GLOBAL TIGER RECOVERY PROGRAM

VOLUME 2

INTRODUCTION

This companion Volume 2 of the GTRP provides the full set of 13 National Tiger Recovery Priorities and the four Global Support Programs that have been developed by TRCs and their partners since the Action Planning phase of Global Tiger Initiative was launched after the Hua Hin 1st Asian Ministerial Meeting on Tiger Conservation in January 2010.

The Declaration of the AMC called upon TRCs to take stock of all the knowledge shared and good practices agreed upon in the Kathmandu Global Tiger Workshop and reexamine as needed existing Tiger Action Plans and similar documents, to develop the key priority actions that are needed to be implemented, scaled up, or accelerated in order to achieve the agreed goal of doubling wild tiger populations (and thus protect their habitats) by 2022. The international community was also asked to develop ideas and programs that would help TRC efforts in those areas, such as combating illegal trade, eliminating demand for tiger parts, sharing knowledge, and strengthening scientific monitoring, where collaboration across countries is needed.

A. National Tiger Recovery Priorities

This process of national reflection was undertaken by TRCs through a National Consultation in which many, but not all, TRCs decided to invite teams of GTI experts to work with their own experts. The outcome of these consultations is the 13 National Tiger Recovery Priorities (NTRPs) presented here. For some TRCs starting from a low base , the NTRP represents a large part of the total future effort, while for others with a long track record of tiger conservation, the NTRP represents the modest additional effort needed to accelerate or fast track the chosen priorities.

The NTRPs collectively rely upon three pillars to create a new dynamic not just to reverse the current decline but to restore tiger landscape and populations. The three pillars are discussed below:

Policy Support Priorities

Almost all NTRPs call for strengthening the policy environment for effective wild tiger conservation. The more important policy aspects that the NTRPs cover are:

- Revision of existing laws governing wildlife protection and conservation to provide for better protection of reserves and stronger penalties for wildlife crimes, including against possession of equipment to snare wild animals.

- Policy changes to ensure that core breeding areas/source sites and key corridors are totally inviolate of human activity, relocating these as needed.
- Policies to support better inter-sectoral coordination, and establishment of conservation-friendly management practices in key sectors such as mining, hydro power, roads, and plantation feature as important in many TRCs, Indonesia being a prime example.
- Shifting the paradigm away from production forestry to habitat conservation is needed in many countries, especially Indonesia and Bangladesh.
- Policies to ensure increased community engagement in sharing the financing benefits from conservation, following the example of Nepal, which has a legislative basis for local community participation in conservation in buffer zones and corridors.
- Policy to ensure that any captive tiger populations are very strictly managed, and do not present threats to wild tiger populations.

Institutional Development Priorities

6.Weakness in the institutional framework to ensure adequate attention to wild life conservations issues is recognized in many TRCs. Key institutional strengthening called for many TRCs include:

- Creating separate wildlife conservations and enforcement units or departments is favored by most TRCs to ensure accumulation of specialized managerial and technical skills.
- Revamping the conservation machinery from the central level to the field level to focus, motivate, and better manage those charged with front line duties.
- Support front-line staff who manage anti- poaching and protection activities with proper incentives, pay-scales, equipment, infrastructure, and insurance for the risks involved in these functions.

Expenditure Priorities

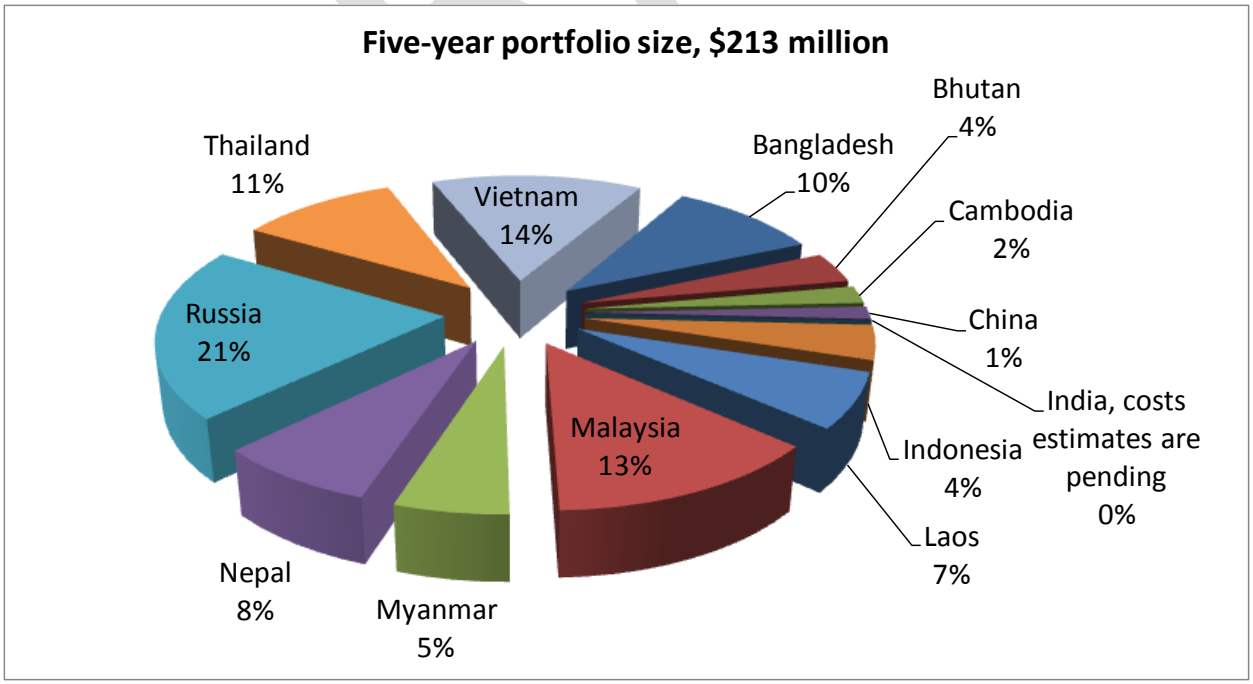
Expenditure Priorities Normalized to Five-year period, US$ million *

TRC	Period, years	Total	Habitat management	Controlling Prey and Tiger Poaching	Institutional Strengthening & capacity building	Tiger Human Conflict & Community Engagement	Controlling Illegal Trade & Reducing demand	Scientific monitoring, surveys, research	Transboundary management
Bangladesh	5	21.50		7.50	5.00	7.50	0.50	1.00	
Bhutan	5	7.88	2.50	2.50	0.81	0.94		0.63	0.50
Cambodia	5	4.50	1.50	2.50			0.20	0.30	
China	5	3.20	1.00		0.70		0.50		1.00
India**	5	0.00							
Indonesia	5	8.77	0.25	3.95	1.00	1.95	0.15	1.47	
Laos	5	13.94	8.00	2.50	0.50		1.00	0.94	1.00
Malaysia	5	28.00	20.00	6.00				2.00	
Myanmar	4	11.50	2.50	2.50	3.20		0.50	2.30	0.50
Nepal	5	16.33	5.00	6.25	0.92	2.92		1.25	
Russia	5	44.00	19.00	12.00	6.00	6.00			1.00
Thailand	5	22.55	0.60	13.15		2.65	0.90	4.75	0.50
Vietnam	5	30.30	6.25	5.00			14.05		5.00
Total		**213.00**	**66.60**	**63.85**	**18.13**	**21.95**	**17.80**	**14.64**	**9.50**

* Expenditures to be revised based on TRC feedback

**India: Estimate of incremental costs estimates are pending

cells with suggested changes



NTRPs demonstrate a high level of selectivity in TRC choices of the most critical actions over the next five years to change the basic dynamic of tiger and landscape conservation. Primary attention is given to habitat management and controlling prey and tiger poaching. These common priorities are supported by actions in the area of capacity building, reducing human-tiger conflict by engaging communities, controlling illegal trade, reducing demand, and introducing scientific monitoring systems. Interestingly, NTRPs devote increasing attention to joint management of important landscapes that straddle political boundaries across TRCs.

a. **Habitat management** Habitat conservation and management was another common theme in most TRCs. While demarcation and protection of core sites, and designating them as inviolate areas to protect tiger source populations was a priority, almost all TRCs also recognized the importance of managing, and restoring where necessary, the corridors that connect these core areas and maintain landscape integrity. Malaysia, Thailand, and Nepal specifically mentioned the need for ensuring that infrastructure in corridors adheres to smart, green designs to maintain connectivity and corridor integrity. Nepal recognized the need for policy backing. Some of the landscapes have transboundary linkages, and international coordination and cooperation to maintain ecological and administrative links were considered priorities by Nepal, Thailand, Myanmar, China, and Russia. Both China and Indonesia indicated the need to identify and secure sites for tiger release and relocation programs.

b. **Controlling poaching of tigers and prey populations** was seen as a major need by TRCs. While to survival o has been another common theme across TRCs. Most TRCs lacked capacity for effective and efficient patrolling; thus capacity building for anti-poaching was seen as a priority. Training, better patrolling models, and intelligence networks to prevent poaching on core areas and buffer zones were some of the strategies proposed in the recovery plans. Thailand and Malaysia also indicated the need to patrol or investigate the sale of wild meat in shops and restaurants around the core areas.

c. **Capacity Building** covers both technical disciplines as well as managerial skills needed to create, develop and run specialized wild life conservations departments. These include technical skills in new technology as well in new scientific management systems.

d. **Controlling Illegal trade and reducing demand.** Transboundary collaboration and coordination to control the international trade in tigers, tiger parts and derivatives was an overwhelming priority. With the exception of Laos, all other TRCs explicitly stated the need for transboundary cooperation.

e. **Engaging local communities and managing human conflict** Six countries, Bangladesh, Bhutan, India, Nepal, and Thailand, recognized the need for engaging local communities as conservation stewards, especially in buffer zones and corridors. Access to forest resources and land management, and alternative income generating activities are seen as incentives and

compensation for opportunity costs associated with conservation-related constraints. Compensation and other mitigations to address human-tiger conflict were considered a significant activity by the TRCs that prioritized community engagement. China, Myanmar, Russia, Thailand, and Vietnam indicated the need for awareness programs to communicate the need for tiger conservation to various stakeholders, especially to the local communities living next to tigers.

f. **Scientific Monitoring of tigers and prey populations** Science-based, structured monitoring programs were deemed priorities among all TRCs. The adoption of MIST as a monitoring system, coupled with smart patrolling has been a common denominator, and will help in tracking range-wide tracking of tigers and prey. While some TRCs have already adopted MIST, others want to, and regional training programs should be designed to meet this need.

g. **Trans-boundary management of shared landscapes.** The TRCs that shared common cross-border tiger conservation landscapes also indicated the need for policies to facilitate better trans-boundary cooperation.

h. **Sustainable finance**: Bhutan, Indonesia, Laos, Nepal, and Thailand indicated the need for a developing sustainable financing mechanism to support tiger conservation. They emphasize the need to creating systems to monetize and capture the value of ecological services from TCLs such as carbon finance, offsets from smart, green infrastructure, and payments for environmental services, and community-based ecotourism. These are included in the special studies program.

B. Global Support Programs (GSPs)

These proposed programs have been developed by GTIs international partners in response to the needs expressed in NTRPs for special support in areas where working across TRCs and in some cases other countries is required. The Knowledge sharing support would cover all important themes which do not have a specific GSP proposed for them. The drafts of the GSPs are currently under peer and TRC review and will be firmed after taking into account all such inputs.

GSP Cost Table, US$ million

II. Global Support Programs	**7.5**
Combating Wildlife Crime	4.0
Demand Reduction	0.5
Institutional Development and Capacity Building	2.3
Scientific Monitoring	0.8

NATIONAL TIGER RECOVERY PRIORITIES

People's Republic of Bangladesh

NTRP aims to present the incremental effort that Bangladesh needs to make in order to accelerate the implementation of its Tiger Action Plan with a focus on actions of the highest priority. These efforts are over and above major ongoing or planned projects (below), many supported by donors, which form a vital base for the scaling up envisaged in the NTRP.

- The EC-funded Sundarbans Environmental and Livelihoods Security (SEALS) project will support sustainable development of the Sundarbans Reserved Forest (SRF), including: sustainable resource use by the local communities; restoring and cyclone-proofing the SRF; an Information Management Information System to guide SRF protection and management. The SEALS project will also complement the Bangladesh Tiger Action Plan, on which the NTRP is based. The total cost of this project is Euro 10,444,444, of which the EC component is Euro 10 million.
- The USAID's Integrated Protected Area Co-management (IPAC) project will support FD in developing a protected area strategy for all ecologically and economically significant areas, and a SRF co-management plan. The IPAC will also complete a detailed economic analysis of the resource dependence dynamics around the Sundarbans Impact Zone (SIZ), including an analysis of SRF fisheries resources. The cost of this project will be US$ 15.5 million (2008-2013).
- The Multi Donor Trust Fund for Climate Change will fund climate change-related activities, including restoration of mangrove habitats. The Trust fund is capitalized at US$ 100 million.

Summary of National Tiger Recovery Program

Country Name: **BANGLADESH**

Long Term Strategic Goals

The current population estimate of 300-500 adults (Bangladesh Tiger Action Plan) is based on relative abundance surveys that confirm tigers are currently distributed across the whole of the Bangladesh Sundarbans, and data from two radio-collared females. The estimate and relative abundances suggest that it is unlikely that tiger numbers can be doubled; thus the national goal is to stabilize or marginally increase the current tiger population by reducing some key threats to tigers, prey and habitat.

However, this goal should be periodically reviewed in the context of impending impacts of climate change on the Sundarbans. Because of its highly dynamic nature and the manifold environmental variables (e.g., sea-level rise, monsoon rainfall and river runoff, cyclones, ocean surges, silt deposition) and their synergistic interactions that will contribute to climate-related impacts, projecting the impacts on tigers and tiger habitat in the Sundarbans is difficult at best, and constant monitoring and appropriate conservation management interventions will be necessary as well as actions to target the root causes of climate change.

Tiger Conservation Goal: ***By 2022, a demographically stable tiger population close to 'carrying capacity' under conservation management in the Bangladesh Sundarbans ecosystem.***

Baseline Status

The current tiger population estimates may not be accurate, but are the best available. Because of the unique challenges of accurately determining tiger populations in the Sundarbans, methods used in other tiger habitats (e.g., camera trapping, occupancy surveys, transect surveys, sign-based surveys) are not easily transferable to this ecosystem. Therefore, obtaining reliable estimates for the Sundarbans will require tailored methods. A peer-reviewed relative abundance survey designed specifically for the mangroves is being run every two years, with the first two surveys from 2007 and 2009 showing a slight increase in relative abundance. This is allowing management to track change in the Bangladesh Sundarbans population for the first time. However, absolute numbers and behavioral data are harder to come by, and other methods need to be developed, (e.g., genetic analysis, and radio-tracking a large number of tigers to obtain more reliable data on habitat use, territory size, response to tidal fluctuations, and other ecological and behavioral variables.)

The available information suggests that the major threats to tigers in the Bangladesh Sundarbans are: a) poaching; b) human-tiger conflict when tigers stray into villages or villagers venture into forests to collect forest produce; c) depletion of prey due to poaching; and c) habitat-related threats stemming from unsustainable wood and aquatic resource harvesting, upstream water extraction/divergence and pollution, and the various effects of climate change.

Thus, interventions to minimize these threats are necessary to achieve the tiger conservation goal.

It is important to note here that the tiger habitat in the Sundarbans also provides essential ecological services of local, national, and global significance, such as: trapping of sediment and land formation; protection of human lives and habitation from cyclones; serving as a nursery for fish and other aquatic life that support a significant fishery; oxygen production; waste recycling; supply of food and building materials; and carbon cycling and sequestration.

Cyclonic activity is expected to increase in intensity and frequency with global warming, making conservation of the mangroves an even greater imperative to save economies (local and national), livelihoods, and lives. There is clear evidence to show that the impacts of the 2009 cyclone Aila were mitigated by the mangrove islands. Unfortunately the economic value of these ecological services has not been quantified; thus, an economic valuation of the mangroves is necessary to facilitate willingness of the Government and communities to invest in protection of this valuable ecosystem from further degradation.

Priority Actions to achieve Long Term Strategic Goals

1. **Building Institutional capacity**: The Bangladesh Forest Department (FD) is the sole government department responsible for nature conservation in Bangladesh. However, they are still expected by the government to produce short-term revenue from the nation's forests. As a result, the FD does not receive the required funds to perform conservation duties or develop conservation specialists. A paradigm shift is required to bring both the FD and the government from production forestry to conservation, and to mainstream conservation into the development agenda, (especially since the ecological services provided by the Sundarbans are important to support and sustain economic development). An economic valuation of the Sundarbans, plus reinforcement via policy level communications will support this change. Within the FD, the Wildlife and Nature Conservation Circle (WNCC) formed in 2001 is responsible for wildlife conservation across the country but does not yet have sufficient institutional presence to fully carry out its intended role. Many posts lie vacant, and staff regularly transferred between wildlife and territorial (forest) posts, hampering the development of wildlife or ecosystem conservation specialists. Retaining and motivating staff to work in remote areas with poor services and in risky environments poses an additional challenge. Therefore, a dedicated institution for wildlife conservation and management is necessary, with appropriate training and logistical support. In discussions with the Secretary to the Ministry of Environment, he proposed forming a wildlife department within the Ministry as a possible solution. The territorial arm of

the FD will also require organizational change to effect change from production forestry to conservation. In addition, collaborations with other sectors and stakeholders in wildlife conservation remain weak, yet are needed to bring in the multitude of skills needed to conserve tigers. Therefore, mechanisms to expand overall biodiversity conservation governance across Government Organizations (GOs), Non Government Organizations (NGOs), civil society, communities are required.

2. **Engaging local communities.** Patrolling and protecting the vast Sundarbans ecosystem by a small cadre of government staff is inefficient and ineffective. A more practical solution is to engage the local communities as conservation stewards. Currently, local people venture into the mangroves to collect forest products and frequently come into conflict situations with tigers; the Bangladesh Sundarbans suffers the highest level of human-killing by tigers in the world. Heavy extraction of forest products—especially timber, fuel wood, fish and other aquatic resources—is also resulting in forest degradation, which can potentially destabilize the mangrove islands, leaving the coastal areas vulnerable to cyclones and ocean surges. Given their poverty, local communities can also succumb to offers from organized poachers. Therefore, creating alternative livelihoods linked to wildlife and healthy habitats will make them willing stakeholders and conservation stewards.

3. **Protecting the habitat:** The FD lacks trained and adequate staff, field infrastructure, mobility, equipment and operational resources to adequately protect the >6,000 sq km of mangroves with the winding, convoluted waterways and islands. Many areas lack guard posts, and many guard posts do not have boats or fuel to operate boats when available. Accommodation conditions are basic, there are problems of drinking water, and medical facilities are extremely limited. Existing laws do not provide guards with enough protection in case of death or injury during duty, and there is no risk allowance to compensate for dangers faced by FD staff. Thus, adequate field staffs have to be recruited, trained, and posted with adequate logistical support and appropriate incentives.

4. **Trans-boundary collaboration with India on illegal trade.** While hard data on the extent of illegal trade and cross-border poaching of tigers is difficult to come by, anecdotal evidence and the volume of other wildlife smuggled across the open, porous border with India suggests that it could be significant. Currently no protocol or system exists for effective cross-border collaboration in the area of wildlife preservation. Thus trans-boundary and regional collaboration is necessary to curb cross-border poaching, smuggling and trade.

Program Indicators (interim) to achieve country's Long Term Strategic Goals
Indicators will be selected from the suite below:

Tigers: relative tiger abundance; ratio of adult to cubs; ratio of male to female tigers; tigers poached; tigers killed in surrounding villages.
Prey: absolute prey abundance; number of prey poached.
Habitat: terrestrial habitat monitoring (include satellite imaging + ground truthing); aquatic habitat monitoring (freshwater inflow, salinity levels); key threats (sea level rise, wood collection; monitoring through biodiversity indicators to be fixed).

Program Indicators (2022) to achieve country's Long Term Strategic Goals
Indicators will be selected from the suite below:

Tigers: relative tiger abundance; ratio of adult to cubs; ratio of male and female tigers (number of active female is a determinant of survival of tiger population); tigers poached; tigers killed in surrounding villages.
Prey: absolute prey abundance; number of prey poached.
Habitat: terrestrial habitat monitoring (include satellite imaging + ground truthing); aquatic habitat monitoring (freshwater inflow, salinity levels); key threats (sea level rise, wood collection); monitoring

through biodiversity indicators to be fixed.

NTRP Component linked to the Priority Actions

1. Mapping of Action against Goals

Long Term Strategic Goal: ***By 2022, a demographically stable tiger population at or near 'carrying capacity' under conservation management in the Bangladesh Sundarbans ecosystem.***

- Without effective patrolling and control of wildlife crime, tiger and prey poaching and habitat degradation will continue unchecked, making even the stabilization of the tiger population quite difficult to achieve. Addressing these threats will require improved infrastructure, new technology for monitoring and research, and training to enhance skills of FD staff.
- The logistical difficulties that hamper effective and efficient patrolling and protection of the Sundarbans by the FD, and the role of the mangrove tiger habitat in sustaining local livelihoods and economies by buffering against natural catastrophes and contributing to climate change mitigation and adaptation, demands a conservation strategy that engages local communities in conservation. Thus, the overall goal should include community stewardship in conservation, with appropriate strategies and activities.
- The potential for international trade-driven organized poaching to penetrate and decimate the Sundarbans tiger population (like it has done in many other parts of the range) calls for regional/trans-border cooperation to preempt such threats, and is a priority component.
- The underlying data lacunae about the ecology, behavior, and population status of tigers requires more research to establish a baseline for monitoring the status of tigers in the Sundarbans and to track progress towards the long-term strategic goal.

2. Description of Program Components

The program has four priority components: 1) institutional capacity development for conservation; 2) eliciting community stewardship for effective conservation; 3) protection of tiger habitat; and 4) trans-boundary collaboration with India on illegal trade.

Building institutional capacity

Objective 1. To develop capacity in the Forest Department for effective wildlife and habitat conservation in the Sundarbans.

Recruitment, training, and logistical support for staff, and reorganization of the Forest Department (FD) to create a dedicated wildlife wing or separate department under Ministry of Environment and Forests (MoEF) for conservation and management of wildlife and wildlife habitat in the Sundarbans. Current arrangements result in staff trained in wildlife conservation being transferred to forestry postings as regular staff rotations.

Activities include: facilitating a political transition from production forestry to conservation in the FD and relevant ministries by removing the existing relationship between revenue earnings and budget allocation (i.e., currently budget allocations are based on revenue earnings); transition to a budget allocation for Sundarbans based on the ecological services provided by the ecosystem; expand overall biodiversity conservation governance through inter-sectoral collaboration, including ideas for joint projects, and mechanisms to improve the relationships between (and within) the FD and the Department of Environment

(DoE) and MoEF, judiciary, NGOs, civil society, local government, and communities; FD organizational and cultural change, including a clear vision and objectives for the FD taken up across all layers of staff, devolving field level decision-making to field level managers, and creating the necessary units for addressing wildlife crime, monitoring, compensations for wildlife conflict and depredations, and inter-sectoral conservation planning; training and capacity building of staff.

Expected outcomes

- Improved conservation the Sundarbans and its wildlife measured in terms of tiger, prey and habitat

The design and implementation of this component will take approximately 2 years

Engaging local communities

Objective 2. To reduce community dependency on forest resources

Provide alternative income generation (AIG) to reduce the dependency of local people on forest products and minimize the presence of people in forests, thus reducing the potential for tiger-human conflict and habitat degradation.

AIGs can include: community based ecotourism (boat hire, home stays, and guides); apiculture; handicrafts; cage and pond fish culture; social forestry and nursery; alternative energy (instead of fuel wood); poultry rearing.

Expected outcomes:

- Improved habitat condition because of reduced extraction of forest resources
- Socio-economic development of local communities from income generation opportunities

Objective 3. To involve local communities and administrations in forest management

Forest co-management committee formation and strengthening to build forest management partnerships between local communities and the FD to promote a sense of ownership and conservation stewardship among the local communities.

Activities will include: formation of forest co-management committees/councils; benefit sharing from forest management.

Expected outcomes:

- Socio-economic empowerment of local communities
- Community stewardship for conservation
- Positive attitude towards wildlife

Objective 4. To reduce tiger-human conflict

Conflict Tiger Response Teams formed to: respond to tiger related conflicts; monitor conflict patterns; monitor problem tiger presence; encourage safer behavior inside the forest to minimize conflict.

Activities will include: strengthening and forming tiger response teams; conflict incidents and stray tiger presence monitoring; compensation for victims/family; compensation for livestock depredations; insurance support.

Expected outcomes:

- Improved relationships between FD and local communities.
- Reduction of retaliatory killing of tigers
- Reduction of human and livestock killing

Objective 5. To reduce tiger and prey species poaching and consumption

Community-led anti poaching/consumption teams formed or developed upon existing conflict tiger response teams to: gather intelligence on poaching and consumption activities; and to support the FD, police, Bangladesh Rifles (BDR) and Rapid Action Battalion (RAB) in the arrest of offenders.

Activities will include: forming community-led anti-poaching/consumption teams; joint training with

community-led teams, FD, BDR, police, RAB; developing a mechanism for the general public to report crime; poaching and consumption monitoring programs.

Awareness campaigns to: make people (especially local communities, GO, NGO) aware of the need for tiger, prey and habitat conservation; stigmatize poaching and consumption; link socio-economic advantages of Alternative Income Generation (AIG) to conservation.

Expected outcomes:

- Better protection of tiger and prey populations from poaching
- Community stewardship of tiger conservation

The AIG component will take 8 years, while the other components will comprise of 3-5 year programs.

Habitat protection

Objective 6. To deploy an effective and efficient cadre of wildlife conservation field staff to conserve tigers and tiger habitat

Create an adequate, trained wildlife conservation cadre with logistical support for effective and efficient patrolling and monitoring of tigers and tiger habitat. Currently, staff trained in wildlife conservation can be transferred to forestry-related posts. The lack of adequate boats, fuel allowances, and guard posts hamper patrolling.

Activities include: retention of staff within WNCC; addition of about 10% technical staff; providing logistical support including fast boats with fuel allowances, communication devices, guard posts and housing with essential facilities; providing improved technology-based monitoring and protection (Management Information System Technology (MIST), radio-tracking, effective patrolling); providing incentives and risk insurance for hardship and high risk posts; and coordination with police, coast-guard, local administration, local communities, and media.

Expected outcomes:

- Better protective measures for conservation of tiger habitat in the Sundarbans
- Better protection of tiger and prey populations from poaching and other killing
- Better monitoring of tiger and prey populations
- Better understanding of tiger ecology, behavior and population demographics
- Improved collaboration and coordination with police, coast guard, other stakeholders, including with India

The program will take 3 years after it is launched to reach full maturity.

Trans-boundary collaboration with India on illegal trade.

Objective 7. To establish an institutionalized system to curb cross-border trade and poaching of tigers and other wildlife

Create a mechanism for trans-boundary collaboration to curb cross-border poaching, smuggling and trade of tigers/parts and other wildlife.

Expected outcomes:

- Cross border trade and smuggling of tigers/parts and other wildlife reduced significantly
- Poaching threats to tigers in the Sundarbans reduced

The program will take 2 years after it is launched to reach full maturity.

3. Policy Framework needed to achieve objectives

- Inter-Ministerial Policy decisions are needed to strengthen collaboration with the police, coast guard and local administrations.
- Inclusion of wildlife crime in the current cross border law enforcement Memorandum of Understanding (MOU) between Bangladesh and India is needed.
- Ministry of Forest and Environment decision to retain expertise and skills within a dedicated wildlife conservation unit.
- Update co-management guidelines, policy, and rules.
- Revised Wildlife Conservation Act 2010 to be enacted and with associated Rules.
- Protocol to address and mitigate tiger-human conflict.

4. Capacity constraints

- Lack of technical skills in MIST and remote sensing and research.
- Inadequate technical staff in WNCC; add only 10% to numbers to effectively cover the area (in Territory Forest Divisions).
- Lack of skills for community engagement and wildlife crime enforcement.
- Little support for new model of community conservation management committees, councils, community-based anti-poaching and patrolling teams, additional Tiger Response teams.
- Cultural change and other skills within FD, especially related to proposed reorganization.

5. Stakeholders

Key stakeholders are: policy makers, GOs (local, regional, central), bank/financial institutions/funders (national and international), local people/communities/forest users, law enforcement agencies (police, coast guard, BDR, NGOs, judiciary, media.

6. **Performance Indicators**

Key measurable indicators will be chosen from the following suite based on (further) project development:

Institutional capacity building:

Indicators for this component can be developed for each activity and be defined in terms of: a) whether the activity has been completed, or b) the numbers of meetings/staff trained and so on; e.g., decision-making power devolved to mid-tier management (e.g. Assistant Conservator of Forest (ACF)), numbers of sanctioned posts filled properly and on time, enforcement of existing government rule that no officer can be kept on current charge for more than 6 months, no cadre/non-cadre conflict (within power of government to solve it), training matrix developed, number of relevant staff sent on training.

Community engagement and habitat protection:

number of people engaged in AIG, number of people who enter the forest, household use of forest resources (especially fuel wood), timber extraction, number of community members in co-management committees, number of local government/admin involved in management, amount of benefits arising from shared management, number of offenses/offenders (detected through MIST), number of Tiger Response Team (TRT) and anti-poaching teams, number of tigers/prey poached, or poaching incidents, local people's attitudes towards wildlife, numbers of tigers and people killed in conflict.

Research on tiger ecology and monitoring:

- Tiger and prey population – relative abundance, distribution, adult/juvenile demographic trends.
- Habitat Condition – using degradation indicators to be developed.

Activity	Total estimated budget (million US $)	Govt contribution	Donor contribution
Infrastructure	4.0		
Protection logistics (mobility/patrolling, communication), monitoring (MIST)	7.0		
Staffing, incentives and risk insurance	1.0		
Alternative income generation projects	6.0	0.6	5.4
Community stewardship and forest management	1.0	0.1	0.9
Reducing tiger and prey species poaching	0.5	0.1	0.4
Tiger-human conflict mitigation	0.5	0.1	0.4

7. Indicative Costs in US$ for 5 year program

8. Financing Options

There are several funding options. They largely depend upon the architecture and design of the project to meet the set criteria of the funding sources annotated below:

- Government budget to pay for ecological services once these are properly quantified.
- Increased revenue from well-managed tourism
- Global Environment Facility (GEF): Use of GEF 5 funding to fund priorities components
- IDA: A regional IDA project for controlling illegal trade and trafficking has already been conceived and approved in principle by the government
- Technical Assistance (TA): The current World Bank Sundarbans Non Lending Technical Assistance (NLTA) project (Climate Change Adaptation, Biodiversity Conservation & Sustainable Socio-Economic Development of the Sundarbans Area) could be used as an advantage or expanded to fund some of the complimentary activities indentified in the NTRP.
- IDA: A potential trans-boundary project among India and Bangladesh for habitat protection and preservation of the biological integrity of the Sundarbans as a holistic ecosystem.

Support needed from the GTI (in thousands US $)[1]

Activity	Costs
Pilot projects: Implementing MIST pilot	100
Technical assistance: 1. Develop Overall Monitoring System 2. Design of trans border wildlife law enforcement operating model, plus supporting processes and procedures 3. Design of national wildlife crime unit operating model, plus supporting processes and procedures 4. Design of Human Resource Management approach for the FD to support the organizational and cultural changes (includes training needs development, revised performance monitoring criteria)	100

[1] The GTI is not a primary financing organization. Any funds directly raised by the GTI will be used by TRCs for catalytic and initial work required to bring best practices to full-scale projects. GTI support, in general, will be less than US$500,000 in each case. For TRCs that may have already developed detailed plans for large scale projects costing more than $500,000, the GTI will facilitate access to large funders if needed.

	Training and capacity building: 1. CITES/Wildlife law enforcement training across FD and other related services (police, customs, BDR, RAB)	50
	Workshops : 1. Law Enforcement Collaboration with Police/Coast Guard etc. 2. Trans border Collaboration with wild life law enforcement with India/Nepal/Myanmar.	50
	Studies: 1. Valuation of ecological services of Sundarbans 2. Development of habitat monitoring approach for Sundarbans (both terrestrial and aquatic areas) and including definition of 'sustainable levels' for terrestrial and aquatic resource harvesting 3. Ecological studies of tigers in the Sundarbans to establish baseline of population status, behavior (including conflict), and responses to habitat changes/dynamics.	300
	TOTAL	**600**

Kingdom of Bhutan

NTRP aims to present the incremental effort that Bhutan needs to make in order to accelerate the implementation of its Tiger Action Plan with a focus on actions of the highest priority. These efforts are over and above major ongoing or planned projects (below), many supported by donors, which form a vital base for the scaling up envisaged in the NTRP.

- The Paul Getty Foundation (US$ 8 million), MacArthur Foundation (US$ 1.5 million), the Bhutan Trust Fund (US$ 0.3 million), DANIDA (US$ ~0.7 million) have supported capacity building in the DoFNPS. Support has included establishment of graduate training institute for sustainable natural resources management and biodiversity conservation, upgrade knowledge and skills of existing staff, increase trained manpower in natural resources management and research.
- WWF has contributed US$ ~ 150,000 for tiger monitoring, anti-poaching and trade-related activities, and capacity building in DoFNPS. WWF will provide a match to the US$ 4 million GEF 5 proposal to the World Bank. UNDP/GEF has contributed US$ ~ 116,000 for conflict mitigation and anti-poaching, trade activities.
- Helvetas is supporting sustainable forest management and improvement of rural livelihoods by strengthening capacity of local communities to utilize and conserve forest resources. The project broadly deals with establishment of community forests and related capacity building. Cost: > US$ 2.8 million.

