

NATIONAL TIGER ACTION PLAN INDIA 2011-2022



1. Introduction

India has a strong National legislation in the form of the Wildlife (Protection) Act, 1972, which provides the legal frame work for both 'in-situ' (National Park/Wildlife Sanctuary) and 'ex-situ' (zoos) conservation. There are more than 600 protected areas (National Parks/Wildlife Sanctuaries) in the country amounting to almost 5% Of the country's geographical area. Special Centrally Sponsored schemes have been launched to conserve the flagship species like the tiger (Project Tiger) and the elephant (Project Elephant), besides other endangered species like the snow leopard and the Kashmir hangul deer. Many milestone initiatives have been undertaken for tiger conservation based on the urgent recommendations of the Tiger Task Force constituted by the Prime Minister, in the wake of tiger getting locally extinct in Sariska.

2. Project Tiger

“Project tiger”- is one of the most ambitious conservation projects in the world, hardly having any parallel in terms of its scale, magnitude and diversity of field operations and challenges. With a view to ensure protection of tiger and its habitats, many initiatives have been undertaken by the Government since 1960. In 1972, for the first time, the then Prime Minister Smt. Indira Gandhi set up a Task Force under the Chairmanship of Dr. Karan Singh which made various recommendations on the subject. Based on the recommendations of the Task Force, nine tiger reserves were identified to be covered under the Project Tiger, which have now increased to 39 tiger reserves falling in 17 States in the length and breadth of the country. This encompasses almost 32,219.691 sq km of core / critical tiger habitat in the form of forests, meadows, mountains and scrub land. The Project has helped in protection of endangered species. It has a holistic, ecosystem approach. Its core-buffer strategy, protection and development initiatives gave a new perspective to the concept of wildlife management in our country and has been a “role model” for conservation. However, Project Tiger, over the vicissitude of time, is now facing several constraints towards achieving its objective.

The 'in-situ' conservation strategy of Project Tiger

“Project Tiger” is a focused, in-situ conservation initiative to save the flagship species - the tiger. The core-buffer strategy of Project Tiger has successfully fostered source populations of tiger in designated tiger reserves. The core areas of tiger reserves are



important source sites for tiger and the buffers provide scope for the sink populations while addressing the man-tiger interface. The National Legislation [The Wildlife (Protection) Act, 1972] has been amended in 2006 to provide a separate chapter on tiger conservation with enabling provisions for constituting the National Tiger Conservation Authority, the core-buffer areas, preparation of reserve-specific Tiger Conservation Plan and corridors.

The recent finding of the all India tiger estimation, using the refined methodology, has identified the following six tiger occupied landscapes in India:

1. Shivaliks and the Gangetic Plain
2. Central Indian Landscape
3. Eastern Ghats
4. Western Ghats
5. North-East Hills and Brahmaputra Plains and
6. Sunderbans

The status of tiger source populations, in the above landscapes, are viable and satisfactory, while requiring ongoing managerial inputs. However, the situation in the context of tiger is poor in other forest areas owing to loss of quality for sustaining a viable natural prey base for tigers.

The Indian strategy of Project Tiger since 1972 to focus on tiger source areas in the form of 'core areas' thus stands vindicated. Because of this vision and ongoing initiatives, India has the maximum tiger source sites in the world today. Efforts are underway to mainstream the concerns of tiger in the landscape surrounding such source sites through restorative actions, while providing livelihood options to local people to reduce their dependency on forests. Active management has also been resorted to for repopulating wild tigers in areas where they have gone locally extinct. As part of the strategy, satellite corridors have also been identified in tigers bearing forests which can foster gene-flow by receiving the transient tigers. Further, continuous, scientific monitoring of core areas is being facilitated to obtain more information on tiger sociology and their spatial use pattern.

3. Why a Project mode?

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 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.

The distribution of tigers/density vary in these 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.

