

BI-MONTHLY OUTREACH JOURNAL OF NATIONAL TIGER CONSERVATION AUTHORITY

GOVERNMENT OF INDIA



# s t r i p e s

Volume 2 Issue 4

May-June 2011



**TIGER RESERVES**



**WORKSHOP**

**BILATERAL**



**CASE STUDY**

**MANAGEMENT**



**FD - MEET**

## IN-PRINCIPLE APPROVAL ACCORDED FOR CREATING NEW TIGER RESERVES

S. No.	Name	State	Proposed Area (Sq.Km.)	Present Status
1.	Pilibhit	Uttar Pradesh	712.88	Reserved Forest
2.	Ratapani	Madhya Pradesh	793.984	Wildlife Sanctuary, RF & PF
3.	Sunabeda	Orissa	956.17	Wildlife Sanctuary & RF
4.	Mukandara Hills (including Darrah, Jawahar Sagar and Chambal Wildlife Sanctuaries)	Rajasthan	484.17	National Park
5.	Kudremukh	Karnataka	563 (core) 457 (buffer)	National Park & RF
6.	Kawal	Andhra Pradesh	892.23	Wildlife Sanctuary

## ADVISORY ISSUED TO STATES FOR SENDING THE PROPOSAL TO CREATE NEW TIGER RESERVES

S. No.	Name	State	Proposed Area (Sq.Km.)	Present Status
1.	Bor	Maharashtra	775	Wildlife Sanctuary
2.	Suhelwa	Uttar Pradesh	490	Wildlife Sanctuary
3.	Nagzira-Navegaon	Maharashtra	657	Nagzira WLS / Navegaon NP
4.	Satyamangalam	Tamil Nadu	930 (core) 565 (buffer)	Wildlife Sanctuary & RF
5.	Guru Ghasidas National Park	Chhattisgarh	1440	National Park
6.	Mhadei	Goa	208	Wildlife Sanctuary

**Workshop**  
The Thimpu  
Recommendations  
Pg 4



**Bilateral**  
Indo-Russian  
Working  
Group on  
tiger and  
wildlife  
preservation  
Pg 12

**Management**  
Best  
Management  
Practices in  
Tiger  
Conservation  
P8



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GOVERNMENT OF INDIA

S t r i p e s

n o t e f r o m t h e e d i t o r



Several important updates mark this issue. The outcome of a Practitioner's Workshop held in May, 2011 at Thimphu, Bhutan has important recommendations on land use planning and Smart Green Infrastructure. These address the policy as well as tiger conservation at landscape levels, covering hydro power development, roads and sustainable tourism. It is important that conservation should not be interpreted or viewed as a drag on development.

The country level meeting of Field Directors in May, 2011 provided an opportunity to field managers for sharing their best practices. Every manager had an innovative practice to offer. The future course of action for Phase-IV of the reserve level tiger monitoring was firmed up, besides sharing the findings of the Management Effectiveness Evaluation.

Rhino reintroduction in Dudhwa has been a success story. This initiative was undertaken way back in 1984 with a founder population of 7 rhinos. The population

has now increased to 31. There are also frequent instances of rhinos traversing the area from the adjoining forests of Nepal.

A Russian delegation visited India in May, 2011, as a part of the Working Group on tiger and wildlife preservation set up during the last meeting of the India-Russia Inter Governmental Commission on Trade, Economic, Scientific, Technological and Cultural Cooperation (IRIGC-TEC). The delegation interacted with the NTCA officials, besides visiting the Wildlife Institute of India and the Corbett Tiger Reserve.

The report on implementation of the Resolution 12.5 of CITES (COP-15) on Conservation of Trade in tigers and other Appendix I Asian Big Cat Species was sent to the CITES Secretariat.

An interesting update from the Nagarjunasagar Srisailem Tiger Reserve of Andhra Pradesh on involvement of 'Chenchus' in protecting the habitat is also included in this issue.

**Dr Rajesh Gopal / Member-Secretary, NTCA**

# THE THIMPHU RECOMMENDATIONS ON SMART GREEN INFRASTRUCTURE IN TIGER CONSERVATION LANDSCAPES

Thimphu, Bhutan, May 30 - 31, 2011

On May 30 - 31, 2011, in Thimphu, Bhutan, representatives from diverse ministries, civil society, and the private sector in Bhutan, national experts from other Tiger Range Countries (TRCs) and international experts met to discuss how to ensure tiger conservation amid accelerating development pressures in tiger conservation landscapes (TCLs). The outcome of 'Smart Green Infrastructure in Tiger Conservation Landscapes: A Practitioner's Workshop', which was jointly organized by the Royal Government of Bhutan and the Global Tiger Initiative, is a set of recommendations for planning and implementing Smart Green Infrastructure (SGI) tools with application to land use planning, hydroelectric power, roads and ecotourism development that can potentially impact TCLs. These recommendations may have wide applicability in TRCs.