Summary of National Tiger Recovery Program

Country Name: **BHUTAN**

Long Term Strategic Goals

Bhutan is unique in having tigers at altitudes as 4,100 m in the north and central region, and represents the only tiger ecotype adapted to live in high altitude habitats. Tiger conservation in Bhutan has to be harmonized with its sustainable development goals, based on its principles of Gross National Happiness, and the commitment to maintain 60% forest cover. Because poaching of tigers and prey and retaliatory killing is low relative to other regions of the tiger range, it is unlikely that tiger populations are significantly depressed (although more rigorous surveys are necessary to confirm this). Therefore, it is unlikely that tigers can be doubled in Bhutan's tiger landscape, although there could be potential for a marginal increase before stabilization. However, the goal can be revisited and revised following nation-wide surveys to establish a reliable baseline estimate.

Long Term Strategic Goal: ***By 2022, demographically stable tiger meta-population in Bhutan thrives and co-exists harmoniously with people through habitat conservation and compatible development activities and livelihoods.***

Baseline Status

The current population estimate of 67-81 adult tigers (~ 115-150 total) is based on five nationwide surveys and analysis of sign data (Bhutan Tiger Action Plan 2005). The densities of tigers are estimated at 1/50 km^2 in the southern subtropical forests, and 1/185 km2 in the central Himalayan temperate broadleaf forests (McDougal & Tshering 1998 in Bhutan TAP). The naturally low prey densities expected in temperate forests is consistent with lower tiger densities; however, these data require verification through rigourous, scientifically robust surveys. A nation-wide survey using camera-trapping and occupancy or distance surveys is planned.

The current system of corridors/linkages excludes important habitats with rich biodiversity, including good

tiger habitat. Therefore, a corridor review is being undertaken, and based on its results, the corridor system could be realigned to include additional tiger habitat.

Transboundary collaboration will be maintained and strengthened to maintain ecological and administrative links, especially with India.

Bhutan's development plans can fragment existing habitat areas. Therefore, proactive assessment of infrastructure and other economic development initiatives should be reviewed for impact to important tiger habitat. Appropriate capacity and policy should be developed to assess for impacts, and discuss and develop mitigations with line agencies and ministries.
People living in Bhutan's protected areas and corridors should be engaged in conservation, especially since MoFNPS staff is inadequate to effectively manage the large protected areas system.

Priority Actions

1.Habitat and species conservation

Bhutan has pledged to maintain over 60% forest cover. About 51% of the country is now included in a system of protected areas and biological corridors. But surveys over the past decade indicate that a significant proportion of tigers occur outside the protected areas and biological corridors. Thus, a revision of the corridor system to include important tiger habitat outside the current park-corridor system is necessary. Parks should be zoned to identify core tiger habitats, and corridors should be clearly designated and identified to enforce rules and regulations that govern land-use and land-management. Because the protected areas are relatively large (four important parks are >1000 sq km) and conservation cadre is limited, communities should be engaged to participate in habitat conservation and protection. A reliable baseline of the status and distribution of tigers and a regular monitoring system is necessary to track progress towards the goal. Trans-boundary collaboration with India and China, and regional links are essential to curb the illegal trade of tiger parts and derivatives.

2.Integrating tiger conservation and rural livelihoods

People live in Bhutan's parks and corridors, and harvest forest resources for everyday use and livelihoods. Living in tiger habitats has associated opportunity costs (livestock depredations; limited or constrained access to forests and forest resources). Thus, compensation in the form of alternative income generation, insurance for depredation, conservation payments, etc. to elicit support for biodiversity conservation and community stewardship is a necessary action.

3.Building institutional capacity

The current staffing levels—numbers and skill levels—are inadequate to carry out scientific conservation of key and species of special concern. Linkages among the different units of the Department of Forests and Park Services (DoFPS) are inadequate or non-existent, and no single unit has a clear mandate to coordinate the national park and wildlife protection services in the country. These shortcomings have to be rectified for more effective, efficient conservation and protection of tigers and tiger habitats.

4.Sustainable Financing

Tiger conservation will be greatly expedited if sustainable funds and financing is available. Therefore, a sustainable financing mechanism will be developed, incorporating innovative fund sources to allow for planning, implementing, and achieving ambitious and long-term conservation goals.

Program Indicators (interim)
Tigers: relative tiger abundance; ratio of adult to cubs; ratio of male to female tigers; tigers poached; tigers killed in surrounding villages.
Prey: absolute prey abundance; number of prey poached.
Habitat: habitat monitoring; condition, impact of infrastructure and mitigations, livestock grazing, tiger presence, corridor use by tigers
Government commitment and will: development plans that avoid tiger habitat, budget and staff support, realignment of corridors to include additional tiger habitat
Engagement of local communities: attitudes, community conservation groups, habitat condition and tiger presence in community managed forests.

Program Indicators (final)
Tigers: relative tiger abundance; ratio of adult to cubs; ratio of male to female tigers
Habitat: habitat monitoring (condition and presence of un-fragmented habitat from avoided infrastructure or 'green infrastructure', tiger presence, corridor use by tigers)
Government commitment and will: tiger conservation priorities included in Five-Year Plan, budget and staff support
Engagement of local communities: attitudes, habitat condition and tiger presence in community managed forests.

NTRP Component linked to the Priority Actions

1. Mapping of Actions against Goals

Long Term Strategic Goal: By 2022, demographically stable tiger meta-population in Bhutan thrives and co-exists harmoniously with people through habitat conservation and compatible development activities and livelihoods.

Priority Actions:

- A baseline of the current tiger and prey populations (estimate and distribution) set by scientifically robust techniques and subsequently, a monitoring program is required to track the status of the tiger and prey populations and progress towards the overall goal.
- The protected areas system should be linked by effective and functional corridors to conserve a meta-population of tigers in Bhutan. But since the current corridors do not capture important tiger habitats and other areas of biological significance, a revision of the corridor system is required. The protected areas should be zoned to facilitate appropriate land-use and management regulations. Land management/use regulations should be prepared for the PAs and corridors to proactively avert impact and threats to critical tiger habitats from anthropogenic activities.
- Local communities have to be engaged in habitat management and community stewardship through appropriate strategies (e.g., community forestry, alternative income generation, improved livelihood opportunities based on or linked to sustainable forest use). Support for forest conservation can be generated through awareness programs on the importance of biodiversity, and intact forests and ecological services to lives and livelihoods.
- Reduce killing, trade, and conflicts with tigers through: staff recruitment and training; engaging and building community support; and transboundary and regional collaboration to curb trade and trafficking of wildlife.
- Capacity within the DoFNPS has to be built for effective and efficient conservation and protection in the field, and to engage and coordinate with government line agencies and ministries, especially to mitigate the impacts of proposed/planned development that will impact on critical tiger habitat.
- A sustainable financing plan and strategy has to be prepared to ensure continued financial support for

tiger conservation.

2. Description of Program Component

Bhutan's tiger recovery and conservation program has four priority components: 1) habitat and species conservation; 2) integrating tiger conservation and rural livelihoods; 3) institutional capacity building; and 4) sustainable financing mechanisms.

Habitat and species conservation

Bhutan has pledged to maintain over 60% forest cover, and 51% of the country is now included in a system of protected areas and biological corridors. Past surveys indicate that a significant proportion of tigers occur outside the protected areas and biological corridors; thus, a revision of the current corridor system is warranted to include important tiger habitat within this system. Because the government conservation cadre is limited and the protected areas are large, community stewardship for tiger protection and habitat management is a more efficient strategy. Despite several national tiger surveys, the estimates are unreliable; a scientifically robust baseline and subsequent monitoring system is required to track the status of the tiger population and progress towards the overall goal.

Objective 1: To establish a nationwide monitoring program for tigers and prey

A nationwide survey of tigers and a system for routine monitoring by park patrolling teams using 'standardized' and accepted methods will be introduced. The methods are use, or will be introduced in landscapes across the tiger range.

Activities:

- Conduct nationwide tiger and prey survey to establish national baseline based on camera trapping and occupancy or distance surveys
- Establish routine monitoring protocols for tigers, preys, and habitats (MIST)

Expected Outcomes:

- National baseline and database to assess the status of Bhutan's tiger population

Objective 2: To classify and define tiger habitat at a landscape scale in Bhutan

Identify and zone tiger core areas and corridors, including important tiger habitat, in the Bhutan Biological Conservation Complex for management guidelines and regulations. Because surveys indicate that significant tiger habitat is now excluded from the system of protected areas and corridors a review of the corridors will be undertaken with revision as appropriate based on the findings.

Activities:

- Identify and delineate tiger core zones (that support breeding tigers) and dispersal corridors
- Establish management zones in the protected areas based on habitat use and distribution of tigers
- Review and revise the currently designated corridors in the light of tiger distribution and conservation
- Develop a mechanism to assess impacts of proposed development projects on tiger habitats in the protected areas and corridors
- Assess impacts of climate change on tiger habitat and land use practices by local communities

Expected Outcomes:

- Conservation and management of a tiger meta-population in Bhutan
- Proactive measures to prevent impacts from development projects on tiger habitats in the protected areas and corridors

- A projection of the impact of climate change on tiger habitat for adaptation strategies

Objective 3: Participatory management of tiger habitats

Community participation and engagement in tiger habitat conservation through community forestry in appropriate management zones in protected areas and corridors can facilitate habitat conservation and tiger protection.

Activities:

- Develop community-based natural resource management programs in the protected areas (e.g., community forestry)
- Develop joint anti-poaching programs and establish intelligence networks with the communities

Expected Outcomes:

- Community stewardship for tiger conservation
- Sustainable natural resources for the local communities

Objective 4: Strengthen trans-boundary conservation linkages

Bhutan and India share trans-boundary protected areas complexes that can benefit from administrative linkages to maintain ecological linkages. Trans-boundary collaboration with India and China, and regional links are also necessary to curb the illegal trade of tiger parts and derivatives (as well as other wildlife and plants).

Activities:

- Monitor cross border movement of animals
- Set up cross border administrative coordination mechanisms for joint patrolling, intelligence sharing, and policing for wildlife trade

Expected Outcomes:

- Meta-population links between tigers in India and Bhutan
- Reduced killing, trafficking, and trade of tigers

Objective 5: Strengthen anti-poaching and wildlife crime enforcement

Anti-poaching measures are needed to reduce poaching of tigers and prey. Although organized poaching is not a significant problem now, anti-poaching and intelligence networks to curb regional poaching that can reach into Bhutan are necessary as a preemptive measure.

Activities:

- Strengthen anti-poaching and wildlife enforcement with the Nature Conservation Division as the coordinating body
- Set up intelligence networks (including at community levels) with database for poachers.
- Develop links with Customs, Police, Armed Forces, Judiciary, and BAFRA (Bhutan Agriculture and Food Regulatory Authority)

Expected Outcomes:

- Reduced killing and trade of tiger parts and derivatives

Component will be implemented in priority tiger protected areas and corridors and program duration is estimated at 5-8 years

Integrating tiger conservation and rural livelihoods

A high proportion of the people still depend on forest resources for everyday use and livelihoods. Living in tiger habitats have opportunity costs, especially due to livestock depredation, and limited or constrained access to forests and forest resources. Compensation in the forms of alternative income generation, insurance for depredation, conservation payments, etc. to elicit support for biodiversity conservation and community stewardship can help local livelihoods and gain support for biodiversity conservation.

Objective 6. To provide alternative forest resource use practices to reduce anthropogenic pressure on tigers and tiger habitat

People live in protected areas and corridors; thus, forest resource use and other activities (e.g., livestock grazing, *jhuming*) can contribute towards forest degradation and disturbance. Providing alternative income sources, alternative livelihoods, and better livestock management can take some of the extraction pressure off the forests, and help with conservation.

Activities :

- Provide alternative energy sources (especially biogas in lowlands) to reduce fuel wood consumption
- Develop better fodder and pasture, and herd management to reduce grazing pressure and livestock depredation
- Promote and help to start up community-based eco/nature tourism operations (treks, accommodation, guides, produce, etc.)
- Initiate a micro-credit scheme for financing and supporting rural livelihoods and micro-enterprise project start-up
- PES: compensate local communities through revenue-sharing from hydro-schemes and other projects for conserving habitat and ecosystem services
- Promote micro-enterprise schemes (mushroom cultivation, medicinal plant growing and sustainable harvest, cane and bamboo, etc.)
- Implement an awareness program on the links between tiger conservation and ecosystem services and sustainable resource availability
- Implement community-based livestock insurance programs and scale up across tiger habitat in landscape
- Human wildlife coexistence education and awareness programs to local communities

Expected outcomes:

- Greater awareness of conservation needs and actions
- Community stewardship for tiger conservation and consequently, less habitat degradation
- Sustainable livelihoods and better livestock management practices
- Reduced human-tiger conflict and greater tolerance to depredations

Component will be implemented in priority tiger protected areas and corridors and program duration is estimated at 5-8 years

Building institutional capacity

Objective 7. To enhance institutional capacity of the Department of Forest and Park Services to deal with the national park and wildlife protection issues.

Linkages among the different units (Division and National Parks) of the Department of Forests and Park Services (DoFPS) are inadequate. No single unit has a clear mandate to coordinate the national park and wildlife protection services in the country. The numbers and skill levels of the present staff are inadequate to carry out scientific conservation of key species and species of special concern. Though Bhutan has a 10 Year National Tiger Action Plan (2006-2013) there is no dedicated program in place to execute the action plan.

Activities:

- Synchronize mandates of existing units (Division, national parks, programs) of the DoFPS for intra-unit linkages and establish coordination platform
- Strengthen DoFPS partnerships with other relevant government sectors (law enforcement agencies, national environment commission, UWICE, NRTI, NGO, Local communities, BTFEC, etc.) to effectively conserve key species and species of special concern

- Explore creation of an autonomous unit (ideally a Department) within the Ministry of Agriculture and Forests (MoAF) to deliver the national park and wildlife protection services
- Recruit, train, and provide logistical support to DoFPS field staff (national park and DoFs) to carryout wildlife conservation

Expected outcomes:

- DoFPS capable of developing and effectively executing wildlife/biodiversity conservation programs and projects

This component is located nationwide and will take approximately 5 years

Sustainable Financing

Objective 8. To have an Integrated Financing Plan/Strategy by the end of 2010

An integrated financial plan that includes innovative and sustainable financing of conservation interventions will allow for planning, implementing, and achieving ambitious and long-term conservation goals.

Activities:

- Prepare a financing strategy/plan with the full range of activities for the tiger recovery program, including expected impact, cost and sources of fund
- Donor Mapping - external/traditional donors
- Explore innovative financing sources (e.g., payments/revenue from hydro and ecotourism, carbon trade for corridor forests and alternative energy sources, biodiversity credits, PES etc.)
- Mainstream tiger conservation plans into the national and local plans (education, awareness, sensitization in line agencies and ministries, conservation and livelihoods plans)
- Create synergy through harmonization of related activities (information sharing, coordinating activities among the related agencies such as NEC (UNFCC).

Expected Outcome:

- Conservation activities implemented as per plan
- Sustainable financing for tiger recovery plan

This component can be completed in 1 year

3. Policy

- Protected Areas and Wildlife Act has to be finalized
- Bilateral policy and MoU between India and Bhutan for collaborative management of transboundary protected areas and possible designation as Transboundary Peace Parks
- Shift in existing tourism policies to benefit local communities through ecotourism
- Policy for decentralization/co-management of conservation areas by involving local communities and local institutions
- Policies for improved intelligence network sharing within Bhutan and in the region
- Clear policies on PES defined and integrated into overall government conservation policies and acts.
- MoAF's support to improve linkages among the different units of the DoFPS and to explore creation of an autonomous body within the MoAF to coordinate the national park and wildlife protection services in the longer term.
- Frameworks for PES, access and benefit sharing, and carbon trading

4. Capacity

- Training of conservation and PA staff for tiger surveys, data analysis, and monitoring
- Training of communities for participatory management and anti-poaching
- Wildlife intelligence networking

- Lack of hardware and software for monitoring (equipment, GIS and database management)
- Capacity building for partner law enforcement agencies (customs, police, BAFRA)
- Develop better coordination within DoFPS to execute national park and wildlife conservation program

5. Stakeholders

- The political will and support of the Bhutan Government is crucial for tiger conservation
- Governmental line agencies, development-related departments, and relevant research institutions
- Schools and youth groups
- WWF (plays a critical role in bringing in funds for tiger conservation activities)
- UNDP (funds projects related to reducing human-tiger conflicts)
- Bhutan Trust Fund for Environmental Conservation (funds many activities related to tiger conservation)
- CITES, TRAFFIC, and SAWEN (crucial partners for curbing trade of tiger parts and derivates)
- Bhutan Foundation, World Bank, Helvetas, SDS, GTI, GTF, Panthera Foundation, STF (significant funders)
- Law enforcement agencies to assist in monitoring WL trafficking and reducing offences
- NGOs and local community groups
- Media

6. Performance Indicators

Key measurable indicators will be chosen from the following suite based on project development:

Habitat and species conservation and Integrating tiger conservation and rural livelihoods

Map(s) of critical tiger habitats, protected area zones, and revised biological corridors; national baseline for tiger, prey, and habitat, MIST survey data; number of community forest management groups and engagements in anti-poaching activities; number of human-tiger conflicts (livestock losses); number of tigers detected across international borders; number of joint patrols/groups and frequency of joint patrols across international borders; number of tigers killed and incidences of poaching and trade of parts; number of institutions or agencies involved in anti-poaching and curbing trade of tigers and cases reported; livestock insurance program and beneficiaries; community groups and individuals engaged in alternative income generation enterprises; number of people using micro-credit schemes; number of biogas plants; volume of fuelwood used/collected; numbers of free grazing cattle in forests.

Institutional capacity building

DoFPS feedback to the planning and designing of the interventions based on field data; projects to conserve biodiversity and ecological processes implemented by DoFPS in partnership with other stakeholders

Sustainable Financing

Integrated financing strategy in place by 2010; number of grant agreements/MoUs signed; new financing mechanisms formalized and implemented; scale of conservation activities featuring into the sectoral and local development plans; numbers of inter-sectoral coordination meetings held

7. Indicative Costs in US$ equivalent (approximate estimate):

Activity (combined for objectives)	Costs
1.Establish a nationwide monitoring program for tigers and prey	1,000,000
2. Classifying and zoning PAs in tiger landscape	1,500,000
3. Participatory management of tiger habitats	500,000

4. Strengthen trans-boundary conservation linkage	100,000
5. Strengthen anti-poaching and wildlife enforcement	300,000
6. Alternative forest resource use practices for local communities	1,500,000
7. Enhancing institutional capacity of DoFPS	1,300,000
8. Preparing sustainable financing plan/strategy	12,000
TOTAL (over 5-8 years)	**6,212,000**

8. Preferred Financing Mix.

- WWF (habitat conservation, surveys, zonation, corridors)
- GEF (Community participation, capacity building, human-tiger conflicts)
- SDS-Netherlands (zonation)
- HELVETAS (participatory management)
- SNV (participatory management)
- DANIDA (decentralized/participatory management)
- BTFEC (capacity building, infrastructure development, surveys, zonation)
- STF (tiger surveys, research)
- Royal Government of Bhutan (core costs)
- UNDP (community/conservation integration, alternative income generation)
- PES

9. Short-Term Catalytic Support Needed (in 2010-2011)[2]. Identify and indicate the amount of short-term catalytic funding needed from the GTI funding partners to support the Component in the table below. Such funding is typically expected to cover the following types of activities:

Catalytic activity (provide brief description)	**Costs, US$**
Implementing a monitoring system (MIST)	200,000
Training and capacity building for DoFPS and local communities	200,000
Cross-boundary meeting to enhance cooperation in law enforcement	20,000
Participatory zonation and management of tiger habitats in JDNP (including to mitigate climate change impacts)	50,000
TOTAL	**470,000**

[2] Short-term funds raised by the GTI partners will be used by TRCs for catalytic and initial work required to bring best practices to full-size projects. Such GTI support, in general, will be less than US$500,000 in each case. Where medium- and full-size projects (costing more than US$500,000 each) are already identified for possible submission to large funders, the GTI will facilitate lining up and leveraging the necessary cofinancing from other funders as appropriate.

Kingdom of Cambodia
Summary of National Tiger Recovery Program

Country Name: **CAMBODIA**

Long Term Strategic Goals

Following a decade of intense poaching and loss of habitat, tiger populations crashed in Cambodia and subsequent poaching of prey species prevented relic populations rebounding. An evaluation of the current viability of tiger populations in Cambodia indicates no evidence for a source site of breeding tigers remaining in the country and a goal to double tiger numbers in Cambodia is therefore invalid.

Cambodia's long-term goal is to restore and conserve at least one defined, delimited and inviolate Source Site large enough to hold at least 25 breeding females (c. 75 tigers), within a well defined Tiger Conservation Landscape that is tiger permeable and has the long-term potential to sustain 50 breeding females (c. 150 tigers).

Furthermore, Cambodia will ensure a continued global role in tiger conservation through continued regional collaboration on law enforcement and by ensuring national laws and global commitments relevant to tiger consumption and trade are honored.

Baseline Status

Existing tiger populations in Cambodia likely consist of a few isolated individuals, with no evidence of breeding populations. The current size of the tiger population in Cambodia is unknown but is likely to be less than 30 and in the Eastern Plains Landscape less than 15 individuals. Despite camera-trap photos revealing two different tigers in the Eastern Plains in 2005, the most recent evidence of tiger presence is from a camera-trap photo in 2007, and a single set of tracks recorded in 2009. Due to the low encounter rate of tiger sign and the size of the landscape, novel techniques including sniffer dogs, have been utilized to find tiger dung for DNA analysis in order to establish the continued presence of tigers.

The Eastern Plains Landscape forms the largest extent of deciduous-evergreen forest mosaic remaining in Southeast Asia. The potential of the landscape for tiger restoration is due in part to the remoteness of the area, its sheer size, and the fact it harbors one of the country's largest protected area complexes consisting of Phnom Prich Wildlife Sanctuary, Mondulkiri Protected Forest, Lomphat Wildlife Sanctuary, and Seima Protection Forest, which, together with Yok Don National Park in Vietnam, represents a contiguous protected core of almost 1.5 million ha that contains much of the threatened biodiversity in the landscape

This landscape has been identified as the best potential source site for eventual tiger re-introduction, being of sufficient size and quality habitat to support a breeding population of ≥25 females and embedded in a larger block of forest that will enable tiger dispersal and repopulation at the landscape scale. However, economic and large-scale infrastructure development across the Greater Mekong Sub-region is rapidly increasing access across the landscape and significantly increasing the pressures on tiger recovery, including habitat degradation (resulting from agricultural expansion, spontaneous human settlement, infrastructure development, and socio and economic land concessions) and decline of prey species due to hunting for wildlife consumption and trade. In recent years, stronger, more effective law enforcement has succeeded in reducing, but not eliminating, the hunting of large game, particularly wild cattle, indicating the potential for tiger population restoration.

Priority Actions

The Government of Cambodia will formally designate and secure at least one potential source site (1,500km^2 as minimum) as inviolate tiger habitat within the Eastern Plains Landscape: It is essential to secure at least one inviolate source site, free from any type of infrastructural development, habitat conversion, land concessions or human disturbance in order to create a 'safe haven' for future re-introduction and restoration of wild tigers in Cambodia. The Eastern Plains Landscape provides sufficient area and an adequate mosaic of forest-types that would enable tiger restoration. Management plans, including clear zoning plans have already identified sites within protected areas that are free from existing infrastructure and human habitation and are large enough to support c.25 breeding females. However, further ecological assessment of these areas, with respect to tiger recovery, is needed, and a suitable site identified, secured and afforded additional legal status as a tiger source site.

1. ***The Government of Cambodia will establish and resource at least 50 full-time, dedicated, well-trained and equipped law enforcement officers and ensure sufficient protected area resources to secure inviolate tiger habitats*** The Forestry Administration (FA) of the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the General Department of Administration for Nature Conservation ad Protection (GDANCP) of the Ministry of Environment (MoE) are responsible for the management of state land, protected forests and protected areas. The tiger is fully protected by the Cambodia Wildlife Protection Act (MAFF, 2007) and the Forestry Law (2002) and Protected Area Law (2008) which prohibit hunting, killing, trading or exporting of tiger and other endangered species. Both Ministries are required to contribute to the national budget from the use of land under their management and therefore development pressures often conflict with the need for conservation or sustainable use of resources. Both the FA and the GDANCP have limited capacity and resources (field resources, personnel, mobility, equipment, field stations and operational resources) to provide sufficient presence to manage the landscape and protect tigers. A lack of judicial support to enable effective and fair processing of court cases and a perceived inability among staff to counter illegal activities coordinated and backed by influential members of society also prevents effective enforcement and reduces staff motivation and commitment. To secure the integrity of the potential tiger source sites from violation, it is necessary to have rigorous and effective law enforcement patrols and intelligence networks to prevent hunting (of tiger and its prey species), logging and other land clearance, and human disturbance. Law enforcement officers need to be trained to a consistent level, equipped with necessary communications and transportation resources to conduct patrols efficiently and effectively, and receive appropriate compensation, motivation and employment conditions.
2. ***The Government of Cambodia will implement consistent tiger and prey monitoring protocols and monitor law enforcement and management effectiveness in potential source sites:*** The FA and the GDANCP are currently implementing MIST (for law enforcement monitoring) and tiger prey monitoring protocols in the Eastern Plains Landscape and are in a strong position to present themselves as leaders for this initiative. However, the protocols need to be fully integrated into site planning to inform short-and long term management action. Monitoring indicators of hunting pressure and enforcement efficiency need to be adopted as a measure of enforcement effectiveness. Identification of regional and global standards for management of protected areas with high-value species needs to be communicated and implemented at the site and judicial levels to ensure consistent monitoring and enforcement particularly in relation to trans-boundary enforcement.
3. ***The Government of Cambodia will strengthen transboundary collaboration with the Government of Vietnam in the Eastern Plains Landscape to reduce wildlife poaching and cross-border illegal activities:*** The deciduous forests of the Eastern Plains Landscape straddle the border with Vietnam. Cambodia functions predominantly as a source and transit country for the wildlife trade, including tiger and Vietnam is believed to be increasingly important as a consumer as well as transit country. Regional development and improvement in cross-border transport links pose a high threat as access to markets is improved. There is currently no formal mechanism for collaboration in cross-border enforcement,

investigation or management of illegal activities; however, the recent development of the Cambodian-WEN Coordination Unit will serve to increase communication on the wildlife trade between Cambodian government agencies, international bodies and NGOs. In order to ensure the long-term success of tiger conservation in the landscape, it will be essential to ensure the border area is secured and intelligence flows to the relevant parties.

Program Indicators (interim) *to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate the progress by 2015.*

Designation of source site for tiger re-introduction and restoration

1. Potential source site(s) formally designated.
2. Landscape management and zoning plan in potential source site(s) approved.
3. Potential source tiger population(s) for relocation of individuals identified

Increased enforcement capacity and improved management of source site

4. Number of law enforcement officers trained and equipped to a minimum international standard in potential source site(s) increased.
5. Adequate protected areas' infrastructure in potential source sites(s) established.
6. Law enforcement efficiency in wildlife crime detection and response in potential source site(s) increased
7. Tiger prey densities in potential source site(s) increased

Monitoring systems established

8. MIST and other monitoring systems effectively developed and implemented in the potential source site(s).

Strengthened trans-boundary collaboration

9. Trans-boundary agreements on suppressing wildlife crimes in Cambodia established.
10. Multi-agency agreement on relocation of tigers developed.

Program Indicators (final) *to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate achieving the Long Term Strategic Goals by 2022.*

1. Source site(s) inviolate of encroachment, conversion, land concession, infrastructure or human interference.
2. Tiger prey densities in the source site(s) at levels to support c.25 breeding females.
3. Connectivity of habitats to source site(s) retained throughout landscape.
4. Trans-boundary trade in wildlife products reduced.
5. Phased tiger reintroduction program developed and in process of implementation.

NTRP Component linked to the Priority Actions

1. Mapping

Long Term Strategic Goal: ***To restore and conserve at least one defined, delimited and inviolate Source Site large enough to hold at least 25 breeding females.***

Priority Action(-s):

- It is essential to secure at least one inviolate potential source site, free from any type of infrastructure, habitat conversion, concessions and human interference, to enable tiger restoration in Cambodia.

- Without effective management and law enforcement, habitat degradation and hunting of prey species will continue. Effective enforcement - facilitated by on-site law enforcement monitoring, a break-down of wildlife trafficking routes and support of local communities need to be in place before restoration of a high-value species can be considered.
- Adequate prey populations are needed to support tiger restoration and recovery, and a monitoring program implementing rigorous scientific methodology is required to regularly evaluate prey populations and tiger population recovery in the source site.
- Working mechanisms and an operating culture of cooperation is required to combat illegal trans-boundary activities driven by international demand for wildlife products.

2. Description of Program Component

Cambodia's long-term strategic goal of restoring tiger populations has three principal components: **1) Designation of an inviolate source site for eventual tiger-reintroduction and recovery, 2) Law enforcement and habitat management, 3) Monitoring of tigers and tiger prey and 4) Trans-boundary collaboration**

Component 1: Designation of an inviolate source site for tiger recovery

Objective 1: Secure at least one inviolate potential source site, free from any type of infrastructure, habitat conversion, concessions and human interference

- Activities:
- Identification of suitable source site for eventual re-introduction of wild tigers
- Clear mandate for management of the source site for tiger recovery
- Outputs:
- Legal decree designating inviolate area as potential tiger source site
- Management plan for recovery of wild tigers in source site
- Duration/location: 2 years/National level

Component 2: Law enforcement and Habitat Management

Objective 2: Increase capacity and effectiveness of law enforcement agencies in wildlife and habitat conservation.

- Activities:
- Recruit and train for FA and GDANCP officers in wildlife conservation, conservation ethics, legal statutes, law enforcement and investigation and MIST.
- Training for judiciary in legal statues
- Provide necessary field equipment and transportation
- Provide sufficient budget for maintaining and operational activities.
- Establish adequate infrastructure (e.g. patrol stations and patrol routes)
- Increase frequency and efficiency of regular patrols monitor illegal activity within the source site and protected areas in the broader landscape, with strict monitoring of law enforcement operations using MIST and full integration of monitoring into PA management cycle
- Outputs:
- Environmental crimes that threaten tigers and their prey reduced
- Enforcement and implementation of national wildlife and forestry legislations that protect tigers and its prey strengthened.
- Duration/location: 5 years/Source site and National level

Objective 3: Integrating habitat management into provincial and landscape plans

- Activities:
- Conduct an assessment of suitable tiger habitats in the potential source site(s) and, if needed, create artificial micro-habitat for tiger and its prey species
- Integrate legal designations of tiger source sites, protected area zoning, landscape corridors and community managed areas within provincial, district and commune development and land-use plans, through consultation of key stakeholders, capacity building, advocacy, and coordination of technical support to relevant government departments.
- Design and implement awareness raising-program for the tiger source site.
- Demarcate boundary of inviolate areas for tiger conservation

- Outputs:
- Science-based tiger conservation objectives are fully considered and integrated with the Provincial Conservation Planning Working Group and other relevant agencies.
- Duration/location: 5 years/Landscape and Provincial Level

Component 3: Monitoring of Tigers and Tiger Prey

Objective 4: Implement consistent tiger and prey monitoring protocols in potential source sites:

- Activities:
- Establish and train tiger research and monitoring teams
- Establish a baseline for tiger and key prey species within the tiger source sites
- Establish, adopt and implement tiger and prey monitoring protocols in the tiger source sites
- Outputs:
- Standardized indicators of prey and tiger recovery provided on regular basis and fully integrated into management planning and resource allocation
- Duration/location: 2 years/Source site

Component 4: Trans-boundary collaboration

***Objective 5: Strengthen transboundary collaboration with the Government of Vietnam to reduce wildlife poaching and cross-border illegal activities*:**

- Activities:
- Establish a trans-boundary agreement between Cambodia and Vietnam concerning tiger conservation and protected area management in the Eastern Plains Landscape
- Conduct annual coordination meetings for patrol planning and exchange of results from joint law enforcement patrol activities along the border
- Outputs:
- Increase in the number of joint anti-poaching patrols and collaborative enforcement operations along the Vietnam/Cambodia border in the Eastern Plains landscape
- Increased communication between key agencies in the Cambodian and Vietnamese government, as well as Interpol and NGOs, concerning the wildlife trade, routes and intelligence.
- Duration/location: 3 years/Trans-boundary

3. Policy

- Sub-decree required to legally designate an inviolate source site.
- Inter-ministerial cooperation and coordination to ensure sustainable management of land-use across the Eastern Plains Landscape.
- Trans-boundary agreement between Cambodia and Vietnam for cooperation on combating wildlife crime across the border.
- Review of existing wildlife laws governing penalties for poaching and trade in species of high commercial value

4. Capacity

- Need to improve technical skills (patrolling, investigation, monitoring, reporting) in enforcement agencies and community to monitor and manage protected areas and community managed areas.
- Scientific skills, resources and personnel needed within FA, GDANCP and education system to conduct biological monitoring of tigers and their prey.
- Increased operational resources, including infrastructure and transport, for effective patrolling and monitoring.
- Greater awareness of the threats to tiger survival and improved perception of the conservation value of tigers in local communities.