Despite three decades of project tiger and the efforts of the Centre and the States, tiger continues to remain one of the most endangered large predators in the world. The causative factors are many including loss of habitat due to agriculture expansion and development, revenge killings by people due to man-animal conflicts and above all, the demand for the body parts and derivatives of tiger in the illegal international market among others. These factors contribute to the decimation of tiger population in the wild. Therefore, continuance of a focused, species-specific, multifaceted, ecosystem project like the Project Tiger becomes important and crucial at this juncture to address the threats faced by the tiger and its habitat. Since tigers are at the top of the ecological food-chain, they are also indicators of the well-being of the habitat, and their conservation results in the overall conservation of all other species of plants and animals sharing the ecosystem. A healthy tiger population indicates that 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. Tiger conservation results in several intangible yet life-supporting benefits. Some such environmental externalities are highlighted here.



4. The Intangible gains

Carbon dioxide absorption (carbon sequestration)

Tons and tons of fuel wood are used by us which release the carbon dioxide back into the atmosphere. Presence of a large quantum of carbon in the atmosphere due to several such emissions at a large scale increases the green-house effect, and hence the absorption of carbon by forest vegetation (facilitated to a large extent by the forest cover conserved in tiger reserves and other protected areas) becomes crucial .

Meso climate

Presence of continuous forest cover to a depth of about ten km impacts the climate of the nearby area (almost upto hundred km). This phenomenon is beneficial to both human beings as well as agriculture crops, since they are protected from climatic extremes.

Rainfall

The evapo-transpiration from trees contribute to marginal increase in rainfall in the area, and becomes an additional advantage wherever the ground water is also (in?)sufficient.

Water harvesting

The forest growth reduces the surface run-off and facilitates water storage as well as loss of top soil due to erosion , which may otherwise lead to reduction of impoundment in storage devices. The layer of decaying organic matter on a forest floor and the root system of the vegetation growing on it facilitate infiltration of water.

River flow

The forest trees conserved in a tiger reserve and other protected areas regulate the water flow. The presence of trees in a catchment area, absorb the water and release the same gradually. This is beneficial, since on one hand the risk of extreme flooding is reduced, and on the other the flow season is also extended.

Thus a project with such benefits become important both for our life support as well as food security.

No singular sustainable livelihood project can deliver such benefits in a “stand alone” manner, since the levels of sustainability are difficult to define, and such levels even when defined always entail compromises, and the net outcome of such trade-offs may not be tiger conservation!

The fringe dwellers living around tiger reserves are dependent on forests for their livelihood. Though many of them are not in the food gathering stage, the resource dependency of such people needs to be reckoned for safeguarding the ecological viability of the habitats. The project tiger strategy of “core-buffer” provides scope for eco-development inputs in the impact / buffer zones of tiger reserves. A small investment, based on site specific participatory planning in consultation with the people, complemented by sectoral integration of inputs in the larger surrounding landscape, is important to reduce the resource dependency through livelihood opportunities to such people.

5. THE FIELD INITIATIVES



What inputs are made in a tiger reserve? How do we conserve tigers? Who implements the Project? These are some of the common questions asked. The major input is protection! The designated tiger reserves as well as other protected areas and tiger bearing forests are in States. Being the owners of resource the State machinery does the field implementation.

Gifted with a congenial tropical climate, our ecosystem readily resurrects to its original form, given adequate protection. The well-preserved, tranquil core zones of many of our tiger reserves bear adequate testimony to this. To be more precise, some of the major non-recurring activities supported by the project include civil works like patrolling camps, project allowance for the staff deployed in tiger reserves, development and reinforcement of roads and wireless communication network, development of water impounding structures like ponds, anicuts, establishment of barriers, voluntary village relocation, creation of veterinary facilities, compensation to the dependents of staff killed while performing duty and so on. The works of recurring

nature include anti-poaching squads, deployment of fire watchers, fire protection measures, weed eradication and indigenous grass management, compensation to fringe villagers for cattle depredation by carnivores, field research, estimation and monitoring of tigers and other wild animals, deployment of patrolling camp watchers and the like. Each tiger reserve has its own site-specific management plan and this list is by no means exhaustive. The reserves need specific treatment as they may fall in one of the several categories like old and established reserve, upcoming reserve, problematic reserve and so on. Apart, while handling a dynamic forest system, one has to be prepared for any kind of eventuality, which means there is never a dull moment in project tiger!

