GUIDANCE DOCUMENT FOR PREPARATION OF TIGER CONSERVATION PLAN

(A supplement to Technical Document – NTCA/01/07)

***

PART-A

FOR THE CORE /CRITICAL TIGER HABITAT

GENERAL PRINCIPLES OF MANAGEMENT

1. Exclusive tiger agenda : fostering as a reproductive surplus area.
2. Ensuring high prey productivity through protection.
3. Preventing depression of tiger density from poaching.
4. Ensuring low human disturbance through village relocation from source areas.
5. Ensuring minimal human impact and remoteness through buffering.
6. Fostering tiger population vis-à-vis the carrying capacity of the habitat.
7. Using the existing carrying capacity for tiger as a basis for habitat interventions
8. No go areas for development of any sort.
9. Promoting the process of populating promising tiger habitats in the landscape with the reproductive surplus (by habitat connectivity with core critical habitat or by active management).
10. Regulated tourism as per NTCA guidelines.

DATA COLLECTION / ANALYSIS

1. Obtain remote sensing data of forest cover (FSI, 23 m resolution) in GIS domain for the core area.
2. Incorporate layers in the GIS : administrative boundaries, topographical features, elevation, protection infrastructure (patrolling camps), rivers, water bodies (natural / man-made), grass meadows, spatial occupancy of major wild ungulates, tiger.
3. Use the Phase-I data of 2010 country level tiger assessment for obtaining beat level average data (**cover below canopy**) on shrubs, weed and ground cover (as average percentage for the beat), while indicating the same on respective beats in the GIS (source – WII).
4. Develop a range for the average beat level cover values (as at Sl. No. 3) for highlighting beats falling within a similar value range with a colour code.
5. Use Phase-IV data to indicate tiger presence and relative abundance at beat level.
6. Compute the carrying capacity for tiger using the predictive equation of Hayward et. al. (2007).
   Predictive equation of Hayward et. al. (2007) is useful for large predators like tiger :

   $y = -2.158 + 0.377x$
   y = log of predicted predator density
   x = log of Preferred prey biomass

   where:

Eg. Computing carrying capacity of Tiger in Kanha Tiger Reserve

y = -2.158 + 0.377x

y = log of predicted predator density

x = log of Preferred prey biomass

Preferred Prey	Density/km2 (Mean ±SE)	3/4th Avg. female Weight (Kg)	Available Biomass Kg per km2 (Mean ±SE)
Chital	33 ± 4.47	30	990 ± 134.1
Sambar	8.51 ±1.11	150	1276.5 ±166.5
Wild Pig	5.48 ±0.96	40	219.2 ± 38.4
Gaur	4.11 ±0.8	300	1233 ±240

- Total Preferred Prey Biomass = 3718.7 (± 579) Kg/^{Km2}
- Predicted Tiger Density = 16.0 ± 1.0 / 100 km^2 (15-17)
- Current Tiger Density = 5.32 ± 0.68 / 100 km^2

Prey densities # / km2 (mean (SE)) from 2010 Assessment

Habitat	Ungulates	Cervids	Chital	Sambar	Nilgai
Mixed Forest (Shivalik)	58.04 (11.39)	54.51 (12.1)	46.71 (13.25)	7.49 (1.78)	2.22 (1.13)
Sal Forest (Terai)	19.11 (2.30)	13.12 (1.87)	13.0(2.17)	0.14 (0.10)	3.02 (0.81)
Moist Sal-Mixed (Central India))	47.19 (9.32)	39.97 (9.09)	36.93 (10.42)	3.85 (0.74)	0.27 (0.14)
Dry Teak-Mixed (Central India)	51.24 (5.68)	42.13 (4.87	37.00 (6.06)	5.34 (0.57)	1.38 (0.30)
Dry Thorn Deciduous forest (Central India)	51.97 (10.200	38.46 (9.76)	31.62 (10.38)	8.24 (1.82)	11.17(2.69)
Dry Mixed Decidous Forest (E. Ghat)	5.46 (1.69)	4.78 (1.47)	1.84 (0.97)	3.34 (1.09)	Not Assessed
Teak Mixed Forest (W. Ghat)	43.54 (5.85)	37.80 (5.63)	31.36(6.93)	7.69 (1.18)	Not Assessed
Evergreen Forest (W.Ghat)	14.17(4.55)	9.66 (4.46)	8.02 (6.86)	2.12 (1.08)	Not Assessed
Scrub Forest (W. Ghat)	45.99 (10.33)	45.85 (11.69)	37.07 (14.91)	4.06 (1.11)	Not Assessed

7. In case wild ungulate densities for the reserve have not been computed during the 2010 country level tiger assessment, then such data as available for a similar habitat may be used, while indicating the same.