## RECOMMENDATIONS ON LAND-USE PLANNING

### Recommendations at the policy level

- Develop TCL Master Plans encompassing core habitats, buffer zones, corridors and the wider production landscape to ensure inviolability of core habitats and compatible land use in the remaining landscape under available national or subnational land use policies or relevant physical/spatial planning acts.
- Adopt comprehensive national physical/spatial

planning legislation wherever enabling land use planning legislation is absent to ensure hierarchical land use planning covering economic, social, environment and natural resource conservation, as well as infrastructure and urban and rural development.

- Include SGI principles in environmental compliance legislation through the development of tools and guidelines.
- Finance the incremental cost of SGI through the design and adoption of innovative business models building on the notion of Corporate Environmental Responsibility and offset banking, including include



economic and ecosystem valuation methodologies to support SGI.

### Recommendations at the TCL level

- Adopt core principles of SGI, i.e. that tiger range areas are inviolate and that infrastructure in the remainder of the landscape incorporates engineering solutions for biodiversity.
- Prepare an annual State of the TCL Report based on a transparent monitoring framework using the best available science to report on changes in tiger habitat. This Report will also build awareness of SGI principles and hold stakeholders accountable for

their actions to implement these principles.

- Share responsibility for ensuring SGI across public agencies, the private sector, and civil society. Conserving tiger landscapes is not the sole responsibility of forest and wildlife departments, but a shared responsibility. Human capital and technical capacity to design, implement and supervise SGI must be built within infrastructure, planning and financial institutions. All sectors must contribute the resources necessary for this.

- Identify and map critical biological/ecological corridors linking TCLs and linking tiger habitats within TCLs. Their management must be mainstreamed in both land use planning and TCL master plans to ensure tiger mobility while allowing for sustainable livelihoods and smart green infrastructure.

- TRCs, including Bhutan, are undergoing an intensive pace of urbanization. Cities are expanding and mushrooming in an unregulated manner. It is critical to regulate unplanned urban sprawl through a strict compliance with land use planning and zoning and to contain the ecological footprint of cities, particularly those in the contiguities of TCLs and other sensitive and high value ecosystems.

### RECOMMENDATIONS ON HYDROPOWER DEVELOPMENT

- Develop an overall hydropower development strategy that takes into account sensitive environmental areas, including core tiger breeding zones.

Such a strategy should build on Strategic Environmental Assessment of the hydropower sector and make upfront choices of what, when and where projects should be developed.

- Define, delineate and designate No-Go Areas for core tiger habitats as soon as possible.
- A framework for establishing baselines environmental status and regular monitoring processes should be established and implemented.
- Institutional arrangements should be established involving national and sub-national entities, and between sectors for planning specific projects,



services provided to the project and making contributions to environmental offsets as appropriate to the project and country.

- Use independent panels on dam safety/ construction and social.environmental issues which are accountable to the government to ensure expert monitoring and establish common ground between developers and government.
- Promote the use of voluntary, industry.adopted corporate toolkits among developers for defining good practices and a framework for sustainability assessments.
- Highlight the right of Least Developed Countries (LDCs) to compensation for foregone opportunity costs of non.development in No.Go Areas in favor of Global Public Good values.



## RECOMMENDATIONS ON ROADS

### Objectives

To manage road construction, operation and maintenance to support viable populations of tigers in each landscape in which roads and their ancillary infrastructure intersect. By 2022, a demographically stable meta-population of tigers in Bhutan to co-exist compatibly with rural livelihoods.

### Building the process

Capacity-building, institutional coordination and financial resources (from partnerships, public purse, etc.) to construct, operate and maintain roads in TCLs, and supervise implementation of Environmentally-Friendly Road Construction (EFRC).

### Recommendations

- Use and enhance existing in-park road guidelines throughout TCLs to apply minimum standards to all road construction, maintenance and operation in

managing social and environmental risks and promoting adaptive management during the implementation of the project.

- Accelerate skill enhancement and human resource capacity building in order to enable the development and implementation of SGI in the hydropower sector.