6. The Tiger Task Force

On the basis of the recommendations of the National Board for Wildlife chaired by the Prime Minister on 17th March, 2005, a Task Force was setup to look into the problems of tiger conservation in the country and to suggest measures for improvement. The recommendations requiring immediate attention have been accepted for implementation, which inter alia include strengthening of Project Tiger by giving it statutory as well as administrative powers. Further, it has also been recommended that the report relating to Project Tiger should annually be sent to Parliament so

that the commitment to the Project Tiger is reviewed from time to time.

Tiger is our national animal which is widely present across the forest and non-forest natural habitats in 17 States throughout the country. Owing to its ecological position as a flagship species, the conservation status of tiger in our natural ecosystem signifies the status of their health. Good health of these ecosystems in turn signifies that the quality of ecological services rendered by them including ensuring water security, critical to our survival, and sustainable development, is optimum. This, unfortunately, is not the case; degradation and fragmentation of forests and non-forest natural areas across the length and breadth of our country reflect the decline in ecological services seen in the form of poor water regime and loss of our unique biodiversity. Such decline has also undermined the productivity of farm and livestock of our people inhabiting the forested regions aggravating their impoverishment. The need for conservation of tiger must therefore be seen in the light of these imperatives for the care of our forests and other ecosystems, which call for an integrated holistic approach for managing land uses and mainstream development initiatives in the forested regions.

Since the inception of Project Tiger in the early seventies, the Government of India has invested considerably in the protection and conservation of



tiger. The Tiger Task Force appointed by the Prime Minister has reviewed the work done over these years and has advocated the following urgent recommendations:-

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

7. Present status of tigers

As per the findings of All India Tiger Estimation in 2008, using the refined methodology, the total country level population of tiger is 1411 (mid-value), the lower and the upper limits being 1165 and 1657 respectively. The new findings are based on determining spatial occupancy of tigers and sampling such forests using camera traps in a statistical framework. This assessment is not comparable to the earlier total count using pug marks.

The new findings indicate a poor status of tiger population in areas outside tiger reserves and some protected areas. The tiger population, by and large, in tiger reserves and in some protected areas of the 17 tiger states are viable, while requiring ongoing conservation efforts. In the recent past, tigers went locally extinct in Sariska and Panna tiger reserves mainly due to poaching.

8. Reasons for tiger decline

The reasons for tiger decline in areas outside tiger reserves / protected areas are as below:

- (i) Degradation of forest status outside Protected Areas / Tiger Reserves owing to:
 - (a) human pressure
 - (b) livestock pressure
 - (c) ecologically unsustainable land uses
- (ii) Fragmentation leading to loss of gene flow from source populations
- (iii) Loss of forest quality in terms of prey biomass

- (iv) Tiger deaths due to man-animal conflict
- (vi) Tiger deaths due to poaching
- (vi) Loss of reproduction owing to disturbance on account of heavily used infrastructure like highways, etc
- (vii) Lack of adequate protection outside protected area
- (viii) Insurgency / law and order problems

9. Present approach to tiger conservation

Owing to habitat fragmentation on account of ecologically unsustainable land uses, biotic pressure and poaching, the following approach is imperative:

- 9.1 Consolidating / strengthening the source population of tiger and its prey in tiger reserves, protected areas and tiger bearing forests

This involves the following active managerial interventions:

- (i) Protection / anti-poaching operations / intelligence networking
- (ii) Strengthening of infrastructure within tiger reserves
- (iii) Creation of inviolate space through relocation
- (iv) Capacity building of frontline staff / local people and officers (including strengthening of training centres and training in related fields, viz. enforcement, intelligence networking, tourism activities, etc.)

- 9.2 Managing the “source-sink dynamics” by restoring habitat connectivity

This involves the following managerial interventions:

- (I) Actively providing incentives to local people for the eco-system services / corridor values provided by them by not degrading the forest (payment for eco-system services)
- (ii) Incentives to local people for taking up plantations and protecting natural root stocks besides preventing free grazing
- (iii) Encouraging stall feeding of cattle and fostering marketing of dairy products
- (iv) Providing subsidized gas connection to local people for reducing their dependency on forest towards fuel wood collection

- 9.3 Mainstreaming tiger / wildlife concerns in the landscape through smart practices with other

sectors to prevent / address man-tiger conflicts (sectors: forestry, agriculture, welfare activities through the district Collector sector, tourism, fisheries, tea-coffee estates, road/rail transport, industry, mining, thermal power plants, irrigation projects, temple tourism and communication projects operating in the landscape).