5. Stakeholders

Key stakeholders include policy makers, government agencies at national and provincial level, community representatives and organizations, local and international NGOs, development agencies and financing institutions.

6. **Performance Indicators**

- Number of legal decrees designating tiger source site(s)
- Number of trained and equipped law enforcement staff dedicated to tiger source site(s)
- Number of source site (s) with LEM fully integrated into management planning
- Number of source sites (s) implementing standardized annual tiger and prey monitoring protocols
- Number of agreements designating trans-boundary agreements in controlling cross-border illegal activities

7. Indicative Costs in US$ (order of magnitude only):

Activity	**Costs**
Designate inviolate tiger source site	250,000
Increase capacity & effectiveness of law enforcement	1,500,000
Integrate habitat management at landscape scale	1,250,000
Implement tiger and prey monitoring	300,000
Strengthen trans-boundary collaboration in controlling wildlife trade	200,000
TOTAL (until 2015)	**3,500,000**

8. Financing Options

Potential funding can be leveraged from the following sources:

- International Development Agencies: ADB and JICA implement regional development projects and could

facilitate trans-boundary activities of the NTRP.

- GEF: Complimentary to potential GEF-5 biodiversity priority areas and activities.
- International NGOs: Currently supporting FA and GDANCP within the landscape.
- PES/REDD: Sustainable financing opportunities are being investigated in the landscape and have the potential to contribute to protected area management and conservation in the long-term.
- Tourism: Increased revenues from well managed and appropriate tourism development.
- National budget: Institutional support from central government.

Support needed from the GTI in US$[3]

Identify and indicate the amount of funding needed from the GTI to support the Component in the table below. The GTI can only support the following type of activities costing less than $500,000:

Activity (provide brief description)	**Costs**
Awareness-raising and outreach campaign for local communities	**60,000**
Trans-boundary meetings to strengthen cross-border controls for wildlife trade	**50,000**
Feasibility study and assessment of tiger re-introduction program	**60,000**
TOTAL	**170,000**

[3] The GTI is not a primary financing organization. Any funds directly raised by the GTI will be used by TRCs for catalytic and initial work required to bring best practices to full-scale projects. GTI support , in general, will be less than US$500,000 in each case. For TRCs that may have already developed detailed plans for large scale projects costing more than $500,000, the GTI will facilitate access to large funders if needed.

People's Republic of China
Summary of National Tiger Recovery Program

（2010—2022）

Historical reasons have made wild tiger population in extreme endangered state in China. A series of measures have been taken in China in laws and regulations, in construction of natural reserves, in restoration of habitat, in cracking down poaching and illegal trade to save and restore the wild population of this specie, such efforts result in gradual improvement in the population and the habitat of Chinese wild tigers. China will continue to extend and optimize the wild tigers' habit, explore the release of artificial bred tigers into nature, strengthen the conservation management, intensify law enforcement and engage in wide dissemination and education to create sound conditions for the restoration of wild tigers so that to achieve significant population growth and large scale extension of the habitat of wild tigers by 2022.

I. Long term target（2010—2022）

There are four tiger subspecies in China: panthera Tigris altaica, panthera Tigris amoyensis, panthera Tigris corbetti and panthera Tigris Tigris. The main issues facing their population are: first, wild tigers live in limited areas, isolated from each other, hard to access to other potential, adequate habitat; second, poor vegetation in their habitat and severe insufficiency in preys resources; third, human activities interfere quite seriously with the activities of the wild tigers and their preys, illegal hunting still exists, illegal snare directly threaten the wild tigers in particular; four, the natural reproduction of the extreme small species faces severe genetic problems. In addition, the fact that the wild tigers injure people and domestic animals and the need to restrict the way of production and living in local communities in order to protect wild tigers will have close impacts on conservation.

Given the above situation, measures will be taken to focus on habitat rehabilitation, establishment of adequate ecological corridor between habitats, intensification of patrolling and monitoring, exploration of release to nature, and introduction of adequate ways of economic development accordingly. The objective is to achieve large scale extension and quality optimization of the wild tigers' habitat by 2022, to promote significant population growth of the wild tigers, to guide and assist the local residents to adequately develop economy and improve livelihood.

II. General information

According to surveys and monitoring, it is estimated that there are about 40-50 wild tigers living in China, consisting: P.T. altaica living in the mountains connecting Jilin and Heilongjiang provinces with Russia or its eastern mountains in the neighborhood, their population has grown from 12-16 by end of last century to current 18-22; even though there are reports of sporadic traces of P.T. amoyensis, the tigers have not been seen over more than 20 years in the wild; there are about 11-16 P.T. corbetti living in Xishuangbanna and Huanglianshan Natural Reserve, a bordering area of Yunnan province with Laos and Vietnam; there are about 8-10 P.T.tigris living in the forestry in southeast of Tibet, bordering India. Given the limited technology and capacity of survey and monitoring in the past, more scientific and reliable

methods and technology needs to be adopted to conduct more comprehensive survey and monitoring in order to have accurate dynamics of the population and habitat of wild tigers.

Current data also shows that the main constraint factors for wild tiger population growth consist of: limited and highly fragmented habitat, quite low density of preys in the habitat, existing poaching of preys which poses threat to the safety of wild tigers, serious interference from human beings, wild tigers injuring people and domestic animals from time to time, etc. Given all these problems, comprehensive study needs to be conducted over the tigers' distribution area and the current status of the habitat in the surrounding areas as well as the way of living and production of the local residents, systematic engineering measures and policy guarantee needs to be taken to promote the expansion and quality improvement of habitat to reduce interference from human beings; field patrolling and law enforcement and supervision needs to be strengthened to fight illegal hunting of tigers and other wild animals and to curb smuggling and illegal operation of tiger products; continuous and systematic scientific research and monitoring needs to be developed to ensure timely understanding of the population dynamics and evaluation of the habitat, so as to provide basis for conservation intensification and habitat improvement; capacity needs to be enhanced for prevention of damages to people and animals by wild tigers, improve compensation system relating to direct losses. Besides, pilot must be established for the release of amoyensis to the wild, the natural release zone will be gradually extended based on the experience from practices and relevant study results, stable and sustainable development of wild amoyensis population will be achieved eventually.

Another item of attention is that only with understanding and support of local people for wild tiger population and habitat conservation can objectives of conservation be basically assured. But conservation must require necessary constrains over the way of production and way of living for local people, it is easy to trigger conflicts between the conservation activity and local communities which will go against sustainable conservation. Therefore, while the conservation of wild tiger and their habitat is being strengthened, public education needs to be developed vigorously, and the needs of economic development and livelihood improvement for local residents shall be taken into account at the same time, proactive guidance shall be given to change the way of production and living inadequate to conservation, support shall be given for exploration of new ways of local economic development that are favorable to conservation, efforts shall be made to promote integration of wild tiger and their habitat protection with local economic development and local life improvement to achieve coordinated and sustainable development.

III. Actions of first priority

China will focus in the following areas to promote population growth of wild tigers in the country based on the current population and habitat and the relevant conservation management, scientific research and laws enforcement and supervision:

(I) Conservation, extension and optimization of the habitats of wild tigers

Based on systematic research and scientific evaluation, measures will be adopted for vegetation rehabilitation, introduction of prey resources and overall ban on hunting in wild tiger distribution areas and its surrounding area or in other adequate areas able to be connected through ecological corridors, the objective is to achieve maximum expansion of tiger activity zone and obvious improvement on the quality

of the habitat, to achieve genetic exchanges among the key isolated species through restoration and optimization of the habitat in ecological corridor zones to ensure continuous growth of wild tiger population by 2022. In addition, pilot area will be established in adequate places for release of artificial bred amoyensis to the wild so that monitoring and study over the released species can be developed and preparation can be done for gradual growth of the natural release zone and establishment of new amoyensis species in the wild.

(II) Capacity building in conservation and monitoring agencies for wild tiger population and habitat.

Efforts shall be made in the following aspects in wild tiger activity areas to strengthen conservation and monitoring of tigers' population and habitat: to intensify capacity building in management agencies in the natural reserves and relevant conservation and monitoring agencies, to improve infrastructure and replenish equipment, to develop staff training with advanced technology, to enhance quality of conservation and management staff, to set up and perfect rules and regulations, to further promote standardized field patrolling and monitoring. All these efforts are in the objective to ensure the implementation of overall ban on hunting, to effectively prevent poaching and other behaviors damaging the habitat, to understand the population dynamics and habitat variation on timely basis, so that to provide scientific basis for evaluation of conservation effectiveness and decision making for relevant conservation policies. The scope of Natural Reserves will be adjusted, newly established or a series of conservation, monitoring stations will be added in blind zones free of conservation and monitoring to achieve overall conservation and monitoring in wild tiger activity areas.

(III) Coordinating wild tiger protection and social and economic development in local communities.

In order to obtain their understanding and support, close attention must be paid to the needs of social and economic development of local communities and to guide them in a way adequate for wild tiger protection. In this regard, the key activities to be developed: first, set up special funds for compensation of damages to people and animals and loss of crops caused by wild tigers so as to maintain the legal rights and interests of the local residents; second, strengthen propaganda to enhance awareness of tiger protection among local residents and disseminate safety prevention knowledge in guiding them on development of ways of production and ways of living favorable for tiger protection by means of establishment of poster boards, sign boards, dissemination booklets and community dissemination campaigns. Third, to effectively prevent and reduce the damages to people and animals and crops losses caused by tigers and their prey animals by concentrated placement of scattered households, building fences and isolation ditches in areas with frequent activity of tigers and their preys; fourth, study and explore the ways of living and production favorable for conservation of wild tigers and their habitat and extend such approaches by piloting and demonstration, micro-subsidy, technical guidance, establishment of special funds so as to promote the coordinated and sustainable development of local society and economy with tigers conservation.

(IV) Intensify law enforcement over smuggling and illegal operation of tiger products

In order to effectively curb smuggling and illegal operation of tiger products, measures as survey on law enforcement, public reporting hotlines and international law enforcement information exchanges will be taken to timely understand the situation in key ports, bordering areas, markets and collection and

distribution centers which are prone to smuggling and illegal operation of tiger products. For the above regional law enforcement agencies, efforts will be made to strengthen staff training, replenish enforcement equipment and detective devices, to improve enforcement mechanism to ensure proper patrol, responsibility division and vigorous enforcement of laws; based on local circumstances, irregular joint inspections by law enforcement and special cracking down will be conducted to form powerful shock and awe. Besides, wide and deep propaganda and education will be developed to guide public on volunteer resistance to illegal operation of tiger products, public reporting hotline will be established to encourage public on timely report of information on criminal activities such as smuggling and illegal operation of tiger products. By this way, the public can have a pro-active role in law enforcement on wildlife protection and enforcement team can be strengthened and law enforcement can be more effective.

(V) Extend international cooperation and exchange

A series of common understanding relating to tigers protection has been formed and exchanges are strengthened among tiger countries and international societies to save global wild tigers. The key for next step is to turn common understanding formed among all sides into action, especially joint actions needs to be taken by relevant international parties in certain areas. China will proactively promote the coordination and cooperation mechanism among conservation management agencies and law enforcement units on both sides of the border, rapid and effective information exchange will be achieved, China will try to implement cooperative joint monitoring in bordering areas; fast exchange of enforcement information will be adopted to strengthen enforcement effectiveness. International seminars, international professional training and friendly natural reserves will be used to strengthen tiger conservation and experiences exchange to promote joint enhancement of conservation management.

V. Action indicators (mid-term)

The following indicators will be used to evaluate the effectiveness of the actions:

Variation of population of wild tigers, extension of tiger activity areas, variance of biotope in habitat, variance of prey density, occurrence of law breaking cases relating to tigers, improvement of livelihood in local residents, establishment of monitoring station and staffing for conservation management, threatening factors.

V. Action indicators (2022)

The following indicators will be used to evaluate the effectiveness of the actions:

Variation of population of wild tigers, extension of tiger activity areas, variance of biotope in habitat, variance of prey density, occurrence of law breaking cases relating to tigers, improvement of livelihood in local residents, establishment of monitoring station and staffing for conservation management, threatening factors.

Annex: Actions of first priority for restoration of wild tiger population in China

I. Objective

Long term strategic objective: by 2022, try to obtain large scale extension and quality optimization of wild tigers' habitat, promote significant growth of wild tigers population, achieve natural survival and

natural reproduction in amoyensis released to the wild, guide and assist in ways of economic development and livelihood improvement favorable to wild tigers protection in local communities in tiger distribution areas.

The main issues facing the population growth of wild tigers in China: insufficient habitat area, poor quality, seriously fragmented, quite frequent interference by human activities, illegal hunting of wildlife such as snares still exists, conflicts between tigers and people are mounting. To solve the above mentioned issues, it is in urgent need to develop habitat rehabilitation, establishment of ecological corridor, strengthening patrol and monitoring, exploration of release back to the nature, it is also needed to adopt compensation and proactive prevention measures to deal with damages to people, livestock and crop losses caused by tigers and their prey animals so as to create a fine environment for wild tiger conservation.

Historical experiences indicate that the attitude of local residents toward wild tiger conservation is closely linked to conservation results. Therefore, in the process of wild tiger protection, efforts not only go in extensive propaganda and dissemination of conservation, in enhancement of public's awareness of conservation, in trying to obtain public's understanding and support in conservation activities, efforts also go in the attention paid to the impacts on production and living conditions of local residents brought by conservation activities, in guiding and assisting in ways of production and way of living favorable to wild tiger and their habitat conservation, in making integrated arrangements both in wild tiger protection and in local economic development and livelihood improvement so as to achieve coordinated and sustainable development.

II. Summary of actions.

Based on the population, habitat and current conservation status of wild tigers in China, actions shall be taken in the following five aspects of first priority. First, protection, extension and optimization of the habitat of wild tigers; second, capacity building in conservation and monitoring agencies of wild tiger population and their habitat; third, coordination between the wild tigers conservation and social and economic development in local communities; fourth, strengthen law enforcement against illegal operations of tiger products; fifth, extend international cooperation and exchanges. In addition, a series of relevant scientific researches and study of laws and regulations and policies will be developed to provide corresponding technical support and policy guarantee to the above actions.

(I) Conservation, extension and optimization of the wild tigers' habitat.

Action 1: Survey and identify action zone.

Identify the action zones for wild tiger conservation and restoration in this stage based on the survey, evaluation of the current distribution area and areas planned for extension and natural release.

Main activities in this action consist of:

- One: collect information on topography, vegetation, roads and residents in tigers distribution areas and the surrounding areas, develop field surveys and evaluate its biotope if necessary, come up with the extent of habitat and ecological corridors for future extension, identify action zones for this stage;
- Two: survey, select, identify release zone for amoyensis in its historical distribution areas;

- Three: conduct planning over the above zones according to legal procedure, prevent irreversible damages to biotope by inadequate constructions, the plan will be used to guide and guarantee implementation of actions by steps and by stages;
- Four: establish GIS for action zones of wild tigers conservation and restoration.

Projected outcome: the conservation and restoration action zones will be identified with legal guarantee through plans, the relevant GIS will provide effective data and information support to conservation actions.

Action 2: Conservation, extension and optimization of habitat for wild altaica tigers.

Take measures as vegetation restoration and rehabilitation, overall ban on hunting in current altaica tiger distribution zones, its extension zones in the surrounding area and ecological corridor areas, introduce preys resources under preconditions of necessity and scientific feasibility, achieve extension and quality optimization of the habitat, increase prey density to satisfy the needs of population growth of altaica tigers.

Activities:

- One: study and draft technical guidance of wild altaica habitat restoration;
- Two: implement overall ban on hunting in identified current distribution zones, the surrounding areas and ecological corridor zones of the wild altaica, study and draft habitat restoration plans by region and by category;
- Three: in different vegetation areas, select 1-2 places for habitat restoration piloting and demonstration through farmland returning to forestry, single forestry revamp, keep adequate grass in forestry and scientific introduction of prey resources;
- Four: based on the successful pilots and demonstration in habitat restoration, progressive extension in project areas;
- Five: explore the necessity and feasibility of artificial bred altaica to be released to the nature.

Projected outcome: the zones adequate for altaica will be extended, the density of prey resources will be increased, fragmented habitat will be improved, and it will better satisfy the needs of population growth of altaica, effective promotion of genetic exchanges among isolated species and population.

Action 3: Establishment of experiment zones for amoyensis release to nature.

Start with small scale experiment zones in selected release area for amoyensis through scientific assessment, make sure that such zones adapt to natural survival and reproduction of the released amoyensis through vegetation revamp, implementation of overall ban on hunting, scientific introduction of prey resources. Extend such zones gradually to meet the needs of population growth based on the growth of their population and research outcomes.

Activities:

- One: study and draft technical guidance of restoration and management over the natural release habitat of amoyensis, draft implementation plans for experiment zones for amoyensis being released to nature;
- Two: establish fences in the experiment zones, implement measures as specified in the plan of this zone such as farmland returning to forestry, single pure forestry rehabilitation, keep adequate

amount of grass in the forestry land and scientific introduction of prey resources, facilitate the habitat to better adapt to needs of natural survival and reproduction of the released amoyensis;
- Three: develop continuous monitoring and scientific assessment over the released population and their habitat of the amoyensis, identify and analyze problems and come up with the working direction of next step;
- Four: based on the scientific assessment, gradually extend the range of the experiment zone to meet the needs of the natural growth of the released population.

Projected outcome: to achieve natural survival, reproduction and sustainable development of the released population of amoyensis, and the biodiversity in this zone will be effectively protected and managed, the natural ecology will be further optimized.

Action 4: Conservation, extension and optimization of the habitat of wild corbetti.

Achieve scale extension and quality optimization of the habitat of wild corbetti in project areas including current distribution areas, their surrounding areas and ecological corridors through vegetation restoration and revamp, implementation of overall ban on hunting and scientific introduction of prey resources, increase the prey density and meet the needs of population growth of wild corbetti.

Activities:

- One: study and draft technical guidance of wild corbetti habitat restoration and management;
- Two: implement overall ban on hunting in identified project areas including current distribution zones, the surrounding areas and ecological corridor zones of the wild corbetti, study and draft habitat restoration plans by region and by category;
- Three: in different vegetation areas, select 1-2 places for habitat restoration piloting and demonstration through farmland returning to forestry, single pure forestry revamp, keep adequate grass in forestry land and scientific introduction of prey resources;
- Four: based on the successful pilots and demonstration in habitat restoration, progressive extension in project areas;
- Five: explore the necessity and feasibility of artificial bred corbetti to be released to the nature.

Projected outcome: the zones adequate for corbetti will be extended, the density of prey resources will be increased, fragmented habitat will be improved, and it will better satisfy the needs of population growth of wild corbetti.

Action 5: Conservation, extension and optimization of the habitat of wild Tigris.

Achieve scale extension and quality optimization of the habitat of wild tigris in project areas including current distribution areas, their surrounding areas and ecological corridors through vegetation restoration and revamp, implementation of overall ban on hunting and scientific introduction of prey resources, increase the prey density and meet the needs of population growth of wild tigris.

Activities:

- One: study and draft technical guidance of wild tigris habitat restoration and management;
- Two: implement overall ban on hunting in identified project areas including current distribution zones, the surrounding areas and ecological corridor zones of the wild tigris, study and draft habitat restoration plans by region and by category;
- Three: select 1-2 places for habitat restoration piloting and demonstration through farmland

returning to forestry, single pure forestry revamp, keep adequate grass in forestry land and scientific introduction of prey resources;
- Four: based on the successful pilots and demonstration in habitat restoration, progressive extension in project areas;

Projected outcome: the zones adequate for wild Tigris will be extended, the density of prey resources will be increased, and it will better satisfy the needs of population growth of wild Tigris.

(II) Capacity building in conservation and monitoring agencies for wild tiger population and habitat.

Action 6: Improve monitoring system for wild tigers population and their habitat.

Study the distribution of existing monitoring agencies in action zones for wild tiger conservation and restoration, add conservation monitoring agencies in blank areas, identify the area of responsibility, establish coordination system, and achieve overall conservation and monitoring in action zones.

Activities:

- One: study and analyze the institutional arrangement in existing monitoring agencies in wild tigers conservation and action zones, identify blind zones in conservation monitoring;
- Two: add new conservation monitoring agency in blind zones;
- Three: based on actual situation and scientific assessment, adjust the scope of the existing natural reserves according to legal procedure when necessary;
- Four: divide zone of responsibilities in wild tigers conservation and action zones, identify responsible zones for each conservation monitoring agency to make sure that all the action zones are covered by monitoring.

Projected outcome: achieve overall conservation monitoring in all wild tigers conservation and restoration action zones, and with clear responsibility.

Action 7: enhance the capacity of monitoring of wild tigers population and habitat.

Enhance the capacity of conservation monitoring agencies in dynamic monitoring of wild tiger population and habitat, in anti-poaching and coordination with local residents through polishing regulations and systems, improvement of facilities and equipment, replenish staffing and intensifying staff training.

Activities:

- One: provide working staff and replenish the conservation monitoring management team based on the responsibility scope and work difficulty;
- Two: improve the working facilities in monitoring agencies, to prove necessary equipment or renew the existing equipment for working staff and try best to introduce high tech equipment for conservation monitoring;
- Three: study and draft conservation monitoring guidance for wild tigers population and habitat to guide monitoring agencies to conduct monitoring according to the unified plan;
- Four: organize to conduct professional trainings for monitoring staff;
- Five: through establishment a set of regulations and system such as meeting system, information notifying system, joint action systems to set up coordination mechanism among monitoring agencies, so as to ensure overall and coordinated development on monitoring of

population and habitat of wild tigers, anti-poaching and joint management in communities;
- Six: regular assessment of the results of the conservation management, improve target-oriented monitoring measures and enhance efficiency.

Projected outcome: more standardized and more effective development of conservation monitoring over the population and habitat of wild tigers, more timely and accurate understanding of the population and habitat dynamics, more effective curbing poaching and behaviors damaging habitats.

(III) Coordination between tiger conservation and the social & economic development of the local community

Action 8: compensate the losses on damages to people and livestock and crop losses from tigers and their preys

Through establishment of earmarked funds, clear standards and procedure of compensation, strengthened supervision and inspections to ensure that the damages to people, livestock and crops of local residents caused by tigers and their preys are rationally compensated, their legal rights and interested are well safeguarded and people-tiger conflicts are alleviated.

Activities:

- One: for compensation to losses to people, livestock and crops caused by tigers and their preys, study and draft criteria and procedure for compensation to ensure that local residents can successfully claim for the relevant losses they suffer;
- Two: establish special funds, study and draft utilization management and supervision methods of the funds, make sure that relevant compensations are cashed on time;
- Three: regular and irregular check over the use of funds, survey local residents over their attitudes towards compensation.

Projected outcome: try to obtain public's basic satisfaction over compensation, maintain their understanding and support to tiger conservation prevent any mood shift of local residents which is unfavorable to tiger conservation.

Action 9: Strengthen active prevention of damages to people and livestock and crops from tigers and their preys.

Popularize the prevention knowledge of personal safety among local residents, guide them to change the inadequate way of behavior through replacement of scattered households, establishment of prevention facilities so as to reduce the frequency and loss to people and livestock and crops caused by tigers and their preys.

Activities:

- One, through establishment of warning sing boards, delivery of propaganda booklets and development of propaganda and education activities to popularize the prevention knowledge of personal safety;
- Two, gradual concentrated settlement of scattered households living in areas with frequent tiger activities or in key ecological corridor zones, reduce the interference of human activities on

wild tigers, their preys and the habitat;
- Three: in quite populated areas, take active preventions to avoid tigers' attacks on people and livestock through establishment of fences and isolation belts etc.;
- Four: guide local residents to change their free-range raising poultry and domestic animals in the forestry which could attract tigers' attack on people and livestock.

Projected outcome: incidents of people and animal being hurt by tigers and their preys will decrease gradually, losses will be reduced, the interference of human activities over wild tigers, their preys and the habitats will be alleviated progressively.

Action 10: Piloting and demonstration of economic development models favorable to wild tiger conservation.

Survey, study and evaluate the ways of production and living favorable to tigers conservation, extend such models step by step through piloting and demonstration, guide on coordinated and sustainable development of local community economy and conservation of tigers and their habitat, obtain wider understanding, support and participation of local communities in conservation.

Activities:

- Conduct systematic survey on ways of production and living in local communities, assess the impacts of various way of production and living on tigers, prey resources and habitat, identify the ways of economic behavior unfavorable to conservation that needs to be adjusted and shifted;
- Study with local residents on alternatives to replace the way of economic development unfavorable to conservation, encourage part of the local residents to take initiative on piloting through micro-subsidy and technical guidance based on assessment evaluation;
- Three: conduct timely evaluation of the economic benefits and conservation effectiveness of the pilots, gradually extend the alternatives of economic development that are effective, with high marketing perspectives and favorable to conservation through combination of demonstration and subsidies;
- Four: integrate the supporting, reward and punishment system under the project with behaviors favorable to tiger conservation, achieve coordinated and sustainable development of tiger conservation and livelihood improvement of the local residents.

Projected outcome: the original way of economic development of local residents unfavorable to wild tigers conservation will be altered progressively, the economic activities favorable to conservation will be extended gradually, both the conservation and livelihood improvement of the local residents will be taken into account, the willingness of conservation of the local residents will be further strengthened and the local residents will become a major social force in conservation of wild tigers.

(IV) Strengthen the law enforcement against smuggling and illegal operation of tiger products.

Action 11: strengthen capacity building in enforcement agencies.

Collect information on smuggling and illegal operation of tiger products through various channels, identify key ports, bordering areas, markets and distribution centers, strengthen training to law enforcement agency staff of the above mentioned authorities, replenish enforcement equipment and

detective devices, improve enforcement system so as to enhance enforcement effectiveness and curb illegal activities.

Activities:

- One, analyze and determine the key ports, bordering areas, markets and collection and distribution centers for smuggling and illegal operation of tiger products through collection of information reported by public, active survey on markets and statistics and analysis on illegal cases;
- Two, coordinate law enforcement agencies to replenish and improve target-oriented equipment and detective devices in their agencies in the above mentioned areas;
- Three, strengthen staff training and law enforcement seminars in the above mentioned enforcement agencies to promote their awareness of responsibility on law enforcement and professional capacity;
- Four, establish effective coordination mechanism to form joint forces of enforcement through formulation of patrol system, information notifying system, joint conference system, accountability system etc.;
- Five, in areas where the situation is critical, multi-agency joint enforcement inspection and special cracking down will be conducted, the results of investigation and treatment of the illegal cases will be published on time to form strong shock and awe which will effectively curb criminal activities such as smuggling and illegal operation of tiger products.

Projected outcome: enforcement capacity against smuggling and illegal operation of tiger products will be strengthened, enforcement effectiveness will be increased with efficient curbing of the momentum on smuggling and illegal operation of tiger products.

Action 12: wide development of propaganda and education on tiger conservation.

Further raise public's awareness on tiger conservation through newspapers and magazines, radio broadcasting and TV and special topic propaganda campaigns, popularize the law and regulations on conservation, advocate public on volunteered resistance on smuggling and illegal operation of tiger products, advocate public to actively report on illegal activities to provide strong support law enforcement of conservation.

Activities:

- One, explain to the public of the damages on wild tiger population brought by smuggling and illegal operations of their products, related rules and regulations to strengthen the public's awareness of conservation through newspapers, magazines, radio broadcasting and TV;
- Two, conduct target-oriented propaganda and education through establishment of dissemination boards, warning boards and organization of special topic propaganda campaign in key ports, bordering areas, markets and collection and distribution centers, encourage public to take initiative to give up illegal activities such as purchase of tiger products;
- Three, establish reporting phone line, set up reward and punishment system, encourage public to report on illegal activities;
- Four, conduce wide dissemination of typical cases, facilitate public to further understand the legal consequences of illegal activities so as to achieve the all-round education.

Projected outcome: public's awareness will be significantly raised for volunteered resistance to operation and use of tiger products, the public will be more cooperative in reporting the illegal activities.

(IV) Extension of international cooperation and exchanges

Action 13: Improve international cooperation mechanism for wild tiger conservation

Based on current international cooperation framework of wild tiger conservation, promote more effective cooperation mechanism so as to achieve more effective technical experiences exchanges, information share and coordinated actions, etc..

Activities:

- One, through international seminars and mutual visits to strengthen communications with other tiger countries, to understand the concerns from different parties, exchange and share technology and experiences on tiger conservation, anti-smuggling and fight against illegal operation of tiger products, analyze issues facing the global wild tiger conservation and explore directions of where joint efforts go;
- Two, promote establishment of exchanges and cooperation among grass root conservation agencies in tiger distribution bordering areas;
- Three, promote the information exchange and enforcement cooperation among grass root law enforcement agencies in bordering areas and ports.

Projected outcome: achieve multi-level, multi model international exchange and cooperation on wild tiger conservation, intensify mutual understanding and support among tiger distribution countries so as to enhance conservation effectiveness together.

III. Policy guarantee

(I) Years of efforts have led to establishment of relevant laws and regulation framework for tiger conservation management in China, all tigers are listed as category 1 wild animal under conservation, there are not only clear specifications on conservation of their habitat and natural reserves, it also clearly states that all activities relating to hunting, domestication and reproduction of tigers without permit, sales, procurement, transportation, smuggling tiger and tiger products are criminal. Those engaged in poaching, illegal killing or illegal purchase, sales, transportation of tigers and tiger products will be sentenced for as much as above 10 years imprisonment with fines and confiscation of personal properties; those engaged in smuggling tiger products can be sentenced for lifetime or death, their personal properties will be confiscate. Besides, given the global population of wild tigers and artificial bred tigers, State Council of China has issued general orders in 1993 to fully ban the use of tiger bones in medicine or transaction, this is a huge contribution to global wild tiger conservation.

(II) Conservation network has been established consisting natural reserves and conservation management stations at grass-root level in wild tiger distribution areas, programs are implemented such as natural forestry conservation, farmland returning to forestry, wildlife conservation and nature reserve establishment, measures have been taken such as restoration of prey animals, compensation to injuries and damages to people, domestic animal and crops, strengthened patrolling in habitat and capacity

building etc., all these efforts have led to obvious achievements in optimization of habitat and population growth of wild tigers.

(III) Multiple departments, multiple levels and multiple circles wildlife enforcement system and coordination mechanism is established in China consisting departments as forestry, public security, industrial and commercial administration and customs etc., capacity building is continuously strengthened through replenishment of equipment, information exchanges, staff training and improvement of systems. Tiger related cases are listed as key enforcement, regular and irregular inspections and special actions are developed and played an active role in investigation and treatment of smuggling and illegal operation of tiger products.

(IV) Artificial reproduction of tigers are under strict supervision in China. Permits system is in operation for domestication and reproduction of tigers, it is required to establish strict management archives and individual family tree system, especially since year 2007, microchip, gene samples and management information system that can be searched through internet started to be in use in China, oversight on artificial reproduction agencies and individual tigers can be achieved through MIS.

(V) Areas to be further improved relating to conservation policy of wild tigers in China include: one, conservation plan for wild tigers and their habitat needs to be examined and approved according to legal procedures before becoming legally binding; two, the systems on the following aspects needs to be further improved relating to conservation management of wild tigers and their habitat: field patrol system, monitoring and evaluation system, accountability system and inter-departmental coordination system; three, aiming at smuggling and illegal operation of tiger products, the following needs to be further elaborated and clarified: market patrolling system, accountability system, public reporting reward system, departmental coordination and joint action system etc..

V. Capacity constraints

China is a developing country, a lot of constraints exist in tiger conservation and cracking down smuggling and illegal operations of tiger products due to long time insufficiency in investment. The constraints mainly include:

- One, narrow application of high technology, the primary methods are still used for field patrolling and monitoring in most of the areas; equipment and facilities are seriously backward;
- Two, poor conservation management, technical guidance or working manuals for standardized patrolling and monitoring are not even drafted in many places;
- Three, understaffing and poor quality of staff is very common;
- Four, severe shortage in supporting capacity to guide local communities to change their way of production and living which are unfavorable to conservation.

V. Relating parties on tiger conservation management

The relevant parties mainly include: management agencies engaged in wildlife and plants conservation and natural reserves from central to local, public security authority, industrial and commercial management agencies, customs, financial departments, local communities, traditional industries such as

traditional Chinese medicine, research institutes, non-governmental conservation organizations, financial aid organizations, judicial organs, media, etc..