PREPARATION OF ZONE PLANS AND THEME PLANS

1. Based on generic principles of management, data appraisal and field knowledge propose appropriate zoning for management in the form of Zone Plans, besides overlapping Theme Plans. It is strongly advised that any proposal for habitat intervention should be based on the existing carrying capacity for tiger as computed. In case, the tiger density is near or close to the carrying capacity, no new habitat interventions should be proposed, but for continuing with the ongoing ones. In case of habitats with poor prey density it

should first be determined if the poor density is due to poor protection and subsequent poaching, or due to poor food availability resulting as a consequence of competition with livestock. If these causes are ruled out then appropriate habitat interventions may be required besides in-situ augmentation of prey base. However, such interventions should not change the ecological character of the forest habitat (like providing numerous water sources in an otherwise arid habitat).

2. In case the habitat supports another endangered, endemic or localized wild fauna, it would be advisable to treat such areas of their occurrence within the habitat under a Zone Plan for providing due focus. Likewise, zoning may be considered for unique habitats, areas prone to natural flooding, areas requiring retrofitting safeguards etc.

3. In case of human settlements / villages in the core area, such areas should be dealt under a Zone Plan to facilitate time bound voluntary relocation as per NTCA / Project Tiger guidelines.

4. Portions of the core permitted for regulated tourism as per the NTCA guidelines should be dealt under a separate Zone Plan.

5. Overlapping interventions / safeguards like fire protection, general protection / antipoaching operations, tiger/wildlife monitoring, disease surveillance, capacity building of staff etc. need to be proposed as respective Theme Plans.

   Example:

   Zone Plan for Unique Habitat
   Zone Plan for Voluntary Relocation
   Zone Plan for Tourism

   Theme Plan for Protection
   Theme Plan for Habitat Intervention
   Theme Plan for Capacity Building / Staff Development and Deployment
   Theme Plan for Tiger / Wildlife Monitoring

6. The Theme Plan for antipoaching operations / surveillance / protection / communication should be shaped as a Security Plan with SOPs, besides a provision for periodic security auditing.

PART-B

FOR THE BUFFER / PERIPHERAL AREA OF A TIGER RESERVE

The need for ensuring ecologically compatible land uses in tiger reserves (buffer / peripheral areas) and corridors have been provided in sections 38O (g) and 38V (3)(b) of the Wildlife (Protection) Act, 1972. Further, under section 38V (3)(c) of the said Act, a provision has also been made to ensure that 'the forestry operations of regular forest divisions and those adjoining tiger reserves are not incompatible with the needs of tiger conservation'. In general, the managerial approach of buffer is applicable to tiger corridor areas as well. Intensive form of land uses like commercial mining, setting up of

industries causing pollution and establishment of major hydro electric projects, and discharge of effluence / solid wastes in natural water bodies etc. needs to be avoided in such areas.