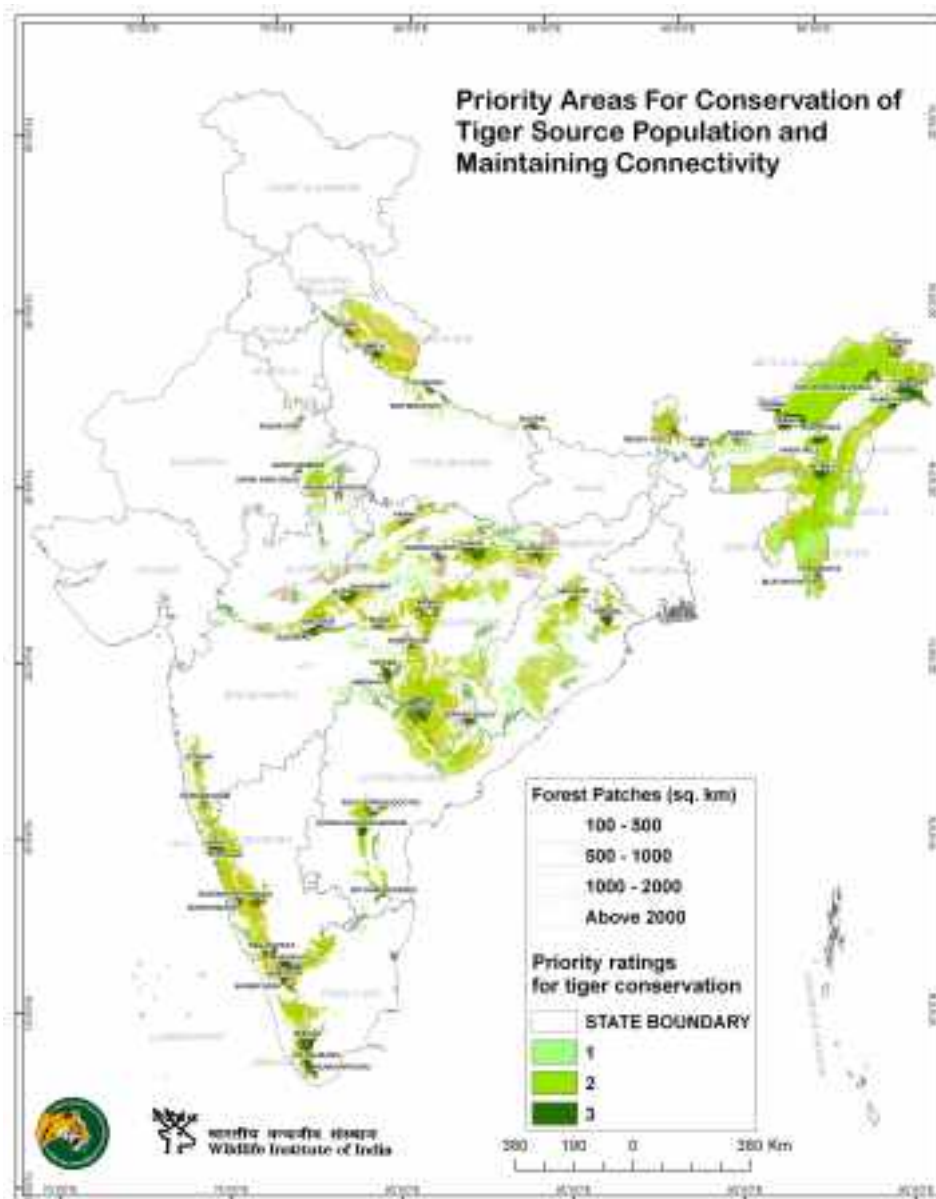
10. For the future

The issues in tiger conservation, are as below:

- Poaching and depletion / isolation of source population.
- Existing or potential disturbance from activities, such as construction of infrastructure, presence of settlements, and extraction of minerals or produce.