„h Promote the principle of the developer meeting the full environmental and social costs of the project, including paying for the value of ecosystem



## Priority recommendations

- Develop guidelines to regulate tourism in and around TCLs.
- Include a tourism and visitor management component in all TCL Master Plans.
- Acknowledge that conservation comes first, and that sustainable tourism is a tool to help fund TCLs, not a panacea for protection.
- Develop tourism

TCLs. (Lead responsibility: Department of Forests and Park Services)

- Develop monitoring tools/indicators for supervising implementation of guidelines in EIA process. This should include developing the unit cost of environmental specifications, including supervision and monitoring. These tools would apply to both contractors in their EMPs and agencies that supervise road operation and maintenance following the construction phase. (Lead responsibility: Department of Roads with Department of Quality and Standards).

- Distill lessons learned from pilot approaches in the ongoing national highway project.

- Develop bidding documents that capture the unit cost of environmental mitigation and monitoring as part of the submitted bid (estimate/km). (Lead responsibility: Ministry of Finance).

- Clearly map and instill mitigation measures with principles of avoidance and SGI to existing and proposed infrastructure in TCLs to maintain tiger populations. This needs to link with Master Plans for TCLs and be integrated into the National Road Plan.

## RECOMMENDATIONS ON SUSTAINABLE TOURISM OBJECTIVE

To promote sustainable tourism in TCLs, recognizing that controlled and managed tourism can help support and protect globally significant biodiversity, tigers and their habitat.

as a complementary rather than an alternative livelihood for rural communities in and around TCLs.

- Maximize the use of smart green technologies in all tourism facilities (e.g. buildings, water supply, waste management, renewable energy, etc.).

- Recognize that commercial viability is vital for the sustainability of private sector and other partners who manage tourism operations.

- Enforce legal regulations and zoning to control ad hoc private sector development in and around TCLs. Building the process

- Capacity building, institutional coordination and financial resources for SGI to facilitate sustainable tourism in and around TCLs.

- Build community and host capacity to engage in responsible tourism, to reap livelihood benefits, and to manage financial flows in and around TCLs.

- Forge partnerships among TCL tourism stakeholders to ensure coordination and responsible stewardship.

- Develop interpretation and guide standards for each TCL to enrich visitor experience and create awareness of conservation issues.

- Develop products and amenities to match the range of target market segments (high end to budget, including domestic) in and around TCLs.

- Be careful not to raise tourism and conservation expectations at a community and national level that cannot be met.

- Develop indicators to monitor and evaluate visitor impacts in TCLs.

FIELD DIRECTORS MEET

## BEST MANAGEMENT PRACTICES IN TIGER CONSERVATION

A workshop and meeting of Field Directors on "Best Management Practices in Tiger Conservation" was held from 9 to 11, May, 2011 at the India Habitat Centre, New Delhi. Field Directors from 37 tiger reserves, Chief Wildlife Wardens (CWLW) from 10 tiger states and scientists from the Wildlife Institute of India (WII) participated in the same, besides Shri Bijendra Singh, and Shri Samar Singh, member of the National Tiger Conservation Authority (NTCA).

The workshop was inaugurated and chaired by Shri Jairam Ramesh, Minister for Environment & Forests.

Several issues relating to field management were discussed, which, inter alia included protection, habitat management, creation of inviolate space in core areas, compliance matter, exchange of best practices draft guidelines/protocol relating to creation of new tiger reserves, village relocation and ecotourism.

The deliberations focussed on initiatives required to strengthen tiger conservation vis-à-vis the recent (2010) country level estimation of tiger and evaluation of its habitat status. The "normalization" of the independent 'Monitoring and Evaluation' of tiger reserves with the tiger status, and the new day-

to-day tiger monitoring system 'm-stripes' were also discussed. **The following decisions emerged from the workshop:**

1. Phase-IV of the country level tiger monitoring would commence from 1/11/2011. The National Tiger Conservation Authority & Wildlife Institute of India would decide a uniform protocol, facilitate, train & provide a panel of outside experts to be involved in the same. The Phase IV consists of protocols that permit the intensive annual monitoring of important source populations of tigers i.e. primarily tiger reserves. The methodology consists of annually conducting camera trap based population estimation in a



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closed population framework using mark-recapture models. The area coverage is over 400 sq. km (preferably entire Tiger Reserve) with a camera density of 25 double sided cameras per 100 sq km and a minimum effort of 1000 trap nights per 100 sq km. Between years, analysis would be done using open population models so as to estimate survival, recruitment, emigration, and mortality parameters. These parameters are crucial for understanding site specific dynamics of tiger populations for long term management and conservation. Simultaneously DISTANCE sampling along line transects, established for phase I, will be conducted for estimating prey densities with a minimum of 30 spatial replicates of 2 km each and an effort of 300 km walk. The annual (each winter November - February) data collection on these

two aspects forms Phase IV of tiger status monitoring.

