and A/Tiger/Thailand/CU-T7/04 (hemagglutinin [HA] and neuraminidase [NA] gene; AY866475-6, PB2; AY907671 and NS; Ay907674) was isolated from those posttreated. Sequencing and phylogenetic analysis of



the HA and NA genes of the H5N1 isolates in this outbreak showed that they were similar to each other as well as to those of the virus obtained from the earlier cases identified in 2004 (data not shown). The HA gene contained a glutamine at position 222 (226 in H3) in HA1 and 4 polybasic amino acid insertions at the cleavage site, which had also been found in other recent H5N1 isolates from chicken and tigers(1,2). However, no mutation of histidine to tyrosine was seen at position 274 of the NA molecule after oseltamivir treatment. In both isolates, a single amino acid substitution glutamine to lysine, was observed at the position 627 in the PB2 protein responsible for H5N1 pathogenicity in mammals (5), and a 5-codon deletion was found in the NS gene, similar to the H5N1 viruses isolated in the same epidemic.

## Conclusions

The H5N1 virus is fatal to tigers, a conclusion also drawn in our previous report (2). The last case of the H5N1 virus infection was found in the tigers on October 28, 2004. The tigers had not been fed raw chicken carcasses in = 12 days, and no other avian or mammal species kept in the zoo had been infected during this outbreak. our results demonstrated that tigers kept in captivity are at risk for infection with and dying of the H5N1 virus; moreover, they could be infected by horizontal transmission since raw chicken carcasses represent the main food item for them. Alternative food for the tigers should be considered to reduce the risk for infection. Epidemiologic data obtained from this study demonstrated that all tigers that became ill after October 23, 2004, were probably infected by horizontal transmission since the animals had not been fed raw chicken carcasses since October 16. Administration of oseltamivir therapy could suppress and prolong the incubation period of the H5N1 virus infection, but it is unlikely.



To date, illness in tigers due to H5N1 infection is of the same severity as that in the H5N1 virus in cats (6). The serosanguinous nasal discharge seen in the sick tigers before death is likely due to severe thrombocytopenia. Results of laboratory findings, except liver enzyme levels, for the sick tigers were similar to the findings reported earlier in the pediatric cases (7). Positive staining for the NP protein of influenza A in the nuclei of the hepatocytes might indicate that a heavy virus load had passed through the digestive tract after the infected chicken carcasses were eaten, affecting the liver, particularly the hepatocytes, and possibly causing hepatic failure. Unlike results derived from experiments with cynomolgus monkeys (8), we were able to demonstrate H5N1 viral antigen in several organs of the infected tigers. The evidence of nonsuppurative encephalitis shown in the previous study (2) confirmed the involvement of H5N1 virus, as was apparent by

using immunohistochemical procedures. H5N1 infection in tigers can induce neurologic signs and encephalitis similar to that observed in other mammals (9). Neurotropism of the H5N1 virus in mice as part of the pathogenesis subsequent to infection by human influenza virus isolates has been reported (10). Further studies will be required to elucidate the pathogenesis of the H5N1 virus in felines.

In vitro studies have demonstrated the potent antiviral activity of oseltamivir against all strains of influenza A tested, including the avian H5N1 virus recently implicated in human influenza cases in Hong Kong (11). In this study, the failure of treatment might have been attributable to various factors such as dosage, pharmacokinetics, or host metabolism, since no changes were seen in the neuraminidase. Application of antiviral therapy to those sick tigers has not been sufficiently researched and, hence, requires additional data.

## Acknowledgments

We thank the Sriracha tiger zoo staff, Chonburi, Thailand, and K. Oraveerakul, S. Wangnaitam, and P. Wongyanin for laboratory assistance.

The National Bureau of Agricultural Commodity and Food Standards, the Center for Excellence Research Fund, Emergency Fund of Chulalongkorn University, and the Thailand Research Fund, Senior Research Scholar gave financial support for this study.

This work was conducted at the Faculty of Veterinary Science and Faculty of Medicine, Chulalongkorn University.

Dr. Thanawongnuwech is a veterinary pathologist at Chulalongkorn University, Bangkok, Thailand. His research interests include swine respiratory diseases and emerging diseases of public health importance.

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Address for correspondence: Yong Poovorawan, Faculty of Medicine, Chulalongkorn University,  
Rama 4 Rd. Pathumwan, Bangkok 10330, Thailand Fax: 662-256-4929 Email: P@chula.ac.th

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the Centers for Disease Control and Prevention or the institutions with which the authors are affiliated.

**MOST URGENT**

No. 7-2/2002-PT (Part-I)

Dated the October 30, 2006

To

The Chief Wildlife Wardens  
(All Tiger Reserve States)

**Subject: All India Tiger Estimation -GPS coordinates.**

Sir,

The GPS coordinates of each beat in the Forest Divisions of your State may please be recorded in degrees, minutes and seconds, using WGS 84 Datum and communicated to the WII by 10-11-2006 positively. A proforma in this regard is appended with the letter for the needful. It is further requested that this may be given topmost priority, since the data is urgently required for finalizing the Phase-I results of the All India Tiger Estimation. The GPS coordinates at each beat may be taken from the Forest Chauki/patrolling camp or any landmark within the beat and the information in the desired is required to be sent in the excel spreadsheet.

Yours sincerely,

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

Copy to

- (1) PS to Director (WII), Dehradun
- (2) Dr. Y.V. Jhala, Scientist (WII), Dehradun
- (3) Field Directors (All Tiger Reserves)







# NATIONAL TIGER CONSERVATION AUTHORITY)

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

MEMBER SECRETARY

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

No. 6(4)/2005-PT (part III)

Dated : 19.02.2006

To

The Chief Wildlife Wardens  
(All Tiger Reserve States)

**Subject: Clarification on concerns vis-à-vis Wildlife (Protection) Amendment Act, 2006.**

Sir,

Some concerns have been raised on the recent amendment to the Wildlife (Protection) Act. It is pertinent to add that the Chapter IV (b) on the 'National Tiger Conservation Authority' has neither repeated nor overridden other parts of the principal Wildlife (Protection) Act, 1972 relating to national parks, sanctuaries, conservation or community reserves. The amendment has the effect of :

- (a) enabling designation of tiger reserves.
- (b) ensuring tiger conservation plan for each such area.
- (c) creating a Tiger Conservation Authority to ensure implementation amongst other provisions.

The recent amendment is compatible with and is in addition to and not in derogation of the principal wildlife (Protection) Act, 1972.

Based on the decision taken during the first meeting of the National Tiger Conservation Authority held on 28.11.2006 under the Chairmanship of the Minister of Environment and Forests, the following clarification are issued, in pursuance of sub-section (2) of Section 380, of Chapter IV (b) of the Wildlife (Protection ) Amendment Act,2006:

- (a) The tiger reserves notified by the State Government prior to coming into force of the Wildlife (Protection) Amendment Act, 2006 shall be eligible for receiving financial assistance. The Field Directors are required to prepare and submit the Tiger Conservation Plan before the expiry of the present management plan after working out the compliance of sub-section (4) of Section 38 V for delineating core and buffer areas.
- (b) The areas of national parks and sanctuaries included in a tiger reserve, where the process of final declaration is yet to be completed, shall be completed under Chapter IV read new Chapter IV B of the Act.





- (c) Provisions of sub-section (2) of Section 38 V of Chapter IV (b) shall be applicable only to the buffer or peripheral areas of a tiger reserve and not to areas notified as national park or sanctuary or those which are in the process of being so and form part of a tiger reserve.
- (d) The process of settlement of rights in areas included in a tiger reserve, where final notification for constituting national park or sanctuaries is yet to be issued, the proceeding would be conducted as per the provisions provided in Chapter IV read with Chapter IV B of the Act.
- (e) As per the procedure followed in the past, which required the States to send proposals for constituting tiger reserves to the Project Tiger, the States may continue to send such proposals to the Tiger Conservation Authority, so as to enable the Authority to ensure the desired requisites vis-à-vis the normative guidelines for declaration of such areas, apart from making provisions for their funding support.

Yours sincerely,

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

Copy to : The Field Director (All Tiger Reserves States)

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

# NATIONAL TIGER CONSERVATION AUTHORITY)

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

MEMBER SECRETARY

Bikaner House, Annexe-V  
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Telefax: 23384428  
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F.No. 15-1/2006-NTCA

Dated : 05.01.2007

To

The Chief Wildlife Wardens  
(All Tiger Reserves)

**Sub: Decisions taken in the first meeting of the National Tiger Conservation Authority-action required from States reg.**

Sir,

Reference is invited to this Authority's letter of even number and date, communicating the minutes of the first meeting of the National Tiger Conservation Authority held on 28th November, 2006 under the Chairmanship of the Minister for Environment and Forests, along with letter no. 6(4)/2005-PT (part III) dated 19.02.2006.

Based on the decisions taken during the meeting under reference, the following directives are issued:

- (1) As required under section 38U of the Wild Life (Protection) Amendment Act, 2006, a State level Steering Committee may be constituted for ensuring coordination, monitoring, protection and conservation of tiger, co-predators and prey animals.
- (2) The workforce comprising of local people should be deployed for wildlife protection in tiger reserves, with central assistance.
- (3) A special recruitment drive should be launched for filling up frontline field staff vacancies in tiger reserves. Preference should be given to local forest dwelling people by, if necessary, relaxing the prescribed qualifications for such posts. The process needs to be completed within a timeframe of six months from the start of the coming financial year (2007-08).



- (4) Preparation of a tiger conservation plan for each tiger reserve should be initiated as required under Section 38 V of the Wild Life (Protection) Amendment Act, 2006, by delineating core and buffer areas, incorporating strategies for wildlife conservation in the core, and joint-collaborative inclusive management in the buffer areas.
- (5) A Tiger Conservation Foundation, as required under Section 38X of the Wild Life (Protection) Amendment Act, 2006, should be established to facilitate and support tiger reserve management.

It is requested, action may please be initiated for early compliance for the above directives.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

1. PS to Minister for Environment & Forests, Paryavaran Bhawan , CGO Complex Lodi Road, New Delhi.
2. PS to Minister of State, Paryavaran Bhawan , CGO Complex Lodi Road, New Delhi.
3. PPS to Secretary (E&F), Paryavaran Bhawan , CGO Complex Lodi Road, New Delhi.
4. PPS to DGF & SS , Minister for Environment & Forests, Paryavaran Bhawan , CGO Complex Lodi Road, New Delhi.
5. PPS to Chief Secretary (All Tiger Reserve States)
6. PPS to Chief Principal Secretary (Forest) (All Tiger Reserve States)
7. PPS to Principal Chief Conservator of Forests (All Tiger Reserve States)
8. Field Director (All Tiger Reserves)

Sd/-  
Member Secretary  
National Tiger Conservation Authority

**GOVERNMENT OF INDIA  
NATIONAL TIGER CONSERVATION AUTHORITY)**  
(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

Dated the 28th February, 2007

**OFFICE MEMORANDUM**

In partial modification of the O.M. of even number dated 18th January, 2007 from this Authority, the terms of reference of the Committee constituted under the Chairmanship of Prof. Madhav Gadgil for suggesting refinement of monitoring process, its dissemination in networking amongst researchers, is amended as below:-

- (i) Appraisal of the monitoring process undertaken in tiger reserves and its review by the IUCN.
- (ii) Discussion on the process with field officers, Wildlife Institute of India, IUCN experts for its enhancement as suited to Indian conditions for application in protected areas including tiger reserves.
- (iii) Suggesting a dissemination strategy in the public domain for the monitoring process.
- (iv) Suggesting a strategy for taking advantage of the locality specific knowledge of local community members in the monitoring process undertaken in tiger reserves.
- (v) Suggesting a strategy for promoting the involvement of researchers working in the field of wildlife conservation in the country in the monitoring process undertaken in tiger reserves.
- (vi) Suggesting a strategy for networking amongst researchers working in the field of wildlife conservation in the country.

Sd/-  
Member Secretary  
National Tiger Conservation Authority

# NATIONAL TIGER CONSERVATION AUTHORITY)

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

MEMBER SECRETARY

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

NO. 1-9/93-PT

Date the July 21, 2007

To

The Field Director  
(All Tiger Reserves)

**Subject : Record of post-mortem examination.**

Sir,

I am enclosing a detailed format for maintaining the record of post-mortem examination of carcass of wild animal species, along with record sheet formats for ectoparasites, endoparasites, laboratory specimen form and a list of diagnosed diseases from materials, in different preservatives and preparations, for your information and guidance. In all cases, the visceral contents should be examined in a reputed laboratory to rule out poisoning.

Yours sincerely,

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

Copy to : Chief Wildlife Warden (All Tiger Range States).

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

# RECORD OF POST MORTEM EXAMINATION

|                            |                               |
|----------------------------|-------------------------------|
| SPECIES: .....             | PROTECTED AREA: .....         |
| AGE: .....                 | LOCALITY: .....               |
| SEX: .....                 | HABITAT: .....                |
| CAPTIVE/WILD: .....        | WEATHER: .....                |
| WEIGHT: .....              | DATE & TIME OF DEATH: .....   |
| AMBIENT TEMPERATURE: ..... | TIME OF PM EXAMINATION: ..... |

## I. HISTORY OF DEATH/ OUTBREAK

1. Clinical signs before death:.....  
 .....  
 .....
  
2. Surroundings of the carcass:.....  
 .....
  
3. Other information:.....  
 .....

## II. EXTERNAL EXAMINATION

- |                                 |                            |
|---------------------------------|----------------------------|
| BODY CONDITION INDEX: .....     | PRESENCE OF WOUNDS: .....  |
| RIGOR MORTIS: .....             |                            |
| SUPERFICIAL LYMPH GLANDS: ..... | MUCOUS-MEMBRANE: .....     |
| NATURAL ORIFICES .....          | OTHER ABNORMALITIES: ..... |

## III. INTERNAL EXAMINATION

|                                |  |
|--------------------------------|--|
| A. SUBCUTANEOUS TISSUE         |  |
| B. BODY CAVITIES               |  |
| 1. POSITION OF VISCERAL ORGANS |  |
| 2. PERITONEAL CAVITY           |  |
| 3. PLEURAL CAVITY AND PLEURA   |  |





**C. RESPIRATORY SYSTEM**

1. LARYNX
2. BRONCHI AND BRONCHIOLES
3. LUNGS (Appearance & colour)
4. LYMPH GLAND
5. DIAPHRAGM

**D. HEPATIC SYSTEM**

1. LIVER (Appearance, size, colour)
2. LIVER TISSUE
3. GALL BLADDER
4. LYMPH GLAND

**E. CIRCULATORY & LYMPHATIC SYSTEMS**

1. Pericardial SAC
2. Heart Muscle
3. Heart Chambers
4. Large Blood Vessels
5. Small Blood Vessels (Mesenteric)
6. Spleen (Appearance, size, colour)
7. Splenic Tissue

**F. DIGESTIVE TRACT**

1. PHARYNX
2. OESOPHAGUS

- |            |  |
|------------|--|
| 3. STOMACH | (i) Rumen<br>(ii) Reticulum<br>(iii) Omasum<br>(iv) Abomasum |
|------------|--|

- |                     |   |
|---------------------|---|
| 4. SMALL INTESTINES | (i) Duodenum<br>(ii) Jejunum<br>(iii) Ileum |
|---------------------|---|

- |                     |  |
|---------------------|--|
| 5. LARGE INTESTINES | (i) Colon<br>(ii) Caecum<br>(iii) Rectum |
|---------------------|--|

- 6 LYMPH GLANDS (Mesenteric)

|   |  |  |
|---|--|--|
| <b>G. UROGENITAL ORGANS</b>   |  |  |
| 1. URINARY BLADDER<br>2. KIDNEYS (Appearance)<br>3. KIDNEYS (Colour and appearance) |  |  |
| 4. REPRODUCTIVE ORGANS  | (i) Testes/ Ovary<br><br>(ii) Penis/Uterus |  |
| 5. LYMPH GLANDS   |  |  |
| <b>H. HEAD</b>  |  |  |
| 1. BUCCAL & NASAL CAVITIES<br>2. TONGUE<br>3. BRAIN AND SPINAL CORD                 |  |  |
| <b>I MUSCULATURE</b>  |  |  |
| <b>J. SKELETON</b>  |  |  |

**IV. SUMMARY OF MAJOR FINDINGS**

.....

.....

.....

.....

.....

**V. SPECIMENS COLLECTED FOR LABORATORY DIAGNOSIS**

1) ..... 4) .....

2) ..... 5) .....

3) ..... 6) .....

**VI. PROVISIONAL DIAGNOSIS**



VII. REMARKS

.....  
.....  
.....

PLACE : ..... SIGNATURE: .....

DATE : ..... NAME : .....

ADDRESS : ..... DESIGNATION: .....

.....



# RECORD SHEET FOR ECTOPRASITES

|                                |                             |
|--------------------------------|-----------------------------|
| HOST: .....                    | PROTECTED AREA: .....       |
| SEX: .....                     | LOCALITY: .....             |
| AGE: .....                     | PRESERVATIVE USED: .....    |
| STATE: (Dead/ill Health) ..... | BODY CONDITION INDEX: ..... |
| COLLECTED BY: .....            | DATE OF COLLECTION: .....   |
| SPECIMEN CONTAINER CODE: ..... |                             |

| Ectoparasite               | Species / Type | Body site | Numbers Present | Numbers Collected | Individual Specimen Container No: | Remarks |
|----------------------------|----------------|-----------|-----------------|-------------------|-----------------------------------|---------|
| 1. Tick                    | 1.             |           |                 |                   |                                   |         |
|                            | 2.             |           |                 |                   |                                   |         |
|                            | 3.             |           |                 |                   |                                   |         |
| 2. Fleas                   | 1.             |           |                 |                   |                                   |         |
|                            | 2.             |           |                 |                   |                                   |         |
| 3. Fleas                   | 1.             |           |                 |                   |                                   |         |
|                            | 2.             |           |                 |                   |                                   |         |
| 4. Lice                    | 1.             |           |                 |                   |                                   |         |
|                            | 2.             |           |                 |                   |                                   |         |
| 5. Mites<br>(Scab / Mange) |                |           |                 |                   |                                   |         |
| 6. Skin Warbles            |                |           |                 |                   |                                   |         |

INVESTIGATOR'S NAME .....

DESIGNATION .....

SIGNATURE .....

DATE .....

ADDRESS .....

.....

.....



# RECORD SHEET FOR ECTOPRASITES<sup>1</sup>

SPECIES: ..... BODY CONDITION INDEX: .....  
 AGE & SEX: ..... FAT RESERVES: .....  
 DATE OF DEATH: ..... CAUSE OF DEATH: .....

| Body Region   | Parasite Type  | Yes / No | Location | Degree of Infection | Individual Container No. |
|---|--|----------|----------|---------------------|--------------------------|
| A. Subcutaneous tissue  | 1. Round worms<br>2. Warble fly larvae<br>3. Other   |          |          |                     |                          |
| B. Body cavities  | 1. Cysts in abdomen<br>2. Cysts in thorax<br>3. Cysts in pelvis<br>4. Filarid worm                     |          |          |                     |                          |
| C. Respiratory system   | 1. Worms in passage<br>2. Lungworm<br>3. Cysts in lung<br>4. Cysts in diaphragm                        |          |          |                     |                          |
| D. Liver and Gall bladder                                       | 1. Flukes<br>2. Tape worms<br>3. Round worms<br>4. Cysts in liver                                      |          |          |                     |                          |
| E. Heart and blood vessels<br>[Take blood smear for protozoans] | 1. Worms in heart muscle<br>2. Cysts in heart muscle<br>3. Filarid worms<br>4. Blood flukes in vessels |          |          |                     |                          |
| F. Digestive system<br>[Take faeces for egg & oocyst count]     | 1. Rumen flukes<br>2. Tapeworms<br>3. Round worms<br>4. Other  |          |          |                     |                          |
| G. Urogenital organs<br>[Collect urine]                         | 1. Kidney worms<br>2. Others   |          |          |                     |                          |
| H. Head   | 1. Eye worm<br>2. Larvae (in cavities)   |          |          |                     |                          |
| I. Muscles  | 1. Round worms<br>2. Cysts   |          |          |                     |                          |

PROTECTED AREA: ..... SIGNATURE:.....  
 LOCALITY: ..... NAME: .....  
 DATE: ..... DESIGNATION: .....  
 ADDRESS: .....

<sup>1</sup>Based on Sachs and Debble (1969)

# LABORATORY SPECIMEN FORM

Please examine the specimen for : .....

|                          |                |
|--------------------------|----------------|
| SPECIMEN NO: .....       | SPECIES: ..... |
| SPECIMEN TYPE: .....     | SEX: .....     |
| PRESERVATIVE USED: ..... | AGE: .....     |
| COLLECTION DATE: .....   | WEIGHT: .....  |
| PROTECTED AREA: .....    |                |

|                          |
|--------------------------|
| DISEASE SUSPECTED: ..... |
|--------------------------|

HISTORY OF AILMENT/ DEATH / OUTBREAK:.....

|   |
|---|
| TIME LAG BETWEEN DEATH & COLLECTION: .....                    |
| TIME LAG BETWEEN COLLECTION & PRESERVATION: .....             |
| MODE OF DESPATCH: Post / rail / air / bus / messenger / ..... |
| TIME OF DESPATCH: .....                                       |

Investigator's name:..... Signature: .....

|                  |                    |
|------------------|--------------------|
| Sender's address | Laboratory address |
|------------------|--------------------|



# DISEASES THAT CAN BE DIAGNOSED FROM MATERIALS IN DIFFERENT PRESERVATIVES

(Zoonotic diseases are underlined)

## (A) FROM FAECES:

| PRESERVATION            | SPECIES             | DISEASE   |
|-------------------------|---------------------|---|
| 1. 10% Formalin         | All species         | Helminthic diseases   |
| 2. 2.5% Pot. dichromate | All species         | Coccidiosis   |
| 3. Refrigeration        | All mammals         | <u>Listeriosis</u>  |
|                         | Ruminants, primates | Paratuberculosis  |
|                         | Birds               | <u>Ornithosis (Psittacosis)</u>   |
|                         | All species         | Coccidiosis, Poisoning  |
|                         | Carnivores          | <u>Salmonellosis, Q. Fever</u>  |
|                         | Bovids              | Canine parvovirus<br>Bovine coronavirus, <i>E. coli</i> , <i>Pseudomonas</i> spp. |

## (B) FROM BODY FLUIDS:

| FLUID TYPE  | PRESERVATION                | SPECIES                                  | DISEASE  |
|---|-----------------------------|--|--|
| 1. Uterine fluid, milk & semen                                      | Refrigeration               | All mammals Bovids<br>Ungulates          | <u>Listeriosis, Brucellosis, Q Fever</u><br>Vibriosis Trichomoniasis               |
| 2. Vesicular fluid of<br>i. Foot & Mouth lesions<br>ii. Pox lesions | 50 % Buffered glycerine     | Ruminants, Pigs, Elephant<br>All Species | FMD<br>Pox   |
| 3. Urine  | Refrigeration               | All species Carnivores<br>All mammals    | Capture myopath<br>Eggs of kidney worm<br><u>Leptospirosis, Poisoning, Q Fever</u> |
| 4. Cervical, vaginal/preputial secretions                           | Refrigeration               | Bovids<br>Ungulates                      | Vibriosis<br>Trichomoniasis  |
| 5. Crop. throat fluid   | Refrigeration               | Birds                                    | Trichomoniasis   |
| 6. Effusion fluid (lung)  | Refrigeration               | Bovids                                   | Pleuropneumonia  |
| 7. Oedematous fluid   | Refrigeration               | All mammals                              | Pseudorabies   |
| 8. Nasal discharge  | Refrigeration               | Ruminants<br>Ungulates<br>Bovids, Pigs   | Schistosomiasis<br><u>Rhinosporidiosis</u><br>Rhino-tracheitis                     |
| 9. Tears  | 50% buffered glycerine (GB) | Ruminants, Pig                           | Rinderpest   |
| 10. Pleural fluid   | Refrigeration               | All mammals                              | <u>Leptospirosis</u>   |

## (C) FROM STOMACH/INTESTINAL CONTENTS :

| PRESERVATION         | SPECIES                            | DISEASE  |
|----------------------|------------------------------------|--|
| 1. Refrigeration     | All species                        | Botulism   |
| 2. "/0.5% chloroform |                                    | Enterotoxaemia (Clostridial)   |
| 3. (No preservative) | All species                        | Poisoning  |
| 4. Refrigeration     | Foetal stomach contents of mammals | <u>Brucellosis</u> , Aspergillosis, Trichomoniasis, Vibriosis, Listeriosis, Mycotic abortion |

## (D) FROM BLOOD:

| FLUID TYPE                        | PRESERVATION             | SPECIES  | DISEASE   |
|-----------------------------------|--------------------------|--|---|
| 1) Whole blood (in anticoagulant) | a) Refrigeration         | Ungulates<br>All species<br>All species<br>Primates<br>Equines<br>All species<br>Ruminants, Pig<br><br>Carnivores<br>All species | Blue tongue<br><u>Leptospirosis</u><br>Botulism, <u>Q Fever</u><br><u>KFD</u><br>Afr. Horse Sickness<br>Poisoning<br>Black quarter, Vibriosis<br>Rinderpest, Hog Cholera<br>Canine parvovirus<br>Erysipelas |
| 2) Whole blood (in EDTA)          | b) Refrigeration         | Ruminants<br>Wild Pigs<br><br>Carnivores   | MCF, Rinderpest<br>African Swine Fever<br>Hog cholera<br>Feline panleukopenia   |
| 3) Thin blood smear               | —                        | All species<br><br>Birds<br>All species<br><br>Carnivores<br>Primates  | Blood protozoan diseases,<br>Anaplasmosis, Haemofilarid<br>Fowl cholera<br><u>Anthrax</u><br><u>Trypanosomiasis</u><br>Pasteurellosis<br>Feline enteritis<br><u>KFD</u>                                     |
| 4) Serum                          | Refrig/Freez/0.5% Phenol | All species  | All infectious diseases   |



## (E) IMPRESSION AND /OR SMEARS:

| SPECIMEN TYPE                                     | SPECIES                            | DISEASE  |
|---|------------------------------------|--|
| 1. Lung tissue & lymph node                       | All mammals                        | Coccidiomycosis, Theileriasis  |
| 2. Lesions of affected organs                     | All species<br>Ruminants           | Tuberculosis, Protozoan diseases<br>Actinomycosis, Actinobacillosis          |
| 3. Brain  | All mammals                        | Rabies, Listeriosis  |
| 4. Foot lesions                                   | Ruminants                          | Necrobacillosis  |
| 5. Pus, fluid, exudate                            | Ruminants                          | Black quarter, Actinobacillosis, Actinomycosis                               |
| 6. Intestinal scrapings                           | All species<br>Ruminants, Primates | Salmonellosis, Paratuberculosis  |
| 7. Fluid of pox-like lesions                      | All species                        | Pox  |
| 8. Faecal smear                                   | Ruminants, Primates<br>All mammals | Paratuberculosis<br>Clostridium perfringens (Type B,C),<br>Cryptosporidiosis |
| 9. Placenta-cotyledon,<br>foetal stomach contents | All mammals                        | Aspergillosis  |

## (F) FROM COTTON SWABS PRESERVED UNDER REFRIGERATION:

| SPECIMEN TYPE                  | SPECIES  | DISEASE   |
|--------------------------------|--|---|
| 1. Throat swabs                | All species                                    | Pasteurellosis (HS)   |
| 2. Swabs of blood              | All species                                    | Pasteurellosis, <u>Anthrax</u>                                |
| 3. Cut surface of lymph nodes  | All species<br>Ruminants                       | <u>Anthrax</u><br>Paratuberculosis                            |
| 4. Pus/exudate form tissues    | Ruminants, Pigs                                | Black quarter, Actinobacillosis, Actinomycosis                |
| 5. Body fluids                 | All species                                    | <u>Listeriosis</u>  |
| 6. Foot, mouth, throat lesions | Ruminants                                      | Necrobacillosis   |
| 7. Rectal swabs                | All species<br>Ruminants                       | <u>Salmonellosis</u><br>Paratuberculosis                      |
| 8. Nasal swabs                 | Bovids, Pigs, Felids<br>Ruminants<br>Ungulates | Rhinotracheitis<br>Schistosomiasis<br><u>Rhinosporidiosis</u> |
| 9. Vaginal, Ocular, Preputial  | Bovids, Pigs                                   | Rhinotracheitis   |
| 10. Tear swabs (in 50% GB)     | Ruminants, Pigs                                | Rinderpest  |
| 11. Cervical swabs             | All mammals                                    | Trichomoniasis  |
| 12. Nasal, ocular, Tonsillar   | Bovids   | Bovine adenovirus   |

## (G) BY PRESERVING IN 50% BUFFERED GLYCERINE:

| SPECIMEN TYPE  | SPECIES  | DISEASE  |
|--|--|--|
| 1. Vesicular fluid of tongue/gums<br>epithelium of tongue/gums/mouth | Ruminants<br>Pigs, elephant<br>All ungulates<br>Primates | FMD<br>Vesicular stomatitis<br><u>Simian herpes virus</u>          |
| 2. Foot lesions  | Ungulates  | FMD  |
| 3. One half of brain   | All mammals  | <u>Rabies</u> , Pseudorabies                                       |
| 4. Liver. Spleen, heart, lung  | Equines<br>Primates<br>Swine                             | Afr. Horse sickness<br><u>KFD</u> , Virus B, Herpes<br>Hog cholera |
| 5. Tear swab   | Ruminants, Pigs  | Rinderpest   |

## (H) BY PRESERVING IN 10% FORMALIN

| SPECIMENS  | SPECIES                                | DISEASE  |
|--|--|--|
| 1. Affected tissues  | All species<br>Ruminants<br>Sheep/goat | <u>Pox</u> , <u>Tuberculosis</u> , Tumour Aspergillosis<br>Actinobacillosis, Actinomycosis<br>Contagious ecthyma |
| 2. Urinary bladder, lung, liver,<br>kidney, heart, trachea | Carnivores<br>All species              | Canine distemper, Canine hepatitis<br>Leptospirosis, Toxoplasmosis   |
| 3. Liver, spleen, brain, oral lesions                      | Primates                               | <u>KFD</u> , <u>Virus B infection</u> , Simian Herpes infection  |
| 4. Heart (muscle)  | Ruminants,<br>Elephant, Pig            | FMD  |
| 5. One half of brain                                       | All mammals                            | <u>Listeriosis</u> , Rabies, <u>Pseudorabies</u>   |
| 6. Mesenteric lymph nodes,<br>small intestines (SI)        | All mammals<br>Carnivores<br>Ruminants | <u>Listeriosis</u><br>Feline enteritis<br>Paratuberculosis   |
| 7. Femur, spleen, SI                                       | Carnivores                             | Feline enteritis   |
| 8. Affected muscles  | All species                            | Capture myopathy   |
| 9. Liver, spleen, lung, lymph nodes                        | All species                            | Histoplasmosis, Coccidiomycosis  |
| 10. Lungs  | Elephants                              | <u>Herpes virus infection</u>  |
| 11. Trachea & turbinates                                   | Bovids                                 | Rhinotracheitis  |
| 12. Faeces (5-10 gm)                                       | All species                            | (Parasite ova detection)   |

## (I) FROM SPECIMENS PRESERVED UNDER REFRIGERATION/FREEZER:

| FLUID TYPE   | PRESERVATION                                     | SPECIES   | DISEASE  |
|--|--|---|--|
| 1. Affected muscle liver   | Refrigeration                                    | Ruminant, Pig   | Black quarter  |
| 2. Affected tissues  | Refrig./Freeze<br>Refrigeration                  | All species<br>Ruminants                                  | Pox, Tularaemia, <u>Tuberculosis</u><br>Actionbacillosis, Actinomycosis  |
| 3. Liver, lung, rumen  | Refrigeration                                    | Ruminants   | Necrobacillosis  |
| 4. Mesenteric lymph nodes  | Refrigeration                                    | All species   | <u>Salmonellosis</u>   |
| 5. Ileo-caecal portion   | Refrigeration                                    | Ruminants<br>All mammal                                   | Paratuberculosis<br><u>Pseudotuberculosis</u>  |
| 6. Blood, spleen, liver  | Refrigeration<br>Refrig./Freeze<br>Refrigeration | Ruminants<br>All species<br>Primates<br>Rodents, Hare     | Blue tongue<br>Erysipelas<br><u>Virus B infection</u><br>Chlamydiosis  |
| 7. Spleen, pre-femoral & pre-scapular LN                               | Refrigeration<br>Refrig./Freeze                  | Pigs<br>Ruminant, Pig                                     | Hog choiera<br>Rinderpest, MCF   |
| 8. Liver   | Refrigeration                                    | All species<br>Ruminant, Pig<br>Primates                  | Botulism<br>Black quarter<br><u>Virus B infection</u>  |
| 9. Placenta, foetus  | Refrigeration                                    | Bovids<br>All mammals                                     | Rhinotracheitis, Aspergillosis<br><u>Listeriosis</u> , Mycotic abortion  |
| 10. Placenta-cotyledons, milk, semen, testes, cervical mucous          | Refrigeration                                    | All mammals<br><br>Bovids                                 | Trichomoniasis, <u>Brucellosis</u> ,<br><u>Q Fever</u><br>Vibriosis  |
| 11. Epithelium of gum/ tongue vesicles                                 | Refrigeration                                    | Ruminant, Pig,<br>Elephants                               | FMD  |
| 12. Blood (heart, venous), lung, spleen, heart, liver, kidney, trachea | Refrigeration<br><br>Freeze/<br>Refrigeration    | All mammals<br><br>Carnivores<br>Birds<br>Pigs<br>Equines | Leptospirosis, <u>Listeriosis</u> ,<br><u>Toxoplasmosis</u> , Pasterurellosis,<br><u>Histoplasmosis</u> ,<br><u>Pseudotuberculosis</u><br>Canine hepatitis<br><u>Ornithosis</u><br>African swine fever<br>African horse sickness |
| 13. One half of brain spinal cord                                      | Refrigeration                                    | All mammals<br><br>Primates                               | <u>Leptospirosis</u> , <u>Rabies</u> , <u>Listeriosis</u> ,<br>Pseudorabies,<br><u>Virus B infection</u>   |
| 14. Lung and adjacent lymph nodes                                      | Refrigeration                                    | Elephants<br>Ruminants<br>All mammals<br>All mammals      | Herpes virus infection<br>Pleuropneumonia<br>Coccidiomycosis<br>Canine adenovirus  |
| 15. Oesophagus, crop   | Refrigeration                                    | Birds   | Trichomoniasis   |
| 16. Spleen   | Refrig./Freeze                                   | Rodents   | Q Fever  |
| 17. Lung, urinary bladder, cerebellum                                  | Freeze   | Carnivores  | Canine distemper   |
| 18. Trachea, lung, kidney  | Freeze   | Bovids<br>Equids<br>Feilds                                | Bovine rhinotracheitis<br>Equine rhinotracheitis<br>Feline rhinotracheitis   |
| 19. Small intestine, lung  | Refrigeration                                    | Carnivore   | Canine parvovirus  |

## PREPARATION OF SOME IMPORTANT PRESERVATIVES

| Sl. No. | Name of the preservative           | Constituents required   | Method of preparation   |
|---------|------------------------------------|---|---|
| 1       | 50% Buffered glycerol <sup>2</sup> | Citric acid (CA), double distilled water (DDW), disodium Phosphate (DSP), glycerine | <ol style="list-style-type: none"> <li>1. Prepare a CA solution of 21 gm/ 1000 ml of DDW: Take 2..15 ml of this</li> <li>2. Prepare a DSP solution of 28.4 gm/1000 ml of DDW: Take 97.85 ml of this</li> <li>3. Mix both solutions to make 100 ml.</li> <li>4. Add 100 ml of glycerine autoclave the mixture at 15 lbs for 30 mts.</li> </ol> |
| 2       | 10% formalin                       | Clean water & commercial (40%) formalin   | Add to one part of normally supplied commercial formalin, 9 parts of water.   |
| 3.      | 70% Alcohol                        | Alcohol, distilled water  | Add to 7 parts of rectified spirit (alcohol), 2 parts of distilled water.   |
| 4.      | 2.5% Potassium dichromate (PD)     | PD & distilled water  | <ol style="list-style-type: none"> <li>1. Take 2.5 gm of PD</li> <li>2. Make up the volume to 100 ml with distilled water</li> </ol>  |
| 5.      | 0.5% Phenol                        | Phenol, distilled water   | Take 0.5 ml of phenol and make up the volume to 100 ml with distilled water.  |

<sup>2</sup>Based on Kumar (unpubl)





# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

MEMBER SECRETARY

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

## Most Urgent

No.1501/11/2007-PT (Part)

Dated the November 16, 2007

To

The Chief Wildlife Warden  
(All Tiger Reserve States)

**Sub: Identification and notification of core or critical habitats in Tiger Reserves.**

Sir,

Section 38V (Chapter IV B) of the Wildlife (Protection) ACT, 1972 (as amended in 2006) provides for establishing core or critical tiger habitat in tiger reserves on the basis of scientific and objective criteria by the State Government, in consultation with an Expert Committee constituted for the purpose.

2. Section 38V of the Wildlife (Protection) Act, 1972 involves three distinct processes- (i) identification/delineation of core or critical tiger habitat as per scientific/objective criteria involving an Expert Committee; (ii) identification/delineation of the buffer or peripheral area in consultation with the concerned Gram Sabha and the Expert Committee; (iii) creation of inviolate area on the basis of identified core or critical tiger habitat through relocation, as per the statutory process.
3. The core or critical tiger habitat are among the most sensitive areas in the country vis-à-vis tiger conservation and hence their identification as well as notification have to be expedited by according topmost priority. You are requested to identify/delineate such areas within the Tiger Reserves of your State by the following process:
  - (i) An Expert Committee may be constituted under the Chairmanship of the Chief Wildlife Warden comprising of two experts (one governmental and the other non-governmental).
  - (ii) The Committee, in consultation with respective Field Directors shall finalize and delineate the core or critical tiger habitats of tiger reserves using the criteria at para (iii) below, within 10 days from the receipt of this letter.

- (iii) A minimum inviolate space of 800-1000 sq.km. should be maintained as the core or critical tiger habitat to support a viable population of tiger in landscapes, which is based on tiger life history parameters, territory sizes and population viability analysis, as per the assessment made by Project Tiger (National Tiger Conservation Authority) and Wildlife Institute of India in 2006.
- (iv) The draft proposal containing the reserve-wise delineated core or critical tiger habitats (soft/hard copies along with maps) may be brought for discussion/needful action from this end during the meeting of Chief Wildlife Wardens convened on 29-11-2007
4. The buffer or peripheral area may be delineated after due consultation process between the Expert Committee and concerned Gram Sabha as required under Section 38V of the Wildlife (Protection) Act, 1972, as amended in 2006. Proposal in this regard may be sent subsequently by 31-01-2008, along with identified tiger corridors.

A timeframe for subsequent process would be discussed and finalized during the meeting under reference. An early action in this regard is solicited.

Yours sincerely,

Sd/-  
Member Secretary,  
National Tiger Conservation Authority

Copy to:

- (1) PPS to Secretary (E&F)
- (2) PPS to DGF &SS
- (3) Principal Secretary, Forest Department (All Tiger Reserve States)
- (4) Principal Chief Conservator of Forests (All Tiger Reserve States)
- (5) All Field Directors

Sd/-  
Member Secretary,  
National Tiger Conservation Authority



# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. PS-MS(NTCA)/2007-Miscle.

Dated : 8th December, 2007

To

The Chief Wildlife Warden(s)  
All Tiger Reserve States

**Sub: Roads/highways passing through tiger reserves: safeguards for wild animals regarding**

Sir,

Several national/state highways and roads pass through tiger reserves, which call for measures to safeguard wild animals from mortality on account of road hits. Wild Life (Protection) Act, 1972, has enabling provisions, empowering the State Chief Wildlife Warden for taking steps to manage and ensure security of wild animals in national parks and sanctuaries (which are also core or critical tiger habitats in tiger reserves). While several options exist in this regard (viz. diversion of the road, regulating the speed of vehicles, use of signages and speed breakers, deployment of highway patrol, etc.), the situation may also require retrofitting measures to ensure safe passage for wild animals. Hence, the ground situation may please be reviewed for the tiger reserves of your State, vis-à-vis the ongoing traffic and road hits of wild animals. Proposal for appropriate site-specific retrofitting structures or diversion of roads may be included in the APO proposals of tiger reserves, if measures like speed regulations/speed breakers/highway patrol are not proving effective. In case of proposed highways and roads, every attempt should be made to explore the option of an alternate route so that the wild life habitat is not compromised. However, if such options are not feasible, necessary safeguards/passages for wild animals, based on best practices, should be provided in the interest of wildlife conservation.

Yours sincerely,

Sd/-

Member Secretary  
National Tiger Conservation Authority

Copy to:

1. The Principal Secretary (Forest) - All Tiger Reserve States
2. The Principal Chief Conservator of Forests - All Tiger Reserve States
3. The Field Director(s)- All Tiger Reserve States

Sd/-

IGF & Member Secretary  
National Tiger Conservation Authority

# Speed Detecting RADAR (Radio Detection and Ranging) Guns

Accidents in the National Highways passing through the National Park and Sanctuaries is a very serious problem. To control the speed of the moving vehicles, speed regulations must be enforced on these National Highways. It is noticed that a speed restriction of 50 Km/hr. is ideal to control accident in the National Highways.

