

LANDSCAPES OF HOPE

CONSERVATION OF THE TIGER, RHINO AND THE ASIAN ELEPHANT

**A Review of WWF-India's
Species Conservation Programme**



WWF *for a living planet®*

**WWF-INDIA
DECEMBER, 2007**

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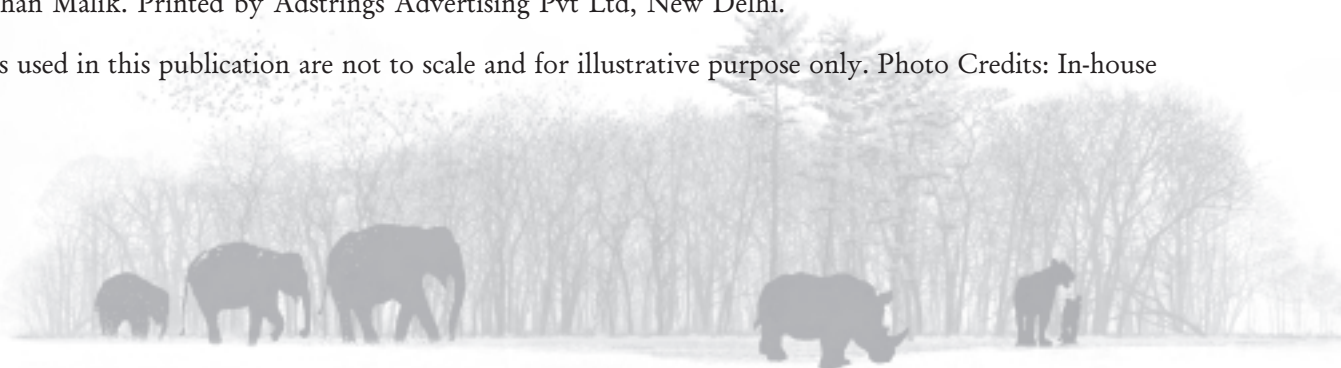
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December 2007

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*This publication
is dedicated to the memory of*
Pankaj Sarmah

A committed worker of the North Bank Landscape Programme,
he knew how to follow, he knew how to lead



Mr Pankaj Sarmah was very well known among conservationists and researchers working on Asian elephants. In North East India, he was among the first to establish a scientific basis for conservation of elephants and was highly respected for it. His work has been appreciated in India and abroad.

He joined WWF India in 21 June 2001 at a time when WWF was initiating its work on conservation of Asian elephants in North Bank Landscape (NBL) in NE India. Information on elephants in NBL at that point of time was negligible and at best anecdotal. His initial work on elephants not only generated scientific data on the state of elephants but also helped establish NBL as an entity, which has now become a globally recognized name. He worked with meagre resources of the just initiated NBL project under very tough field circumstances which included a deteriorating law and order situation in Assam and hostile forests infested by a host of diseases.

Pankaj Sarmah's work, as we see in NBL today, is primarily responsible for establishing commitments on elephant conservation from a large body of researchers, conservationists and the Government. His pioneering work also created benchmarks on field based research and conservation for others to follow in the region.

Pankaj was able to give a new vision to WWF AREAS NBL project. He proved to be a leader by example, which helped develop confidence of not only of his colleagues, but also the Government functionaries and communities living in and around elephant habitats.

Most recently, he was instrumental in forming the Manas Conservation Alliance, a coalition of NGOs and individuals committed to conserving Manas National Park. He represented WWF in several symposia, seminars and workshops with in India and abroad.

He had a very positive attitude and an exceptionally cheerful nature and a unique ability to reach out to people at different levels. He chose to be in conservation at very early age in his life and stuck to his conviction till the end. He was passionate to the cause of conservation. His loyalty to the organisation was unmatched during his life long tenure with WWF.

Pankaj Sarmah fell prey to cerebral malaria while in the field and succumbed to it on the 3 October 2006. He was born on the 27th February 1976, did his masters from Guwahati University and was working for a PhD on elephants in Assam.



FOREWORD

A few years ago WWF-India brought out the *Road to Redemption* which traced the history of our Species Conservation division's work from its inception in the mid-90s. In 2002, WWF-India adopted the landscape approach in its overall strategic thinking. This involved a huge shift; from strengthening enforcement capacity in select protected areas to working in larger regions with a string of protected areas that could be connected to ensure a large safe habitat for wildlife. It meant working with communities living in and on the fringes of forested areas who shared the same habitat. It meant establishing rapport with them and ensuring alternative livelihoods to reduce their dependence on forests and the inevitable confrontation with wildlife. It also meant that the elements of mitigating human-wildlife conflict be brought in as one of the core aspects of our conservation work.

The present publication takes up where *Road to Redemption* ended. As the document amply brings out, the landscape approach meant a large investment in terms of time and resources in establishing field offices in critical areas to manage the landscape programmes. Acceptance by the local communities was not easy considering the socio-cultural diversity which the programme was facing. As the first phase of our initiatives have come to an end in June 2006, *Landscapes of Hope* documents the travails and challenges of our species programme. The last 4 years have taught us invaluable lessons which are being shared through this report. It is hoped this will provide a deeper insight to challenges in wildlife conservation in the context of developing an environment where both humans and wildlife can live in harmony and where india's natural heritage continues to be secured for the future.

Still this report only shows some vignettes in the entire canvas. The work of WWF-India's team goes largely unreported: the daily duty of field work, the adherence to work plans and conservation implementation, the constant dialogues planning and working initiatives. For this, the dedication of the team needs a special salute.

Ravi Singh
CEO & SG
WWF-India





PREFACE FROM THE DIRECTOR

It is my privilege to be writing this preface for two reasons. The first, that this is the first opportunity for me to talk about the exciting conservation initiatives being undertaken in the landscapes, to talk about the achievements of these programmes, and to delve upon the issue of what went right and what did not. The second, that this is a testimony to the sincere efforts of our field team, who are dedicated to conservation and draw immense satisfaction in the work they are undertaking.

This publication is being released at a time when all's not well from the conservation point of view. The recent presentation on tiger estimation only reiterates the apprehension of the conservation community: tiger numbers are precariously low and habitats are under tremendous threat. In case of elephants, the recent past has witnessed a pronounced escalation in human-elephant conflict (or maybe the correct word to be used here is Elephant-Human conflict, for it is the humans who are usurping elephant habitats) resulting in deaths of both elephants and humans. There have been several cases of rhino poaching also emphasizing the need for escalation of protection of these species. The same is the case for many other wildlife species as well.

But the scenario also demands that help and support should be given for conservation of wildlife in India from all quarters, and organizations and institutions involved in conservation should make a concerted effort to help these magnificent wildlife species survive in the wild. It provides us an opportunity to sit back and introspect to make our conservation initiatives more focussed and pointed.

The “Landscapes of Hope”, on which work was initiated during the tenure of my predecessor, Mr. P.K. Sen, has been aptly named. It is this message of “hope” that we would want to spread through this publication, and we at WWF-India are confident that a positive change is possible and we would leave no stone unturned to meet this end.

Our donors and partners need a special mention here, without the support of whom, the work in the landscapes would not have been possible. The donors and partners have never lost sight of the broad conservation issues in India. They have stood by us through thick and thin, been very understanding and accommodating, and have continuously supported these programmes on a long-term basis. They deserve credit for successes attained in our landscapes.