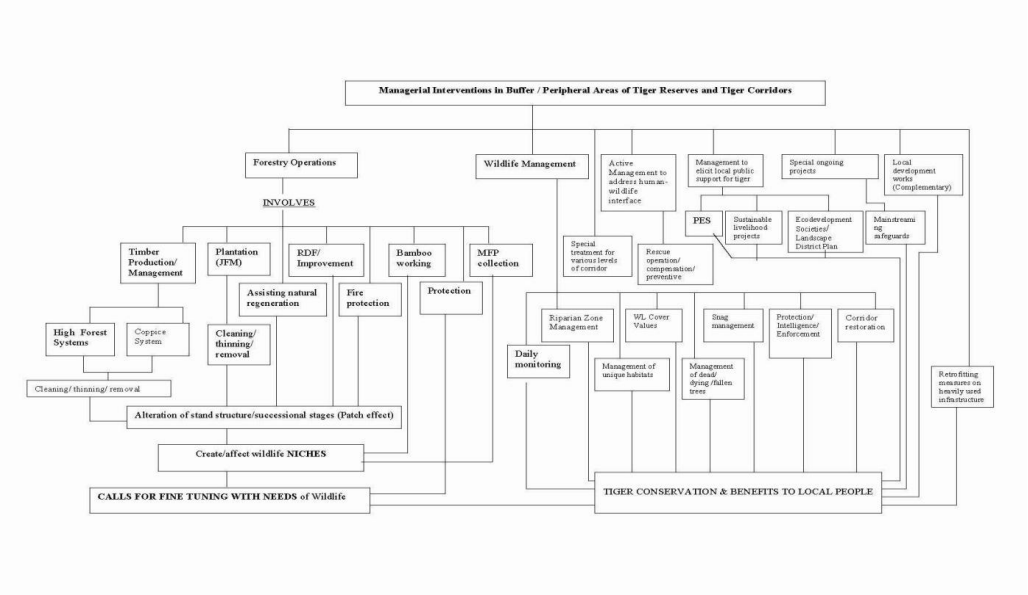
GENERAL PRINCIPLES OF MANAGEMENT

1. Co-occurrence agenda (Wildlife and People).
2. A 'no-go area' for industrial development (but retrofitting safeguards required if such infrastructure already exists).
3. The wildlife status of buffer should not be elevated to that of the core and managerial interventions should be restricted to allow tiger / wildlife gene permeability and low density occupancy while facilitating the meta-population dynamics of tiger in productive patches.
4. Factoring in the landscape context and reducing resource dependency of local people on forests through sectoral integration resulting in ecologically sustainable livelihood option.
5. Using the impact of natural / managerial interventions in the core area as a guide for dealing with forestry practices and wildlife management in the buffer.
6. Identifying zones of influence vis-à-vis the various land uses operating in the area.
7. Overarching focus on habitat restoration/productivity, reduction of forest resource dependency, providing ecologically sustainable livelihood options to local people, permitting ecologically sustainable land uses, avoiding intensive forms of land uses like mining or heavily used infrastructure and actively addressing human-wildlife interface. In case such land uses are present or permitted appropriate mitigation measures need to be enforced so as not to compromise on the conservation objectives of the buffer.
8. Convergence of ongoing district level schemes is important to provide ecologically sustainable livelihood options for local people. This would reduce their dependency on forest resources while eliciting the much needed public support. A sizeable portion of tourism gate receipts should be recycled and earmarked to ecodevelopment committees for village specific interventions as per the participatory micro plan, with reciprocal commitments to protect wildlife and their habitat on quid-pro-quo basis.

SCOPE OF MANAGERIAL INTERVENTIONS

(i) Providing ecologically sustainable livelihood options to local people in collaboration with various sectors/organizations.
(ii) Incentivizing local people for protecting forests and wildlife (PES, Ecotourism).
(iii) Ensuring retrofitting measures in sectors of development with reciprocal commitments.
(iv) Ensuring active management in areas where tiger / Co predators / wild ungulates co-occur with people to minimize human-wildlife interface conflicts.
(v) Ensuring monitoring of tiger / wildlife on a periodic basis in standardized manner, amenable to scientific inference.
(vi) Ensuring surveillance and protection of tiger and wildlife.
(vii) Building up the capacity of field staff and local people as a part of an adaptive management to ensure effective implementation.
(viii) In case the buffer comprises of protected area then managerial interventions should be inconformity with the provisions of the Wildlife (Protection) Act, 1972.