VI. Action evaluation indicators

The following indicators will be used to evaluate the relevant actions:

- **Conservation, extension and optimization of wild tiger habitat**
- Evaluation indicators include: number of GIS in wild tiger habitats, variance of number of wild tigers, extension of tiger activity boundary, rehabilitation demonstration of the habitats, variance of prey density, tiger activities in ecological corridors, etc..
- **Capacity building in conservation monitoring agencies for wild tigers and their habit.**
- Evaluation indicators include: number of monitoring stations and their range of responsibility, number of working staff, improvement of equipment and facilities, formulation and renewal of the technical guidance and management manuals and relevant systems of patrolling and monitoring, number and effectiveness of field patrols and monitoring, occurrence of tiger related illegal cases, capture of illegal snares, etc..
- **Coordination between conservation of wild tigers and social & economic development of the local communities.**
- Evaluation indicators include: injuries to people and domestic animals by wild tigers and their preys, crops losses, number and amount of compensation, number and rationality of establishment of warning sign boards, propaganda boards, construction of preventive facilities against damages to people, domestic animals and crops from tigers and their preys, understanding and application of personal safety knowledge among local residents, number of pilots and demonstration of ways of economic development favorable to tiger conservation and annual income increase in pilot and demonstration households, demonstration and extension, amount of supporting funds, reduction of economic behavior unfavorable to tiger conservation, etc..
- **Strengthen the enforcement capacity against smuggling and illegal operation of tiger products**
- Evaluation indicators include: number of agencies and staff in key enforcement areas, improvement of equipment and facilities, formulation and renewal of different systems, volume of trainings to professional staff, records of market patrols and cases investigation and treatment, investigation and treatment of reported cases, number of joint inspection and special actions, number of discovered illegal cases and the relevant treatment, etc.
- **Extension of international cooperation and exchanges**
- Evaluation indicators consist: number of additional, renewed international cooperation agreement or memorandum at all levels, number of meetings, trainings, mutual visits and participants at all levels, information exchange by different channels, application and outcome of international advanced technology or management experiences, etc.

VII. Five year budget for action funds

To ensure the implementation of the above mentioned actions, huge amount of funds are needed, the specific amount needs to be estimated according to the planning of different distribution zones of wild tigers.

VIII. Financing

Funds will be raised by the following channels based on the needs for conservation actions:

- One, necessary investment from central government in combination with the ecological development of "12th five year plan" in China;
- Two, local governments will provide necessary counterpart funds according to proportions;
- Three, try to obtain domestic and foreign financial aids.

Funds from World Bank Global Tiger Initiatives **Unit: 10,000 USD**	
Activities	**Amount**
1. Survey on wild tiger distribution areas, potential areas and ecological corridors	50
2. Construction and maintenance of GIS in conservation action zones	50
3. Study and draft technical guidance and training on field patrols and monitoring	50
4. Market patrols and law enforcement training	50
6. International seminars	20
Total	270

Republic of India
Summary of National Tiger Recovery Program

Country Name: **INDIA**

Long Term Strategic Goals. *Examine the implications of the global goal to double the numbers of wild tigers in your country and briefly describe appropriate national strategic tiger conservation goals by 2022.*

India is central to tiger conservation globally with almost half of the world's wild tigers in India and over 32,000 sq km area protected as tiger reserves. However, a wide range of geographic terrain, vegetation types, varied habitats, geo-climatic parameters and various anthropogenic challenges posed due to differing socio-economic environment around tiger reserves, determine the tiger status. There are habitats that could benefit from proactive tiger conservation efforts and could see increase in tiger numbers especially in areas where tigers have gone locally extinct or those which have the viable habitat. Since ecologically unsustainable land uses pose a threat to tigers, two goals are relevant in the Indian context: (1) Securing inviolate tiger habitat and increasing the same, (2) Mainstreaming tiger concerns in land uses where tiger is not the goal.

Brief proceedings of this session:

- There was acceptance that biologically defined clear goals are required. Numbers are important but controversial, could reintroduce malpractices in counting and projecting numbers. More important is securing inviolate spaces.
- There was general consensus that doubling of tiger numbers may be appropriate as a global goal, but would not be a suitable goal for India.
- NTCA's view was that while number is a good indicator but instead of getting into the number game, the focus of the goal should be to ensure that adequate and inviolate area is set aside for tigers.
- It was also expressed by conservation managers from the inviolate area is a must to achieve long-term tiger conservation. Yet another view was that people are demanding development and any suggestion of increasing the area for conservation could face stiff resistance from the people.
- It was also felt that announcements of increasing tiger numbers may invite resistance from people living around the tiger reserves, as they will see this as increased chances of human-wildlife conflict.

Baseline Status. Briefly describe the gap between each Long Term Strategic Goal described above and current situation.

1. One of the main challenges for creating inviolate habitats for the tigers remains the relocation of nearly 48,000 households from the core tiger habitats. Almost $ 1.2 billion are required over the next 5 years to create inviolate areas for tigers.
2. Capacity building of frontline staff (forest guards and foresters) is another challenge. The average age of protection staff is high at 50 years with sparse recruitment of fresh staff (?). There are inadequate field training opportunities and capacities.
3. Socio-economic development of buffer and fringe areas of the tiger reserves is also a limiting factor in soliciting the support of communities that depend on the forest resources. There are limited livelihood options for these communities and their close proximity and dependence on habitats creates many volatile human-wildlife conflict situations. Yet these are powerful approaches that can positively contribute to tiger conservation, as was highlighted from the field experience of KMTR,

where in support solicited from local communities resulted in prevention of forest fires and reduction in grazing by domestic cattle inside the forest.

Priority Actions to achieve Long Term Strategic Goals. Identify 4-5 most critical NATIONAL and TRANS-BOUNDARY actions.

Participants strongly felt that India has a strong political support for tiger conservation with the Prime Minister chairing the National Wildlife Board. Further the political support is also expressed in terms of establishing new tiger reserves (there are 39 tiger reserves in India) thereby bringing additional area under conservation management. India has also demonstrated its willingness in creating inviolate habitats by increasing the quantum of compensation to Rs 1 million family. Overall, the country has a good legal and policy framework to deal with conservation issues. From the list of 12 priority actions from Hua Hin declaration, the participants in the National Consultation grouped actions of similar nature into 3 broad categories, namely, Securing Habitats, Improving Management and Community Centered. The prioritized actions are described below:

1. Securing Habitats: The first priority action is to *make critical tiger habitats/corridors inviolate from biotic disturbance of any **sort***. The participants placed due emphasis that *ensuring buffer zones remain functional landscapes for conservation* and *protect tiger/prey base from poaching through smart patrolling* are closely linked with this priority action and these three should be tackled together.
2. Improving Management: The next set of priority actions center around management practices. The participants strongly felt that *professionalize and improve management practices by adopting best practice systems* is the priority action. They advocated strong linkages of this action with *implementing scientific adaptive management tools in tiger conservation* and *set up robust mechanisms for monitoring progress towards achieving goals*, besides stepped up intelligence based enforcement. Together these actions constitute the next set of priority actions.
3. The next priority action suggested by the participants is to *encourage communities around landscapes through sustainable livelihood support (through tiger conservation) to minimize tiger-human conflict*.
4. The final priority action highlighted is to *eliminate trade in tiger parts and derivatives and increase demand for tigers in the wild.*

Some of these priority actions are both national and trans-boundary in nature. For instance, creation of inviolate tiger habitat and corridors in the Terai Arc Landscape and Sunderbans assume trans-boundary character as well. Similarly, harmonizing management practices on trans-boundary contiguous habitats, for example, in Sunderbans is also a trans-boundary as well as national priority. Finally, tackling the illegal trade in tiger parts can be achieved only if trans-boundary cooperation and joint action is taken.

Brief proceedings of this session:

- There is inadequate institutional framework to provide training to frontline staff and build its capacity.
- Too much pumping of money into the system is also not good, as it could bring corruption into the system. The entire management system needs to be improved. At present, well-managed protected areas are a result of dynamic leadership in these, rather than a system based performance and management.
- Communities around protected areas, who receive benefits through ecodevelopment approaches should realize that these gains are due to the presence of forests around them.
- Some experts also cautioned that World Bank should be cautious in approaching these issues. Experts from other international organizations should lead the GTI effort as well. Experts also felt that suggestions made as part of SMART Infrastructure study of conservation levying cess on should be considered.
- It was highlighted that priorities are dynamic and current set of priorities may change. It was also felt that for an important issue like establishing National Goals and Priorities, wider consultations are

required. NTCA agreed to hold additional consultations between now and the summit.

- There is also a need to focus on enforcement of laws and follow up on wildlife crimes; conservation alone may not suffice. There is a need to sensitize the criminal justice system and improve trans-boundary collaboration on illegal wildlife trade issues.
- It was highlighted that India is following the IUCN system of rating/monitoring its tiger reserves and is likely to come up with a tiger score card system.
- In conclusion it was summarized that India can utilize the GTI platform by actively engaging with it in the following areas:
    i. By undertaking technical studies for assessing/evaluating the economic value of tiger reserves, as this is an urgent need of the hour.
    ii. Extend the capacity building efforts undertaken through Smithsonian-WII relationship to frontline staff, including for NGOs.
    iii. Exchange of practices in bringing international experiences for improving harmonization and coordination between different sectors within the larger landscape with competing land uses.
    iv. Identifying what are the Smart/best practices in infrastructure development, patrolling etc that could be adopted or customized and adopted in the Indian context.
    v. How to improve field delivery system, wherein economic benefits from converging with other schemes/programs of other line departments yield maximum benefits to communities living around tiger forests.
    vi. Encourage more regional interaction between tiger range countries through some regional workshops and roundtables.

Program Indicators (interim) to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate the progress by 2015.

1. Creation of inviolate habitats (with buffers and corridors)
2. Number of breeding females per 1000 sq km secured inviolate space/source population; reduction in poaching cases and increase in prey-base numbers
3. Introduction of improved PA Management and M&E tools (e.g. M-STrIPES)
4. Assessment of economic value of tiger reserves (costing the ecological goods and services)

Program Indicators (final) to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate achieving the Long Term Strategic Goals by 2022.

1. Relocation of villages (approximately 48,000 families) from the core tiger habitats
2. Development of knowledge institutions that excel in providing cutting edge management training to frontline staff within the country and also serve as regional centers for other tiger range countries.

Indonesia

Lao People's Democratic Republic
Summary of National Tiger Recovery Program

Country Name: LAO PDR

Long Term Strategic Goals
To recover and maintain viable breeding populations of tigers in all Class 1 and 2 Tiger Landscapes, and to ensure connectivity between all tiger landscapes in Lao PDR, by 2020.

Baseline Status
Tigers are sparsely distributed across the country, but at low numbers. Today, a breeding tiger population is confirmed only in the Nam Et-Phou Louey (NEPL) national protected area (NPA), which is a part of larger Tiger Conservation landscape #35 in the north-eastern Lao PDR. For the persistence of tigers in other parts of the country, provisional information exists from reports of animal signs but the certainty of tiger presence remains unknown. Further field survey on the ground is needed to better understand the status of tigers.

Threats to tigers in Lao PDR are similar to those in other tiger range countries, such as poaching of tigers for trade in their body parts, depletion of their prey due to overhunting, and also habitat shrinkage. However, hunting of tigers and prey to support international trade is the most key threat. In order to tackle these threats and secure viable tiger populations, the current National Tiger Action Plan (2010) established a focused strategy that lays out specific actions to be taken over the next 10 years. Those primary objectives include;

(i) Increase public awareness and support for the recovery and conservation of wild tigers and their habitats
(ii) Identify and demarcate totally protected zones (TPZs) in protected areas and corridors for connectivity between TPZs in tiger conservation landscapes.
(iii) Increase and make effective the enforcement of national regulations and international conventions to stop killing of tigers and to regulate illegal harvest and trade of tiger prey.
(iv) Increase national cross-sectoral cooperation for the recovery and conservation of wild tigers and their habitats
(v) Increase international cooperation to reduce the illegal trade of tiger and prey to neighboring countries
(vi) Monitor and reduce human-tiger conflict in tiger conservation landscapes
(vii) Strengthen Protected Area organization, capacity and sustainable financing to effectively implement management activities to reduce threats to tigers and prey at priority source sites in Class 1 and 2 tiger conservation landscapes

Priority Actions Programs to achieve Long Term Strategic Goals

5. **Laos will adopt law enforcement and tiger monitoring standards.** For example, standardize use of MIST in protected areas; standard methods for tiger monitoring across projects.
6. **Establish inviolate core zone at Nam Et Phou Louey NPA** (and at any other TCL confirmed to have tigers, see #4)**.** The core zone will be protected by means of: law enforcement (to prevent poaching of tigers and prey); outreach and education in nearby villages and other stakeholders that may impact tigers and prey; moving satellite households (sanams) out of the core zone; land use planning; strengthen capacity, funding and authority of protected area institutions, link with REDD++ pilot at the site.

7. **Confirm that tigers are present or absent in all Tiger Conservation Landscapes (TCLs).** To date, village interviews have been conducted to estimate whether tigers still remain in some TCLs, and scientific surveys (camera trapping and transect lines) have been undertaken only in three NPAs, namely Nam Et Phou Louey (Class 1 TCL#37), Nam Kading and Nakai-Nam Theun (Class 2 TCL#34). It is aimed to conduct scientific surveys in all TCLs by 2020. If tigers are confirmed in any of the TCLs then undertake action 2 (make inviolate core areas).
8. **Strengthen institutions and cooperation to protect tigers, tiger prey and habitat**. This requires: strengthening the capacity of DoFI, customs staff, border staff, economic police and CITES MA and SA (training, equipment); establish Lao WEN; NGO cooperation; establish a Prime Minister's Commission on Endangered Species and under the PM Commission (housed in the PM Environment Committee) and under MAF create a Tiger Taskforce. Create lines of communication for better collaboration amongst Ministries so that there is awareness and involvement from central and decentralized sector agencies when development (road, mine, hydro) is planned for a PA/TCL.
9. **Establish and maintain connectivity between Nam Et-Phou Louey source site with other neighboring TCLs** by demarcating the existing forest corridor, and by involving managers of protection and production forest in maintaining connectivity.

Program Indicators (interim) to achieve country's Long Term Strategic Goals (eg to 2015)

1. **Inviolate core zone in NEPL** has been established demarcated in maps and onground and recognized by district, provincial and central government.
2. **Field surveys** following standards for tiger monitoring conducted in the TCLs where status of tigers is not yet confirmed, thus achieving baseline of tiger population status for Laos.
3. **Publish data** on the status of tiger populations in ALL TCLs Class 1 and 2
4. **Lao WEN** is established and operational, **Tiger Taskforce** is established and operational, such that there is collaboration amongst sectors as well as top level support, and accountability lines, for tiger conservation

Program Indicators (2022) to achieve country's Long Term Strategic Goals

1. **Tiger density** - increase tiger population at NEPL by 50% by 2020 (from the current 2004 estimated figure of 7- 23 tigers)
2. **Prey abundance index** – *double* prey population from the current prey abundance index of 3.25 ungulates per sq. km (2008 data) to support sufficiently the increased tigers.
3. Formalized protection of movement **corridors** that connect NEPL to other TCLs, and have these demarcated on maps and on ground.

NTRP Component Linked to the Priority Actions

1. Mapping of Action against Goals.

- Long-term strategic goal:

The overall goal for the country is to elevate the existing tiger numbers to the level of viable breeding populations in all Class 1 and 2 Tiger Conservation Landscapes (TCLs) and ensure connectivity between all TCLs by 2020.

- To achieve the goal, the priority actions are;

- Adopt law enforcement and tiger monitoring standards.
- Establish inviolate core zone at Nam Et Phou Louey NPA (and at any other TCL confirmed to

have tigers).
- Confirm that tigers are present or absent in all Tiger Conservation Landscapes (TCLs).
- Strengthen institutions and cooperation to protect tigers, tiger prey and habitat.
- Establish connectivity between TCLs

2. Description of Program Components.

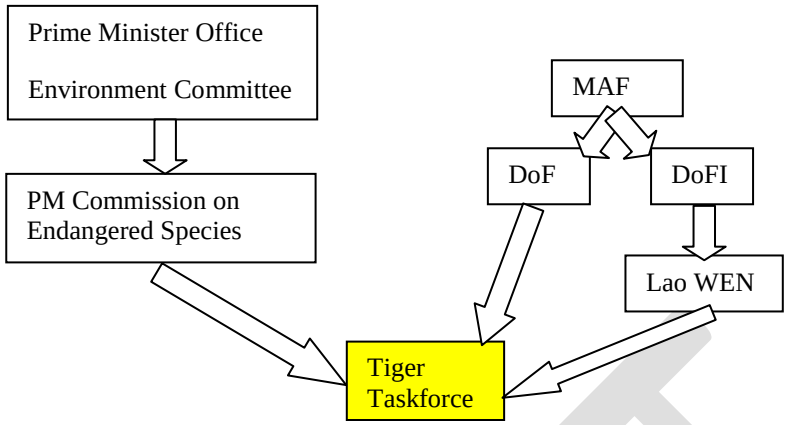
1. **Laos will adopt law enforcement and tiger monitoring standards.** In order to measure our progress or success toward the goal, standard monitoring methods will be used in protected areas across TCLs to monitor tigers and prey (e.g. camera trapping, occupancy survey) and law enforcement (e.g. MIST).
   1.1 Key activity will include; technical training for staff, and installation of 'MIST'
   1.2 Expected outcomes; Standard monitoring system is in place across projects

2. **Establish inviolate core zone at Nam Et Phou Louey NPA**. Given that confirmed data on a viable population of tigers in NEPL NPA at present, establishing the inviolated core zone to secure our source tiger population is most important.
   2.1 Key activity will include; Land-use planning and zoning demarcation in NPAs, law enforcement, outreach and education, relocation of livestock grazing areas out of the core zone, support alternative livelihood for local communities, strengthen capacity, funding and authority of protected area institutions.
   2.2 Expected outcomes; better protection of tigers and prey, increase in tiger numbers, good engagement of local communities.

3. **Confirm that tigers are present or absent in all Tiger Conservation Landscapes (TCLs).** To date, scientific surveys (camera trapping, occupancy and transect lines) have been undertaken only in three national protected areas, namely Nam Et Phou Louey, Nam Kading, and Nakai-Nam Theun. This makes it difficult to develop proper management plan to save this species and their prey. It is aimed to conduct scientific surveys in all TCLs by 2020. If tigers are confirmed in any of the TCLs then undertake action 2 (make inviolate core areas) to secure stabilization of both tiger and prey.
   3.1 Key activities include; training national staff, equipment recruitment, and conducting scientific surveys for tigers and prey in all key national protected areas.
   3.2 Expected outcomes: Published baseline data on tigers and prey

4 **Strengthen institutions and cooperation to protect tigers, tiger prey and habitat**. Building national capacity and strengthening national and international cooperation and coordination are most important to achieve our goal. This requires: strengthening the capacity of DoFI, customs staff, border staff, economic police and CITES MA and SA (training, equipment); establish Lao WEN; NGO cooperation; create lines of communication for better collaboration amongst Ministries so that there is awareness and involvement from central and decentralized sector agencies when development (road, mine, hydro) is planned for a PA/TCL (towards a more green infrastructure approach); establish a Prime Minister's Commission on Endangered Species and under the PM Commission (housed in the PM Environment Committee) and under MAF create a Tiger Taskforce. At present, the government of Laos strongly supports an integration of biodiversity conservation and sustainable development. However, in order to increase/secure effectiveness of implementation on the ground that supports the tiger conservation, a special conservation unit will be established (see diagram).

   a. **Key activities include**; training, workshops (local and national level) recruitment of equipment and vehicles, media
   b. **Expected outcomes**; Lao WEN; PM Commission on Endangered Species, and Tiger Taskforce.



10. **Establish connectivity between TCLs**

a. **Key activities include;** Identify and demarcate protected corridors of habitat connectivity to facilitate dispersal of tigers between source sites within TCLs and between TCLs; Manage land concessions and infrastructure development in TCLs to comply with PA management plans and zoning; Approve PA management plans to ensure cross-sectoral compliance with PA TPZs and corridors; Identify and demarcate protected corridors of habitat connectivity to facilitate dispersal of tigers between source sites within TCLs and between TCLs; Conduct village land-use planning and allocation outside of PA boundaries to ensure compliance with PA zoning and corridors within TCLs.

5.2 Expected outcomes: Secured corridors of habitat linking NEPL NPA source sites and other TCLs

3. Policy Framework needed to achieve objectives.

Existing policy framework to assist tiger conservation in Laos includes:-

- National Wildlife Law, 2007 (which includes tigers listed as protected species under Lao law)
- National Forestry Law, 2007
- National Forestry Strategy to the Year 2020.
- National Biodiversity Strategy to 2020 and Action Plan to 2010
- National Growth and Poverty Eradication Strategy 2004

Additional needs include:

- Government endorsement on the completed Tiger National Action Plan
- Revision of the national protected areas regulation into a Prime Ministers Decree, to give higher status to the protected area system
- Use of the provisions under the policy and legislation to facilitate sustainable funding (e.g. though payments for watershed protection, given the high number of hydropower proposed developments in Laos)

4.Capacity constraints:

- Inadequate well-trained technical staff in each TCL, and inadequate numbers of staff generally
- Lack of technical skills and experience in law enforcement, and monitoring of wildlife and threats
- Enforcement agencies (Department of Forest Inspection, CITES) are newly established, and still poorly equipped with tools and human resources
- Provincial Protected Area Management Unit in each province is newly established, and still poorly equipped with tools and staff

- Lack of funding, with approximately USD 0.07/ha of national protected area; while estimates by WCS suggest around $3/ha would be required for effective PA management in Laos
- A high number of proposed hydropower and mining developments (for example, there are ready six hydropower developments in national PAs and a further 12 feasibility studies for hydropower in NPAs; plus mineral concessions in a number of NPAs) and road network plans, particularly in southern Laos

5. Stakeholders.

Ministry of Agriculture and Forestry, Department of Forestry, Department of Forest Inspection, all other government agencies, INGOs, development partners, Financial Institutions, local communities.

11. **Performance Indicators**.

1. Tiger and prey populations increase
2. Inviolate core zone for NEPL and any other TCLs found to have a breeding population
3. Tiger taskforce and Lao WEN established and operating
4. Field surveys conducted, and results made available, for TCLs that have not yet had populations confirmed
5. Connectivity created between NEPL PA and other TCLs

7. Indicative Costs in US$ (order of magnitude only) *:

Activity	**Costs 5 Yr program (US$ million)**
MIST training for all TCLs (not yet trained)	0.24
PA management in Class 1 NPAs (excluding NNT NPA)	10
Secure NEPL NPA core zone	2.5
Tiger and prey surveys Class 1 and 2 TCLs (questionnaire + camera trapping + training)	0.7
Institutional	0.5
TOTAL	**13.94**

* This is projected *deficit* for all activities for the next five years

8. Financing Options.

- GEF 5 for eligible items
- Possibly funds from private industry for Corporate Social Environment Responsibility or Payment for Ecosystem Services
- Donors

Support needed from the GTI in US$[4]

Activity	**Costs**
Tiger and prey surveys Class 1 (questionnaire + camera trapping + training)	200,000
Secure core zone NEPL core zone	300,000
TOTAL	**500,000**

Malaysia
Summary of National Tiger Recovery Program

Country Name: **MALAYSIA**
Long Term Strategic Goals. By 2022, a wild tiger population of up to 1000 adults thriving within the Central Forest Spine as envisaged in the National Tiger Conservation Action Plan (NTCAP) of Malaysia. The National Tiger Conservation Action Plan (NTCAP) outlines Malaysia's strategy to recover, and increase the current tiger population up to 1,000 wild tiger by the year 2020. The plan has been adopted by the government at the National Biodiversity and Biotechnology Council (NBBC) and is included as a policy for implementation in the 10th Malaysian Plan that covers from 2011 to 2015. The Malaysian Government mainly through the Department of Wildlife and National Parks (DWNP) has four major ongoing programmes related to tiger conservation: protected areas management; wildlife law enforcement across the Peninsular Malaysia; management of Human-Tiger Conflict and wildlife inventory. In addition, since 1980s has been implementing sustainable forest practices with about 40% of Peninsular Malaysia designated as Permanent Forest Reserve. Based on the work on these programmes between 1995 and 2008 and some of the long-term ecological research, it is estimated that Malaysia has about 500 tigers in the wild (DWNP 2009). This indicate that Malaysia currently support one of the largest tiger population in Southeast Asia. The population target projection is based on recent density estimates from research by Kawanishi *et al*. (2003)[5], Kawanishi and Sunquist (2004)[6], and Darmaraj (2007)[7] that suggests over 1400 tigers can potentially be supported in the 49,329km^2 of contiguous tiger habitat now available. three main forest complexes linked by habitat corridors in the larger Central Forest Spine (CFS), that has been identified by the National Physical Plan, have been identified as the priority tiger habitats. Thus, the recovery plan and goal is based in the habitat available within the CFS to recover and conserve a populaton of Malayan tigers by 2020.

[5] Kawanishi, K., Siti Hawa, Y., Abdul Kadir, A. H. and Rahmat, T. 2003. Distribution and potential population size of the tiger in Peninsular Malaysia. *Journal of Wildlife and Parks (Malaysia)* 21: 29 – 50.
[6] Kawanishi, K. and Sunquist, M. 2004. Conservation status of tigers in a primary rainforest of Peninsular Malaysia. *Biological Conservation* 120(3): 329 – 344.
[7] Darmaraj, M. R. 2007. Tiger Monitoring Study in Gunung Basor Forest Reserve, Jeli, Kelantan. WWF-Malaysia unpublished report, Petaling Jaya, Malaysia.

Baseline Status

The current tiger population is distributed throughout Peninsular Malaysia, mainly in the state of Pahang, Perak, Terengganu, Kelantan and Johor. The source populations are in three main forest complexes; Belum-Temengor Complex, Taman Negara, and the Endau Rompin Complex.

The Royal Belum State Park and the adjacent Temengor Forest Reserve comprise the Belum-Temengor complex, and is probably the main stronghold for the tiger population in the Main Range. But only very general information on tigers is available; apart from a study in Gunung Basor Forest Reserve in Kelantan, where tiger density was estimated at 2.59 tiger/100 km^2 (Darmaraj, 2007), not much is known about the population from the rest of the Main Range.

A study by Kawanishi and Sunquist (2004) estimated the tiger population in Taman Negara is about 52-84 adults. If poaching threats are not eliminated or at least significantly reduced, this population may not be viable in the long term. Thus, connectivity with the other forest complexes has to be maintained for genetic and demographic viability. However, the Taman Negara forest is at risk of isolation from the Main Range due to a railway and road running parallel to the western border of the park, and these and other fragmentation threats are being mitigated under the CFS Master Plan.

Endau Rompin, and Endau Kota Tinggi encompasses southern Pahang and Johor States. Among the three main forest complexes that form the tiger landscape, this is the smallest and most fragmented. Very little is known of tiger ecology in this area.

Poaching of tigers and prey across the region is becoming serious issue and Malaysia is also affected by this phenomenon. At present, the capacity to patrol the relatively large tiger habitats where access is often difficult, is inadequate. While laws to apprehend and prosecute poachers and curb wildlife crimes were inadequate until recently, two new legislation (The International Trade of Endangered Species Act, 2008 and Wildlife Conservation Bill, 2010) have been drafted and will come into effect soon, setting the platform for more effective law enforcement. However, staff capacity for patrolling and policing has to be built.

Priority Actions

Strengthen law enforcement in and around the core tiger habitats

The Malaysian Government has drafted two major legislation to deal with the trade and protection of wildlife including tiger. The International Trade In Endangered Species Act, 2008 provide a penalties up to RM2 million or seven years imprisonment for illegal trade in protected species. On the other hand, the Wildlife Conservation Bill, 2010 which is being debated in the Parliament would replace the existing Protection of Wildlife Act 1972 and strengthen the penalties between 10 to 30 times. These stronger legislation will provide more effective deterrent for poaching and other wildlife crimes. Both these laws are expected to be enforce by early 2011.

Enhance and maintain the linkages between the three forest complexes to conserve a tiger population

Malaysia has adopted a comprehensive a land use planning, the National Physical Plan (NPP) which was adopted by the government in 2005. The ecosystem including the tiger habitats have been mainstreamed within the NPP under the Central Forest Spine (CFS) Master Plan. The CFS calls for

the conservation and linkage of four major forest complexes within the CFS. Three of these forest complexes are important for tiger conservation. Their ecological linkages have also been identified in the CFS that sets guidelines for implementation. Thus the tiger/biodiversity conservation areas are very clearly defined and integrated into national, state, and local-level plans for economic development. If the NPP and CFS are adhere to, conserving core tiger habitats connected with ecological corridor, Malaysia will provide a practical model on how to mainstream landscape conservation into development programs.

Institutionalize effective science-based systems to monitor tiger, prey, and habitat conservation

Structured tiger and prey occupancy surveys across landscapes, augmented by camera-trap surveys in selected areas will be used to estimate population sizes, densities in selected areas, and distribution and relative abundances of tigers and prey across the landscape in a scientifically defensible way. The methods will be based on internationally accepted guidelines, but will be rigorously field-tested and revised to adapt to Malaysia's context. A nationwide monitoring program will commence once these country-specific guidelines and protocols are finalized.

Professionalize and strengthen the Wildlife Crime Unit and Malaysian Wildlife Enforcement Network (MY-WEN) to curb the national and international trade in tiger parts, derivatives, and other wildlife

While the amendments to strengthen wildlife legislation will provide the legal support for better and more effective enforcement, the capacity will be strengthen to enforce the laws. This will include trans-national inter-agency coordination and collaboration as well.

Program Indicators (interim) to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate the progress by 2015.

- Numbers of effective patrol teams deployed, with poaching detection rates, wildlife sightings, snare removal, and numbers of patrols
- Notice of amended legislation published in the Federal Gazette
- Local plans, EXCO decisions, and notification of new PAs published in State gazettes
- Tiger and prey signs in corridors
- Results of tiger and prey surveys
- Increase in numbers of spot-checks in PRFs
- Capacity building training held and numbers of staff trained

Program Indicators (final) to achieve country's Long Term Strategic Goals. Identify and describe measurable indicators that will demonstrate achieving the Long Term Strategic Goals by 2022. Strengthen law enforcement in and around the core tiger habitats.

- Tiger population estimate at around 1000 individuals
- Evidence of tiger sign in corridors to indicate tiger population managed in the three forest complexes
- Wildlife Crime Unit and MY-WEN effectively functioning, and illegal trade and consumption of tiger parts and products reduced by at least 90%
- Trans-national coordination meetings held with regional countries (Singapore, Thailand, and Indonesia)

NTRP Component Linked to the Priority Actions

1. MAPPING.

<u>Long Term Strategic Goal</u>: By 2022, a tiger population of up to 1000 adults in the three interconnected landscapes within the Central Forest Spine as envisaged in the National Tiger Conservation Action Plan (NTCAP) of Malaysia.

In order to achieve the targeted population of adult tigers in the wild, the Malaysia's National Tiger Conservation Action Plan (NTCAP) has identified four major objectives as follows:

- Secure Central Forest Spine with strictly protected priority areas in landscape connected with corridors;
- Provide effective long term protection of tigers and their prey;
- Promote and practice ecological sound land use compatible with tiger conservation outside the priority areas;
- Apply science to monitor the efficacy of the conservation activities and to apply knowledge of tiger ecology.

Each of these objectives has a series of actions to be undertaken by leading focal agencies with the support of other stakeholders. The implementation of all these actions would enable Malaysia to achieve the overall target of doubling its tiger population by the year 2020.

NTCAP has identified three forest complexes that harbor the tiger source populations. These are the: 1) Belum-Temenggor Complex; 2) Taman Negara; and 3) Endau Rompin Complex, which create the Central Forest Spine (CFS) conservation landscape. These three forest complexes include 6 separate protected areas in 5 states designated under different legislation and managed by different agencies:

- Taman Negara National Park, Kelantan (85,300 ha) is designated under Taman Negara Kelantan Enactment in 1938 and managed by the Federal government through DWNP.
- Taman Negara National Park, Terengganu (101,300 ha) is designated under Taman Negara Terengganu Enactment in 1939 and managed by the Federal government through DWNP.
- Taman Negara National Park, Pahang (247,700 ha) is designated under Taman Negara Pahang Enactment in 1939 and managed by the Federal government through DWNP.
- Endau-Rompin National Park, Johor (49,000 ha) is designated under Johor National Park Corporation Enactment in 1993 and managed by the state government of Johor through the Johor National Park Corporation.
- Endau-Rompin State Park, Pahang (40,000 ha) is designated under National Forestry Act in 1999 and managed by the Pahang State government through the Pahang State Forestry Department.
- Royal Belum State Park (118,000 ha) is designated under Perak State Park Enactment in 2007 and managed by the state government of Perak through Perak State Park Corporation.

All these parks are surrounded by Permanent Reserve Forests (PRF). The CFS Master Plan has identified 37 ecological corridors that link the forest complexes and other smaller forest patches.

Thus, the protection and sustainable management of these forest complexes, (with good protection of the core sites within the complexes and management of the corridors), to facilitate dispersal between the complexes are essential to ensure the survival of a viable population of tigers in the CFS and to double the tiger population by 2020.

The goal will be achieved through the following priority actions which have been identified in the NTCAP:

1. Strengthen law enforcement in and around the core tiger habitats.
2. Enhance and maintain the linkages among the three forest complexes to conserve a tiger population.
3. Institutionalize effective science-based systems to monitor tiger, prey, and habitat conservation.
4. Professionalize and strengthen the Wildlife Crime Unit of the DWNP and that of the other enforcement agencies to curb the national and international illegal trade in tiger parts, derivatives, and other wildlife.