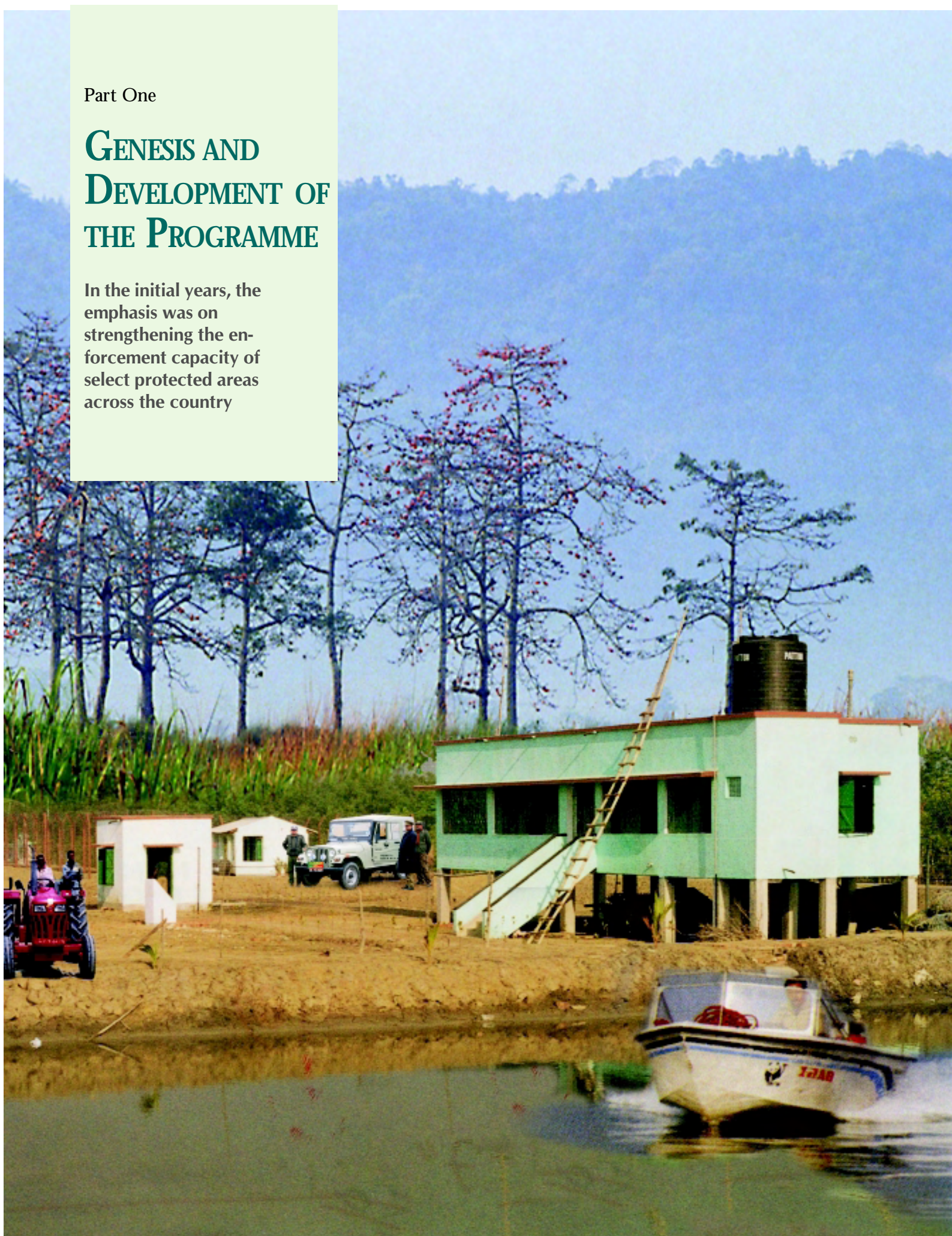
Sujoy Banerjee
Director,
Species Conservation Programme



Part One

GENESIS AND DEVELOPMENT OF THE PROGRAMME

In the initial years, the emphasis was on strengthening the enforcement capacity of select protected areas across the country



Chapter 1

THE FIRST FIVE YEARS

The tiger has always been at the centre of WWF's wildlife conservation efforts. But what is today one of the largest wildlife conservation programmes run by a non government organization, started in mid-1990 in a small way in response to the looming tiger crisis and the international attention it received. After much deliberation, a criteria was formulated, to identify and focus on certain protected areas for immediate infrastructure support and thereby strengthen their enforcement capabilities. Subsequently, initiatives to recognize and reward good work by enforcement staff, training, education and awareness were commenced.

Again in response to the situation on the ground which showed a spurt in retaliatory poisoning cases, a very important quick- response scheme – the Cattle Compensation Scheme (CCS) was begun to supplement the government's compensatory mechanism for people who lost their cattle to predated tigers.

Over the next five years, the tiger conservation programme (TCP) as it was now known, matured and evolved into one of the largest non-governmental intervention to save the tiger and its habitat. Site specific campaigns (like Akhand Shikar), legal redressal workshops, monitoring and wildlife trade related workshops, regional cooperation workshops and a tiger emergency fund (an emergency funding mechanism) a rapid response mechanism were some components that were incorporated into the programme. The mainstay of the programme continued to be direct infrastructure support to Protected Areas (PAs) which included equipment, vehicles, clothing, patrol camps and the like, and by the year 2000 over 20 PAs across the country were beneficiaries of the programme. Let us look at some of these initiatives in some detail.

» **Cattle Compensation Scheme:** Following media attention on tiger poisoning cases in Corbett and Dudhwa Tiger Reserves, TCP decided to create a system of immediate compensation payment through a network of established local NGOs after necessary verification of cattle kills. The government already had such a scheme in many areas, but the execution of scheme was slow and the amount meagre. By end January 1998, the TCP scheme was functioning in Dudhwa and in a couple of months, covered Corbett and Katarniaghat. Subsequently, with some modifications it was extended to five PAs in Andhra Pradesh, Palamau TR in Bihar and Ranthambhore TR in Rajasthan. In most cases compensation was received by the owner of the livestock in 48 hours. By December 1999, TCP



had compensated some 1260 cattle kills at a cost of approximately Rs. 12.5 lacs. This initiative had a positive impact on retaliatory killing of tigers by aggrieved villagers, particularly in the Corbett, Dudhwa, Palamau TRs and Katerniaghat Wildlife Sanctuary, as an evaluation by the WII confirmed.

» **Campaign to curb “Akhand Shikaar”:**

TCP’s attention was drawn to the ritual hunting known as Akhand Shikaar, by large tribal groups, which would peak in April-May every year and threaten the tiger’s prey base. The tribals would also burn down forest areas in an attempt to flush out animals for the ritualistic kill. To curb this practice, TCP in association with local NGOs built direct rapport with head men of three tribes – Santhal, Munda and Ho – and got their commitment against Akhand Shikaar and burning of forests. Senior tribal leaders employed in anti-poaching camps helped to influence the youth and alternatives, such as dancing competition were organized during the hunting period. Local NGOs later continued the campaign as part of their own agenda.

» **Regional cooperation workshops:** A trans-border workshop involving Nepal was organized in February 1999 to orient managers of trans-borders protected areas both in India and Nepal in an attempt to improve cross in border wildlife conservation. An action plan emerged from this deliberation to counteract poaching and illegal trade across the Indo-Nepal border through improved training, intelligence networking and funding.

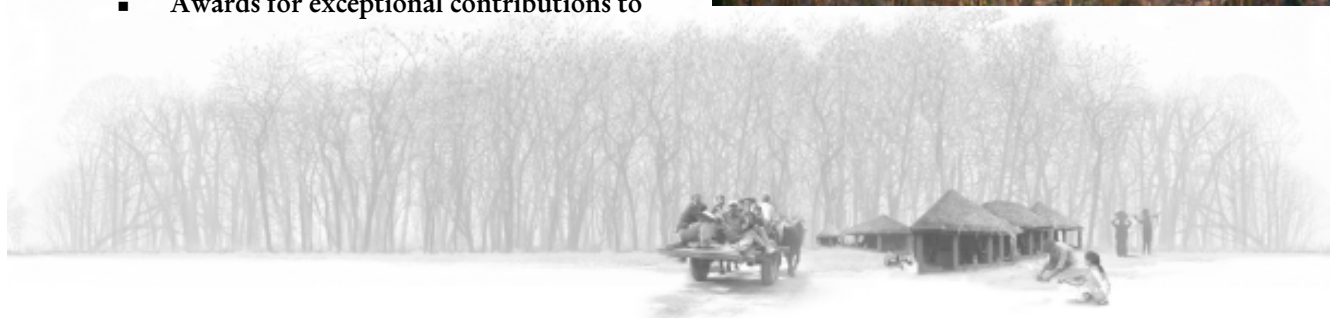
■ **Legal addressal workshops:** Workshops are held at different venues to familiarize field staff on legal procedure so as to improve conviction rate and thereby the morale of the staff.

■ **Monitoring and control of wildlife trade:** Workshops/Seminars are organized with other agencies of the government involved in monitoring and countering illegal trade in wildlife and its derivatives; support to set up intelligence networks, etc.

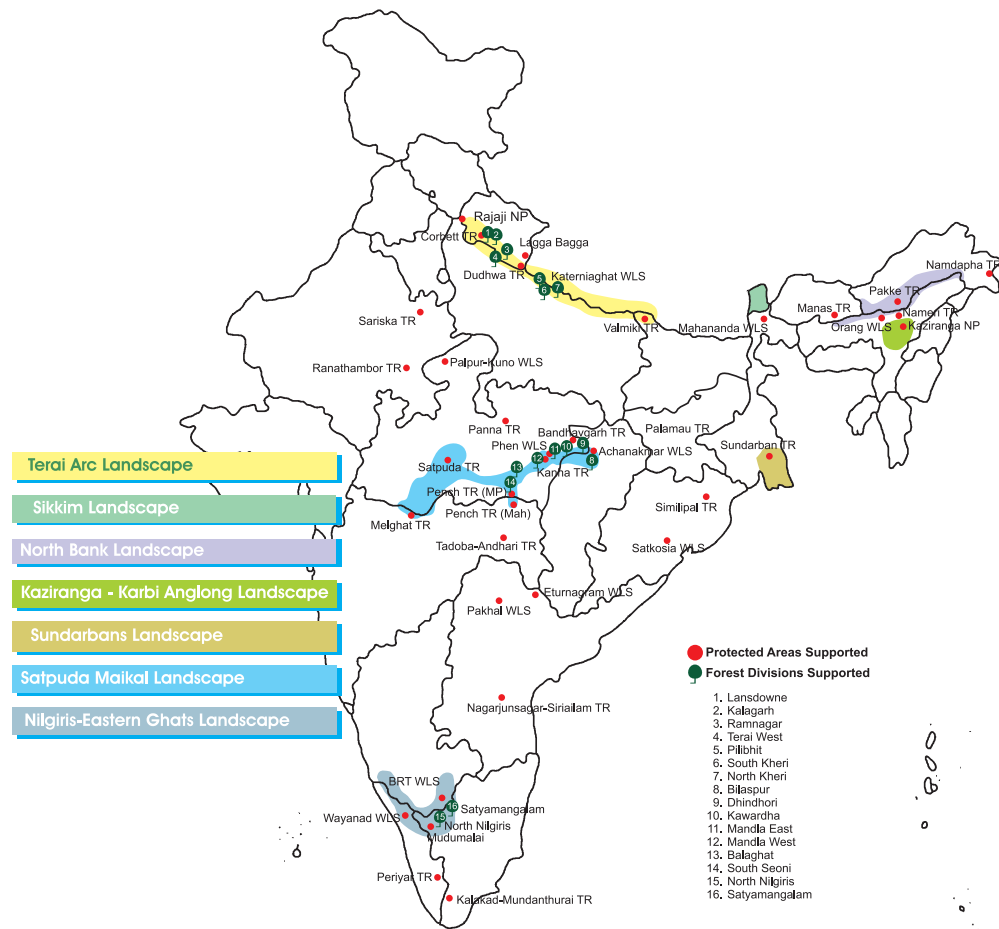
■ **Awards for exceptional contributions to**