Summary Chart of Managerial Interventions



DATA COLLECTION / ANALYSIS

1. Obtain remote sensing data of forest cover (FSI, 23 m resolution) in GIS domain for the core area.
2. Incorporate layers in the GIS : administrative boundaries, topographical features, elevation, protection infrastructure (patrolling camps), rivers, water bodies (natural / man-made), grass meadows, location of villages, agriculture fields, cash crops, dry nallahs, irrigation canals, roads, rail track, tourism infrastructure, location of industry / hydro power project / mine if any, besides distribution of wild animals.
3. In case of villages / agriculture field / cash crop / industrial infrastructure, use google map (1 m resolution) to get the details, especially with respect to the forest edges.
4. Use the Phase-I data of 2010 country level tiger assessment for obtaining beat level average data (cover below canopy) on shrubs, weed and ground cover (as average percentage for the beat), while indicating the same on respective beats in the GIS (source – WII).
5. Develop a range for the average beat level cover values (as at Sl. No. 3) for highlighting beats falling within a similar value range with a colour code.
6. Use Phase-IV data to indicate tiger presence relative abundance at beat level.
7. Conduct regeneration surveys of important MFP species in the core area for using as reference data.
8. Conduct regeneration surveys of important MFP species in the buffer area and indicate their beat level status.
9. Obtain a relationship between canopy class interval and mean wild ungulate density (in various forest types as relevant) in the core/critical tiger habitat for using as a reference data.
10. Appraisal of ongoing working plan prescriptions.

APPRAISAL

1. Macro level (larger spatial scale)

- Appraisal for interventions at a larger spatial scale
  - Buffer area vis-à-vis the core size
  - Intensity (need to progressively increase from the source area boundary) of managerial effects across the buffer and corridor
  - Natural species composition
  - Age structure of forest stands
  - Presence of old stands / trees
  - Spatial heterogeneity (different patch sizes)
  - Edges and ecotones
  - Corridors (forest / non-forest cultivation giving cover/ nallah beds/ gulleys/ ravines/ culverts/ bridle paths)
  - Riparian zones
  - Unique habitats
  - Human settlements (villages/hamlets/rural towns, private estates, agriculture lands, tourism infrastructure, varied land uses, special projects, temples, rail/road infrastructure, mining, horticulture, thermal power plant, industries etc.)
  - Proximity / adjacency ratings between various non-forest covers and forest areas (as relevant – eg. sugarcane cultivation to forest, villages, nallah bed etc. for computing juxtaposition / interspersion indices using GIS)

2. Micro level (finer spatial scale appraisal)

- Appraisal for interventions at a **finer spatial scale**
  - Ongoing forestry practices like selection / coppice system, plantation / JFM / bamboo working, collection of MFP
  - Appraisal of large gaps if any
  - Proximity of raised plantations to agricultural field
  - Ongoing bamboo working vis-à-vis tiger presence
  - Ongoing thinnings and ungulate presence (wild / livestock)
  - Presence of seed bearers / old coppice growths
- Species diversity (monoculture or otherwise)
- Edge effect (inherent : natural openings / frost holes close to forest) (induced : presence of cover crops / young plantations close to forest)
- Status of corridors (whether choked with infrastructure / settlements or free of them)
- Human settlements, agriculture fields and their impact (beats / areas with rights and concessions)
- Tourism infrastructure (location with respect to natural corridor)
- Impact of varied land uses and projects (location of projects / infrastructure and their proximity to core area)

FINE TUNING / MITIGATION STRATEGIES FOR VARIOUS SECTORS IN THE BUFFER

1. Forestry

- Ecosystem management required
- Ecological availability of a tree should be ascertained before removal
- A tree should be considered ecologically available if
  (a) Its removal does not create a gap beyond 43 to 45%.
  (b) The regeneration of species at various formation levels within a radial distance of twice the crown radius of the tree being selected for felling should have an 'established' status.

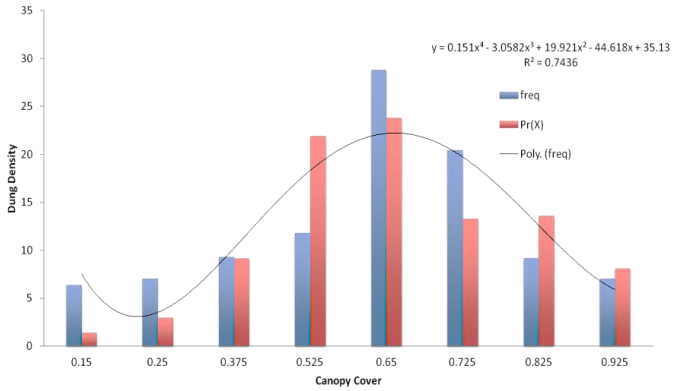
Tree fellings / Thinnings

- No clear felling and other silvicultural systems promoting concentrated regeneration
- No conversion to uniform forests
- A high forest system with diffused regeneration should be preferred
- Status of regeneration should be an overarching consideration to permit felling
- Areas having considerable disturbance should not be felled