To enforce the speed restriction, a mobile squad with trained personnel and a vehicle with speed detecting guns should be stationed at different positions along the National Highway. When you aim the gun at the incoming vehicle and press the button, the speed is automatically registered. A small printout in the form of slip is also available when you enter the vehicle No. On the spot, the owner of the vehicle can be fined, if he exceeds the speed limit. The fine collected can go back to the Tiger fund. The speed of the vehicle can be determined even from a distance of 500 mtr-1000 mtrs. The speed is quite accurate. The cost of the Radar gun is anywhere between Rs. 1.5 Lakhs to Rs. 2.00 Lakhs.





# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. PS-MS(NTCA)/2007-Miscle.

Dated : 13th December, 2007

To

The Field Director (s)  
All Tiger Reserves

**Sub: Use of metal detectors during forest patrolling**

Sir,

As you are aware, instance of tiger poaching using Metallic foot traps have come to notice in several tiger reserves. In this context, you are advised to get in touch with the police department within your district for guidance. The cost estimate, and related details may be worked out for procuring the same within the ambit of rules, and a proposal or funding support (if required) may be sent to this Ministry at the earliest, under the CSS of Project Tiger.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. The Principal Secretary (Forest) - All Tiger Reserve States
2. The Principal Chief Conservator of Forests - All Tiger Reserve States
3. The Chief Wildlife Warden - All Tiger Reserve States

Sd/-  
Member Secretary  
National Tiger Conservation Authority

# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. PS-MS(NTCA)/2007-Miscle.

Dated : 13th December, 2007

To

The Chief Wildlife Warden(s)  
(Bihar/Jharkhand/Karnataka/Maharashtra/Madhya Pradesh/  
Orissa/Rajasthan/Uttar Pradesh/Uttarakhand/West Bengal)

**Sub: Deployment of Tiger Protection Force**

**Ref: This Ministry's letter of even number dated 30.10.2007**

Sir,

While inviting reference to the correspondence cited above, it is requested this Ministry may please be apprised of the details of deployment/action taken on the special non-recurring allocation provided for deployment of Tiger Protection Force in the tiger reserve(s) of your State by return fax.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. PPS to Secretary (E&F), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
2. PPS to DGF &SS, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
3. Principal Secretary (Forests), Government of Bihar, Jharkhand, Karnataka, Maharashtra, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, Uttarakhand, West Bengal.
4. Field Director(s) - Valmiki Tiger Reserve (Bihar)/Palamau Tiger Reserve (Jharkhand)/Bandipur-Nagarhole, Bhadra Tiger Reserves (Karnataka), Melghat, Tadoba Andhari, Pench Tiger Reserves (Maharashtra)/Bandhavgarh, Panna, Pench, Stapura, Kanha Tiger Reserves (Madhya Pradesh)/Similipal Tiger Reserve (Orissa)/Ranthambhore Tiger Reserve (Rajasthan)/Dudhwa Tiger Reserve (Uttar Pradesh)/Corbett Tiger Reserve (Uttarakhand)/Buxa Tiger Reserve (West Bengal)

Sd/-  
Member Secretary  
National Tiger Conservation Authority



# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. PS-DIR-PT/ 2003

Dated : 13th December, 2007

To

**Dr. P.B. Gangopadhaya**  
PCCF & CWLW  
Van Bhavan, Tulsi Nagar,  
Bhopal-462003  
Madhya Pradesh

**Sub: Regulation of tourist visitation in tiger reserves**

**Ref:**

1. **This Ministry's letter of even number dated 9.04.2003**
2. **Technical document - NTCA/01/07**

Sir,

Reference is invited to the correspondence/guidelines cited above.

As you aware, there have been several instances of man killing by tigers in Kanha, including the recent death of a Characutter. Further, there are reports of tigers frequenting and resorting to cattle depredation near villages close to the Tala range of Bandhavgarh Tiger Reserve. These are issues of very serious concern, which are pointers of behavioural habituation of such animals in their natal areas to human presence, owing to proximity of humans, more or less in a recurring manner, on account of "tiger shows" being organised in the reserves, apart from disturbance due to increased tourist visitation. It has been well documented that such changed behavioural patterns foster aberrant behaviour in territorial big cats like tiger, leading to increased man-wild animal conflicts, on account of loss of "critical distance" in such animals. The "critical distance" is a minimum distance which is required to be maintained from a wild animal, for avoiding behavioural responses in them (viz. aggressive attack by a wild carnivore or fleeing or attack by a wild herbivore).

In this context, the following suggestion are made for compliance:

- i. The tourist visitation may be strictly regulated in accordance with the carrying capacity computed for the area as per the guidelines under reference.
- ii. In accordance with Section 33 (a) of the Wild Life (Protection) Act, 1972, no tourism infrastructure may be permitted inside the core/critical tiger habitat, and the existing infrastructure may be phased out in the buffer areas for safeguarding the natal areas of tiger.

- iii. A minimum mandatory distance of 30 meters, as per the guidelines under reference, should be maintained by tourist vehicles/elephants while spotting a tiger or any other wild animal.
- iv. No new tourist entry points may be created in the core/critical tiger habitat.
- v. No cafeteria or entry may be created in the core/critical tiger habitat.
- vi. Tiger which have been radio collared in collaboration with the Wildlife Institute of India should not be tracked for viewing by tourists.
- vii. The tourism infrastructure in the non-forest private holdings outside the core/critical tiger habitat may be regulated under Section 38V (2) of the Wild Life (Protection) Act, 1972, as amended in 2006, apart from according protection under Sections 3 and 5 of the Environmental (Protection) Act, 1986, keeping in mind the corridor value of such areas.

It should be appreciated that our tiger reserves are smaller in size, and are important natal areas/ repositories of endangered gene pool, harbouring the remaining source populations of tiger, co-predators and prey animals. Under no circumstances we can afford to become competing destinations for large size safari parks of other countries for fostering tourism, at the cost of the critical tiger habitat, as explained/identified/established under Section 38V of the Wild Life (Protection) Act, 1972, involving relocation of villages from such areas at a great cost, to provide the desired inviolate space for tigers. It is requested, necessary directives on the above lines may be issued to the Field Directors for needful action from their end.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. PPS to Secretary (E&F), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
2. PPS to DGF &SS, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
3. Principal Secretary (Forests), Government of Madhya Pradesh.
4. Principal Chief Conservator of Forests, Government of Madhya Pradesh.
5. Field Director(s)-Bandhavgarh/Panna/Pench/ Satpura/Kanha Tiger Reserves.

Sd/-  
Member Secretary  
National Tiger Conservation Authority

# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. PS-DIR-PT/ 2003

Dated : 14th December, 2007

To

The Chief Wildlife Warden  
(All Tiger Reserve States)

**Sub: Regulation of tourist visitation in tiger reserves**

**Ref:**

1. **This Ministry's letter of even number dated 9.04.2003**
2. **Technical document - NTCA/01/07**

Sir,

Reference is invited to the correspondence/guidelines cited above.

There have been several instances of man killing by tigers in Tiger Reserves, apart from reports of tigers frequenting and resorting to cattle depredation near villages close to the core tiger habitats. These are issues of very serious concern, which are pointers of behavioral habituation of such animals in their natal areas to human presence, owing to proximity of humans, more or less on a recurring manner, on account of increased tourist visitation. It has been well documented that such changed behavioural patterns foster aberrant behaviour in territorial big cats like tiger, leading to increased man-wild animal conflicts, on account of loss of "critical distance" in such animals. The "critical distance" is a minimum distance which is required to be maintained from a wild animal, for avoiding behavioural responses in them (viz. aggressive attack by a wild carnivore or fleeing or attack by a wild herbivore).

In this context, the following suggestions are made for compliance:

- i. The tourist visitation may be strictly regulated in accordance with the carrying capacity computed for the area as per the guidelines under reference.
- ii. In accordance with Section 33 (a) of the Wild Life (Protection) Act, 1972, no tourism infrastructure may be permitted inside the core/critical tiger habitat, and the existing infrastructure may be phased out in the buffer areas for safeguarding the natal areas of tiger.
- iii. A minimum mandatory distance of 30 meters, as per the guidelines under reference, should be maintained by tourist vehicles/elephants while spotting a tiger or any other wild animal.
- iv. No new tourist entry points may be created in the core/critical tiger habitat.
- v. No cafeteria or entry may be created in the core/critical tiger habitat.

- vi. Tiger which have been radio collared in collaboration with the Wildlife Institute of India should not be tracked for viewing by tourists.
- vii. The tourism infrastructure in the non-forest private holdings outside the core/critical tiger habitat may be regulated under Section 38V (2) of the Wild Life (Protection) Act, 1972, as amended in 2006, apart from according protection under Sections 3 and 5 of the Environmental (Protection) Act, 1986, keeping in mind the corridor value of such areas.

It should be appreciated that our tiger reserves are smaller in size, and are important natal areas/ repositories of endangered gene pool, harbouring the remaining source populations of tiger, co-predators and prey animals. Under no circumstances we can afford to become competing destinations for large size safari parks of other countries for fostering tourism, at the cost of the critical tiger habitat, as explained/identified/established under Section 38V of the Wild Life (Protection) Act, 1972, involving relocation of villages from such areas at a great cost, to provide the desired inviolate space for tigers. It is requested, necessary directives on the above lines may be issued to the Field Directors for needful action from their end.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. PPS to Secretary (E&F), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
2. PPS to DGF &SS, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
3. Principal Secretary (Forests), (All Tiger Reserve States).
4. Principal Chief Conservator of Forests, (All Tiger Reserve States).
5. All Field Directors.

Sd/-  
Member Secretary  
National Tiger Conservation Authority



# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. 4-1(4)/ 2006-PT

Dated : 14th December, 2007

To

**Shri R.N. Mehrotra**  
Chief Wildlife Warden  
Govt. of Rajasthan  
Van Bhavan, Tulsi Nagar,  
Vaniki Path, Jaipur - 302005

**Sub: Restorative management of buffer zone and corridors around Ranthambhore Tiger Reserve linking Kuno Wildlife Sanctuary etc. - reg.**

**Ref:**

1. **This Ministry's letter of even number dated 30.11.2007**
2. **Status report of tiger and co-predators in the Central Indian Landscape, brought out by the NTCA and WII (2007)**

Sir,

Reference is invited to the above correspondence/status report.

As you are aware, tigers straying out of the core area of the Ranthambhore Tiger Reserve require intensive scientific monitoring, for which the Wildlife Institute of India has been requested to do the needful on a priority basis using radio telemetry. However, the situation also calls for an active management of the buffer zone of the reserve, apart from restorative management of the corridors linking Ranthambhore with Kuno Wildlife Sanctuary and reserve forests of Sheopur District of Madhya Pradesh. The recent status report under reference has recommended the following:

- (i) Consolidation of the area encompassed within the tiger reserve for fostering tiger occupancy in the Sawai Mansingh and Keoladevi Sanctuaries.
- (ii) Improving the potential habitat connectivity between Ranthambhore and the Kuno Wildlife Sanctuary of Madhya Pradesh through the reserve forests of Sheopur Districts of Madhya Pradesh.

Based on discussions with Chief Wildlife Wardens, Field Directors and Scientists, detailed guidelines have already been issued for preparation of the reserve specific Tiger Conservation Plan, which contains the template for core, buffer and corridor areas, as required under Section 38V of the Wild Life (Protection) Act, 1972, as amended in 2006. It is requested, action may be taken as per the said guidelines for formulating the Tiger Conservation Plan at the earliest with respect to Ranthambhore and Sariska Tiger Reserves, so as to enable this Ministry to provide funding support in this regard during the forthcoming financial year for restoring the buffer and reviving the corridor linkages of the said reserves.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. PPS to Secretary (E&F), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
2. PPS to DGF &SS, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
3. Director, Wildlife Institute of India, Dehradun.
4. Principal Secretary (Forests), Government of Rajasthan.
5. PCCF, Government of Rajasthan.
6. CF & Field Director, Ranthambhore Tiger Reserve.
7. CF & Field Director, Sariska Tiger Reserve.

Sd/-  
Member Secretary  
National Tiger Conservation Authority





# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

F. No. 4-1(4)/ 2006

Dated : 30th November, 2007

To

**Shri P.R. Sinha,**  
Director,  
Wildlife Institute of India,  
18, Chandrabani,  
Dehradun.  
UTTARAKHAND

**Sub: Radio collaring of tigers in Ranthambhore Tiger Reserve, Rajasthan.**

Sir,

It is learnt that several tigers are straying out of the core area of Ranthambhore Tiger Reserve, and the situation calls for intensive monitoring of such animals for ensuring their safety. Based on recent discussion with the Chief Wildlife Warden, Rajasthan, it is requested that a team of scientists may please be sent to Ranthambhore Tiger Reserve at the earliest for radio collaring such tigers (around five). Further, two Researchers are also required to be deployed in the area for day to day monitoring subsequent to radio collaring. A cost estimate in this regard may please be sent to this office at your earliest convenience for further needful action from this end.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. The Principal Chief Conservator of Forests & Chief Wildlife Warden, Rajasthan, Van Bhavan, Jaipur.
2. The Conservator of Forests & Field Director, Ranthambhore Tiger Reserve, Sawai Madhopur, Rajasthan.

# National Tiger Conservation Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V  
Shahjahan Road, New Delhi-110011  
Telefax: 23384428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2007-Miscle.

Dated: 21st January, 2008

To

The Chief Wildlife Warden(s)  
All Tiger Reserve States

**Sub: Roads/highways passing through tiger reserves: safeguards for wild animals -regarding.**

**Ref: Letter of even number dated 8.12.2007 from this Ministry.**

Sir,

Reference is invited to the correspondence cited above, regarding measures for ensuring safeguards to prevent wild animal on account of road hits. In this context, it is further suggested that a mobile highway squad with staff, wireless and offence book may be deployed in highways passing through Tiger Reserves, to ensure that the speed of vehicles plying on such roads is restricted to 40 to 45 km/per hour. Such squads may also be provided with speed detecting guns which would enable them to detect the speed of incoming vehicles at a distance of 500 to 1000 mtrs. The said equipment also has a facility for providing printouts on entering the vehicle number. The cost of such speed detecting radar guns may be between Rs. 1.5 lakhs to 2.00 lakhs, which may be procured as per rules with funding support under the ongoing Centrally Sponsored Scheme of Project Tiger. A suitable fine may be imposed on violation of the prescribed speed limit, and the amount accrued in this regard may be transferred to the Tiger Conservation Foundation. An early action in this regard is requested.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF.
3. All Field Directors including Officers in-charge of Protected Areas which have been accorded in principle approval for declaration as Tiger Reserves.



**File No. 3-1/2003-PT**  
**Government of India**  
**National Tiger Conservation Authority**

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
E-mail: dirpt-r@nic.in  
Telefax: 2338 4428

**Dated the 27th February, 2008**

To,

The Chief Wildlife Warden (s)  
All Tiger States

**Subject: Revised guidelines of the ongoing Centrally Sponsored Scheme of Project Tiger.**

**Ref: This Ministry's letters of even number dated 21st, 25th and 26th February, 2008.**

Sir,

Reference is invited to the correspondence cited above. The following may please be ensured during the implementation of the Centrally Sponsored Scheme of Project Tiger:

- (a) The Tiger Reserve Management should consult the Gram Sabha while deploying the local work force, as Members of the Sabha would be conversant with the geographical and other related information about the area.
- (b) 1. The Compensation for cattle lifting, crop depredation, injury and death of humans should be decided in consultation with the Zilla Parishad (ZP).  
  
2. The Tiger Reserve Management should coordinate with the concerned Gram Panchayat (GP) while implementing crop protection safeguards and other initiatives relating to man-wild animal conflicts.
- (c) The Tiger Reserve Management should consult with Panchayat Raj Institutions for providing ecologically viable livelihood options to reduce villager's dependence on forests. The Gram Sabha should be involved in restoring forest cover in the buffer areas in order to provide a supplementary habitat to animals moving out of core areas.
- (d) The Tribal Councils should be consulted on the rehabilitation/welfare package to ensure that such tribal people are provided with livelihood options as well as health care, education and housing facilities, vis-à-vis the statutory provisions contained in the Wild Life (Protection) Act, 1972 as amended in 2006.
- (e) Zilla Parishad should be involved in monitoring the payment and utilization of the compensation package whether under option-I or option II.

- (f) In case of option II, relocation/rehabilitation from the protected area/tiger reserve by the Forest Department should be done in consultation with the Gram Sabha.
- (g) Zilla Parishad Chairperson should be a member of the District Level Implementing Committee for ensuring convergence with other sectors.
- (h) Implementation and monitoring of district level schemes in the relocated village should be done through Gram Panchayat/Gram Sabha.
- (i) Gram Panchayat/Gram Sabha should be involved in identifying labour oriented works relating to the relocation process, ensuring that the relocated villagers get adequate remuneration for their labour.
- (j) In case of re-settlement on forest land, the new settlement should be eligible to access forest resources based on their traditional forest rights as certified by the Gram Sabha.
- (k) Recommendations of Gram Panchayat/Gram Sabha should be taken while deciding the site for fair price shops, schools, health centre etc. close to the relocated village.
- (l) Gram Panchayat/Gram Sabha should be consulted in the identification of services, activities and personnel involved in ecotourism.

NB: The overall implementation would be as per the statutory provisions contained in the Wild Life (Protection) Act, 1972, as amended in 2006.

Yours faithfully,

Sd/-  
Member Secretary

Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF
3. PPS to Secretary, Ministry of Panchayati Raj, New Delhi.
4. The Principal Secretary (Forest Department), All Tiger Range States
5. The Principal Chief Conservator of Forests, All Tiger Range States
6. All field Directors including Officers in-charge of Protected Area which have been accorded in principle approval for declaration as Tiger Reserves.



**File No. 9-5/2006-NTCA (Part)**  
**Government of India**  
**National Tiger Conservation Authority**

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

**Dated the 8th September, 2008**

To

The Chief Wildlife Warden(s)  
All Tiger Range States

**Sub: Identification / notification of core/critical tiger habitats and relocation of people from such areas, and identification / notification of buffer or peripheral areas under section 38V the Wildlife (Protection) Act, 1972.**

**Ref:**

1. This Ministry letter No. 1501/11/2007-PT (Part) dated 16.11.2007.
2. This Ministry's letter No. 1501/11/2007-PT (Part) dated 3.12.2007.
3. This Ministry's letter No. PS-MS (NTCA)/2007-Miscle.dated 3.1.2008.
4. This Ministry's letter(S) NO. 3-1/2003-PT dated 21.2.2008, 26.2.2008, 25.2.2008 and 19.3.2008.

Sir,

The process of relocation of people living in the core / critical tiger habitats of tiger reserves has been elaborately dealt with under section 38V of the Wildlife (Protection) Act, 1972. Detailed guidelines in this regard, interalia, have already been issued vide reference(s) cited above.

As you are aware, the Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has come into force with effect from 31.12.2007, and the rules framed under the said Act are in force with effect from 1.1.2008. Hence, the relocation of villages from core / critical tiger habitats may be carried out keeping in view the overall interest of the Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

Further, identification of core/ critical tiger habitats in new tiger reserves, after the coming into force of the Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 would involve action as contained in section 38V of the Wildlife (Protection) Act, 1972, read with the

provisions contained in the Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

It is also requested that the buffer or peripheral areas of tiger reserves may also be identified/delineated/notified as per Sec. 38V of the Wildlife (Protection) Act, 1972. as suggested, vide reference 1st and 3rd cited, at an early date under intimation to this Ministry.

Yours faithfully,

Sd/-  
Member Secretary (NTCA)

Copy to:-

1. The Principal Secretary (Forest), All Tiger Range States.
2. The Principal Chief Conservator of Forests, All Tiger Range States.
3. The Field Directors, All Tiger Reserves.





# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2008-Miscle.

Dated the 23rd October, 2008

To,

The Field Director  
Namdapha Tiger-Reserve,  
Miao,  
Arunachal Pradesh.

**Sub: Monitoring spatial presence of tiger and other carnivores.**

**Ref: Letter No. LNP (PT)/2001/RM-01(1)/4612 dated 6.10.2008.**

Sir,

Reference is invited to the correspondence cited above and our recent telephonic discussion on the subject. The following actions are urgently suggested in this context:

- (i) Surveying the entire tiger reserve on an expedition mode for presence / absence of tiger and other wild animals, by deploying a number of local teams with due capacity building for identifying / collecting the signs / evidences of tiger and other wild animals.
- (ii) Deploying camera traps in areas frequented by tigers to ascertain their presence / Identify.

Central Assistance for carrying out the above task may be obtained from the ongoing Centrally Sponsored Scheme of Project Tiger. Technical assistance of Ms. Aparajita Dutta, Member, Arunachal State Wildlife Advisory Board, may also be solicited, since she has a scientific publication relating to the area.

Yours sincerely,

Sd/-  
Member Secretary

Copy to:

1. PPS to ADG (WL), MoEF, New Delhi.
2. The Principal Secretary (Forests), Govt. of Arunachal Pradesh, Itanagar.
3. The Principal Chief Conservator of Forest Govt. of Arunachal Pradesh, Itanagar
4. The Chief Wildlife Warden, Govt. of Arunachal Pradesh, Itanagar.
5. Ms. Apatajita Dutta, Member, Arunachal State Wildlife Advisory Board, Arunachal Pradesh.



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2008-Miscle.

Dated the 6th November, 2008

To,

The Chief Wildlife Warden  
Govt of Tamil Nadu, 6 D, Panagal Building,  
No. 1, Jeenis Road, Chennai.

**Sub: Applicability of section 28, 29 and 33 (a) in Project Tiger areas.**

**Ref: Your letter No. WL5/59746/2008 dated 31.10.2008.**

Sir,

Please refer to the correspondence cited above. The desired clarification is as below:

**(Applicability of section 28, 29 and 33(a) in Project Tiger areas)**

A tiger reserve has been legally defined for the first time in the Wildlife (Protection) Amendment Act, 2006, comprising of two units, viz. core and the buffer. The core or critical tiger habitat has been explained under section 38V, which are inviolate areas of National Parks and Sanctuaries included in the tiger reserve. The buffer or peripheral areas require lesser degree of habitat protection but their aim is to promote coexistence between wildlife and human activity.

Under sub-section 2 of section 38V, provisions of sub-section 2 of section 18, sub-section (2), (3) and (4) of section 27, sections 30, 32 and clauses (b) and (c) of section 33 of the Wildlife (Protection) Act have been made applicable to safeguard the interest of wildlife in areas which do not have the status of a National Park or a Sanctuary, but form part of a tiger reserve (i.e. the buffer or peripheral area). Since there is no overriding of any earlier provisions of the Act relating to chapter IV of the Wildlife (Protection) Act, 1972, section 28 is applicable to those areas of a tiger reserve which have the status of a National Park or Sanctuary.

Since the core or critical tiger habitat under section 38V of the Wildlife (Protection) Act, 1972, as amended in 2006, has to be kept inviolate for tiger conservation, no film shooting can be permitted in such areas.

Yours sincerely,

Sd/-  
Member Secretary







# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2009-Miscs.

Dated the 4th February, 2009

To,

The Field Director (s)  
(All Tiger Reserves)

**Sub: Poaching by wandering gangs.**

Sir,

In the recent past, several instances of poachers targeting tiger reserves have come to light, which is a cause for great concern. In November, 2008 an adult male tiger was killed due to electrocution in Kanha Tiger Reserve, which was followed by the seizure of a tiger skin near Balaghat during the same month. Subsequently, mortality of as many as five tigers has been reported from the area owing to internecine combats during the month of January, 2009. Further, seizure of tiger skin near Bandhavgarh Tiger Reserve has also been reported during January, 2009.

In the Kaziranga Tiger Reserve, mortality of as many as eight tigers has been reported between 16th November, 2008 to 20th January, 2009. This includes two deaths on account of poisoning, apart from mortality of others, reportedly due to internecine fights.

Needless to add, the situation is alarming, since evidence of organized, interstate wandering gangs, involved in such poaching has also come to light. Elimination of resident tigers disturbs the social land tenure of tigers in a habitat, leading to lethal intra-specific fights. Considering the sensitive situation, you are advised to alert the field staff to ensure necessary vigil, apart from stepping up intelligence based enforcement, as per guidelines already issued from this end. In all cases of mortality (natural or otherwise), a post mortem report in the prescribed format should be obtained from the local authorized

Veterinarian, apart from sending the visceral contents from the carcass for examination in a reputed laboratory to rule out poisoning. Detailed guidelines in this regard have been issued vide this office letter No. 1-9/93-PT dated 21st July, 2007 and 13th August, 2008.

In this context, an alert issued by the Deputy Director, Wildlife Crime Control Bureau is also enclosed for information and needful action.

Yours sincerely,

Encl: As above.

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PS to Secretary (E&F).
2. PS to DGF&SS, MoEF.
3. PPS to ADG (WL), MoEF.
4. The Principal Secretary (Forests), All Tiger Range States.
5. The Principal Chief conservator of Forests, All Tiger Range States.
6. The Chief Wildlife Warden, All Tiger Range States.





# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/ 2009-Misces

Dated the 18th March, 2009

To,

All Field Director(s)  
All Tiger Reserves

**Sub: Fire protection.**

Sir,

As you are aware, under the ongoing Centrally Sponsored Scheme of Project Tiger, considerable central assistance is being provided for preventive / control fire protection measures in tiger reserves, based on reserve-specific Annual Plan of Operation (APO) received from your end. In the recent past, several incidents of forest fire have been highlighted in the print-media which is a cause for great concern. In this context, an update on the forest protection measures / monitoring system in vogue may please be sent to this office by return fax, along with details of any recent fire in the tiger habitat.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. The Principal Secretary (Forests), All Tiger Range States.
2. The Principal Chief conservator of Forests, All Tiger Range States.
3. The Chief Wildlife Warden, All Tiger Range States.



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2009-Miscs.

Dated the April 22, 2009

To,

Field Director  
(All Tiger Reserves)

**Subject: Post-mortem protocol for ensuring transparency in cases relating to tiger mortality.**

Sir,

As you are aware, a detailed advisory containing post-mortem format has already been issued from this end for carrying out post-mortem of wild animal carcasses found inside tiger reserves. It is hoped that the said advisory is being followed meticulously in the interest of tiger conservation. However, time and again, due to rapid disposal of tiger carcasses by burning, criticism is being received from several quarters.

2. In this context, the following actions are advised in addition to the earlier advisory in vogue:
  - (i) All tiger carcasses should be preserved in a deep freeze till an independent team analyses the cause of tiger death.
  - (ii) Every incident of tiger mortality should be thoroughly examined by an independent team whose composition is as below:
    - (a) an authorized representative of the NTCA.
    - (b) a Veterinary Officer of the tiger reserve/district.
    - (c) a non-governmental outside expert nominated by the Chief Wildlife Warden of the State.
  - (iii) As directed earlier, every incident of tiger mortality should be brought to the notice of the NTCA by telephone/fax, followed by a detailed post-mortem report in the prescribed format, along with the report of the independent team.



3. Funding support for procuring a deep freeze of the body size of a tiger, its generator along with related accessories would be provided under the ongoing Centrally Sponsored Scheme of Project Tiger, based on the proposals contained in the APO.

The above additional directives would ensure minimum errors in the post-mortem process, while making it transparent.

Yours sincerely

Sd/-  
Member Secretary (NTCA)

Copy to :

1. PPS to Secretary ( E&F), MoEF
2. PPS to DGF & SS , MoEF
3. PPS to Addl. DG (Wildlife), MoEF.

Sd/-  
Member Secretary (NTCA)

Copy to:

1. Additional Chief Secretary/Principal Secretary (Forest) (All Tiger Reserve States)
2. Principal Chief Conservator of Forests (All Tiger Reserve States)
3. Chief Wildlife Warden (All Tiger Reserve States)

Sd/-  
Member Secretary (NTCA)



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2009-Miscle.

Dated the 28th April, 2009

To,

The Field director(s)  
(All Tiger Reserves)

**Sub: Plying of diesel vehicles/mini-trucks / canters inside core/ critical tiger habitats.**

Sir,

As you are aware, the core /critical tiger habitats of tiger reserves notified under section 38 V of the Wildlife (Protection) Act, 1972, are required to be kept inviolate for tiger conservation. However, tourism infrastructure is present in many core areas, and visitors are permitted in such tourism zones, and guidelines have been issued from this end for phasing out the tourism activities from such areas to the outer buffer zones. Till the desired tranquillity is achieved in the core /critical tiger habitat, every care should be taken to ensure that minimum noise pollution is caused in such areas due to plying of canters / mini-trucks, another diesel vehicles transporting tourists. In this context, it is suggested that every effort should be made for promoting CNG run vehicles using Bio-fuel, while reducing the use of diesel / other polluting vehicles. It is pertinent to add that the Hon'ble Apex Court has also strongly recommended the use of CNG vehicle in our urban landscape to reduce pollution.

Yours sincerely

Sd/-  
Member Secretary (NTCA)

Copy to:

The Chief Wildlife Warden, All Tiger Reserve States.





# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2009-Miscle.

Dated the 28th April, 2009

To,

The Field director(s)  
(All Tiger Reserves)

**Sub: Handling of injured / sick Schedule I wild animals like tiger.**

Sir,

Several instances have come to light wherein injured /sick Schedule I wild animals like the tiger have been treated locally and released back in the wild, sometimes with adverse impacts. It may be noted that the veterinary facility available in districts primarily have competency for handling livestock, with hardly any exposure to treat wild animals like the tiger. Therefore, the following line of action is suggested to deal with injured / sick Schedule I wild animals like the tiger in particular:

- (i) All cases of sick / injured Schedule I wild animals, as reported by the field staff, should be subjected to examination by an independent team, to ascertain whether human intervention / treatment is required. Since wild animals in nature are subjected to ongoing, natural intra/inter-specific interactions, human interventions for treating such animals may not always be necessary. However, till the arrival of the independent team, the field staff should continue with the monitoring of sick / injured wild animal.
- (ii) The composition of the team suggested at (i) above is as below:
  - (a) An authorized representative of the National Tiger Conservation Authority.
  - (b) A Non Governmental outside expert nominated by the Chief Wildlife Warden of the State.
  - (c) A Veterinary Officer having experience in treating / handling wild animals.
- (iii) Every case of treating an injured /sick Schedule I wild animals like the tiger should be brought to the notice of the NTCA by telephone / fax, followed by a detailed report.

The above suggested course of action is in consonance with all aspects of tiger ecology related legal provisions.

Yours sincerely

Sd/-  
Member Secretary (NTCA)

Copy to:

1. The Chief Wildlife Warden, All Tiger Reserve States.

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
NATIONAL TIGER CONSERVATION AUTHORITY

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

Dated the 12th May, 2009

To

The Secretary  
Forest Department,  
Govt. of Chhattisgarh,  
D.K. Bhavan, Raipur.  
Chhattisgarh.

**Sub: Creation of Achanakmar, Indravati and Udanti-Sitanadi Tiger Reserves- regarding.**

**Ref: Your letter No. 1357/Nisa/Sachiv Van/2009 dated 21.4.2009.**

Sir,

A reference is invited to the letter mentioned above on the issue of collection of minor forest produce (MFP) from the buffer area of a tiger reserve.

In this context, I am directed to say that as per section 38V (4)(i) of the Wildlife (Protection) Act, 1972, as amended in 2006, a "tiger reserve" comprises of core / critical tiger habitat areas of National Parks and Sanctuaries which have been notified under section 35 and 18 of the Wildlife (Protection) Act, 1972 respectively. Such areas are required to be kept as inviolate for the purposes of tiger conservation. Hon'ble Supreme Court of India vide its order dated 14.2.2000 in IA No. 548 in W.P. No. 202/1995 Godaverman Vs Union of India has also prohibited removal of dead, dying, diseased, drift wood and grasses from National Parks and Sanctuaries. Hence, collection of MFP may not be allowed from core area of tiger reserve.

Further, the buffer area consists of the area peripheral to core area (not having the status of a National Park/Wildlife Sanctuary), identified and established in accordance with the provisions contained in Explanation (i) of section 38V (4), where a lesser degree of habitat protection is required to ensure the





integrity of the critical tiger habitat with adequate dispersal of tigers, and which aim at promoting co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of the local people. Hence, collection of MFP like Bidi leaf (tendu patta) may be allowed in buffer area of a tiger reserve, which comprises of only forest areas not having the status of a National Park/Wildlife Sanctuary as intended/notified under Chapter IV of the Wildlife (Protection) Act, 1972.

It is pertinent to add that the management of the buffer area (including implementation of forestry activities) will have to be carried out on the broad principles laid down in para 11.3 of the NTCA Technical Document (NTCA/01/07).

Yours faithfully,



(S.P. Yadav)

DIG & Joint Director (NTCA)

Copy to: The Chief Wildlife Warden, Chhattisgarh.





# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS-MS (NTCA)/2009-Miscs.

Dated 25th May, 2009

To,

The Chief Wildlife Warden,  
All Tiger Reserve States.

**Sub: Post-mortem protocol for ensuring transparency in cases relating to tiger mortality and handling of injured / sick Schedule I wild animals like tiger.**

**Ref: Endorsement of even number dated 22nd and 28th April, 2009.**

Sir,

While inviting to the correspondence cited above, it is stated that the advisories under reference may be made applicable to areas/tiger habitat outside tiger reserves, for ensuring transparency and professional handling of injured/sick Schedule I wild animals like the tiger.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PPS to Secretary (E&F).
2. PPS to DGF & SS, MoEF.
3. PPS to Addl. DG (Wildlife), MoEF.

Copy for information to:

1. Additional Chief Secretary/Principal Secretary (Forests), All Tiger Reserve States.
2. Principal Chief Conservator of Forests, All Tiger Reserve States.
3. Field Directors, All Tiger Reserves.



GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
NATIONAL TIGER CONSERVATION AUTHORITY

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

Dated the 26th May, 2009

To,

The Chief Wildlife Warden  
All Tiger Range States

**Sub: Creation of Buffer Area - regarding**

Sir,

On several occasions clarification has been sought on the status of buffer area of a tiger reserve and collection of minor forests produce (MFP) from such areas.

In this context, I am directed to say that as per section 38V (4)(i) of the Wildlife (Protection) Act, 1972, as amended in 2006, a "tiger reserve" comprises of core/critical tiger habitat areas of National Parks and Sanctuaries which have been notified under section 35 and 18 of the Wildlife (Protection) Act, 1972 respectively. Such areas are required to be kept as inviolate for the purposes of tiger conservation. Hon'ble Supreme Court of India vide its order dated 14.2.2000 in IA No. 548 in W. P. No. 202/1995 Godaverman Vs Union of India has also prohibited removal of dead, dying diseased, drift wood and grasses from National Parks and Sanctuaries. Hence, collection of MFP should not be allowed from the core areas of tiger reserves.

Further, the buffer area consists of the area peripheral to core area (not having the status of a National Park/Wildlife Sanctuary), identified and established in accordance with the provisions contained in Explanation (i) of section 38 V (4), where a lesser degree of habitat protection is required to ensure the integrity of the critical tiger habitat with adequate dispersal of tigers, and which aim at promoting co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of the local people. Hence, collection of MFP like bidi leaf (tendu patta) and other forestry operations may be allowed in the buffer area of a tiger reserve, which may comprise of forests/non forests areas, not having the status of a National Park/Wildlife Sanctuary as intended/notified under Chapter IV of the Wildlife (Protection) Act, 1972.

It is pertinent to add that the management of the buffer area (including implementation of forestry activities) should be carried out on the broad principles laid down in para 11.3 of the NTCA Technical Document (NTCA/01/07).

Yours faithfully,



(S.P. Yadav)

DIG & Joint Director (NTCA)

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FOREST  
(FC DIVISION)

Paryavaran Bhavan,  
CGO Complex, Lodhi Road,  
New Delhi-110510

Dated the 8th September, 2009

To,

The Principal Secretary/ Secretary (Forests)  
All States/UT Governments.

**Sub: Diversion of forests land for non-forestry purposes under Forest (Conservation) Act, 1980- guidelines for relocation/rehabilitation of villages from National Parks / Wildlife Sanctuaries / Tiger Reserves- Regarding**

Sir,

The ministry of Environment and Forests, Government of India has been receiving representations from different States/ UT Governments stating that the clause 'legal status of forests land shall remain unchanged' precludes possibility of relocated villages, who are by and large tribals, from becoming absolute owners of the land allocated to them and by retaining the status of land as 'forests' several ongoing developmental works in the district are not implemented in the area, which deprives the relocated people from their due benefits. After careful examination of the issue, the matter was taken up with the Central Empowered Committee (CEC) which recommended to the Supreme Court for relaxation of its order dated 13.11.2000 in WP (C) No. 337/1995, to permit Ministry of Environment and Forests (MoEF), to allow change in the legal status of the forest land approved for diversion under the Forest (Conservation) Act, 1980 for the relocation of villages from the National Parks / Sanctuaries.

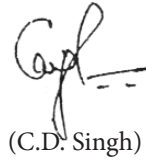
The Hon'ble Supreme Court of India vide its order dated 21.11.2008 in IA 1658 in WP (C) No. 202/1995, referring to the CEC's report for permission for change in the legal status of the forest land diverted under Forest (Conservation) Act, 1980 by the MoEF, for rehabilitation of villagers of three villages in Andhari Wildlife Sanctuary, Maharashtra, ordered that "...we make it clear that despite the order passed by this Court on 13.11.2000, the MoEF is permitted to change the legal status of the forest land approved under the Forest (Conservation) Act, 1980 for relocation of these villages for the purpose of extending the boundary and for rehabilitation of the tribal people residing there". It is also informed that the Hon'ble Supreme Court of India vide its order dated 09.05.2008 regarding correction of the judgment dated 28.03.2008 has already accorded full exemption from payment of Net Present Value (NPV) to the

relocation / rehabilitation of villages from National Parks/ Wildlife Sanctuaries/ Tiger Reserves to alternate forest land. In this connection, this Ministry's letter of even number dated 05.02.2009 may kindly be referred to.

In view of the above, I am directed to convey the approval of the Central Government for changing the legal status of forest land, with retrospective effect covering all such cases of diversion of forest land, diverted under Forest (Conservation) Act, 1980 for relocation/ rehabilitation of villages from National Parks/ Wildlife Sanctuaries/ Tiger Reserves from 'forest land' to 'revenue land'.

It is further reiterated that this stipulation is strictly restricted to relocation/ rehabilitation of villages from National Parks/ Wildlife Sanctuaries/ Tiger Reserves.

This is issued with approval of competent authority.

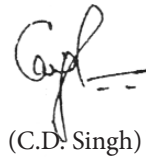


(C.D. Singh)

Sr. Assistant Inspector General of Forests

Copy to:

1. The Principal Chief conservator of Forests, All States/ UTs.
2. The Chief Wildlife Warden, All States/ UTs.
3. The Nodal Officer (FCA), O/o the PCCFs, All States/ UTs.
4. All Regional Offices of MoEF located at Bhopal, Shillong, Bangalore, Bhubaneshwar, Lucknow and Chandigarh.
5. The RO ( HQ), MoEF, New Delhi.
6. Monitoring Cell, FC Division , MoEF, New Delhi
7. Guard File.



(C.D. Singh)

Sr. Assistant Inspector General of Forests



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No.PS-MS(NTCA)/2009-Miscs.

Dated the September 21, 2009

To

The Chief Wildlife Warden,  
Govt. of Maharashtra,  
Van Bhavan,  
Civil Lines, Ramgiri-Road, Nagpur-400001.  
Maharashtra.

Sir,

There have been several instances of orphaned tiger cubs being retrieved in the Tadoba-Chandrapur landscape, and as many as six tiger cubs have so far been rescued since the onset of monsoon this year. This is a cause for very serious concern, since in all probability, resident tigers and tigresses are being targeted by wandering poaching gangs. There is also a report of a wild dog being spotted in the area with a snare and I am attaching a photograph of the same received in this office. The situation calls for urgent action to step up protection in the area, besides actively monitoring the resident tigers/tigresses in the landscape. In this context the following actions are suggested:

1. Delineating the spatial occupancy of tigers and its prey, based on local knowledge of field staff and outside experts.
2. Involving outside research team, with funding support from Project Tiger, for an ongoing scientific monitoring of resident tigresses/tigers, using a combination of radio telemetry, camera traps and pugmarks through impression pads laid out strategically.
3. Maintaining a beat level ID file of individual tiger, having collation of all available information including photographs, kill data, and camera trap records with regular updation.





4. Monitoring cattle depredation in the area and timely payment of compensation to the affected people.
5. Monitoring railheads, bus stands and local markets.
6. Building up the wild crime intelligence involving outside experts.
7. Stepping up protection by deploying local workforce to assist the staff in territorial divisions of the landscape with Central Assistance.
8. Sensitising the field staff through periodic range level workshops.
9. Sensitising the Panchayati Raj institutions through a local communication strategy with a reward scheme.
10. Formation of a “crisis group” involving outside experts, NGOs and field officials to advise and oversee the implementation of above actions.

Proposal for funding support towards implementing the above may be sent to this office at an early date.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF.
3. PPS to Addl. DG (Wildlife), MoEF.
4. The Additional Chief Secretary, Forest Department, Govt. of Maharashtra, Govt. Secretariat, Mumbai.

Sd/-  
Member Secretary (NTCA)



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS- MS(NTCA)/2009-Miscs.