tiger conservation: This initiative was undertaken initially by TCP alone, and later with PATA. This is a scheme to recognize meritorious service/contribution by individuals or institutions involved in tiger conservation work. Between 1998 and 2000, the awards for meritorious service were announced and presented thrice.

» **Tiger Emergency Fund (TEF):** A quick response fund was established to help in emergency situations at the field level. One of the first beneficiaries was Kaziranga National Park where devastating floods in 1988 caused havoc to wildlife and emergent support from TEF provided much needed relief measures. Subsequently the fund supported fire control in Panna, anti-poaching in Corbett and drought relief measures in Sariska and Ranthambore.



PROTECTED AREAS AND FOREST DIVISIONS SUPPORTED BY WWF-INDIA



Extremely conscious of the need to monitor and constantly reevaluate, WWF-India organized an independent evaluation of the tiger conservation initiatives in 11 PAs in 1999 itself. The experts engaged for this task provided overall a positive feedback with staff morale and efficiency showing a definite upward trend. Expectedly, there were occasional reports of misuse of vehicles, underutilization of equipment and need for further critical assistance. But nonetheless it was apparent that the programme had made an impact in the field, however small or scattered. Most of the PAs supported had managed to improve their enforcement capacity and several of them were able to tide over natural crises with emergent support from the TEF. One of the most encouraging field assessments of the programme was received in February 2003 from the Director, Project Tiger. In a letter to the programme director, he said, “Recently, I visited some of the Tiger Reserves in Central India and Maharashtra [(Kanha, Pench (MP) and Maharashtra)], and was really impressed by the support provided to these field formations by WWF-TCP. In Kanha and Pench the frontline staff have benefited from the bicycles provided to them, since they live in remote patrolling camps away from connecting roads. Likewise, the support given to Pench is also praise-worthy.

It goes without saying that such a support would go a long way in complementing the initiatives under Project Tiger and I wish to place on record my deep appreciation of your endeavour in this regard”.

On balance, it could be concluded that while WWF-India’s infrastructure support to PAs did not show results immediately in quantifiable terms, it allowed the official machinery to function better by filling in crucial gaps and enhancing the morale and efficiency of the enforcement staff. Direct support definitely contributed to curbing poaching in most of the PAs which have been beneficiaries.



Anti-poaching camps



Chapter 2:

LOOKING AT LANDSCAPES: A CRITICAL MILESTONE

Even as the tiger conservation programme continued to grow and make its presence felt in the field, the winds of change in terms of strategic vision were blowing. The WWF global tiger conservation strategy workshop held in Indonesia in September 2000, was a critical milestone in that it formalized a new vision and approach to the whole issue of tiger conservation in the long term. Small populations in isolated protected areas all over the range states, it was agreed, had a limited potential of survival over the long run, mainly due to adverse consequences of inbreeding and stifled gene pools. The areas with a certain minimum population of breeding tigresses along with a healthy component of males, sub-adults and cubs, offered the best possibilities for tiger survival. This was the underlying reason for the shift of focus from supporting scattered PAs to rebuilding and securing larger landscapes.

The document *Conserving Tigers in the Wild: WWF Framework and Strategy for Action 2002-2010* defines a tiger conservation landscape as “an area of land, regional in scale, that can support and maintain, over the long-term, a viable meta-population of tigers, linked by safe and suitable habitat, together with an adequate natural prey base”. Explaining the concept further, the document states: “On the ground, a tiger conservation landscape will often equate to a series of well managed core protected areas (national parks, wildlife sanctuaries, etc.) linked together by dedicated corridors of suitable habitat or by land-use that is tiger-friendly in its status and management.”

India has at least seven tiger landscapes that are comparable with the best in all the tiger range

Conserving Tigers in the wild: A WWF Framework and Strategy for Action 2002 – 2010

The Vision “Tigers thrive in natural habitats, and people benefit as a result”.

The Programme Goal “To conserve viable tiger populations, with public support, in the selected landscapes, and reduce trade in tiger parts and products to a level which is no longer threatening to the survival of tigers in the wild”.

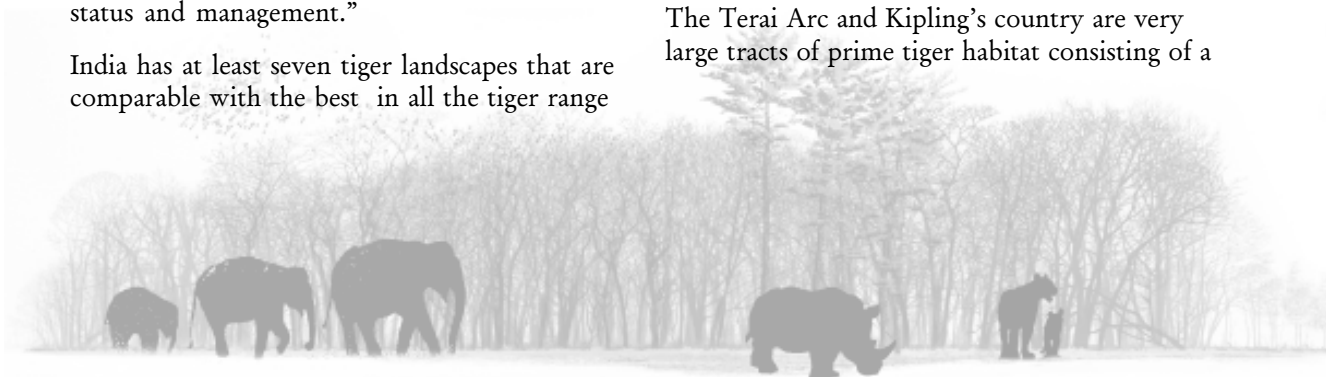
WWF Tiger Action Plan: The Targets

Target 1 To establish well managed networks of core protected areas and connecting tiger friendly buffer zones and corridors in the focal tiger conservation landscapes selected from across the tiger’s range.

Target 2 To reduce (with a view to its elimination) the trade in tiger and products to a level which no longer threatens the survival of tigers in the world.

states. However, as WWF had to make efforts to conserve all the sub species of the tiger, it selected seven different landscapes across the world. Of these, three fall within India, either completely or partially. These are the “Terai Arc,” which is shared with Nepal, the Sundarban, shared with Bangladesh, and the Satpuda-Maikal range in central India. The last is also fondly referred to as “Kipling country”.

The Terai Arc and Kipling’s country are very large tracts of prime tiger habitat consisting of a



series of protected areas interconnected through territorial forest divisions. Protected areas like Rajaji, Corbett, Dudhwa, Katerniaghat, Sohelwa, Suhagi Barua and Valmiki are covered on the Indian side under the Terai Arc Sukla Phanta, Bardia, Chitwan and Parsa are on the Nepalese side. Kipling's country comprises Melghat, Satpuda, Pench (Maharashtra), Pench (Madhya Pradesh), Kanha and Achanakmar along with the connecting forest. The Sundarbans landscape consists of the mangroves of both India and Bangladesh, an area that the considered unique as a tiger habitat.

The strategic shift and change in vision meant a change of focus in action plans as well. It was no longer enough to strengthen enforcement capabilities, contain human-animal conflict with various mitigation measures and recognize meritorious work of field staff. The vision for the next 5 to 10 years had to be concretized with active cooperation of the local people in habiting the critical landscape areas. Factors like their poverty, sources of livelihood, and their threat perception from wildlife were now to be crucial considerations in any action plan. People living in forests or in proximity to wildlife habitats were now to be both partners in, and beneficiaries of, conservation. Stakeholder workshops were planned and conducted in 2001-02 for the priority landscapes to ensure cooperation and commitment from local communities who were to be affected by the new programme thrust. Simultaneously, TCP took on a wider mandate as the Tiger and Wildlife Division incorporating a special programme for the protection of the Indian Rhino and the Asian Elephant.