Tree fellings / Thinnings

Canopy class and wild dung presence

Mid-Value	Wild dung	SE	Freq.
0.15	10.52	0.79	6
0.25	11.68	0.71	7
0.375	15.46	1.08	9
0.525	19.56	2.75	12
0.65	47.86	19.30	29
0.725	33.92	14.03	20
0.825	15.22	7.21	9
0.925	11.72		7



- After due consideration to regeneration/status, the relationship between canopy class and wild ungulate dung presence should be used as a guide to prescribe the stem removal
- **Buffer / corridor areas should be managed for wild ungulates at a level which is 30% lower than the optimal levels in core areas**
- In general, the relationship between mean ungulate density and canopy class intervals in a sal / tree dominated forests, with polynomial curve fitting shows that the 80% lower bound corresponds to a canopy cover of 43% (computed for sal forests of Central India; similar relationships need to be developed for other forest types to facilitate inference)

- Thus, for sal forests of Central India, the timber harvest in the buffer / corridor area may be permitted in a selective manner so that the canopy cover does not fall below 43% during winter months. This strategy will minimize tiger-human conflict while permitting selective extraction of timber species
- More openings will permit more light while fostering more regeneration thereby attracting wild ungulates and tigers
- The idea behind buffer / corridor management is to sustain it for gene flow, while not elevating its status to that of core area in terms of wildlife abundance

Collection of NTFP

- NTFP collection should not be permitted in areas with maximum disturbance and unestablished regeneration status, as this would adversely affect the demography of such species.
- The regeneration status of NTFP species in the buffer / corridor area should be compared with its status in the core / critical habitat.
- Collection should not be permitted in areas having endangered arboreal fauna.
- No lopping / felling should be permitted during NTFP collection.
- Collection should not disturb 'canopy bridges' in an area.
- The timings for NTFP collection should be regulated while avoiding early morning or late evening.
- The patterns of NTFP collection should be studied for prescribing ecologically permissible collection.
- The quantum of NTFP collected in an area should be regulated, considering its consumption by wild animals.
- An estimation of the availability of NTFP (fruit / tuber / leaf) should be done (example: for total fruit crop estimation, considering several categories of branches and the number of fruits per branch etc.).
- Fire should not be used to promote new flush of leaves (usually done for Tendu), as this would lead to forest fire.
- Fruit removal affects frugivory, hence fruit tree should be fostered.
- The density of NTFP species in the buffer / corridor area should be compared with their densities in the core / critical tiger habitat. In low density areas such NTFP species should not be permitted for extraction.
- A chart depicting NTFPs collected in various areas within the division over months during a year should be prepared for close monitoring.
- Different parts of a tree / plant / shrub / herb are harvested as NTFP and many of them are valuable as medicinal plants. To avoid overexploitation, it is important to prescribe site specific indicators for their ecologically sustainable management, vis-à-vis the regeneration status.
- The nursery techniques of NTFP species (especially those having medicinal value) should be fostered through the community linked to incentives for growing subspecies.
- Regulation through PES (Payment for Ecosystem Services)

Collection of NTFP

Indicators to avoid over exploitation of NTFP

NTPF part harvested	Indicators
Fuelwood	• Regeneration status • Intensity of girdling/cutting of young trees (number of stumps per unit area) • Change in the rate of extraction • Quantum of dead/fallen twig branches on forest floor
Leaves	• Reduction in canopy cover • Reduction in leaf litter • Regeneration status • Weed invasion • Change in species composition
Fruit/flower/seed	• Regeneration status • Annual productivity per sample tree vis-à-vis the productivity in core/critical tiger habitat • Method of harvesting Season of harvesting vis-à-vis requirements of wild animals (fruit/flower/seeds act as 'qualifiers' in a habitat, and their total harvesting would reduce such welfare factors)
Bark	• Girdling • Tree mortality • Regeneration status • Number of dead stems per unit area
Rhizome	• Regeneration status

Fuel / fodder collection

(a) Grazing should be regulated in a rotational manner, and prophylactic immunization should be done for village livestock.