Dated the September 22, 2009

To

Chief Wildlife Warden(s)  
All Tiger Range States  
(except Assam & Maharashtra)

Sir,

Several cases of tiger mortality have come to light during the year, which is a cause for very serious concern. There are reports of wandering poaching gangs targeting the resident tigers in tiger reserves and nearby areas, besides tiger death on account of poisoning in some landscapes. The situation calls for urgent action to step protection in the areas, besides actively monitoring the resident tigers/tigresses in the landscape. In this context the following actions are suggested:

1. Identifying the spatial occupancy of tigers and its prey, based on local knowledge of field staff and outside experts.
2. Involving outside research team, with funding support form Project Tiger, for an ongoing scientific monitoring of resident tigresses/tigers, using a combination of radio telemetry, camera traps and pugmarks through impression pad laid out strategically.
3. Maintaining a beat level ID file of individual tiger, having collation of all available information including photographs, kill data, and camera trap record with regular updation, with a focus on breeding tigresses. (In this context, a format developed by Shri Subranjan Sen, IFS during his tenure in Kanha as Deputy Director is enclosed for guidance).
4. Monitoring cattle depredation in the area and timely payment of compensation to the affected people.
5. Monitoring railheads, bus stands and local markets.
6. Building up the wild crime intelligence involving outside experts.
7. Stepping up protection by deploying local workforce to assist the staff in territorial divisions of the landscapes with Central Assistance.







8. Sensitising the field staff through periodic range level workshops.
9. Sensitising the Panchayati Raj institutions through a local communication strategy with a reward scheme.
10. Formation of a “crisis group” involving outside experts, NGOs and field officials to advise and oversee the implementation of above actions.

Proposals for funding support towards implementing the above may be sent to this office at an early date.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

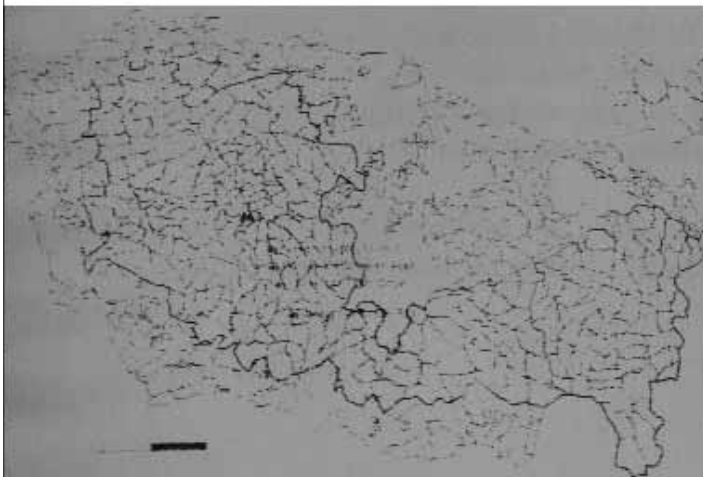
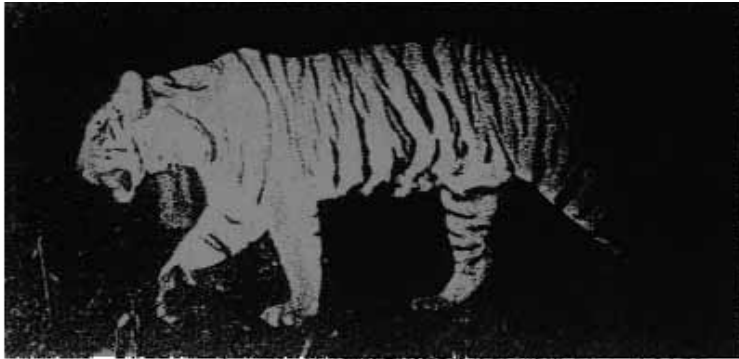
Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF.
3. PPS to Addl. DG (Wildlife), MoEF.
4. The Additional Chief Secretary/Principal Secretary, Forest Department, Tiger States (Except Assam and Maharashtra).
5. Field Director(S), Tiger Reserves (Except Manas, Nameri, Kaziranga, Melghat, Tadoba-Andhari & Pench)

Sd/-  
Member Secretary (NTCA)

## 0002 Bhuindabra Tigress

KAF2



Bhuindabra Khamerpani road/11-11-06  
Khamperpani pahari/12-11-06, 12-12-06  
Khamerpani gangarmuda/12-11-06  
Algidadar bijadadar road/14-11-06

*8th Dec 2007 Shravantal*

**Enlarge Map**

Female camera trapped on Bhuindabra — Khamerpani, Khamerpani pahari, Khamerpani — ghangarmuda and Algidadar — Bijadadar road. Also Photographed on 8th Dec 2007 by RO Kanha near Shravantal, not far from no. 7 Tigress (0005) present at the same time nearby



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS- MS(NTCA)/2009-Miscs.

Dated the 1st October, 2009

To

The Principal Secretary  
Government of Kerala,  
Thiruvananthapuram.

Sir,

The recent boat tragedy in the Periyar/Thekkady water body claiming many human lives is extremely tragic warranting urgent safeguards. Since the tourism area of the said water body is a Sanctuary, forming part of the would be buffer of the Periyar Tiger Reserve, the following urgent steps may be taken.

- (i) Prescribing a carrying capacity for tourist boats in the area through a specially constituted Committee of experts in the field, involving officers of the Periyar Tiger Reserve.
- (ii) Prescribing safety regulations for tourists, in consultation with the Kerala Tourism Development Corporation and the officials of the Periyar Tiger Reserve.
- (iii) Constituting an oversight Committee, with the active involvement of the staff of Periyar Tiger Reserve, to ensure implementation of the carrying capacity norms and safety regulations prescribed by the competent authority.

It is strongly suggested that till the above actions are taken, boat rides for tourists in the Periyar/Thekkady water body may be stopped with immediate effect.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. The Principal Secretary, Tourism Department, Kerala, Thiruvananthapuram.
2. The Principal Chief Conservator of Forests, Government of Kerala, Thiruvananthapuram.
3. The Chief Wildlife Warden, Government of Kerala, Thiruvananthapuram.
4. The Field Director, Periyar Tiger Reserve, Kerala.

Copy for information to:

1. PPS to Secretary (E&F), MoEF, New Delhi.
2. PPS to DGF & SS, MoEF, New Delhi.
3. PPS to ADG (WL), MoEF, New Delhi.

Sd/-  
Member Secretary (NTCA)



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Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. PS- MS(NTCA)/2010-Misces.

Dated 4th February, 2010

To

The Chief Wildlife Warden(s),  
All Tiger Ranger States.

Sir,

As you may be aware, the 'Chinese Year of the Tiger' commences from the 14th of February, 2010, and would last upto February, 2011. Concerns have been raised from various quarters that this may foster the illegal demand for body parts and derivatives of tiger in some countries, leading to increased tiger poaching. In this context, it is advised that the field officials may please be directed to ensure vigil/caution, besides alerting the frontline staff and stepping up intelligence based enforcement.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. The Principal Secretary(s), Forest Department, All Tiger Range States.
2. The Principal Chief Conservators of Forests, All Tiger Range States.
3. The Field Directors(s), All Tiger Reserves.

Copy for information to:

1. APS to MEF.
2. PPS to Secretary (E&F), MoEF.
3. PPS to DGF & SS, MoEF.
4. PS to ADG (WL), MoEF.





# National Tiger Conservation Authority

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Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. 7-8/2009-NTCA

Dated 13th March, 2010

To

Ms. Rina Mitra,  
Additional Director/IGP,  
Wildlife Crime Control Bureau,  
2nd Floor, Trikoot- I,  
Bhikaji Cama Place,  
New Delhi.

**Sub: Advisory issued by the WCCB for destroying cattle kills made by big cats.**

**Ref:**

1. **Advisory/04 No.10-27/WCCB/2008/829 dated 14.7.2009.**
2. **Letter No. B-23(3)/1371/2009-10 dated 8.9.2009 from the PCCF (Wildlife), Maharashtra.**

Madam,

Please refer to the correspondence cited above.

2. In this context, I wish to say that it is a common field experience in wildlife/forest management that tigers feed in bouts, and return to their kill frequently. Therefore, any destruction of a cattle carcass resulting from tiger depredation would result in increased depredation by the carnivore as stated by the Chief Wildlife Warden, Maharashtra. However, close watch on the kill to prevent poisoning besides prompt payment of compensation are essential.
3. Hence, I am directed to say that the advisory of WCCB under reference may please be revised as below:
  - (i) In case of livestock of depredation by tiger/leopard, the carcass should not be removed from the site but should be allowed to be eaten in full by the carnivore to prevent recurrence of such depredation in the area.
  - (ii) A very close monitoring of the carcass should be done while alerting the local people to prevent its poisoning for revenge killing.

- (iii) Prompt payment of compensation should be done to the affected people vis-à-vis the citizen's charter.
- (iv) All instances of cattle depredation should be reported by wireless to the local authority to enable prompt action in the matter.
- (v) In case of tiger/leopard showing disability due to injury/old age or display in aberrant behaviour by resorting to livestock depredation in a recurring manner, such animals should be trapped and translocated to the core areas of tiger reserves devoid of human settlements or a nearby zoo as a last option.

Yours sincerely,

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PS to ADG (WL), MoEF.





# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

Annexe No. 5, Bikaner House,  
Shahjahan Road, New Delhi-11.  
Telefax: 2338 4428  
E-mail: dirpt-r@nic.in

No. 1-4/99-PT

Dated the 13th March, 2010

To,

The Principal Chief Conservator of Forests (Wildlife)  
Maharashtra State,  
Ramgiri Road,  
Civil Lines, Nagpur-440001.

**Sub: Tiger Conservation Plan Guidelines- clarification about continuance of forestry operations in buffer zone.**

**Ref: Letter No. Desk 22(8)/C. No./3764/2009-09 dated 11.02.2010.**

Sir,

Please refer to the correspondence cited above.

2. In this context, it is stated that section 38V (3) (c) of the Wildlife (Protection) Act, 1972 provides for ensuring that the forestry operations of regular forest divisions and those adjoining tiger reserves are not incompatible with the needs of tiger conservation. This should not be interpreted / misconstrued to mean that the said provision acknowledges that regular forestry operations are compatible with the needs of tiger conservation. Had it been so, the regular forests areas would be abounding in tigers and their prey base, which unfortunately is not the case, as revealed in the recent all India tiger estimation using the refined methodology.
3. Therefore, the guidelines prescribed by the National Tiger Conservation Authority (technical Document: NTCA/01/07) are in order, which may please be followed, There is a provision in the said guidelines for staggering of forest stands belonging to different age groups, which may be innovatively prescribed to modify the field operations. It is reiterated, the forestry operations in the buffer areas need to be made compatible and fine tuned vis-à-vis the requirements for addressing the source-sink dynamics of tiger, as prescribed in the NTCA guidelines under reference.

4. The buffer areas may have forest/ non-forest areas. Hence, it needs to be managed as a “multiple use area” to provide habitat supplement to the spill over population of wild animals from the core area, besides providing site specific, need based, participatory ecodevelopmental inputs to local people with livelihood options, for reducing their resources dependency on the core area. In this context, extracts of possible interventions in the buffer area, forming part of an advisory issued from this end in 2005 are enclosed for ready reference (**Annexure-I, II and III**).

Yours sincerely,

Encl: As above.

Sd/-  
Member Secretary

Copy to:

1. PPS to ADG (WL), MoEF.





## ‘MENU’ OF OPTIONS EMERGING FROM BEST PRACTICES UNDER THE INDIA ECODEVELOPMENT PROJECT (BASED ON A STUDY BY THE “PEACE INSTITUTE”, NEW DELHI)

### A POLICY AND LEGAL MATTERS

- 1) It is evident that sites like Periyar TR, Kanha TR, KMTR, Gir NP, Buxa TR and Pench TR which have benefited from **clear policy directives and enabling legal regime/s** have produced commendable results. Clearly in future timely planning and action on devising national/ state level ecocodevelopment policies that facilitate institution building would be sine quo non for achieving lasting results. Further any policy sans enabling legal regime/s shall remain at best a half hearted step.
- 2) States need to see the results of IEDP as more than just a short term project’s output but devise policy tools that **address threats that go beyond the control of the PA management**.
- 3) **Reciprocal commitments** by the beneficiaries for park protection as provided by the IEDP has gone a long way in improving park’s protection and built good synergy between the people and the park. This should be incorporated as an essential element of any future ecocodevelopment strategy.

### B INSTITUTIONAL MATTERS

- a) **Effective management planning** as experienced by Periyar TR, KMTR, Kanha TR and Gir NP needs to be emphasized.
- b) **Specialised EDCs** at Periyar has been a singular exceptional initiative under the IEDP. Periyar TR model should accordingly be adapted elsewhere too.
- c) **Transfer of responsibility** to manage EDC affairs at Kanha TR and Pench TR in form of an EDC member being nominated as the Joint Secretary of EDC is a positive development whose success needs to be monitored and replicated elsewhere if experiment at Kanha and Pench show encouraging results in form of EDC empowerment.
- d) **United Buffer** division at Kanha TR is a success story which should be replicated in other such PAs.
- e) **Capacity Building** of frontline staff and the local people at Gir through focussed training and long term EE has changed attitudes and empowered training and long term EE has changed attitudes and empowered staff as well as the local people. The Gir experience needs to be widely disseminated and adapted at other sites.





## C CROSS CUTTING INNOVATIONS

- a) **Income Generating Activities** (IGAs) for social change at KMTR is an excellent example of visionary leadership and team effort.
- b) **Women's saving and credit group** (SHGs) at GHNP are again a remarkable effort resulting from motivated leadership.
- c) **Eco tourism** and use of 'Mowgli' as the Park's mascot at Pench TR is an innovative use of historical / literary fame for attracting tourists.
- d) **Pilgrim management at Periyar** that has transformed a recurring problem into an opportunity is a glaring example of successful conflict management.

### IMPACT OF IEDP INPUTS IN VARIOUS SITES VIS A VIS ILLEGAL ACTIVITIES/ REDUCTION IN CRIME INVOLVING THE FRINGE DWELLERS

| PA      | Relevant Inputs  | Impact   | Remark  |
|---------|--|--|---|
| Periyar | <p><b>A.</b> Revised Management Plan, Staff training, Staff welfare measures, patrolling camps, watch towers, improvement of roads, trek paths, and vehicles for improved mobility</p> <p><b>B.</b> Formations of EDCs and participatory micro planning. Reciprocal commitments by EDCs.</p> <p><b>C.</b> Awareness campaigns and EE of people in fringe areas</p> | <ol style="list-style-type: none"> <li>1. Illegal Ganja collection reduced by 80 %</li> <li>2. Illegal Sandalwood felling reduced by 90%</li> <li>3. The ex-Vayana (Cinnamon bark collector EDC apprehended 77 cases of illegal extraction leading to full control over illegal extraction which was found to be about 30,000 kg (10,000 trees) annually as per a study conducted in the year 2000.</li> <li>4. Forest fire incidences have stabilized due to greater transparency, better reporting and patrolling.</li> <li>5. Regulation of Sabarimala pilgrimage attracting around 50 lakh pilgrims per year by the SAPP EDC have protected forests from illegal felling of trees for fuel wood by substituting fire wood by LPG.</li> </ol> | Periyar is an excellent example of park local people synergy that benefits both Park and the Park fringe dwellers.  |
| Pench   | <p><b>A.</b> Establishment of patrolling and anti-poaching camps, effective wireless network, fleet of vehicles and motorized boats, improvement of roads, labour huts and staff</p>   | <ol style="list-style-type: none"> <li>1. There has been no incidence of wild animal poaching in 2002 and 2003.</li> <li>2. The menace of illegal fishing in the Totladoh reservoir has been effectively stopped during the year</li> </ol>  | As a result of IEDP there is now a better understanding and appreciation of each other's problems and build up of good trust between the Park and the people in the fringe villages |

| PA          | Relevant Inputs  | Impact   | Remark  |
|-------------|--|--|---|
|             | <p>quarters, Surveillance along HT lines, Erection of Game Proof Walls.</p> <p>Strategic creation of water bodies in the Park.</p> <p><b>B.</b> Participatory micro planning and the formation of EDCs. Distribution of Bio gas plants, fuel efficient stoves and LPG connections. Pasteur development in fringe villages. Development of informer networks with EDC assistance (Reciprocal commitment).</p> <p><b>C.</b> Promotions of Eco tourism.</p> | <p>2002-03.</p> <p><b>3.</b> Incidences of forests fires and illegal grazing have been effectively controlled.</p> <p><b>4.</b> Illegal collection of fire wood from the Park has been brought under control as the people have reduced their dependence on fire wood.</p> <p><b>5.</b> Incidence of road kills along the National Highway have been effectively controlled by judicious creation of water bodies for animals so that they no longer require to cross the NH in their search for water</p> |   |
| Gir         | <p><b>A.</b> PA consolidation. Strengthening of check posts, improvement in wireless communications, erection of watch towers, vehicles. Training of staff and EDC members.</p> <p><b>B.</b> Participatory micro planning and formation of EDCs</p> <p><b>C.</b> Environmental Education and awareness generation amongst the people of the fringe villages.</p>   | <p><b>1.</b> Park boundary better defined and demarcated by rubble wall over 41 km.</p> <p><b>2.</b> Long standing encroachments over Park land voluntarily withdrawn by the fringe villagers.</p> <p><b>3.</b> Reduction and regulation in grazing by the Maldhari and other cattle.</p> <p><b>4.</b> Reduction in instances of illegal forests fires in the Park.</p> <p><b>5.</b> Reduction in instances of illegal fuel wood collection from the Park</p>  | By addressing social issues the PA authorities have been able to reduce Park people conflicts.  |
| Buxa        | <p><b>A.</b> Upgradation of Management Plan, training of staff, construction of staff quarters, consolidation of roads and boundary surveys and demarcation augmentation of wireless communications.</p> <p><b>B.</b> Participatory micro planning, constitution of EDC and FPC, Reciprocal commitments.</p> <p><b>C.</b> Environmental education and awareness activities.</p>  | <p><b>1.</b> No poaching of mega fauna in last 4 years.</p> <p><b>2.</b> No fire in BTR for last 4 years.</p> <p><b>3.</b> No assault on staff in last 4 years.</p> <p><b>4.</b> Illegal firewood collection reduced by 70%</p> <p><b>5.</b> Reduction in illegal grazing.</p> <p>Some of the fringe FPC/EDC have invested in a cattle pound which have been quite effective in controlling grazing in their areas.</p>  | Clear Government orders have formed the basis of EDC and FPC formation. A confederation of FPCs/EDCS at beat level for better synergy is good innovation. |
| Ranthambore | <p><b>A.</b> Preparation of Management Plan, enhancement of park infrastructure including staff quarters, roads, wireless</p>  | <p><b>1.</b> Illegal grazing significantly controlled.</p> <p><b>2.</b> Poaching of animals under control.</p>   | <p><b>a.</b> Tiger population in the park has shown an increasing trend.</p> <p><b>b.</b> The Park has faced severe fund flow and timely sanction</p>     |

| PA        | Relevant Inputs  | Impact   | Remark   |
|-----------|--|--|--|
|           | <p>network, survey demarcation and fixing of boundary pillars, training of staff and EDC members.</p> <p><b>B.</b> Establishment of EDCs and participatory micro planning. Village Development activities.</p> <p><b>C.</b> EE and awareness activities</p>  | <p>3. Distribution of LPG and other fuel saving measure has reduced incidences of illegal felling of trees and removal of fuel wood as head loads.</p> <p>4. Boundary demarcation has controlled encroachment over park land.</p> <p>5. Incidences of forest fires have virtually been eliminated in the core and the buffer areas of the park.</p>  | <p>of works problem during the IEDP implementation.</p>  |
| Palamau   | <p><b>A.</b> New Management plan prepared. Regional planning Committee established and functional. Road improvement, staff quarter, Field equipment sets for frontline staff, new vehicles for improved mobility.</p> <p><b>B.</b> Participatory micro planning and formation of EDCs in 65 villages. Gender considerations taken into account through a women coordinator, Women SHGs constituted. Funds channelled through the EDC account for ED activities.</p>                                | <p>1. Reduction in grazing pressure on forests.</p> <p>2. Joint patrolling of park by staff and the EDC members.</p> <p>3. EDC in villages in Kechki east range have assisted the FD in effective two major seizures of timber smuggling in 2003.</p>  | <p><b>a.</b> Palamau suffers from a serious law and order problem in form of extremists inside the park.</p> |
| Nagarhole | <p><b>A.</b> Solar fencing of park boundary, Elephant proof wall and trench, Field staff quarters, anti poaching camps, road maintenance, watch towers, new vehicles</p> <p><b>B.</b> Participatory micro planning and establishment of 108 EDCs. ED activities like fuel saving devices, housing construction material, EPTs and repairing of community halls and schools, Income Generation. Tribal relocation programme.</p> <p><b>C.</b> Awareness generation and EE of local communities.</p> | <p>1. Illicit grazing of livestock from the EDC villages in the park has been almost eliminated.</p> <p>2. EDC villagers have formed village forest protection force (VPF) which supports FD in protection of park against fire, illegal felling and poaching of wild animals.</p> <p>3. Solar fences have reduced elephant — man conflicts.</p> <p>4. The number of Forest — Wildlife offences have dropped from over 300 in 1997-98 to under 150 in 2002-03.</p> | <p><b>a.</b> Park- people relations have improved significantly as a result of the project.</p>              |
| GHNP      | Non IEDP site  | —  | —  |
| KMTR      | Non IEDP site  | —  | —  |
| Kanha     | Non IEDP site  | —  | —  |

## MENU OF OPTION IN ECODEVELOPMENT PRACTICES (BASED ON A STUDY BY THE IIFM, BHOPAL)

| SI. No. | Problems<br>(General for all<br>PAs Nature<br>of problems)       | Strategies to<br>tackle problems<br>(General)   | Strategies (Special)  | PAs where<br>practiced                                      |
|---------|--|---|---|---|
| 1.      | Large human and<br>cattle population<br>(Dependent on<br>forest) | <ul style="list-style-type: none"> <li>■ Alternative employment in collaboration with other departments.</li> <li>■ Awareness generation</li> <li>■ Alternative livelihood provided</li> <li>■ Started stall feeding</li> </ul>   | <ul style="list-style-type: none"> <li>■ Measures for transboundary cooperation</li> </ul>  | Buxa  |
| 2.      | Grazing  | <ul style="list-style-type: none"> <li>■ Epidemic control by prophylactic immunization</li> <li>■ Alternative employment in collaboration with other departments.</li> </ul>  | <ul style="list-style-type: none"> <li>■ People sold away cattle</li> </ul>   | KMTR  |
| 3.      | Poverty &<br>Livelihood<br>problems                              | <ul style="list-style-type: none"> <li>■ Trust building efforts</li> <li>■ Installation of bio-gas, distribution of pressure cookers LPG</li> </ul>   | <ul style="list-style-type: none"> <li>■ Micro-credit scheme for women empowerment</li> <li>■ Training and tourism centers</li> <li>■ Pavitra van around temple</li> <li>■ Adoption of school by Forest Department</li> </ul>   | Buxa<br><br>GHNP<br>Nagarhole                               |
| 4.      | Illicit felling &<br>encroachments                               | <ul style="list-style-type: none"> <li>■ Environmental education and awareness generation</li> <li>■ Effective management planning</li> </ul>   | <ul style="list-style-type: none"> <li>■ Boundary pillars created to demarcate park boundary</li> </ul>   | Pench/<br>Ranthambhore,<br>Gir, Periyar                     |
| 5.      | Fire   | <ul style="list-style-type: none"> <li>■ Fire control</li> <li>■ Regular patrolling</li> <li>■ Increase in staff strength</li> <li>■ Alternative employment in collaboration with other departments.</li> <li>■ Maintenance of roads, fire lines, trenches, patrolling tracks etc.</li> </ul> | <ul style="list-style-type: none"> <li>■ 6250 kms of 'D' lines &amp; fire lines cleared</li> </ul>  | Nagarhole   |
| 6.      | Poaching   | <ul style="list-style-type: none"> <li>■ Equipping staff with rifles, wireless &amp; vehicle etc</li> </ul>   | <ul style="list-style-type: none"> <li>■ Creating EDC of ex-poachers to stop poaching</li> <li>■ A team of anti- poaching watchers created</li> <li>■ Formulation of forest protection force</li> <li>■ Yearly census of wild animals</li> <li>■ Aranya Sena</li> </ul> | Periyar<br><br>Ranthambhore<br><br>Nagarhole<br><br>Periyar |

| SI. No. | Problems<br>(General for all<br>PAs Nature<br>of problems) | Strategies to<br>tackle problems<br>(General)  | Strategies (Special)  | PAs where<br>practiced  |
|---------|--|--|---|---|
| 7.      | Human animal<br>conflict, crop raiding                     |  | <ul style="list-style-type: none"> <li>■ Feedback from tourists</li> </ul>  | Ranthambhore<br>Periyar   |
| 8.      | Low participation<br>of women                              | <ul style="list-style-type: none"> <li>■ Gender empowerment through<br/>training programmes</li> </ul> | <ul style="list-style-type: none"> <li>■ Capacity building of the<br/>local people</li> </ul>   | Gir   |
| 9.      | People's<br>Participation                                  |  | <ul style="list-style-type: none"> <li>■ Transfer of responsibility:<br/>Joint Secretary of EDC</li> <li>■ Three types of specialized<br/>EDC's: Neighbourhood,<br/>user-group &amp; professional<br/>groups EDCs.</li> <li>■ Pilgrim management and<br/>conservation.</li> <li>■ 'Mowgli' as a park Mascot<br/>and its impact on tourism</li> <li>■ Providing a legal basis to<br/>Ecodevelopment.</li> <li>■ Clear Govt. orders for<br/>effective institutionalization</li> <li>■ Reciprocal commitments<br/>from people</li> </ul> | Pench<br><br>Periyar<br><br>Periyar<br><br>Pench<br><br>KMTR/ Periyar<br><br>GHNP |

❖ ❖ ❖ ❖ ❖



## ILLUSTRATIVE, INVENTORY OF POSSIBLE ACTIVITIES UNDER ECODEVELOPMENT IN CONSERVATION AND EXTENSION

BUFFER ZONES OF PROTECTED AREAS (Source: WII)

**Note:** Depending upon site attributes (climate, terrain. Soils, present patterns of farming, fishing, livestock raising, practices of other resource use, status of conservation/ degradation, potential for restoration, variety of non- wood forest products, local skills, existing and possible infrastructure etc.) a holistic site-specific package of measures in an appropriate combination most suited to the given site should emerge as a result of a fully participatory planning process, involving local people, NGOs (Is) and government agencies (concerned with land and resource use, and rural development) as conducted by the PA management with the coordinating assistance of district administration.

### A. IN FOREST, GRASSLAND & SCRUB- SAVANNA LANDS

- (i) Orientation of forest operations for the concurrent promotion of biodiversity conservation and meeting resource needs of and generating employment for local people.
- (ii) Joint management of forests, grasslands and scrub -savanna lands with formalized prior agreements for substantial sharing of (even exclusive claim on) usufruct, in return for direct contribution to protection and conservation
- (iii) Organized collection of important non-wood forest products with measures to ensure long term sustenance of productivity.
- (iv) Cultivation and/or organized collection of medicinal plants, essential oil bearing herbs, mushrooms, pepper, cardamom, other species, tussar sulk cocoons etc, which is compatible with other forestry objectives, especially conservation and other local interests.
- (v) Preferential and concessional availability of wood and non-wood resources to local people directly participating in conservation of forest and other resources.
- (vi) Pasture improvement through weed suppression/eradication and enrichment planting with complete or rotational closures.
- (vii) Economic employment generation through weed suppression e.g. Lantana harvests for pulp, chipboard or basket making on small or cottage industry scale.
- (viii) Providing green fodder at beginning of monsoon by hiring irrigated fields, at least during the 'gestation period' to enable people to take to rotational grazing/lopping and stall feeding.
- (ix) Rotational lopping and promotion of goatary subject to stall feeding based on sustainable lopping regimes.



- (x) Harvest of green grass and plant fodder during monsoon in designated areas (if necessary, rotational) in the 'conservation' and 'extension' buffer zones.
- (xi) Harvest of grass at the end of monsoon and providing hay in return for cooperation in observance of regulated grazing/lopping.
- (xii) Special consideration to exclusive pastoralists in above measures. Backed where necessary by relocation from forest and a viable package of rehabilitation in other nearby lands (or forest where non-forest land is unavailable) with green fodder farms (grass and/or fodder trees/plants)
- (xiii) Simple water harvesting and catchment treatment works.
- (xiv) Preferential employment to locals in all the above works.

## B. IN PRIVATE FARMS

- (i) Improve dry farming techniques (improved seed, manure/ fertilizer regimes).
- (ii) Effective water harvesting (surface and ground water)
- (iii) Soil conservation measures.
- (iv) Preferences to cash crops e.g pluses, oil seeds, spices, cotton, medicinal plants.
- (v) Agro forestry.
- (vi) Sericulture & horticulture with assured employment through these on one's own land and from other community works, in order to tide over the 'gestation period'
- (vii) Jhumming areas. Partial switch over to agro-forestry and/or cash crops (including medicinal plants and plantation crops) with assured employment through these work on one's own land and on other community works, in order to tide over the gestation period'
- (viii) Apiculture.

## C. MINOR IRRIGATION

- (i) Simple diversion or diversion cum storage type micro -minor irrigation schemes including development of village tanks with preferential employment to local people.
- (ii) Lift irrigation schemes using micro-hydel (or grid where available) power or pumpsets, based on reservoirs and wells.
- (iii) Bore well irrigation, where feasible.

## D. ANIMAL HUSBANDRY, DAIRYING AND WOOL CRAFTS

- (i) Phased reduction in population of scrub livestock and improvement of breed through controlled



fertilization of female stock in proper health and age with males of better local breeds, aided by sterilization of scrub bulls.

- (ii) Goatary and sheep raising subject to stipulations suggested under 'A' above
- (iii) Cooperative dairying with marketing support.
- (iv) Support to small scale enterprises based on meat and wool.

## E. FISHERIES

- (i) Exclusive rights to organized cooperatives groups of local people in all situations subject to observance of regulations for sustainability and optimal economic productivity especially, closed areas/seasons and mesh size of fishing nets, and cooperation in ensuing ban on use of explosives and other forms of poaching.
- (ii) Marketing support backed by cold storage and appropriate transport arrangements.
- (iii) Special to deltaic mangroves: Sustainable prawn culture without prejudice to natural regeneration in the estuaries.
- (iv) Special to coasts: Sustainable harvests using sail and/or powered boats with appropriate back up to keep away large scale commercial operators exploiting directly. The latter should acquire the catch on reasonable payments from groups.

## F. ECOTOURISM:

- (i) Obligatory use of local guides (after training) on nature trails, trekking and mountaineering routes.
- (ii) Preferential and assisted allocation of way side lodges trekking mountaineering routes to locals, with a back up of micro-hydel power and fodder development to mitigate pressures on forests and pastures in high altitude areas.
- (iii) Development of trekking routes in tracts which have potential for ecotourism.
- (iv) Preferential employment to locals in protected areas and tourism facilities, after education and training as necessary.
- (v) Promotion of local handicrafts as tourist souvenirs with appropriate sale outlets.

## G. INFRASTRUCTURE

- (i) Microhydel/ grid/ solar power for energy for cottage industries and local value addition by processing.
- (ii) Ropeways or trails especially for goods movement in difficult and remote high altitude areas so as to ensure better economic returns from products exported and economic prices for goods (including food) imported.



- (iii) Wind mills/water mills for food processing and crafts e.g turnery.
- (iv) Piped (gravity) supply, hand pump or open wells for drinking water.

## H. COTTAGE INDUSTRY & HANDICRAFTS

- (i) Promotion based on local skills with appropriate technological and infrastructure support.
- (ii) Curing /processing of collected /cultivated products e.g medicinal herbs and essential oil for value addition.
- (iii) Investigation of potential plants/products by pursuing ethno-botanical and ethno-zoological studies and rich development for consumption/marketing.

## I. DEVELOPMENT PROJECTS

- (i) Obligated to have a local orientation so that they become part of local area development and in no case upset local people's resource equations, especially in relation to CPRs. Appropriate compensation/ alternatives to be built into project costs.
- (ii) Obligated to compensate by providing inputs into site- specific packages of ecodevelopment measures e.g lift irrigation along reservoir and along the river upstream and downstream.
- (iii) Obligated to allow (where admissible vis-à-vis the PA) local people to farm in draw down areas by providing lift irrigation facilities.
- (iv) Preferential employment to locals, if necessary after arranging education and/or training.

❧ ❧ ❧ ❧ ❧

# PROTOCOL FOR TIGER RE-INTRODUCTION NATIONAL TIGER CONSERVATION AUTHORITY

(adapted from the IUCN Guidelines for Re-introductions)

CAPTURE AND TRANSLOCATION OF TIGERS COULD BE UNDERTAKEN TO ADDRESS THE FOLLOWING TWO GOALS:

**Re introduction** means an attempt to establish a tiger population in an area which was once part of its historical range, but from which it has been extirpated or become extinct.

**Re-inforcement/Supplementation:** addition of tigers to an existing population to enhance its long-term viability.

## AIMS AND OBJECTIVES OF RE-INTRODUCTION

### a. Aims:

The principle aim of any re-introduction should be to establish a viable, free-ranging population in the wild, of tigers which has become locally extinct in the wild. It should be re-introduced within the tigers' former natural habitat and range and should require minimal long-term management.

### b. Objectives:

The objectives of a re-introduction may include: to enhance the long-term survival of wild tigers in a manner that they could potentially perform their ecological and evolutionary role.

**At no times should tiger translocation be viewed as an alternative to, or compromise on habitat connectivity's for sustaining and promoting natural dispersal between populations.**

The Team will consist of representatives from Wildlife Institute of India, State Forest Departments, Qualified Veterinarian and a Qualified Wildlife Biologist. The Team leader would be responsible for coordination between the various bodies and provision should be made for publicity and public education about the project. The provisions of the Wildlife Protection Act shall be adhered to at all times. The proposal, progress, and activities of the translocation exercises should be transparent and communicated through appropriate forum and media so as to gain public support.

**The National Tiger Conservation Authority (NTCA)** will keep an oversight on the translocation process and may also depute a representative as and when considered necessary.

## PRE-PROJECT ACTIVITIES

### BIOLOGICAL

#### Feasibility study and background research

- An assessment should be made of the taxonomic status of tigers to be re-introduced. They should preferably be of the same evolutionary significant unit as those which were extirpated, unless adequate





numbers are not available. Potential source/founder populations should be identified, assessed and prioritized based on a) genetic and geographical closeness to the proposed reintroduction population, b) Impact of removals on the host/founder population (assessed by a PVA if necessary). Preference should be given to tigers obtained from wild stock for reintroduction. If appropriate wild stock is not available then captive stock should be considered. An investigation of historical information about the loss and fate of individuals from the re-introduction area, as well as molecular genetic studies, may be undertaken in case of doubt as to individuals' taxonomic status.

- In the absence of genetic data tigers from the nearest population that likely had habitat connectivity in the historical past with the area where reintroduction is to be made should be the preferred founder population.
- A Population and Habitat Viability Analysis will aid in identifying significant environmental and population variables and assessment of their potential interactions, which would guide long-term population management and reintroduction. Population and management plans for the long term (>25 years) should be prepared on the basis of the above analysis. It should be clear from the onset of the reintroduction program that some reintroduced populations will require continuous management and/or supplementation for long term viability. Commitments from the concerned authority and funding support for this sustained effort are a prerequisite for reintroduction.

#### **Choice of Release site and type**

- Site should be within the historic range of tigers. For an initial reinforcement there should be few remnant wild individuals. For a reintroduction, there should be no remnant population to prevent disease spread, social disruption and introduction of alien genes. In some circumstances, a re-introduction or re-reinforcement may have to be made into an area which is fenced or otherwise delimited, but it should be within the species' former natural habitat and range.
- The re-introduction area should have assured long-term protection (whether formal or otherwise).

#### **Evaluation of re-introduction site**

- Availability of suitable habitat: re-introduction should only take place where the habitat and landscape requirements of tigers are satisfied, and likely to be sustained for the foreseeable future. The possibility of natural habitat change since extirpation must be considered. Likewise, a change in the legal/political or cultural environment since species extirpation needs to be ascertained and evaluated as a possible constraint. The area should have sufficient carrying capacity to sustain growth of the re-introduced population and support a viable (self-sustaining) population in the long run.
- Identification and elimination, or reduction to a sufficient level, of previous causes of decline: could include disease; over-hunting; poisoning; competition with or predation by introduced species; commercial poaching, habitat loss; and adverse effects of earlier management programmes. Where the release site has undergone substantial degradation caused by human activity, a habitat restoration programme and/or programmes to resettle humans should be initiated before the re-introduction is carried out.

#### **Suitability of release stock of Tigers**

- It is desirable that source tigers come from wild populations. If there is a choice of wild populations to supply founder stock for translocation, the source population should ideally be closely related genetically to the original native stock and show similar ecological characteristics to the original population.
- Removal of individuals for re-introduction must not endanger the wild source population. Stock must be guaranteed available on a regular and predictable basis, meeting specifications of the project protocol.

- Individuals should only be removed from a wild population after the effects of translocation on the donor population have been assessed, and after it is guaranteed that these effects will not be negative.
- To minimize impact on the founder / host population, preferably tigresses between the age of 2-3 years (Sub-adults) who have become independent of their mother but are yet to establish their own territories should be targeted. This cohort also has the highest reproductive potential and therefore ideal for starting a new population. Male tigers become sexually mature at the age of 2 years but rarely can they breed till 4 years of age in the wild. This age group (2-3 years) is ideal for translocation for reintroduction as their removal from the host population will not result in male turnovers and subsequent infanticide episodes. All effort should be made not to translocate established breeding individuals from the host population. Potential individual tigers that are to be translocated should be monitored prior to their capture to ascertain their social status, health, and behavior.

### Release of captive tigers

- Tigers rely heavily on individual experience and learning as juveniles for their survival; they should be given the opportunity to acquire the necessary information to enable survival in the wild, through training in their captive environment; a captive bred individual's probability of survival should approximate that of a wild counterpart.
- Care should be taken to ensure that potentially dangerous captive bred tigers that might be a danger to local inhabitants and/or their livestock are not released. All tigers should be equipped with radio collars and monitored intensively. If the newly released tiger shows behavior that is likely to cause problems for the local people, it should be removed immediately.

## SOCIO-ECONOMIC REQUIREMENTS

- Re-introductions are generally long-term projects that require the commitment of long-term financial and political support.
- Socio-economic studies should be made to assess impacts, costs and benefits of the re-introduction programme to local human populations.
- A thorough assessment of attitudes of local people to the proposed project is necessary to ensure long term protection of the re-introduced population, especially if the cause of species' decline was due to human factors (e.g. over-hunting, over-collection, loss or alteration of habitat). The programme should be fully understood, accepted and supported by local communities.
- Where the security of the re-introduced population is at risk from human activities, measures should be taken to minimize these in the re-introduction area. If these measures are inadequate, the re-introduction should be abandoned or alternative release areas sought.
- If tigers pose potential risk to life or property, these risks should be minimized and adequate provision made for compensation where necessary; where all other solutions fail, removal of the released individual should be considered.

## PLANNING, PREPARATION AND RELEASE STAGES

- Construction of a multidisciplinary team with access to expert technical advice for all phases of the programme.
- Identification of short- and long-term success indicators and prediction of programme duration, in context of agreed aims and objectives as per the PVA and population management plan.
- Securing adequate funding for all programme phases.
- Design of pre- and post- release monitoring programme so that each re-introduction is a carefully designed experiment, with the capability to test methodology with scientifically collected data.

Monitoring the health of individuals, as well as the survival, is important; intervention may be necessary if the situation proves unforeseeably unfavourable.

- If release stock is wild-caught, care must be taken to ensure that: a) the tigers are free from infectious or contagious pathogens and parasites before translocation and b) the stock will not be exposed to vectors of disease agents which may be present at the release site (and absent at the source site) and to which it may have no acquired immunity.
- If vaccination prior to release, against local endemic or epidemic diseases of wild stock or domestic livestock at the release site, is deemed appropriate, this must be carried out during the “Preparation Stage” so as to allow sufficient time for the development of the required immunity.
- Appropriate veterinary measures as required to ensure health of released stock throughout the programme. This is to include adequate quarantine arrangements, especially where founder stock travels for or crosses international boundaries to the release site.
- Development of transport plans for delivery of stock to the site of re-introduction, with special emphasis on way to minimize stress on the individuals during transport.
- Determination of release strategy (acclimatization of release stock to release area; behavioural training - including hunting and feeding; group composition, number, release patterns and techniques; timing). Preferably “Soft release” should be the norm.
- Development of conservation education for long-term support; professional training of individuals involved in the long-term programme; public relations through the mass media and in local community; involvement where possible of local people in the programme.

## POST-RELEASE ACTIVITIES

- Post release monitoring is required of all tigers. This most vital aspect may be by direct (e.g. telemetry/Satellite tracking) methods as suitable.
- Demographic, ecological and behavioural studies of released stock must be undertaken.
- Study of processes of long-term adaptation by individuals and the population.
- Collection and investigation of mortalities.
- Interventions (e.g. supplemental feeding; veterinary aid) when necessary.
- Decisions for revision, rescheduling, or discontinuation of programme where necessary.
- Habitat protection or restoration to continue where necessary.
- Continuing public relations activities, including education and mass media coverage. Evaluation of cost-effectiveness and success of re-introduction techniques. Regular publications in scientific and population literature.



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

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E-mail: dirpt-r@nic.in

No.PS-DIR(PT)/2003-MISCE

Dated the November 12, 2003

To

Chief Wildlife Wardens  
(All States)

**Subject: Guidelines for the Management of Buffer Zone/Multiple use areas of Tiger Reserves.**

Sir,

As you are aware, the general conservation strategy of Project Tiger involves setting up of Tiger Reserves on a core-buffer strategy, with the core area free of resource/human use, while the buffer having a conservation oriented land use.