Asia Rhino and Elephant Action Strategy

Apart from tigers, WWF-India expanded its landscape approach in 2000 to include the conservation of mega herbivores, the Indian Rhino and Asian Elephant. The Asian Rhino and Elephant Action Strategy (AREAS) is a WWF initiative in response to the recognition

that long-term conservation of these endangered species is only possible through a landscape-based approach that goes beyond isolated protected areas and includes the surrounding landscapes and related land-use practices. In fact this was the vision first put across in a WWF/TRAFFIC Strategy meeting held in Ho Chi Minh City in 1998. Thirteen priority landscapes addressing cross-cutting issues like trade, elephants in domestication and human-wildlife conflict were identified.

WWF-India has now a programme on the conservation of Asian elephants and Indian one-horned rhino in four identified priority landscapes in India. These are the Nilgiris-Eastern Ghats (elephants) in South India, the North Bank landscape (elephants), the Kaziranga-Karbi Anglong (rhinos and elephants) in Assam and Terai Arc (rhino and elephant) in Uttar Pradesh. Notably, these landscapes are refuge to the largest population of Asian elephants and Indian rhinos.

The two landscapes WWF-India took up in the first phase were Nilgiris Eastern Ghats (NEG) and North Bank Landscape (NBL). A brief profile of these two landscapes would be useful.

The Nilgiris Eastern Ghat (NEG) landscape, an area of over 12,000 sq kms, harbours the greatest number of Asia elephants in the world, estimated at 6,300 to 10,000, their habitats range



from evergreen and dry deciduous forest to thorn scrub jungle and grasslands. Other large mammals such as gaur, sambar and the tiger also abound in the landscape. The landscape comprises Elephant Range No. 7 of Project Elephant, a conservation project of Indian government. WWF-India's AREAS programme initially is concentrating on securing the river Moyar elephant corridor, located at the junction of Eastern Ghats and Western Ghats in the Southern part of the India. It maintains the contiguity between the Thallamalai plateau in the east, the Mudumalai Wildlife Sanctuary in the west and Bandipur Tiger Reserve in the north.

Since the landscape comprises three South Indian States (Karnataka, Kerala and Tamilnadu), the issues vary greatly. This implies the need to identify and prioritize them. The stakeholders' workshop that was held in November 2000 was organized with precisely this agenda. Apart from forest departments of the three States, the workshop was attended by research institutions, NGOs and conservation scientists. The participants listed out six major action points with the aim of reaching the following objective: "A landscape with a healthy, viable elephant population co-existing with human development aspirations in the long term."

The North Bank Landscape (NBL) is one of the most important sites for the Asian elephant. The landscape may be home to upto 3000 Asian

elephants. The ecological importance of this region goes far beyond the single species level. It is a globally recognized biodiversity hotspot and one of WWF's Global 200 eco-regions. Overlapping Manas-Namdhapa Tiger Conservation unit, it encompasses several WWF Tiger Conservation Project sites and is considered one of the key sites for WWF's strategy for eco-region based conservation. NBL includes a number of protected areas and presents an ideal opportunity for proactive conservation measures.

The North Bank Landscape project aims to secure the elephant population for the long term by maintaining habitat contiguity, significantly reducing existing and potential threats, and building professional and public support for conservation of the elephant population and its habitat.

Other Landscapes

After WWF presence was well established in NBL and NEG two more landscapes were taken up in 2005: the Khanchendzonga landscape in Sikkim with a focus on the Red Panda and Kaziranga Karbi Aglong (Assam), a haven for the larger mammals. The programme in effect, became a full-fledged Species Conservation Programme. Groundwork for both the initiatives has begun and though it is too early to make any assessment of future successes or setbacks, a brief review of the progress is given in part two of this document.



Part Two

LANDSCAPES OF HOPE : Confrontation to Co-existence

The new strategy now is to look at “an area of land, regional in scale, that could support and maintain, over the long-term, a viable meta-population of tigers, linked by safe and suitable habitat, together with an adequate natural prey base”. This automatically implies the conservation of other mega species under threat and bringing people into conservation.



Chapter 9

KAZIRANGA – KARBI ANGLONG LANDSCAPE: CONSERVATION OF LARGE MAMMALS

The state of Assam is home to the endangered Asian elephant, one horned rhinoceros and tiger. The gradual depletion of various natural resources as well as habitat due to various anthropogenic pressures is becoming a threat to many of these species of wildlife putting them to danger of extinction in the region. Shifting cultivation, encroachments, development projects are some important factors for fragmentation of natural habitat and isolation of wild animal populations. Significantly, the conflict between wild animals and humans is also increasing alarmingly in the state. WWF-India launched the AREAS Programme to develop a strategy for conservation of these endangered species and their habitats in specific sites across the country.

The North Bank Landscape in Assam (and Arunachal Pradesh) in North East India was selected as one of the priority conservation areas particularly for Asian Elephants. The first phase of activities has been successfully completed. This success in North-east India has inspired a serious effort to undertake another similar conservation programme in the south bank of Brahmaputra particularly in Kaziranga-Karbi Anglong Landscape (KKL) area. The vision for this landscape is to establish connectivity between the protected areas to facilitate the movement of large mammals (Asian elephant, one horned rhinoceros, and tiger). Issues linked with it include habitat loss, conflict sites, apart from other threats to landscape. A major field study was launched in KKL in 2005 which has brought out some critical information that can be used for designing future conservation strategies.

Local people are being involved in a big way in this programme. The programme managers are trying to develop a WWF's highest for conservation Gift to The Earth status for the landscape through the participation of local ethnic communities.

Summary of the Project Findings

1. The landscape provides a very good habitat for the pachyderms.
2. The foothills of the landscape are very much preferred by the elephants.
3. The movement (traditional) of elephants in the contiguous belt of forest in this landscape is under severe threat at some critical sites (corridor) which needs immediate interventions for protection.



4. If these critical sites of movement cannot be protected immediately the elephant population of the area is likely to get fragmented.
5. The illegal logging and extraction of other forest resources cause serious effect on wildlife habitat.
6. Insurgency continues to have its impact in various pockets of the area.
7. The forest department with poor infrastructure, fund and manpower is not able to play a vital role for protection and management of the forest.
8. People in the concerned localities are not involved in the protection and management of the forests and the animals.
9. There seems to be a lack of awareness and consciousness among the general population regarding the value of the rich flora and fauna of the region.
10. Support and cooperation from the local people is indispensable to carry out any conservation management exercise in the landscape.
11. The conflict between human and wildlife

mostly with elephant is gradually increasing and particularly prominent more towards the edges of the identified landscape boundary. Golaghat district has been identified to be the most threatened areas on the basis of conflict record.

12. Community development programme is very essential to improve the livelihood condition of the people and ultimately initiate community based conservation programmes.

13. The development and activities of the tea growers both small and large should be monitored as they seem to have a large impact in many good elephant habitats in the landscape.

14. Encroachments are coming up in and around some protected areas by ignoring the temporal official eviction drives.

A. Field Activities

Numerous field activities/surveys were undertaken to generate the outputs/results till date. The field activities were undertaken to generate six major types of results viz.,- document the status of distribution of major wildlife species in the area by conducting a presence-absence study for three key mammal species- rhinoceros, tigers and elephants; document the vegetative diversity of the region; document the status of habitat contiguity and emerging threats by identifying major tracks/corridors used by elephants; undertake ground-truthing exercise to derive the landcover/landuse status of the area from satellite data; and analyse the pattern of human wildlife conflict in the area giving emphasis on the man-elephant conflict which is showing an increasing trend in recent years.

The presence/absence of wildlife in the landscape has been primarily done for three major species in the area, and a rapid survey technique was employed to obtain the findings. The study on rhino has been mainly concentrated in areas adjoining Kaziranga National Park, Laokhowa and Burhachapori WLS. The study has been mainly confined itself to finding out their range of movement by determining their presence in



Quarrying poses a constant threat



the adjoining areas. Similarly, the presence of tiger has been tried to be determined either through reliable informants or by direct observation of signs. The study on elephants has been done to find out their presence/absence in different parts of the landscape and also to find out areas/tracks popularly used by the elephants for moving from one forest patch to the other. The survey has been conducted either through vehicular tracks or on foot depending on the possibilities and ground situations. During tracks, signs of presence or absence have been geo-recorded with global positioning system or records have been taken on a suitable time/distance interval. The presence was established on the ground by direct sighting, tracks, dung, feeding signs and body rubbing marks on trees.

The vegetation and forest types of the landscape were studied through the direct field observations and classified by following standard method of classification. The dominant plant species are identified to categorize the forest types.

An attempt has been made to establish information on habitat contiguity by looking into the movement pattern and habitat utilization by the elephants. Corridors used by elephants have been identified and established by identifying popular movement tracks used by elephants. The movement stretches have been identified in the field and recorded with GPS to be mapped. The mapped tracks have been overlaid over the forest layer to find out the most crucial tracks / corridors in the landscape for further study and analysis. Visible hurdles acting as obstacles in the elephant tracks is also documented as and where possible. Developments affecting existing habitats are also documented to develop conservation strategies.