(b) Since the unrecorded removal from forest exceeds the recorded removal in many States, fuel / fodder collection should not be permitted in disturbed areas or compartments with poor regeneration status. Such areas should be prescribed a 'recovery' period before reopening them for fuel / fodder collection.

(c) A 'safe lopping index', based on site specific studies should be prescribed for fodder removal on a rotational basis.

2. Wildlife management

- Buffer / corridor areas require a 'coarse filter' approach for maintaining a variety of plant / animal species
- Day to day monitoring
- Habitat amelioration (compensatory nature)
- Fostering indigenous fodder / fruit species
- Maintaining existing water points
- No drastic habitat interventions
- Cropping pattern / harvesting to factor in cover values
- Inherent / induced diversity indices need to be computed for maintaining the edges (without enhancing them)
- Human-wildlife interface issues to be addressed
- Treatment for riparian zones / unique features

- Retention of dead trees, snags
- Restoration / protection of existing corridors

3. Ecodevelopment / PES / Sustainable livelihood / District level local development

1) Village level micro planning for benefits to local people on a quid-pro-quo basis (involving VFC/EDC)
2) Innovative use of JFM / REDD+/ PES / recycling of tourism gate receipts to Ecodevelopment Committees
3) Benefits from district level developmental works (convergence), interalia, covering
   (i) public health and family welfare
   (ii) food and nutrition security
   (iii) education
   (iv) natural resource management and water security
   (v) sanitation
   (vi) roads
   (vii) energy
   (viii) housing, and
   (ix) livelihoods

4. Mitigation strategy for mining

- Mitigation strategy for mining should have two components :
  (i) improved / green technology and minimum ancillary development causing minimum habitat loss
  (ii) site specific mitigation measures for tiger and other wild animals, inputs for providing ecologically sustainable livelihood options to locals, besides offsite 'offsets' to achieve more tiger conservation
- Mitigation measures for exploratory phase
- Mitigation measures for construction / mining phases
- Site specific mitigation measures for tiger / wild animals, while providing sustainable livelihood options (this should include onsite modification of the mined area to its original form and restoration of topsoil with indigenous ground cover or through creation of water body / wetland)
- Offsite compensatory inputs in similar habitats within P2 or P1 areas to strengthen tiger conservation
- Providing livelihood options to local people within the zone of influence

5. Mitigation strategy for dams and hydro power sectors

- The impacts include :
  - First order impacts (barrier effects, effects on water quality, water quantity, flow regime and sediment load)
  - Second order impacts (impact on terrestrial environment affecting primary production-planktons, aquatic flora), morphology (channel form, substrate composition)
  - Third order impacts (impact on terrestrial environment affecting invertebrates, fish, birds and mammals)
- Mitigation measures are required to address impacts due to dams construction as well as its operation

- The mitigation plan should include onsite as well as offsite initiatives based on best global practices
- Retention of dead trees in submergence areas as 'snags' for water birds and aquatic fauna
- Prohibiting the reduction of river flow to 'zero' or 'critical' levels which would have a deleterious affect on local flora and fauna especially aquatic species permitting migration across dams through mitigation e.g. fish ladder etc.
- Mimicking the water release to the natural flooding regime
- Ensuring control of aquatic weeds and disease factors
- Safeguarding downriver flood protection
- Safeguarding against water pollution
- Appropriate fish management measures to benefit local communities through the tiger reserve management. Illegal fishing is a problem in tiger reserves like Pench and Satpura
- Site specific watershed management to safeguard against sedimentation
- Prescribing timings for use of access roads, and regulation on the maintenance infrastructure and retaining it to the minimum
- Prohibiting new, associated developmental projects in the core / critical tiger habitat
- Contributing resource support to the core / critical tiger habitat management as a 'compensatory' measure for loss of natural habitat
- Evolving and implementing a SOP, in collaboration with the tiger reserve management for rescuing wild animals from drowning
- Annual monitoring of the spatial use pattern of wild animals in the area, which should also include monitoring the development of related infrastructure
- Periodic monitoring of water quality and river ecosystem recovery
- Fostering re-vegetation of the construction site with indigenous species

6. Mitigation strategy for linear infrastructure and other projects (roads/highways/railway lines/power transmission lines/irrigation canals/open mills/wind mills)

- Roads/highways : creation of overpasses / underpasses, speed regulation, , closure to traffic
- Railway lines : SOP for information exchange through wireless, speed regulation, barricades, underpasses
- Power transmission lines : insulation, surveillance, MOU with electricity boards, special patrolling, under ground cabling, adequate height
- Irrigation canals : covering, crossing for animals movement
- Open wells : covering, closure of abandoned wells
- Wind mills : both offsite and onsite measures are required to prevent turbine collisions with avifauna.