The Steering Committee of Project Tiger has emphasized all along that forestry operations in the buffer zone should be organized and re-oriented to keep interests of wildlife as the primary objective. The Task Force of the Indian Board for Wildlife in its report on Project Tiger had suggested adherence to holistic environmental approach for field management of Tiger Reserves. Para 8.7.1 of the report explicitly states that in Wildlife Reserves, wildlife interest must take priority over timber production. Subsequently, the report of the Task Force of the Indian Board for Wildlife (1983) on "Eliciting Public Support for Wildlife Conservation" has also emphasized that the security of wildlife reserves should be ensured by instituting "buffer belts" surrounding core units. While the core should be free from all human use. The buffer should allow human use with a strong conservation bias.

The draft guidelines framed in this regard are appended for your kind perusal. It is requested, your considered comments may please be communicated to this Ministry by the 30th of November, 2003 positively

Yours Sincerely,

Sd/-  
Member Secretary

Copy to:

1. Forest Secretary (all concerned States)
2. Principal Chief Conservators of Forests (all concerned states)
3. All Field Directors

# Guidelines for the Management of Buffer Zone/Multiple use Areas of Tiger Reserves

Broadly, the buffer zone around a core zone of a Tiger Reserve has twin functions, viz

- To provide habitat supplement to the spill over population of wild animals from the core area, conserved with the active cooperation of stakeholder communities, and
- Providing site specific, need based, participatory eco-development inputs to local stake holders for reducing their resources dependency on the core zone and for eliciting their support towards conservation initiatives in the area. Therefore, both the buffer zone and the multiple use area, if any, surrounding the buffer should be subjected to conservation oriented community programmes as a part of eco-development, taking care not to distort the village dynamics in an artificial manner resulting in the entry of market economy which may make the whole exercise counter-productive.

Hence, the following guidelines are made for the management of buffer zone/multiple use area around Tiger Reserves:-

1. The Management Plan of a Tiger Reserve should have a separate section/chapter for buffer zone highlighting the strategy for eco-development in the impact area. The numerous village level micro plans would form part of this section.
  - (A) Communities living in the buffer zone/multiple use area of Tiger Reserves, Reserved Forest, Protected Area (having the status of Sanctuary, Conservation reserve, Community reserve or revenue land) should be involved in the management of Tiger Reserves with reciprocal commitment as a part of overall conservation strategy. The reciprocity would decide in the mutual quid pro quo of
    - (i) Fostering site specific eco-development initiatives based on participatory micro-level village plans to provide alternative resources to people apart livelihoods. The eco development inputs, interalia, may include biomass substitution (eg. Alternative fuels), biomass generation and forestry, eco-tourism, agriculture, watershed management, small irrigation, local livestock improvement, agro processing, artisanry and any other site specific item as desired by the people, not having a deleterious effect on Protected Area resources.
    - (ii) Reciprocation by the local people through specific measurable actions as per the MOU for improving protection and conservation which interalia, may include curtailment of illicit grazing, reducing fuel wood and small timber collection from Protected Areas, increasing participation in fire protection and anti-poaching efforts.
  - (B) Community involvement in the management of Sanctuaries, Conservation Reserve and Community Reserve, in case they form part of the buffer zone of the Tiger Reserve should be promoted as provided in sections 33B and 36D of the Wildlife (Protection) Act, 1972.





2. No intensive form of land use like mining, quarrying and the like should be fostered in the buffer zone, and due care should be exercised while granting NOC to such activities in private/revenue areas, if any, including in the buffer multiple use area.
3. No clear felling should be allowed in the forest areas of the buffer/multiple use surround included in the Tiger Reserve. Such areas should be managed by specially formulated, site specific 'forest plans' forming part of village level microplans and should be executed with the active involvement of local communities. Only selection cum improvement felling should be done with the main objective of sustaining the demands of people living in the area.
4. Protected Area/ Ecotourism activities in the buffer zone/multiple use areas of Tiger Reserves should be fostered as a component of eco-development with the active involvement of stake holder communities.

**F. No. 15-13/2007-NTCA**  
**National Tiger Conservation Authority**

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

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Telefax: 2338 4428

**Dated 8th December, 2007**

To

The Chief Wildlife Warden (s)  
(All Tiger Reserve States)

**Sub: Declaring big cats as man eaters.**

Sir,

I am enclosing a copy of the guidelines issued in the past for declaring of big cats as man eaters. This may be read with the following additional guidelines for dealing with instances relating to the subject.

- (a) Preventive measures
- (i) Declaring the peripheral areas of the core or critical tiger habitat as a buffer zone for its management as a multiple use area, as required under section 38V of the Wild Life (Protection) Act, 1972, for reducing man wild animal conflicts.
  - (ii) Preparing a Tiger Conservation Plan as provided in the guidelines of the NTCA vide technical document No. NTCA/01/07, for mainstreaming wildlife concerns in the tiger landscape amongst various sectors operating in the area, with reciprocal commitments.
  - (iii) Ensuring active, ecologically sustainable, integrated development for the benefit of local people living in the area, based on village specific micro plans with reciprocal commitments through village level committees (Ecodevelopment Committees) on a quid-pro-quo-basis, as provided in NTCA guidelines (technical document No. NTCA/01/07).
  - (iv) Keeping track of cattle depredation by carnivores through wireless on a daily basis, and ensuring timely compensation to affected people.
  - (v) Monitoring movement of wild carnivores near human habitations through "impression pads" created near water and other sensitive areas, and maintaining a record of such village level monitoring in the Gram Sabha/Panchayat/EDC.
  - (vi) Alerting/sensitizing local people appropriately, including safe disposal of livestock carcass and other garbage to prevent habitation of wild carnivores like panther from frequenting and subsequently becoming resident in the area.



(b) Control measures

- (i) Deployment of tracking squads comprising of frontline staff and experienced local people, and plotting day-to-day movement of the aberrant wild carnivore (preferably using GPS in the GIS domain).
- (ii) Deployment of a “watch team” for patrolling the affected village area during night, involving the EDC/Panchayat, while using simple repelling techniques like crackers, light etc.
- (iii) Deployment of elephant squads, if available.
- (iv) Deployment of local workforce to prevent local people from trespassing the affected area.
- (v) Using camera traps/impression pads for collecting field evidences relating to the wild carnivore for arriving at an inference.
- (vi) Constituting an advisory committee comprising of field staff, experience trackers and NGOs for obtaining advice relating to identifying sex of the aberrant wild carnivore causing depredation, especially for ascertaining its sex, age, physical deformity and other related parameters.
- (vii) In case of recurring human depredation in quick succession, use of dummies with a bent posture inside trap cages for trapping the aberrant animal (such traps, with inbuilt mechanism for automatic closure after animal entry, should be placed at several sensitive areas).
- (viii) In collaboration with the Revenue Authorities, alerting local people for taking necessary precautions, apart from deploying squads to prevent people from trespassing the affected areas.

It is retreated, all efforts should be made for live trapping of the aberrant animal, either through trap cages or using chemical immobilization, before deciding on its elimination.

Yours sincerely,

Sd/-  
Member Secretary  
National Tiger Conservation Authority

Copy to: The Field Director(s)-All Tiger Reserve States

Sd/-  
Member Secretary  
National Tiger Conservation Authority

# Guidelines for declaration of bigger cats as man-eaters

Both tiger and panther are included in schedule I of the Wildlife (Protection) Act, 1972 and have been given full protection against hunting under section 9(1). They can be hunted only if they become dangerous to human life or if they are so disabled or diseased as to be beyond recovery. Under section 11(1)(a), only the Chief Wildlife Warden has been given the authority to permit any person to hunt such an animal and before doing so, he has to state in writing the reasons thereof. Tiger and panthers turned man eaters in the past and continue to do so even now inspite of several theories being propounded about the non-existence of man-eaters, it is a start human life. It is not intended to give here the various reasons and circumstances that turn these animals into man-eaters, but the fact has to be recognized that tigers and panthers do turn into man-eaters and it is necessary to lay down some guidelines to help the Chief Wildlife Wardens in deciding the circumstances and the stage at which an animal could be declared a man-eater. The following guidelines are indicated.

It is necessary to differentiate between man-killing and man-eating. There are several circumstances under which human beings are attacked accidentally by tigers and panthers and may as a result die, but these cases are to be considered only as accidental killings. Such circumstances include.

- (i) Approach by man to an area when a tigress is sheltering her cubs.
- (ii) Approach accidentally to a sleeping tiger/tigress specially by grass cutters, wood collectors, etc.
- (iii) A bent - in posture by man, when a tiger takes him to be an animal and attacks. In such cases, the tiger/tigress does not eat the dead person in the first case, but it may start eating the body if the tiger/tigress comes across such accidents more than once. If the tigress is with cubs and is confined to a limited area comes across such accidents more than once, if the tigress is with cubs and is confined to a limited areas with shortage of natural prey, she is more prone to eat the dead body. The mere fact that the dead body has been eaten does not prove that the animal is a man-eater. Similarly, the fact that a particular animal has killed more than one human being also does not prove it to be a man-eater. The circumstances under which the animals killed the human being has to be examined in detail to arrive at any conclusion.

If a tiger/panther begins to seek out, stalk and wait for human beings and has after killing a person, eaten the dead body, it is established beyond doubt that the animal has turned into a man-eater. It is not necessary in such cases to wait till several human lives are lost. It may be difficult to establish such cases after the first case, but after the second case of human kill it can easily be decided if the animal has turned onto a man-eater.

The place where the human kills take place should also work as a guide. In certain areas, where forests are disturbed due to intensive working, grazing or fire, tigresses tend to move to adjoining sugarcane fields to litter. Labour and farmers working in the sugarcane field get killed by such tigress, and their dead body is eaten by them. As given in para (1), such animals are not to be considered man-eaters. But in case, a tiger starts living in such sugarcane fields, he is more likely to turn into a man-eater, as he goes out there for food. He seeks after pigs and animals in the field and can eat human beings also. A male tiger killing a human being near a village or in sugarcane field will in all probability be a man-eater.

This evidence should not be used against panthers, which usually live close to villages and move in the night even through the village in search of dogs, unless the panther has begun to lie in wait for human beings.

Even if enough evidence has not come forth to establish an animal as a man-eater, but there are definite grounds to suspect after one human kill that the animal has the tendency to turn into a menace, steps should be taken to trap it. Trapping of panthers will not be difficult, but may be so in the case of tigers. Efforts to tranquilize such animals should start immediately.

Where it is established that the animal is a man-eater, it has to be declared so without delay and steps should be taken to destroy the animal. Efforts to trap and tranquilize the animal should, however, continue along with the steps taken to destroy it. But in no case efforts to destroy it should slacken for the sake of trapping or tranquilizing to succeed.

When a tiger has been declared a man-eater, only experienced and senior forest officers should be authorized to destroy it. In no case permits should be given to others. There is such a heavy demand from shikaris and others to get a permit to destroy man-eating tigers that they bring heavy pressure, both political and otherwise on the authorities to declare a tiger as a man-eater. To remove the chances of such pressures working against innocent tigers, it is necessary to eliminate outsiders from getting any permit for their destruction. This also ensure destruction of only the genuine man-eater.

In the case of panthers, operating in hilly tracts, it may be necessary to take the help of experience shikaris, as young and experienced persons are needed to operate in these hilly areas. On account of complete ban on hunting of tigers and panthers since that last one decade and also due to the rise in the price of arms and ammunicions, it is difficult to find a young forest officer, with adequate experience who can be authorized to destroy the man-eater. Unlike the case of man-eating tiger, where age does not work as a handicap and where middle aged forest officers can take care of the animal in the plains, the man-eating panther needs an agile and young shikari who can travel over miles and miles of difficult hilly terrain on foot.

No authority other than the Chief Wildlife Warden is legally competent to permit any one to hunt such animals. Cases have, however, occurred where civil authorities have unofficially authorized and encouraged hunting of such animals by shikaris having no experience and otherwise leading to a 'free-for all' in the areas of operation. Such irresponsible action on the part of any authority should be severely dealt with by the Government, as it leads not only to the destruction of several innocent animals, but may create more man-eaters through injury caused by these shikaris.

Normally no reward should be announced or given for the destruction of man-eaters. Where it is necessary to engage a shikari, who cannot himself take care of the financial burden involved in the operation, all assistance and material help should be provided to him by the Government. Government may also consider the release of the trophy of the animal destroyed infavour of the hunter (GOI).



# National Tiger Conservation Authority

(Statutory Body under the Ministry of Environment and Forest, Govt. of India)

Member Secretary

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No.1-9 / 93-PT

Dated the July 15, 2010

To

The Field Director  
(All Tiger Reserves)

**Subject: Record of Post-mortem Examination.**

**Reference: Letter of even number dated 21-07-2007 from this Authority.**

Sir,

Further to the correspondence cited above, a revised set of formats for recording post-mortem findings/sample collection are enclosed as indicated below:-

1. Revised Necropsy examination form.
2. Necropsy kit checklist.
3. Considerations during necropsy.
4. Laboratory specimen collection and dispatch form.

The above formats have been refined/developed by Dr. S.P.G. Bhalla, Veterinary Officer, Corbett Tiger Reserve which would facilitate scientific documentation of the post-mortem, while ensuring uniformity.

Yours sincerely,

Encl: As above.

Sd/-  
Member Secretary (NTCA)

Copy to:

1. All Chief Wildlife Wardens of Tiger Reserve States.
2. Dr. S.P.G. Bhalla, Veterinary Officer, Corbett Tiger Reserve, P.O. Ramnagar, District - Nainital, Uttarakhand with compliments for the good efforts.

Sd/-  
Member Secretary (NTCA)



# RECORD OF NECROPSY EXAMINATION

NAME OF PROTECTED AREA/ZOO: .....

NAME OF SPECIES with scientific name: .....

AGE (approximate): ..... SEX: .....

AMBIENT TEMPERATURE in °C (at the time of acquisition): .....

DATE OF NECROPSY:..... DATE & TIME OF DEATH (estimated): .....

TIME OF ACQUISITION OF CARCASS: ..... TIME OF DISPOSAL OF CARCASS:.....

GPS LOCATION AT PLACE OF DEATH & PLACE OF NECROPSY (if different): .....

AREA DESCRIPTION (topography, water source, etc.): .....

## I. HISTORY OF DEATH

1. Brief History: .....

.....  
.....  
.....

2. Observation of the surroundings: .....

.....  
.....

3. Other relevant information: .....

.....

## II. EXTERNAL EXAMINATION

PHYSICAL CONDITION: Normal  Fat  Thin  Emaciated  RIGOR MORTIS:.....

SUPERFICIAL LYMPH GLANDS:MUCOUS-MEMBRANE: .....

NATURAL ORIFICES: ..... BODY WEIGHT in kg (approximate):.....

BODY LENGTH in cm: ..... TAIL LENGTH in cm:.....  
(nose to tip of tail) (base of tail to tip of tail)

HEIGHT AT WITHERS in cm: ..... CHEST GIRTH in cm:.....

STATE OF CARCASS: Fresh  Refrigerated  Deep frozen  Decomposed  Incomplete

STATE OF DECOMPOSITION refer Annexure: Fresh  Bioated  Active decay  Advanced decay



DESCRIPTION OF WOUNDS/INJURIES, if any: .....

.....

OTHER REMARKABLE OBSERVATIONS, if any: .....

.....

Vital Measurements (whichever applicable):-

Rt. FORE FOOT-PAD GIRTH & LENGTH X BREADTH in cm (carnivores) refer Annexure: .....

LENGTH OF CANINE TEETH in cm (carnivores):

Upper Right..... Upper Left..... Lower Left..... Lower Right.....

Rt. FORE FOOT-PAD CIRCUMFERENCE in cm (elephant):

LENGTH & CIRCUMFERENCE (at base) OF BOTH TUSK/TUSH in cm (elephant): .....

.....

OTHER (Length of Antler/Horn, Length & Circumference of Rhinoceros Horn, etc.): .....

.....

III. INTERNAL EXAMINATION

|  |  |
|--|--|
| <u>A. SKIN, SUBCUTANEOUS TISSUE &amp; MUSCLES:</u>   |  |
| <u>B. BODY CAVITIES:</u><br>1. POSITION OF VISCERAL ORGANS<br>2. PERITONEAL CAVITY<br>3. PLEURAL CAVITY AND PLEURA   |  |
| <u>C. RESPIRATORY SYSTEM:</u><br>1. LARYNX<br>2. TRACHEA<br>3. BRONCHI AND BRONCHIOLES<br>4. LUNGS (Appearance, color & consistency)<br>5. LYMPH GLANDS<br>6. DIAPHRAGM  |  |
| <u>D. HEPATIC SYSTEM:</u><br>1. LIVER (Appearance, size, color)<br>2. LIVER TISSUE<br>3. GALL BLADDER & DUCTS<br>4. LYMPH GLANDS   |  |
| <u>E. CIRCULATORY &amp; LYMPHATIC SYSTEM:</u><br>1. PERICARDIAL SAC<br>2. HEART MUSCLE<br>3. HEART CHAMBERS<br>4. LARGE BLOOD VESSELS<br>5. SMALL BLOOD VESSELS (Mesenteric)<br>6. SPLEEN (Appearance, size, color)<br>7. SPLENIC TISSUE |  |







| S. No. | Sample | Preservative used | Examination required | Laboratory address |
|--------|--------|-------------------|----------------------|--------------------|
| 1      |        |                   |                      |                    |
| 2      |        |                   |                      |                    |
| 3      |        |                   |                      |                    |
| 4      |        |                   |                      |                    |
| 5      |        |                   |                      |                    |
| 6      |        |                   |                      |                    |
| 7      |        |                   |                      |                    |
| 8      |        |                   |                      |                    |
| 9      |        |                   |                      |                    |
| 10     |        |                   |                      |                    |

V. PROVISIONAL DIAGNOSIS:

.....

.....

.....

.....

.....

Place: ..... 1. Signature: .....

Date:..... Veterinarian's name: .....

Designation: .....

2. Signature: .....

Veterinarian's name: .....

Designation: .....

Note: Attach a rough sketch of the area duly signed by the competent authority.



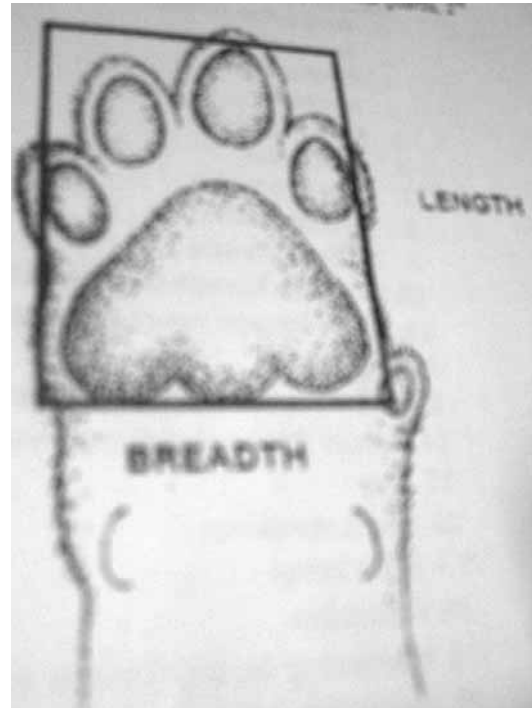
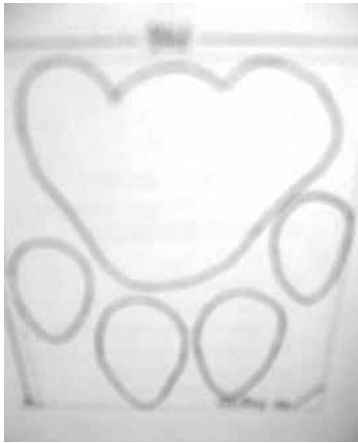
## ANNEXURE

### 1. Formula for calculation of Body weight in elephants [Hile et al]

Weight in Kg = 18 (chest girth in cm)-3336

### 2. Measuring a pugmark [Talwar R, Usmani A (2005) Reading pugmarks - A pocket book for forest guards, 2nd edn, pp. 23-24.

WWF-India, New Delhi]



- Pugmark Length or PML is the measurement from the tip of the farthest toe to the base of the pad along the line of walk.
- Pugmark Breadth or PMB is the measurement between the outer edges of the first and last toe.
- The above are measured by drawing a box (all concerns at 90 degrees) touching the extreme ends of the pugmark.

### 3. Stages of decomposition

The process of decomposition has been divided into the following four stages:

Fresh stage: This stage began at the moment of death and ends when bloating is evident.

Bloated stage: Gases produced by metabolic activity of anaerobic bacteria cause a slight inflation of the abdomen. This stage begins when gases start to accumulate in the carcass and ends when body deflates.

Active decay stage: This stage begins when bloating finishes. The onset of this stage is marked by the deflation of the carcass. The skin is broken due to growing up Dipteran larvae. The greatest percentage of biomass is removed during this stage as a result of the maggot feeding masses. The end of this stage is marked by the Dipteran larva migration before pupation.

Advanced decay stage: This stage begins when the last Dipteran larvae depart from the carrion; much of the flesh is removed. The carcass consisted of dry skin, cartilage, and bones.

# NECROPSY KIT CHECKLIST

## EQUIPMENT

A basic necropsy kit can be assembled in preparation for transport to a field necropsy site on short notice. The kit should contain the following items:

### Necropsy equipment

1. Bone cutter (small)
2. Bone cutter (large)
3. Butcher knife
4. Hammer
5. Knife (large)
6. Knife (small)
7. Knife Sharpener
8. Surgical Blades
9. BP blade handle
10. Rat tooth forceps (small and large)
11. Tissue forceps (small and large)
12. Probe
13. Scissor (both ends sharp) (small and large)
14. Scissor (blunt-sharp) (small and large)
15. Tray
16. Sharp container
17. Spirit lamp
18. Match box
19. Measuring tape (30 meter length)
20. Nylon thread

### Necropsy documentation

21. Marker pen and pencil
22. Labels
23. Necropsy forms, Laboratory specimen forms
24. Note book, papers

### Protective Clothing

25. Apron (disposable or non-disposable)
26. Shoe covers (disposable)
27. Sterilised Gloves (disposable)
28. Non-sterilised Gloves (disposable)
29. Veterinary Gloves (disposable)
30. Face Mask (disposable)
31. Cap (disposable)
32. Full face Shield (disposable)



### **Specimen containers and sampling instruments**

33. EDTA vacutainer
34. Serum separator vacutainer
35. Syringe with needles (20g) 2ml, 5ml, 10ml
36. Microscope glass slides & slides box
37. Aluminium foil
38. Containers 250ml, 500ml
39. Zip lock bags - medium and large
40. Sterile swabs
41. Sterile containers (50ml)

### **Transport materials**

42. Cotton roll (500g)
43. Insulated container
44. Packaging tapes (1 inch and 2 inch)
45. Ice packs
46. Ice box - small

### **Disinfecting materials**

47. Chlorhexidine Solution (Savlon\*)
48. Isopropyl Alcohol
49. Liquid soap
50. Lime

### **Fixatives and Preservatives**

51. Methanol
52. Silica gel
53. Buffered formalin 10%
54. Sterile Buffered glycerin 50%
55. 70% Ethyl alcohol

### **Others**

56. Global Positioning System
57. Camera
58. Weigh machine (upto 400kg)
59. Plastic sheets
60. Flashlight

## APPENDIX

### **Sterile Buffered Glycerin (50%)**

For transporting tissues for culture when refrigeration is not available.

To make sterile buffered glycerin, mix glycerin with an equal amount of buffer composed of:

A. 21 g citric acid mixed in 1000 distilled water

B. 28.4 g anhydrous sodium phosphate in 1000 distilled water

Mix 9.15 ml of A and 90.85 ml of B

Mix 100 ml of buffer with 100 ml of glycerin.

Then sterilize in small tubes to take into the field.

### **10% Buffered Formalin**

For fixation of tissues for histology.

To make one litre mix:

100 ml formalin (38-40% formaldehyde)

900 ml distilled water

4 g sodium chloride (table salt)

### **70% Ethyl Alcohol**

For parasitological examination:

To make one litre mix:

700 ml of 100% ethanol

100 ml of distilled water

❧ ❧ ❧ ❧ ❧



# CONSIDERATIONS DURING NECROPSY



Advisories

National Tiger Conservation Authority

# CONTENTS

Introduction

Equipment

Safety considerations

Labelling of specimen

General observations about the carcass and its surroundings

Specimen collection and preservation

Tissue sampling procedures

For histology, microbiology, serology, toxicology, parasitology, and cytology

General steps to performing the necropsy

Carcass dissection using the carnivore a model

General Concerns for Performing the Necropsy

Post-Necropsy

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Fixatives and preservatives

APPENDIX II

Tissue checklist for microbiology and toxicology





## INTRODUCTION

Many diseases affecting valuable wildlife resources have gone undetected because appropriate samples were not collected for diagnostic testing from animals that died due to the disease. The purpose of this document is to provide a national standard for biological sample collection.

When appropriate samples and accurate written and photographic records are taken, the cause of disease can be determined in most cases.

The purpose of this manual is to provide practical guidelines for performing field necropsies on wild animals and for collecting, storing and shipping samples in the field for diagnostic testing.

It would be worthwhile to collect complete tissues samples including blood as it would aid in the recognition of disease condition. If only selected samples are taken because a particular disease is suspected and the animal does not have that disease, these samples may be inadequate to test for other diseases that might be causing the disease. Furthermore, selective sampling limits the information that could be procured from a wild animal necropsy that could aid in future population or ecosystem management.

Before performing a necropsy on an animal two important points needs to be considered:

1. **ZOONOTIC DISEASES:** Could this species have a disease that is transmissible to humans? Diseases such as rabies or Echinococcosis (Hydatid disease) in carnivores, anthrax or rabies in ungulates or psittacosis in birds can cause serious and fatal diseases in humans. Many primate diseases also can cause human illness. Take appropriate protective measures before conducting the necropsy. Wearing a mask is particularly important when performing a necropsy on a primate, bird, or a carnivore suspected of rabies. Also, all samples should be handled with care and unfixed samples should be placed in leak proof containers so that dangerous infectious materials do not leak during transport.
2. **REPORTABLE AND INFECTIOUS DISEASES:** Could this animal have a disease that is infectious to livestock or other wild animals? Diseases such as anthrax, foot and mouth disease, or tuberculosis can spread to other animals through contamination of the environment during the necropsy procedure. Anyone conducting necropsy of wild animals should be aware of the typical lesions of these diseases and take extra precautions when decontaminating a necropsy site.

## EQUIPMENT

A basic necropsy kit can be assembled in preparation for transport to a field necropsy site on short notice. The kit should contain the following items:

### **Necropsy equipment**

1. Bone cutter (small)
2. Bone cutter (large)
3. Butcher knife
4. Hammer
5. Knife (large)
6. Knife (small)
7. Knife Sharpener



8. Surgical Blades
9. BP blade handle
10. Rat tooth forceps (small and large)
11. Tissue forceps (small and large)
12. Probe
13. Scissor (both ends sharp) (small and large)
14. Scissor (blunt-sharp) (small and large)
15. Tray
16. Sharp container
17. Spirit lamp
18. Match box
19. Measuring tape (30 meter length)
20. Nylon thread

#### **Necropsy documentation**

21. Marker pen and pencil
22. Labels
23. Necropsy forms, Laboratory specimen forms
24. Note book, papers

#### **Protective Clothing**

25. Apron (disposable or non-disposable)
26. Shoe covers (disposable)
27. Sterilised Gloves (disposable)
28. Non-sterilised Gloves (disposable)
29. Veterinary Gloves (disposable)
30. Face Mask (disposable)
31. Cap (disposable)
32. Full face Shield (disposable)

#### **Specimen containers and sampling instruments**

33. EDTA vacutainer
34. Serum separator vacutainer
35. Syringe with needles (20g) 2ml, 5ml, 10ml
36. Microscope glass slides & slides box
37. Aluminium foil
38. Containers 250ml, 500ml
39. Zip lock bags - medium and large
40. Sterile swabs
41. Sterile containers (50ml)

#### **Transport materials**

42. Cotton roll (500g)
43. Insulated container
44. Packaging tapes (1 inch and 2 inch)



45. Ice packs
46. Ice box - small

**Disinfecting materials**

47. Chlorhexidine Solution (Savlon®)
48. Isopropyl Alcohol
49. Liquid soap
50. Lime

**Fixatives and Preservatives**

51. Methanol
52. Silica gel
53. Buffered formalin 10%
54. Sterile Buffered glycerin 50%
55. 70% Ethyl alcohol

**Others**

56. Global Positioning System
57. Camera
58. Weighing machine (upto 400kg)
59. Plastic sheets
60. Flashlight

## SAFETY CONSIDERATIONS

### Personal safety

Some diseases of wildlife can cause serious illness or death in humans, all carcasses should be handled as if they were harbouring potentially dangerous diseases and precautions for personal safety should be exercised. Minimal protective clothing is always advised that includes apron, gloves and a mask that covers the nose and mouth, shoe covers.

### Handling of carcass

Diseased wildlife should also be handled carefully to minimize exposure of other wild and domestic animals. If ANTHRAX is suspected, a blood smear should be made by nicking an ear vein or other available vein and checking for *Bacillus anthracis* by microscopy before the carcass is opened. Carcasses with anthrax or other infectious diseases should be buried (preferably covered with a disinfectant and buried at least 2 m deep to prevent scavenging).

### Despatching samples

Freshly collected and frozen samples should be packaged and dispatched immediately after necropsy so that no further deterioration occurs. Laboratory must also be telephonically informed about the details of the samples.

## Labelling of Specimen

All containers, tubes, slides and bags should be labeled using a waterproof marker. Placing a second label in a plastic bag that is then attached to the container adds further security. For formalin-fixed tissues, a paper label with the animal identification written in pencil can be submerged in formalin with the tissues.

The following information should be included on the labels:

Date

Location

Species

Tissue type & preservative used

## General Observations about the Carcass and its Surroundings

### Assessment of the Condition

Examine:

- Any recent weather conditions that could have caused animal deaths (drought, floods, electrical storm, etc).
- Ambient temperature that might lead to further deterioration of carcass
- Signs of struggle.
- Condition of the animal.
- Any bite wounds, other signs of predation. If wounds are present, look for bruising and bleeding in the tissues near the wounds which would indicate that they occurred before the animal died. Look for signs of humans or injuries caused by humans. Otherwise these would most likely were caused from the carcass being scavenged.

- Broken bones, missing hair, broken or missing teeth or other signs of trauma.
- Maldeformities (if any).
- External Parasites (preserve if any).

Consideration about Nutritional Status

- Evaluate weight, body length and chest girth (details mentioned in the necropsy form).  
Examine:
  - Fat stores under the skin and in body cavities.
  - Amount of fat around the heart and kidneys
  - Muscle mass.
  - Amount of food in the digestive tract.
  - Condition of the teeth like deposition of tartar, chipping, fracture, pulpal exposure, etc.

**Specimen Collection and Preservation**

Most carcasses will have some AUTOLYSIS, but diagnostic tests can still be performed if tissues are properly handled. Therefore gentle handling of autolysed tissues is recommended. Quickly place in preservative.

Freeze or refrigerate samples as soon as possible for infectious disease or toxicology testing.

Autolysis can cause many artifacts in tissues that can be confused with a disease process.

However, it is always best to take a sample from an area that looks abnormal rather than assume that the change was caused by autolysis. Histopathology will be able to distinguish between true lesions and post-mortem changes.

Histopathology

- Samples should be taken from all major organs and any abnormal areas as well.
- Samples from GIT can be placed in one container and should not be placed with other organs.
- Samples should be placed in container of 10% buffered formalin.
- Quickly submerge tissues in 10 times the volume of formalin as the volume of tissue.
- Samples should be no thicker than 1 cm so that they can fix, but long and wide enough to represent the different areas of a tissue as well as any abnormalities.
- Samples that include abnormal areas and surrounding normal areas are best.
- Samples should be handled carefully by grasping at the edges.
- Crushing, stretching, scraping, or otherwise damaging specimens should be avoided. Gentle handling is required.
- If a tissue needs special labeling, place it in a different container or attach a piece of paper to the tissue with string or a pin and label the paper or container with pencil or waterproof marking pen.

Microbiology (Bacteriology and Virology)

To take samples without contaminating them, the samples need to be taken before tissues are touched and the instruments need to be sterilized. These samples also should be placed in sterile containers. To sterilize instruments, dip the tips in alcohol and then flame them or flame the tip until they are red and then let them cool. Samples also can be taken with a sterile swab, sterile syringe, or by placing a large (3cm x 3cm) section of tissue directly in a sterile container (the center of the tissue will be uncontaminated).

Take samples that contain abnormal areas. Appropriate samples include: whole blood, pus, areas with abscesses or nodules, or intestinal contents (within a loop of intestines). When taking samples from infected tissues, select an area near the edge of the affected tissues where live organisms are most likely to be found. If no abnormal areas are present, take standard tissue samples of lung, liver, kidney, spleen, tonsil, and intestines.



Keep samples moist with sterile transport media, sealed in a sterile container and cold. If refrigeration is not available, samples can be placed in 25% buffered glycerin in sterile containers. Transport swabs should be removed from their sterile wrapping, brushed against the lesion or fluid requiring sampling, and replaced in the tube as swiftly as possible to avoid contamination. Separate swabs should be taken from areas where the presence of pathogens is suspected. Sampling of the pleural surface of the lungs, bronchi, stomach mucosa, perineal fluid, fluid in the pericardial sac, brain surface, abscesses, or infected areas is recommended for relatively fresh carcasses.

Smears of pus and infected tissues are also useful, can be air-dried and fixed with heat.

#### Toxicology

Take samples and place half of each sample in aluminium foil and half in plastic bags or containers (aluminium or plastic interfere with the testing of some toxins). Samples should be stored frozen (if possible) until shipped to a laboratory (see check list in Appendix II).

#### Parasitology

- Faeces, gastro-intestinal contents and mucosal scrapings can be preserved by refrigeration or 10% buffered formalin. If GIT protozoa are suspected, the faecal matter can be stored in normal saline and then refrigerated.
- External parasites are best preserved in 70% ethanol.
- Trematodes (flukes) and cestodes (tape-worms) can be preserved by 10% buffered formalin.
- Nematodes can be preserved in 70% ethanol. A small quantity of glycerin if added prevents shrinkage.
- Make thin the thick blood smears on clean glass slides. Air dry and fix with methanol.

#### Preparation of Slides for Cytology

- Make a clean cut with a scalpel blade across the surface of the abnormal area of the tissue you wish to examine.
- Grasp the sample firmly with forceps, placing the cut surface down.
- Blot the cut surface of the sample across a paper towel or other absorbent surface until no blood or fluids are evident.
- Then gently touch the blotted surface in several locations on clean slides.
- Fix with methanol.

#### Urine

Urine can be collected from the urinary bladder of relatively fresh carcasses with a sterile syringe. If the bladder is not distended it may be desirable to slit it to remove the urine with a syringe. Urine can be refrigerated but it should be submitted for culturing or clinical pathology as soon as possible after collecting. Samples can otherwise be frozen for later determination of osmolality and other urine values.

### **General Concerns for Performing the Necropsy**

- All the procedures involved during necropsy must be carried out before sunset and proper light is essential.
- Ensure proper history and thorough ante-mortem examination of the carcass
- All carnivores and ungulates are placed on the left side so that the right side of the carcass is opened. All birds, reptiles, and primates are placed on their back.
- After the body cavities are opened, the general nutritional condition of the animal and location of all organs should be assessed (to determine if any organs are displaced) before organs are removed. At this time, a sterile blood sample for culture can be removed from the heart (the right atrium is the best location), then additional blood can be taken to obtain serum for serological tests. Also sterile samples of

other organs should be taken for culture before organs are handled.

- After the general condition of the animal has been recorded, individual organs can be removed, examined, and sampled in a systematic manner. Any abnormal findings (lesions) should be described. Photographs of abnormal findings provide the best documentation for records.

### Description of Abnormalities Found at Necropsy

Criteria preferred for describing any abnormality is location, number & distribution, colour, size, shape, consistency, and texture. For example: “The liver contains multiple tan, firm nodules ranging from 1 to 3 cm in diameter that are distributed throughout all liver lobes. The nodules are gritty on cut surface.”

## **Post-necropsy**

### Disposal of carcass

Open air incineration is best preferred for all predators, small to medium-sized ungulates, primates, birds and reptiles as it allows complete disposal of all body parts (highly priced in wildlife illegal trade). If facility permits, large-sized ungulates can be cut into pieces before incineration.

On-site burial is best preferred for elephants and rhinoceros after removal of tusks and horn respectively. Salt and lime can also be used to fasten the natural decomposition process.

### Disinfecting the necropsy site

The carcass and all tissues from the carcass including blood soaked dirt should be buried or incinerated. All contaminated paper or plastic materials should be either thoroughly disinfected or incinerated. All blood and residual tissues should be removed from the instruments and tools with soap and water. Then the instruments should be disinfected. Necropsy boots and apron should be cleaned and any contaminated clothing thoroughly washed. The external surfaces of any containers with samples should also be washed. Lime should be sprinkled to disinfect the necropsy site.

### Storage or submission of samples

All the samples must be packed separately with proper packaging tapes to avoid leakage and cushioned with absorbent material to avoid spoilage. If necessary, ice packs should be interspersed with specimens to provide uniform refrigeration or freezing effect.

Formalin-fixed samples can be kept at a cool room temperature until shipped.

Any samples for culture should be kept refrigerated (for parasitology or bacterial cultures) or frozen (for toxicology or virus cultures).

Contact the laboratory before shipping.

It is best to ship frozen and fixed samples separately. If they must be shipped together, then insulate the fixed tissues from freezing by wrapping in newspapers. Assure that there is no spillage of formalin, because fixation of frozen samples will make culturing for bacteria or viruses impossible and will alter cells on blood smears or cytology slides. Furthermore, formalin will cause undesirable effect on the samples for toxicological investigation.

## Appendix I. Fixatives and Preservatives

### Sterile Buffered Glycerin (50%)

For transporting tissues for culture when refrigeration is not available.

To make sterile buffered glycerin, mix glycerin with an equal amount of buffer composed of:

A. 21 g citric acid mixed in 1000 distilled water

B. 28.4 g anhydrous sodium phosphate in 1000 distilled water

Mix 9.15 ml of A and 90.85 ml of B

Mix 100 ml of buffer with 100 ml of glycerin.

Then sterilize in small tubes to take into the field.

### 10% Buffered Formalin

For fixation of tissues for histology.

To make one litre mix:

100 ml formalin (38-40% formaldehyde)

900 ml distilled water

4 g sodium chloride (table salt)

### 70% Ethyl Alcohol

To make one litre mix:

700 ml of 100% ethanol

100 ml of distilled water

## Appendix II. Tissue Checklist for Microbiology and Toxicology

| Tissue                | Microbiology | Toxicology |
|-----------------------|--------------|------------|
| Brain                 | √            | √          |
| Fat                   |              | √          |
| Kidney                | √            | √          |
| Stomach contents      |              | √          |
| Hair                  |              | √          |
| Liver                 | √            | √          |
| Whole Blood           | √            | √          |
| Lymph nodes           | √            | √          |
| Tonsils               | √            | √          |
| Spleen                | √            | √          |
| Abscesses, granulomas | √            |            |



## LABORATORY SPECIMEN FORM

NAME OF PROTECTED AREA/ZOO: .....

NAME OF SPECIES with scientific name: .....

AGE (approximate): ..... SEX:.....

AMBIENT TEMPERATURE in °C (at the time of acquisition): .....

DATE OF NECROPSY: ..... DATE & TIME OF DEATH (tentative): .....

COPY OF NECROPSY EXAMINATION ATTACHED: YES/NO

BRIEF HISTORY: .....

.....

| S. No. | Sample | Preservative used | Examination required | Laboratory address |
|--------|--------|-------------------|----------------------|--------------------|
| 1      |        |                   |                      |                    |
| 2      |        |                   |                      |                    |
| 3      |        |                   |                      |                    |
| 4      |        |                   |                      |                    |
| 5      |        |                   |                      |                    |
| 6      |        |                   |                      |                    |
| 7      |        |                   |                      |                    |
| 8      |        |                   |                      |                    |
| 9      |        |                   |                      |                    |
| 10     |        |                   |                      |                    |
| 11     |        |                   |                      |                    |
| 12     |        |                   |                      |                    |
| 13     |        |                   |                      |                    |
| 14     |        |                   |                      |                    |
| 15     |        |                   |                      |                    |

DATE & TIME OF COLLECTION: .....

MODE OF DISPATCH: Post/rail/air/bus/messenger(messenger's name) .....

DATE & TIME OF DISPATCH:.....

Handed over to .....

.....

.....

..... dated: .....

by: Veterinarian's name & signature: .....

.....

.....

SENDER'S ADDRESS:



Advisories

National Tiger Conservation Authority

# NOTIFICATIONS





# भारत का राजपत्र The Gazette of India

असाधारण

ETRAORDINARY

भाग 2 — खण्ड 1

PART II — Section 1

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 45]  
No. 45]

नई दिल्ली, सोमवार, सितम्बर 4, 2006 भाद्र 13, 1928  
NEW DELHI, MONDAY, SEPTEMBER 4, 2006/BHARDRA 13,1928

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके।  
Separate paging is given to this Part in order that it may be filed as a separate compilation.