Ground-truthing of satellite data is also being carried out to confirm the land cover mapped under seven broad classes. A class based ground-truthing exercise has been conducted in about two hundred locations all over the landscape

barring the central inaccessible areas.

Human wildlife conflict has been studied by recording the incidence of man and elephant conflict in different parts of the landscape. The occurrence of elephant raiding as a seasonal phenomenon along with the killing of humans and elephants has been recorded in the field with the help of GPS to find out the pattern of conflict. The intensity of the conflict has been also looked into by recording the frequency of raiding instances over an area.

B. GIS Activities

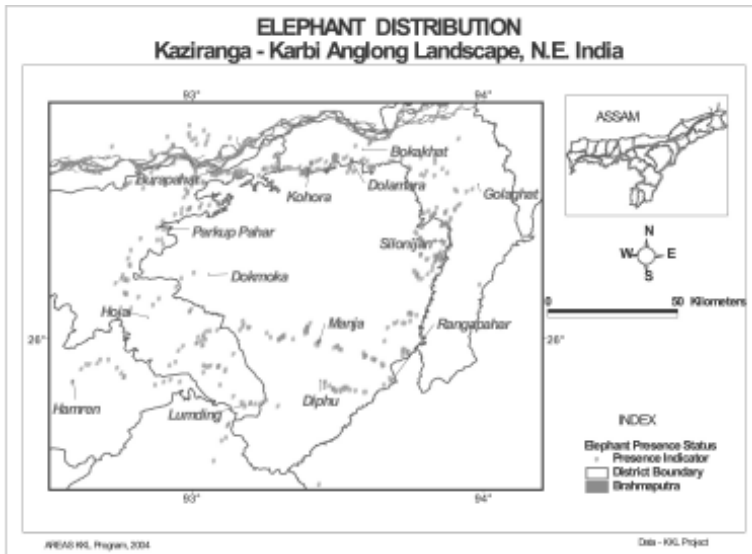
The vector data on different layers of information has been generated from multiple sources. The base maps have been generated from topographic maps, forest department maps and administrative boundary maps from government sources.

The layers on water bodies, roads, railways, contour, etc., have been generated from information available in topographic sheets covering the area. The notified Forest Area map showing reserve forest, proposed reserve forest, wildlife sanctuaries and national parks have been built from multiple sources viz.- the topographic



Wood lots ready to be shipped out





maps, forest department maps and government district planning maps, etc. The base maps prepared have been ground tested and the digital data has been generated using onscreen technique in ArcGIS environment.

Wildlife Documentation

Elephant Distribution

The elephant population in the landscape is found to be distributed unevenly over a major portion of the area. The distribution is found to extend from Kaziranga National Park in the north of the landscape through the Karbi Plateau in the central portions to almost all parts of the landscape. The distribution probably

extends to the adjoining areas in the states of Nagaland in the south; to Kamrup (east and south-east) through the adjoining areas of Meghalaya. The elephants generally inhabit the inter-mountain valleys and plains and move along the foothill areas and the rivers criss-crossing the landscape. The highest concentration of elephants is observed within the Kaziranga NP (1000+ population) and adjoining areas towards the north. In the other areas a good distribution of elephants is observed as well. Elephants in good numbers have been observed in the Nambor area in the west-central part and in the Lumding area in the south and south-western part of the area. Presence of a good number of elephant population are also observed in and around the prominent forest areas namely Kollonga, Kheroni, Daldali, Dhansiri, Daboka and Kaki, to name a few.

It is noteworthy that the pattern of distribution of the pachyderms has been changing during the last couple of years. Many areas previously preferred by the pachyderms are experiencing various forms of anthropogenic pressure leading to their movement in comparatively less disturbed areas. As an instance, the elephant population in KNP area has immensely risen in the last decade and tends to stay confined within the park or areas adjoining.

Elephant Movement & Corridor Identification

The increasing population pressure and various

IDENTIFIED ELEPHANT MOVEMENT TRACTS IN KAZIRANGA KARBIANGLONG LANDSCAPE			
1	Kanchanjuri - Ruthe Pahar	9	Haldibari – North Karbi Anglong
2	Lumding – Langting Mupa	10	Burapahar - Bagser
3	Lumding – Amreng	11	Panbari – Dolamara
4	Kaki – Lumding	12	Rangsali – Deopahar
5	Longnit – Marat Longri	13	Nambor WLS - Nambor west block
6	Lumding – Barlangfar	14	Khonbamon - Daldali
7	Marat Longri – Dhansiri	15	Daldali - Dhansiri
8	Upper – Lower Doigurung		

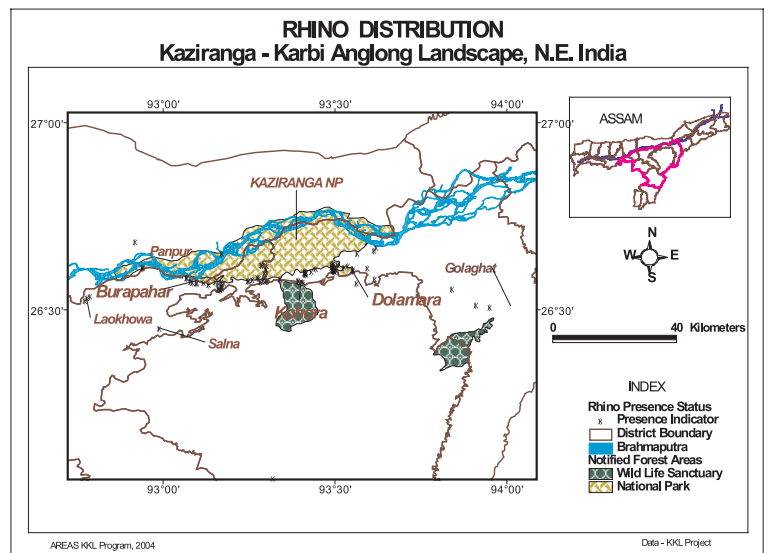


developmental activities have fragmented and shrunk the many natural suitable forested areas for elephants and other wild animals in the landscape. Being a foraging animal, elephants tend to maintain some of their traditional tracks for their movement. The Kaziranga National Park has contiguity with the forested areas of Karbi Anglong, Golaghat and Nagaon districts in the landscape. As per historical records elephant herds traveled through long distances in this landscape to even move into forested areas in Myanmar through Nagaland to the east; and also towards the west to Meghalaya. But such long prominent movements are not being observed now. The movements though seems to follow the same alignment and pattern and is curtailed to smaller portions/stretches connecting two popular habitats as observed in the field till present.

It is observed that the elephants from Kaziranga National Park generally prefer to use five prominent tracks through which they move southwards to other parts of the landscape during flood/rainy seasons and also during the harvesting period. For moving to the adjoining habitats/forests in the southern portions of Karbi Anglong and adjoining districts they usually prefer three portions to cross the national highway (NH 37) for their temporal/seasonal migration. The elephants from the park also move along the two banks of the river Brahmaputra to the adjoining areas and inhabit the river islands as well: they also often cross the river to enter the north bank areas near Panpur as well.

Two major trends of movement are believed to exist in the landscape – one from KNP area through the internal areas in Karbi Anglong upto Intaki NP in Nagaland through Nambor and Dhansiri; the second from the KNP area through the internal areas in Karbi Anglong upto Meghalaya through Doboka, Kaki, Lumding and Kollonga.

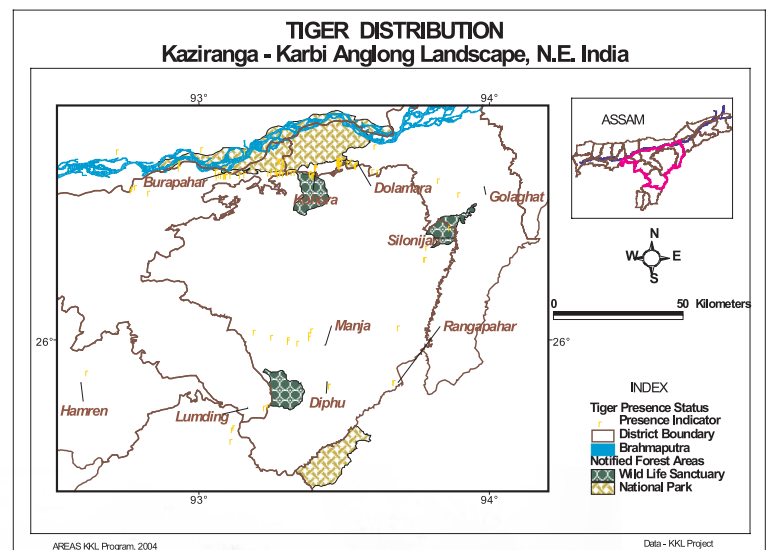
The major critical elephant movement track/corridors have been identified during the study



period. The monitoring of elephant movement has been started in some of these critical areas like Panbari-Dolamara, Kanchanjuri, Hojai-Kumurakata, Lumding-Kheroni area, etc.