2. DESCRIPTION OF PROGRAM COMPONENT.

The Government of Malaysia, in collaboration with a number of conservation organizations has prepared a comprehensive National Tiger Conservation Action Plan with well designed actions to double the tiger population by 2020. In a genuine exhibition of commitment to implementing the action plan and achieving the goal stated therein, the government has already taken steps to initiate the following:

1. The National Tiger Conservation Action Plan has been incorporated into the Malaysian Government's 10^{th} 5-year Plan.
2. A budget to implement the plan has been submitted for a peninsular-wide monitoring project to estimate tigers and prey populations.
3. Two new wildlife legislations will be enforced.
4. A total of 37 ecological corridors have been identified in the Central Forest Spine Master Plan to link four major forest complexes which includes tiger habitats and corridors to link core tiger habitats.
5. Mainstreaming of biodiversity in the development planning by agencies under a Common Vision on Biodiversity initiative developed by Ministry of Natural Resources and Environment (NRE).

These commitments by the government lay the foundation to achieve the priority actions, which have to be followed through as follows:

- Strengthen the corridors that link the forest complexes with tiger core areas with appropriate land-uses that are compatible with tiger and prey conservation.
- A land-use management plan should be designed for the forest complexes based on tiger ecology and habitat use research to manage and increase the tiger populations while reducing conflict.
- Protection for tigers and prey has to be strengthened by increasing staff capacity and training, backed by stronger enforcement of the new laws and regulations being legislated.
- Tiger populations have to be monitored to ensure they are increasing and progress towards the goal is being achieved.

The following NTRP objectives and activities are based on the above follow-up actions to double tiger numbers; a goal concordant with the GTI.

Strengthen law enforcement in and around the core tiger habitats to recover tigers and prey populations

The Malaysian Government has enacted stronger, more effective wildlife legislation that will raise the penalties for illegal trades, poaching and other wildlife crimes. In the mean time, a three year moratorium on issuing licenses to hunt sambar and barking deer is already in place. In addition to the existing protected areas, a number of no-hunting areas have been declared to help recover tiger prey populations.

Objective 1. To provide effective and long-term protection for tigers and their prey

Activities:

- Strengthen enforcement teams by: improving professionalism; adding more patrol teams; and granting greater empowerment under new and existing Federal and States laws to curb intrusion and poaching into tiger habitats and corridors.
- Develop focused and intelligence driven anti-poaching patrol strategies in key forest sites (poaching hotspots) to secure tiger habitat in priority areas in the Central Forest Spine, especially in Taman Negara, Belum-Temenggor Complex at the Malaysian-Thailand borders, and in the Endau-Rompin Complex at Pahang-Johor state border.
- Stricter enforcement of the new wildlife legislation.
- Secure additional funds to support increased patrolling (in frequency and number of teams) with logistics support.
- Strengthen multi-agency enforcement task force at the three priority areas.
- Capacity building for tiger conservation through the Institute of Biodiversity (IBD,DWNP).

Outcomes:

- Improved legislative and regulatory protection for recovery of tigers and key prey species.
- Efficient and effective anti-poaching patrols in key forest sites.
- Better enforcement of wildlife and wildlife trade laws.
- Increase deployment of law and enforcement rangers and officers to curb intruders and poachers into core tiger habitats.
- Increase apprehension and prosecution of illegal wildlife traders and poachers.
- Knowledge and skill among law and enforcement patrolling team strengthened via comprehensive training programs developed through IBD, DWNP.

Duration and location of the Program Component:

Duration : 2011-2015,

Location(s): Belum-Temenggor Complex in Perak, Taman Negara National Park in Pahang/Kelantan/Terengganu and Endau Rompin Complex in Johor/Pahang.

Enhance and maintain the linkages between the three priority areas

The National Tiger Conservation Action Plan (NTCAP) identifies three priority areas for tiger conservation with habitat linkages to facilitate management of a population. These tiger habitats (core areas, buffer zones, and corridors) have been included in the National Physical Plan (NPP) that sets guidelines for land use and development; thus the tiger/biodiversity conservation areas are very clearly defined and integrated into national, state, and local-level plans. Any alienation of land for development projects have to be referred to the Department of Town and Country Planning, which consults the NPP.

Malaysia has no serious local community issues within the protected areas and the tiger landscapes. Such local community issues has been addressed during the course of development through land resettlement programmes under Federal Land Development Authority (FELDA) and the Federal Land Consolidation and Rehabilitation Authority (FELCRA). However some of these land schemes are around protected areas and in tiger habitats. Thus, strategies are needed to reduce and mitigate the

anthropogenic impacts on tiger habitats from these settlers, and from potential human-tiger conflict due to increasing tiger numbers.

The conservation strategies and activities in the NTCAP are, to a large extent facilitated by the NPP and the Central Forest Plan. Currently, species protection is under the jurisdiction of the Federal government through DWNP, but the forest/habitats protection fall under the jurisdiction of several state departments and the DWNP. Therefore, better coordination between the Federal and States Governments and between the relevant enforcement agencies are necessary for efficient implementation of conservation actions.

Objective 2. To secure the core areas in the Central Forest Spine and ensure connectivity through functional corridors

Activities:

- Priority areas important for tigers (i.e., Belum-Temengor Complex, Taman Negara and Endau-Rompin Complex) are strictly protected, expanded, or sustainably managed.
- Investigate immediate possibilities to create or enlarge new protected areas to secure as core habitat.
- Promote and practice ecologically sound land use compatible with tiger conservation outside the strict protected areas, especially in corridors, through:
    - land-use guidelines and recommendations for sustainable, wildlife-friendly utilization of land in forest reserves;
    - sustainable logging practices in forest reserves that take into consideration the maintenance of tiger and prey populations (used as a key indicator for certification of sustainable forest use);
    - community-based, better management practices (BMPs) and effective awareness programmes to mitigate human-tiger conflict, including in potential conflict areas.
- Create a sustainable financing mechanism to mitigate human-tiger conflict.
- Design and develop smart infrastructure to facilitate wildlife crossing, and establish monitoring mechanisms at crossings in priority linkages in 3 priority linkages namely Ketiar, Belum and Sg. Yu.
- Strengthen a mechanism within the Ministry to coordinate and monitor the implementation of the NTCAP and CFS

Outcomes:

- A landscape of tiger habitat with connected core areas large enough to support a population of up to 1000 tigers with minimal human-tiger conflict.
- Ecological corridors maintained for tigers and prey.
- Actual sites for wildlife crossing identified and monitored.

Duration and location of the Program Component:

2011-2015, CFS 7-Ketiar, Terengganu; CFS 2-Sg. Yu, Pahang; CFS-1-Belum, Perak and Taman Negara National Parks, Pahang and Johor with the surrounding tiger landscapes.

Institutionalize effective science-based systems to monitor tiger, prey, and habitat conservation

Success measures in tiger conservation have to be scientifically defensible. Structured tiger and prey occupancy surveys across landscapes, augmented by camera-trap surveys in selected areas can help estimate scientifically defensible population sizes, densities in selected areas, and distribution and relative abundances across the landscape. Collaborative surveys by multiple parties using methods based on internationally accepted guidelines will be rigorously tested in the field, then revised and updated to develop methods suitable for Malaysia's context. A nationwide monitoring program will commence once these country-specific guidelines and protocols are finalized.

Other studies to deepen the understanding of tiger ecology and habitat use, including under various selective logging regimes will be conducted for adaptive management of tigers and prey in multiple forest use landscapes.

Objective 3. To apply science to monitor the efficacy of conservation actions and to improve knowledge and awareness of tiger ecology.

Activities:

- Develop science-based survey mechanisms and protocols to monitor occupancy of tigers and their prey across landscapes, and tiger densities in priority areas.
- Develop research programs to inform conservation and management based on priorities identified in landscapes.
- Strengthen capacity of DWNP and other stakeholders to undertake science-based survey of tigers and its prey.

Outcomes:

- Database to monitor tiger and prey population status (distribution and estimates).
- Scientific knowledge on tiger ecology for conservation and recovery in a multi-land use landscape.
- Mechanism to monitor impacts from development on corridor function.

Duration and location of the Program Component:

2011-2015, CFS 7-Ketiar, Terengganu; CFS 2-Sg. Yu, Pahang; CFS-1-Belum, Perak and Taman Negara National Parks, Pahang and Johor with the surrounding tiger landscapes.

Professionalize and strengthen the Wildlife Crime Unit (WCU), DWNP and other enforcement agencies to curb the illegal trade in tiger parts, derivatives, and other wildlife crimes

While the enhancing of the legislation will provide the legal support for better and more effective enforcement, the mechanism to enforce the laws also requires strengthening and capacity building. There also has to be better integration of inter-agency personnel to undertake this task at the field especially at the priority areas.

Objective 4. To monitor and curb national and international illegal trade of tiger, parts and derivatives (and other wildlife) and poaching.

Activities:

- Strengthen the professionalism of the WCU and relevant enforcement agencies to monitor and detect organized wildlife crimes and crime networks in Malaysia.
- Work with customs, border officials, and INTERPOL to crack down on illegal international trade of tigers and organized wildlife trade networks.
- Strengthen and improve cooperation through bilateral and ASEAN to curb the illegal trade of tigers and parts across borders and in the Straits of Malacca.
- Work with enforcement agencies to intensely crack down on illegal trade and consumption of tigers and parts in Malaysia, especially in key urban areas (hot spots), under the two new laws.
- Collaborate with relevant local authorities to revoke business licenses of premises who violate the new wildlife laws such as the owners of restaurants and pet shops.
- Collaborate with Forest Department, Peninsular Malaysia and other enforcement agencies for active enforcement at checkpoints at key logging access roads and spot-checks at logging concessions.
- Enhance the collaboration with ASEAN-WEN and CITES member countries and share intelligence.
- Enhance informant networks at local level.

Outcomes:

- Increase frequency in patrolling leading to reduced poaching and illegal trade of tigers, parts and derivatives.
- Stricter penalty imposed for wildlife cases apprehended leading to reductions in poaching and illegal trade in tigers, parts, and derivatives.

Duration and location of the Program Component:

2011-2015, CFS 7-Ketiar, Terengganu; CFS 2-Sg. Yu, Pahang; CFS-1-Belum, Perak and Taman Negara National Parks, Pahang and Johor with the surrounding tiger landscapes.

3. Policy.

The NTCAP is a plan to save the Malayan tiger, and has 80 actions to recover and increase up to 1,000, the number of wild tigers by the year 2020. In November 2009, the Federal government of Malaysia, through the National Biodiversity and Biotechnology Council, adopted the NTCAP.

In line with this Plan, the Ministry of Natural Recourses and Environment, Malaysia (NRE) has enacted a new domestic legislation, the Wildlife Conservation Act, to replace the Protection of Wildlife Act, 1972. This new legislation will strengthen the protection and conservation of tigers, its prey, and designated habitats.

As party to the Convention of International Trade of Endangered Flora and Fauna (CITES), Malaysia has also enacted the International Trade in Endangered Species Act 2008, to implement CITES-related provisions in regulating the international trade of wildlife.

To mainstream conservation into development, Malaysia has adopted a national spatial planning strategy as stipulated in the National Physical Plan (NPP) 2005. The NPP sets a spatial framework for sustainable development and delineates important conservation areas for biodiversity and conservation. The Central Forest Spine (CFS) is a central conservation landscape in this plan and will

complement tiger conservation since it promotes the protection of biodiversity-rich core areas, inter-connected by a system of large forest blocks where ecologically sound land-use is practiced.

Both the NTCAP and CFS have been adopted for implementation in the 10th Malaysia Plan that was recently tabled by the Hon. Prime Minister in Parliament.

The DWNP as the major implementer of the NTCAP has a network of more than 100 offices at National, State, District and PA levels to carry out law enforcement and wildlife conservation work with a about 1500 staff. This is further complemented with the corporation of other stakeholders.

4. Capacity.

Strengthen law and enforcement at and around core tiger habitats.

Need to: increase patrol frequencies in core tiger habitats from the existing average of 5 days in a month to at least 15-days a month; enhance patrolling of Taman Negara National Park; form mobile patrolling units to curb poaching and illegal trade of tigers and other wildlife in Belum-Temenggor Complex at the Malaysian-Thailand borders and Endau-Rompin Complex at Pahang-Johor state border; provide better communication and field equipment to patrolling teams; enhance the training capacity of IBD of DWNP upgrade enforcement skills of rangers and patrolling teams.

Facilitate joint enforcement work with relevant enforcement agencies and ASEAN-WEN

Need to: increase the number of informants in core tiger areas; facilitate information sharing between relevant enforcement agencies within the country and between Malaysia and Thailand to tackle trans-boundary poaching and illegal wildlife trade; strengthen multi-agency enforcement task force at the priority areas; increase the field allowance and supporting logistical equipment for all agencies involved with special awards for enforcement agencies that apprehend poachers and encroachers; conduct special courses on interdisciplinary enforcement task for all the agencies involved.

Capacity Building for Prosecution and Forensic Activities

Following the enactment of the new two legislations with higher penalties for poaching and illegal trade, there is a need to strengthen the legal capacity to enable effective prosecution of cases contravening these laws. A legal unit with qualified legal officers is being planned to be established within the department to undertake this task.

In addition, the law enforcement officers will be trained to use forensic science in the law enforcement. A specific awareness program will also be conducted to increase the level of awareness among the judiciary.

5. Stakeholders.

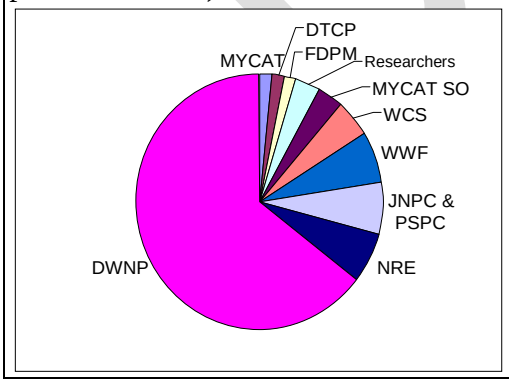
Malaysia's constitution enables wildlife and habitat conservation to be undertaken by both Federal and State Governments. As a result, there are four federal and state agencies involved in the management of the core tiger habitats. In addition, the active support from other stakeholders which includes agencies and NGOs are crucial for the implementation of the NTCAP coordinated by NRE. Since 2006, a number of stakeholders' consultations have been conducted to develop the NTCAP and to

monitor and coordinate the implementation of the identified 80 actions.

Main stakeholders in tiger conservation in Malaysia include:

- NRE as the overall coordinator in the implementation of the NTCAP and the CFS Master Plan which includes development of linkages to connect fragmented forests.
- Economic Planning Unit of Prime Minister's Department which is responsible for development fund allocation under the Malaysian Plans and the disbursement of external funding for government agencies.
- Department of Wildlife and National Parks Peninsular Malaysia (DWNP) as the:
    - As the main enforcement agency of the new Wildlife Conservation Act 2010 and International Trade in Endangered Species Act, 2008; and
    - Manager of Taman Negara National Park Pahang/ Kelantan /Terengganu and other protected areas.
- Forestry Department of Peninsular Malaysia as the manager of Endau-Rompin State Park, Pahang and a major portion of tiger landscapes (e.g. Temengor F.R.),
- Town and Country Planning Department as the developer of the CFS master plan.
- Johor National Park Corporation as the manager of Endau-Rompin National Park, Johor.
- Perak State Park Corporation as the manager of Royal Belum State Park.
- Malaysian Nature Society runs activities and awareness programmes towards a better appreciation of the Malaysian public on nature conservation issues.
- TRAFFIC Southeast Asia is a joint programme of IUCN and WWF to monitor trade in endangered flora and fauna.
- Wildlife Conservation Society (Malaysia Programme) conduct research on tigers and their prey in the Endau-Rompin Complex, runs awareness programmes and facilitate the implementation of better enforcement cooperation in the area.
- WWF-Malaysia conducts scientific research on tiger monitoring in the Belum-Temengor Complex, studying land use and ecological corridors, conduct awareness programmes.
- MYCAT Secretariat Office runs a network among four National NGOs (MNS, WCS, TRAFFIC-TSEA and WWF-Malaysia) with the support by DWNP to monitor the implementation of the NTCAP.

The NTCAP calls for the implementation of 80 actions, majority of which are headed by DWNP (See pie chart below).



6. Performance Indicators.

Indicators will be chosen from the suite below as programs are developed:

- Enforcement teams established/strengthened.
- Intelligence driven anti-poaching, monitoring mechanism established.
- Mobile Patrol Units established at Belum-Temengor and Endau-Rompin.
- Various Federal and State legislation related to intrusion and poaching strengthened, harmonized, and coordinated.
- Workshops to devise wildlife enforcement, anti-poaching strategy, training curriculum organized.
- Hotspots continuously patrolled; increase in detection rates of snares and poachers; increase in areas covered in each state; increase in number of man-days patrolled.
- Increasing success in prosecution of cases.
- Regional workshop on trans-boundary wildlife enforcement.
- Malaysian Wildlife Enforcement Network strengthened.
- Capacity building training courses held.
- HTC maps around CFS linkages produced; updated using GIS.
- Guidelines for patrolling and monitoring produced.
- Law enforcement awareness/outreach programme carried out.
- Coordination mechanisms strengthened.
- Human resources needed for law enforcement for Federal and State to manage core tiger habitats identified and fulfilled.
- Discussions held between relevant Federal and State agencies to strengthen legislation and law enforcement at core tiger habitats.

7. Indicative Costs in US$ equivalent (approximate estimate):

Activity	**Costs GTI/Partners**
Enforcement (patrolling, capacity building, training, logistical support)	15 million
Enhance and maintain the linkages between the three priority areas	20 million
Design and develop 3 ecological corridors	35 million
Capacity Building and awareness through IBD, Lanchang and other stakeholders	2 million
Science based Monitoring	5 million
TOTAL (USD)	**77 million**

8. Preferred Financing Mix

Identify and indicate the order of magnitude of the expected and/or desirable funding sources for the above listed activities (for 2011-2015 and beyond), including central and subnational government budget, intergovernmental organizations (UN etc.), multilateral development banks (WB, ADB, etc.), Global Environment Facility, bilateral aid agencies, private foundations, international NGOs, etc., as appropriate.

9. Short-Term Catalytic Support Needed (in 2010-2011)[8]. Identify and indicate the amount of short-term catalytic funding needed from the GTI funding partners to support the Component in the table below. Such funding is typically expected to cover the following types of activities:

Catalytic activity (provide brief description)	**Costs, US$**
Funds to support immediate training and deployment of additional patrolling teams in 2011	500,000
Funds to conduct detailed wildlife crossing and smart green infrastructure designs in 2011	500,000
Funds to strengthen the training capacity of the Institute for Biodiversity (IBD), DWNP in 2011	200,000
Funds to conduct pilot tiger and prey survey at priority tiger habitats in 2011	200,000
Funding for strengthening of capacity at the Ministry of Natural Resources and Environment in monitoring the implementation of NTCAP and CFS	200,000
Total	**1,600,000**

The Union of Myanmar

Summary of National Tiger Recovery Program

Country Name: MYANMAR

Long Term Strategic Goals. Examine the implications of the global goal to double the numbers of wild Tigers in your country and briefly describe appropriate national strategic Tiger conservation goals by 2022.

In Myanmar the Hukaung Valley Wildlife Sanctuary in the north and Thaninthayi Nature Reserve in the south of the country are considered to be the areas for TCLs where the NTRP should be focused.

Myanmar's Long Term strategic goal is to conserve two source sites for Tigers. Within these source sites it is expected to increase the Tiger population in the Hukaung TCL from 50 to 100 and in the Taninthayi TCL the number will increase from 35 to 70. The existing Tiger populations in both areas are based on the best estimate of the NWCD. The Tiger population outside of the TCLs and PAS is currently unknown.

Illegal trade in Tiger products is extending beyond Myanmar's boundaries. Eliminating such trade needs trans-boundary cooperation between Myanmar and neighboring countries.

[8] Short-term funds raised by the GTI partners will be used by TRCs for catalytic and initial work required to bring best practices to full-size projects. Such GTI support, in general, will be less than US$500,000 in each case. Where medium- and full-size projects (costing more than US$500,000 each) are already identified for possible submission to large funders, the GTI will facilitate lining up and leveraging the necessary cofinancing from other funders as appropriate.

Baseline Status

Currently the Nature and Wildlife Conservation Division (NWCD) of the Forest Department (FD) is trying its best to protect Tigers with its existing capacity, but there are considerable needs for increased human and financial resources to meet the goals set for a long-term strategy. Even though the FD is struggling to protect Tigers with its current resources, in June 2010 the government has made a strong commitment to save the Tiger for the future by designating an extension area of 11,002 sq. km to be added to the existing Hukaung Valley Wildlife Sanctuary (6,371 sq. km). Now, the total area designated for conservation in the Hukaung Valley Wildlife Sanctuary is 17,373 sq. km. The combination of the two areas will be known as the "Hukaung Tiger Reserve" and will be managed by the existing park authority. NWCD is also implementing the second phase of the Thaninthayi Nature Reserve Project and will expand Tiger related activities in the area in the coming years.

The following activities should be implemented to reach the set goal.

1. Increased 20 more staff assignment to Hukaung and total 15 staff toTaninthayi to increase patrolling presence and effectiveness
2. Continue the use of SMART patrolling in Hukaung and Taninthayi Nature Reserve,
3. Improve information gathering and law enforcement to reduce illegal Tiger trade in the PAs, in major cities and at border crossings,
4. Increase awareness among stakeholders and law enforcement agencies such as local police, customs, and township forestry officers to fight against wildlife trafficking.
5. Evaluate the potential to expand protected areas in Thaninthayi to include Mount Myint- Mo-Lakat or other areas in the south that may still support Tiger populations and to establish ecological corridors where possible to connect the critical habitats.
6. Increase education outreach programs for Tiger conservation in areas where Tigers occur, are being hunted or are being traded.

Priority Actions *to achieve Long Term Strategic Goals*

To achieve long-term strategic goals, the following are considered to be the critical actions for national and trans-boundary issues.

1. The Government of Myanmar will form Tiger conservation taskforces (e.g. Tiger protection unit-TPU in Hukaung) to strengthen patrolling and law enforcement in Hukaung and Thaninthayi,
2. The Government of Myanmar will search for opportunities to expand PAs and ecological corridors in both TCLs,
3. The Government of Myanmar will improve international cooperation in trans-boundary areas with the Governments of India, Thailand, and China through increased communication and cooperation.
4. The Government of Myanmar will continue to monitor the status of Tiger and Tiger prey populations to assess the effectiveness of conservation efforts, and
5. The Government of Myanmar will continue to raise public awareness on Tiger conservation for cross-sectoral support and the crimes associated with Tiger trade for elimination.

Program Indicators (interim) *to achieve country's Long Term Strategic Goals*

The indicators that are showing the progress by 2015 would be:

Landscapes with appropriate extensions and corridors legally protected

1. With Tiger numbers at such a low level there is need to maximize protection for any remaining populations close to source landscapes. This will include an assessment of ecological corridors and potential extensions to priority protected areas.

Improved Management especially concerning law enforcement in Source Landscapes

2. Increase of enforcement and prosecutions for Tiger related crimes through more patrols and close coordination with relevant organizations.
3. Reduction of professional hunting and commercial exploitation through cooperative management between TCLs authorities and local villagers.

Monitoring ongoing in Source Landscapes

4. Ecological monitoring in place to document changes in the numbers of monitored Tigers and preys
5. A database system (e.g. MIST database) regularly applied across both landscapes so as to improve patrolling decisions.

Improved national and trans-boundary cooperation

6. More cooperation and support from other government line agencies for the protection of Tigers
7. An increased frequency of meetings and dialogues with trans-boundary partners to discuss Tigers and conservation priorities. This would consist of a minimum of two meetings with each country (India, Thailand and China) before 2015.

Program Indicators (final) *to achieve country's Long Term Strategic Goals*

1. A true reduction of Tiger related crimes indicated by a gradual decrease of professional hunting and arrests.
2. Improved law enforcement throughout the expanded PAs with increased staff assignment,
3. Ongoing cooperation and Trans-boundary agreements in place with all three neighboring countries
4. Increase of Tiger and Tiger prey populations to be double from current levels in the TCLs
5. Cooperative management agreements between TCLs authorities and local villagers in place and functioning.

NTRP Component linked to the Priority Actions

1. Mapping

Long Term Strategic Goal: **Myanmar's Long Term strategic goal is to conserve two source sites for Tigers.**

Priority Action (-s):

1. The Government of Myanmar will form Tiger conservation taskforces (e.g. Tiger protection unit-TPU in Hukaung) to strengthen patrolling and law enforcement in Hukaung and Thaninthayi,
2. The Government of Myanmar will search for opportunities to expand PAS and ecological corridors in both TCLs,
3. The Government of Myanmar will improve international cooperation in trans-boundary areas with the Governments of India, Thailand, and China through increased communication and cooperation.
4. The Government of Myanmar will continue to monitor the status of Tiger and Tiger prey populations to assess the effectiveness of conservation efforts, and
5. The Government of Myanmar will continue to raise public awareness on Tiger conservation for multi-stakeholders participation and the crimes associated with Tiger trade.

2.Description of program component

Myanmar's long-term strategic goal of conserving tiger populations has four principal components: **1)** ***Landscapes with appropriate extensions and corridors legally protected, 2) Improved Management especially concerning law enforcement in Source Landscapes, 3) Monitoring ongoing in Source Landscapes, 4) Improved national and trans-boundary cooperation***

Component 1: Landscapes with appropriate extensions and corridors legally protected

Objective 1: Identify remaining important areas for Tigers in and around both TCLs

Activities:

- Surveys for Tiger presence in unprotected areas around both TCLs
- Nomination of important Tiger areas for legal protection

Outputs:

- Legal designation of areas important for Tigers
- Incorporation of new areas into management planning for existing source landscapes

Duration/location:

- 4 years/Hukaung and Thaninthayi Landscapes

Component 2: Improved Management especially concerning law enforcement in Source Landscapes

Objective 2: Improve capacity of management and law enforcement agencies to achieve conservation

Activities:

- Recruit and train more FD staff in wildlife conservation, law enforcement and monitoring techniques
- Provide necessary field equipment
- Provide sufficient funding for operations and maintenance
- Expand management infrastructure
- Increase effective patrolling and integrate with appropriate database (e. g MIST) for effective management

Outputs:

- Measurable decline in wildlife related crimes, especially those associated with Tigers

Duration/location:

- 5 years/Hukaung and Thaninthayi Landscapes and National level

Component 3: Monitoring ongoing in Source Landscapes

Objective 3: Implement standardized monitoring protocols in source landscapes

Activities:

- Recruit and train more FD staff in monitoring protocols
- Establish a baseline for tiger and tiger prey species
- Review existing biological monitoring protocols and standardize for future use
- Implement MIST across both Tiger landscapes

Outputs:

- Monitoring protocols standardized and providing regular indication of population change.
- Monitoring protocols fully integrated into planning and resource allocation

Duration/location:

- Ongoing/Hukaung and Thaninthayi Landscapes

Component 4: Improved national and trans-boundary cooperation

Objective 4: Strengthen support for Tiger Conservation across all Myanmar line-agencies

Activities:

- Open dialogue at the national level between the Ministry of Forestry and other Myanmar line-agencies

concerning Tiger conservation

- Explore opportunities for improved national policies to support Tiger conservation

Outputs:

- All Government line-agencies fully informed and aware of the importance of Tiger Conservation and how their agencies can contribute
- Policies related to Tiger Conservation strengthened

Duration/location:

- 3 years/National Level

Objective 5: Strengthen Trans-boundary collaboration with the Governments of India, China and Thailand

Activities:

- Increase dialogue with bordering countries concerning Tiger and other wildlife crimes
- Assess opportunities to conduct annual meetings to promote cooperation in law enforcement in key border areas

Outputs:

- Trans-boundary agreements concerning Tigers and other conservation priorities agreed between the Government of Myanmar and Governments of India, Thailand and China
- Increased cooperation at key border areas for the enforcement of Tiger and other wildlife crime

Duration/location:

- 4 years/National and Trans-boundary

3. Policy

- Amend the existing penalties of the current law and legislations with regard to tiger related offences
- Cross-sectoral cooperation and coordination is needed to be promoted in order to maximize Tiger conservation at source sites
- Trans-boundary agreements between the Government of Myanmar and the Government of India, Thailand and China for cooperation on reducing Tiger and other wildlife crimes.
- Review of existing development policies to strengthen support for Tiger Conservation
- Integrate " Tiger conservation" as a priority task in the development agenda of the government

4. Capacity

It is crucial that the Forest Department has adequate capacity to thoroughly evaluate and react to the outcomes of conservation effort so that it can effectively meet its obligation to conserve resources. However, capacity to provide comprehensive information on population status and threat level to large mammals including Tiger throughout Myanmar is not currently sufficient.

Therefore, the following capacities are required to be enhanced:

- Improve capacity and strengthen the infrastructure of site-level management authorities to monitor the population status and distribution of Tiger.
- Build capacity by organizing training modules and exchange programs between Tiger taskforces.
- Prepare management plans for each Tiger landscape and PAs with Tigers based on the national conservation strategy and updated Tiger action plan
- Create serious collective efforts and meaningful cooperation from other government line agencies to get effective and efficient law enforcement and education outreach implementation for Tiger conservation.

5. Stakeholders

Amongst the stakeholders, the Wildlife Conservation Society (WCS) plays a major role by providing technical and financial assistance in the field of Tiger conservation especially in the Hukaung landscape. Other stakeholders include the general administration department, land record department, agricultural service, police force, local army commands, judicial offices, law offices and customs offices.

Other organization which pays a major role is MGTC and TPC gas and oil exploration company is actor in Myanmar Tiger conservation in the Thaninthayi landscape.

The Governments of Myanmar and India are also preparing to launch trans-boundary cooperation on conservation through a MoU and other mutual agreements.

6. **Performance Indicators**. Identify key measurable indicators that will demonstrate progress towards achievement of the Component's Objectives.

1. Substantial decrease in professional hunting and commercial exploitation of natural resources from Tiger habitats
2. Cessation of illegal encroachment into Tiger habitats (e.g. agriculture, mining)
3. Increase of Tiger and prey densities in and around Tiger habitats.
4. More supports from local and other government line agencies in saving wild Tigers and their habitats

7. Indicative Costs in US$ (order of magnitude only):

Activity	**Costs**
Identify remaining important areas for Tigers in and around both TCLs	300,000
Improve capacity of management and law enforcement agencies to achieve conservation	3,000,000
Implement standardized monitoring protocols in source landscapes	2,000,000
Strengthen support for Tiger Conservation across all Myanmar line-agencies	200,000
Strengthen Trans-boundary collaboration with the Governments of India, China and Thailand	500,000
TOTAL	**6,000,000**

8. Financing Options. Explore the options to enhance potential government or national funding including GEF, Multilateral Development Banks, international NGOs, below.

- International Development Agencies: Limited engagement with Myanmar on conservation activities
- GEF: Potential GEF-5 biodiversity priority areas and activities.
- International NGOs: Currently supporting the Hukaung landscape.
- PES/REDD: A PES system currently operates in the Thaninthayi Nature Reserve but other PES type projects are not being developed. No REDD projects are being developed yet in Myanmar.
- Tourism: Revenues from Tourism are limited
- National budget: Institutional support from central government.

Support needed from the GTI in US$

Identify and indicate the amount of funding needed from the GTI to support the Component in the table below. The GTI can only support the following type of activities costing less than $500,000:

Activity (provide brief description)	**Costs**
Training and Implementation of MIST in Thaninthayi	50,000
Awareness-raising and multi-agency support campaign for national government	30,000
Training and capacity building for biological monitoring in Thanintahyi	50,000
Trans-boundary meetings with India, China and Thailand to strengthen cooperation on Tiger and other wildlife crime enforcement	150,000
Small-scale Occupancy surveys for Tiger Prey in both landscapes	300,000
TOTAL	**580,000**

Federal Democratic Republic of Nepal
National Tiger Recovery Program

Country Name: **NEPAL**

Long Term Strategic Goals

The Government of Nepal pledged to implement several conservation actions to help increase the country's tiger population from an estimated 121 to over 250 adult tigers by the Year 2022. These pledges were made by the Hon Minister of Forests and Soil Conservation during the Kathmandu Global Tiger Workshop in October 2009 and during the Hua Hin Ministerial Conference in January 2010. Several of these pledges have already been implemented, demonstrating Nepal's genuine commitment to saving its tigers and leadership towards achieving the global tiger recovery goal. The pledges made by Nepal, and their status are as follows:

1. **Improve and increase tiger habitat.** To fulfill this pledge, Nepal has already declared Banke National park (900 Km^2) and the Bardia NP Buffer Zone Extension (180 Km^2). Banke NP is adjacent to the existing Bardia NP; thus, together with the Bardia NP BZ extension, creates a large protected area complex to support breeding tigers. Nepal is also in the process of extending the Parsa Wildlife Reserve (400 Km^2), which will greatly increase the size of the Parsa-Chitwan NP complex. The Prime Minister of Nepal also participated in a public awareness-raising event in Chitwan on the impacts of invasive alien plant species to help tackle this problem that is degrading wildlife habitat in the Terai.
2. **Control illegal wildlife trade with commitment from the high authorities.** Nepal is at the final stages of establishing a National Tiger Conservation Committee (NTCC) and a Wildlife Crime Control Bureau (WCCB) under the leadership of the Ministry of Forests and Soil Conservation. Nepal also hosted a South Asia Wildlife Expert Group meeting and has agreed to host the South Asia Wildlife Enforcement Network (SAWEN); currently Nepal functions as the coordinator until a decision is made in Bhutan. A Memorandum of Understanding to address transboundary conservation and development issues, including control of wildlife trade, was signed with China. A similar MOU with India is being processed. A government-level transboundary meeting will be held in July 2010 towards this agreement. The Government of Nepal will also endorse the CITES Bill, which only requires final approval from the constituent assembly.
3. **Apply a new, effective approach to control poaching.** Ground work to implement MIST is initiated. Training for relevant staff has begun.
4. **Apply the latest and innovative science in tiger conservation.** A national tiger survey has been completed using scientifically defensible methodology. A radio-tracking project will be initiated by September 2010 to understand tiger ecology to inform landscape and meta-population conservation. Initially, two tigers will be collared with satellite GPS collars, with plans to collar another 20+ tigers in the next two years.
5. **Commitment for investment.** The Government of Nepal is committed to continue financing the core recurrent costs of conservation (US$ 360 million over 12 years). However, the Government will require a total of ***US$ 42.7 million over the next 12 years*** as incremental financing from the International Community and conservation partners and stakeholders to fund the conservation program necessary to recover tigers as detailed in this NTRP.