## MINISTRY OF LAW AND JUSTICE (Legislative Department)

*New Delhi, the 4<sup>th</sup> September, 2006/Bhadra 13, 1928 (Saka)*

The following Act of Parliament received the assent of the President on the 3<sup>rd</sup> September, 2006, and is hereby published for general information:—

THE WILD LIFE (PROTECTION) AMENDMENT ACT, 2006  
No. 39 OF 2006

[3<sup>rd</sup> September, 2006.]

*An Act further to amend the Wild Life (Protection) Act, 1972.*

BE it enacted by Parliament in the Fifty-seventh Year of the Republic of India as follows:—

- (1) This Act may be called the Wild Life (Protection) Amendment Act, 2006. Short title and commencement.  
(2) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint.
- After Chapter IVA of the Wild Life (Protection) Act, 1972 (hereinafter referred to as the principal Act), the following Chapters shall be inserted, namely:— 53 of 1972  
Insertion of new Chapters IVB and IVC.

### CHAPTER IVB

#### NATIONAL TIGER CONSERVATION AUTHORITY

38K. In this Chapter, —

Definitions.

- “National Tiger conservation Authority” means the Tiger Conservation Authority constituted under section 38L;

- (b) "Steering Committee" means the Committee constituted under section 38U;
- (c) "Tiger Conservation Foundation" means the foundation established under section 38X;
- (d) "tiger reserve State" means a State having tiger reserve;
- (e) "tiger reserve" means the areas notified as such under section 38V.

38L.(1) The Central Government shall constitute a body to be known as the National Tiger Conservation Authority (hereinafter in this Chapter referred to as the Tiger Conservation Authority), to exercise the powers conferred on, and to perform the functions assigned to it under this Act.

Constitution of  
National Tiger  
Conservation  
Authority.

(2) The Tiger Conservation Authority shall consist of the following members, namely:—

- (a) the Minister in charge of the Ministry of Environment and Forests—Chairperson;
- (b) the Minister of State in the Ministry of Environment and Forests—Vice-Chairperson;
- (c) three members of Parliament of whom two shall be elected by the House of the People and one by the Council of States;
- (d) eight experts or professionals having prescribed qualifications and experience in conservation of wild life and welfare of people living in tiger reserve out of which at least two shall be from the field of tribal development;
- (e) Secretary, Ministry of Environment and Forests;
- (f) Director General of Forests and Special Secretary, Ministry of Environment and Forests;
- (g) Director, Wild Life Preservation, Ministry of Environment and Forests;
- (h) Six Chief Wild Life Wardens from the tiger reserve States in rotation for three years;
- (i) An officer not below the rank of Joint Secretary and Legislative Counsel from the Ministry of Law and Justice;
- (j) Secretary, Ministry of Tribal Affairs;
- (k) Secretary, Ministry of Social Justice and Empowerment;
- (l) Chairperson, National Commission for the Scheduled Tribes;
- (m) Chairperson, National Commission for the Schedule Castes;
- (n) Secretary, Ministry of Panchayati Raj;
- (o) Inspector-General of Forests or any officer of the equivalent rank having at least ten years experience in a tiger reserve or wildlife management, who shall be the Member-Secretary,

to be notified by the Central Government, in the Official Gazette.

(3) It is hereby declared that the office of member of the Tiger Conservation Authority shall not disqualify its holder for being chosen as, or for being, a member of either House of Parliament.

38M. (1) A member nominated under clause (d) of sub-section (2) of section 38L shall hold office for such period not exceeding three years:

Term of office  
and conditions  
of service of  
members.

Provided that a member may, by writing under his hand addressed to the Central Government, resign from his office.

- (2) The Central Government shall remove a member referred to in clause (d) of sub-section (2) of section 38L, from office if he—
- (a) is, or at any time has been, adjudicated as insolvent;
  - (b) has been convicted of an offence which, in the opinion of the Central Government, involves moral turpitude;
  - (c) is of unsound mind and stands so declared by a competent court;
  - (d) refuses to act or becomes incapable of acting;
  - (e) is, without obtaining leave of absence from the Tiger Conservation Authority, absent from three consecutive meetings of the said Authority; or
  - (f) has, in the opinion of the Central Government, so abused his position as to render his continuation in office detrimental to the public interest:



Provided that no member shall be removed under this sub-section unless he has been given a reasonable opportunity of being heard in the matter.

- (3) Any vacancy in the office of a member shall be filled by fresh appointment and such member shall continue for the remainder of the term of the member in whose place he is appointed.
- (4) The salaries and allowances and other conditions of appointment of the members of the Tiger Conservation Authority shall be such as may be prescribed.
- (5) No act or proceeding of the Tiger Conservation Authority shall be questioned or shall be invalid on the ground merely of the existence of any vacancy or defect in the constitution of the Tiger Conservation Authority.

Officers and employees of Tiger Conservation Authority.

38N. (1) The Tiger Conservation Authority may, with the previous sanction of the Central Government, appoint such other officers and employees as it considers necessary for the efficient discharge of its function under this Act:

Officers and employees of Tiger Conservation Authority.

Provided that the officers and employees hold office under the Directorate of Project Tiger and dealing with Project Tiger immediately before the date of constitution of the Tiger Conservation Authority shall continue to hold office in the said Authority by the same tenure and upon the same terms and conditions of service or until the expiry of the period of six months from the date if such employee opts not to be the employee of that Authority.

- (2) The terms and conditions of service of the officers and other employees of the Tiger Conservation Authority shall be such as may be prescribed.

38O. (1) The Tiger Conservation Authority shall have the following powers and perform the following functions, namely:—

Power and functions of Tiger Conservation Authority.

- (a) to approve the Tiger Conservation Plan prepared by the State Government under sub-section (3) of section 38V of this Act;
- (b) evaluate and assess various aspects of sustainable ecology and disallow any ecologically unsustainable land use such as, mining, industry and other projects within the tiger reserve;
- (c) lay down normative standards for tourism activities and guidelines for project tiger from time to time for tiger conservation in the buffer and core area of tiger reserves and ensure their due compliance;
- (d) provide for management focus and measures for addressing conflicts of men and wild animals and to emphasise on co-existence in forest area outside of National parks, sanctuaries or tiger reserve, in the working plan code;
- (e) provide information on protection measures including future conservation plan, estimation of population of tiger and its natural prey species, status of habitats, disease surveillance, mortality survey, patrolling, reports on untoward happenings and such other management aspects as it may deem fit including future plan conservation;
- (f) approve, co-ordinate research and monitoring on tiger, co-predators, prey, habitat, related ecological and socio-economic parameters and their evaluation;
- (g) ensure that the tiger reserves and areas linking one protected area or tiger reserve with another protected area or tiger reserve are not diverted for ecologically unsustainable uses, except in public interest and with the approval of the National Board for Wild Life and on the advice of the Tiger Conservation Authority;
- (h) facilitate and support the tiger reserve management in the State for biodiversity conservation initiatives through eco-development and people's participation as per approved management plans and to support similar initiatives in adjoining areas consistent with the Central and State laws;
- (i) ensure critical support including scientific, information technology and legal support for better implementation of the tiger conservation plan;

- (j) facilitate ongoing capacity building programmes for skill development of officers and staff of tiger reserves; and
  - (k) perform such other functions as may be necessary to carry out the purposes of this Act with regard to conservation of tigers and their habitat.
- (2) The Tiger Conservation Authority may, in the exercise of its powers and performance of its functions under this Chapter, issue directions in writing to any person, officer or authority for the protection of tiger or tiger reserves and such person, officer or authority shall be bound to comply with the directions:

Provided that no such direction shall interfere with or affect the rights of local people particularly the Schedule Tribes.

- 38P. (1) The Tiger Conservation Authority shall meet at such time and at such place as the Chairperson may think fit. Procedure to be regulated by Tiger Conservation Authority.
- (2) The Chairperson or in his absence the Vice-Chairperson shall preside over the meetings of the Tiger Conservation Authority.
  - (3) The Tiger Conservation Authority shall regulate its own procedure.
  - (4) All orders and decisions of the Tiger Conservation Authority shall be authenticated by the Member-Secretary or any other officer of the said Authority duly authorized by the Member Secretary in this behalf.
- 38Q.(1) The Central Government may, after due appropriation made by Parliament by law in this behalf, make to the Tiger Conservation Authority grants and loans of such sums of money as that Government may consider necessary. Grants and loans to Tiger Conservation Authority and Constitution of Fund.
- (2) There shall be constituted a Fund to be called the Tiger Conservation Authority Fund and there shall be credited thereto—
    - (i) any grants and loans made to the Tiger Conservation Authority by the Central Government;
    - (ii) all fees and charges received by the Tiger Conservation Authority under this Act; and
    - (iii) all sums received by the Authority from such other sources as may be decided upon by the Central Government.
  - (3) The Fund referred to in –subsection (2) shall be applied for meeting salary, allowances and other remuneration of the members, officers and other employees of the Tiger Conservation Authority and the expenses of the Tiger Conservation Authority incurred in the discharge of its functions under this Chapter.
- 38R.(1) The Tiger Conservation Authority shall maintain proper accounts and other relevant records and prepare any annual statement of accounts in such form as may be prescribed by the Central Government in consultation with the Comptroller and Auditor-General of India. Accounts and audit of Tiger Conservation Authority.
- (2) The accounts of the Tiger Conservation Authority shall be audited by the Comptroller and Auditor-General of India at such intervals as may be specified by him and any expenditure incurred in connection with such audit shall be payable by the Tiger Conservation Authority to the Comptroller and Auditor-General of India.
  - (3) The Comptroller and Auditor-General of India and any other person appointed by him in connection with the audit of the accounts of the Tiger Conservation Authority shall have the same rights and privileges and authority in connection with such audit as the Comptroller and Auditor-General generally has in connection with the audit of the Government accounts and, in particular, shall have



the right to demand the production of books, accounts, connected vouchers and other documents and papers and to inspect the office of the Tiger Conservation Authority.

- (4) The accounts of the Tiger Conservation Authority as certified by the Comptroller and Auditor-General of India or any other person appointed by him in this behalf together with the audit report thereon, shall be forwarded annually to the Central Government by the Tiger Conservation Authority.

38S. The Tiger Conservation Authority shall prepare in such form and at such time, for each financial year, as may be prescribed, its annual report, giving a full account of its activities during the previous financial year and forward a copy thereof to the Central Government.

Annual report of Tiger Conservation Authority.

38T. The Central Government shall cause the annual report together with a memorandum of action taken on the recommendations contained therein, insofar as they relate to the Central Government, and the reasons for the non-acceptance, if any, of any of such recommendations, and the audit report to be laid, as soon as may be after the reports are received, before each House of Parliament.

Annual report and audit report to be laid before Parliament.

38U.(1) The States Government may constitute a Steering Committee for ensuring co-ordination, monitoring, protection and conservation of tiger, co-predators and prey animals within the tiger range States.

Constitution of Steering Committee.

- (2) The Steering Committee shall consist of —

- (a) the Chief Minister — Chairperson;
- (b) the Minister in-charge of Wild Life — Vice-Chairperson;
- (c) such number of official members not exceeding five including at least two Field Directors of tiger reserve or Director of National Park and one from the State Government's Departments dealing with tribal affairs;
- (d) three experts or professionals having qualifications and experience in conservation of wild life of which at least one shall be from the field of tribal development;
- (e) two members from the State's Tribal Advisory Council;
- (f) one representative each from State Government's Departments dealing with Panchayati Raj and Social Justice and Empowerment;
- (g) Chief Wild Life Warden of the States shall be the Member-Secretary, *ex officio*,

38V (1) The State Government shall, on the recommendation of the Tiger Conservation Authority, notify an area as a tiger reserve.

Tiger Conservation Plan.

- (2) The provisions of sub-section (2) of section 18, sub-sections (2), (3) and (4) of section 27, sections 30, 32 and clauses (b) and (c) of section 33 of this Act shall, as far as may be, apply in relation to a tiger reserve as they apply in relation to a sanctuary.

- (3) The State Government shall prepare a Tiger Conservation Plan including staff development and deployment plan for the proper management of each area referred to in sub-section (1), so as to ensure—

- (a) protection of tiger reserve and providing site specific habitat inputs for a viable population of tigers, co-predators and prey animals without distorting the natural prey-predator ecological cycle in the habitat;
- (b) ecologically compatible land uses in the tiger reserves and areas linking one protected area or tiger reserve with another for addressing the livelihood concerns of local people, so as to provide dispersal habitats and corridor for spill over population of wild animals from the designated core areas of tiger reserves or from tiger breeding habitats within other protected areas;
- (c) the forestry operations of regular forest divisions and those adjoining tiger reserves are not incompatible with the needs of tiger conservation.

- (4) Subject to the provisions contained in this Act, the State Government shall, while preparing a Tiger Conservation Plan, ensure the agricultural, livelihood, developmental and other interests of the people living in tiger bearing forests or a tiger reserve.

*Explanation.*— For the purposes of this section, the expression “tiger reserve” includes—

- (i) core or critical tiger habitat areas of National Parks and sanctuaries, where it has been established, on the basis of scientific and objective criteria, that such areas are required to be kept as inviolate for the purposes of tiger conservation, without affecting the rights of the Schedule Tribes or such other forest dwellers, and notified as such by the State Government in consultation with an Expert Committee constituted for the purpose;
- (ii) buffer or peripheral area consisting of the area peripheral to critical tiger habitat or core area, identified and established in accordance with the provisions contained in *Explanation (i)* above, where a lesser degree of habitat protection is required to ensure the integrity of the critical tiger habitat with adequate dispersal for tiger species, and which aim at promoting co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of the local people, wherein the limits of such areas are determined on the basis of scientific and objective criteria in consultation with the concerned Gram Sabha and an Expert Committee constituted for the purpose.
- (5) Save as for voluntary relocation on mutually agreed terms and conditions, provided that such terms and conditions satisfy the requirements laid down in this sub-section, no Scheduled Tribes or other forest dwellers shall be resettled or have their rights adversely affected for the purpose of creating inviolate areas for tiger conservation unless—
- (i) the process of recognition and determination of rights and acquisition of land or forest rights of the Schedule Tribes and such other forest dwelling persons is complete;
- (ii) the concerned agencies of the State Government, in exercise of their powers under this Act establishes with the consent of the Scheduled Tribes and such other forest dwellers in the area, and in consultation with an ecological and social scientist familiar with the area, that the activities of the Scheduled Tribes and other forest dwellers or the impact of their presence upon wild animals is sufficient to cause irreversible damage and shall threaten the existence of tigers and their habitat;
- (iii) the State Government, after obtaining the consent of the Scheduled Tribes and other forest dwellers inhabiting the area, and in consultation with an independent ecological and social scientist familiar with the area, has come to a conclusion that other reasonable options of co-existence, are not available;
- (iv) resettlement or alternative package has been prepared providing for livelihood for the affected individuals and communities and fulfils the requirements given in the National Relief and Rehabilitation Policy;
- (v) the informed consent of the Gram Sabha concerned, and of the persons affected, to the resettlement programme has been obtained; and
- (vi) the facilities and land allocation at the resettlement location are provided under the said programme, otherwise their existing rights shall not be interfered with.

38W.(1) No alteration in the boundaries of a tiger reserve shall be made except on a recommendation of the Tiger Conservation Authority and the approval of the National Board for Wild Life. Alteration and de-notification of tiger reserves.

- (2) No State Government shall de-notify a tiger reserve, except in public interest with the approval of the Tiger Conservation Authority and the National Board for Wild Life.

38X.(1) The State Government shall establish a Tiger Conservation Foundation for tiger reserves within the States in order to facilitate and support their management for conservation of tiger and biodiversity and, to take initiatives in eco-development by involvement of people in such development process. Establishment of Tiger Conservation Foundation.





- (2) The Tiger Conservation Foundation shall, *inter alia*, have the following objectives:—
- (a) to facilitate ecological, economic, social and culture development in the tiger reserves;
  - (b) to promote eco-tourism with the involvement of local stake-holder communities and provide support to safeguard the natural environment in the tiger reserves;
  - (c) to facilitate the creation of, and or maintenance of, such assets as may be necessary for fulfilling the above said objectives;
  - (d) to solicit technical, financial, social, legal and other support required for the activities of the Foundation for achieving the above said objectives;
  - (e) to augment and mobilize financial resources including recycling of entry and such other fees received in a tiger reserve, to foster stake-holder development and eco-tourism;
  - (f) to support research, environmental education and training in the above related fields.

## CHAPTER IV C

### TIGER AND OTHER ENDANGERED SPECIES CRIME CONTROL BUREAU

38Y. The Central Government may, for the purposes of this Act, by order published in the Official Gazette, constitute a Tiger and other Endangered Species Crime Control Bureau to be known as the Wildlife Crime Control Bureau consisting of—

Constitution of  
Tiger other  
Endangered  
Species Crime  
Control Bureau.

- (a) the Director of Wildlife Preservation—Director *ex-officio*;
- (b) the Inspector-General of Police—Additional Director;
- (c) the Deputy Inspector-General of Police—Joint Director;
- (d) the Deputy Inspector-General of Forests—Joint Director;
- (e) the Additional Commission (Customs and Central Excise)—Joint Director; and
- (f) such other officers as may be appointed from amongst the officers covered under sections 3 and 4 of this Act.

38Z. (1) Subject to the provisions of this Act, the Wildlife Crime Control Bureau shall take measures with respect to—

Powers and  
functions of the  
Wildlife Crime  
Control Bureau.

- (i) collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to State and other enforcement agencies for immediate action, so as to apprehend the criminals and to establish a centralized wildlife crime data bank;
- (ii) co-ordination of action by various officers, State Governments and other authorities in connection with the enforcement of the provisions of this Act, either directly or through regional and border units set up by the Bureau;
- (iii) implementation of obligations under the various international Conventions and protocols that are in force at present or which may be ratified or acceded to by India in future;
- (iv) assistance to concerned authorities in foreign countries and concerned international organizations to facilitate co-ordination and universal action for wildlife crime control;
- (v) develop infrastructure and capacity building for scientific and professional investigation into wildlife crimes and assist State Governments to ensure success in prosecutions related to wildlife crimes;
- (vi) advice the Government of India on issues relating to wildlife crimes having national and international ramifications, and suggest changes required in relevant policy and laws from time to time.

(2) The Wildlife Crime Control Bureau shall exercise—

- “(i) such powers as may be delegated to it under sub-section (1) of section 5, sub-sections (1) and (8) of section 55 of this Act; and
- (ii) such other powers as may be prescribed.”

## OTHER AMENDMENTS:

- (1) In section 51 of the principal Act, after sub-section (IB), the following sub-sections shall be inserted, namely:— Amendment of section 51.  
“(IC) Any person, who commits an offence in relation to the core area of a tiger reserve or where the offence relate to hunting in the tiger reserve or altering the boundaries of the tiger reserve, such offence shall be punishable on first conviction with imprisonment for term which shall not be less than three years but may extend to seven years, and also with fine which shall not be less than fifty thousand rupees but may extend to two lakh rupees; and in the event of a second or subsequent conviction with imprisonment for a term of not less than seven years and also with fine which shall not be less than five lakh rupees but may extend to fifty lakh rupees.
- (1D) Whoever, abets any offence punishable under sub-section (IC) shall, if the act abetted is committed in consequence of the abetment, be punishable with the punishment provided for that offence.”
- (2) In section 55 of the principal Act, after clause (aa), the following clauses shall be inserted, namely:— Amendment of section 55.  
“(ab) Member-Secretary, Tiger Conservation Authority; or  
“(ac) Director of the concerned tiger reserve; or”.
- (3) In section 59 of the principal Act, after the word, figures and letter “Chapter IVA”, the word, figure and letter “Chapter IVB” shall be inserted. Amendment of Section 59.
- (4) In section 60 of the principal Act, in sub-section (3), after the word, figures and letter “Chapter IVA”, the word, figures and letter “Chapter IVB” shall be inserted. Amendment of section 60.
- (5) In section 63 of the principal Act, in sub-section (1), after clause (g), the following clauses shall be inserted, namely:— Amendment of section 63.  
“(gi) qualifications and experience of experts or professionals under clause (d) of sub-section (2) of section 38-I;  
“(gii) the salaries and allowances and other conditions of appointment of the members under sub-section (4) of section 38M;  
“(giii) the terms and conditions of service of the officers and other employees of the Tiger Conservation Authority under sub-section (2) of section 38N;  
“(giv) the form in which the annual statement of accounts of Tiger Conservation Authority shall be prepared under sub-section (1) of section 38R;  
“(gv) the form in which and the time at which the annual report of Tiger Conservation Authority shall be prepared under section 38S;  
“(gvi) other powers of the Wild Life Crime Control Bureau under clause (ii) of sub-section (2) of section 38Z.”

K.N. CHATURVEDI,  
Secy. To the Govt. of India.





# भारत का राजपत्र

## The Gazette of India

असाधारण

ETRAORDINARY

भाग 2 — खण्ड 3 — उप-खण्ड (ii)

PART II — Section 3 — Sub-section(ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं० 748]

नई दिल्ली, बुधस्वतिवार, नवम्बर 2, 2006/कार्तिक 11, 1928

No. 748]

NEW DELHI, THURSDAY, NOVEMBER 2, 2006/KARTIKA 11, 1928

300

The Gazette of India Extraordinary

National Tiger Conservation Authority

### पर्यावरण और वन मंत्रालय

अधिसूचना

नई दिल्ली, 2 नवम्बर, 2006

एस.ओ. 1008(ई).—केन्द्रीय सरकार, वन्यजीव (संरक्षण) अधिनियम 1972 (1972 का 53) के अनुपालन में बाघ संरक्षण फाऊंडेशन के विनियमन के उद्देश्य से निम्नलिखित दिशानिर्देश बनाती है। नामतः :

#### 1. लघु शीर्षक और प्रारम्भ

- (1) इन दिशानिर्देशों को राष्ट्रीय बाघ संरक्षण प्राधिकरण (बाघ संरक्षण फाऊंडेशन) दिशानिर्देश 2007 कहा जाएगा।
- (2) यह सरकारी राजपत्र में इनके प्रकाशन की तिथि से प्रवृत्त होंगे

#### 2. परिभाषाएं:— इन दिशानिर्देशों में जब तक कि संदर्भ में अन्यथा अपेक्षित न हो:

- (क) अधिनियम का अभिप्राय वन्यजीव (संरक्षण) अधिनियम, 1972 (1972 का 53)
- (ख) 'कार्यकारी समिति' का अभिप्राय इसके ट्रस्ट के विलेख द्वारा गठित फाऊंडेशन की कार्यकारी समिति
- (ग) 'फाऊंडेशन' का अभिप्राय अधिनियम की धारा 38 एक्स के अंतर्गत स्थापित बाघ संरक्षण फाऊंडेशन
- (घ) 'शासी निकाय' का अभिप्राय इसके ट्रस्ट के विलेख द्वारा गठित फाऊंडेशन का शासी निकाय
- (ङ) 'कार्यान्वयन एजेंसी का अभिप्राय इस अधिनियम की धारा 38 वी के अंतर्गत अधिसूचित बाघ रिजर्व अथवा बाघ परियोजना स्कीम के अंतर्गत राज्य सरकार द्वारा पहले से ही अधिसूचित रिजर्व
- (च) प्रचालन नियमावली का अभिप्राय राज्य सरकार द्वारा अनुमोदित फाऊंडेशन की प्रशासनिक संहिता
- (छ) 'फाऊंडेशन के नियम' का अभिप्राय ट्रस्ट के अनुमोदित विलेख और फाऊंडेशन की प्रचालन नियमावली
- (ज) 'स्टाफ' का अभिप्राय उपयुक्त प्राधिकरण द्वारा नियुक्त फाऊंडेशन का कोई कर्मचारी और उसमें सलाहकार, ठेके पर लगे व्यवसायिक प्रतिनियुक्ति पर स्टाफ और दैनिक मजबूरी कामगार आदि शामिल होंगे।
- (झ) 'राज्य सरकार' का अभिप्राय बाघ रिजर्व की राज्य सरकार
- (ञ) 'बाघ संरक्षण प्राधिकरण' का अभिप्राय अधिनियम की धारा 38 एल के अंतर्गत गठित राष्ट्रीय बाघ संरक्षण प्राधिकरण
- (ट) बाघ रिजर्व का अभिप्राय बाघ परियोजना स्कीम के अंतर्गत राज्य सरकारों द्वारा पहले से ही अधिसूचित सहित धारा 38वीं के अंतर्गत यथाअधिसूचित क्षेत्र
- (ठ) 'बाघ रिजर्व राज्य' का अभिप्राय वह राज्य जिसमें बाघ रिजर्व है।

3. बाघ रिजर्व फाऊंडेशन का गठन
  - (1) राज्य सरकार प्रत्येक बाघ रिजर्व में लोगों को शामिल करते हुए पारिपर्यटन और पारिविकास कार्यक्रमों के अलावा बाघ और जैव विविधता के संरक्षण के लिए इसके प्रबंध को सरल और सहायक बनाने के लिए बाघ संरक्षण फाऊंडेशन स्थापित करेंगी।
  - (2) फाऊंडेशन, सरकार के संबंधित नियमों के अंतर्गत एक पंजीकृत ट्रस्ट होगा।
  - (3) फाऊंडेशन का मुख्यालय बाघ रिजर्व के समीप प्रशासनिक रूप से सुविधाजनक स्थान पर स्थित होगा।
  - (4) फाऊंडेशन का प्रचालन क्षेत्र बाघ रिजर्व और इसके आसपास का परिदृश्य, जो बाघ रिजर्व से वन्यजीवों के इधर उधर जाने के लिए सम्भावित मार्ग के साथ प्रभावी जोन बनाएगा।
4. ट्रस्ट के लक्ष्य और उद्देश्य
  - (1) फाऊंडेशन का उद्देश्य अनुमोदित प्रबंध योजनाओं के अनुसार विविध स्टेकहोल्डरों की भागीदारी के माध्यम से बाघ और जैवविविधता के संरक्षण के लिए बाघ रिजर्व प्रबंध को सरल बनाना और सहायता प्रयासों में सहायता करना।
  - (2) उक्त उद्देश्य की सहायता के लिए फाऊंडेशन के कार्य को कार्यान्वयन एजेंसी और इसके स्टाफ और अथवा प्रायोजित अथवा इसके द्वारा समर्थित अथवा अन्य संस्थानों, एजेंसियों के माध्यम से कार्यान्वयन एजेंसी द्वारा अथवा व्यक्तियों द्वारा किया जाएगा।
  - (3) उपर्युक्त उक्त उद्देश्य को प्राप्त करने के लिए फाऊंडेशन के निम्नलिखित उद्देश्य होंगे नामतः:
    - (क) बाघ रिजर्व और आसपास के भूदृश्यों में पारिस्थितिकीय आर्थिक, सामाजिक और सांस्कृतिक विकास को सुविधाजनक बनाना
    - (ख) बाघ रिजर्व और संबंधित स्थानों में प्राकृतिक पर्यावरण की सुरक्षा के लिए सहायता प्रदान करना
    - (ग) उपर्युक्त वर्णित उद्देश्यों को पूरा करने के लिए आवश्यक समझी जाने वाली परिस्थितियों के सृजन और अथवा प्रबंध को सरल बनाना
    - (घ) उपर्युक्त वर्णित उद्देश्यों को कानून द्वारा अनुभव विभिन्न स्रोतों से पूरा करने के लिए फाऊंडेशन के कार्यों के लिए अपेक्षित तकनीकी, वित्तीय, सामाजिक और अन्य सहायता का अनुरोध करना।
    - (ङ) कार्यान्वयन एजेंसी की सहायता के लिए उपर्युक्त और संबंधित क्षेत्रों में पारिपर्यटन, पारिविकास, अनुसंधान पर्यावरणीय शिक्षा, प्रशिक्षण, प्रबंध और परामर्श पहलुओं को बढ़ावा देना।
    - (च) उपर्युक्त वर्णित उद्देश्यों की सहायता के लिए कुछ भी आकस्मिक अथवा आनुषंगिक।
5. फाऊंडेशन का शासी निकाय
  - (1) बाघ संरक्षण फाऊंडेशन को समग्र नीतिगत मार्गदर्शन और निर्देश देने के लिए बाघ रिजर्व राज्य का एक शासी निकाय होगा।
  - (2) बाघ संरक्षण फाऊंडेशन के शासी निकाय में निम्नलिखित सदस्य शामिल होंगे नामतः—
 

|   |              |
|---|--------------|
| (i) राज्य सरकार में वन्यजीव प्रभारी मंत्री  | — अध्यक्ष    |
| (ii) सरकार के वन विभाग में प्रधान सचिव अथवा सचिव<br>जैसा भी मामला हों   | — उपाध्यक्ष  |
| (iii) प्रधान मुख्य वन संरक्षक   | — सदस्य      |
| (iv) फील्ड निदेशक, बाघ रिजर्व   | — सदस्य      |
| (v) उपनिदेशक, बाघ रिजर्व  | — सदस्य      |
| (vi) संबंधित क्षेत्र के दो प्रसिद्ध वैज्ञानिक अथवा फील्ड अर्हता प्राप्त विशेषज्ञ (सरकार द्वारा नामांकित किए जाएंगे) | — सदस्य      |
| (vii) विधान सभा के सदस्य जो राज्य विधान सभा में<br>संबंधित क्षेत्र का प्रतिनिधित्व कर रहे हों                       | — सदस्य      |
| (viii) जिनके पास बाघ रिजर्व क्षेत्र पर क्षेत्राधिकार प्राप्त जिला पंचायत के प्रतिनिधि                               | — सदस्य      |
| (ix) फाऊंडेशन की कार्यकारी समिति के दो सदस्य (फील्ड निदेशक/उपनिदेशकों के अलावा)                                     | — सदस्य      |
| (x) मुख्य वन्यजीव वार्डन  | — सदस्य—सचिव |
  - (3) शासी निकाय का कोई भी सदस्य विधान सभा, अथवा जैसा भी मामला हो, का सदस्य नहीं होगा तथा जिला पंचायत का सदस्य शासी निकाय का सदस्य नहीं होगा।
  - (4) नामित सदस्य का कार्यकाल उसके नामांकन की तिथि से तीन वर्षों की अवधि के लिए होगा।
  - (5) शासी निकाय की निम्नलिखित शक्तियां होगी और निम्नलिखित कार्य करेगा, नामतः—
    - (क) अधिनियम के उपबंधों के अनुसरण में फाऊंडेशन की नीति बनाना
    - (ख) फाऊंडेशन के तुलनापत्र और लेखापरीक्षित लेखों पर विचार करना और अनुमोदित करना
    - (ग) फाऊंडेशन की वार्षिक रिपोर्ट पर विचार करना और अनुमोदित करना
    - (घ) फाऊंडेशन की कार्य रिपोर्ट पर विचार करना और अनुमोदित करना
    - (ङ) सरकार के अनुमोदन की शर्त पर ट्रस्ट के विलेख में, आवश्यक समझे गए, संशोधन करना
    - (च) फाऊंडेशन की प्रचालन नियमावली को अनुमोदित करना
    - (छ) फाऊंडेशन के उद्देश्यों को प्राप्त करने के लिए विभिन्न विभागों और अन्य संस्थानों तथा गैर सरकारी संगठनों के नीचे समन्वय स्थापित करना
    - (ज) फाऊंडेशन के मामलों को व्यवस्थित करने के लिए ट्रस्ट के विलेख के उपबंधों के अंतर्गत नियम और विनियम तैयार करना
    - (झ) फाऊंडेशन के कोष को बढ़ाने, निवेश और बजट के संबंध में सभी नीतिगत निर्णय लेना
    - (ञ) फाऊंडेशन की किसी परियोजना अथवा कार्य का निलम्बन, बंद करना अथवा उस पर किसी अन्य प्रक्रिया का प्रभाव
    - (ट) ट्रस्ट के उद्देश्य के को प्राप्त करने के लिए आवश्यक समझे जाने वाले ऐसे अन्य कार्यों को करना



- (6) शासी निकाय की बैठके निम्नलिखित तरीके से आयोजित की जाएंगी नामतः—
- शासी निकाय की बैठके वर्ष में कम से कम एक बार अवश्य की जाएगी मुख्यतः वित्त वर्ष के पहले महीने में
  - शासी निकाय की प्रत्येक बैठक शासी निकाय के सदस्य सचिव के हस्ताक्षर से पंद्रह दिन के पूर्व नोटिस से लिखित रूप में बुलाई जाएगी जिसमें उस बैठक के चर्चा के विषयों का सार होगा।
  - नोटिस देने में असावधानी के कारण हुई चूक और किसी सदस्य द्वारा नोटिस का प्राप्त न होने की अवस्था में बैठक की कार्यवाही अमान्य नहीं होगी।
  - यदि शासी निकाय की बैठक में अध्यक्ष उपस्थित नहीं है तब उपाध्यक्ष बैठक की अध्यक्षता करेगा।
  - शासी निकाय के उपस्थित एक तिहाई सदस्य शासी निकाय का कोरम बनायेंगे बशर्ते कोई कोरम किसी बैठक को स्थगित करने के लिए कोई कार्यवाहक संख्या आवश्यक नहीं होगी।
  - बैठक में सभी विवादों के संबंध में मत विभाजन द्वारा निर्णय किया जाएगा।
  - यदि कोई सदस्य शासी निकाय की बैठक में भाग लेने में असमर्थ हैं तो वह कार्यसूची पर अपने विचार लिखित में भेज सकता है। और ऐसे विचार संबंधित मामले में उनका वोट माने जाएंगे और
  - बैठक की कार्यवाहियों के कार्यवृत्त को रिकार्ड किया जाएगा और ऐसा कार्यवृत्त सदस्य सचिव, शासी निकाय से अनुमोदित और हस्ताक्षर होने के बाद बैठक में संपादित कार्यक्रम का निश्चयात्मक प्रमाण होंगे।

#### 6. कार्यकारी समिति

- प्रत्येक बाघ संरक्षण फाऊंडेशन में इसके दैनिक प्रबंध को देखने के लिए कार्यकारी समिति होगी।
- फाऊंडेशन के कार्यों को कार्यकारी समिति द्वारा फाऊंडेशन के नियमों की शर्त पर प्रशासित किए जाएंगे।
- कार्यकारी समिति में शामिल होंगे
 

|   |   |         |
|---|---|---------|
| (क) बाघ रिजर्व के फील्ड निदेशक  | — | अध्यक्ष |
| (ख) बाघ रिजर्व के उप-निदेशक अथवा सहायक निदेशक   | — | सदस्य   |
| (ग) बाघ रिजर्व में कार्यरत पारि विकास समितियों के दो प्रतिनिधियों का शासी निकाय में नामित किया जाना | — | सदस्य   |
| (घ) बाघ रिजर्व के फंटलाइन स्टाफ के दो सदस्य   | — | सदस्य   |

 (बाघ रिजर्व के उप-निदेशक अथवा सहायक निदेशक अथवा सहायक निदेशक, जैसा भी मामला हो, कार्यकारी समिति के सचिव के रूप में कार्य करेंगे)
- नामांकित सदस्य का कार्यकाल उसके नामांकन की तिथि से दो वर्ष की अवधि के लिए होगा।
- नामांकित सदस्यों के अतिरिक्त कार्यकारी समिति का सदस्य उस स्थिति में सदस्य नहीं रहेगा यदि वह उस कार्यालय अथवा पद पर बना नहीं रहता जिसके लिए वह समिति का सदस्य बना था।
- कार्यकारी समिति की शक्तियां निम्नलिखित होगी और निम्नलिखित कार्य करेंगी, नामतः
  - फाऊंडेशन के नियम और विनियमों के अनुसार फाऊंडेशन के कार्य और निधि
  - फाऊंडेशन के उद्देश्यों को प्राप्त करने के लिए तथा इसके सभी कार्यों को निष्पादित करने के लिए प्रयास करना।
  - फाऊंडेशन के नियमों तथा विनियमों के अनुसार विषय विशेष के किसी व्यक्ति को लगाने तथा उसकी नियुक्ति करने की शक्ति सहित प्रशासनिक एवं वित्तीय शक्तियों का प्रयोग करना।
  - फाऊंडेशन के उद्देश्यों की पूर्ति के लिए उसके नियमों तथा विनियमों के अनुसार सार्वजनिक अथवा निजी संगठनों या व्यक्तियों के साथ समझौता करना।
  - फाऊंडेशन के नियमों तथा विनियमों और सरकार के हितों से असंगत वृत्तिदान, सहायता अनुदान, दान अथवा उपहार
  - फाऊंडेशन के नियमों तथा विनियमों के अनुसार राज्य या अन्यत्र कहीं और सरकार अथवा सार्वजनिक निकायों अथवा निजी संगठनों या व्यक्तियों से किसी चल अथवा अचल सम्पत्ति की फाऊंडेशन के नाम पर खरीद, उपहार या अन्यथा प्राप्त करना या अधिग्रहण करना, और
  - शासी निकाय द्वारा इसे सौंपे गए ऐसे अन्य कार्य करना।

#### 7. कार्यवाही समिति की कार्यवाही

- कार्यकारी समिति की प्रत्येक बैठक अध्यक्ष द्वारा संचालित की गई जाएगी। बशर्ते कि अध्यक्ष की अनुपस्थिति में कार्यकारी समिति बैठक की अध्यक्षता के लिए अध्यक्ष का चयन करेगी।
- कार्यकारी समिति की बैठक में उपस्थित कुल सदस्यों में से आधे कोरम का गठन करेंगे बशर्ते किसी बैठक को स्थापित करने के संबंध में कोई कोरम आवश्यक नहीं होगा।
- उक्त समिति की प्रत्येक बैठक के लिए कार्यकारी समिति के प्रत्येक सदस्य को सात दिन पूर्व नोटिस दिया जाना चाहिए बशर्ते कि अध्यक्ष आपातकालीन बैठक न बुला ले यदि स्थिति की मांग हो
- नोटिस देने के असावधानी में हुई भूल अथवा किसी सदस्य को किसी बैठक का नोटिस न प्राप्त होना बैठक की कार्यवाहियों को अमान्य नहीं करेगा।
- कार्यकारी समिति जब भी आवश्यक हो बैठक करेगी परंतु प्रत्येक माह में कम से कम एक बैठक जरूर करेगी।
- कार्यकारी समिति बैठकों में सभी विवादास्पद मामले सदस्यों के बीच मत द्वारा तय किए जाएंगे।
- कोई सदस्य जो कार्यकारी समिति की बैठक में उपस्थित होने में असमर्थ हो कार्यसूची पर अपने विचार लिखित में भेज सकता है और ऐसी विचार अभिव्यक्ति को संबंधित मामले पर उसके वोट के रूप में लिया जाएगा।
- कार्यकारी समिति इसके द्वारा गठित उप समिति को किसी मामले में सलाह अथवा सिफारिश के लिए भेज सकती है तथा कार्यकारी समिति को उप-समिति द्वारा की गई सिफारिश अथवा दी गई सलाह को रद्द करने का अधिकार होगा और ऐसा करने पर कारण भी रिकार्ड करेगी।

- (9) कार्यकारी समिति की आम वार्षिक बैठक प्रतिवर्ष बुलाई जाएगी और इसमें पिछले वर्ष के लेखापरीक्षित लेखे तथा चालू वर्ष का बजट प्रस्तुत किया जाएगा और उस पर विचार विमर्श किया जाएगा और उसे अनुमोदित किया जाएगा।
- (10) कार्यकारी समिति की बैठक की कार्रवाई के कार्यवृत्त रिकार्ड किये जाएंगे और ऐसे कार्यवृत्त, सचिव के उचित अनुमोदन के बाद जारी किए जाएंगे।

#### 8. कार्यकारी समिति का कार्यालय और प्राधिकार

- (1) बाघ रिजर्व का फील्ड निदेशक फाऊंडेशन का कार्यकारी निदेशक होगा और वह कार्यकारी समिति की ओर से फाऊंडेशन के सभी प्रशासनिक और दैनिक कार्यों को निष्पादित करेंगे/करेंगी तथा वह फाऊंडेशन के सभी रिकार्डों, परिसम्पतियों और अन्य सामग्री का संरक्षक होगा।
- (2) कार्यकारी निदेशक की फाऊंडेशन के नियमों के अनुसार निम्नलिखित शक्तियां होगी नामतः  
 (क) फाऊंडेशन की ओर से किसी व्यक्ति अथवा संस्थान से नकद अथवा किस्त के रूप में योगदान प्राप्त करना।  
 (ख) फाऊंडेशन के उद्देश्यों को प्राप्त करने के उद्देश्य से किसी चल अथवा अचल सम्पत्ति को खरीदना, प्राप्त करना अथवा पट्टे पर लेना।  
 (ग) फाऊंडेशन के सामान्य प्रशासन पर नियंत्रण और अधिकार रखना।  
 (घ) बैंको में खाते खुलवाना और उनका संचालन करना  
 (ङ) फाऊंडेशन के लिए और उसकी ओर से सभी कानूनी कार्यों का अभियोजन, मुकदमा चलाना, बचाव करना।
- (3) कार्यकारी निदेशक को सेमिनार, कार्यशालाओं आदि को आयोजित करने तथा फाऊंडेशन की अनुसंधान सामग्री तथा पुस्तकों के प्रकाशन को देखने का अधिकार होगा।
- (4) कार्यकारी निदेशक फाऊंडेशन द्वारा किए जा रहे विभिन्न कार्यक्रमों पर परियोजना प्रस्तावों को तैयार करने और सहायता के लिए विभिन्न एजेंसियों को प्रस्तुत करने के लिए उचित कार्रवाई प्रारम्भ करेगा।
- (5) कार्यकारी निदेशक को फाऊंडेशन के उद्देश्य को आगे बढ़ाने के लिए राष्ट्रीय और अन्तरराष्ट्रीय एजेंसियों के साथ विचार विमर्श करने का अधिकार होगा।

#### 9. सम्पत्ति, परिसम्पत्ति और देनदारियां

- (1) फाऊंडेशन की आय और सम्पत्ति से जो भी उपाजित हो उसका केवल उक्त निर्धारित उद्देश्यों को बढ़ावा देने के लिए प्रयोग किया जाना चाहिए।
- (2) फाऊंडेशन की आय और सम्पत्ति का कोई भी हिस्सा प्रत्यक्ष अथवा अप्रत्यक्ष रूप से लाभांश, बोनस अथवा अन्य किसी रूप से या लाभ के माध्यम से उन व्यक्तियों को जो किसी भी समय फाऊंडेशन के सदस्य रहे हैं अथवा उनमें से कोई अथवा उनके माध्यम से दावा करने वाले व्यक्ति को प्रदत्त अथवा अन्तरित नहीं किया जाएगा।
- (3) बशर्ते कि इसमें शामिल कुछ भी किसी सदस्य के पारिश्रमिक के अथवा फाऊंडेशन को दी गई किसी सेवा के बदले में अथवा जैसा कि परिचालन नियमावली में अनुबद्ध है किसी प्रशासनिक व्यय के भुगतान को न रोके।

#### 10. सरकार की शक्तियां

सरकार समय समय पर फाऊंडेशन की कार्यप्रणाली की पुनरीक्षा करेगी और फाऊंडेशन के मामलों के संबंध में आवश्यक समझे जाए ऐसे निदेश जारी करेगी।

#### 11. वित्तीय विनियमन

##### क. ट्रस्ट की धनराशि:

ट्रस्ट के नियम और विनियम के अनुरूप फाऊंडेशन के कार्यों को चलाने के लिए धनराशि के विभिन्न स्रोत निम्नलिखित होंगे, नामतः

- (क) पर्यटन प्रवेश शुल्क लगाने से प्राप्त आय तथा बाघ रिजर्व में दी जाने वाली सेवाओं के अन्य प्रभाव  
 (ख) राष्ट्रीय साथ ही साथ अंतर राष्ट्रीय एजेंसियों से विशिष्ट परियोजनाओं के संदर्भ में अन्य स्रोतों से अंशदान जैसा कि कानून में अनुमत हैं।  
 (ग) किसी व्यक्ति अथवा विदेशी सरकारों तथा अन्य बाह्य एजेंसियों सहित सहित किसी व्यक्ति अथवा संगठनों से प्राप्त सहायता अनुदान, दान और सहायता, जैसा कि कानून द्वारा अनुमत हो।  
 (घ) ट्रस्ट के नियमों के अनुरूप कोई अन्य कार्य जो कानून द्वारा अनुमत हो

##### ख. लेखा एवं लेखा परीक्षा

- (क) फाऊंडेशन, उचित लेखे का रखरखाव करेगा और प्राप्ति और भुगतान, देनदारियों के विवरण आदि को शामिल करते हुए वार्षिक लेखे उस रूप में तैयार करेगा जैसा निर्धारित किया जाए।  
 (ख) फाऊंडेशन के लेखे भारत के महालेखा परीक्षक द्वारा नामित तथा शासी निकाय द्वारा अनुमोदित योग्य चार्टर्ड एकाउंटेंट द्वारा प्रतिवर्ष लेखा परीक्षित किए जाएंगे।  
 (ग) लेखा परीक्षित लेखे का इसके उद्देश्य के लिए आयोजित शासी निकाय की वार्षिक बैठक में शासी निकाय द्वारा विचार किया जाएगा और अनुमोदित किया जाएगा।  
 (घ) फाऊंडेशन के लेखे भारत के नियंत्रक और महालेखा परीक्षक के सामान्य उपबंधों निर्देशों के अधीन होंगे।

## 12. फाऊंडेशन का विघटन

फाऊंडेशन अटल है तथापि किसी ऐसी परिस्थिति में जिसमें फाऊंडेशन को समाप्त अथवा विलयन करने का निर्णय लिया जाता है तो इसके सभी ऋणों और देन पारिदारियों के पूरा हो जाने के बाद जो कोई भी परिसम्पति और सम्पति और इसी तरह का कुछ भी फाऊंडेशन के सदस्यों के बीच भुगतान वितरित नहीं किया जाएगा लेकिन उस तरीके से निपटारा किया जाएगा जैसा कि राज्य सरकार द्वारा इस संबंध में निर्णित किया जाए।

## 13. विविध

- (1) जब भी मंत्रालयों, विभागों अथवा उल्लिखित संस्थान और पदनाम की नामावली में कोई भी परिवर्तन होता है, ऐसे परिवर्तन स्वतः ही फाऊंडेशन के नियमों में शामिल हो जाएंगे।
- (2) फाऊंडेशन के किसी भी कर्मचारी द्वारा फाऊंडेशन अथवा इसकी संपत्ति को कोई हानि अथवा क्षति अथवा फाऊंडेशन के हितों के लिए कुछ हानिकारक करने पर फाऊंडेशन मुकदमा चला सकती है अथवा अभियोजित कर सकती है।

[फा. सं. 15-I/2006-एनटीसीए (भाग V)]  
सदस्य-सचिव (एनटीसीए)

## MINISTRY OF ENVIRONMENT AND FORESTS

### NOTIFICATION

New Delhi, the 22<sup>nd</sup> June, 2007

**S.O. 1008 (E)** – In pursuance of Section 38X of the Wild Life (Protection) Act, 1972 (53 of 1972), the Central Government hereby makes the following guidelines for the purpose of Regulation of Tiger Conservation Foundation, namely:-

## 1. Short title and commencement-

- (1) These guidelines may be called the National Tiger Conservation Authority (Tiger Conservation Foundation) Guidelines, 2007.
- (1) They shall come into force on the date of their publication in the Official Gazette.