Rhino Distribution

The Indian one horned Rhinoceros prefers the flood plains of Brahmaputra River with the alluvial grasslands of some particular areas in



Assam. The distribution is not continuous due to their unique habitat type and presently the distribution is restricted to a few protected areas like Kaziranga National Park, Orang National Park, and Pabitora Wildlife Sanctuary. Once the Manas National Park, Bura Chapori WLS and Laokhowa Wildlife Sanctuary were giving shelter to a good number of rhinos which were poached and caused a sharp decline of the population. But it is still good rhino habitat. Rhino is still recorded to inhabit the Bura Chapori and Laokhowa WLS.

In the landscape the movement of rhinos is mostly restricted to the areas under Kaziranga National Park and adjoining areas. Occasionally they move eastwards up to Dergaon-Kumargaon area and also westwards up to areas near Laokhowa and Burha Chapori WLS in South bank of Brahmaputra. Rhinos also at times move northward from the sixth addition areas under KNP and also has records of moving north to Gohpur area in the North Bank of the river Brahmaputra. Outside the KNP the movement of rhinos is verified at the nearest tea gardens like Burapahar, Methoni, Hatikhuli, etc. which is preferred during the high flood and eastward movement at Dhansirimukh, Dergaon and Khumtai in South Bank and Gohpur in North Bank. The south and south-west movement is recorded from Dolamara, Ruthe Pahar, Salona and Parkup Pahar area towards Karbi

Anglong district.

Tiger Distribution

The landscape has a good spatial distribution of tiger population as the records show. The concentration of tigers is highest in the area under Eastern Assam Wild Life Division covering Kaziranga National Park (85 as per 2001 census) within the wildlife divisions in the area. In terms of the territorial divisions the highest number of tigers is recorded in Karbi Anglong (East) followed by Hamren.

Habitat Loss and Encroachment

From field surveys the intimidating issue of habitat loss has come to light in different parts of the landscape. The severity is perhaps more perceptible in the adjoining areas of Nambor North, Dayang and Kaki. If the new settlements in the forest areas (encroachments) are not controlled, and vegetation rejuvenated, the situation can be devastating in near future. The shrinkage in vegetation cover has resulted in fragmentation of the forest which was contiguous in the past. Equally threatening to the landscape are the settlements on the foot hills, which are otherwise movement tracks of elephants. Serious human elephant conflicts are in store for the future if nothing much is done. Shifting cultivation on the hill slopes, particularly in the districts of Karbi Anglong and N.C. Hills is another issue that demands immediate attention. Moreover, people have also started to practice commercial farming in the hill slopes by cultivating horticultural crops. Apart from rapid loss of primary forests, the aspect of soil erosion also must be taken care of promptly. . Further, logging is taking its own toll on the whole scenario and rapidly changing the land cover. The recent rise in quarrying activities in the areas adjoining KNP, Longnit and many other parts have caused enormous harm particularly to the elephants as these are near or along the movement tracks. The commercial extraction of bamboo and expansion of tea gardens are also posing a threat to the animal movement, and their habitat in general.



Foraging elephants



Human wildlife conflict in the landscape

The occurrence of Human-Elephant Conflict (HEC) has been increasing in many parts of Assam. In many places crop raiding has increased drastically in areas surrounding protected elephant habitats. The areas in KKL are no exception to this phenomenon. Perhaps the most prominent reason is the shrinking of elephant habitat and its fragmentation into pockets. The cases of conflicts are getting intensified, and newer areas are experiencing the phenomenon. This has been listed as a threat here, as elephant conservation programmes world over is facing the greatest challenge from this particular aspect. The incidence of HEC has been identified to be more prominent and decisive in some areas under Golaghat, Silonijan, Bokajan Lanka, Lumding, Kathiatoli, Doboka, Hojai, Nambar, Salna, Parkup Pahar, Silanijan, Manja and Kheroni forest ranges within the landscape.

The major conflict hot spot areas have been identified as Golaghat – Silanijan and Hojai – Kheroni areas

Indian Rhino Vision 2020:

The study on the habitat suitability for a potential rhino habitat within Assam was initiated in the Dibru-Saikhowa NP in the beginning of the KKL programme. This initiative drew the attention of the department of Environment and Forests, Government of Assam and a new government programme i.e. the Indian Rhino Vision 2020 (IRV 2020) was launched. The objective: *“To increase the total rhino population in Assam State from about 2,000 to 3,000 over the next 15 years (i.e. by the year 2020) and to ensure that these rhinos are distributed over at least 6 Protected Areas so that long term viability of an Assam meta-population of Indian rhinos is assured.”* WWF-India in collaboration with International Rhino Foundation is extending all possible support to the Assam Government for the IRV 2020 (see page 68).

THE KAZIRANGA CHARTER

Conservationists from the world over came together at Kaziranga National park to celebrate one hundred years of its continuous conservation successes. The event was the Kaziranga Centenary Celebrations. The conservationists reaffirmed their commitment for securing Kaziranga’s biodiversity for posterity.

The conservationists recognized the need to look beyond Kaziranga NP for its long term survival and recognized that the landscape of Kaziranga – Karbi Anglong as part of a globally recognized biodiversity hot spot. WWF has been working in this landscape and this recognition of Kaziranga – Karbi Anglong Landscape as a single entity from the conservation community and the Government of Assam was a major win.

The Charter also recognized the Indian rhino as the flagship species of Kaziranga, and that ensuring the long term survival of which is a continuous challenge. WWF efforts towards meeting this challenge got a gain in from the Government of Assam on recreating rhino populations in areas where they have been exterminated. This another major win at Kaziranga Centenary Celebrations has now grown into the Indian Rhino Vision 2020 programme that has an objective of increasing rhino numbers in Assam to 3000 in seven of its protected areas

INDIA RHINO VISION 2020 (IRV 2020)

The Vision: Attain a population of 3000 wild rhinos in Assam distributed over seven of its PAs by the year 2020

The project

The conservation of Indian one-horned rhino (*Rhinoceros unicornis*) in Assam and India has been a great success. In 1905, numbers of the species in Assam had declined to 10-20 rhinos in Kaziranga National Park. Through strict protection, this population has recovered to over 1700 individuals. A smaller (about 100) but still secure and growing population of rhinos also occurs in Pabitora Wildlife Sanctuary.

However, the conservation of rhinos in Assam has also had major problems and setbacks. Restriction of 85% of the rhinos to a single Protected Area in Kaziranga exposes the species to stochastic risks. The population in Pabitora has already exceeded carrying ca-

capacity and the population needs to be reduced both to protect the habitat and to mitigate the increasing human-rhino conflicts as animals move into agricultural areas. Moreover, a significant population of rhinos was exterminated in Manas National Park during the 1990s in the wake of a poor law-and-order situation and ethnic conflicts. Likewise, poaching has eliminated the species from Laokhowa, which once contained 50 plus rhinos. Moreover, the population in Orang has been reduced to fewer than 40 with the threat still looming large

Hence, there is a need to:

- (1) improve security in all rhino areas in Assam
- (2) expand the distribution of rhinos to reduce the risks of stochastic catastrophes
- (3) reduce the population in Pabitora so that it is within the ecological and sociological carrying capacity of the Reserve. The sociological carrying capacity is the number of rhinos that a protected area can sustain without significant human-rhino conflict.

Objectives:

The vision of the programme is to increase the total rhino population in Assam from about 2000 to 3000 by the Year 2020 and just as significantly ensure that these rhinos are distributed over at least 7 Protected Areas (PAs) to provide long term viability of an Assam metapopulation of rhino.



The overall vision of the programme envisages the following objectives:

- Improving protection of rhinos in all the rhino areas.
- Translocating rhinos from two source populations (Kaziranga and Pabitora) into 3 or 4 target Protected Areas (Manas, Laokhowa – Buracharpori – Kochmora, Dibrusaikhowa, and possibly Orang). (Orang still has a nucleus of 20-40 rhinos and may be able to achieve its target population of 100 through improved protection).

The first phase of the programme involving both the above objectives will require three years (July 2005 to June 2008) of intensive field work and will entail:

- Improvement of rhino protection in all source and target protected areas
- Translocation of 20-30 rhinos from Pabitora and Kaziranga to Manas National Park where they will be protected and monitored.

IMPLEMENTING AGENCIES

The Indian Rhino Vision 2020 will be implemented by the Department of Environment and Forests of the government of Assam. The Bodo Autonomous Council will be an active partner in the programme. The programme will be supported by WWF-India, WWF AREAS (Asian Rhino and Elephant Action Strategy) Programme. The International Rhino Foundation (IRF), Save the Rhinos Campaign of Zoological Institutions worldwide and a number of local NGOs.

The task force for translocation of rhinos within Assam Department of Environment and For-

ests, Government of Assam, Dispur, Guwahati

- Chief Wildlife Warden, Assam (Chairman)
- A representative from MoEF
- Representative of State Board of Wildlife
- Chairperson of WWF India Arunachal office
- Representative of Aaranyak(NGO)
- Representative of Deptt. of Botany, D.R. College, Golaghat
- Representative of Forest Department, Assam
- The Forest Officers in charge of the Protected Areas bearing Rhino
- DGP, Assam
- Representative of Wildlife Institute of India, Dehradun
- Coordinator AREAS programme, WWF-India



Protected Area Support



To ensure better protection and management of wildlife, WWF-India has a component called the Protected Area (PA) Support under which, infrastructural support is provided to the Forest Department and its staff.