2. The annual monitoring under Phase-IV relating to the reserve wise tiger status would be carried out by the respective Chief Wildlife Wardens, in tiger States, who would be responsible for its implementation.
3. The 'snap shot' country level tiger estimation would be continued in an ongoing matter, as being done, with a periodicity of 4 years, covering all tiger areas. The NTCA and the WII would be responsible for its implementation, in collaboration with States.
4. All technical publications / data relating to tiger estimation/ conservation would be placed in the public domain by the end of June, 2011.
5. The 'Management Effectiveness Evaluation' (MEE) outcome and its 'normalisation' process, besides the

carrying capacity of each reserve relating to tiger, would be circulated to States by the NTCA for their comments within a month.

6. Special initiatives would be taken to strengthen the management in problematic reserves like Indravati, Similipal, Palamau and Nagarjunasagar-Srisailem Tiger Reserves.
7. A separate meeting would be convened, involving officials from Bangladesh, to discuss the refinement of tiger estimation process in Sunderbans.
8. Mobile Patrolling Chowki (on vehicle) may be deployed, wherever necessary.
9. The last date for submission of nominations for award on the best practices in the tiger conservation is extended to 30th June, 2011. The awards would be given to tiger reserves, and not to individuals.



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CASE STUDY: RHINOCEROS RE-HABILITATED IN A TIGER RESERVE

# Successful Re-introduction and Re-habilitation of Great One-horned Rhinoceros, Dudhwa National Park, UP

Shailesh Prasad, IFS & Sanjay Kumar, IFS



The journey continues and yes, it is continuing successfully. This journey began long back in the year 1984 with seven members and still the number is increasing. This is the success story of one of the most successful re-introduction / rehabilitation programme of any wild animal in India. The one horned Rhinoceros, scientifically known as *Rhinoceros unicornis* was re-introduced in Dudhwa National Park of State of Uttar Pradesh in 1984 and they are rehabilitated well.

The rehabilitation saga started with the thought process in the minds of the then policy makers after getting the information that this wild beast roamed around the areas of Dudhwa in the Nineteenth century and due to reckless poaching vanished from there. With this information in mind, a feasibility study was done and the area was found to be appropriate for the re-introduction of Rhinoceros. Now, the challenge ahead was to bring Rhinoceros from elsewhere. There were two options- one state of



km. wide) with a perimeter of 24 kms. This area was demarcated and fenced with metal wires in four rows, supported with wooden posts and energized by solar energy to check movement of Rhinos outside the fenced area. Living inside the prime area of Dudhwa National Park and enjoying maximum protection, they have bred very well. Every year, there is arrival of one or two new members and currently with the arrival of one new member in the month of May- June, the total number has reached to the level of 31.

In order to protect them well, regular patrolling & monitoring of the area is done with the help of Elephants and departmental vehicles. There are six elephants, namely Roopkali, Pushpakali, Pawankali, Pakhri, Sundar & Bataliq with a set of Mahaout and Chara-

Assam in India & another Bardia or Shukla Phanta Reserve in Nepal.

With the active support of the then Prime Minister of India, Mrs. Indira Gandhi and the agreement of Governments of both the States, 6 Rhinos were picked up from Pavitara WLS of Assam and were brought to Guwahati zoo for further transportation. One female Rhino died there. Out of 5 Rhinos, 2 were male and three were female. Out of the three females, two died before the programme started. This was a precarious situation and only one female was left. This would have proved to be a setback but thanks to the agreement made with Govt. of Nepal, the Dudhwa Park Administration got 4 female Rhinos from Shukla Phanta Reserve of Nepal in lieu of 16 elephants. Now, the seed population became 7 with 5 females and 2 males.

The major challenge now was how to keep this small population protected in such a huge area; their day to day monitoring, their up-keeping. The vegetation of the area was very much similar to other Rhinoceros habitat of the country with the exception of woodland dominated by Sal trees interspersed with *Tiliacora acuminata* at the ground floor. The area selected was a miniature of Dudhwa National Park, an ideal mix of grassland, woodland and wetland. Two base camps of Rhinoceros Rehabilitation Area are in the South Sonaripur range, one at Salukapur and other at base camp.

The area selected was 27 sq. km. (9 km long and 3

cutter on each elephant. They're the main show managers. Daily monitoring is done with their active help. The presence of particular Rhino is noted down and the compiled record of their sighting is sent to the Divisional as well as Circle headquarters every fortnight. To keep the energy flow in the fencing trouble free, 8 fence-watchers render their services day and night. The grasses below the first line of wire are cut regularly to avoid any short circuit. Entire fencing is visited on a daily basis by the fence watchers and any damage to the fence is reported immediately to the Range as well as Division HQs, which in turn gets it repaired immediately.