## 2. Definitions.- In these guidelines, unless the context otherwise requires –

- (a) “Act” means the Wild Life (Protection) Act, 1972 (53 of 1972);
- (b) “Executive Committee” means an executive committee of the Foundation constituted by its trust of deed;
- (c) “Foundation” means the Tiger Conservation Foundation established under section 38X of the Act;
- (d) “Governing Body” means governing body of the Foundation as constituted by its trust of deed;
- (e) “Implementing agency” means a tiger reserve notified under section 38V of this Act or a reserve already notified by the State Government under Project Tiger Scheme;
- (f) “Operations Manual” means the administrative code of the Foundation approved by the State Government;
- (g) “Rules of the Foundation” means the approved trust of deed and Operations Manual of the Foundation;
- (h) “Staff” means any employee of the Foundation appointed by appropriate authority and shall include consultants, professionals engaged on contract, staff on deputation, daily wage workers, etc.;
- (i) “State Government” means the State Government of the Tiger Reserve State;
- (j) “Tiger Conservation Authority” means the National Tiger Conservation Authority constituted under section 38L of the Act;

## 3. Constitution of Tiger Reserve Foundation.-

- (1) The State Government shall establish a Tiger Conservation Foundation in each tiger reserve for facilitating and supporting its management for conservation of tiger and biodiversity, apart from taking ecotourism and ecodevelopment initiatives by involving people in such process.

- (2) The Foundation shall be a trust, registered under the relevant rules of the Government.
- (3) The Head Office of the Foundation shall be located at an administratively convenient location in proximity to the tiger reserve.
- (4) The area of operation of the Foundation shall be the tiger reserve and its adjoining landscape, forming the impact zone with possible corridor value for dispersal of wild animals from the tiger reserve.

4. Aim and Objectives of the Trust.-

- (1) The aim of the Foundation shall be to facilitate and support the tiger reserve management for conservation of tiger and biodiversity, through multi-stakeholder participation as per approved management plans, and to support similar initiatives in adjoining landscapes, consistent with the national and state legislations.
- (2) For the furtherance of the said objectives, the functions of the Foundation shall be undertaken through the implementing agency and its staff and or sponsored or supported by it or through other institutions, agencies or individuals collaborated by the implementing agency.
- (3) To achieve the above said aim, the Foundation shall have the following objectives, namely:-
  - (a) to facilitate ecological, economic, social and cultural development in the tiger reserve and adjoining landscape;
  - (b) to provide support to safeguard the natural environment in the tiger reserve and relevant places;
  - (c) to facilitate the creation of, and or maintenance of such assets as felt necessary for fulfilling the above said objectives;
  - (d) to solicit technical, financial, social and other support required for the activities of the Foundation for achieving the above said objectives from different sources permitted by law;
  - (e) to support ecotourism, ecodevelopment, research, environmental education, training, management and advisory aspects in the above and related fields to support the implementing agency; and
  - (f) anything incidental or ancillary to the above for furthering the above said objectives.

5. Governing Body of the Foundation.-

- (1) The Tiger Reserve State shall have a governing body for giving overall policy guidance and direction to the Tiger Conservation Foundation.
- (2) The Governing Body of the Tiger Conservation Foundation shall consist of the following member, namely:-
 

|   |                    |
|---|--------------------|
| (i) Minister in-charge of Wildlife in the State Government  | - President        |
| (ii) Principal Secretary or the Secretary, as the case may be, of the Forests Department to that Government     | - Vice President   |
| (iii) Principal Chief Conservator of Forests  | - Member           |
| (iv) Field Director of the Tiger Reserve  | - Member           |
| (v) Deputy Director of the Tiger Reserve  | - Member           |
| (vi) two prominent scientists or qualified experts in the field (to be nominated by that Government)            | - Members          |
| (vii) Member of Legislative Assembly, who represent the concern area in the State Legislative Assembly          | - Member           |
| (viii) representative of the District Panchayat having jurisdiction over the Tiger Reserve area                 | - Member           |
| (ix) two members of the Executive Committee of the Foundation (other than the Field Directors/Deputy Directors) | - Member           |
| (x) Chief Wildlife Warden   | - Member-Secretary |
- (3) A member of the Governing Body shall, upon ceasing to be a Member of Legislative Assembly or, as the case may be, the District Panchayat, cease to be a member of the Governing Body.
- (4) The tenure of nominated member shall be for period of three years from the date of his nomination.
- (5) The Governing Body shall have the following powers and perform the following functions, namely:-
  - (a) make over all policy of the Foundation in consonance with the provisions of the Act;
  - (b) consider and approve the balance sheet and audited accounts of the Foundation;
  - (c) consider and approve the Annual Report of the Foundation;
  - (d) approve the work plan, fund flow, Annual Budget of the Foundation;
  - (e) make amendment in the deed of trust, which may be necessary, subject to the approval of the Government;





- (f) approve the "Operations Manual" of the Foundation;
  - (g) coordinate between different departments and other institutions and non-Governmental organizations to achieve the objectives of the Foundation;
  - (h) frame rules and regulations under the provisions of the trust of deed for managing and affairs of the Foundation;
  - (i) take all policy decisions regarding fund raising, investment budget of the Foundation;
  - (j) suspend, terminate or effect any other procedures on any Project of activity undertaken by the Foundation; and
  - (k) perform such other functions as may be necessary to achieve the objectives of the trust.
- (6) The meetings of the Governing Body shall be held in the following manner, namely:-
- (i) the meetings of the Governing Body shall be held at least once in a year preferably in the first month of the financial year;
  - (ii) every meeting of the Governing Body shall be called in writing by and under the signature of the Member-Secretary of the Governing Body through a prior notice of fifteen days containing a summary of the business to be transacted in such meeting;
  - (iii) any inadvertent omission to give notice to, or the non-receipt of notice of any meeting by, any member shall not invalidate the proceedings of the meeting;
  - (iv) if the President is not present in the meeting of the Governing Body, the Vice-President shall preside over the meeting;
  - (v) one third of the members of the Governing Body present shall form the quorum of the Governing Body provided that no quorum shall be necessary in respect of any adjourned meeting;
  - (vi) all disputes in a meeting shall be determined by the division of vote;
  - (vii) the member who is unable to attend the Governing Body meeting may send his views on the agenda in writing and such expression of opinion shall be taken to be his vote on the matter concerned; and
  - (viii) the minutes of the proceedings of the meeting shall be recorded and such minutes after approved and signed by the Member Secretary, Governing Body shall be the conclusive proof of the business transacted in the meeting.
6. The Executive Committee.-
- (1) Every Tiger Conservation Foundation shall have an Executive Committee to look after its day-to-day management.
  - (2) The affairs of the Foundation shall be administered subject to the rules of the Foundation by the Executive Committee.
  - (3) The Executive Committee shall consist of -
    - (i) Field Director of the Tiger Reserve - Chairperson
    - (ii) Deputy Director or Assistant Director of the Tiger Reserve - Member
    - (iii) two representatives of Ecodevelopment Committees working in the Tiger Reserve, to be nominated in the Governing Body - Member
    - (iv) two members of frontline staff of the Tiger Reserve - Member  
(the Deputy Director or, as the case may be, the Assistant Director of the tiger reserve shall function as the Secretary of the Executive Committee).
  - (4) The tenure of the nominated member shall be for a period of two years from the date of his nomination.
  - (5) A member of the Executive Committee, other than nominated members, shall cease to be a member as such, if he ceases to hold that office or post by virtue of which, he became the member of the Committee.
  - (6) The Executive Committee shall have the following powers and perform the following functions, namely:-
    - (i) the affairs and funds of the Foundation in accordance with the rules and regulations of the Foundation;
    - (ii) make endeavour to achieve the objectives of the Foundation and discharge all its functions;
    - (iii) exercise administrative and financial power including power to engage any person of one description and make appointment thereon in accordance with the rules and regulations of the Foundations;
    - (iv) enter into arrangement with the public or private organizations or individuals for furtherance of its objectives and in accordance with the rules and regulations of the Foundation;

- (v) endowments, grants-in-aid, donations, or gifts to the Foundations not inconsistent with the rules and regulations of the Foundation and interest of the Government;
- (vi) take over or acquire in the name of the Foundation by purchase, gift or otherwise from Government or other public bodies or private individuals or organizations, any movable and immovable property in the State or elsewhere in conformity with the rules and regulations of the Foundation; and
- (vii) perform such other functions as are assigned to it by the Governing Body.

7. Proceedings of the Executive Committee.-

- (1) Every meeting of the Executive Committee shall be presided over by the Chairperson. Provided that in the absence of the Chairperson the Executive Committee shall elect a Chairman to preside over the meeting.
- (2) One-half of the total members of the Executive Committee present in the meeting shall constitute the quorum, provided that no quorum shall be necessary in respect of any adjourned meeting.
- (3) Not less than seven days notice for every meeting of the Executive Committee shall be given to each member of the said Committee, provided that the Chairperson may call an emergency meeting if the situation so warrants.
- (4) Any inadvertent omission to give notice to or the non-receipt of notice of any meeting by any member shall not invalidate the proceedings of the meeting.
- (5) The Executive Committee shall meet as and when necessary but at least once in every month.
- (6) All disputed issues in the Executive Committee meetings shall be determined by vote among members.
- (7) Any member who is unable to attend Executive Committee meeting may send his views on the agenda in writing and such expression of opinion shall be taken to be his vote on the matter concerned.
- (8) The Executive Committee shall refer any issue for the advice or recommendation to a Sub-Committee constituted by it for the purpose and the Executive Committee shall have the right to override the recommendation or advice given by the Sub-Committee and in doing so, it shall record reasons thereof.
- (9) The Annual General Body Meeting of the Executive Committee shall be conducted every year and the audited accounts of the previous year and the budget for the current year shall be presented, discussed and approved.
- (10) The Minutes of the proceedings of the Executive Committee meetings shall be recorded and such minutes after due approval shall be issued by the Secretary.

8. Office and Authorities of the Executive Committee.-

- (1) The Field Director of the Tiger Reserve shall be the Executive Director of the Foundation and he or she shall carry out all administrative and day-to-day functions of the Foundation on behalf of the Executive Committee and he shall be the custodian of all records, assets and belongings of the Foundation.
- (2) The Executive Director shall have the following powers in conformity with the rules of the Foundation; namely:-
  - (a) to accept contributions on behalf of the Foundation either in cash or in kind from a person or institutions.
  - (b) to purchase, acquire, take on lease any movable and immovable property for the purpose of achieving the objectives of the Foundation.
  - (c) to have control and authority on the general administration of the Foundation.
  - (d) to open and operate accounts with banks.
  - (e) to prosecute, sue and defend all actions at law for and on behalf of the Foundation.
- (3) The Executive Director shall have powers to convene seminars, workshops, etc., and to oversee publications of research materials and books of the Foundation.
- (4) The Executive Director shall initiate appropriate actions for the preparation and submission of project proposals on different programmes to be undertaken by the Foundation to various agencies for support.
- (5) The Executive Director shall have powers to interact with National and International Agencies for furthering the objectives of the Foundation.

9. Property, Assets and Liabilities.-

- (1) The income and property of the Foundation, howsoever derived, shall be applied solely towards the promotion of the objectives thereof as set-froth above.
- (2) No portion of the income and property of the Foundation shall be paid or transferred directly or indirectly, by way of dividend, bonus or otherwise, howsoever, by way of profit, to the persons who at any point of time have been members of the Foundation or to any of them or to any person claiming through them.
- (3) Provided that nothing herein contained shall prevent the payment of remuneration to any member or any person in return of any service rendered to the Foundation or for any administrative expenses as stipulated in the Operations Manual.

10. Powers of the Government.-

The Government may time to time review the functioning of the Foundation and issue such directions as it may consider necessary in respect of the affairs of the Foundation.

11. Financial Regulations.-

**A. Funds of the Trust:**

The following shall be the various sources of funds for running the affairs of the Foundation in conformity with the rules and regulations of the trust, namely:-

- (a) the income generated from levying tourist entry fees and other charges for the services generated out of the Tiger Reserve;
- (b) contribution from other sources in terms of specific projects from national as well as international agencies as permitted by law;
- (c) grant-in-aids, donation or assistance of any kind from any individuals or organization including foreign Governments and other external agencies as permitted by law; and
- (d) any other activity as permitted by law and in conformity with the rules of the trust.

**B. Accounts and Audit:**

- (a) the Foundation shall maintain proper accounts and prepare annual accounts comprising of the receipts and payments, statement of liabilities, etc., in such form as may be determined;
- (b) the accounts of the Foundation shall be audited annually by the qualified Chartered Accountant, empanelled by the Comptroller Auditor-General of India, approved by the Governing Body;
- (c) the audited accounts shall be discussed and approved by the Governing Body in its annual meeting held for the purpose; and
- (d) the accounts of the Foundation shall be subjected to the general provisions and directives of the Comptroller and Auditor-General of India.

12. Dissolution of the Foundation.-

The Foundation is irrevocable, however, in the event of any circumstance in which it is decided to terminate or dissolve the Foundation, after the satisfaction of all its debts and liabilities, any assets and property, whatsoever be the same, shall not be paid to or distributed among the members of the Foundation but shall be dealt with in such manner as the State Government may determine in that behalf.

13. Miscellaneous.-

- (1) As and when there is any change in the nomenclature of Ministries, Departments, or institution and designation mentioned, such changes shall automatically stand incorporated in the rules of the Foundation.
- (2) Every staff of the Foundation may be sued or prosecuted by the Foundation for any loss or damage caused to the Foundation or its property or for anything done by him detrimental to the interests of the Foundation.

## अधिसूचना

नई दिल्ली, 22 जून, 2007

का.आ. 1009 (अ)-केन्द्रीय सरकार वन्यजीव (संरक्षण) अधिनियम, 1972 (1972 का 53) की धारा 38 क्यू की उप-धारा (2) के अनुपालन में बाघ संरक्षण प्राधिकरण निधि का गठन करती है और इसके विनियमन के लिए निम्नलिखित दिशानिर्देश बनाती है नामतः-

1. लघु शीर्षक और प्रारंभ-

- (1) इन दिशा-निर्देशों को बाघ संरक्षण प्राधिकरण निधि (विनियमन) दिशानिर्देश, 2007 कहा जाएगा।
- (2) यह सरकारी राजपत्र में प्रकाशन की तिथि से प्रवृत्त होंगे।

2. परिभाषाएं - इन दिशानिर्देशों में जब तक कि संदर्भ अन्यथा अपेक्षित न हो, :-

- (क) "अधिनियम" का अभिप्राय है वन्यजीव (संरक्षण) अधिनियम, 1972 (1972 का 53)
- (ख) "अध्यक्ष" का अभिप्राय है (क) धारा 38 एल की उप धारा (2) के खण्ड (क) के अंतर्गत नियुक्त प्राधिकरण का अध्यक्ष
- (ग) "निधि" का अभिप्राय धारा 38 क्यू की उपधारा (2) के अंतर्गत गठित बाघ संरक्षण प्राधिकरण निधि
- (घ) "कार्यान्वयन एजेंसी" का अभिप्राय है इस अधिनियम की धारा 38V के अंतर्गत अधिसूचित बाघ रिजर्व अथवा बाघ परियोजना स्कीम के अंतर्गत राज्य सरकार द्वारा पहले से ही अधिसूचित रिजर्व।
- (ङ) "सदस्य सचिव" का अभिप्राय है धारा 38 एल की उपधारा (2) के खण्ड (0) के अंतर्गत नियुक्त बाघ संरक्षण प्राधिकरण का सदस्य सचिव
- (च) "धारा" का अभिप्राय है अधिनियम की धारा
- (छ) "बाघ संरक्षण प्राधिकरण" का अभिप्राय है धारा 38 एल के अंतर्गत गठित राष्ट्रीय बाघ संरक्षण प्राधिकरण।
- (ज) "बाघ संरक्षण फाउण्डेशन" का अभिप्राय है धारा 38 एल के अंतर्गत स्थापित बाघ संरक्षण फाउण्डेशन।
- (झ) "बाघ रिजर्व" का अभिप्राय है बाघ परियोजना स्कीम के अंतर्गत राज्य सरकारों द्वारा पहले से ही अधिसूचित सहित धारा 38वी के अंतर्गत अधिसूचित ऐसे क्षेत्र हैं।
- (ञ) "बाघ रिजर्व राज्य" का अभिप्राय है वह राज्य जिसमें बाघ रिजर्व है।

3. निधि का गठन-केन्द्रीय सरकार एक निधि गठन कर रही है जिसे बाघ संरक्षण प्राधिकरण निधि कहा जाएगा, निम्नलिखित निधियां क्रेडिट की जाएगी, नामतः:

- (i) केन्द्रीय सरकार द्वारा बाघ संरक्षण प्राधिकरण के लिए दिया गया कोई अनुदान अथवा ऋण।
- (ii) अधिनियम के अंतर्गत बाघ संरक्षण प्राधिकरण द्वारा प्राप्त किए गए सभी प्रकार के शुल्क एवं प्रभार।
- (iii) ऐसे अन्य स्रोतों से प्राधिकरण द्वारा प्राप्त की गई सभी निधियां जिनका निर्णय केन्द्रीय सरकार द्वारा किया गया हो।
- (iv) प्राधिकरण के निवेश और जमा परिसंपत्तियों से प्राप्त ब्याज।

4. निधि के उद्देश्य - बाघ संरक्षण प्राधिकरण द्वारा निधि का उपयोग निम्नलिखित उद्देश्यों के लिए किया जाएगा।

- (क) प्राधिकरण के सदस्यों, अधिकारियों और अन्य कर्मचारियों के वेतन, भत्तों और अन्य खर्चों को पूरा करने के लिए
- (ख) प्राधिकरण द्वारा बाघ संरक्षण के लिए राज्यों में बाघ रिजर्वों में कार्य निष्पादित और ड्यूटी से संबंधित कार्यों पर किए गए सभी व्यय के लिए निधियन सहायता।
- (ग) प्राधिकरण द्वारा किया जाने वाला अन्य कोई आवश्यक व्यय।

5. निधि का संचालन

- (1) निधि का संचालन बाघ संरक्षण प्राधिकरण के सदस्य सचिव द्वारा अध्यक्ष की मंजूरी से किया जाएगा।
- (2) निधि का रखरखाव खाते के दो अलग-अलग शीर्षों में किया जाएगा, जिसमें अनुदान से प्राप्त और केन्द्रीय सरकार द्वारा दिया गया ऋण और दूसरा बाघ संरक्षण प्राधिकरण द्वारा प्राप्त किए गए शुल्क और प्रभारों से संबंधित होगा।

6. पात्र कार्यान्वयन एजेंसी

- (1) बाघ संरक्षण प्राधिकरण, किसी बाघ रिजर्व राज्य को बाघ संरक्षण के लिए निधिकरण सहायता दे सकता है, जिसका कार्यान्वयन बाघ रिजर्वों द्वारा किया जाएगा जो प्राधिकरण द्वारा यथा अनुमोदित कार्यान्वयन एजेंसी होगी।
- (2) बिना किसी पूर्वाग्रह और अन्य दिशानिर्देशों तथा विनियमों को शामिल किए बिना, कार्यान्वयन एजेंसी निधि से वित्तीय सहायता देने पर विचार करेगी, यदि यह निम्नलिखित अपेक्षाओं को पूरा करती है:-
  - (क) कार्यान्वयन एजेंसी, बाघ संरक्षण प्राधिकरण से मान्यता प्राप्त एक बाघ रिजर्व है।
  - (ख) कार्यान्वयन एजेंसी को अपने फार्मेशन दस्तावेज के तहत शक्ति है (जैसे कि इस के गठन की अधिसूचना, समझौता ज्ञापन आदि)
  - (ग) कार्यान्वयन एजेंसी के कार्य, बाघ संरक्षण, इसके पर्यावास, परभक्षी, शिकारी पशुओं, पारिविकास, ऐसे क्षेत्रों में और उनके आसपास रहने वाले लोगों की जीविका की चिंता से निपटना उनके हित लाभ में हैं।
  - (घ) कार्यान्वयन एजेंसी, अपनी प्राप्तियों और व्यय का नियमित हिसाब रखती है। जो ऐसी एजेंसी की वित्तीय स्थिति का वास्तविक और उचित रखरखाव प्रस्तुत करेगा तथा जिसकी चार्टर्ड एकाउण्टेंट अथवा सरकारी लेखापरीक्षक द्वारा लेखा परीक्षा की जाती है।



- (ड) जिस विलेख के अंतर्गत कार्यान्वयन एजेंसी गठित की गई है इसमें इसकी पूरी आय अथवा सम्पति अथवा उसके किसी हिस्से का किसी भी समय किसी उद्देश्य के लिए अन्तरण अथवा अनुप्रयोग के लिए प्रावधान नहीं है जिसमें सामान्यतः धन के उद्देश्य अथवा लक्ष्य के संबंध में विवाद अथवा अन-अनुरूपता है अथवा हो सकती है। कार्यान्वयन एजेंसी को अनुदान के द्वारा वित्तीय सहायता बढ़ाई जा सकती है।
- (3) इसका निर्णय राष्ट्रीय बाघ संरक्षण प्राधिकरण द्वारा किया जाएगा कि क्या कार्यान्वयन एजेंसी द्वारा उपरोक्त अपेक्षाओं को भलीभांति और पूर्णरूपेण संतुष्ट किया गया है।
7. निधि से वित्तीय सहायता प्राप्त करने के आवेदन की प्रक्रिया—
- (1) निधि से वित्तीय सहायता प्राप्त करने के लिए सभी आवेदन बाघ रिजर्व की प्रबंधन योजना पर आधारित प्रचालन की वार्षिक योजना के रूप में कार्यान्वयन एजेंसी द्वारा किए जाएंगे, जिसे उस बाघ रिजर्व के मुख्य वन्यजीव वार्डन और बाघ संरक्षण प्राधिकरण द्वारा विधिवत अनुमोदित किया जाएगा जिसके लिए सहायता मांगी जा रही है।
- (2) सभी प्रकार से विधिवत पूर्ण फार्म (दो प्रतियों में) सदस्य सचिव को प्रस्तुत किया जाएगा।
- (3) कार्यान्वयन एजेंसी को निधि से अनुदान के रूप में वित्तीय सहायता, यदि प्राधिकरण द्वारा अनुमोदित किया गया हो, प्राधिकरण द्वारा लगाई गई ऐसी शर्तों की शर्त पर दी जाएगी और यदि शर्तों का अनुपालन नहीं किया गया तो वित्तीय सहायता किसी भी समय वापस ले ली जाएगी।
8. निधि जारी करने की प्रक्रिया —
- (1) बाघ संरक्षण प्राधिकरण, बाघ रिजर्व से इसकी प्रक्रिया द्वारा प्राप्त प्रस्ताव की जाँच करेगा और संबंधित राज्य सरकार को सूचित करते हुए अधिनियम की धारा 38एक्स के अंतर्गत कार्यान्वयन एजेंसी द्वारा स्थापित बाघ संरक्षण फाउण्डेशन को निधियां जारी कर सकता है।
- (1) बाघ रिजर्व राज्यों द्वारा बाघ परियोजना के अंतर्गत 50:50 आधार पर आवर्ती मदों के व्यय को पूरा करने के लिए समान अनुदान सहित आवश्यक बजट प्रावधान को सुनिश्चित किया जाना चाहिए ताकि कार्यान्वयन एजेंसी प्राधिकरण द्वारा इसे जारी की गई निधि को पखवाड़े के भीतर प्रयोग करने की स्थिति में हो।
9. वित्तीय सहायता का निलम्बन:—
- (1) बाघ संरक्षण प्राधिकरण कार्यों को पूरा करने के लिए निश्चित समय सीमा निर्धारित कर सकता है जिसके लिए बाघ रिजर्व राज्य और कार्यान्वयन एजेंसी के बीच समझौता ज्ञापन आवश्यक होगा।
- (2) बाघ संरक्षण प्राधिकरण इन दिशानिर्देशों का अपनुपालन सुनिश्चित करने की दृष्टि से वित्तीय सहायता की किसी भी किश्त के भुगतान को निलम्बित, स्थगित अथवा आस्थगित कर सकता है अथवा किसी भी समय ऐसे भुगतान के लिए नई शर्तें लगा सकता है।
10. परिसंपत्तियों का स्वामित्व और रखरखाव:—
- (1) कार्यान्वयन एजेंसी, इसके द्वारा निधि को प्राप्त निधियों पर अधिकार बनाए रखेगी और पूरी निधि का उपयोग करेगी और ऐसी निधियों द्वारा सभी परिसंपत्तियों का उपयोग पूरी तरह से उसी उद्देश्य के लिए किया जाएगा जिसके लिए कार्यान्वयन एजेंसी द्वारा निधियां प्राप्त की गई थी और प्राधिकरण की उचित लिखित अनुमति के बिना इसका उपयोग किसी अन्य उद्देश्य के लिए नहीं किया जाएगा।
- (2) कार्यान्वयन एजेंसी को बाघ संरक्षण प्राधिकरण की लिखित अनुमति के बिना ऐसी किसी धनराशि अथवा परिसंपत्तियों को दूसरे किसी काम में लगाने या अंतरित करने अथवा किसी भी प्रकार की बाधा पहुंचाने या उस पर नियंत्रण से अलग होने का कोई अधिकार नहीं होगा।
- (3) बाघ संरक्षण प्राधिकरण, यदि उसके पास यह विश्वास करने का पर्याप्त कारण हो अथवा उसका यह मत हो कि कार्यान्वयन एजेंसी:—
- (क) अनुबंधित कार्यों को पूरा करने अथवा कार्यान्वयन करने में समर्थ नहीं है।
- (ख) अपने सामान्य कार्यों को जारी रखने के लिए परिसमापन करना अथवा बन्द करना या रोकने की संभावना है।
- (ग) महत्वपूर्ण पुनर्संगठन अथवा पुनर्निर्माण की संभावना है जो निधि से वित्तीय सहायता प्राप्त करने के इसकी उपयुक्तता को बुरी तरह प्रभावित कर सकता है।
- (घ) ऐसी वित्तीय सहायता से अर्जित की गई या बनाई गई परिसंपत्तियों के रखरखाव और संरक्षित रखने में असमर्थ है।
- (ङ) इसको मंजूर की गई वित्तीय सहायता अथवा परिसंपत्तियों अथवा अन्य बातों के संदर्भ में अपने दायित्वों को पूरा करने में असमर्थ है अथवा वचनभंग करने की संभावना है।
- (च) निधि के उद्देश्यों के विरुद्ध कार्य अथवा प्रचालन कर सकता है अथवा अन्यथा अधिनियमों के विरुद्ध कार्य कर सकता है। किसी भी समय वित्तीय सहायता अनुदान को वापस कर सकता है और उस मामले में कार्यान्वयन एजेंसी को भुगतान की गई अथवा निधि से भुगतान की जाने वाली धनराशि को रखने से अथवा उससे सृजित परिसंपत्तियों से मुक्त किया जा सकता है। जो इसे सौंपी गई थी अथवा इसके पास है तुरंत प्राधिकरण के अधिकार के कुप्रभाव के बिना इस समय लागू किसी नियम के अनुसरण में कोई कार्रवाई की जा सकती है।
11. खातों का रखरखाव—बाघ संरक्षण प्राधिकरण बही खातों का रखरखाव भारत के नियंत्रक एवं महालेखापरीक्षक के परामर्श से केन्द्र सरकार द्वारा निर्धारित तरीके से करेगा।
12. कार्यक्रम प्रोसेसिंग प्रक्रिया:—बाघ प्राधिकरण, समय-समय पर जैसी भी आवश्यकता हो अथवा प्राधिकरण में उपलब्ध तकनीकी विशेषज्ञों की सलाह से कार्यक्रम प्रस्तावों की प्रगति की जांच करेगा।

13. मानीटरिंग प्रक्रिया—निधि से प्राप्त वित्तीय सहायता से शुरु किए गए कार्यों की मानीटरिंग समग्र रूप में निम्नलिखित ढंग से प्रभावित होगी:—
- (क) निरीक्षण बही खातों की जांच और कार्यान्वयन एजेंसी अथवा कार्यक्रम से जुड़े किसी अन्य व्यक्ति को निर्देश जारी करना।  
 (ख) बाघ संरक्षण प्राधिकरण के अधिकारियों द्वारा बाघ रिजर्वों और अधिनियम के अंतर्गत अपेक्षित अन्य क्षेत्रों का निरीक्षण करना।  
 (ग) निधि से शुरु किए गए कार्यक्रमों के अनुसरण में विषय के विशेषज्ञों की सेवाएं प्राप्त करना।  
 (घ) अनुसंधान, मूल्यांकन अध्ययनों आदि को शुरु करना।
14. प्राधिकरण द्वारा प्राप्त की गई निधियां:—
- (1) पात्रता  
 (क) दान व्यक्तिगत रूप से तथा कारपोरेट और नॉन कारपोरेट निकायों द्वारा दिया जा सकता है।  
 (ख) दाताओं द्वारा दिए गए सभी दान को बिना किसी शर्त के दिए गए समझा जाएगा और वापस नहीं लिया जाएगा।  
 (ग) ऐसे दान, फंड का हिस्सा होंगे और उनके अथवा उनके किसी भाग को प्रयोग, उपयोगिता, वितरण और निपटान का पूर्ण तथा उचित अधिकार पूरी तरह से बाघ संरक्षण प्राधिकरण में निहित होगा।
- (2) दान देने की प्रक्रिया:—निधि के लिए दिए गए दान विशेष रूप से बाघ संरक्षण प्राधिकरण निधि के नाम से दिए जाएंगे और सदस्य सचिव, राष्ट्रीय बाघ संरक्षण प्राधिकरण, बैरक नं 5, बीकानेर हाउस, शाहजहाँ रोड़, नई दिल्ली को भेजे जाएंगे, जो दानदाताओं को इन दिशा-निर्देशों के साथ संलग्न प्रपत्र में रसीदें जारी करेंगे, ऐसा दान देते समय दानदाता निम्नलिखित ब्यौरा देंगे, मानतः—
- (क) दानदाता का नाम,  
 (ख) पता,  
 (ग) बैंक ड्राफ्ट/बैंक का नाम और तिथि सहित चेकर संख्या  
 (घ) दान की राशि
- (2) (क) निधि का दान दाता उसके द्वारा दी गई नीति का किस कार्यान्वयन एजेंसी द्वारा उपयोग किया जाना है उसके लिए अपनी प्राथमिकता की सिफारिश कर सकते हैं।  
 (ख) दानदाताओं की सिफारिशें, यदि कोई हों, पर बाघ संरक्षण प्राधिकरण द्वारा, जिस सीमा तक उचित समझा जाएगा, विचार किया जाएगा तथापि, यह इस बारे में अपने निर्णय के लिए दानदाताओं या अन्य किसी व्यक्ति के प्रति उत्तरदायी नहीं होगी।  
 (ग) इस बारे में लिए गए निर्णय अंतिम होंगे और इस बारे में कोई पत्र-व्यवहार नहीं किया जाएगा।
15. दिशा-निर्देशों आदि में परिवर्तन के लिए प्राधिकरण की शक्तियाँ:—प्राधिकाण, फण्ड के हित या इसके लक्ष्यों की प्राप्ति के लिए समय-समय पर इन दिशा-निर्देशों और विनियमों में संशोधन अथवा परिवर्तन कर सकता है।
16. अन्तर्निहित ट्रस्ट अथवा एजेंसी:— तथापि इन दिशा-निर्देशों में शामिल किसी बात के लिए बाघ संरक्षण प्राधिकरण को किसी भी परिस्थिति में किसी भी उद्देश्य के लिए किसी भी व्यक्ति (दान दाताओं और कार्यान्वयन एजेंसियों सहित) के एजेंट को ट्रस्टी नहीं माना जाएगा और प्राधिकरण, प्राधिकरण की ओर से किसी कार्य के निषेध या शुरु करने सहित किसी भी कारण से किसी भी रूप में ऐसे किसी व्यक्ति के प्रति जवाबदेह या उत्तरदायी नहीं होगा।

(फा.सं.6(4)2005—पीटी)  
 सदस्य सचिव (एनटीसीए)



प्रपत्र

(कृपया दिशानिर्देश क्रमांक 14(2) देखें)

दान की रसीद

राष्ट्रीय बाघ संरक्षण प्राधिकरण

रसीद सं.....

दिनांक.....

राष्ट्रीय बाघ संरक्षण प्राधिकरण को.....

(नाम और पता) से.....रुपये की (अंकों में)

.....रुपये (शब्दों में)

.....संख्या के चेक/ड्राफ्ट/पे-आर्डर के द्वारा

दिनांक ..... को बिना किसी शर्त एवं वापस वसूल न किए जाने का दान प्राप्त हुआ है। उपरोक्त दान निधि को दिशानिर्देशों और विनियमों की शर्त पर स्वीकार किया गया है।

राष्ट्रीय बाघ संरक्षण प्राधिकरण  
बैरक नं 5  
बीकानेर हाउस,  
शाहजहाँ रोड़,  
नई दिल्ली-110001

हस्ताक्षर.....  
नाम और पद.....  
.....



# MISCELLANEOUS







No. 19-8/99-WL.1  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhavan, CGO Complex,  
Lodi Road, New Delhi - 11 0003

Dated 22nd December, 1999

To

The Secretary,  
Forest Department  
(All States/UTs)

Sub: Payment of compensation for loss of life and property due to predation/depredation by wild animals.

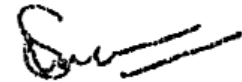
Sir,

In partial modification of this Ministry's letter No. 13-1/90-FP(6) dated 18th September, 1990, Government of India has decided to request the State Governments of increasing the amount of ex-gratia Payment in cases of death or permanent incapacitation of any person by a wild animal from Rs. 20,000 to Rs. 1,00,000. The state Governments may authorize local officers to pay atleast 25% of this amount as interim relief to the family of the deceased/incapacitated person after due verification in anticipation of formal sanction. The balance amount could be released after completing the formalities prescribed by the State Government. The compensation in grievous injuries would continue to be 1/3rd of the amount fixed for cases of death/permanent incapacitation.

It is also clarified that reimbursement of the amount of compensation by this Ministry under various schemes of wildlife conservation would be made on the enhanced rated only, subject to availability of funds, in respect of incidents that occur after the issue of this circular.

This issues with the approval of competent authority and concurrence of Finance vide their DO. No.1531/Dir(Fin).dated 14.7.99.

Yours faithfully,



(S.C. Sharma)  
Addl. IGF (Wildlife)

Copy to:

1. PCCF's of All States/UTs
2. PS to MOS (E&F)
3. Information Officer, MoEF, for due publicity.
4. Copy to File No.13-1/90FP (6)





**NATIONAL TIGER CONSERVATION AUTHORITY**  
(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Member Secretary

Bikaner House, Annexe-V,  
Shahjahan road, New Delhi-110011  
Tele Fax: 011-23384428  
E-mail: dirpt-r@nic.in

No. PS-MS(NTCA)/2009-Miscs.

Dated the April 22, 2009

To,

Field Director  
(All Tiger Reserves)

**Sub: Field interventions in core/critical tiger habitats.**

Sir,

As you aware, the core/critical tiger habitats have been notified by States under section 38V of the Wildlife (Protection) Act, 1972, as amended in 2006. The core/critical tiger habitats are areas of National Parks and Sanctuaries where field interventions should be very minimum, as per the directives issued by the Hon'ble Apex Court on 25-11-2005, in IA No. 1220 (Interim Report of CEC in IA No. 548) and IA No. 994. A copy of the said order is enclosed for ready reference.

2. The following are important to note vis-à-vis the directives of the Apex Court under reference:
  - (i) The field interventions should be as per the approved Management Plan (Tiger Conservation Plan) of the Tiger Reserve.
  - (ii) No outside agency can undertake any field work inside the core/critical tiger habitat without the prior permission of the Hon'ble Apex Court.
  - (iii) No individual donor can prescribe a field activity of his choice inside the core/critical tiger habitat.
  - (iv) The Tiger Conservation Plan for the tiger reserve should be prepared as per the guidelines issued vide NTCA Technical Document 01/07, duly approved by the competent authority as prescribed in the Wildlife (Protection) Act, 1972, as amended in 2006.