Tiger conservation goal***: By 2022, a demographically stable meta-population with at least 250 adult tigers conserved in the Terai Arc Landscape (TAL) in Nepal with transboundary ecological links.***

Baseline Status and Gaps

A landscape-wide grid-based occupancy survey combined with extensive camera-trapping conducted in 2008 estimated the adult tiger population at 121; with 91 in Chitwan, 18 in Bardia, 8 in Suklaphanta, and 4 in Parsa. These four protected areas represent the core breeding areas in the Terai Arc Landscape (TAL), which harbors Nepal's tiger population. High poaching of tigers during the past 5 years has dramatically depressed populations in these protected areas; for instance, a 2005 census using similar methods estimated the tiger population in Suklaphanta at 25 adults and 32-40 in Bardia. And continued killing of rhinoceros indicates that the poaching threats have not diminished and Nepal's remaining tigers may also be still under threat.

The TAL program was designed to conserve core areas and connect them with corridors to facilitate tiger dispersal between them, including with transboundary protected areas in India. However, with the erosion of Law and Order in the last decade, encroachment into these corridors and potential tiger habitat has occurred. These setbacks now have to be—and can be—reversed.

The following are needed to address the gaps and constraints that have resulted in and exacerbated these threats:

- A land use policy to:
    - Prevent and reverse corridor encroachment, especially those linking transboundary protected areas.
    - Prevent corridor fragmentation and degradation from excessive resource extraction, uncoordinated resettlement programs and infrastructure development that disregards the importance of wildlife corridors.
- Effective ways to control poaching and illegal trade of tiger and prey species by:
    - Installing good intelligence networks.
    - Building adequate human and financial resources.
    - A smart patrolling system to respond to and effectively counter new tactics in poaching and in the illegal trade.
- Tackle alien invasive plant species (AIPS) that degrade habitat condition for tigers, prey, and other endangered wildlife.
- Applied research, especially of tiger ecology, behavior and demographics for adaptive management.
- A relief mechanism to alleviate human-tiger conflict.
- Incentive mechanisms to motivate staff.

Priority Actions

Policy

The Government of Nepal has recognized the TAL as an important landscape for its biodiversity values and ecological services that also sustain socio-economic viability of the Terai. The TAL's conservation needs have been included in the government's 10th 5-Year Plan; but the existing policy environment is not conducive to expeditious implementation of its conservation strategic plan. Policies to ensure that important tiger habitat that also sustain and support key wildlife species and ecological processes are not impacted by economic development activities and land alienation are needed. Amendments to the National Parks and Wildlife Conservation Act and Forest Act are necessary to allow effective protection of tigers, prey, and habitat using new methods and protocols.

Population and Habitat Conservation

Protected areas and corridors in the TAL are designed to conserve an ecologically, demographically, and genetically viable metapopulation of tigers with transboundary links. In order to monitor the status of the tiger population, especially in relation to progress towards the strategic goal, an appropriate landscape-

level monitoring system is required. Research programs to gather information about the tiger's ecology and metapopulation structure is needed for adaptive management of the population and habitat, including corridor functionality. The research and monitoring programs should be conducted using the cutting-edge technology and scientifically defensible methods. New anti-poaching patrolling methods that rely on highly mobile units/sub-units complemented with a strengthened intelligence network are necessary to combat poachers and wildlife-traders who have adopted tactics to counter the current systems. Community-based anti-poaching mechanisms should be encouraged and strengthened in buffer zones and critical corridors.

Sustainable Financing

A source of sustainable financing is needed to expedite sustained tiger conservation. Innovative financing sources including REDD+, biogas, carbon credits for forest restoration, payments for environmental services, and financial offsets from smart infrastructure will be explored. To this effect a ***Tiger Conservation Fund*** must be created.

Capacity Building

The current staffing and capacity levels of staff are inadequate from the central to the field level. The staff, local communities and community-based institutions have to be trained in current monitoring and intelligence gathering methods. New patrolling and law enforcement techniques and tactics have to be developed, with training for park staff and community anti-poaching members. Infrastructure, such as forest roads, fire lines, and guard posts for effective patrolling and monitoring has to be built or upgraded. An effective incentive package (exposure, training, higher studies, cash, etc.) for PA staffs is needed to enhance staff motivation and for building competency.

Building Local Community Stewardship for Conservation

The TAL program relies primarily on community management of corridors and buffer zones, as per the TAL implementation and management plans, to meet tiger conservation objectives. The communities thus have management and usufruct rights to these national forests. The community-based anti-poaching and patrolling units (e.g., in the Khata corridor) are an indicator of the support for conservation generated by this strategy. The successes achieved in some of these corridors and buffer zones will now be replicated more broadly. However, as corridor management becomes successful and wildlife begins to use them, some escalation of human-wildlife conflict will become inevitable; thus proactive mitigations to minimize conflict to prevent an erosion of the support are necessary.

Program Indicators (interim – by 2015)

- Relevant Acts and policies amended and implemented
- Tiger population increased from 121 to 180 adults
- About 4,000 km 2 degraded tiger habitats restored
- National Tiger Conservation Committee (NTCC), Wildlife Crime Control Bureau (WCCB) and South Asia Wildlife Enforcement Network (SAWEN) established and functioning
- National capacity enhanced and illegal trade of tiger parts and products, and poaching reduced by 50%
- Sustainable conservation financing mechanism initiated
- The latest technology applied in research and science

Program Indicators (final - by 2022)

- Tiger population doubled to over 250 adults
- Metapopulation managed with transboundary genetic and ecological linkages
- At least 6,500 km^2 of degraded tiger habitats in TAL restored including dispersal corridors for ecological connectivity
- NTCC, WCCB, SAWEN effectively functioning and illegal trade of tiger parts and products and poaching reduced by 90%.

NTRP Component linked to the Priority Actions

Mapping of Actions against Goal

Goal: By 2022, a demographically stable meta-population with at least 250 tigers conserved in the TAL with transboundary ecological links.

Priority Actions

- Amend the National Parks and Wildlife Conservation Act and Forest Act, with relevant regulations, and enactment of a Landscape Level Conservation Policy for effective conservation and management of the TAL.
- Form and empower three important institutions; the National Tiger Conservation Committee (NTCC), Wildlife Crime Control Bureau (WCCB) and South Asia Wildlife Enforcement Network (SAWEN) to reduce poaching and to control transnational trade in tigers and tiger-parts.
- Restore and manage critical tiger habitats, especially in the Halkhoria, Barandabhar, Mahadev puri, Lamahi, Khata, Basanta, Laljhadi and Brahmadev corridors for tigers and other wildlife. Several of these are transboundary corridors that link with protected areas and corridors in India.
- Explore and establish private public partnerships in tiger conservation.
- Create a Tiger Conservation Fund as a source of sustainable financing for efficient, sustained conservation and management of the tiger metapopulation and habitat.
- Build national capacity for tiger conservation.

2. Description of Program Component

Nepal's tiger recovery and conservation program has the following major components: 1) policy; 2) population and habitat conservation; 3) sustainable financing; 4) capacity building; and 5) building local community stewardship for conservation.

Policy

Relevant Acts and Regulations require amendments, and a landscape conservation policy is imperative. The TAL's protected areas, buffer zones, and corridors have been recognized by the Government of Nepal for biodiversity, ecological, and socio-economic values. The TAL's economic potential for tourism from the presence of iconic, charismatic species, including the tiger, and the critical importance for the ecological services from the natural habitats should make its conservation a much higher priority in the political agenda. Thus, political commitment and action, backed by enabling policies are required to prevent further degradation of the ecological integrity from large-scale infrastructure and high-impact resource extraction (e.g., oil and gas).

Objective 1. To create an enabling policy environment for landscape-scale conservation

Policy gaps have constrained the reversing and prevention of encroachment into critical corridors. Consequently, corridors continue to be under threat from degradation. Unless conservation of the TAL

becomes a political priority and an enabling policy environment is created to facilitate implementation of conservation actions, habitat degradation will continue, and result in: a) lost opportunities for tiger (and other biodiversity) conservation; b) erosion of ecological services, functions and forest resources that support and sustain the livelihoods of the Terai communities; and, c) losses to the national economy because of decreased agricultural production.

Activities:

- Amend the NPWC Act 1973 and Forest Act 1993, and its relevant regulations and guidelines to: secure corridors and protected areas from encroachment and fragmentation from unplanned and uncoordinated development; and facilitate community-management and stewardship of corridors for conservation.
- Gazette the TAL as a priority conservation landscape.
- Establish a National Tiger Conservation Committee (NTCC).
- Conduct an economic valuation of the biodiversity conservation values and ecological services of the TAL to place TAL conservation as a high-profile feature in the political agenda.
- Establish effective transboundary cooperation mechanisms with India and China.

Outcomes:

- Conducive policies and political support for tiger conservation.

This program will be implemented from 2010 – 2015. Location: Nepal

Population and Habitat Conservation

The foundation of the TAL is a system of corridors and protected areas to conserve a metapopulation of tigers in the Terai, with transboundary links between core areas in Nepal and India. Tigers require continued conservation attention, especially to survive in a fragmented, human-dominated landscape. Therefore, appropriate monitoring and research programs to obtain information on the population status, ecology, and genetics of tigers should be implemented to provide better protection, for adaptive management, and to mitigate human-tiger conflict. The latest available technology should be employed in research and monitoring systems, with scientifically defensible methods. Anti-poaching patrolling tactics should be evolved to counter those adopted by poachers and traders. In the corridors, community-based anti-poaching teams should be formed to patrol the areas under their management jurisdiction. Thus, habitat and population management in the TAL will require multiple actions involving a multitude of stakeholders, activities, and enabling conditions.

Objective 2. To institutionalize and implement effective tiger protection and monitoring systems

In recent years, poaching has taken a severe toll on Nepal's tiger population. The core breeding populations in some of the protected areas have undergone dramatic declines. Thus, a continuous monitoring system is urgently required to track the population status and trends to detect early poaching and killings. The continuous monitoring program has to be backed up by periodic intense population estimations using camera-trapping and occupancy surveys to track distribution and demographics, including breeding and recruitment.

The current anti-poaching and patrolling system was developed over three decades ago. Since then the tactics employed by poachers have evolved to evade these archaic anti-poaching patrols. Thus, new anti-poaching methods (strategies, teams, and tactics) are needed to effectively curb poaching, and a system for effective anti-poaching has to be developed.

Activities:

- Implement and upgrade MIST (Management Information System Technology), complemented by

intelligence networks.
- Establish and regularly update illegal wildlife trade database.
- Conduct periodic, structured population monitoring using camera-trapping and occupancy surveys at 3 year intervals.
- Strengthen anti-poaching mechanisms in protected areas and develop new methods that include small, highly-mobile patrol teams.
- Strengthen and scale-up community-based protection units and intelligence networks in national forests, including corridors and buffer zones.
- Develop necessary human resources and infrastructure for effective protection.

Objective 3. To manage the TAL as a priority conservation landscape with core areas, buffer zones, corridors to conserve tigers as a metapopulation with transboundary ecological linkages.
The TAL was conceived to manage a metapopulation of tigers in the Terai, with transboundary ecological and management links between Nepal and India. Corridors between protected areas link sub-populations in the protected areas by facilitating dispersal between them. The corridors will be managed by local communities who will have management and usufruct access to these lands. Management plans that are compatible with sustainable extraction of forest resources and conservation as tiger habitat will guide management of these community forests and grasslands.

Activities:
- Undertake research and management to remove alien invasive plant species (especially *Lantana camera*, *Mikania micrantha*, and *Eichornia* sp) and maintain habitat quality.
- Protect core areas, corridors, and buffer zones from human encroachment through strict enforcement of laws, and resolve ongoing encroachment problem.
- Actively manage critical tiger habitat in core areas, buffer zones and corridors to restore and increase tiger and prey populations.
- Facilitate and expedite the hand-over of corridor forests strategic to maintaining corridor connectivity to local communities for management.
- Assess all large economic and development projects planned in the TAL to determine impact on tigers, prey, and habitat, and approve only on the basis of recommendations from rigorous impact assessments.
- Coordinate with India and China at field and central levels to manage transboundary linkages through complementary management.

Outcomes (for Objectives 2 and 3):
- A stable meta-population of at least 250 adult tigers in the TAL, with transboundary ecological links

Sustainable Financing
Efficient tiger conservation in the TAL is hampered by lack of sustainable funds, especially to support and sustain habitat management, tiger protection and anti-poaching systems, monitoring systems, and human-tiger conflict mitigation programs. Thus, a 'Tiger Conservation Fund' for sustained tiger conservation, financed or capitalized through innovative funding mechanisms is necessary.

Objective 4. To develop a sustainable financing mechanism for tiger conservation
As one of 14 countries that have qualified for REDD+ funds from the World Bank, Nepal should explore the potential for carbon financing revenues from conservation of Churia forests for carbon sequestration and storage. Because the Churia forests are also critical for watershed protection and sustains the agriculture-based economy in the Terai, the potential to receive payments for conservation of environmental services from all stakeholders should be explored. Conservation payments and offsets from

(unavoidable) smart infrastructure in the Terai should be levied and channeled to the fund. The creation of a multi-donor trust fund for conservation in the TAL should be explored.

Activity:

- Donor and partner networking for fund-raising.
- Explore potential for diverting some percentage of carbon-related funds (from REDD+, biogas, carbon credits for forest restoration, and financial offsets from smart infrastructure) for tiger and tiger habitat conservation and management.
- Initiate national and international cooperation for payments for water and other hydrological services from the river system to support tiger conservation in the TAL.

Outcomes

- Tiger Conservation Fund established.

This component is located in Nepal and will take 5 years

Capacity Building

The national capacity for landscape conservation in Nepal is weak and has to be strengthened.

Objective 5. To strengthen national capacity for tiger conservation

Staff have to be trained in current monitoring methods; new patrolling and law enforcement techniques and tactics have to be developed to effectively counter poachers and traders, and community anti-poaching members have to be trained in these techniques. Infrastructure related to effective patrolling and monitoring has to be built or upgraded.

Activities:

- Develop adequate human resources and capacity in the field and centre for research, smart patrolling, intelligence, judiciary procedures (e.g., scene of crime).
- Develop infrastructure related to park and forest management and patrolling (road network, communication, transportation, equipment and field gear, and other amenities)
- Support to establish NTCC, WCCB and SAWEN.
- Establish a high-level wildlife trade monitoring and enforcement authority at the Centre.

Outcomes:

- National capacity enhanced to scientifically manage and monitor tigers, prey base and their habitat to counter poaching and trade in wildlife and parts/derivatives.

Building Local Community Stewardship for Conservation

In return for managing the TAL corridors and buffer zones for tiger habitat, the local community forest user groups have management and usufruct rights to these forests and grasslands. Other incentives for managing corridors and buffer zones for tiger and other wildlife conservation include: economic returns from community-based tourism; relief fund and insurance schemes for depredation events; credit mechanisms to begin alternative enterprises and livelihoods; and cottage industries from forest products harvested sustainably. Other resources such as a biodiversity conservation fund can be mobilized for community support and stewardship.

Initiatives such as community-led anti-poaching and patrolling units (e.g., in the Khata corridor) shows that local community support can be generated for conservation with appropriate incentives, and led by motivated community leaders. However, with successful corridor conservation, tigers will inevitably come into conflict with people. Thus, without proactive mechanisms to mitigate and minimize these conflicts, the tolerance thresholds for conflict could decrease and community support for tiger conservation might erode.

Objective 6. To develop local stewardship and support for tiger conservation
This strategy relies on mitigating and meeting the opportunity costs of conserving tiger habitats, and linking the relief and economic returns to conservation; especially to the presence of tigers and prey species in corridors and buffer zones. Thus, the strategy should: a) provide alternative income generating activities in lieu of constraints imposed on forest resource extraction and time spent in the forest gathering forest products; b) mitigate conflict with tigers and provide relief for depredations; and c) create an awareness of the need to conserve tigers.

Activity:

- Implement an effective, proactive human-tiger conflict mitigation program, with rapid-response teams to alleviate conflict situations and provide relief.
- Public awareness programs to reduce conflict through behavioral changes when in the forest, and on the conservation significance of tigers.
- Implement integrated/alternative livelihood programs related to, and compatible with tiger habitat conservation (many of these have already been piloted and tested in the TAL).
- Subsidize and promote alternative energy uses to reduce dependency on fuelwood to decrease forest degradation. Some of these sources also qualify for CDM funds and have added benefits.
- Seek payments for conservation of ecological/environmental services and conservation offsets to local communities.

Outcomes:

Community stewardship and support for tiger conservation in the TAL.

Component will be implemented in TAL Nepal buffer zones and corridors. The program duration will be ongoing until 2022

3. Policy needed to achieve the program objectives

- Amendments to the NPWC Act 1973 and Forest Act 1993 and related regulations and guidelines to enable landscape conservation.
- A new policy to establish TAL as a priority conservation landscape.
- A new policy to establish Tiger Conservation Fund.

4. Capacity needs to be enhanced or created to achieve the Objectives

- Management-related research programs and capacity building.
- Monitoring systems (smart patrolling) and training.
- Intelligence networking and networks.
- Training in judiciary procedures (e.g., scene of crime) to combat wildlife crime.
- Fund raising for sustainable financing.
- Social mobilization to elicit community stewardship for conservation.
- Infrastructure, equipment for species and habitat management (e.g. fire management, IAPS).
- Tourism management strategies and capacity.

5. Stakeholders [1]

- Assistance in securing funding – GoN, World Bank, WWF, NTNC, STF, GTF, ZSL, GTI
- Support in capacity building – GoN, World Bank, WWF, STF, GTF, ZSL, GTI, SI, USFWS, NTNC
- Sharing technology know-how – GoN, WWF, STF, NTNC, BZ, CF, NEFEJ, ECCA
- Sharing and exchange information – GoN, BZ,CF, NTNC, SAWEN, INTERPOL, WCCB, IUCN, WCN, WWG, ICIMOD, NFA, NEFEJ, ECCA
- Assist address transboundary tiger conservation issues – GoN, World Bank, GTI, GTF, WWF, BZ, CF, WCN, WWG, NTNC
- Support implementation of integrated conservation and development programs: GoN, BZ, CF, NTNC, CARE Nepal, Eco-Clubs, civil society

6. Performance Indicators

1. Policy
   - Implementation of amended Acts, Rules, Regulation and Guidelines
2. Population and Habitat Conservation
   - Tiger population in TAL increased and stabilized
3. Sustainable Financing
   - Regular and adequate funding secured
4. Capacity Building
   - Adequate trained human resource available
5. Building Local Community Stewardship for Conservation
   - Increased local participation and positive attitude in tiger conservation

7. Indicative Costs in USD (approximate estimate) for T x 2 by 2022

Activities	**Costs USD**
Policy	200,000
Population and habitat	12,000,000
Establish sustainable financing	500,000
Capacity building	2,000,000
Develop local stewardship	2,000,000
Local livelihood improvement	5,000,000
Infrastructure	15,000,000
Transportation and mobility	2,000,000
Communication	1,000,000
Research and Monitoring	1,000,000
Equipments and field gears	1,000,000
Up keeping the system	1,000,000
Total estimated incremental cost (over 12 years)	**42,700,000**
Core cost from the Government of Nepal (over 12 years)	**360,000,000**

- The Government of Nepal's contribution over the next 12 years will be at least 360 million to fund the core operational costs.
- The estimated incremental cost requested to support this NTRP is 42.7 million over the next 12 years. This represents 11.9% of the cost contributed by the GoN.

8. Financing Options

Explore the options to enhance potential government or national funding including GEF, Multilateral Development Banks, international NGOs, below:

Government of Nepal: Recurrent cost and infrastructure for conservation in the TAL, including the corridors.
IDA (World Bank): Regional programs, capacity building and networking and institution building related to conservation management.
World Bank (PAF): Gear up Banke National Park management; restoration of critical tiger conservation corridors through voluntary resettlement of communities in flood-prone areas to safer areas and to improve their livelihood options.
GEF: Capacity building, human tiger conflict, livelihood and infrastructure
WWF: Species, habitat, trans-boundary, corridors and connectivity
CITES: Law enforcement capacity building
Bilateral: All activities
Multilateral support: All activities

Short-Term Catalytic Support Needed

Activity	Costs
Pilot projects (for example, implementing a MIST-type system in one or a few PAs)	300,000
Technical assistance to develop a project proposal for funding from the larger donors	25,000
Training and capacity building, and building or strengthening local and national institutions	125,000
Workshops for knowledge exchange and cooperation (for example, trans-national meeting to enhance cooperation in law enforcement)	35,000
Feasibility studies (for example, developing a particular community engagement strategy in one or a few locations)	15,000
TOTAL	**500,000**

Implementation mechanism:

- National Project Executive Committee (NPEC) under the leadership of MoFSC with representation from conservation partners, donors, beneficiaries and related government agencies (MoF, NPC etc).
- A program coordination committee (PCC) for day to day monitoring of the program.

[1]**Stakeholders:** BZ = Buffer Zone, CF = Community Forest, GoN = Government of Nepal, GTF = Global Tiger Forum, GTI = Global Tiger Initiatives, NFA = Nepal Foresters' Association, NTNC = national Trust for Nature Conservation, STF = Save the Tiger, SAWEN = South Asian Wildlife Enforcement Network, SI = Smithsonian

Institution, USFWS = US Fish and Wildlife Services, WCCB = Wildlife Crime Control Bureau, WCN = Wildlife Conservation, WWG = Wildlife Watch Group,ZSL = Zoological Society of London, NEFEJ, ECCA

Russian Federation
Summary of the National Tiger Recovery Program

Country Name: **RUSSIAN FEDERATION**

Long Term Strategic Goals. Examine the implications of the global goal to double the numbers of wild tigers in your country and briefly describe appropriate national strategic tiger conservation goals by 2022.

In accordance with the Strategy of Amur Tiger Conservation in the Russian Federation as approved by Ordinance of the MNR # 25-p of July 2010, the national goal for Russia is to identify mechanisms for safeguarding the existence of a viable population of the Amur tiger consisting of at least 500 animals with a maximum genetic diversity across the Russian Federation.

To achieve this goal, actions should be taken to attain the following strategic objectives:

- To conserve the exiting Amur tiger population;
- To cause the Amur tiger habitats to be preserved and improved against the background of growing anthropogenic pressure on ecosystems;
- To mitigate adverse anthropogenic impact on the Amur tiger population.

Baseline Status. Briefly describe the gap between each Long Term Strategic Goal described above and current situation.

Currently, the Amur tiger range in Russia totals about 180,000 km^2, including an area of around 36,000 km^2 (or 20% of the Russian range) within protected areas, with 10% of them being federal PAs.

The recent century saw various trends in the Amur tiger population in the Russian Far East. There were periods of decline, stabilisation and growth of the population as well as periods of its fast and slow changes. Since the early 1940-ies, changes in the Amur tiger population have been recorded in special registers, and since 2001, Amur tiger count guidelines have been followed. These Guidelines require implementing an annual monitoring program and undertaking a full-range count every decade.

Since 2000, the Amur tiger range has been expanding to in the northern and western directions. Compared with the 1990-ies, the status of the Amur tiger population has changed: forest-scarce flatland parts of the range have been lost to agricultural development; increased fragmentation of the Sikhote-Alin and East-Manchurian population groups is fraud with complete isolation of these population groups in the nearest decade; and there is a downward trend in the number of tigers. Changes also occurred in the institutional frameworks and social and economic conditions for tiger conservation in Russia.

All numerous adverse anthropogenic factors, affecting the Amur tiger, may be classified into two large groups, depending on whether they cause direct impact (poaching, involuntary withdrawals) or indirect impact (forest fire, forest logging, road construction, human population density growth, hunters' activities, etc.). Poaching poses a major threat to the existence of the Amur tiger in Russia. As regards anthropogenic factors causing indirect impact, which reduces the Amur tiger population, the worst of them is the loss of habitats due to industrial development, including clear-cutting and unsustainable game management, impairing the tiger's prey population.

Priority Actions to achieve Long Term Strategic Goals

Key actions to achieve the long-term goal of having a viable Amur tiger population of at least 500 tigers are as follows:

At the national level:

- To alter the system of forest management in the Russian Far East with a view to reducing the threat of Amur tiger habitat decline, first of all, through prohibiting to cut Korean pine trees and restricting the cutting in oak stands;
- To improve game management with a view to increasing the prey capacity; provide economic incentives for game management units in charge of areas inhabited by Amur tigers, including such incentives as attraction of investment and other extra-budgetary funds;
- To reinforce poaching control, among other things, through toughening the punishments for storage and transportation of Amur tiger parts and derivatives;
- To establish an Amur Tiger Recovery Centre to accommodate, nurse and then release orphaned tiger cubs; and to give a temporary shelter to tigers withdrawn from the wild. To develop and implement guidelines on returning tigers to the wild;
- To ensure effective management of federal and regional PAs, playing an important role in conserving the tiger population. To strengthen enforcement of the established protection regime.

At the trans-boundary level:

- To establish two trans-boundary tiger reserves for seamless movement for Amur tigers and other wildlife across the border;
- To coordinate actions of customs authorities of different countries to suppress illegal exports of and trade in Amur tigers, their parts and derivatives. To cause respective entities to exchange information about international channels of illegal exports and trade, with a focus on the Asian and Pacific Region;
- To develop international cooperation among Amur tiger specialists and implement joint research programs.

Program Indicators (interim) to achieve country's Long Term Strategic Goals

1. Tiger. The Amur tiger population stabilized and consisting of about 500 animals.

2. Ungulates. The number of tiger prey animals matching the carrying capacity of their habitats.

3. Habitats. The area and the quality of tiger habitats stabilised or growing.

Program Indicators (final) to achieve country's Long Term Strategic Goals

1. Tigers. Measures taken to increase the Amur tiger population in the Russian Far East to 700 tigers to match the environmental capacity of tiger habitats.

2. Ungulates. The number of tiger prey animals close to high levels of the habitat carrying capacity.

3. Habitats. The area and the quality of tiger habitats made optimal with due regard to the prospects for social and economic development in the region.

NTRP Component linked to the Priority Actions

1. Mapping

Long Term Strategic Goal:

In accordance with the Strategy of Amur Tiger Conservation in the Russian Federation as approved by Ordinance of the MNR # 25-p of July 2010, the national goal for Russia is to identify mechanisms for safeguarding the existence of a viable population of the Amur tiger consisting of at least 500 animals with a maximum genetic diversity in the Russian Federation.

To achieve this goal, actions should be taken to attain the following strategic objectives:

- To conserve the exiting Amur tiger population;
- To cause the Amur tiger's habitats to be conserved and improved against the background of growing anthropogenic pressure on ecosystems;
- To mitigate adverse anthropogenic impact on the Amur tiger population.

Priority Action(-s):

- To alter the system of forest management in the Russian Far East with a view to reducing the threat of Amur tiger habitat decline, first of all, through forbidding to cut the Korean pine trees and restricting the cutting of oak trees;
- To improve game management with a view to increasing the prey capacity; provide economic incentives for game management units in charge of areas inhabited by Amur tigers, including such incentives as attraction of investment and other extra-budgetary funds;
- To reinforce poaching control, among other things, through toughening the punishments for storage and transportation of Amur tiger parts and derivatives;
- To establish an Amur Tiger Recovery Centre to accommodate, nurse and then release orphaned tiger cubs; and to give shelter to tigers withdrawn from the wild. To develop and implement guidelines on returning tigers to the wild;
- To ensure effective management of federal and regional PAs, playing an important role in conserving the tiger population. To strengthen enforcement of the established protection regime.
- To establish two trans-boundary reserves for seamless movement for Amur tigers and other wildlife across the border;
- To coordinate actions of customs authorities of different countries to suppress illegal exports of and trade in Amur tigers, their parts and derivatives. To cause respective entities to exchange information about international channels of illegal exports and trade, with a focus on the Asian and Pacific Region;
- To develop international cooperation among Amur tiger specialists and to implement joint research programs.

2. Description of Program Component

1. International cooperation

It is important to develop cooperation with international conservation organisations, charity foundations and other non-governmental organisations. Such cooperation helps to raise additional funds; enables Russian and foreign Amur tiger specialists to share ideas, draw upon international best practices, and implement joint activities throughout the tiger range.

- To establish international trans-boundary reserves for seamless movement of Amur tigers and other wildlife across the border;
- To coordinate actions to suppress smuggling and re-selling of Amur tiger poaching products.
- To coordinate research programs, and develop international Amur tiger research cooperation.
- To continue cooperation in the management of the captive Amur tiger populations as part of the European Breeding Program of the European Association of Zoos and Aquariums (EAZA) and American Association of Zoos and Aquariums (AZA).

Selected activities are to be implemented within two years, most of the activities are to be completed within periods up to five years, and some of them are meant for periods of up to 10 years.

2. Strengthened protected area network

In the tiger range, there is a network of protected areas of different categories and levels (publicly-owned nature reserves, national parks, federal and regional special-purpose nature reserves) and other protection areas with special nature resource management regimes (protected zones, protection forests, ecological corridors). Such areas provide protection for the Amur tiger and maintain high densities of ungulate populations.

To strengthen the network of protected areas, it is deemed expedient to:

- Establish ecological corridors (areas under management regimes called to limit adverse impact on Amur tiger habitats from clear-cutting, road construction, etc.) to connect protected areas in key Amur tiger habitats;
- Establish protection zones with restricted regimes of nature resource use on land adjacent to PAs;
- Provide additional public support to PAs to backup their inspection teams, among other things, through increasing their salaries and supplying needed equipment.
- Expand the area of the existing nature reserves and national parks in the Amur tiger range.

Selected activities are to be implemented within two years, most of the activities are to be completed within periods up to five years, and some of them are meant for periods of up to 10 years.

4. Amur tiger population studies and monitoring

Biodiversity conservation, including conservation of rare and endangered species should be based on up-to-date R&D findings. Activities, included in the research program, are specified in the Strategy of Amur Tiger Conservation in the Russian Federation as approved by Ordinance of the MNR # 25-p of July 2010.

There is a need to improve the methodological frameworks for Amur tiger monitoring and counts, and to monitor and count tigers following the Guidelines for Amur Tiger Counts in the Russian Federation as approved by the MNR in its Order # 63 of March 15, 2005.

Selected activities are to be implemented within two years, most of the activities are to be completed within periods up to five years, and some of them are meant for periods of up to 10 years.

5. Human-tiger conflict prevention and settlement

Contacts between humans and tigers are unavoidable, and sometimes, they conflict. Unlike other tiger subspecies, the Amur tiger is peaceful towards humans. Prevention and timely settlement of human-tiger conflicts is an important constituent of wild tiger conservation. To some extent, activities of other program components will help to prevent conflict situations. But, it is important to:

- Prepare recommendations on safety rules in Amur tiger habitats and instructions on how to behave in the case of a tiger encounter; prevent conflict situations through informing local people and hunters (when issuing hunting certificates) about safe behaviour in the case of a meeting with a tiger;
- Identify the most effective ways to repel Amur tigers;
- Put radio-tracking collars on Amur tigers;
- Provide for good performance of the *Tiger* Special Inspection Program (a federal institution) under the *Conflicting Tiger* Component;
- Establish an Amur Tiger Recovery Centre to keep, nurse and then release orphaned tiger cubs and to give a temporary shelter to tigers withdrawn from the wild;
- Expose captured conflicting tigers to veterinary examinations and perform autopsy of perished animals.

Selected activities are to be implemented within two years, most of the activities are to be completed within periods up to five years, and some of them are meant for periods of up to 10 years.

6. Public awareness and education

An important constituent of Amur tiger conservation efforts is raising public awareness of the Amur tiger as a unique national and global value. To this end, it is necessary to:

- Develop and implement targeted PR campaigns for various social groups living in the Amur tiger habitats to develop a positive image of the tiger as a symbol of the region's wildlife;
- Preserve the spiritual culture and traditions of indigenous peoples, promote their traditional knowledge, rituals and customs aimed at conserving and respecting the Amur tiger;
- Promote sustainable nature resource management practices, which ensure conservation of Amur tiger habitats and prey populations;
- Develop negative public opinion about poaching.

Selected activities are to be implemented within two years, most of the activities are to be completed within periods up to five years, and some of them are meant for periods of up to 10 years.