- Disruptions in traditional livelihoods of the local people, curtailment of their pre-existing entitlements due to conservation.
- Providing resource for management, including protection, of tiger reserves, protected areas and other tiger bearing forests.

The task is formidable. For the future, status of tigers outside the protected area system and linkages in the landscape (with the communities, and also between the forests) are important. Sustainable landscapes are more relevant in the present scenario rather than advocating sustainable management of protected areas. This calls for reorienting the sectoral priorities in such selected landscapes keeping in mind the “inclusive/exclusive” agenda recommended by the Tiger Task Force.



FOREST OCCUPANCY AND POPULATION ESTIMATES OF TIGER AS PER THE REFINED METHODOLOGY

| State | Tiger km2 | Tiger Numbers | | |
|---|--------------|---------------------|-------------|-------------|
| | | No. | Lower limit | Upper limit |
| Shivalik-Gangetic Plain Landscape Complex | | | | |
| Uttarakhand | 1901 | 178 | 161 | 195 |
| Uttar Pradesh | 2766 | 109 | 91 | 127 |
| Bihar | 510 | 10 | 7 | 13 |
| Shivalik-Gangetic | 5177 | 297 | 259 | 335 |
| Central Indian Landscape Complex and Eastern Ghats Landscape Complex | | | | |
| Andhra Pradesh | 14126 | 95 | 84 | 107 |
| Chattisgarh | 3609 | 26 | 23 | 28 |
| Madhya Pradesh | 15614 | 300 | 236 | 364 |
| Maharashtra | 4273 | 103 | 76 | 131 |
| Orissa | 9144 | 45 | 37 | 53 |
| Rajasthan | 356 | 32 | 30 | 35 |
| Jharkhand** | 1488 | Not Assessed | | |
| Central Indian | 48610 | 601 | 486 | 718 |
| Western Ghats Landscape Complex | | | | |
| Karnataka | 18715 | 290 | 241 | 339 |
| Kerala | 6168 | 46 | 39 | 53 |
| Tamil Nadu | 9211 | 76 | 56 | 95 |
| Western Ghats | 34094 | 412 | 336 | 487 |
| North East Hills and Brahmaputra Flood Plains | | | | |
| Assam* | 1164 | 70 | 60 | 80 |
| Arunachal Pradesh* | 1685 | 14 | 12 | 18 |
| Mizoram* | 785 | 6 | 4 | 8 |
| Northern West Bengal* | 596 | 10 | 8 | 12 |
| North East Hills, and Brahmaputra | 4230 | 100 | 84 | 118 |
| Sunderbans | 1586 | Not Assessed | | |
| Total Tiger Population | | 1411 | 1165 | 1657 |

Tiger Conservation Strategies with sub-activities:

(a) Anti-poaching activities: (antipoaching squad/Tiger Protection Force deployment)

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.

(b) Strengthening of infrastructure within Tiger Reserves:

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.

(c) Habitat improvement and water development:

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.

(d) 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):

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.

(e) Co-existence agenda in buffer / fringe areas:

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.

(f) Rehabilitation of traditional hunting tribes living around tiger reserves:

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, Kaikads, 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.

(g) Research and field equipments:

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.

(h) Staff development and capacity building:

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.

(i) 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:

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 (Scheduled 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.

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.

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 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.

- (j) Mainstreaming wildlife concerns in tiger bearing forests and fostering corridor conservation through restorative strategy involving locals to arrest fragmentation of habitats:

This would involve:

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

- (k) Safeguards / Retrofitting measures in the interest of wildlife conservation:

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.

- (l) 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. The following are envisaged:

- Creation of office space at Delhi for National Tiger Conservation Authority.
- 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.

- (m) Independent monitoring and evaluation of tiger reserves:

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.

- (n) Establishment and development of new Tiger Reserves:

‘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 level of protection and lack of eco developmental initiatives for the fringe 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.

(o) Provision of Project Allowance to staff of Project Tiger:

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.