This re-introduction and re-habilitation programme becomes more special as it is happening inside a 'Project Tiger' Area, where the main focus is on Tiger & Swamp deer, which are the two most important flagship species. The aspect which is even more heartening is the fact that with the stringent protection in this area, it is an ideal breeding ground for Tigers. In the year 2010-11, this area was home to two Tigresses, one with two cubs and another with four. At times, 6-7 tigers/ tigresses share the fenced area. Besides, this is the centre of attraction for tourists, who always wish to visit this area on elephant back.

So, this is India's one of the most successful Re-introduction/ Rehabilitation Programme, which needs to be emulated elsewhere, wherever it is possible. The saga continues and continues further.....

# INDO-RUSSIAN WORKING GROUP ON TIGER AND WILDLIFE PRESERVATION



During the last meeting of the India - Russia Inter Governmental Commission on Trade, Economic, Scientific, Technological and Cultural Cooperation (IRIGC-TEC) held at New Delhi on 19th November, 2010, discussion was initiated on setting up a Working Group on tiger and wildlife preservation. Having agreed to do so, by the both sides, a Russian Delegation visited India on May 24-26, 2011. The theme of the visit was monitoring of the tiger population and protection.

The initial introductory meeting took place in the conference hall of the NTCA on May 24, 2011. The meeting started with welcome remarks from Dr Rajesh Gopal followed by an introduction of the delegation of both sides. Dr Gopal presented the initiatives taken by the Government of India on tiger conservation, core-buffer and corridor strategy, anti-poaching activities and surveillance. He stated the history of Project Tiger and its journey till date. The results of all India tiger estimation with the refined scientific methodology of double sampling using camera traps, comparison of the 2008 and recent 2010 estimates were explained.

The presentation was followed by a discussion on tiger conservation strategy in both countries.

On May 25, 2011, presentations were made by Scientists of the Wildlife Institute of India (WII) on activities of the WII, tiger reintroduction and tiger estimation methodology. Dr Naidenko Sergey gave a

presentation on tiger monitoring by radio collaring of tigers, genetic analysis, process of tiger estimation in Russia, stress analysis and diseases of tigers.

After the presentations, the delegation moved to Kalagarh (Corbett Tiger Reserve), had excursion in the Tiger Reserve and interaction with the local officers.

On May 26, 2011 the delegation returned to New Delhi and had meeting with the Indian side on bilateral cooperation in tiger conservation.

The agreed areas of cooperation are as under:

1. Scientific field:
  - a) Cooperation on non-invasive research methodology, genetic studies and DNA extraction from the old scats.
  - b) Hormonal estimation
2. Tiger reintroduction and rehabilitation
3. Monitoring and surveillance of long ranging tigers, electronic surveillance of tiger reserves.
4. Training and capacity building of Field Officers/Specialists in India and vice versa.
5. Landscape planning and smart green infrastructure in the tiger landscape.
6. Cooperation on anti-poaching strategy & planning.
7. Management interventions for model ecosystem for tiger and their comparison from India.
8. Exchange officers to share experience on good practices in the tiger conservation.

# REPORT ON IMPLEMENTATION OF THE RESOLUTION CONF. 12.5 (REV. COP 15) CONSERVATION OF AND TRADE IN TIGERS AND OTHER APPENDIX-I ASIAN BIG CAT SPECIES



N.S.DUNGRIYAL

The Government of India is seized up with the challenges facing tiger conservation, and has taken many initiatives in an ongoing manner to save the tiger. However, the status of tiger continues to be endangered, and the Government of India is providing assistance to the 17 tiger States under the Centrally Sponsored Scheme of Project Tiger for tiger conservation in

designated tiger reserves. Besides, several milestone initiatives have also been taken to strengthen tiger conservation based on the recommendations of the Tiger Task Force, which was constituted by the National Board for Wildlife, in the wake of tigers getting locally extinct in Sariska.

As per the findings of the first All India Tiger Estimation in 2008, using the refined scientific

methodology of double sampling, the total country level population of tiger was 1411 (mid-value) the lower and the upper limits being 1165 and 1657 respectively. These new findings were 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.



N.S.DUNGRİYAL

As per the findings of the 2nd All India Tiger Estimation in 2010, using the refined scientific methodology of double sampling, the total country level population of tiger is 1706 (mid-value) the lower and the upper limits being 1571 and 1875 respectively. The positive trends in tiger population estimates in source sites are encouraging. However, the area occupied by tigers outside protected areas has reduced marginally. This highlights the need for securing buffer and corridors for tiger to ensure gene flow across source sites. 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.