Even though the name suggests that this component is for PAs (National Parks and Sanctuaries) only, the ambit of the programme also includes Forest Divisions which have not been declared as PAs, but contain critical wildlife corridors.

Over the past ten years, a support of more than Rupees eighty million have been provided to the Forest Department covering more than 53 areas in 15 states of India including major National Parks, Tiger Reserves and Wildlife Sanctuaries.

The major infrastructural support provided under this component include jeeps, trucks, motorboats, tractors, motorcycles and cycles for patrolling, Wireless sets, handsets and mobile phones for better communication and camps, check-posts and other infrastructure to ensure better presence of Forest Department staff to deter poacher. To improve the motivation of the field staff for better execution of their duties, WWF-India is providing field dress, shoes, winter jackets, torches and searchlights, water-bottles, raincoat, binoculars, field guides and books, etc. Facilities such as solar panels, mosquito nets, tents and camping gear helps in providing better living conditions inside the forests, thereby elevating the morale of the field staff. Funds for monsoon patrolling is also being provided under this programme.



Pankaj Sarmah Memorial Centre for Wildlife Conservation

In a significant decision taken on the 3rd of November 2006, Darrang College and WWF India decided to create a facility at Darrang College to train young students in wildlife conservation and prepare them for making a career in conservation of nature. In a meeting held after the memorial service to celebrate the life of Pankaj Sarmah who was working with WWF India in Assam and had studied in Darrang College, the SG and CEO, WWF India and the Principal of Darrang College decided to create such a facility in his memory.

Pankaj was associated with North Bank Landscape (NBL) Conservation Programme since 21st June 2001 and was one of the earliest recruits in the programme. He expired on 3rd October 2006. To recognize his service to conservation, a memorial in his name was planned which will be a Centre of learning for students in the field of conservation. Pankaj was a student of Darrang College, Tezpur, where he is fondly remembered.

An MoU has already been signed between WWF India and Darrang College where WWF India had committed financial support for creation of infrastructure including construction of classroom, library and computer facility in addition to provide software support like guest faculty and assistance in field activities. Darrang College will run the facility with its existing faculty and all other in house support. Initially a three months post graduate certificate course on *Wildlife Ecology* will be provided for couple of sessions for which syllabus has been finalized. However, a full fledged two years Diploma course on Wildlife ecology is also under consideration.

Chapter 10

SOME THOUGHTS ON THE WAY FORWARD



The landscape programme started in 2003 after a period of groundwork which involved wide stakeholder consultations, setting up field offices with suitable staff and, most importantly, achieving a level of local acceptance. The teething problems at this stage were in themselves a learning process. The programme gradually grew and evolved to cater to a much wider scope and focus than what was conceptualized earlier. This document attempts to give an insight into the strengths and weaknesses of our activities undertaken in the field and also to draw a tentative roadmap for the future. This document also stands as a testimony to the dedicated field staff, whose hearts lie in conservation and who draw immense satisfaction for being able to garner a change in the area, which they can see for themselves on a day to day basis.

Wildlife conservation through the landscape approach is indeed a complex and tortuous path to the ultimate goal. India's size and diversity in

terms of cultures, faiths and beliefs, languages, and lifestyles is ironically often as much a bane as it is a boon. Add to that the priorities of poverty reduction and controlling a burgeoning population. This gives an idea of the canvas on which WWF's wildlife programme is being carried out. The landscapes being envisaged to be covered are large and the presence of WWF-India's activities is restricted to only a small fraction of these landscapes. Therefore, as the sum of what the lessons have been till now, wisdom dictates that one should look at the present projects as pilots or demonstrative projects with a portfolio of micro level activities that may be replicated in similar situations and circumstances on a larger scale. But despite the limited availability of resources and infrastructure at its disposal, the impact of the activities of WWF-India's work on the ground is substantial and exemplary.

While each landscape has its own unique problems and prospects, there are some broad common goals which emanate from the overall mission: To create contiguity of habitat for the tiger, rhino and elephant and secure their future with the support of populations that share the same habitat.

It is obvious that winning the confidence of local people through a mix of livelihood security, welfare activities and awareness building and converting them to partners in conservation is the most critical component for the success of the programme. The experience till now has been varied and highly educative. While Specific activity has done well in one area it has not achieved the desired results in another. Some



activities showed great promise initially but for various reasons petered out subsequently. At the same time some activities have generated tremendous enthusiasm and cohesiveness in the local population leading to perhaps indirect but sustainable impacts. It is now time for reflection and introspection which can help us assess to some extent our level of success or failure. Be that as it may, one thing is clear - in the Indian context, the period of hand holding for ambitious projects of this kind has to be long, preferably 6-10 years. And the process of withdrawal needs to be as carefully planned and executed as the process of initial intervention.

SUNDARBANS

In the vocational training component the support with sewing machines for tailoring of different products did not succeed initially as it could not compete in the market with mass-produced goods. The beneficiaries were then asked to produce simple products for the local market. They are also making mosquito nets for staff of PAs for which subsidy through direct orders is coming from the project. This activity can sustain if products are made to cater to the local market or demand. The activity of medicinal plants through a project supported nursery, is also a partial success as it has not taken off as expected. However, it is likely to meet demand for popular Ayurvedic medicines in the future and therefore should become a sustainable enterprise if properly managed. Both these examples need us to improve our processes for market linkage in local areas so as to further assist the community.

TERAI ARC LANDSCAPE

This landscape is a good example of the reducing the dependence of local people on natural resources that can be brought about by working closely with them. The field offices in the landscape have clearly established their own role as that of a catalyst that would help to show the

path for economic emancipation of the local population, while at the same time garner their support for biodiversity conservation. While supporting the conversion from fuelwood to LPG through a partial subsidy, the programme is giving additional incentive for educating girls to ensure they spend less time in the forests. An important insight that has been gained is that smaller groups like Self Help Groups (SHGs) are doing better than Village Development Councils which are larger and more formal bodies and thus vulnerable to internal conflicts. The SHGs are empowering the local villagers, especially women groups, to become self-reliant thereby reducing the time that they spend in the forest areas for fuelwood and fodder collection. Constant interaction on common platforms has brought the forest department and the villagers closer with a better understanding of each others' perspective.

A noteworthy achievement in the region has been the establishment of an effective intelligence network which has had a dramatic impact in increasing proactive action against poaching as also the number of seizures. It is critical that this network is nurtured and sustained. The ongoing interim scheme for loss of cattle as also *ex gratia* for human casualties or injuries has proven that prompt action with partial compensation is more effective in preventing retaliatory action against wild predators. It is imperative that villagers have the firm belief that others (including government agencies) care for their life and property. But a stable mechanism for replacing the interim scheme needs to be found.

A variety of methods are also being tested out by villagers to protect their crops and property. An electric fence more than nine kilometers long, has been erected with contribution from the community and the maintenance of the fence is being undertaken by them. This probably one of the longest functional electric fence in the country for wildlife management. The TAL team is very keen on strengthening local bodies and bringing concerned government bodies on board for a common cause. This



would ultimately make for sustainability a long term sustenance.

SATPUDA MAIKAL LANDSCAPE

The success of this landscape hinges around working in close cooperation with the local people and the Forest Department. While the project is working towards providing better livelihood opportunities to the local villagers through a host of income-generating activities such as mushroom cultivation, lac cultivation, poultry, piggery, fisheries etc. the basis is also to reduce the dependence of the local villagers on the forest resources. The other interventions such as providing them with improved *chullahs* (stoves) for better utilization of fuelwood collected improved honey collection methods, where the honey is drained through a small cut made in the hive so that the hive can continue producing honey on a long term basis are examples of initiatives of how forest produce can be harvested sustainably. Coupled with opportunities of better agricultural practices by equipping them with techniques such as vermicomposting and use of organic pesticides and channelizing of existing government subsidies and schemes in the villages that WWF-India is working with, has helped the local villagers into inculcating a pro-conservation approach. WWF-India is working closely with the Forest Department in the landscape and has even been invited by the Government of Chhattisgarh state to help them with conservation management inputs.

The marketing of the produce generated out of the livelihood initiatives remains a challenge; if potential markets can be targeted, the activities will always remain lucrative thereby ensuring sustainability in the long run.

NILGIRIS & EASTERN GHATS LANDSCAPE

As mentioned earlier, activities under three major areas were taken up in this landscape; namely, mitigating human-elephant conflict,

reducing biotic pressure on the target corridors, and awareness building with focus on integrating all government and non government agencies under one umbrella. Lessons emerging from detailed study of the human-elephant conflict situation and various measures adopted to protect human life and property have been documented exhaustively. The reduction in the scrub cattle numbers not only implies better health for the forest cover, but alternative livelihoods adopted successfully by many villagers are attracting the attention of others. A very important achievement is the baseline information collected through survey and field studies. The focus is on the Greater Moyar Valley in many ways representative of the situation in the landscape. This data is helping in scientific mapping of the area in terms of forest cover, human settlements and the main occupation of local people, elephant movement routes, critical and threatened corridors that desperately need protection. Any future intervention for biodiversity conservation in the area would need this information.