7. Tourism

(Strict adherence to NTCA guidelines, while depicting the tourism areas on a map)

PREPARATION OF ZONE PLANS AND THEME PLANS

1. Based on generic principles for buffer, data appraisal (at macro and micro spatial levels) and prior knowledge, propose appropriate zoning for management in the form of Zone Plans, besides overlapping Theme Plans. It

should be borne in mind that the management of buffer should foster the co-occurrence agenda (involving wild animals and people) without fostering productivity for wildlife abundance to avoid human-wildlife conflicts.

2. A smaller core area would require more focus and active management of the buffer whereas a larger core area with a patchy buffer would necessitate focus on dispersing wild animals.

3. The planning and management of buffer should be done by the Field Director, who should ensure desired sectoral integration in collaboration with DM / District Collector and other line departments.

4. In case, the tiger reserve has a Foundation with capacity for implementation, the ecodevelopment aspects should be preferably entrusted to such Foundation on a mission mode.

5. The buffer plan of the TCP should be considered as part of a larger master plan for the tiger landscape and should serve as a role model.

6. Example of a buffer plan forming part of TCP:

Zone Plan for Forestry
Zone Plan for Wildlife Management
Zone Plan for Eliciting Local Public Support (Ecodevelopment / Sectoral Integration / PES)
Zone Plan for Retrofitting Measures
Zone Plan for Water Shed and Soil Conservation
Zone Plan for Ecotourism

Theme Plan for Protection
Theme Plan for Fire Protection
Theme Plan for Addressing Human-Wildlife Conflicts
Theme Plan for Tiger / Wildlife Monitoring
Theme Plan for Fostering Awareness in Local Communities
Theme Plan for GIS based Time Series Monitoring of Land Use Change
Theme Plan for Monitoring Permitted Activities in the Ecologically Sensitive Area within the Buffer

PART-C

FOR THE CORRIDOR

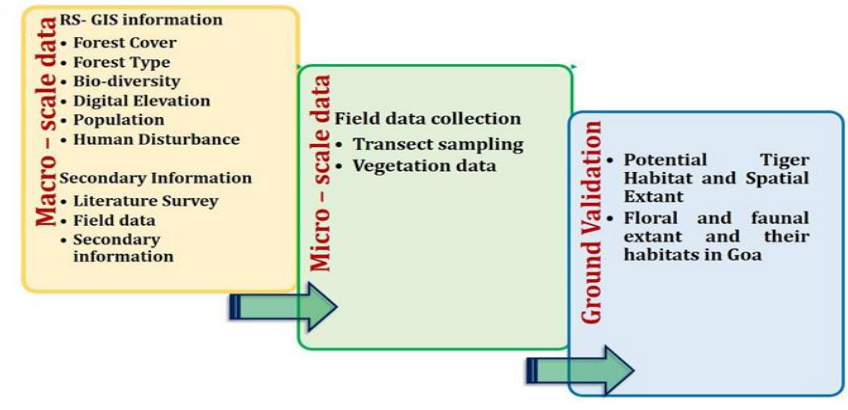
The general principles of management, data collection/ analysis, macro / micro appraisal, fine tuning / mitigation strategies for various sectors would be similar to those indicated for buffer. However, the following things are important:

1. Macro level delineation as per 2010 country level tiger assessment (source : NTCA / WII)
2. Micro level ground truthing using transects for spatial presence / abundance of flora / fauna
3. Comparison of wild animal species distribution with reference to a nearest protected area (tiger reserve in the landscape)
4. Profiling of micro water sheds (if relevant)
5. Taking note of natural water courses, unique topographical features