The challenges facing tiger conservation, inter alia, include poaching, degradation of forest status outside tiger reserves and protected areas due to human pressure, livestock pressure, revenge killing and ecologically unsustainable land-uses.

The findings of the recent All India Tiger Estimation in the geographical information system domain have provided knowledge of the status of existing source population of tiger and its

habitat. This has enabled notification of core/critical tiger habitats apart from identifying sensitive corridors, State-wise.

#### **Tiger mortality during the year 2010:**

- (i) Total number of deaths: 53
- (ii) Inside tiger reserve: 29 (9 deaths due to poaching)
- (iii) Outside tiger reserve: 24 (16 deaths due to poaching)

#### **MILESTONE INITIATIVES TAKEN FOR TIGER CONSERVATION: LEGAL STEPS**

■ Amendment of the Wild Life (Protection) Act, 1972 for providing enabling provisions for

constitution of the National Tiger Conservation Authority and the Tiger and Other Endangered Species Crime Control Bureau.

■ Enhancement of punishment in cases of offence relating to a tiger reserve or its core area.

## ADMINISTRATIVE STEPS

■ Strengthening of antipoaching activities, including special strategy for monsoon patrolling, by providing funding support to Tiger Reserve States, as proposed by them, for deployment of antipoaching squads involving ex-army personnel / home guards, apart from workforce comprising of local people, in addition to strengthening of

communication / wireless facilities.

■ Constitution of the National Tiger Conservation Authority with effect from 4.09.2006, for strengthening tiger conservation by, interalia, ensuring normative standards in tiger reserve management, preparation of reserve specific tiger conservation plan, laying down annual audit report before Parliament, constituting State level Steering Committees under the Chairmanship of Chief Ministers and establishment of Tiger Conservation Foundation.

■ Constitution of a multidisciplinary Tiger and Other Endangered Species Crime

Control Bureau (Wildlife Crime Control Bureau) with effect from 6.6.2007 to effectively control illegal trade in wildlife.

■ The revised Project Tiger guidelines have been issued to States for strengthening tiger conservation, which apart from ongoing activities, interalia, include funding support to States for enhanced village relocation/ rehabilitation package for people living in core or critical tiger habitats (from Rs. 1 lakh/ family to Rs. 10 lakhs/ family), rehabilitation/ resettlement of communities involved in traditional hunting, mainstreaming livelihood and wildlife concerns in forests

N.S.DUNGRYAL



outside tiger reserves and fostering corridor conservation through restorative strategy to arrest habitat fragmentation.

■ A scientific methodology for estimating tiger (including co-predators, prey animals and assessment of habitat status) has been evolved and mainstreamed. The findings of this estimation/assessment are benchmarks for future tiger conservation strategy.

■ India has 40 tiger reserves, spread over approximately 45000 sq.km. area. An area of 32578.78 sq. km. has been notified by 16 Tiger States (out of 17) as core or critical tiger habitat under section 38V of the Wildlife (Protection) Act, 1972, as amended in 2006 (Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Orissa, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal). The State of Bihar has taken a decision for notifying the core or critical tiger habitat (840 sq.km.).

■ The "in-principle" approval has been accorded by the National Tiger Conservation Authority for creation of five new tiger reserves, and the sites are: Kudremukh (Karnataka), Pilibhit (Uttar Pradesh), Ratapani (Madhya Pradesh), Sunabeda (Orissa) and Mukundara Hills (including Darrah, Jawahar Sagar and Chambal Wildlife Sanctuaries) (Rajasthan). Besides, the States have been advised to send proposals for declaring the following areas as Tiger Reserves: (i) Bor (Maharashtra), (ii) Suhelwa (Uttar Pradesh), (iii) Nagzira-Navegaon (Maharashtra) and (iv) Satyamangalam (Tamil Nadu).

## FINANCIAL STEPS



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■ Financial and technical help is provided to the States under various Centrally Sponsored Schemes, viz. Project Tiger and Integrated Development of Wildlife Habitats for enhancing the capacity and infrastructure of the States for providing effective protection to wild animals.

## INTERNATIONAL COOPERATION

■ India has a Memorandum of Understanding with Nepal on controlling trans-boundary illegal trade in wildlife and conservation, apart from a protocol on tiger conservation with China. The process is on for similar protocols with neighbouring Tiger Range Countries like Bhutan, Bangladesh and Myanmar.

■ A Global Tiger Forum of Tiger Range Countries has been created for addressing international issues related to tiger conservation.