While much of the work undertaken in the landscape was in the state of Tamilnadu, WWF-India is now looking forward to expanding its work in the state of Karnataka for mitigating Human-Wildlife conflict and reducing poaching.

NORTH BANK LANDSCAPE

The major focus under this project has been the range of mitigation measures tried out to ease the human-elephant conflict situation in Sonitpur district of Assam. Mitigation of elephant-human conflict and creating a sense of security among the local population were identified as the most important measures in the short term. WWF-India has come up with a "Sonitpur model" of mitigating Human-elephant conflict, which is being implemented by the Forest Department of Assam, which is a combination of driving wild elephants back into the forest areas by using *Kunki* (domesticated) elephants. Project support for solar fencing of



croplands in several pilot villages have also proved to be a success and, seeing the benefit, local people are willing to contribute to its maintenance. Since the last two years, average elephant and human death due to conflict situation has gone down and crops and property worth millions of rupees has been protected. Studies undertaken in the area have revealed that efforts of WWF-India has resulted in saving crop damage worth more than 80 times the investment made for mitigating Human-Elephant conflict. WWF-India is working towards building a database of Human-elephant conflict on the landscape. All major crop raiding tracks and the hotspots from where the elephants enter human habitations have been identified. Work on raising awareness and know-how among key stakeholders including the forest department, police, local communities and other NGOs is being carried out. A landscape level strategy for dealing with Human-Elephant conflict at a regional level has also been devised and is currently in its implementation stage.

PROFILE OF NEW INITIATIVES

Most of the landscape programmes have now reached a stage from where the work needs to be consolidated and upscaled. There have been some significant achievements made in the recent past. Working in close coordination with the Forest Departments, as well as other line departments of the government has provided an avenue to magnify the impact of WWF-India's work. TRAFFIC-India has become fully operational and is working closely in tandem with WWF-India. The governments of Assam and Karnataka have invited WWF-India to provide solutions for mitigating Human Elephant conflicts.

It is vitally important that WWF-India's experiences in the field should be shared for the benefit of the endangered species that walk the brink of extinction in a planet that was given to us all to share. This publication makes a modest contribution to that end.

Future Plans

- Support packages and community benefiting initiatives in Ranthambhore and Sawai Man Singh Sanctuary, Rajasthan
- Support for mitigating conflicts and protecting lions in Gir National Park, Gujarat
- Conducting studies in human-animal conflicts areas of India
- Conservation inputs to selected areas in Orissa
- Continued support to Forest Departments in India both in developing capacity and with critical equipment
- Supporting dialogues and combined inputs and sharing best practices with staff and government agencies in Nepal, Bhutan and Bangladesh and Sri Lanka.
- Assisting other State Governments on human-elephant conflict, using the experiences of lessons learnt
- Up scaling educational and awareness activities across the landscapes and other areas
- Expanding our reach to support additional critical corridors in our landscapes
- Continued support to habitat management initiatives.



MILESTONES: 1996-2007

JUNE- DECEMBER 1996

- WWF- India establishes a Tiger Conservation Cell with a grant of US \$ 100,000 from WWF- UK
- Publication of 'Tiger Conservation Strategy and Action Plan'
- Publication of 'Tiger Call'

1997

- WWF International and WWF India agree to set up WWF Tiger Conservation Programme (TCP) with a committed grant of Swiss Francs 1.8 million for three years.
- Thomas Mathew takes over as the first Director
- Six months Work Plan formalized and the following seven tiger areas selected for support and evaluated:

Corbett Tiger Reserve, Dudhwa Tiger Reserve, Periyar Tiger Reserve, Palamau Tiger Reserve, Kaziranga National Park, Bandhavgarh Tiger Reserve, Manas Tiger Reserve

- Support to first seven Parks commences.
- The following nine additional PAs selected for TCP support in consultation with the State Forest Departments and the needs assessment of the nine additional PAs begins:

Kalakad-Mundanthurai Tiger Reserve, BRT Wildlife Sanctuary, Satkosia Gorge Wildlife

Sanctuary, Tadoba-Andhari Tiger Reserve, Valmiki Tiger Reserve, Mahananda Wildlife Sanctuary, Katarniaghat Wildlife Sanctaury, Pakhui Wildlife Sanctuary, Nameri Wildlife Sanctuary.

- Support to the PAs is initiated after receiving approval from the respective State government.

1998

- Controlled major tiger poisoning crisis in the terai. Field situation evaluated and the highly successful Cattle Compensation Scheme launched scheme continues.
- Scheme launched to curb Akhand Shikar in Similipal Tiger Reserve. This was subsequently taken over by local NGOs.
- Support from Tiger Emergency Fund (TEF) reaches Kaziranga to help fight the devastation caused by floods.
- Support to the already selected 16 PAs continues
- The following additional PAs selected for TCP support:
Sariska TR, Orang National Park.

1999

- Indo-Nepal Meeting held for Trans-border cooperation.
- WWF TCP Awards for 1998 declared and given away at the Millennium Tiger Conference by Honourable Vice President



of India Sri Krishan Kant .

- 'Tracking Tigers-A field guide for estimating Tiger populations in the wild' published.
- Legal training for field staff in selected PAs carried out.
- WWF TCP Awards declared and presented for 1999 by Honourable chief minister of N.C.T Delhi Smt. Shiela Dixit
- Additional Park supported:

Sunderbans Tiger Reserve

- 'WWF Tiger Conservation Programme - Three Years and Beyond' a publication of the TCP released.

2000

- WWF meeting in Jakarta on landscape approach for tiger conservation and selection of tiger landscapes in India.
- MOUs signed with Nepal and WII for collaboration in the Terai Arc landscape
- TEF support to Panna TR.
- Rajaji NP evaluated and support was initiated
- AREAS India Programme placed under the Tiger Division.
- Additional support to PAs continues.
- WWF-India and PATA Tiger Conservation awards for 2000 are announced and presented.

2001

- TEF support to Corbett Tiger Reserve.
- TEF support to Dudhwa Tiger Reserve.
- Additional support to PAs continues
- AREAS: NBL and Nilgiris Landscape work started

2002

- WWF-India and PATA Tiger Conservation awards for 2001 are announced and presented jointly by Honourable minister of Tourism Shri Jagmohan and Shri N.D.Tiwari.
- Support provided to the following additional Parks:

Satpuda TR, Kanha TR, Phen WLS, Melghat TR, Achanakmar WLS, Simlaipal Tiger Reserve, Bilaspur Forest Division, Additional support to PAs continues.
- Launch of landscape projects with the establishment of field offices in Satpuda Maikal Landscape and Terai Arc landscape.
- Sundarban landscape work started.
- Funds to Sariska Tiger reserve for water management in the face of a drought.

2003

- AREAS: NBL Phase one completed with a workshop in Guwahati.
- TEF support for Ranthambhore Tiger Reserve and Sariska Tiger Reserve to avert major water crisis situation.
- Support provided to the following additional Parks:

Panna TR, Palpur-Kuno WLS, Pilibhit Forest Division -Lagga Bagga, Borhamdeo Wildlife Sanctuary,

Kawardha Forest Division and Chilpi Range.
- Funds to Kaziranga for flood relief.
- TAL Corbett (AREAS) work started.
- AREAS: NBL Second phase started.



2004

- Self Help Groups formed under TAL programme to ensure participation of local communities in mitigating human-wildlife conflict.
- 28 Kg ivory, two leopard skin and one tiger skin seized with the help of informer network developed by TAL-Programme.
- CTR and Ramnagar Forest Division were evaluated and direct infrastructure support extended.
- Self Help Group at village Kunkhet initiated stitching and selling jute bags for garbage disposal to the Corbett Tiger Reserve.

2005

- Establishment of TAL field office in Kotdwar to deal with major linkages between Rajaji National Park- Lansdowne Forest Division- Corbett Tiger Reserve.
- Under TAL programme Eco-clubs were formed to ensure participation of youths in conservation endeavor.
- To mitigate crop damage by elephants, solar fence was erected in Githal village of Kotdwar sector of TAL Programme.
- After evaluation direct support extended to Lansdowne Forest Division (LFD) and

Terai West Forest Division (TWFD) for enhancing the anti-poaching capabilities.

- First time elephant reported in Ampokhra range of Terai West Forest Division
- Medicinal plants worth Rs. Ten Lac were seized TAL-Ramnagar.

2006

- IRV 2020 Programme was launched.
- Capacity building in NEG launched.
- Conservation alliance of NGOs in Assam launched.
- Community activities in SML consolidated.
- TRAFFIC India starts operations in India.

2007

- A nine kilometer long electric fence commissioned in TAL
- WWF-India invited to assist in preparation of management plans for Chhattisgarh.
- WWF-India approached by the state governments of Assam and Karnataka to find practical solutions to Human Elephant Conflict.
- WWF-India launches signature campaign to support the cause of tiger conservation.
- WWF-India starts conservation work on critical species: The lions and Nilgiri Tahr.