(v) Since the core/critical tiger habitats are meant to be kept inviolate for tigers, artefacts like foundation stone, commemorative exhibits / signages should not be constructed in such areas at any cost.

3. The above directions may strictly be followed in compliance of the Hon'ble Apex Court's directives under reference to ensure the sanctity of our core/critical tiger habitat.

Yours sincerely,

Encl: As above

Sd/-  
Member Secretary (NTCA)

Copy to:

1. PPS to Secretary (E&F), MoEF.
2. PPS to DGF & SS, MoEF.
3. PPS to Addl. DG (Wildlife), MoEF.

Sd/-  
Member Secretary (NTCA)

Copy also to:

1. Additional Chief Secretary/Principal Secretary (Forests) (All Tiger Reserve States).
2. Principal Chief Conservator of Forests (All Tiger Reserve States).
3. Chief Wildlife Warden (All Tiger Reserve States).

Sd/-  
Member Secretary (NTCA)



SUPREME COURT OF INDIA  
RECORD OF PROCEEDINGS

I.A. Nos. 1430-1430 in W.P. (C) No. 202/1995

T.N. GODAVARMAN THIRUMULPAD

Petitioner(s)

VERSUS

UNION OF INDIA & ORS.

Respondent(s)

(for directions, ad-interim and exemption from filing O.T.)

WITH

I.A. No. 1370 in I.A. No. 566 in W.P. (C) No. 202/1995

(for directions on behalf of State of Chhattisgarh).

I.A. No. 1442 in W.P. (C) No. 202/1995

(for necessary orders and directions)

I.A. No. 1186 in I.A. Nos. 205-206, 645, 723-724, 737, 738-739 & 763 in W.P. (C) No. 202/1995

(for recommendations of CEC in I.A. Nos. 205-206, 645, 723-724, 737, 738-739 & 763),

I.A. Nos. 1202, 1206 in W.P. (C) No. 202/1995

(for stay and directions),

I.A. Nos. 1220 in I.A. Nos. 548 and I.A. 994 in W.P. (C) No. 202/1995

(interim report of CEC in I.A. No. 548),

I.A. Nos. 1226 and 1231 in W.P. (C) No. 202/1995

(for directions and permission to file additional documents),

I.A. Nos. 1232 and 1352 in I.A. Nos. 963-964 in W.P. (C) No. 202/1995

(Report of HPC in I.A. no. 963-964 and IInd Report of HPC) and

WITH

SLP (C) No. 8707 of 2002 (Kapoorchand vs. State of Maharashtra & Ors.)

(with appln(s) for exemption from filing c/c of the impugned judgment and permission to place additional documents on record and permission to submit additional document(s) and with prayer for interim relief)

Date: 25/11/2005 These Petitions were called on for hearing today.

CORAM:

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE ARIJIT PASAYAT

HON'BLE MR. JUSTICE S.H. KAPADIA

Amicus Curiae                      Mr. U.U. Lalit, Sr. Adv.  
   Mr. Sidhartha Chowdhury, Adv.  
   [Mr. Harish N. Salve, Sr. Adv. (NP)]

For Petitioner (s) in WP        Mr. P.K. Manohar, Adv. (NP)

in SLP                                    Mr. K.K.S. Krishnaraj, Adv.  
   Mr. Venkateshwar Rao, Anumolu, Adv.  
   For Mr. Gopal Balwant Sathe, Adv.

**I.A. No. 1220 (interim report of CEC in I.A. No. 5408) and I.A. 994**

Some of the State Governments/Union Territories have filed their responses to the recommendations of the CEC. Such of the States/Union Territories which have not filed the same, are granted further four weeks' time.

None of the States has filed any objection to the recommendations of the CEC made in paras 14 and 15 in relation to clarification about allowing conservation and protection related activities for better management of the protected areas. The recommendations contained therein are, accordingly, accepted and the order dated 14th February, 2010 is clarified according. Accepting the said recommendations, we direct as under:

A. Various activities such as removal of weeds, clearing and burning of vegetation for fire lines, maintenance of fair weather roads, habitat improvement, digging, temporary water holes, construction of anti-poaching camps, chowkies, check posts, entry barriers, water towers, small civil works, research and monitoring activities, etc. are undertaken for protection and conservation of the protected areas and therefore permissible under the provisions of Section 29 of the Wildlife (Protection) Act, 1972. These activities are necessary for day to day management of the protected areas besides it does not involve any type of commercial exploitation.

The activities above-mentioned are permissible under the various provisions of other environmental laws as well.

B. The order dated 14th February, 2000 will not be applicable to the following activities provided that they (i) are undertaken as per the Management Plan approved by the competent authority; (ii) are consistent with the provisions of the Wildlife (Protection) Act, 1972; (iii) are undertaken consistent with the National Wildlife Action Plan; (iv) are in conformity with the guidelines issued for the management of the protected areas from time to time; and (v) the construction and related activities are designed to merge with the natural surroundings and as far as possible use forest friendly material.

**(a) Habitat improvement activities**

Weed eradication, maintenance and development of meadows/grassland required for wild herbivores which are prey base for the carnivores, digging and maintenance of small water holes and small anicuts, earthen tanks, impoundment of rain water, relocation of villages outside the protected areas and habitat improvement of areas so vacated.



(b) **Fire protection measure**

Clearance and maintenance of fire lines as prescribed in the Management Plan by undertaking controlled cool or early burning and construction of watch towers.

(c) **Management of wet grassland habitats**

Early or cool controlled winter burning of grasslands habitats such as in Kaziranga and Manas National Parks in Assam, to facilitate growth of fresh grass.

(d) **Communication and protection measures**

Construction of wireless towers, improvement and maintenance of fair weather non-tarred forest roads not exceeding three meters in width, small bridges, culvert, fences etc.

(e) **Antipoaching initiatives**

Construction, maintenance and improvement of small antipoaching camps/chowkies, patrolling camps, check posts, barriers, boundary walls, construction of small staff quarters for the frontline staff, etc.

**I.A. Nos. 1226 and 1231**

The learned counsel for the State of Maharashtra shall supply a copy of the affidavit to Mr. A.D.N. Rao, learned counsel appearing for the Ministry of Environment & Forests (MoEF). The MoEF is granted further four weeks' time to file reply, if any. List after four weeks.

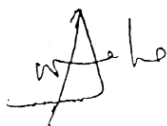
**I.A. No. 1232 and 1352 (Reports of HPC in I.A. Nos. 963-964)**

After arguing for the applicant-M. Indrasen Singh for considerable time, the learned counsel was enable to explain the status of M. Indrasen Singh vis-à-vis Al Barri & Sons, Moreh, Manipur. The counsel seeks one week's time to file an additional affidavit. Though we allow the prayer, but having unnecessarily wasted the time of this Court, we impose on the applicant-M. Indrasen Singh costs of Rs. 25,000/- (Rupees twenty five thousand) as a pre-condition for hearing of these applications. The amount of costs shall be deposited with the CEC within one week. The IAs are adjourned. List after one week.

The applicant-M. Indrasen Singh shall be present in the Court on the next date of hearing also.

**SLP (C) No. 8707 of 2002**

On the ground of personal difficulty of the counsel, adjourned.



(D.P. WALIA)  
COURT MASTER



(V.P. TYAGI)  
COURT MASTER

No. 8-1/80-FRY (WL)  
Ministry of Agri. & R.R.  
Deptt. of Agri. & Cooperation

Krishi Bhavan,  
New Delhi.

Dated the 21st April, 1981

To

The Forest Secretaries of  
All States and Union Territories.

Sub: Formation and Working of Wild Life Wings in States and Union Territories.

Sir,

In the 14th meeting of the Indian Board for Wildlife held on 9th February, 1981, under the Chairmanship of the Prime Minister, the formation and working of the Wildlife Wings in the States and Union Territories had come up for discussion. A number of members expressed concern about the progress achieved so far. It was generally felt that despite specific instructions and guidelines issued by the Central Government from time to time, a number of States have not acted at all and only 13 States have set up Wild Life Wings of sorts. It was also felt that the manning and working of these new wildlife wings, wherever set up, leaves much to be desired. The Board, therefore, came to the conclusion that this whole matter should be looked into carefully with a view:

- (a) to ensure that separate wildlife wings are set up immediately in those States and Union Territories which have not taken such action so far; and
  - (b) to examine the working of the existing wild life wings in some States, specially, with a view to ascertain whether suitable personnel with aptitude for wildlife work are actually manning these wings.
2. In this connection, I would like to draw your attention to the following important communications (copies enclosed) from the Central Government on this subject:
- (1) Letter No. 694-PMO/73, dated 27th December, 1973, of the Prime Minister to the Chief Ministers of all States/Union Territories.
  - (2) Letter No. 15/ii(i)/74-AIS (IV) dated the 16th January, 1976, of the Cabinet Secretariat (Deptt. of P & AR) to the Chief Secretaries of all States/Union Territories.
  - (3) D.O. letter No. J-11014/75/76-FRY (WL), dated the 16th September, 1976, of Joint Secretary (F & WL), Ministry of Agriculture, to all Chief Secretaries with copy to Forest Secretaries of all States/Union Territories.
  - (4) D.O. letter No. J 11014/75/74-FRY (WL), dated the 25th October, 1976, of Joint Secretary (F & WL), Ministry of Agriculture, to the Forest Secretaries of all States/Union Territories.
  - (5) Letter No. 279-PMO/76, dated 16th December, 1976, of the Prime Minister to the Chief Ministers of all States/Union Territories.







- (6) Letter No. 11-1/77-FRY (WL), dated 5.1.1977, of the Joint Secretary (F & WL), Ministry of Agriculture, to the Chief Conservators of Forests of all States/Union Territories.
  - (7) Letter No. 660-PMO/80, dated 20 April, 1980, of the Prime Minister to all Governors and Chief Ministers.
  - (8) Letter No. 5-6/80-FRY (WL), dated 8.4.1980, of the Union Minister of Agriculture to all Governors and Chief Ministers.
3. It will be noticed that ever since 1973, and more particularly, in 1976, specific guidelines have been issued regarding the formation and working of separate wildlife wings in States and Union Territories. What has lagged behind is concrete action on the lines, for which a review is necessary now very quickly. You are requested to undertake such a review urgently for your State/Union Territory and to send me a comprehensive note thereon (not more than three pages) which should clearly bring out the following points:
- (i) Size and composition of the existing wildlife wing.
  - (ii) Main activities and functions.
  - (iii) Staffing pattern and relationship with the Forest Deptt.
  - (iv) Defects or weaknesses of the existing set up and the way it is proposed to overcome these.
  - (v) Whether there is any proposal to set up a separate cadre or sub-cadre for wildlife work (if so, details should be given).
  - (vi) If no wildlife wing has been set up so far or proposed to be set up in future, reasons therefore must be given and the adequacy of the existing arrangement explained.
4. The Prime Minister has desired that this matter needs very urgent attention. It is also proposed to examine the working of a few wildlife wings immediately. Therefore, it is essential that the task set out in para 3 above is completed quickly. Please see that this is done within one month and send your note (in three copies) so as to reach me latest by 31st May, 1981.

Yours faithfully,

(Samar Singh)  
Joint Secretary to the Govt. of India.

Copy for information to:

1. Chief Conservators of Forests/Chief Wildlife Wardens of all States/Union Territories.
2. Assistant Directors, Wild Life Preservation, Govt. of India.
3. Regional Representatives of the Indian Board for Wild Life.

(Samar Singh)  
Joint Secretary to the Govt. of India.

# PRIME MINISTER

No. 694-PMO/73

New Delhi  
December 27, 1973

In the last few years wildlife conservation has made significant progress. A new legal framework has been enacted in the shape of the Wildlife (Protection) Act, 1972. Project Tiger is under way and the States are more responsive. There is also large financial allocation for wildlife programme in the Fifth Plan.

I feel that the time has now come to introduce more specialised management for our parks and sanctuaries. At present, personnel are posted there in a haphazard manner without regard to expertise, aptitude or special dedication. Also postings are of such short duration that experience and expertise cannot be adequately built up. Many officers who have received wildlife training abroad or in Dehra Dun are being used for other jobs.

Throughout the world, wildlife management is becoming increasingly specialised. Our conservation efforts cannot yield the desired results without a similar effort on our part. One possible approach with which I am in broad sympathy is enclosed. I have asked the Department of Personnel to examine it further in consultation with the Inspector General of Forests in order to give it more concrete shape before commending it to you. It would be helpful if your Forest Department could also apply its mind to this problem from now and keep in touch with the Inspector General of Forests.

There is one other matter to which I would like to draw your attention. Despite the enactment of the Wildlife (Protection) Act, 1972, enforcement at the field level leaves much to be desired. It seems that none of the State Governments has so far recruited additional staff whose sole duty would be to enforce the Act, to patrol wildlife areas and sanctuaries and prevent violations of the law. I continue to receive reports of even endangered animals listed in Schedule I of the Act being killed illegally. The tiger and leopard have received considerable publicity in this connection. The black buck merits similar vigilance. It would be desirable to set up black buck sanctuaries wherever sizeable herds of this rare and beautiful animal remain.

With kind regards,

Yours sincerely,

Sd/-  
(INDIRA GANDHI)



To

Chief Ministers of all State Governments  
and Union Territories, and Governors of  
Orissa and Manipur

- (1) Creation of a Wildlife Department under the Forest Department at the Government level in those States which have large and important areas of wildlife. In the other States, there may be a separate Wild Life wing under the Chief Conservator of Forests.
- (2) Forest officers and field staff may be given option to come to the Wildlife Service. Some special pay may be offered as an incentive. However, once having opted for it, these officers will not be allowed to go back to the regular forest line unless their promotion prospects are available. Alternatively, all officer may be given promotion in the Wildlife Service as and when his promotion in his parent service becomes due. This will ensure long tenure, specialization as well as attract people with the necessary commitment and enthusiasm.
- (3) Personnel may be drawn from the Indian Forest Service, State Forest Services and to the extent that there is a shortfall from the open market or from other services. Special training will be imparted to these personnel in wildlife management. In addition, Govt. of India could offer to provide specialists on deputation as Consultants or Advisers.
- (4) National Parks and Sanctuaries will be managed by the Wildlife Service exclusively, and all staff and activity will be under their control.
- (5) If for commercial reasons, a State Government is unwilling to stop exploitation within a national park or sanctuary, it will be the duty of the Wildlife Service rather than the Forest Department to conduct and supervise timber felling etc. Such an arrangement will ensure that damage to wildlife is minimised.

IMMEDIATE

No. 15/11(1)/74-AIS (IV)  
Government of India  
Cabinet Secretariat  
Department of Personnel & A.R.

New Delhi

Dated the 16th January 1976

To

The Chief Secretaries to all the  
State Governments (except Karnataka, Nagaland,  
Andhra Pradesh, Gujarat, Punjab and Tamil Nadu).

Administrators / Chief Secretaries of the Union  
Territories Administrations (Goa, Daman and Diu,  
Andaman and Nicobar Islands, Dadra and Nagar  
Haveli and Arunachal Pradesh).

Sub: Indian Forest Service - Review of the strength and composition of the State Cadres in 1965 - Proposals regarding.

Sir,

I am directed to refer to this Department's letter of even number dated the 30th June, 1975 and subsequent reminders of 26th July, 1975, 26th September, 75, 30th October, 75 and 16th December, 1975 regarding review of the strength and composition of the State Cadres of the Indian Forest Service and to request that the proposals of the State Government may be expedited.

2. I am also to draw your attention to the Department of Agriculture letter No. J.11013/5/74-FRY/WLF dated the 23rd December, 1975 regarding setting up of Wild Life Wing in the Forest Departments with a view to having organized Wild Life management in the country. It will be observed that, inter-alia, the following decisions were taken regarding the organization at the State and the Field Levels:-

STATE LEVEL

At the State level, a beginning should be made without further delay, to establish a separate Wild Life Wing, under the overall charge of the Chief Conservator of Forests. This Wing should be headed by an officer of the rank of Additional Chief Conservator of Forests in the States with large areas of wild life and by officers of the rank of Conservator of Forests in other States. The officers who are already trained in wild life management work should be identified and posted immediately to that Wing.

FIELD LEVEL

At the field level, all sanctuaries and national parks should be placed individually or in groups directly under the charge of fully trained wild life officers of the rank of Deputy Conservator of Forests. These



officers should be entrusted with the total management of these areas not only in respect of Wild Life, but also in forestry.

3. In view of the directives of the Prime Minister and decisions referred to above, I am to request you kindly to consider the question of setting up necessary organization at the State Level and Field Level and make necessary proposals if any for encadrement of posts connected with the wildlife management work at the time of making the review of the Cadre strength so that the matter may be considered in the meeting of the Cadre Review Committees.

Yours faithfully,

Sd/-

(R.L. Aggarwal)

Under Secretary to the Govt. of India.

Copy forwarded to:-

1. The Secretary to the Government of Karnataka, Forest Department, Karnataka.
2. The Secretary to the Government of Mizoram, Forest Department, Kohima.
3. The Secretary to the Government of Andhra Pradesh, Forest Department, Hyderabad.
4. The Secretary to the Government of Gujarat, General Administration Department, Sachivalaya, Gandhinagar.

The proposals from these State Governments regarding the review of strength and composition of their Cadres of the Indian Forest Service have already been received. They may kindly review the position in the light of paragraphs 2 and 3 above, and make supplementary proposals, if considered necessary.

Sd/-

(R.L. Aggarwal)

Under Secretary to the Govt. of India.

Copy forwarded for information to:-

1. Min. of Agri. & Irrigation, Deptt. of Agriculture, AIS Section, New Delhi.
2. Min. of Finance, Deptt. of Expenditure, New Delhi.

Sd/-

(R.L. Aggarwal)

Under Secretary to the Govt. of India.



**IMMEDIATE**

**N.D. Jayal,**  
Joint Secretary (F&WL)  
Tel: 388071

D.O. No. J 11014/75/76-FRY(WL)  
**Government of India**  
**Ministry of Agriculture & Irrigation**  
(Department of Agriculture)

New Delhi

September 16, 1976

**Sub: Wildlife Conservation and Management**

Dear

In her DO letter No.694-PM/73 dated December 27, 1973 addressed to the Chief Ministers of all States and Union Territories on the foregoing subject, the Prime Minister had, among other things, emphasized the need for specialized management of our national parks and sanctuaries, optimum utilization of wildlife staff with experience and expertise and recruitment of additional staff to effectively enforce the provisions of the Wildlife (Protection) Act, 1972. The following important organizational arrangements were accordingly approved by the Prime Minister and circulated to the Chief Secretaries of all States and Union Territories for implementation, under this Ministry's letter No. J/11013/5/74-FRY/WLF dated December 23, 1974:-

- a) At the State level, a beginning was required to be made without delay to establish a separate Wildlife Wing under the overall charge of the Chief Conservator of Forests. This Wing was required to be headed by an officer of the rank of Additional Chief Conservator of Forests in States with large areas of wildlife and by officers of the rank of Conservator of Forests in other States. Officers who were already trained in wildlife management work were required to be identified and posted immediately to this Wing.
- b) Such identified officers posted in the Wildlife Wing at various levels were not expected to be transferred to the forestry wing unless equally trained officers were available to replace them. When an officer became ripe for promotion in the Forestry Wing and a suitable officers was not available to replace him, the post held by him in the Wildlife Wing was required, as far as possible, to be upgraded so that his services, expertise and experience continued to be available to the wildlife wing.



- c) In order to maintain performance standards, all persons directly or indirectly concerned with wildlife management were required to be regularly assessed in their annual reports for their performance in wildlife conservation work.
- d) At the field level, all sanctuaries and national parks were required to be placed individually or in groups under the direct charge of fully trained Wildlife officers of the rank of Deputy Conservator of Forests. These officers were required to be entrusted with the total management of these areas not only in respect of wildlife, but also in forestry.
- e) In order to attract talented officers, incentives in the form of rent-free accommodation, special pay were required to be granted to officers posted in the Wildlife Wing.

2. The Prime Minister had desired to be kept informed, through periodic statements, the progress made in implementing, among others the foregoing arrangements to organize wildlife conservation and management on a sound footing in all the States and Union territories. For this purpose, a questionnaire was sent to all the Forest Secretaries and Chief Conservators of Forests with my DO letter of April 7, 1976 to elicit a quarterly progress report. From the information thus received, the progress in most of the States and union Territories has been extremely slow and unsatisfactory which has provoked the following remarks from the Prime Minister's Secretariat:-

"The progress report has been seen by the Prime Minister. She has observed that the response is sluggish and has expressed the hope that a constant watch will be kept in order to improve matters.

The Prime Minister has also observed that no action seems to have been taken till now to ensure integrated management of Sanctuaries under the control of fully trained wildlife officers. It had earlier been indicated that there should be unified control within sanctuaries and that all forestry operations should be managed by the wildlife specialist incharge of the sanctuary. The Prime Minister desires that this requirement should be pursued energetically."

3. In view of the Prime Minister's foregoing observations, I write to request you to kindly take urgent measures to implement the proposals outlined above, and in particular to take immediate steps to ensure
  - a) that a separate and distinct Wildlife Wing is established in your State with officers in exclusive, not dual charge of wildlife matters; and
  - b) that all national parks and sanctuaries in your State, if any, are placed under the direct charge of wholetime wildlife officers responsible for the total management of these national parks and sanctuaries in respect both of Wildlife and forestry. The centre will not, hereafter, be in a position to release financial assistance for your national parks and sanctuaries unless this clear commitment is available from your State. We trust that your State/UT will be geared to report substantial progress in this matter in the report for the current quarter due for submission to the Prime Minister by the end of next October.

4. We had a year ago sent guidelines to all the States and Union Territories for the creation of Wildlife Wing and for the management of national parks and sanctuaries. As most of the State/UTs have yet to take action in accordance with these guidelines, I enclose a copy for ready reference which may assist your State/UT to indicate action speedily. We suggest that a detailed plan may kindly be prepared for implementing the various measures proposed above, indicating the existing wildlife staff situation, and the essential additional requirements for optimising the wildlife management and conservation effort with the additional financial implications. If this plan can reach us within two months by mid-November, further consideration could be given by us on the nature and extent of effort required to fulfill the directions of the Prime Minister.

With kind regards,

Yours sincerely,

Sd/-  
(N.D.Jayal)

Shri \_\_\_\_\_ (Chief Secretaries of all States/UTs)

Copy together with a copy of the enclosure forwarded to:-

1. Forest Secretaries, Chief Conservators of Forests and Chief Wildlife Wardens of all States Governments/UTs.

Sd/-  
(N.D.Jayal)

Copy forwarded for information to:-

Sd/-  
(N.D.Jayal)





## GUIDELINES PROPOSED FOR THE FORMATION OF WILDLIFE WINGS IN THE STATES/UNION TERRITORIES

Wildlife Conservation has made significant progress during the last few years. A need is now felt to introduce more specialized management for our Parks and Sanctuaries. With this in view it is proposed that Specialized Wild Life Wings may be set up in the States and Union Territories. Some states have asked for guidelines in the matter of setting up such wings, for which purpose the following may kindly be considered.

Habitat conservation is crucial for the survival of Wild Life. As such there should be no exploitation of the same. Since sanctuaries and parks form only 2.5% of our forest area where most of the wild life is concentrated, the management of both the habitat and wildlife of such areas must invariably be entrusted to one authority. This would be particularly applicable to sanctuaries where for monetary considerations State Governments finds it impossible to forego commercial exploitation of timber. Hence, it is absolutely imperative that to safeguard the interests of the sanctuary. Once the objectives of the sanctuaries are identified, prescription of the working plans will have to be altered to favour wildlife as normally the plans are only forestry oriented. In a National Park, of course, there would be no commercial exploitation whatsoever, and this is in fact would be the pre-condition to the area being declared a national park.

The size and structure of the wings in each state of Union Territory would depend upon the area of the National Parks, sanctuaries, zoos and the amount of trade and trafficking of wildlife carried on in the State. The work which could be assigned to this Wing may be seen in the enclosure. The wing would be under control of a Chief Wild Life Warden whose status would be that of an additional Chief Conservator of Forests or a Conservator of Forest, depending upon the number of sanctuaries, national parks etc. in each State. The Chief Wild life Warden would be the head of the Wild Life Wing.

Under the Chief Wild Life Warden would be Deputy Chief Wildlife Wardens of the status of Deputy Conservators of Forests. A full time Deputy Chief Wild Life Warden would be Incharge of each National Park or sanctuary over 250 Sq.Kms in area. In case the National Park or sanctuaries are smaller, then a few of these would be clubbed together to form his jurisdiction. As stated above, it is hoped that sanctuaries would also be free from commercial and other exploitation and disturbance.

However where commercial exploitation is unavoidable such exploitation would be under the control of the Deputy Chief Wild Life Warden, and depending on the magnitude of the exploitation he could be assisted by Wild Life Wardens of the rank of Assistant Conservator of Forest. In Sanctuaries and parks which are of vital importance e.g. those containing endemic endangered species there may be a full time Deputy Chief Wildlife Warden even if the area is less than 250 Sq.Kms.

Sanctuaries and national parks between 100 and 250 Sq.Kms. should be under the control of Wildlife Wardens of the rank of Assistant Conservators of Forest. Sanctuaries and national parks between 50 to 100 Sq.Kms. may be under the control of an Assistant Wild Life Warden of the rank of a Range Forest Officer. For purposes of management the sanctuaries and national parks should be approximately ...Kms and may be smaller depending on the terrain, accessibility to poachers etc. For every four Wild Life forest guards there should be one Wild Life forester who would work directly under the Assistant Wildlife Warden. All roads entering the sanctuaries and national parks should have check-posts manned by 3 Wild Life Forest Guards working round the clock. These Guards at the check-post would be under the control of the Wild Life Forester of that jurisdiction. As there would already be some staff working in the existing parks and sanctuaries, only some additional staff would be required.



In the Reserved and Protected forests other than those covered under National Parks and Sanctuaries, the existing territorial officers of the forest department would continue to be responsible for wild life conservation. The Chief Wild life Warden will, however, guide the territorial officers in the matter of wildlife conservation and he should be at the end of the year make entries in their confidence roll with regard to work done and interest evinced for wild life conservation. The staff in these territorial divisions would be under the territorial Divisional Forest Officers and not a part of the Wildlife Wing.

In areas transferred to Forest Corporation, the Chief Wild Life Warden should be co-opted as member of the governing body. No extra staff would be required as the Forest Corporation should be bound to implement the Wild Life (Protection) Act, 1972.

For areas out-side the control of the Forest Department, Revenue areas etc. it is proposed that there may be mobile squad comprising of four Wild Life Guards and a forester in each district or a group of Districts (depending upon terrain incidence of wildlife etc.), who could tour these areas and also control and check the trade, taxidermy, trapping etc. of these areas. In larger they would all be under the control of the Wild Life Warden of that area. In larger towns which are centres of trade and taxidermy, a Ranger should be posted. In the western parts of Rajasthan, as also in certain other parts of the country, isolated pockets of wildlife exist outside the area controlled by the Forest Department surviving because of the remoteness of area or the religious sentiment of the people. It is eminently necessary that these areas should now be effectively protected by the wildlife wing, and sanctuaries established where necessary.

As has been stated above, additional staff would be necessary to some extent for the wildlife wing only in areas outside the control of the Forest Department and secondly, where the existing staff in sanctuaries and parks would have to be augmented. For the rest the existing staff in sanctuaries and parks would be brought within the purview of the wildlife wing, and in Reserve and Protected Forest outside sanctuaries and parks the existing field staff should normally suffice and will continue to be responsible for wildlife of their areas.

There are certain other factors however, which may be kept in view. As the Wildlife Wings will be relatively small organisation, there may be certain bottlenecks in promotion resulting in the personnel not getting their promotion within the Wing which they would have had they been in the parent department. This fact may deter desirable staff and officers from joining the wing. It would be a complete waste if the officer and staff would have to revert to the parent Department from the Wildlife Wing. If their promotion falls due they should be promoted within the organisation either by promoting them to a higher post, or by upgrading the post on which they are working so that they get the requisite additional emoluments.

Another very important aspect would be research in wildlife. The State of Orissa has taken a very commendable steps in appointing Ph.D. students on their staff and in assigning them to certain sanctuaries and projects. Such full time research workers should be appointed in the wildlife wing and given specific conservation oriented research work. These research scientists will have to be absorbed in the wildlife wing and should also have avenues of promotion, in their future career within the wing, even if it may be by upgradation of their existing posts as suggested above.

A similar problem would also arise in the case of non-cadre appointments on wildlife posts, as is the case in Rajasthan and in some other States. These officers will of course be a part of the wildlife wing, and the Prime Minister has observed that the claims of these non-cadre persons who may have served for years on wildlife jobs should not be lost sight at the time of appointment, promotion and other service benefits when the wildlife wing is established.



December 16, 1976

Dear Chief Minister,

On 27th December, 1973, I had asked you to look into the possibility of establishing a Wildlife Wing within the Forest Department. The aim was to provide specialized wildlife management, without which our conservation effort cannot be prospering them.

Since then, a scheme has been drawn up by the Department of Personnel and circulated to all State Governments. However, the feedback from the States shows that progress has been disappointingly slow. In some cases, Wildlife Wings have been established on paper, but remain ineffective. Elsewhere, even preliminary steps have not been taken. In all cases, there is a marked shortage of trained wildlife staff, and no evidence that the few people available have been deployed to maximum advantage.

I cannot avoid the feeling that Forest Departments continue to treat wildlife as a peripheral and unimportant matter. If such an attitude of indifference persists, attempts at conservation will not succeed. Throughout the country there is new emphasis on the need for compassion towards animals and for environmental conservation. A good share of the burden must necessarily fall on Forest Departments, which should be alive to their responsibility.

I should like you to ensure that departmental apathy and resistance to the effective functioning of Wildlife Wings are overcome. Cadre management must be adjusted to reflect the new priorities. The Planning Commission will be responsive to properly conceived schemes, so shortage of funds need not be an undue inhibition. Detailed practical suggestions have already been conveyed to you: what remains is to put them into practice.

Please keep me informed of progress.

Yours sincerely,

Sd/-  
(Indira Gandhi)

To

Chief Ministers of all States.  
Governors of Gujarat/Orissa/Nagaland/Tamil Nadu  
and Lt. Governor of Pondicherry



**N.D. Jayal,**  
Joint Secretary (F&M)  
Tel: 388071

D.O. No. J 11014/75/76-FRY(WL)  
Government of India  
Ministry of Agriculture & Irrigation  
(Department of Agriculture)

New Delhi

October 25, 1976

**Sub: Creation of separate Wildlife Wings**

Dear

1. In the final para of my D.O. letter of even number dated September 16, 1976, I had suggested that a detailed plan be prepared for implementing various measures for strengthening your wildlife organisation in accordance with the Prime Minister's directives. I would particularly like to emphasise the need for immediately establishing a separate Wildlife Wing in your state/Union Territory under the overall charge of the Chief Conservator of Forests, as mentioned in para 1 (A) of my letter quoted above.
2. During my tours, I find that some States have not yet set up separate Wildlife Wings, and the charge of the Chief Wildlife Warden has been entrusted to either a Conservator of Forests or the Chief Conservator of Forests, who have other responsibilities. This is clearly against the directives of the Prime Minister, and it is necessary, without further delay, to set up a separate Wildlife Wing with officials responsible wholetime for wildlife work.
3. Some States which have lagged behind in setting up Wildlife Wings complain of lack of resources for meeting the expenditure on staff for a separate Wildlife Wing. Where States are facing this difficulty, they should immediately prepare a detailed plan of their requirements for augmenting staff for establishing their Wildlife Wings and include these in their next year's Annual Plan for the ensuing discussions with the Planning Commission. Such a plan should be carefully worked out with full justification supported by facts and figures where necessary, so that difficulties do not arise from inadequately prepared proposals during discussions with the Planning Commission. Meanwhile, I am already in touch with the Planning Commission who will sympathetically consider proposals which are comprehensive and well presented. A copy of these proposals may be sent to me in advance, so that I may lend my support during the forthcoming discussions with the Planning Commission.





4. Once the requirements of States are accepted by the Planning Commission for setting up separate Wildlife Wings and augmenting staff to effectively enforce the Wildlife (protection) Act, 1972, it will be the responsibility of the State Governments to ensure that funds accepted for this purpose are not diverted elsewhere, and the Finance Department of your State would need to be informed about the importance given to this matter by the Prime Minister, so that there are no difficulties in the clearance of schemes in your State concerning the conservation and management of Wildlife.

With kind regards,

Yours sincerely,

(N.D.Jayal)

To

(Forest Secretaries of all State Governments/Union Territories).

Copy forwarded to:-

1. Chief Conservators of Forests and Chief Wildlife Wardens of all State Governments/Union Territories.
2. Shri A.Bose, Assistant Director, Wildlife Preservation, Eastern Region, 97/1B Hazara Road (2nd Floor), Calcutta.
3. Shri K .Viswanathan, Assistant Director, Wildlife Preservation, Southern Region, 73-A, II Main Road, Gandhinagar, Adyar, Madras-600020

(N.D.Jayal)

Copy also forwarded to:

1. Shri S.S.Grewal, Advisor and ex-officio Addl. Secretary, Planning Commission, Yojna Bhavan, New Delhi. A copy of D.O. letter of even number dated September 16, 1976 is also enclosed.
2. Shri U.S.Kang, Chief (Agri.), Planning Commission, Yojna Bhavan, New Delhi.
3. Shri S.Haider, Director, Prime Minister's Sectt., New Delhi.

(N.D.Jayal)

**N.D. Jayal,**  
Joint Secretary (F&WL)  
Tel: 388071

D.O. No. 11-1/77-FRY(WL)  
Government of India  
Ministry of Agriculture & Irrigation  
(Department of Agriculture)

New Delhi

January 5, 1977

Dear

I enclose a copy of a letter dated December 16, 1976 addressed by the Prime Minister to your Chief Minister regarding establishment of a Wildlife Wing within the forest Department in your State. I hope due note will be taken of the Prime Minister's observations and immediate steps taken to plan an effective wildlife organization in your State on the basis of guidelines furnished earlier. You will recall that I have been writing to you on this subject from time to time during the past few months and emphasizing the importance of taking urgent steps to build up your wildlife organization to make it an effective instrument of wildlife conservation. I trust that this letter will give you the requisite support for clearing your proposals through your State Government, particularly in the planning and Finance Departments.

Kindly keep me informed of the progress in the matter and send me copies of your organizational plans. I trust that you have already prepared such plans and got them cleared through the Planning Commission for inclusion in the next year's Annual Plan, as suggested in my D.O. letters No. J11014/75/76-FRY(WL) dated September 16, 1976 and October 25, 1976

With regards

Yours sincerely,

Sd/-  
(N.D.Jayal)



To

(Chief Conservators of Forest of all State Governments/Union Territories).

Copy together with a copy of enclosure forwarded to:-

1. Chief Wildlife Wardens of all State Governments/Union Territories.
2. Shri A.Bose, Assistant Director, Wildlife Preservation, Eastern Region, 97/1B Hazara Road(2nd Floor), Calcutta.
3. Shri K .Viswanathan, Assistant Director, Wildlife Preservation, Southern Region, 73-A, II Main Road, Gandhinagar, Adyar, Madras-600020
4. Shri K.N.Baidya, Assistant Director, Wildlife Preservation, Northern Region, Krishi Bhavan, New Delhi.
5. Copy also forwarded to Shri S.Haidar, Director, Prime Minister's Sectt., New Delhi.

Sd/-  
(N.D.Jayal)

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Miscellaneous

National Tiger Conservation Authority

Copy of letter No. 66--/PMO/80

Dated 20-04-80 from the

## Prime Minister to the Governors and Chief Ministers of different States

The preservation of our environment is our collective concern. Any deterioration of the environment threatens the present and future well-doing of both our country and our people. Since our Government took office, and even before, we have been getting numerous reports and complaints about the denudation of our forests and depredation of our wild life. Felling of trees, indiscriminate shooting of animals, poaching, smuggling of precious wood and animal skins, and similar destructive activity have gone unchecked for some time now. The time has come when we can no longer look upon all this with equanimity or try to rationalize it by treating it as part of the inexorable process of development.

The maintenance of the ecological balance should be as much a part of the developmental process as the working our national resources. If we plan only on the basis of the exploitation of our existing resources and give no thought to their conservation and renewal, we shall negate the concept of development itself. We have to plan for tomorrow and true development consists of building our capital measured not only in financial and physical terms but also in terms of nature.

I have been receiving a great deal of information from within the country and abroad about the ravages to which our forests and wild life have been subjected. Many forests with precious species of plants, green and other organisms have been thoughtlessly leased out to forest contractors who are concerned with immediate profits and cannot be expected to give consideration to the long-term effects of their action. Hence the wide scale destruction. Poachers and smugglers of animal skins, etc. have not been far behind. Together, they have chipped away steadily at many of our sanctuaries has been nullified by their activities. It is a matter for introspection as to how far the governments and their machinery have acquiesced in, if they have not aided and abetted this whole process of steady destruction.

We cannot allow this sad state of affairs to continue and must bring about a total reversal of these trends. It is in recognition of this that the President in his address to Parliament called for urgent action in the area of afforestation, flood, soil conservation and preservation of flora and fauna. I have dealt with this in my address while launching the World Conservation Strategy (copy enclosed).

Efforts to preserve our environment are a joint, responsibility of the Centre and the State and, in fact, of all right thinking people. At the Centre, we have already set up a Committee to suggest legislative and administrative measures to maintain ecological balance. A group of conservationists and environmentalists met me recently. Their suggestions are being examined to see what measures can be undertaken to improve our wild life and forests and also to undertake educational and training programme which will inculcate greater respect for the environment. However, the major effort at the field level will have to come from State Governments and I am afraid that without specific and immediate action by State Governments to check the activities of forest contractors and poachers, while also making determined attempts to extend the area under





forests and vegetative cover, we shall not make headway. I suggest for your consideration some specific measures. These are:-

1. Officers with the right attitude should be posted in reserved forests and sanctuary areas; if possible, a special corps of such officers could be identified for duties relating to wild life and forest and environment conservation.
2. Forest development corporations or similar agencies should be asked to take up plantations on steep hill sites, catchment areas and clear-felled forest areas so that productive forestry and protective forestry go hand in hand.
3. A massive programme of social forestry should be taken up both under the Food for Work Programme and under Other specific schemes. The waste lands in villages, all community lands, field bunds, canal bunds etc., could be clothed with fast growing species under this useful scheme.
4. In areas where tribals depend heavily on forest for their livelihood, they should be involved in replanting the species that they are already exploiting. A scheme of forest farming should be undertaken. Particular attention must be paid to the re-planting or fresh planting of fruit trees.
5. The existing regulations and security arrangements in sanctuaries should be tightened. Poaching should be dealt with very severely.
6. Intelligence machinery, to detect smuggling of valuable species like red sanders and sandalwood, or of animal fur and skins, must be strengthened and personal interest must be shown by top people in administration to see that such activities are ruthlessly suppressed.
7. The system of contracting away forest areas should be replaced or modified to see that every tree felled should be replaced by the planting of at least another one if not more.
8. Tree plantation programmes should be undertaken by schools and other institutions. Some countries have initiated a programme of a tree for every child.
9. Serious attempts must be made to change the orientation of all persons working in the Forest Services and forest administration with a system of rewards and incentives for those who do better in preserving the extending the forest areas of the wild life areas.

We should also give thought to some other measures needed to preserve our environment. Please devote some time every week to review the developments in this field personally or through one of your senior colleagues. I shall be glad to have your suggestions as also an indication what your State proposes to do or has done in this field.

**Extracts from the report of the Committee for recommending Legislative measures and Administrative Machinery for ensuring environmental protection**

4.23 The Committee reviewed the existing arrangements for the management of National Parks, Wildlife Sanctuaries, etc., and found that this responsibility was not being discharged effectively. Professional wildlife management in India is not getting adequate attention within the overall objectives and mode of functioning of existing services. It was realized that forest exploitation and wildlife conservation were incompatible. Comprehensive guidelines circulated to the States by the Centre suggesting the establishment of separate Wildlife Wings within the Forest Departments had not been effectively implemented. The Committee therefore reiterates that for effective and scientific management of such reserve a special sub-cadre of scientific personnel be created within the Forest Departments of States and Union Territories. The personnel in this sub-cadre should be given intensive training in modern methods of wildlife management. The proposed National Wildlife Research and Training Institute should be built up to provide the requisite training facilities to such personnel at different managerial and technical levels. The personnel should not be interchangeable with those in the regular forest services, but should be assured their career advancement within their sub-cadre by extending the concept of flexible complementing. One member of the Committee Shri Arjan Singh, however, felt strongly that a separate Central Wildlife Service should be created independent of Forest Services.

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Copy of letter No. 5-6/80-FRY(WL)

Dated 8th April, 1980 from the

## Union Minister of Agriculture to the Chief Minister of State

On March 6, 1980, our Prime Minister, Smt. Indira Gandhi, launched a World Conservation Strategy at a function held in New Delhi. A copy of her address which contains very important conservation principles of great relevance to our country is enclosed. I am also enclosing a copy of the World Conservation Strategy document prepared by the International Union for Conservation of Nature and Natural Resources in collaboration with the United Nations Environment Programme, World Wildlife Fund, Food and Agriculture Organisation of the United Nations and the UNESCO. I am also enclosing a copy of my opening address at the launch function.