■ During the 14th meeting of the Conference of Parties to CITES, which was held from 3rd

to 15th June, 2007 at The Hague, India introduced a resolution along with China, Nepal and the Russian Federation, with directions to Parties with operations breeding tigers on a commercial scale, for restricting such captive populations to a level supportive only to conserving wild tigers. The resolution was adopted as a decision with minor amendments. Further, India made an intervention appealing to China to phase out tiger farming, and eliminate stockpiles of Asian big cats body parts and derivatives. The importance of continuing the ban on trade of body parts of tigers was emphasized.

## REINTRODUCTION OF TIGERS

■ As a part of active management to rebuild Sariska and Panna Tiger Reserves where tigers have become locally extinct, reintroduction of tigers / tigresses have been done.

■ Special advisories issued for in-situ build up of prey base and



tiger population through active management in tiger reserves having low population status of tiger and its prey.

## CREATION OF SPECIAL TIGER PROTECTION FORCE (STPF)

■ The policy initiatives announced by the Finance Minister in his Budget Speech of 29.2.2008, interalia, contains action points relating to tiger protection. Based on the one time

option-II, with scope for involving local people.

■ In collaboration with TRAFFIC-INDIA, an online tiger mortality/ crime data base ([www.tigernet.nic.in](http://www.tigernet.nic.in)) has been launched, and Generic Guidelines for preparation of reserve specific Security Plan has been evolved.

## RECENT INITIATIVES

■ Implementing a tripartite MOU

addressed at the level of the Minister of State (Independent Charge) for Environment and Forests on urgent issues, viz. implementation of the tripartite MOU, creation of the Tiger Conservation Foundation, stepping up protection etc.

■ Chief Ministers of States having tiger reserves affected by left wing extremism and low population status of tiger and its prey addressed for taking special initiatives.

■ Steps taken for modernizing the infrastructure and field protection, besides launching 'M-STripes' for effective field patrolling and monitoring.

■ Steps taken for involvement of Non-Governmental Experts in the ongoing all India tiger estimation.

■ Initiatives taken for improving the field delivery through capacity building of field officials, apart from providing incentives.

■ Steps taken for the independent Monitoring and Evaluation of tiger reserves.

■ Action initiated for using Information Technology to strengthen surveillance in tiger reserves.

■ Providing special assistance for mitigation of human-tiger conflicts in problematic areas.

■ As an outcome of the fourth Trans-border Consultative Group Meeting held in New Delhi, a joint resolution has been signed with Nepal for biodiversity / tiger conservation.

■ An Indian Delegation visited China (April, 2011) to strengthen bilateral cooperation on tiger conservation.

■ A 'Sub-Group' for cooperation on tiger and leopard conservation has been constituted with Russia.

■ India strongly supported creation of the South Asia Wildlife Enforcement Network (SAWEN).

N.S.DUNGRIYAL



grant of Rs. 50.00 crore provided to the National Tiger Conservation Authority (NTCA) for raising, arming and deploying a Special Tiger Protection Force, the proposal for the said force has been approved by the competent authority for 13 tiger reserves. Since then, the guidelines of the STPF have been revised for deploying forest personnel in place of Police as an

with tiger States, linked to fund flows for effective implementation of tiger conservation initiatives.

■ Rapid assessment of tiger reserves done.

■ Special crack teams sent to tiger reserves affected by left wing extremism and low population status of tiger and its prey.

■ Chief Ministers of tiger States

NAGARJUNASAGAR SRISAILAM TIGER RESERVE, ANDHRA PRADESH.

# Protection of the Tiger and its habitat through Effective Human Resource Management

**L**argest among the Tiger Reserves of India with an area of 3568 Sq.kms, the Nagarjunasagar - Srisailam Tiger Reserve (NSTR) is located in the Central part of Andhra Pradesh in Nallamalais of the Central Eastern Ghats. Adjacent to it in the southern side an area of 1195 Sq.Kms of the Gundla Brahmeswara Wildlife Sanctuary is appended as the extended core and the buffer (1237 Sq Km.) to NSTR raising the area to 6000 Sq Kms. This area is decorated with rich Bio-diversity. The faunal diversity include Tigers and its Co-predators like Wild Dogs, Panthers, Wolves etc., and the large prey species like the Spotted deer, the Wild boar, the Sambar, the Nilgai, Four-horned Antilopes etc., At present the sanctuary accommodates villages within and outside to it. The primitive tribe the Chenchu of Nallamalais resides mostly inside the Sanctuary and few in the fringes. Several stakeholder developmental agencies like Roads and Buildings, Integrated Tribal Development Agency, Irrigation, Temple authorities and Electricity Department share the area. As such the problems concerning the sanctuary is very complex. The protection of the habitat is a matter of concern. Earlier the influx of naxals was hindrance for the management of the wildlife and its habitat. Only one case of organized poaching by Bahelia group was reported which was curbed with iron fist before they could do any harm to the wildlife. Thanks to our army of

Chenchu tiger brigade, who could detect and made them surrender to us.