(p) Staff welfare activities:

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.

(q) Fostering Eco-Tourism in Tiger Reserves:

'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.

| S. No. | Activities \ Year | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | Total |
|--------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | Anti-poaching including STPF | 25.00 | 32.00 | 32.00 | 35.00 | 35.00 | 35.00 | 35.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 429.00 |
| 2 | Strengthening of infrastructure within Tiger Reserves (including new Tiger Reserves) | 10.00 | 10.00 | 11.00 | 12.00 | 12.00 | 12.00 | 12.00 | 14.00 | 14.00 | 14.00 | 14.00 | 14.00 | 149.00 |
| 3 | Habitat improvement and water development | 3.00 | 3.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 51.00 |
| 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) | 3.00 | 3.00 | 3.00 | 3.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 5.00 | 5.00 | 46.00 |
| 5 | Co-existence agenda in buffer / fringe areas (landscape approach/sectoral integration/ ecologically sustainable development programme/ livelihood options/eco-tourism) | 12.00 | 14.00 | 14.00 | 15.00 | 15.00 | 16.00 | 17.00 | 17.00 | 18.00 | 18.00 | 18.00 | 186.00 | 12.00 |
| 6 | Rehabilitation / resettlement of denotified tribes / communities involved in traditional hunting | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 23.00 |
| 7 | Research, providing equipments (camera traps, GPS, etc.), computer softwares, All India Estimation of Tiger /Co-predators/Prey Animals, habitat monitoring and evaluation | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 13.50 |
| 8 | Staff development spaces for wildlife and relocation of villagers from core or critical tiger habitats in Tiger Reserves within a timeframe and settlement of rights | 1.00 | 1.00 | 1.00 | 1.00 | 1.50 | 1.50 | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 18.50 |
| 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 | 1078.50 | 78.50 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 500.00 | 50.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5707.00 |
| 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 | 1.50 | 1.50 | 2.00 | 4.00 | 4.00 | 4.00 | 4.00 | 5.00 | 5.00 | 6.00 | 6.00 | 8.00 | 51.00 |

| S. No. | Activities \ Year | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | Total |
|--------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 11 | Safeguards / Retrofitting measures in the interest of wildlife conservation | 1.25 | 1.25 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 20.00 |
| 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 | 1.50 | 1.50 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 36.00 |
| 13 | Independent Monitoring and evaluation of tiger reserves | 0.60 | 0.60 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.10 | 1.20 | 1.20 | 11.50 |
| 14 | Establishment and development of eight new tiger reserves | 8.00 | 8.00 | 9.00 | 10.00 | 10.00 | 10.00 | 10.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 125.00 |
| 15 | Provision of project allowance to all categories of Project Tiger field staff | 3.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 60.00 | 70.00 | 70.00 | 70.00 | 70.00 | 70.00 | 713.00 |
| 16 | Staff welfare activities | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 12.50 |
| 17 | Fostering ecotourism | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 12.50 |
| 18 | Launching of M-STRIPES | 5.00 | 5.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 19.00 | 200.00 |
| 19 | Capacity-building, exchange of practices & strengthening knowledge institution. | 19.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 22.00 | 22.00 | 22.00 | 22.00 | 22.00 | 249.00 |
| 20 | Assessment of values of Tiger Reserves / Eco-system services | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 120.00 |
| 21 | Information Technology in surveillance | 15.00 | 3.00 | 20.00 | 7.00 | 20.00 | 20.00 | 20.00 | 17.00 | 20.00 | 21.00 | 20.00 | 25.00 | 208.00 |
| 22 | Smart practices / ecosystem management to address tiger concerns in semi urban areas. | 500.00 | 500.00 | 600.00 | 600.00 | 600.00 | 600.00 | 600.00 | 700.00 | 700.00 | 700.00 | 700.00 | 700.00 | 7500.00 |

| S. No. | Abstract | Total |
|--------|--|----------|
| 1 | Management & Antipoaching activities including creation of inviolate space | 7787.00 |
| 2 | Community development | 7838.50 |
| 3 | Capacity building | 317.00 |
| | Total (Rs. Crores) | 15942.50 |