3. Policy

To improve the Russian conservation legislation related to Amur tiger conservation, it is recommended to:

- Include in respective laws of the Russian Federation legal requirements to bring to account those who provide access to Internet resources to advertise tiger skins for sale, and those who buy poaching products for personal use;
- Amend the forest legislation of the Russian Federation with a view to reducing the threat of Amur tiger habitat decline in the Russian Far East, first of all, through prohibiting to cut Korean pine trees and restricting the cutting of oak trees;
- To amend respective laws of the Russian Federation with a view to improving game management to increase the prey capacity, providing economic incentives for game management units in charge of areas inhabited by the Amur tiger, including such incentives as attraction of investment and other extra-budgetary funds;
- To amend respective laws of the Russian Federation with a view to toughening the punishments for illegal procurement of Amur tigers, including storage and transportation of their derivatives;

4. Capacity

Partially, activities of this component are included in other program components. But, it is necessary to:

- Raise the level of professional knowledge of nature resource managers and specialists, including those from game management units;
- Mobilise additional financial support for protected areas, including support from international donors, to improve the performance of protected areas;
- Raise the level of knowledge about the Amur tiger among officers of customs and law enforcement services.

5. Stakeholders

In accordance with the effective legislation, the Ministry of Natural Resources and Environment of the Russian Federation (the MNR) is vested with the functions of developing national policies, laws and regulations related to wildlife and habitat research, use, renewal and protection. Protected area management includes protection of tigers and their habitats, with federal protected areas being subordinated to the MNR. The *TIGER* Special Inspection Program is a federal institution, which is called to prevent and resolve human-tiger conflicts.

The Ministry of Interior of the Russian Federation provides support in protecting the tiger and its habitats against poachers and also suppresses illegal storage, transportation of and trade in tiger parts and derivatives.

The Federal Customs Service is called to suppress smuggling of tiger parts and derivatives.

The earlier federal powers related to protection and renewal of wildlife resources, except for wildlife within federal protected areas, and habitat protection were devolved to regional public authorities (in particular, those of the Primorsky,. Khabarovsk Krays and the Amur Oblast).

The Russian Academy of Sciences (RAS) and its subordinated research institutes study the biology of the Amur tiger and develop scientific frameworks for its conservation. WWF-Russia and its Far East Office are involved in the implementation of activities to conserve and study the Amur tiger population and habitats.

Tiger conservation and habitat protection activities are funded from the federal and regional budgets and out

of proceeds from international and Russian non-governmental organisations.

The multi-stakeholder partnership (of public authorities, research community, non-governmental organisations, and civil society) helps to ensure effective implementation of conservation initiatives as related to Amur tiger studies and conservation.

6. Performance Indicators

- The Amur tiger population in the Russian Far East consisting of 500 - 700 animals;
- Two Russian-Chinese trans-boundary tiger reserves within the *Kedrovaya Pad* nature Reserve and the *Leopardovyi* Federal Special-Purpose Nature Reserve and near the *Strelnikov* Ridge established and ensuring seamless movement of Amur tigers and other wildlife across the border;
- Over 20% of the Amur tiger range in Russia included PAs, with 10% of this area being part of federal PAs;
- Cutting of Korean pine trees banned, and cutting in mature oak stands restricted in tiger habitats; tiger habitat decline prevented;
- Punishments for smuggling of Amur tiger parts and derivatives from Russia toughened.
- Punishments for trade in, storage and transportation of Amur tiger parts and derivatives toughened;
- Amur tiger counts undertaken on regular basis following the Guidelines for Amur Tiger Counts in the Russian Federation as approved by the MNR in its Order # 63 of March 15, 2005.
- Additional equipment for inspection teams of nature reserves and national parks supplied, and their salaries raised.

7. Indicative Costs in US$ equivalent (approximate estimate):

Activity	**Costs** (US$ million)
1. International cooperation	1
2. Strengthened protected area network	19
3. Improved Amur tiger protection outside PAs	12
4. Research	6
5. Prevention and resolution of conflict situations	4
6. Public awareness and education	2
TOTAL	**44**

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8. Preferred Financing Mix. Identify and indicate the order of magnitude of the expected and/or desirable funding sources for the above listed activities (for 2011-2015 and beyond), including central and subnational government budget, intergovernmental organizations (UN etc.), multilateral development banks (WB, ADB, etc.), Global Environment Facility, bilateral aid agencies, private foundations, international NGOs, etc., as appropriate.

Kingdom of Thailand

Summary of National Tiger Recovery Program

Country Name: **THAILAND**

Long Term Strategic Goals

Thailand is one the countries with a fast growing economy in Southeast Asia. The trade-off, however, is shown as an existing forest cover of 28% of the country area, which is among the lowest in the region. Fortunately, Thailand was quick enough to begin establishing wildlife and national park laws and a protected area system almost 50 years ago. The current protected area system covers about 18% of the country area, and the Thai government has already invested in establishment and running of 123 national parks and 58 wildlife sanctuaries. Besides protection of landscapes and their depending wildlife species, the government also undertakes various interventions including nature education, alternative livelihood, and wildlife crime suppression.

Despite the significant efforts and investments as mentioned above, the recent rigorous monitoring systems have revealed that wild tigers are surviving in recoverable numbers only in protected landscapes with a strong history of protection, especially in areas with active park guards and good patrol systems. The on-going intensive population monitoring program has revealed that only one landscape, namely the Tenasserim-Western Forest Complex (Tenasserim-WEFCOM) can be counted as a "tiger source site". More than 100 adult tigers have been photographed in this landscape over the last 5 years. Tenasserim-WEFCOM is about 25,000 km^2 on Thailand's side, and represents a globally important, transboundary landscape with Myanmar for tigers. The core area is also a world heritage site. Another landscape that can qualify as a "potential source site" based on camera-trapping evidence is Dong Phayayen–Khao Yai Forest Complex (DP-KY); also a world heritage site. About 8 adult tigers have been photographed from this 6,100 km^2 landscape. These two represent the landscapes with the greatest potential for tiger recovery in Thailand.

The success of the 10-year plan of wild tiger recovery is very much dependent on: strengthening landscape-scale conservation interventions in these two landscapes; rigorous monitoring systems; transboundary conservation ties being strengthened to effectively control cross-border trade; and law and policy reforms to support the efforts to reach the vision and goals as stated below.

VISION

By 2022 tigers have recovered and thrive in the priority landscapes managed under high-standard interventions and monitoring systems and Thailand has become a strong supporter of international collaborations on tiger and wildlife conservation and protected area management in Southeast Asia.

2 Year goal

- High-standard monitoring interventions and monitoring systems are established and functioning in Tenasserim-WEFCOM and DP-KY landscapes.
- Tiger occurrence status established at all additional potential tiger landscapes.
- The system to monitor captive tigers strengthened and standardized, with clear penalties in place for violations.

5 Year goal

- Effective management systems in place in the Tenasserim-WEFCOM and DP-KY landscapes.
- Key tiger threats in the priority landscape show a clear decline.
- Important tiger ecology (e.g., home-range variation) in the priority landscapes very well understood and used to guide management.

- Tiger populations are stabilized or increasing in Tenasserim-WEFCOM and DP-KY and possibility for re-establishing in other areas explored.

12-year goal

- To increase tiger populations of Thailand by increasing the populations in the Tenasserim – WEFCOM and DP-KY Forest Complex by 50%, and re-establish populations in other potential tiger landscapes such as Klong-sang- Khao Sok Forest Complex, Phu Khew- Nam Nao Forest Complex.

Baseline Status

In the Tenasserim-WEFCOM, tiger population in the core area, Huai Kha Khaeng and Thung Yai (HKK-TY) world heritage site, has been stabilized at a density of 2-3 tigers/100 km^2. There have been about 100 tigers photographed since 2005. However, there is much more room for tigers to thrive and increased in this landscape if poaching is significantly controlled and habitat management promoted. If very well managed Tenasserim-WEFCOM has potential to hold the largest single tiger population in the world.

In DP-KY Forest Complex, 8 tigers were recently photographed in the Tap Lan National Park. Although there has been no photographic evidence of tigers founded in Khao Yai National Park recently, there is good potential for tigers to recover in this landscape, including recolonizing Khao Yai NP because the habitat is still suitable. Effective poaching control and habitat management program are necessary to boost the population.

The future tiger distribution and population trend in other areas of Thailand is very much depending on the quality of sites and landscapes, level of protection, and management.

Wildlife crime units are mostly absent in most areas and have to be established or strengthened where they exist. The Wildlife crime units and the patrol systems in protected areas have to be linked.

Priority Actions

1. **Strengthening and standardizing direct conservation actions and enforcement**

   NATIONAL HIGHLIGHT

   This action on direct conservation and enforcement has proved to be the most critical for tiger conservation and recovery. As now known among conservation managers and scientists, tigers are a protection dependent species. Thailand has been a good example of strengthening conservation at a landscape scale; a smart patrol system has been operational in Huai Kha Khaeng Wildlife Sanctuary (HKK) in the Tenasserim-WEFCOM landscape for more than 5 years. The smart patrol system can clearly document patrol efforts, threats, abundance of tigers and prey. It also helps to improve park ranger morale, which is important for tiger protection. The system needs to be maintained in HKK, but now expanded across the whole Tenasserim-WEFCOM landscape, and introduced into the DP-KY landscape.

   TRANSBOUNDARY HIGHLIGHT

   Thailand is believed by many conservationists to be a transit point for the illegal transboundary wildlife trade. There are two bodies in Thailand dealing with this issue:CITES office and ASEAN WEN. Both need strengthening on performance and progress monitoring.

2. **Building capacity based on a successful model**

   NATIONAL HIGHLIGHT

   Capacity of park rangers is very important for tiger recovery. Thailand has learned from the long experience of its park ranger system that only efficient park rangers can protect tigers and other wildlife in protected areas. Military style training alone is not enough for protection. Instead, rangers have to be equipped with up-to-date technology. A MIST-based smart patrol program is firmly established and operational in HKK; thus HKK can become a training school for park rangers from other protected areas in Tenasserim-WEFCOM and DP-KY Forest Complex.

TRANSBOUNDARY HIGHLIGHT

Thailand's strategic location makes it an ideal country in which to base a regional training program, and indeed, in the past 2-3 years HKK has become a place to train government staff from different countries in SE Asia and South Asia on MIST-based smart patrol system. Therefore, during the Asia Ministerial Conference on Tiger Conservation at Hua Hin in early 2010, the Thai Prime Minister announced that WEFCOM can become a center to support regional capacity building for tiger conservation. Besides international support on smart patrol system, HKK has been used to train staff in the region on tiger and population estimate techniques, tiger ecology study, and tiger occupancy survey.

3. Strengthening monitoring, research, and information management

NATIONAL HIGHLIGHT

It has been realized among tiger conservation managers and scientists that the tiger population monitoring must be an integral part of actions to save tigers. It is very important in key tiger areas to have a population monitoring system in place to track tiger trends regularly or even annually. It is only then that we can tell with confidence that we are on the right track in our actions. Tiger and prey population monitoring using camera trapping, transect survey, and occupancy survey with up-to-date statistical sampling designs and analysis in the core area of Tenasserim-WEFCOM is among the high quality designs in the region. This system has to be maintained and expanded. It has to be standardized in the DP-KY landscape to follow the same system in WEFCOM for progress monitoring under the same standard.

Tiger ecology research using radio-telemetry has been going on for about 5 years in WEFCOM. This research work allows us to understand the home range and habitat use of tigers. It will help plan conservation action and monitor the change in pattern of habitat use due to improvement of prey and protection.

Information on protection and monitoring can be shared if we use the same system and standard. DNP has tried to establish the "Smart Patrol Monitoring Center" for MIST-based system information sharing and training.

INTERNATIONAL HIGHLIGHT

It is very important to develop a monitoring system to track efforts, movement, and results of wildlife trade and controls in CITES and ASEAN- WEN offices. Seizure cases only cannot guarantee effectiveness in performance. The investment on tracking system is very important to measure the success of internal trade in the future.

4. Promoting education, awareness, and public participation

NATIONAL HIGHLIGHT

Nature education and conservation awareness programs have been integral to the conservation movement in Thailand for decades. The government has nature education centers all over the country. Many non-profit organizations and universities are also equipped with such programs. However, most of them are not tiger focused. Tiger focused education and awareness campaigns have just happened in the villages around WEFCOM in the recent years. The tiger-focused campaigns can better link with management actions and monitoring systems going on inside protected areas. Therefore, the programs can be linked to threat reduction with more concrete ways than general messages.

DNP has established protected area committees in most protected areas in Thailand. It is the way to promote public participations in protected area management. However, unclear structure and objectives of participations exist and need development. The tiger recovery actions can create a clear structure and objectives of participations.

INTERNATIONAL HIGHLIGHT

DNP with support from international organizations has produced different campaign materials to stop international wildlife trafficking. This should be strengthened.

5. Strategic financing for tiger conservation

NATIONAL

In Thailand the most sustainable and secure funding source for tiger conservation is the government budget. The Thai government has the capacity to support more budget financing if tiger conservation receives national and international highlights. Ways to boost the interest and revenue for tiger conservation should be considered.

INTERNATIONAL

Although there are various international funding sources that have their focus on environment management only a few organizations that focus on tiger exist. The skill and assistance to prepare proposals and team work for large-scale international funding need to be considered.

Program Indicators (interim)

1. MIST-based Smart patrol System established and run with efficiency in the priority landscapes with clear decline of threats.
2. Tiger and prey populations are stabilized and annually monitored with standardized camera trapping, occupancy and appropriate prey monitoring system.
3. Tiger ecology study reveals the important information for management and conservation campaigns.
4. The system for information sharing in place.

Program Indicators (final)

1. All of the priority landscapes are equipped with MIST-based Smart Patrol System, and threats show clear declines across the landscapes.
2. Tiger populations in the priority landscapes have shown a 50% increase through rigorous camera trapping system.

NTRP Component linked to the Priority Actions

1. Mapping

Long Term Strategic Goal:

Recover tiger populations in Tenasserim – Western Forest Complex (Tenasserim-WEFCOM) and Dong Phayayen Khao Yai (DP-KY) Forest Complex by 50%.

Priority Action(-s):

1. **Priority Action I: Strengthen and standardize direct conservation action and enforcement:**
   - The most important action is to secure the site with MIST-based Smart Patrol System for Tenasserim-WEFCOM landscape and then DP-KY Landscape.
   - The establishment of wildlife crime units outside the priority landscapes will reduce demands of wild meat flowing into wild meat restaurants around the area.

   Mapping with the goal: This will stop the bleeding on tigers and prey and create the environment for tiger recovery in the two landscapes.

2. **Priority Action II: Building capacity based on successful model**

- Using HKK and HKK model as the center to train officers and park rangers in the rest of the protected areas in the priority landscape to be able to operate under MIST-based smart patrol system are important to improve quality of protection and management of the whole priority landscapes.
- Establishing a regional tiger conservation and research center at HKK to support training of park rangers and managers for Southeast Asian countries.

Mapping with the goal: This will improve the quality and standardize the system for the priority landscapes and the key tiger sites in the regions to be able to compare the progress and results.

3. **Priority Action III: Strengthening monitoring, research, and information management**
   - Using of up-to-date techniques to annually or regularly monitor trends of tigers and prey by camera trapping for tiger population monitoring, transect and distance sampling for prey, and occupancy survey for distribution abundance in the two landscapes.
   - Extend the surveys to other potential tiger habitats in Thailand.
   - Conducting tiger ecology study to understand the home-range and habitat use of tigers in the two landscapes.

   Mapping with the goal: This will be important to decide on the impacts and progress of actions of tigers and prey in the two landscapes. It will help decide whether we are progressing toward the ultimate goal of 50% increase.

4. **Priority Action IV: Promote education, awareness, and public participations**
   - Designing and run tiger focused education and awareness campaigns in communities around the two priority landscapes.
   - Creating platforms or projects (e.g., ecotourism) for concrete public participations through protected area committee.

   Mapping with the goal: This will allow more partnerships in tiger conservation in two priority landscapes and reduce pressures from exploitation activities and development projects.

5. **Priority Action V: Strategic financing for tiger conservation**
   - Creating a long-term financial support within the government budget by giving tiger conservation and recovery a national priority and pride.
   - Seeking collaborations and opportunities at the international level for large scale and long-term international funding sources.

   Mapping with the goal: This will guarantee the maintenance and expansion of actions with quality for the whole landscape for the duration to reach the goal.

2. Description of Program Component. Briefly describe (i) Objectives, (ii) Activities, (iii) Expected Outcomes, (iv) duration and location of the Program Component.

1. **Priority Action I: Strengthen and standardize direct conservation action and enforcement:**

Objective 1.1: Promote conservation efforts at the scale of entire populations (e.g., forest complex and associated corridors).

Activity 1: Strengthen and standardize "MIST-based Smart patrol system" in protected areas of current tiger source and potential source sites including

- Tenasserim – Western Forest Complex

- Dong Phayayen – Khao Yai Forest Complex.

Activity 2: Increase the number of competent park ranger teams patrolling in each protected area of priority landscapes up to the level that can effectively secure tigers and their prey.

Activity 3: Strengthen wildlife crime units and informant network around Tenasserim – WEFCOM and DP-KY Forest Complex to suppress local demands on wild meat and illegal wildlife and help apprehend wildlife criminals around protected areas.

Activity 4: Work with district attorneys and judges to ensure substantial punishment on wildlife crime against tigers and other large ungulates.

Activity 5: Overhaul the park ranger system to a higher living and working standard, and provide rewards and incentives to encourage patrolling (e.g., patrolling budgets) and other significant morale boosting programs such as performance-based promotions.

Activity 6: Apply landscape scaled ecological and development models for tiger conservation and engage stakeholders in development sectors (i.e.,roads, oil and gas, mining, power) to minimize and mitigate impacts in sectoral activities on tiger habitats.

Expected outcome: The real landscape protection cost, actions, and activities to stop bleeding and to recover wild tigers are understood and adopted at the policy level.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source site.

Objective 1.2: Provide long-term support for tiger habitat restoration activities.

Activity 7: Promote use of controlled burns in potential and manageable parts of priority landscapes to maintain grass-based for ungulate recovery.

Activity 8: Prevent and suppress fires effectively in evergreen forest areas in priority landscapes to provide good covers and watersheds for tigers and wildlife.

Activity 9: Strengthen the reintroduction program of ungulate prey with the ex-situ succeeded species (i.e., sambars, eld's deer, and hog deer) in suitable habitats.

Activity 10: Maintain natural and existing artificial water sources that benefits tigers and ungulates especially during the draught periods in priority landscapes.

Activity 11: Establish a system to control invasive species (e.g., *Lantana camara, Mimosa pudica*,) in the priority landscapes.

Activity 12: Identify priority for corridor and habitat restoration

Expected outcome: Habitat is suitable for other wildlife species and native biodiversity is restored.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source sites.

Objective 1.3: Ensure government policy of protecting tiger habitat from development threats, as committed through the Hua Hin declaration is followed.

Activity 13: Ensure that no major infrastructure development occurs in core tiger habitat.

Activity 14: Ensure that infrastructure development in corridors and buffer zones must conform with Smart Green Infrastructure designs to ensure minimal impacts to tiger habitats and maintain landscape connectivity.

Expected outcome: Tiger habitat in priority landscapes intact and connectivity maintained.

Duration and locations: 10 years, Tenasserim-WEFCOM and the DY-KY Forest Complex.

Objective 1.4: Encourage community participation and cooperation in protected area conservation activities.

Activity 15: Strengthen and build wildlife conservation networks around the priority landscape to strengthen tiger and wildlife conservation in the priority areas.

Activity 16: Provide protected area committees (PAC) and community committees (CC) with quality information (e.g. data from smart patrol system) on which to base threat reduction decisions and activities.

Expected outcome: Communities appreciate value of wildlife and help save them.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source site.

Objective 1.5: Support local communities in developing sustainable economies that reduce dependence on forest resources.

Activity 17: Link communities with agricultural science institutes and agencies to promote agro-forestry in bufferzone areas around priority landscapes to reduce Non Timber Forest Products (NTFPs) collection inside Protected Areas (PAs).

Activity 18: Develop a wildlife-based ecotourism with a concrete benefit sharing with communities in appropriate areas in and around PAs.

Expected outcome: Better livelihood and reducing poverty.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source site.

Objective 1.6: Facilitate international cooperation in tiger conservation efforts.

Activity 19: Strengthen enforcement capacity of Thailand's CITES programs with better interagency-collaboration and stronger protocols and impact monitoring system on wildlife trades.

Activity 20: Strengthen and sustain capacity of ASEAN-WEN.

Activity 21: Strengthen bi-lateral cooperation with Cambodia, Laos, Malaysia and Myanmar for transboundary enforcement and monitoring and research.

Expected outcome: Stronger international network to fight wildlife crime.

Duration and locations: 10 years, CITES border check points, air ports, sea ports.

Objective 1.7: Strengthen national laws, policies, and enforcement of tiger related crimes.

Activity 22: Increase penalties for wildlife related crimes by amending the Wildlife Conservation Act of B.E.2535.

Activity 23: Strengthen Thai-WEN information sharing capacity.

Activity 24: Strengthen investigative capacity and judiciary effectiveness on wildlife crime cases.

Activity 25: Strengthen communication campaigns on wild tiger conservation.

Activity 26: MoU with military, police, Ministry of Interior, Ministry of Education to be strengthened

and implemented for better collaboration and training for enforcement.

Expected outcome: Wildlife crimes are given priority at the policy level.

Duration and locations: 10 years, National level.

Objective 1.8: Support national and international efforts to manage captive tigers responsibly.

Activity 27: Design and enforce the control programs for captive breeding of tigers in legal tiger zoos with a captive tiger database of individual tracking records.

Activity 28: Enforce illegal activities on captive tigers under convincing public campaigns on impacts on tiger conservation.

Activity 29: Public campaigns on the difference of wild & captive tiger conservation.

Expected outcome: Public at large become understood about the difference of wild tiger conservation and illegal captive tiger business that harms tiger conversation.

Duration and locations: 5 years, Places with illegal captive tigers, zoos, and amusement parks.

2. Priority Action II: Building capacity based on successful models.

Objective 2.1: Establish a Regional Tiger Conservation and Research Center at Huai Kha Khaeng Wildlife Sanctuary.

Activity 30: Designate staff and design an administrative structure to run the center with shared experiences and administrations

Activity 31: Ensure that the training center has sufficient facilities and equipment to facilitate high quality training in management, enforcement and research to serve both Thailand and the region

Activity 32: Establish technical and enforcement-related curricula that will prepare participants to meet protected area management standards.

Expected outcome: The skill of on tiger conservation and research is being shared in the region by using the facility in WEFCOM as one of the easy places to encounter tiger signs, tracks, and tiger prey in SE Asia.

Duration and locations: 10 years, Hua Kha Khaeng Wildlife Sanctuary.

Objective 2.2: Ensure national training capacity can deliver high quality tiger conservation training at all levels

Activity 33: Strengthen the local instructor capacity for conducting training courses for tiger research and conservation for Thai and international audience.

Activity 34: Establish a national standard as sufficient resources for tiger conservation training

Expected outcome: The quality of trainers and trainees are improved with a good standard.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source site.

3. Priority Action III: Monitoring, Research, and Information Management.

Objective 3.1: Monitor tiger and prey populations in priority landscapes.

Activity 35: Maintain and establish high standard annual population monitoring systems for tigers and their prey in tiger sources and potential source sites in the priority landscapes.

Activity 36: Establish landscape scale occupancy monitoring for tigers and prey throughout the two priority landscapes.

Activity 37: Implement a national-wide survey and reporting system on tigers and prey situation based on scientific methods.

Expected outcome: The success of tiger conservation activities can be strongly linked to the target which is tigers and their prey.

Duration and locations: 10 years, Tenasserim-WEFCOM as the tiger source site and DP-KY Forest Complex as the potential source site and other protected areas for a nation-wide survey.

Objective 3.2: Maintain long-term tiger and prey ecology research in priority landscapes.

Activity 38: Strengthen long-term tiger ecology study in priority landscapes, especially to determine maximum densities that can be supported in the landscapes to meet recovery targets.

Activity 39: Determine genetic structure of wild tigers at the population and of captive tigers.

Expected outcome: Managers and conservation scientists are better equipped with understanding about how tigers use the landscapes, monitor inbreeding depression, and track source of tigers and parts confiscated from the illegal trade.

Duration and locations: 10 years, Tenasserim-WEFCOM as tiger source site and DP-KY Forest Complex as potential source site.

Objective 3.3: Ensure that relevant information for tiger conservation is well managed and available to inform strategy and planning.

Activity 40: Develop information structure that facilitates national compilation of tiger related data for improvement of tiger conservation.

Expected outcome: The government of Thailand has a high quality central database to cooperate with other organizations on tiger conservation.

Duration and locations: 10 years, Department of National Parks, Wildlife and Plant Conservation (DNP) headquarters in Bangkok.

4. Priority Action IV: Education, Awareness and Public Participation.

Objective 4.1: Convey tiger conservation-related messages to a diverse Thai public, and policy-makers, and politicians.

Activity 41: Public campaigns on wild tiger conservation in local schools and communities around priority landscapes using innovative tools and impact monitoring system.

Activity 42: Deliver the message of tiger conservation through mainstream media channels.

Activity 43: Produce quality publications that contain information on tigers and their roles in ecosystem to the public.

Expected outcome: Thai society gives a strong support for tiger and wildlife conservation and natural

resource management.

Duration and locations: 10 years, National level.

Objective 4.2: Ensure that basic concepts of the tiger's ecological and cultural significance become part of Thailand's standard curriculum at several educational levels.

Activity 44: Work with Ministry of Education to include specific learning goals in both primary and secondary standard curriculums.

Expected outcome: The government of Thailand has a high quality central database to cooperate with other organizations on tiger conservation.

Duration and locations: 10 years, DNP headquarters in Bangkok.

Objective 4.3: Ensure that co-benefit of tiger landscape conservation are understood and appreciated.

Activity 45: Quantify ecosystem service values and use the information to communicate the broader values of tiger conservation landscape.

Expected outcome: More support on tiger conservation from other sectors of the society.

Duration and locations: 10 years, National level.

5. Priority Action V: Strategic financing for tiger conservation.

Objective 5.1: Identify the costs of effective tiger conservation, current expenditures, and efficiency of these expenditures.

Activity 46: Baseline study of protected area costs and efficiency of current expenditures.

Expected outcome: The real cost of wild tiger conservation understood and improvement of budget happens.

Duration and locations: 10 years, National level.

Objective 5.2: Make use of large scale funding opportunities such as GEF 5, REDD, other GAA programs, etc. to fund tiger conservation efforts.

Activity 47: Utilize GEF 5 programmatic funding opportunity to secure additional national funding for tiger landscape conservation support.

Activity 48: Develop full REDD++ funding strategy for the Dawna Tenasserim Landscape.

Expected outcome: Opportunity for funding is expanded.

Duration and locations: 10 years, Tenasserim-WEFCOM as the tiger source site and DP-KY Forest Complex as the potential source site.

Objective 5.3: Develop sustainable funding mechanisms.

Activity 49: Identify potential payment for ecosystem services mechanism and develop pilot projects to demonstrate their values.

Activity 50: Establish a Trust Fund for conservation activities in priority landscapes.

Activity 51: Enhance ecotourism opportunity in and around tiger landscapes and ensure that revenues

flow more directly to tiger conservation efforts.

Expected outcome: Opportunity for funding is expanded and sustained.

Duration and locations: 10 years, Tenasserim-WEFCOM as the tiger source site and DP-KY Forest Complex as the potential source site.

3. Policy

- Reform policy on promotion, salaries, and social security system for protected area staff and park rangers.
- Reform policy on career path for superintendents of protected areas (national parks and wildlife sanctuaries) for effectiveness and continuity of the work quality.
- Up list tigers to the reserved species under the WARPA (Wild Animal Reservation and Protection Act).
- Amend the WARPA to increase the penalties on wildlife crimes.
- Setup a subcommittee on tiger recovery and conservation under the National Wildlife Reservation and Protection Committee to monitor the progress of Thailand National Action Plan.
- Establish and run the Regional Tiger Conservation and Research Center at Huai Kha Khaeng Wildlife Sanctuary.

4. Capacity

- **Smart Patrol System capacity:** Park rangers in the core areas of Tenasserim-WEFCOM have been operated under the Smart Patrol System for 5 years. The rest of other 17 protected areas in this landscape have to improve their system under the same standard. Park rangers in DY-KY Forest Complex have to be trained and adopt the same standard. With MIST-based smart patrol system performance and effectiveness of law enforcement can be monitored.
- **Research and monitoring capacity:** All tiger and prey ecology research and monitoring programs are being done extensively in the core areas of Tenasserim WEFCOM. The same rigor of tiger and prey population monitoring systems has to be established for the core areas of DY-KY Forest Complex. The monitoring has to be regularly done. At the landscape scale occupancy survey with the same rigorous sampling design has to be followed for both priority landscapes. Tiger ecology study (e.g., satellite telemetry) has to get started in other parts of Tenasserim-WEFCOM and DY-KY Forest Complex for better understanding of how tigers in the area use the landscape differing in habitat types, human disturbances, and prey density. Make tiger conservation goals and objectives an important component in EIAs. Investigate the impacts of toxic chemicals on tiger populations, including the use in retaliatory killing by poisoning and transmission of disease vectors.
- **Wildlife crime unit capacity & CITES check points:** DNP is virtually lack of wildlife crime units at the regional level. The units have to be established at the protected area regional offices covering two priority landscapes. The units will be in charge of wildlife crime happening outside protected areas. The capacity for the units needs strengthening. At the transboundary front, all the CITES checkpoints need to be strengthened for better job performance with system to monitor the work progress and results. Use control delivery to control and apprehend smugglers.
- **Tiger conservation education capacity:** Capacity to conduct tiger focus education campaigns have to be established and strengthened within DNP and organizations involved. The campaigns need to combine the current status of tigers in the country, monitoring and research work, law enforcement, and other activities.
- **Administrative level capacity for tiger conservation & management:** New way of thinking is very necessary to successfully recover tigers in the wild. Administrative level needs to understand the real situation and interventions to manage the parks and recover tigers. The local and global struggles to save wild tigers have produced a lot of lessons learned, protocols, and logics. The most important lessons are, for example, tigers are protection dependent species, rigorous monitoring systems for tigers and prey are an

integral part of management. Tigers can powerfully draw attentions from the public at large to participate in nature conservation. The administrative level capacity in DNP has to adopt the new way of thinking for the country to be successful in recovering wild tigers.

5. Stakeholders

GOVERNMENT

- Ministry of Natural Resources and Environment (MoNRE): MoNRE is looking after the policy and administration of all departments in charge of natural resources in Thailand. The National Wildlife Reservation and Protection Committee is under the Ministry.
- Department of National Parks, Wildlife and Plant Conservation (DNP): DNP is the most important agency in charge all protected areas and wildlife conservation outside protected areas. DNP will be in charge of all actions mentioned here and coordinate with other agencies and organizations to the tiger recovery program.
- Royal Forest Department (RFD): RFD is charge of national forests outside protected areas including community forest . RFD will be in charge and coordinate with other agencies and organizations running the program in the buffer zone.
- The Royal Thai Police: RTP is in charge of all laws and enforcement in Thailand. The police is also focusing on enforcing wildlife trades outside protected areas. Under RTP, the border patrol police also helps DNP's and RFD's officers and park rangers on training.
- Thai Customs Department: The customs is in charge of all the check points at the airports, sea ports, and border areas around the country.
- Royal Thai Army: RTA helps train park rangers on physical training courses in some protected areas.
- Provincial governor offices: In each province the governor is also the key person to help on management and conservation work happening in their areas.

UNIVERSITY

- **Kasetsart University** (KU): KU is the main university in Thailand that conducts tiger and wildlife conservation research projects and train undergrad and graduate students in wildlife conservation in Thailand.
- **Mahidol University** (MU): MU is a key university in Thailand that produce conservation biologists into the system.

NGOs

- WCS: WCS has been running tiger conservation and monitoring projects in Thailand for many years. WCS has helped the Department of National Parks, Wildlife and Plant Conservation (DNP) establish the MIST-based smart patrol system, long-term tigers and prey population monitoring systems, tiger-focused awareness campaigns, in and around Tenasserim-WEFCOM landscape.
- WWF: WWF has been working on tiger monitoring project in Kui Buri National Park at the lower part of Tenasserim-WEFCOM landscape. Currently WWF is helping DNP to strengthen the smart patrol system and tigers and prey monitoring system in upper part of Tenasserim-WEFCOM landscape. WWF is also helping DNP to strengthen Thailand Wildlife Enforcement Network.
- Freeland: Freeland is focusing on ASEAN- WEN. It also helps Thai government on campaigns to reduce wildlife trade at the airport. At the landscape scale, Freeland is conducting tiger monitoring at Dong Phayayen – Khao Yai Forest Complex and help train park rangers in the landscape.
- Seub Foundation: Seub is focusing its work on communities in and around WEFCOM to reduce the pressures from the communities on natural resources.
- Khao Yai Foundation: Khao Yai Foundation supports park rangers' equipment and campaigns on

conservation of Dong Phayayen – Khao Yai Forest Complex and other protected areas.

6. Performance Indicators. Identify key measurable indicators that will demonstrate progress towards achievement of the Component's Objectives.