## PROBLEMS & EFFECTIVE MITIGATION

The acute shortage of trained frontline staff to manage the too large an area is our primary concern. Further, the overlapping priorities of different stake holder departments impeding the conservation programmes. Added to that, severe man-animal conflicts earlier set the Tiger Reserve vulnerable to many threats in past resulting the drastic decline of the tiger population. In order to cope up with the problems raised above A.P Forest department hired the services of the young Chenchus for the protection of forests and the wildlife. Further the management efficacy has been accentuated through various capacity building trainings to the staff and chenchu brigade for the simultaneous handling of multifarious activities. Absorbing the Chenchu Tribes in to the management of the Tiger Reserve, as a big break through to some of the pertinent issues over decades have brought back the management on comfortable position

## CHENCHUS AS SAVIOURS OF THE TIGER

Chenchus are classified as the 'Primitive Tribal Group' because of their pre-agricultural level of life, subsistence way of economy and their reliance on the forests for food gathering, hunting and

collection of NWFP. There are about 120 Chenchu settlements in the fringe area of the Project Tiger and around 24 settlements in the core area. Chenchus for most part of the year, they collect a variety of foods direct from the forest and as summer approaches the food gatherers become food earners by working in forestry works securing daily wages from the Forest Department. At this time their diet shifts from wild tubers, leafy vegetables, etc., to coarse rice consumed as cooked rice or gruel with tamarind and wood ash. Their habit of trekking through the undulating, inhospitable landscape and intimate knowledge of forests and wildlife of Nallamalai where the Tiger Reserve falls has encouraged the project authorities to utilize them for the purpose of conservation and development. Now there are about 300 such Tribals working in the different capacities of Protection Watchers / Tiger Trackers in the project under different schemes like CAMPA, Project Tiger, 12th Finance Commission and related Protection and Wildlife Schemes. They have been allotted systematic duty charts like perambulation patrolling vulnerable forest areas ensuring forest protection through monitoring of water holes, movement of carnivores, herbivores, collection of scats, to detect snares and traps etc., During fire season their duty shift towards fire fighting and patrolling in fire prone areas. Most of them are manning the Base camps in interior forests in inhospitable

## Best practices adopted in N.S.T.R. by inducting the Chenchus to Tiger Reserve



Chenchus During interaction



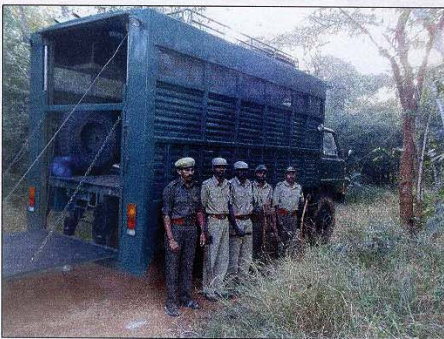
Chenchus Brigade at base Camp



Chenchus on monitoring Tigers and collection of evidences



On foot Patrolling



Manning Mobile base camp



Chenchus converted as formidable Tiger protection force

terrain, protecting the forests and wildlife wealth. Forest Department has provided them with facilities like Uniform, Ration, Medicine and lighting facilities at the Base camps. Their works are thoroughly reviewed through interaction

and necessary steps taken to improve different aspects on protection and development. Motivation and training has made them a formidable force against poaching and smuggling.

The presence of Chenchu Tribes as Tiger Trackers is of

immense help to the Tiger Reserve because of their slim physique, knowledge of the terrain, dedication for forests and wildlife protection. They substitute the large number of staff requirement to manage large and inhospitable terrain. In addition to that they always move with bow and arrow and skill at using them with high precision has become the substitute for the gun and rifle. Various trainings imparted to them, made them extremely capable in handling protection and management related problems. Now they have become an integral part of protection and habitat management issues to the Tiger Reserve. Because of their induction, the inadequacy in staff strength has been tackled successfully. Being the local tribes living in symbiosis with nature within Tiger Reserve they have developed a strong sense of belongingness and ownership for the Tiger Reserve. Their involvement in Tiger protection has been highlighted in many forums and decorated with the Wildlife Service Award by the Sanctuary Asia and the Royal Bank of Scotland.

The challenges and inadequacies faced, earlier, have successfully been mitigated by inducting the Chenchus as formidable tiger protection force cum tiger monitoring team which reduced the burden of protection in naal prone and inhospitable areas for the frontline staff by way of protection, development, and adding strength to the management. Results are visible in terms of improved habitat condition, increased number of breeding pairs as evident from the recruitment of the new cubs.