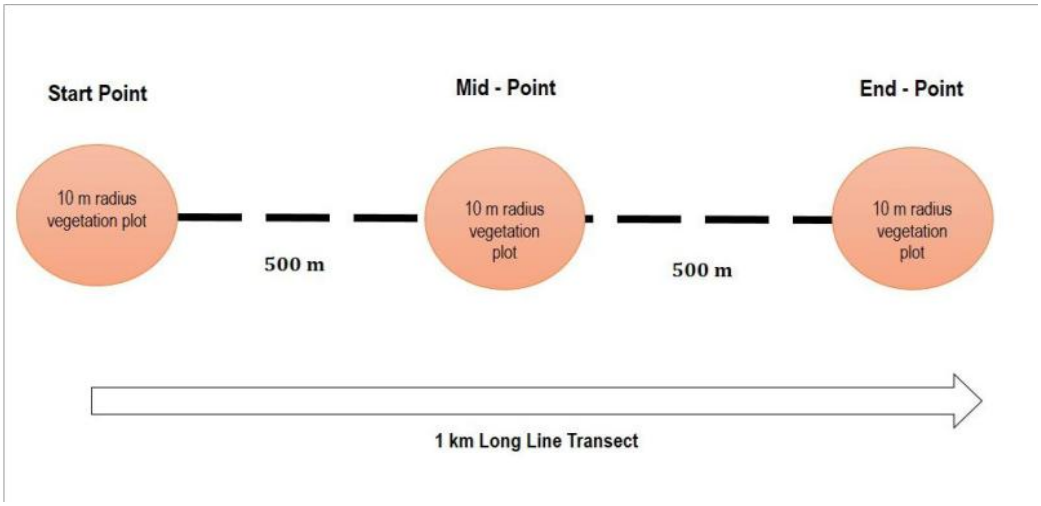
6. For tiger bearing forests, half MMDM (MMDM 2.75 to 5.3 km) or average home range radius (3.05 km) may be taken as the width of the corridor on either side.
7. Identify the bottlenecks and areas where the corridor has been disrupted. Suggest appropriate mitigation strategy in terms of restorative management or policy that may be required to make /keep the corridor functional (eg. avoidance / protection / planting with indigenous species on community land / assisting natural regeneration in degraded forest / gap planting with indigenous species in forest areas).

DATA COLLECTION / GROUND TRUTHING / ANALYSIS

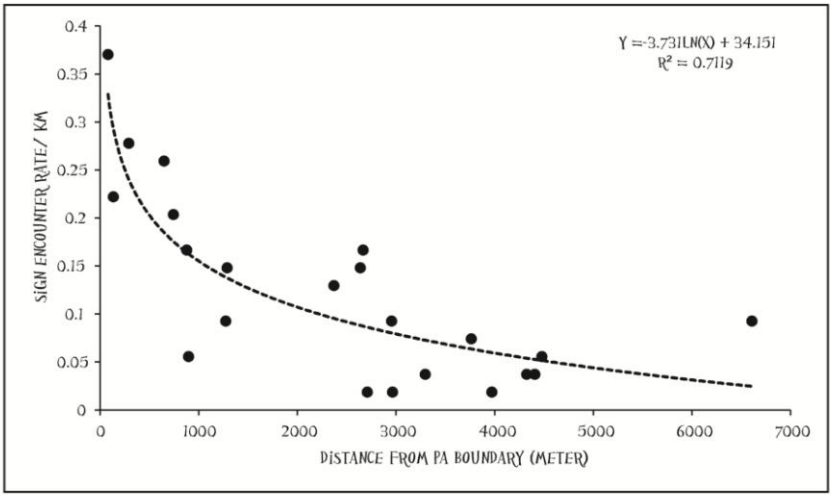
Schematic diagram of approach to data analysis



Transect sampling and vegetation plot sampling scheme (suggestive)



Sign Encounter Rate of animals with respect to increasing distance from PA



- The restorative plan for the corridor should be prepared and implemented by respective forest officers in-charge of such areas, who should ensure desired sectoral integration in collaboration with respective DM / District Collector and other line departments.

- In case, a nearby tiger reserve has a Foundation with capacity for implementation, the ecodevelopment aspects should be preferably entrusted to such Foundation on a mission mode.

- The buffer plan of the TCP should be considered as part of a larger master plan for the tiger landscape and should serve as a role model.

- The entire buffer of a tiger reserve should form part of an ecologically sensitive area, as required to be notified under the EPA. In case, any notification of EPA has already been done, a map indicating the same should be appended.

***