2. The special importance that our Prime Minister attached to the occasion arised from her deep concern at the rapid destruction taking place throughout the country of its fauna and flora - the living natural resources that constitute the irreplaceable natural wealth or capital of this country. If the present rate of destruction is allowed to continue unchecked, the country stands in danger of jeopardizing the natural resources foundations of our country thereby making sustained agricultural and economic advance difficult. Unless strong action is taken urgently at the village, block, district and state levels it may not be possible to avoid the disastrous consequences that will arise from the abuse, misuse and destruction of our living resources.
3. In order to ensure adequate attention to this problem, it may be desirable to constitute a high level committee under your Chairmanship to assume effective responsibility for environmental protection and conservation. Appropriate non-governmental agencies and individuals may also be associated with this committee. This committee should identify the major problems, affecting conservation in your State/Union Territory, set these out in clear terms and suggest an action programme, framed in terms of a sequence of practical steps, by utilizing the best existing scientific, technical and administrative capabilities of your State/Union Territory, so that solutions to these problems can be achieved quickly. I would like to indicate some of the important aspects which the committee may consider for inclusion in the action programme as under:-
  - a) Identification including demarcation of the forests covered by (a) above, determine what areas should be declared as Biosphere Reserves, National Parks, Sanctuaries and Reserve Forests, also biotopes of special ecological value and concern.
  - b) The measures necessary to ensure the proper enforcement of existing water pollution laws which today are known to be neglected because of the lack of official concern and enforcement.
  - c) Examine the action needed to meet the fuel requirements of both the private householder in the rural and urban areas as well as industry. Unless the fuel and fodder needs of the people can be met, mere





- talk about ecology and environment will have no impact. Hence plans should be drawn up for the rapid establishment of adequate areas of social and industrial forests, including village woodlots particularly for rural populations. All such forestry plans should be executed on existing barren or so-called waste or scrub lands with the help of the village community and a programme of incentives. It is suggested that these plans and their execution should now be made the specific and prime responsibility of the State Forest Development Corporations which should be asked to execute them within a given timeframe and in a manner that will meet the genuine needs of the people for fuel for domestic use. As far as possible monoculture should be avoided by planting out mixed stands of fuel and timber trees particularly on existing denuded hillsides or mountain slopes which are subject to rapid and serious erosion in catchment areas of hydro-electric dams in the form of wide belts along river banks and streams, along roads and State highways, etc. It is advisable to entrust this work also to your Forest Department which should assume responsibility for execution within a pre-determined framework.
- d) Wildlife poaching is known to be continuing on an extensive scale throughout the country. The State/Union Territory law enforcement authorities should through its intelligence network, undertake a rapid investigation to identify all those involved in this trade and ensure that heavy penalties are imposed on all these found flouting the law. Even more important is to determine what steps should be taken to stamp out this illegal trade finally including inter-State trade and smuggling of wildlife and wildlife products out of the country across international boundaries. It would also help game preservation if licenses of country made/muzzle loading guns issued to people in the name of crop-protection are withdrawn.
- e) In the cases of States/Union Territories situated along the country's coastal areas a proper assessment of importance spawning or breeding grounds for marine life of economic & scientific value may be made. Those that are of vital ecological significance to the country should be declared as Marine National Parks.
- f) One of the major causes that have led to the rapid depletion and destruction of the country's fauna and flora is the ignorance that prevails of the critical role they play in our existence. In the words of our Prime Minister "There is need for systematic campaign to educate governments, political parties, students from pre-school onwards and others, regarding the importance and relevance of conservation and the factors involved." Suitable measures should be taken to ensure the rapid dissemination of information and knowledge in the vital field in all sections and strates of Society, particularly among decision makers many of whom, even today, do not recognize the significance of conservation.
4. In view of the importance and urgency of tree planting and environmental conservation, I would appreciate if you could keep me informed of the action being taken on the foregoing suggestions.

Welcome Address by

RAO BIRENDRA SINGH  
Minister of Agriculture, Govt. of India

Respected Prime Minister,  
Dr. David Munro and distinguished guests

1. We are assembled here today to mark a very significant occasion of national and global importance. During the past decade in particular there has been a growing concern among the community of nations of the world at the acceleration rate at which living natural resources are being consumed. Out of this concern has emerged a World Conservation Strategy, framed by the International Union for Conservation of Nature and Natural Resources, in which India has participated.
2. The Strategy has, for the first time in the history of Conservation, crystallized the hitherto vague concepts of conservation, identified its major problems and suggested possible approaches to their solution. I am sure that this strategy is the culmination of an intensive effort of national governments, and several hundred eminent scientists and experts from over a 100 countries over a period of two years. It represents the combined wisdom and general agreement in the world's scientific community on what needs to be done to ensure that the earth's natural living resources are preserved and protected not only for ourselves but for posterity. It is being increasingly recognized throughout the world's resources are limited and that they are diminishing to the point of extinction in the case of many endangered species of plants and animals.
3. India's living natural resources - its flora and fauna are among the richest in the world and are of immense diversity. They are amongst the greatest wealth of all mankind. The pressures of population have, unfortunately, resulted in the loss of precious habitat of our wildlife through extensive deforestation. This has caused many serious ecological imbalances. Soil erosion in the hills with siltation and floods in the plains has become an annual problem of immense proportions. One of the most important tasks before us which brooks no delay is to restore the ecological balance in our country through scientific use of land and water resources. A massive programme of afforestation is an urgent need. This could also provide an extremely valuable way of increasing employment. The best way to take up planned afforestation with the involvement of the people for establishing village and community forests on land not required for other uses, and woodlots adjacent to villages. These should be managed so as to meet the local requirements of forest produce and to provide congenial habitat for wildlife.
4. In recognition of the vital need for saving our natural living resources, we are in the process of identifying areas of the country that are of critical environmental and ecological importance. We have constituted nearly 200 wildlife reserves where, in particular, our threatened and endangered species of fauna and flora are protected. We are also demarcating marine areas off our coasts which must be safeguarded if our marine wealth is to be secured. We hope to set up soon several marine parks.



5. We have recognized that the future of our agricultural crops rests upon maintaining genetic diversity in our natural forest areas and we are in the process of selecting for this purpose biosphere reserves which are proposed to be insulated (except for scientific study) from all forms of interference. This may seem paradoxical to those who cling to the age-old belief that unexploited wilderness is useless and should, therefore, be exploited, 'reclaimed' and 'developed'. But it is these wilderness areas, in particular virgin and natural forests, which have our best "recycling factories", which turn our wastes back again into usable resources, and they do this more efficiently and far more cheaply than any present-day technology. It is often said that the so-called under-developed countries, with their ever-increasing demand for more food, greater material consumption, and better employment cannot afford to reduce them. The forest areas in the country officially comprises about 23% of our land area. But this includes extensive areas with little or no forest cover. Of the 23% forest area, national parks and wildlife sanctuaries cover 8.6% which represents only 0.5% of the total geographical area of the country. By any standards, this is wholly inadequate to provide a sustainable base for our living natural resources and a buffer against the increasing threat of ecological and environmental hazards. It is our intention to secure and expand this base, in doing so, we would value the advice and guidance of all experts in this field. While our country enacted comprehensive legislation in 1972 to provide greater legal protection to our wildlife, the expanding knowledge of the important role that wildlife plays in our existence, justifies not only updating but strengthening considerably this legislation to ensure uniformity throughout our country. This is a task to which we are at present addressing ourselves.
6. A revised National Forest Policy is under the Government's consideration with greater emphasis on conservation. Forest conservation is now understood to be total environmental conservation and this concept has assumed world-wide significance and importance, as reflected with such clarity in the World Conservation Strategy. The Government have therefore recently decided to establish a Forest Survey of India with headquarters at Dehra Dun, with four Regional Centres.
7. Uncontrolled exploitation has been the prime cause for the decline of wildlife throughout the world because of the enormous profits made from this trade. To control the thriving global legal and illegal trade of our endangered species, India became a Party, in 1976, to an International Convention on Trade in Endangered Species of Wild Fauna and Flora. Through close international cooperation, we have been able to greatly restrict a trade which could create serious ecological dangers. India further demonstrated its commitment to the cause of conservation by participating in an international conference last June on a proposed Convention on the Conservation of Migratory Species of Wild Animals, to which it has become a signatory.
8. In a democratic society such as ours, the success of the conservation movement will depend to a considerable extent on the dissemination of information and knowledge of this vital subject as widely as possible. It must be a central theme in our educational system to ensure that the concept of "development without destruction" is understood and becomes a living creed. The present generation can benefit immensely from the teachings of Lord Budha, Lord Mahavira and Mahatma Gandhi on the subject of love for all creatures, and the religion of non-violence. The National Council for Educational Research and Training have felt concerns about the problems posed by mounting environmental degradation and are making efforts for creating a consciousness about them by developing syllabi and curriculum on the subject of conservation. The text books prepared by NCERT for all levels of school education have given an important place to environmental education and conservation of our natural living resources. I am happy to see the presence at this function of such a large number of students from our local schools and colleges, and I trust that they will promote the cause of conservation.
9. In a country like ours spread over three million square kilometers and with a population of over 650

million people - the second largest in the world - about 80% of whom are rural-based and wholly dependent for their livelihood on the living natural resources of the country, and the life supporting systems on which these are sustained, Conservation as conceived by the World Conservation Strategy becomes truly a question of our very survival. We share many of our problems with our neighbours and a global view and approach to conservation, therefore, becomes a matter of not only national self-interest but of mutual interest of nations. As the Agriculture Ministry is directly concerned with the natural living resources of the country, we shall profit from the very fine World Conservation Strategy document for our conservation efforts and, within its broad frame-work, we hope soon to formulate our own National Conservation Strategy.

10. I am particularly indebted to our Prime Minister for accepting my request to inaugurate the launching of the Conservation Strategy. Her deep commitment to the cause of promoting harmony between man and his environment has rightly received universal acclaim and admiration. Her presence today, in spite of very heavy demands on her time, is yet another evidence of the importance she attaches to the cause of conservation of basic ecological and developmental assets.

I feel privileged, Madam Prime Minister, in requesting you to inaugurate the launching of the World Conservation Strategy.

'JAI HIND'

Key Note Address by

SMT. INDIRA GANDHI,  
PRIME MINISTER OF INDIA

Rao Birendra Singhji, Dr. Munro  
distinguished guests

The interest in conservation is not a sentimental one but the rediscovery of a truth well known to our ancient sages. The Indian tradition teaches us that all forms of life - human, animal, and plant - are so closely inter-linked that disturbance in one gives rise to imbalance in the others.

Eight years ago, I ended my speech at the U.N. Conference on Human Environment in Stockholm with a stanza from the Hymn to Earth in the Atharva Veda. Today I should like to begin my speech with it. I quote-

"What of thee I dig out, let that quickly grow over,  
Let my not hit thy vitals, or they heart."

This should guide our relationship with our planet Earth.

In spite of his sorties into outer space, man remains earthbound. For him the earth holds every-thing. So he is limited to the resources of this planet many of which we now know are irreplaceable.

There is need for a systematic campaign to educate governments, political parties, students from pre-school age onwards and others, regarding the importance and relevance of conservation and the factors involved. At the same time in our anxiety to conserve other forms of life, let us not contribute to the denigration of human beings. People can be taught to live in peace with nature and themselves only if they are assured of food and water, shelter and work. Let not the burden and cost of conservation fall on the poorest.

We have entered a decade which is fraught with uncertainty. The recent UNCTAD and UNIDO Conferences did little to comfort us that the growing gap between the rich and the poor nations would be narrowed. The technologically strong continue to believe that their very power gives them a prescriptive right to the world's resources. As is well known, a citizen in an advanced country consumes fifteen to twenty times more mineral and energy than a citizen of a poor country.

While luxuries and comforts increase in the affluent nations and for a few of our own people, millions in Asia, Africa and Latin America, and some even in the rich countries, thirst for water and hunger for food.

I have been critical of the methods adopted by industrialized countries, not because we are wiser but because we, who call ourselves developing, tend to imitate the developed countries and have not yet evolved a non-exploitative strategy for development. The need of the poor for a livelihood, the greed of middlemen for quick profits, the demands of industry, and the short-sightedness of the administration, have created ecological



problems. It is sad that even scientists, because of their collection activities, have contributed to the disappearance of several species of orchids and other plants in our Himalayan foot-hills. The manner in which we are encroaching upon our forests and mountains and are permitting the indiscriminate cutting of beautiful and useful old trees is alarming. In spite of the Government of India's Forest Policy Resolution, we have lost large areas in the last 30 years. As a result, there have been soil erosion, floods, and the silting of reservoirs and rivers. Large tracts of land have become saline or alkaline. One of our immediate tasks is to restore the eco-systems of the Himalaya and other mountain ranges. Can we ensure that by the end of the century, the Himalaya will have the same extent of vegetative cover as prevailed at the beginning of this century?

However, learned lectures on ecology and sanctity of trees can have little meaning for vast numbers of our people unless we can guide them to other ways of financing their basic minimum needs. All those interested in implementing the World Conservation Strategy should give particular attention to technologies which can help to meet the daily needs of such people, especially in the rural areas.

Towards the end of this decade, we in India shall have to provide the necessities of life for some 800 million people and 500 million farm animals. This task has to be so accomplished as to enhance rather than diminish the productivity of land and water. At my suggestion, we had established Land and Water Use boards in our States, but I regret to say that their functioning is far from satisfactory.

It is necessary to reiterate the need to achieve growth in the economic and social well-being of people throughout the world within the confines of sustainable environmental resource base. Rapid economic development without ecological damage can be reached only if conservation becomes a way of life with every man, woman and child. Such a community sensitivity will have to be accompanied by the desire and the capacity at the Government level to subject developmental projects to an impact analysis based on principles of ecology, economics, employment generation and energy conservation. Carefully designed government projects blended with people's action can alone take us to the goal to which we are re-dedicating ourselves today.

Conservation cannot remain the responsibility solely of the Government. Official and voluntary agencies must work together to create greater awareness. An example comes to mind. Our cities and towns are growing. To provide bricks for houses and offices, brick-kilns are cropping up everywhere, using fertile soil from the top layers. Do the people who use the bricks-and do the brick-makers-know that it takes Nature over a century to make one centimeter of top-soil? If owners of houses realize this, it would soon become possible to prevent haphazard digging up of soil for bricks. Brick-making can be linked to the creation of permanent community assets, such as farm-ponds or water-channels, through a careful choice of sites for kilns based on the topography of a given area.

The lack of an integrated approach to pest control has led to the re-emergence of malaria. Inadequate interaction among those in charge of agriculture and fisheries leads to difficulties in sustaining ancient practices such as rice-cum-fish or prawn culture. The indiscriminate killing of snakes for their skins leaves no check on the increase of field rats. These are just a few instances.

We usually club together the works of science and technology. But much technology is unscientific, for it is directed towards immediate and sometimes unnecessary consumption, neglecting long-term welfare. How long can civilization endure on a basis of reckless exploitation? Nothing in life is wholly good or wholly bad, it all depends on how things are used and done. Many apparently beneficial projects have harmful consequences. If drainage is not properly planned, irrigation leads to salinity. Pesticides help greater yields, but used carelessly, they can spoil fruit and vegetable. There should be more systematic education in regard to their application.

The Indian neem tree, once so popular and put to a hundred uses in sickness and in health, is now sadly neglected in our country, but it is being planted to bring greenery what was once a desert area of Nigeria. There should be greater exchange of information among nations about suitable plants and practices.

I hope that the launching of the World Conservation Strategy today will be followed by vigorous efforts all over our country to design and promote simple programmes of eco-development of educational and economic value to the local population. Programmes such as "a tree for every child", "nutrition gardens", forest farming, the raising of energy plantations, organic recycling through the conservation and use of all waste products and the harnessing of renewable forms of energy based on sunlight, wind and bio-gas are all potentially valuable mass movements, provided they are formulated thoughtfully and implemented with the involvement of the local population.

The literature prepared for this occasion is increasing. The maps are particularly revealing. They show how man is eating himself out of hearth and home, indeed burning up the earth and himself.

Nature is beautifully balanced. Each little thing has its own place, its duty and special utility. Any disturbance creates a chain reaction which may not be visible for some time. Taking a fragmentary view of life has created global and national problems.

In his arrogance with his own increasing knowledge and ability, man has ignored his dependence on the earth and has lost his communion with it. He no longer puts his ear to the ground so that the earth can whisper its secrets to him. He has cut his links from the elements and has weakened resources which are the heritage of millions of years of evolution—all those living or inanimate things which sustained his inner energy—(earth, water, air, the flora and fauna). This loosening of his intuitive response to nature has created a feeling of alienation in him and is destructive of his patrimony. So, while we have to think of conservation, we must ask whether man himself is growing into a being worth saving.

The national song which inspired our freedom movement describes our land as one endowed with water and fruit, rich with the greenness of growing plants. We must make this true not only of India but of all lands. Some people are said to have green fingers.

Aim of the World Conservation Strategy should be to ensure that every man, woman and child on earth has fingers that will grow rather than grab things.

I welcome this initiative of the International Union for Conservation of Nature and natural resources, the United Nations Environment Programme, the World Wildlife Fund, FAO and UNESCO and have pleasure in launching the World Conservation Strategy in India. I am glad that Dr. Munro is with us. I welcome him, and to you all, I give my good wishes.



**NATIONAL TIGER CONSERVATION AUTHORITY**  
(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Bikaner House, Annexe-V,  
Shahjahan Road, New Delhi-110011  
Tele Fax: 011-23384428  
E-mail: dirpt-r@nic.in

No. PS-MS(NTCA)/2009-Misces.

Dated the January 22, 2009

To

The Chief Wildlife Warden,  
Madhya Pradesh/Andhra Pradesh/Arunachal Pradesh/  
Mizoram/Orissa/Tamil Nadu/Bihar/Jahrkhand/Assam/  
West Bengal and Chattisgarh.

Sir(s),

The National Tiger Conservation Authority (NTCA) had constituted a Committee under the Chairmanship of Prof. Gopal Kadekodi, Expert Member, NTCA for suggesting reserve specific strategy in tiger reserves, affected by extremist engineered disturbances. A copy of the said report, as accepted by the NTCA, is enclosed for your kind information and compliance.

Yours sincerely,

Encl: As above.

Sd/-

Member Secretary (NTCA)

Copy to:

- (1) The Principal Secretary (Forests), Govt. of Madhya Pradesh/ Andhra Pradesh/ArunachalPradesh/ Mizoram/Orissa/Tamil Nadu/Bihar/Jahrkhand/Assam/ West Bengal and Chattisgarh.
- (2) The Principal Chief Conservator of Forests, Madhya Pradesh/ Andhra Pradesh/ArunachalPradesh/ Mizoram/Orissa/Tamil Nadu/Bihar/Jahrkhand/Assam/ West Bengal and Chattisgarh.
- (3) Field Director, Panna/Nagarjunasagar Srisailam/Namdapha/Dampa/Indravati and Sanjay Dubri Tiger Reserves.

Sd/-

Member Secretary (NTCA)

Final revision Dated 02/05/2008

## REPORT OF THE COMMITTEE ON STRATEGY ON EXTREMIST ENGINEERING DISTURBANCES

### 1. PREAMBLE

Increasing disturbances and obstructions to implement Wildlife Protection by the extremist within protected areas are being reported from time to time, more so in recent period. Among the most affected States, during the year 2007 in about thirteen States (not exclusively within protected areas), as many as 1565 incidences of Naxalite violence with 696 casualties were reported. As many as 361 Police Stations (out of 10027) are affected during the same year in these states, among which those within protected areas of seven States are severely affected. Wildlife Protection, monitoring and management are becoming increasingly difficult, despite the deployment of State and Central para-military forces and introduction of several schemes on training State police forces and intelligence agencies to supplement the State police machineries and mechanisms.

In order to grapple with this serious problem a decision was taken in the 1st meeting of the National Tiger Conservation Authority (NTCA) held on 28-11-2006 under the Chairmanship of the Minister for Environment and Forests, to constitute a Committee for suggesting reserve specific strategy in tiger reserves affected by extremist engineered disturbances, with the following composition of members:

- (1) Professor Gopal Kadekodi - Chairman
- (2) Professor R Sukumar - Member
- (3) Dr. Jamal Khan -Member
- (4) Dr. Archana Prasad - Member
- (5) Representative, Ministry of Home Affairs (Internal Security) - Member
- (6) Representative, Ministry of Tribal Affairs- Member
- (7) Representative, Ministry of Panchayat Raj - Member
- (8) Representative, Ministry of Social Justice & Environment - Member
- (9) Member Secretary-National Tiger Conservation Authority- Member Secretary

### 2. TERMS OF REFERENCE FOR THE COMMITTEE

- (i) Appraisal of magnitude and nature of disturbance in the tiger reserve vis-à-vis the situation prevailing elsewhere in the State and in adjoining districts, through field visits and interaction with officials and local people.
- (ii) Review of mitigation measures/strategy, if any, adopted in the past by the local management, vis-a -vis the recommendations made in the Tiger Task Force Report.
- (iii) Review of dependency of local people on the tiger reserve for their livelihood and alternate viable options made available by the local management
- (iv) Appraisal of the strength, weakness, opportunity and threats in the area and recommendations for containing the problems.



### 3. COMMITTEE'S APPROACH

There is an impression that extremist activities within Tiger Reserve are intensive in the states of Andhra Pradesh, Assam, Chattisgarh, Jharkhand and Orissa. The possibilities in others States are not being ruled out. Such activities have been hindering in the way of effectively implementing tiger conservation policies and activities under Wildlife (Protection) Act.

The Committee held two meetings at New Delhi (on 04-04-07, 13-11-07) in which the issues, procedures and steps to be taken were discussed. Wildlife Directors and concerned PCCFs from the affected states were also invited to these meetings. All the concerned and affected States were requested to submit Status reports to NTCA on the exigencies and mitigation strategies and steps undertaken and difficulties faced by them. The Committee made specific field visits to Indravati Tiger Reserve in Chhattisgarh and Palamau Tiger Reserve in Jharkhand States and received a written report from PCCF & Chief Wildlife Warden for Nagarjuna Sagar Tiger Reserve. The purpose of the Field visits was to examine the issues under the terms of reference and to seek wide range of opinions and impression from various stakeholders. The Committee met senior State government officials, NGOs, social scientists and workers, environmental and wildlife specialist both during the field visits and at different places. The Committee went through the writings on the issue in various forms including book such as 'Negotiating Peace' (listed in Reference), PIB release and news paper clippings. A final report was sent to all the Members including concerned official Ministries. The report was finalized by the Chairman and the Member Secretary after consultations with Home Ministry.

### 4. THE NATIONAL CONTEXT

The Extremist activities in the country are one among the many, that can be viewed as people's voice on their democratic rights for livelihood and security. It is operated in different parts of the country under different movements, such as Peoples War Group in Andhra Pradesh, Maoist Movements in some north east Indian States, as Naxalite Movements in Chhattisgarh, MCC, TPC, JKMS in Jharkahnd, and also under several civil rights group banners.

Honourable Prime Minister in his concluding address to the Chief Minister's Conference on Internal Security held on December 20, 2007 has expressed his concern and already made several policy recommendations to deal with this problem. In particular he states that:

"..... the political leadership of the country can rise above our party affiliations when it comes to facing national challenges, particularly those concerning internal security....."

I believe that given the unique nature of this problems, it is time to have a dedicated force just to tackle Naxalism. Affected States must set up Special Task Force on the Andhra Pradesh pattern and the Centre will provide assistance tot his purpose. I would also urge the Home Ministry to also consider establishing a dedicated trained force at the Centre either as part of an existing force or as a separate one. Such a trained dedicated force would go a long way in assisting States to tackle Naxalite groups.

Naxalite groups feed on the perceived lack of development. Correcting this requires a lot of effort. It requires motivated government personnel to work in affected areas, improved road and rail connectivity and better delivery of basic services. I will ask the Cabinet Secretary to chair a Task Force to promote coordinated efforts across a range of development and security activities so that we can tackle the Naxal problem in a comprehensive manner".



The Committee, having gone in to the issue during the field visits, and having examined the role of the Central Government very closely, is of the view that creation/deployment of parallel Central army/police force for the affected States has led to several additional issues.

- Firstly, there are the possibilities of frictions and conflict on duties and responsibilities between the State police and the Central police/force. The State police seem to have taken a back seat in delegating their own duties and responsibilities.
- Second, while the extremists are treating the police and armed forces as their first enemy, targeting their camps and command areas, the local tribals feel that the Central police and army do not have the expected love and attitudes towards conservation of the tribal land forests which they have inherited.
- Since, the extremist activities cut across State boundaries, the coordination between the Central forces/police across boundaries has remained a problem.

This Committee therefore, recommends that:

- The central government should establish a national level Taskforce to address all the issues relating to extremist activities, including the agenda under this Committee to examine the problems in implementing Wildlife (Protection) Act. Among others, the Taskforce should try to implement 'Effective Surrender and rehabilitation' package also, as being carried out by A P government.
- Representatives of NTCA and Human Rights Commission should be on the said national level Taskforce, as recommended above.
- The suggestions of the Honourable Prime Minister on establishing Special Taskforces at the State level with trained and dedicated force be undertaken.
- Within the framework of Indian Plans, the recommendations of the Honourable Prime Minister to establish to promote coordinated efforts across a range of development and security activities for the benefits of the tribals be included.

## 5. THE STATE CONTEXT

There are several issues arising from Wildlife (Protection) Amendment Act, 2006 (WL Act) and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 (STOTFD ACT).

History of the world tells that wildlife is part of the eco-system, and 'co-existence' is one of the many options the forest dwellers have been used to. In so far as maintaining the Tiger Services in social harmony with the population around, both the above mentioned Acts provide several provisions to act upon.

Four of them can be cited.

- (1) formation of an Advisory Committee (Under WL Act Article 33 B) at the State level to advise on measures to be taken for better conservation and management of the sanctuary including
- (2) Formation of State level Steering Committee (under Article 38U of WL ACT), under the Chairmanship of the Chief Minister of the state.
- (3) Formation of Tiger Conservation Foundation (under Article 38 X of WL Act) to (a) facilitate ecological, economic, social and cultural development in the tiger reserves, (b) to promote eco-tourism (c) maintenance of assets (d) to solicit technical, social, legal and other supports, (e) to mobilize financial resources, (f) to support research.
- (4) Section 4, 5 and 6 of the STOTFD ACT empowers the Gram Panchayats to act in the interest of protecting wildlife and biodiversity, at the same time settling forest rights within the framework of eco-

existence if possible (section 4, 2 c), otherwise by ensuring completed package of land allocation and resettlement (Section 4.2 f).

The Committee further noted that:

- The Tiger Task Force Report (TTFR) has viewed the extremist activities as a State subject & many others, (Chapter 3.3.a) and made recommendations to set up a State level Coordination Committees under the Chairmanship of the Chief Secretary to monitor and suggest actions on Extremist engineered activities.
- The Tiger Task Force also noted that just about a quarter of the villages have been relocated over the last 30 years of Tiger Project. The case of 'coexistence' between man and wildlife, both for promoting more healthy eco-tourism and also provide cultural and ecological and livelihood security to the tribals have been recommended by the report (cited with successful cases such as B R Hills forest conservation). Leaving out the inviolate areas of the Reserves, the report makes a cause of co-existence as a continuing strategy.
- Furthermore as per the Wildlife (protection) Act, Sections 33B, 33U and 33X enable the states to establish three different committees to deal with the management of tiger conservation and protection. They are:

(1) State Advisory Committees for each Reserve

(2) State Steering Committee

(3) Tiger Conservation Foundation

- The Honourable Prime Minister has addressed specific letters to all the Chief Ministers to act on these lines in the interest of saving the tigers and the nation.
- However, on the issue of implementing the WL Act, during a meeting recently held at the NTCA in November 2007, Member Secretary, NTCA reported that only three states have so far actually set up either Steering Committees or Tiger Conservation Foundations ( See Annex 2 for details).

This Committee is of the view that because of non-compliance, non-implementation of these provisions in spirit, the social situation in the affected areas would continue to be what they are, with conflicts between various tribal communities incited by internal and external disturbance forces and various movements such as Naxalites, between poor rich and farmers, between the State and Central police and forces and so on.

The Committee feels that the process of establishing these Committees and Foundations of governance has been very slow, which is one of the reasons for the increasing extremist disturbances in tiger reserves of some States. In fact both Arunachal Pradesh and Mizoram seem to be having least such disturbances, where one or the other such institutions have already been established.

Therefore, the Committee recommends to NTCA to act very strongly urging the State Governments to implement the Wildlife Act in letter and spirit, by establishing the Advisory Committee (at the sanctuary/reserve levels), Steering Committee (at the state level) and the Conservation Foundation.

On the matter of promoting co-existence, several steps are required.

- First, NTCA should document the cases of successful rehabilitations, Involvement of the local tribals in eco-tourism (cases such as in B R Hill, Nagarjun Sagar, Kanha etc.).

- Second, the states should further take up feasibility studies on 'Coexistence' under the guidance of Tiger Conservation Foundations.
- Third, Village panchayats must be involved in working out the schemes of evacuation and rehabilitation.
- Finally, Compensations on losses of crop, domesticated animals and human life should be settled within three months of the incidents.

## 6. FAULTY APPROACHES, ADDING FUEL TO THE FIRE AND INEFFECTIVENESS ON LIVELIHOOD ISSUES

The State Governments along with the Central Government have been addressing this issue of extremist activities, but with different sets of procedures, some are well intended, many others are not practical, some are devoid of honouring tribal rights, many others are insensitive to local situations.

### 6.1 The story of the Created Conflicts

In Chhattisgarh, the basic issues are threats to tribal livelihoods, water rights, tree rights, unwanted mining and pollution (against the wishes of locals), and timber smuggling (e.g., in Bastar area) and so on. Initially the emergence of Naxals in the State was like a 'varadan' for the tribals as they understood and transpired. As and when the extremists intensified their areas of operations (with major camps in Abhuj Mad area) in the forest areas and in protected areas, displacement of certain tribal groups from their villages by some other tribals and extremists, and conflicts between the forest-wildlife departments and the extremist grew. In order to combat the extremist movements across the State, the State Government took two major steps: One, it took the help of Central Reserve Police and ITBP forces to deal with the law and order problems. Second, the State Government created the merger of voluntary peoples groups called Salva Judam, with some minimal training on welfare (with about 3200 amateur people deployed as special police officers). The government has set up camps under Salva Judam to relocate the affected local habitants. There are over twenty such camps along Indravati river). Over time the leadership of Salva Judam group has slowly passed in to the hands of criminal elements, who are not in the control of the administration.

At present, the extremists seem to be occupying some central parts of Indravati Tiger Reserve; and both the forest officials and the armed police have no possibility of entering their hardcore areas of occupation. The Committee was advised by the occupied areas in Dantewada district, and may visit Salva Judam camps in Bijapur district. With nearly half of the villages in Dantewada being controlled by the extremists, and the remaining half under Salva Judam, virtually there seems to be a constant war between the tribals falling under extremists and Salva Judam camps.

The end result of growing conflicts between the Naxalite activities and Salva Judam activists/camp dwellers, with the State administrative machinery and forces becoming ineffective and non-functional, is increasing violence between tribals!. Thousands of villagers have been forced to come and live in camps. Nearly 100 villages have been deserted. Camp conditions are seriously inadequate. Beyond building some roadside houses, the government appears to have no long-term plans for the rehabilitation or safe return of villages ( See pictures of some camp sites).

Based on the discussions one gets the impression that there are no major reported cases of tiger or wildlife poaching by the extremists. But the fact remains that implementation of WL Act and the spirit of conservation and protection of wildlife have been greatly hampered by the occupation of extremist within the Reserve.



## 6.2 The story of the Possible Solutions

The picture in Jharkhand (Palamau Tiger Reserve) is some what different.

Palamu Tiger Reserve is adjacent to extremist affected district of Chhattisgarh in the South and Naxal affected districts from with in Jharkhand. With the rich flow of water in North Koel, Auranga and Burha rivers through the Tiger Reserve, and because of a major forest road passing through the Palamau forests, Naxals have been using the forest areas to cross through to get to Chhattisgarh State, for their night halts, and also to collect feel demoralized with these movements. However, the extremists have been targeting mainly the forest ranges and army outposts to attack and collect arms, wireless sets and to drive them away from their posts. Yet, the forest department has been able to contain the disturbances to the minimum with the support from Belta Police Picket, and with the acquisition of two patrolling vehicles (most of which followed after the Tiger Task Force report). Further with the establishment of Eco-development Programme since 2001, this works initially. However, in recent period, the eco-development works have come down, resulting further unemployment in the region.

While it is not difficult to pass through and visit the Tiger Reserve areas (including tourist area), the forest staff are under constant threat of gun attacks by the extremists (a large number of killings and dacoity reported) and demoralizing the staff and their safely in many ways. There are three forest villages within the core area. Several forest rest houses, tree top houses have been bombed and burnt, forest roads have been land-mined by the extremists(see pictures attached to this report). Forest staff in several places had to vacant their quarters for want of physical and moral safety, and in several places they have moved out of park areas. But clearly several police stations are constantly under their target.

The Naxals have also drafted local habitants in to their army with the promise of food and income. The forest department has not been able to organize the collection of MFPs (as per the orders of Honourable Supreme Court), and provide employment to the local tribals to collect them. But illegal harvesting at the behest of Naxals is going on. They also collect illegal levies from the local tribals for Katha making, kendu leaf collection, stone cutting and so on. By and large the extremists make demands with the local tribals on food and income (either during trespassing or night halts). There are also news reportings that the extremists are attracting the local tribals to join the group, as there are not many employment opportunities in the region. NREGA grants received by the forest department is not at all sufficient to deploy all the eligible people with employment. However, there no clear evidences of attacks or poaching of wildlife by the extremists within the Reserve.

## 6.3 The story of some Direction and Solution

The situation in Nagarjun Sagar Tiger Reserve is still different from the other two Reserves reviewed here.

The area, originally established as a reserve in 1978 but brought under Tiger Reserve Project in 1983, saw a gradual increase in tiger population over time (from 43 in1978 going up to a maximum of 94 in 1989) till the time of intensified Naxalite activities (started around 1985). Till then, the tribal population was getting their fair share of NTEP and were able to meet their livelihood requirements such as fuelwood, water, fish, small timber etc., from the forests, and with much less man-animal conflicts etc.

The period since the formation of Tiger Reserve saw a situation of increasing conflicts between 'man



and animal', man and forest department', all leading to deteriorating management of the Tiger Reserve. Denial of forest resource use for the local habitats, intrusion of Naxalites around 1985, threat of being punished by evacuation and rehabilitation, restrictions on cattle grazing in the Reserve area, assaults on forest staff by Naxalites and locals, forest staff suffering from physical threats and getting demoralized gradually, and many such factors and events grew over time. While the Naxals spread the message of Tiger Reserve to be anti-population, the people could not be educated and convinced about the need for conservation and protection.

The net result was resettled villages returned to the original villages; forest staff were not able to perform their duties as they started withdrawing due to threat to life and moral standards, uncontrolled and illegal destruction of forest resources (including large scale tree felling), loss of departmental property, assaults on forest staff etc. (see some of the pictures from NSTR). All these led to a decline in tiger population from 94 in 1989 to 34 in 1994.

Then came the phase of realization of better strategy and a feasible programme. A well designed Eco-Development Programme was launched in the Reserve with dedicated trained officials. The programme included among others, the following steps:

- Eco-development Committees were formed (as many as 115 existing now).
- Participatory approach on construction of water harvesting structure, repairing old tanks,
- Education to all habitants and trainers on eco-development, restoration, wildlife preservation, carrying capacity based resources use etc. (over 1140 workshops, involving 4826 EDC members), also involving APCLC and OPDR in environmental management,
- Providing employment to landless labour,
- Gender balance and empowerment in banking and asset creation,
- Creation of alternative income avenues: About 60 different schemes, market creation, use of biogas and smokeless chullahs, etc.,
- Continued dialogue with extremists,

This participatory Eco-Development Programme seem to have brought confidence among the villagers in Reserve management and tiger protection. There is an increasing trend in tiger population now, having reached about 59 by 2002. Parallely, the state government organized several negotiation meetings, offering 'Surrender and rehabilitation' package to the extremists.

The lessons from the Andhra Pradesh model of protection has been noted by NTCA for replication in other Reserves as well. However, in order to yield sustainability to the programme, continuous training of the villagers, forest staff and the trainers is necessary, for which a separate budgetary allocation must be made.

## 7. TOWARDS A POLICY ON LIVELIHOOD RESTORATION AND BRIDGING IMPLEMENTATION GAPS ON CONSERVATION

Our discussion with various concerned citizens, NGOs, Eco-development committee members, government officials and intellectuals gave the following summary findings. Many of them require immediate actions within the existing administrative framework and some require further policy changes. These policy changes and interventions can be taken by the national level Taskforce (referred in Section 4) in consultation and concurrence with NTCA.

- The villagers by and large want to protect the wildlife as much as the forests and they are protecting to some extent.

- Developmental programmes such as village roads are in very poor condition. But it is very difficult to develop infrastructure under the present situation.
- People are waiting for alternate employment opportunities other than agriculture, which is a way to distract them from going after extremist groups for income. The scope of National Rural Grameen Rojgar Yojana will have to be widened substantially to cover all the eligible people of the region.
- Chattisgarh with a model of Dhamtari (in Dhamtari district with 641 villages covered) has already demonstrated on the possibilities of creating a cohesive rural development with forest development as a composite programme. The same can be suitably modified for wildlife habitat districts like Bastar, Bijapur, Dantewada, Latehar and Garhwa.
- Likewise the A P model as done in Nagarjun Sagar Reserve can be replicated in other Tiger Reserves for which, some additional budgetary allocation can be provided by NTCA.
- The National Rural Employment Guarantee Scheme should adopt a differential policy on resource allocation, with a special fund to guarantee employment rates in the tribal areas in the wild life protection areas.
- Wildlife protection, forest conservation and rural development and all such development activities should come under one management in the districts with Tiger Reserves, under the authority of the Chief Wildlife Warden. Also coordination between forest and police department is a must in all such protected areas.
- The forest officials drawn for Wildlife protection in the Reserves (such as Range Officers and Guards) require special training in combat management. It is also a matter of over age of those staff (average being above fifty) and lack of proper wildlife management training to face difficulties in dealing with the challenges. There is a need for constant training and re-training for all the field staff. The field trackers also require special training on communication and self-defense.
- Invariably, there is a shortage of staff at the forest guard and ranger levels in many Tiger Reserves. Vacant posts in the Tiger Reserve (as much as 40% in some Reserves), lack of special powers for the concerned DFO (Wildlife) and deployment of physically fit staff, providing adequate infrastructure such as wireless sets, bicycles and motor cycles can resolve some of the issues of Reserve management.
- Buffer area development, as a land-use strategy is a must for every park and sanctuaries in the country. Buffer area should be so defined and developed that it should serve as resettlement areas for the evacuated villagers, centres for eco-tourism and nursery for fodder, biomass and water developments. The buffer area development also should include package of employment options for kiosks tourism amenities and transport arrangements.
- There is a need for training for the villagers within the sanctuaries on wildlife management, eco-tourism and biodiversity protection.
- There is an immediate need to improve the infrastructure and amenities within the sanctuaries for the forest staff. This includes forest roads, light and water supply.
- Non-political NGOs can become useful links between the tribals and the extremists to come to terms on forest and wildlife management.

## 8. TOWARDS REDUCTION OF SOCIAL CONFLICTS WITHIN PROTECTED AREAS.

1. Ensuring the Committees already built in the two Acts (See Section 5 above) is the first step to be accomplished. Also it is desirable to expand the memberships of those committees to include representatives of Panchayat Raj Ministries, selected members of such GP and ZPs, wherever relevant.
2. The Sub - Committee on Monitoring in Tiger Reserves (under the Chairmanship of Professor Madhav Gadgil) makes recommendations to adopt a landscape approach to the management of protected areas, with scientifically identified tiger and other wildlife transit passages, water bodies and prey

areas, and buffer areas with facilities for rehabilitation, tourism and life supports with schools, health care facilities, and roads for quick movements. As this approach would reduce hardships and provides dignity of life to the local inhabitants, this recommendation is relevant for dealing with extremist activist as well.

## 9. RE-ENGINEERING WITH FOREST/WILDLIFE DEPARTMENTS

The issue of re-organizing the administrative machinery within the concerned departments was also taken up in the Tiger Task Force Report. Keeping the challenge of reducing the man-animal conflicts and to honour the quality of specialized training on tribal culture, welfare, and aspects of wildlife psychology, life cycles, genetics and habitation.

It is also very important to create a special cadre of forest rangers well trained in combat and disaster management, emergency and accident management etc, apart from exposures to cultural anthropology.

It also calls for good physical and mental status of those forest rangers and guards, restricting their age to not beyond 45.

### References:

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Report by Independent Citizens Initiative on the situation in Dantwara district, Chhattisgarh state, May 2006

Status reports received by the Committee from Tiger Reserves of Indravati Palamau and Nagarjun Sagar.



**States having compelled with Wildlife (Protection) Acts**

| <b>States</b>     | <b>Both Tiger Conservation Foundation and State Steering Committee</b> | <b>Tiger Conservation Foundation only</b> | <b>State Steering Committee only</b> |
|-------------------|--|---|--------------------------------------|
| Arunachal Pradesh | Yes  |   |                                      |
| Mizoram           |  | No  | Yes                                  |
| Assam             |  |   | Yes                                  |
| Tamil Nadu        |  |   | Yes                                  |

Source: As reported by Member Secretary, NTCA in the NTCA meeting on 12-11-2007. The process is reported to be on in several states.



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