1. Priority Action I: Strengthen and standardize direct conservation action and enforcement:

The performance indicators are:

- At site level: Patrol coverage, foot patrol distance, numbers of foot patrol days (drawn from MIST-patrol database).
- At site level: Trend of threats to tigers (drawn from MIST patrol database).
- At landscape level: Numbers of protected areas operating with MIST-based smart patrol system.
- At landscape level: Trend and numbers of wild meat restaurants checked and enforces by wildlife crime units.
- At landscape level: Forest cover and forest change.
- Numbers of crime/crime scene to arrest and prosecution.

2. Priority Action II: Building capacity based on successful model

The performance indicators are:

- Numbers of training courses (national and international) couducted at the Regional tiger research and conservation center in Huai Kha Khaeng Wildlife Sanctuary.
- Quality of training courses (After-training evaluation).
- Targeting the numbers of personnel on qualified trainers and trainees.

3. Priority Action III: Monitoring, Research, and Information Management

The performance indicators are:

- At site level: Design and running of tiger and prey population monitoring systems using camera trapping and transect survey techniques.
- At landscape level: Design and running of occupancy survey for tigers and prey.
- At landscape level: Tiger and prey ecology research.
- At national level: Numbers of protected areas surveyed for tigers and prey.
- At national level: Quantity, quality, use of data stored at the central database in Bangkok and in regional offices.

4. Priority Action IV: Education, Awareness and Public Participation

The performance indicators are:

- At site level: Numbers of schools, students, villages received tiger focused education and awareness campaigns.
- At site level: Numbers and results of public participation projects.
- At national level: Change in curriculums with tiger conservation added in.
- At national level: TV media regarding tiger conservation.

5. Priority Action V: Strategic financing for tiger conservation

The performance indicators are:

- Volume of government budget for tiger and wildlife conservation actions.
- Numbers of proposals submitted and funded.

- Volume and durations of financial supports on tiger project.

7. Indicative Costs in US$ equivalent (approximate estimate): 5 years.

Activity	Total estimated Budget (mil US $)	Govt contribution	Donor contribution
Maintain and establish "Smart Patrol System in 2 priority landscapes.	66.4	42.6	23.8
Establish and run wildlife crime units at the 5 regional offices.	3.0	0.5	2.5
Run tiger focused education campaigns in priority areas (mobile units).	4.0	1.0	3.0
Reintroduce key prey species (sambars, eld's deer, hog deer).	2.0	0.8	1.2
Wildlife-based ecotourism programs in HKK.	3.0	0.7	2.3
Train and equip officers at CITES check points.	1.5	0.7	0.8
Establish and run monitoring system for tigers and prey 2 priority landscapes.	8.0	3.0	5.0
Establish and run a regional tiger conservation and research center in HKK.	2.2	0.7	1.5
Strengthen system to control captive tigers.	1.5	0.5	1.0
Strengthen Management Information System (MIS) for wildlife conservation at the Wildlife Conservation Office.	6.0	3.0	3.0
TOTAL	**97.6**	**53.5**	**44.1**

8. Preferred Financing Mix. Identify and indicate the order of magnitude of the expected and/or desirable funding sources for the above listed activities (for 2011-2015 and beyond), including central and subnational government budget, intergovernmental organizations (UN etc.), multilateral development banks (WB, ADB, etc.), Global Environment Facility, bilateral aid agencies, private foundations, international NGOs, etc., as appropriate.

- Thai government (75% of All activities above)
- WCS (Smart patrol system, wildlife crime units, tiger focused education campaigns, tiger monitoring system, regional center)
- WWF (Smart patrol system, tiger focused campaigns, tiger monitoring systems, regional center)
- Freeland (Enforcement training on patrolling, Investigation training)
- US Fish & Wildlife Service (Smart patrol system, enforcement, tiger monitoring system)
- Save the tiger fund (Smart patrol system, tiger monitoring system)
- Liz Claborn – Art Ortenberg Foundation (Smart patrol system, Wildlife crime units)
- Panthera (Tiger monitoring)
- National Geographic Society (Tiger research and monitoring)

9. Short-Term Catalytic Support Needed (in 2010-2011). Identify and indicate the amount of short-term catalytic funding needed from the GTI funding partners to support the Component in the table below. Such funding is typically expected to cover the following types of activities:

Catalytic activity (provide brief description)	**Costs, US$**
Pilot projects (for example, implementing a MIST-type system in one or a few PAs).	163,600
Technical assistance to develop a full-size project proposal for funding from the larger donors (e.g. MDBs, GEF).	38,400
Training and capacity building, and building or strengthening local and national institutions.	300,000
Workshops for knowledge exchange and cooperation (for example, cross-boundary meeting to enhance cooperation in law enforcement)**.**	300,000
Feasibility studies (for example, developing a particular community engagement strategy in one or a few locations)**.**	78,000
TOTAL	**880,000**

Socialist Republic of Vietnam
Summary of National Tiger Recovery Program

Country Name: Vietnam

Long Term Strategic Goals.

Overall goals:
Wild tigers and their prey are recovering through significant reduction of the threats they face.

Specific objectives:
- Priority sites for tiger conservation are officially recognized and their management and protection is strengthened.
- Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers.
- Prevention, detections and suppression of organized tiger and wildlife crime are significantly strengthened.
- Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased.
- Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam.

Vietnam's National Pledges:
General ones:
1. Vietnam recognises the importance of protecting tigers as a component of our broader biodiversity conservation efforts. Vietnam is willing to co-operate at all levels to increase our nations and the regions effectiveness in conserving tigers. We pledge to engage and strengthen support to regional and global mechanisms such as ASEAN-WEN, CBD, CITES, Interpol, WCO-RILO.
2. We support GTI and endorse the GTRP, summit declaration and commit to the global goal of doubling wild tiger populations by 2022.

Specific country pledges:
1) Vietnam has established a Steering Committee for Biodiversity Conservation that reports directly to the Prime Ministers Office. I will instruct this steering committee to make implementation of the NTRP a top priority.
2) Carry out strategic communication campaigns on changing attitudes and behaviors towards tiger conservation and use of tigers and tiger preys products.
3) Recognize five priority protected areas for tiger conservation and strengthen their management by applying minimum standards for resourcing, protecting, monitoring, management, and capacity as well as ensuring no new non-PA infrastructure is built within them.
4) Apply strict punishments to violators breaking the laws.
5) Initiate dialogue with Lao and Cambodia on the establishment of trans-boundary tiger sanctuaries specifically Yok Don – Mondulkiri Protected Forest, Bu Gia Map – Siema Biodiversity Conservation Area and Chu Mom Ray – Virachay – Dong Ampham.

Baseline Status.

- Priority sites for tiger conservation are officially recognized and their management and protection is strengthened

Vietnam has experienced widespread decline in natural forest cover over the last 70 years. Strengthened government policies have increased overall forest coverage through plantations to 39.5% by 2009. However, Illegal hunting of wildlife populations in Vietnam has been occurring at highly unsustainable levels for some time. Over-hunting and trade are thought to have played a major role in the decline of a number of species now thought to be extinct or reduced to extremely low densities in the wild in Vietnam. These include the kouprey *Bos sauveli*, wild water buffalo *Bubalus bubalis*, Eld's deer *Cervus eldii*, hog deer *Cervus porcinus*, banteng *Bos banteng*, gaur *Bos gaurus*, sambar deer *Cervus unicolor*, Siamese crocodile *Crocodylus siamensis*, mangrove terrapin *Batagur baska*, and the Javan rhinoceros *Rhinoceros sondaicus annamiticus.*

Vietnam has increased its protected area coverage to 6.7% (2.2 million ha) in over 160 protected areas representing most key habitats and landscapes. However, management of these areas faces a number of challenges including inadequate investment for wildlife conservation, low capacity of management authorities, poor collaboration with local stakeholders, and low incentives to protect wildlife.

There has been no comprehensive national survey of wild tiger in Vietnam, so accurate estimates on population size and distribution are not available. Confirmed records of tiger are sparse although tracks and sightings were reported up to 2005 suggesting that wild tigers may persist in the Central Annamites and in other border forests between Vietnam, Cambodia and Lao. The national management and development plan for protected areas is not focused on any single species. Natural tiger habitat has been severely fragmented and protected areas are not large enough alone to hold viable tiger populations. However, there are a number of areas in Vietnam that connect to potential source sites in Lao and Cambodia where small populations of tigers may remain. Under suitable management and strengthened protection efforts, these areas hold the potential to see expansion of tiger populations across the border and secure the future for wild tigers persisting in Vietnam, Lao and Cambodia.

- Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers

Since 2006 the known captive tiger population in private operations has increased and at present is over 80 individuals (with additional animals in state-run zoos and rescue centers). The source of many of these is unknown, as is the exact sub-species, relationships between the animals or presence of hybrids. At present, captive tiger facilities in Vietnam are subject to no standardized, transparent, or regular monitoring and there is no reliable method of identifying individuals to ensure no laundering of animals into the illegal trade. Law enforcement agencies have found evidence of facilities carrying out illicit business practices involving the illegal trade in tigers (including state-run zoos).

A number of captive operations were permitted by the government to breed tigers for conservation on a pilot basis. Most of these facilities lack the scientific knowledge and facilities to breed for conservation purposes, and none of them maintain a strategic conservation breeding management plan. At present, these facilities have not provided any clear support, either directly or indirectly, towards wild tiger conservation.

Government policy is clear and prohibits breeding tigers for commercial profit through sales of individuals, parts or their derivatives. Management of captive tiger operations faces a number of challenges due to weak technical ability and equipment to effectively monitor and control breeding and to ensure no laundering of wild tigers into the illegal trade occurs.

- Prevention, detections and suppression of organized tiger and wildlife crimes is significantly strengthened

As populations of commercially valuable species in Vietnam have diminished, wholesale traders have started sourcing wildlife from other Asian countries and even from African nations to supply the growing domestic demand for wildlife. In addition, Vietnam has emerged as a key centre in the international wildlife trade

distribution network to China, Europe, North America and other Asian countries.

Despite the lack of survey data, there is consensus in the Vietnamese scientific and conservation community that populations of wild tiger in Vietnam have experienced a severe decline in the last two decades due not only to habitat loss but also a high domestic demand and international trade in tiger parts. The hunting, use and exploitation of wild tigers has been prohibited, for almost 50 years in Vietnam, yet the illegal trade driven by the large profits available has far exceeded the limited resources invested in wildlife crime law enforcement and the low punishments applied if caught provide no disincentive to this illegal trade.

In recent years, enforcement efforts have been significantly strengthened as shown by the increase in the number of cases involving tiger crimes uncovered and arrested by the authorities especially since the establishment of the Environmental Police in 2006. According to report by Vietnam CITES Management Authority in 2009, in the period June 2008-July 2009, law enforcement operations seized 11 tigers all of which were reportedly imported illegally from neighboring countries.

However, due to the professional and organized nature of the criminal network undertaking this illegal trade in wildlife, trans-boundary and enforcement officers such as rangers, police, customs and border security are not sufficiently trained to combat wildlife crime. Furthermore, it would appear that the efforts of law enforcement agencies are restricted to low-level criminals. Investigations have revealed that the criminal networks organizing the trafficking of tigers remain largely untouched by law enforcement efforts to date and continue to illegally supply tigers to consumers. This is due to low punishments given by the courts and procuracy but also prosecutions have focused on transporters and lower-level middlemen, not the wholesale traders and criminal bosses at the top of the network.

- Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased

Although historically much of the wildlife illegally traded in Vietnam was for export, development and rapid growth of Vietnam's economy over the past 20 years has corresponded with an increase in the standard of living giving rise to consumer demand for luxury goods and products that were formerly beyond the reach of most people. Demand for wildlife, including traditional forms of medicine appears to have increased dramatically in recent years, as evident by the proliferation of wildlife specialty restaurants and the relative abundance of wildlife products available to consumers. Surveys have indicated that the majority of wildlife including tigers traded in Vietnam is for domestic use, not for international trade. Vietnam's wildlife demand has extended past its own borders into other Asian countries to supply this growing demand.

In addition, despite clear wildlife protection laws prohibiting the exploitation and use of wild tigers, as well as advances and steady improvement in the quality and accessibility of health care in Vietnam, use of traditional forms of medicine such as tiger bone glue, rhino horn, and bear bile, remains deeply rooted in Vietnamese culture. The traditional medicine community (including government agencies) currently promotes the use of tigers and other endangered species in official pharmacopeia (e.g. Do Huy Bich et al. 2006), training curricula and advertisements.

- Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam

With well established programs of work in Vietnam, regionally and globally, Vietnam recognizes that there is a lack of inter-agency co-ordination and co-operation in the country and that this hinders national efforts to obtain a comprehensive picture of the issues facing tiger and wildlife conservation, and how to take appropriate measures to address these issues.

The need for strengthened institutional capacity and management is highlighted in "The National Action Plan on

Biodiversity" to fulfill Vietnam's commitments to the Convention on Biological Diversity and the Cartagena Protocol on Biosafety. The importance of inter-agency coordination is also reflected in "The National Action Plan to Strengthen the Control of Trade in Wild Fauna and Flora to 2010". The goal of this action plan is to create a framework for controlling illegal and unsustainable trade in wild plants and animals in order to protect and use wildlife resources sustainably, as well as fulfill Vietnam's commitments as a signatory to CITES. Relating specifically to inter-agency coordination, the National Action Plan highlights that "biodiversity conservation and control of wildlife trade requires inter-agency cooperation at provincial, national and international levels and the involvement of the people".

Responding to this challenge, the Government of Vietnam has taken a number of steps which call for increased interagency cooperation. Recognizing that wildlife conservation needs to extend well beyond Vietnam's borders, the Government endorsed the GTI, the "ASEAN Regional Action Plan on Trade in Wild Fauna and Flora 2005-2010", and other regional conservation partnerships.

With reference to the contextual backdrop of this policy framework, and by drawing on its expertise in supporting enforcement and management efforts among government agencies, it is necessary to better co-ordinate, improve communication and share information as well as build stronger partnerships and increase transparency of tiger and wildlife conservation.

Priority Actions to achieve Long Term Strategic Goals

Objective 1 Priority sites for tiger conservation are officially recognized and their management and protection is strengthened

- Activity 1.1 About 5 Tiger Protected Areas recognized and their management strengthened
- Activity 1.2 Identified Tiger Protected Areas inviolate
- Activity 1.3 Sustainable financial mechanism for tiger landscapes
- Activity 1.4 Development projects don't adversely affect Tiger Conservation Landscapes

Objective 2 Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers

- Activity 2.1 Assessment to impact of captive tiger facilities on conservation of wild tigers
- Activity 2.2 National individual captive tiger registration system
- Activity 2.3 Transparent monitoring programme for captive tiger operations regularly implemented
- Activity 2.4 National conservation breeding plan for Indochinese Tiger

Objective 3 Prevention, detections and suppression of organized tiger and wildlife crime are significantly strengthened

- Activity 3.1 Individuals organizing the illegal trade in tigers and tiger prey are prosecuted
- Activity 3.2 Reduced retail of tiger and prey products
- Activity 3.3 Information sharing and intelligence analysis strengthened
- Activity 3.4 Capacity to investigate and prosecute wildlife crimes enhanced
- Activity 3.5 Higher punishments applied to violators
- Activity 3.6 Report on current system and propose new issuance and amendment

Objective 4 Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased

- Activity 4.1 Identify economic, social, cultural factors that cause increasing declines in wildlife and tigers
- Activity 4.2 Communications campaigns developed and implemented
- Activity 4.3 Textbooks do not contain instructions on use of endangered species
- Activity 4.4 Three attitude surveys implemented and reports issued

Objective 5 Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam.

- Activity 5.1 Promulgate a new decree on endangered species management

Activity 5.2 Develop a policy framework for implementing sustainable financing mechanisms for wildlife conservation
Activity 5.3 Build strong partnerships among government and other stakeholders (including civil society and the private sector)
Activity 5.4 Establish mechanisms for effective information sharing amongst relevant government agencies
Activity 5.5 Activate a national monitoring system for law enforcement effectiveness for entire protected area system

Program Indicators (interim)
1. PA Tracker Tool scores for priority sites for tiger conservation
2. Captive tiger registration system is operational and bi-annual monitoring reports submitted
3. Number of tiger traders arrested
4. Number of retailers breaking wildlife laws arrested and punished
5. Proportion of population willing to use tiger products and eat tiger prey
6. Number of text books and pharmacopeaias with tiger and other endangered species products mentioned
7. Average penalty for wildlife crime

Program Indicators (final)
1. PA Tracker Tool scores for priority sites for tiger conservation
2. Captive tiger bi-annual monitoring reports
3. Number of tiger traders arrested
4. Number of retailers breaking wildlife laws arrested and punished
5. Proportion of population willing to use tiger products and eat tiger prey
6. Number of text books and pharmacopeaias with tiger and other endangered species products mentioned
7. Average penalty for wildlife crime

Template to describe a NTRP Component linked to the Priority Actions

1. Mapping
Long Term Strategic Goal:
Wild tigers and their prey are recovering through significant reduction of the threats they face.

Objectives:
1. Priority sites for tiger conservation are officially recognized and their management and protection is strengthened.
2. Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers.
3. Prevention, detections and suppression of organized tiger and wildlife crime are significantly strengthened.
4. Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased.
5. Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam.

Priority Actions:
Objective 1 Priority sites for tiger conservation are officially recognized and their management and protection is strengthened
Activity 1.1 About Tiger Protected Areas recognized and their management strengthened
Activity 1.2 Identified Tiger Protected Areas inviolate
Activity 1.3 Sustainable financial mechanism for tiger landscapes

Activity 1.4 Development projects don't adversely affect Tiger Conservation Landscapes

Objective 2 Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers

Activity 2.1 Assessment to impact of captive tiger facilities on conservation of wild tigers
Activity 2.2 National individual captive tiger registration system
Activity 2.3 Transparent monitoring programme for captive tiger operations regularly implemented
Activity 2.4 National conservation breeding plan for Indochinese Tiger

Objective 3 Prevention, detections and suppression of organized tiger and wildlife crime are significantly strengthened

Activity 3.1 Individuals organizing the illegal trade in tigers and tiger prey are prosecuted
Activity 3.2 Reduced retail of tiger and prey products
Activity 3.3 Information sharing and intelligence analysis strengthened
Activity 3.4 Capacity to investigate and prosecute wildlife crimes enhanced
Activity 3.5 Higher punishments applied to violators
Activity 3.6 Report on current system and propose new issuance and amendment

Objective 4 Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased

Activity 4.1 Identify economic, social, cultural factors that cause increasing declines in wildlife and tigers
Activity 4.2 Communications campaigns developed and implemented
Activity 4.3 Textbooks do not contain instructions on use of endangered species
Activity 4.4 Three attitude surveys implemented and reports issued

Objective 5 Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam.

Activity 5.1 Promulgate a new decree on endangered species management
Activity 5.2 Develop a policy framework for implementing sustainable financing mechanisms for wildlife conservation
Activity 5.3 Build strong partnerships among government and other stakeholders (including civil society and the private sector)
Activity 5.4 Establish mechanisms for effective information sharing amongst relevant government agencies
Activity 5.5 Activate a national monitoring system for law enforcement effectiveness for entire protected area system

2. Description of Program Component

Objective 1 Priority sites for tiger conservation are officially recognized and their management and protection is strengthened

Activity 1.1 About 5 Tiger Protected Areas recognized and their management strengthened

1. Conduct feasibility studies to identify tiger conservation sites and develop profiles and detailed management plans for each site including:
a) Eastern Plains Dry Forest Complex: Dak Nam SFE, Yok Don NP, Cu Jut SFE, Ya Lop SFE, Chu Prong; b) Bu Gia Map NP;
c) Chu Mon Ray NP (and forest in Sa Tay District);
d) Song Thanh NR;
e) others
2. Government recognize 5 PAs as Vietnam's Tiger Protected Areas and agree to apply minimum standards for resourcing (xVND/ha operational costs; x rangers per xha), protecting (x effort/ha/month), monitoring (standard tiger and prey monitoring system in place), management (PA tracker tool and MIST applied), and capacity (all rangers meet ACB competency standards)
3. Yok Don NP become a demonstration site for tiger conservation being co-managed by an NGO, FPD and border army
4. Establish trans-boundary taskforce on wildlife protection to patrol the Tiger Protected Areas

Activity 1.2 Identified Tiger Protected Areas inviolate

1. Develop re-settlement plan for people living inside Tiger Protected Areas and in critical corridors between them
2. Promulgate a decree ensuring no non-SUF infrastructure be constructed within Tiger Protected Areas

Activity 1.3 Sustainable financial mechanism for tiger landscapes

1. Five Tiger Protected Areas receive sufficient funding to implement their management aims based on regional tiger conservation standards
2 Five Tiger Protected Areas receive additional funding from private sectors, NGOs and international community
3 All protected areas in Tiger Conservation Landscapes receive adequate resources to be able to implement regional standards for tiger conservation
4 Establish long-term sustainable financing mechanisms for 5 Tiger Protected Areas from sources such as PES, REDD and "Smart Green Infrastructure"

Activity 1.4 Development projects don't adversely affect Tiger Conservation Landscapes

1. Implement "Smart Green Infrastructure framework" that ensures no adverse effects of infrastructure development on tiger landscapes

Objective 2 Captive tiger facilities present no threat to wild tiger populations and support conservation of wild tigers

Activity 2.1 Assessment to impact of captive tiger facilities on conservation of wild tigers

1. Multi-agency assessment on the management of tiger captive facilities in Vietnam and their impacts to conservation (involving at least the CITES Scientific Authorities, Environmental Police, NGOs, FPD, Department of Animal Health, MONRE)

Activity 2.2 National individual captive tiger registration system

1. Multi-agency team of FPD, DAH and CITES SA trained in animal identification techniques
2. All captive tigers are individually identified using stripe pattern, DNA and microchips
3. A national database for managing data on captive tiger identification is established

Activity 2.3 Transparent monitoring programme for captive tiger operations regularly implemented

1. Multi-agency team formed to develop transparent monitoring protocols of captive tiger facilities involving MARD, MONRE, NGOs and Environmental police
2. Monitoring protocol legally recognized by MARD

Activity 2.4 National conservation breeding plan for Indochinese Tiger

1. IUCN/SSC Conservation Breeding Specialist group facilitate the development of a Vietnam Conservation Breeding Management Plan for Indochinese tiger (i.e. to include studbook, captive population targets, minimum husbandry standards, conservation outreach activities)

Objective 3 Prevention, detections and suppression of organized tiger and wildlife crime are significantly strengthened

Activity 3.1 Individuals organizing the illegal trade in tigers and tiger prey are prosecuted

1. Government issue Directive on dismantling organised tiger crimes as a matter of national urgency
2. Interpol NCB launch inter-agency intelligence-led investigations into illegal tiger trade networks

Activity 3.2 Reduced retail of tiger and prey products

1. Sustained enforcement campaign against retailers illegally selling tiger and prey products especially wildlife restaurants, medicine shops and souvenir shops

Activity 3.3 Information sharing and intelligence analysis strengthened

1. Professional intelligence analysis system (e.g. i2, GOcase) piloted in XX provinces between multiple agencies
2. Vietnam Interpol NCB submit ECOmessages on tiger crimes
3. Vietnam actively participates in the ASEAN-WEN Asian Big Cat task force
4. UNODC's Border Liaison Offices expanded to include wildlife crimes

Activity 3.4 Capacity to investigate and prosecute wildlife crimes enhanced
1. Wildlife crime training module developed for customs, police, FPD, border police and procuracy
2. Module delivered and also integrated into existing curricula

Activity 3.5 Higher punishments applied to violators
1. Develop handbook and other educational materials and deliver the people's procuracy and court authorities to help them apply stronger penalties for wildlife criminals that would more effectively deter crime in accordance with laws

Activity 3.6 Report on current system and propose new issuance and amendment
1. Review the current system (e.g. legislation, regulations, administration..) on wildlife conservation focusing on tigers, to identify gaps and propose issuance and amendment to law documents in support of effective enforcement efforts

Objective 4 Demand for tiger products by Vietnamese consumers is significantly reduced and support towards wild tiger conservation is significantly increased

Activity 4.1 Identify economic, social, cultural factors that cause increasing declines in wildlife and tigers
1. Identify economic, social, cultural factors that cause increasing declines in wildlife and tigers, to have baseline information to support awareness campaigns

Activity 4.2 Communications campaigns developed and implemented
1. Initiate a programme of annual innovative behaviour change campaigns to reduce the use of tiger products, encourage use of alternatives and to stop the consumption of tiger prey through numerous media channels

Activity 4.3 Textbooks do not contain instructions on use of endangered species
1. Remove the promotion of the use of tigers and other endangered species in traditional medicine textbooks (e.g. pharmacopeias, training curricula etc)

Activity 4.4 Three attitude surveys implemented and reports issued
1. Carry out tiger attitude surveys (2011, 2015 & 2020)

Objective 5 Institutional capacity, management and inter-ministerial cooperation strengthened to support tiger and endangered wildlife conservation in Vietnam.

Activity 5.1 Promulgate a new decree on endangered species management
1. Review and assess the current management and policy framework on endangered species conservation
2. Re-evaluate all species according to IUCN Red List criteria
3. Develop a decree on appropriate management and protection of endangered wildlife including tigers in partnership with all relevant ministries and partners

Activity 5.2 Develop a policy framework for implementing sustainable financing mechanisms for wildlife conservation
1. Review all possible sustainable financing mechanisms
2. Develop a range of policies to enable the implementation of appropriate sustainable financing mechanisms

Activity 5.3 Build strong partnerships among government and other stakeholders (including civil society and the private sector)
1. Sign MoUs between relevant government ministries and agencies on endangered species conservation
2. Develop close partnerships on endangered species conservation with civil society groups
3. Facilitate partnerships with the private sector on endangered species conservation

Activity 5.4 Establish mechanisms for effective information sharing amongst relevant government agencies
1. Sign MOUs on information sharing between relevant government ministries and agencies

Activity 5.5 Activate a national monitoring system for law enforcement effectiveness for entire protected area system
1. Officially adopt MIST (or a similar system)

2. Train all protected area managers and staff to implement MIST with a monthly review cycle
3. Develop a quarterly and annual reporting mechanism for the entire protected area system

3. Policy

Objective 1:

- Directive on identifying and stating management and investment standards for Tiger Protected Areas
- Transboundary MoUs
- Policy ensuring no non-SUF infrastructure be constructed within Tiger Protected Areas
- Instructions on sustainable financing mechanisms for Tiger Protected Areas
- Policy on smart green infrastructure in Tiger Conservation Landscapes

Objective 2:

- Policy outlining national individual captive tiger registration system
- National Breeding management plan for Indochinese Tiger

Objective 3:

- Directive on dismantling organised tiger crimes as a matter of national urgency
- Decrees on information sharing and intelligence analysis

Objective 4:

- Decree on the promotion of the use of tigers and other endangered species in traditional medicine textbooks

Objective 5:

- Decree on endangered species management
- Policies on financing mechanism for biodiversity

4. Capacity

Objective 1:

- Tiger Protected Area management, enforcement and monitoring
- Sustainable financing for Tiger Protected Areas
- Smart green infrastructure implementation

Objective 2:

- Conservation breeding planning and monitoring

Objective 3:

- Information sharing
- Wildlife trade control, investigations and prosecutions

Objective 4:

- Demand monitoring

Objective 5:

- Endangered species conservation needs
- Law enforcement effectiveness monitoring

5. Stakeholders

The coordination and monitoring of the implementation of this plan will be conducted by the National Steering Committee for Biodiversity Conservation that reports directly to the Prime Minister's Office.

Objective 1: MARD, MONRE, NGOs, MoF, MPI, MoC, MoT, MoM, MPI, MoI, Border Army, Cambodian and Lao government agencies, Office of Government, companies,

Objective 2: CITES Scientific Authorities, Environmental Police, MONRE, NGOs, FPD, Department of Animal Health, Scientific authorities (e.g. CRES)

Objective 3: Minister of Public Security, MARD, MONRE, Market Control, Customs, Environmental Police, CITES, FPD, Interpol, ASEAN-WEN

Objective 4: MARD, MONRE, IEBR, Ministry of Information and Communication, Ministry of Education, mass media, Ministry of Health, Environmental Police, Ministry of Science and Technology, Research Agencies, NGOs

Objective 5: MONRE, MARD, Government Office, MoF, MPI, MoC, MoT, MoM, MPI, MoI, Ministry of Education, Ministry of Health, NGOs

6. **Performance Indicators**.

Objective 1

- Vietnam officially recognized 5 high priority PAs for tiger conservation (Tiger PA) and approved management plans
- Proportion of operational costs funded; number of rangers per xha, enforcement effort/ha/month), standard tiger and prey monitoring results, PA tracker tool results, % of rangers that meet ACB competency standards
- Co-management agreement completed and being implemented
- PA tracker tool shows significantly improved management of Yok Don
- Transboundary MOU signed and being implemented
- Number of transboundary operations conducted
- Number of households inside Tiger Protected Areas
- Number of Tiger Protected Areas without non-SUF infrastructure
- Amount of financial support per Tiger Protected Area
- Number of protected areas receiving adequate resources to implement tiger conservation standards
- Sustainable financing mechanisms for all Tiger PAs operational
- Numbers of development projects using smart green infrastructure framework

Objective 2

- Captive tiger report endorsed by multiple agencies and disseminated
- Number of tigers in captivity individually identified and registered on an online database
- Number of tiger births and deaths updated on the system
- Standard registration for tiger is applied for other cats and endangered animals
- Bi-annual reports on captive tigers distributed to national steering committee on wildlife trade control, CITES secretariat
- National Breeding management plan for Indochinese Tiger endorsed by the South East Asian Zoo Association, IUCN/SSC Conservation Breeding Specialist Group and the World Association of Zoos and Aquaria

Objective 3

- Directive on wildlife crime prioritization issued
- Investigations launched
- Number of people prosecuted
- Number of retailers arrested and punished
- Number of retailer's business license removed
- Pilot system report
- Number of ECOmessages submitted by Interpol NCB
- Prosecutions resulting from the ASEAN-WEN task force
- Average penalty for wildlife crime
- Number of transnational communications on wildlife crimes through the BLO
- Number of comprehensive training courses carried out

Objective 4

- Demand baseline report produced
- Proportion of population willing to use tiger products and eat tiger prey

- Number of text books and pharmacopeaias with tiger and other endangered species products mentioned
- Attitude surveys conducted and demand shown to decrease

Objective 5

- Policies approved
- Number of formal partnerships
- Number of information sharing MoUs signed
- National quarterly and annual reports on law enforcement effectiveness for the protected area system

7. Indicative Costs in US$.

Costs cover the first five years of implementation. All costs are show in US$ million.

Objective	Total Costs	Government Contribution	International Community Contribution
Objective 1	20.45	14.20	6.25
Objective 2	1.50	0.90	0.60
Objective 3	29.45	25.50	3.95
Objective 4	26.30	20.00	16.30
Objective 5	5.80	2.00	3.80
TOTAL	**83.50**	**62.60**	**30.90**

8. Financing Options.

Government financing:
Many activities in the NTRP can be, and have to be, funded by the Government of Vietnam. This includes increased operational support for the five Tiger Protected Areas, enforcement investigations and operations against tiger and tiger prey traders and retailers and a multi-generational demand reduction campaign.

Support from the international community:
Such support will consist of support for implementation by NGOs both local and implementation such as ENV, WCS, WWF and TRAFFIC. This support will include a significant amount of technical as well as financial support and will focus on helping the government of Vietnam to establish appropriate systems and policies. International support will also be provided through international funding mechanisms including GEF 5, the VCF and possible GTI funding options.

Sustainable financing:
Vietnam is developing the required policy framework for sustainable financing options and already has a few demonstration projects showing that this is a viable option for financing conservation in the country. Watershed protection is a key opportunity in Vietnam due to the proliferation of hydropower dams in Tiger Conservation Landscapes. REDD, especially the degradation component is also a current opportunity. Other options include income from tourist revenue and biodiversity credits. A key option to investigate is that of Smart Green Infrastructure as Tiger Conservation Landscapes and even Tiger Protected Areas are being fragmented and impacted by infrastructure. Transfer payments from infrastructure projects that enable long-term mitigation of threats especially poaching from improved access to tiger areas is a major opportunity that has to be investigated.

Support needed from the GTI in US$

Activity	Costs
Establishing Yok Don National Park as a demonstration site for tiger and prey recovery through its co-management. Vietnam currently lacks a truly functioning protected area that is capable of protecting high-value species such as the tiger. Experience in adjacent countries including Cambodia and Lao has shown that such demonstration sites can be developed when working very closely with NGOs with relevant experience. Yok Don is adjacent to such a site in Cambodia where prey and leopard numbers are rapidly increasing. A management system will be developed where the FPD, border army and an NGO can work together to manage the national park with a very strong emphasis on law enforcement. Joint enforcement planning, monitoring and capacity building will be the focus.	500,000
Designing sustainable financing mechanisms for five Tiger Protected Areas. For tigers and their prey to recover in the five identified Tiger Protected Areas the investment in rangers and their operational costs is going to have to increase significantly. Whilst the government will provide significantly more resources, income from other sources will also be needed. Options such as PES, REDD++, biodiversity offsets and biodiversity credits will be investigated and the most appropriate scheme established for each of the five Tiger Protected Areas.	500,000
Implementing Smart Green Infrastructure in Tiger Conservation Landscapes. Large-scale land-use planning of the priority Tiger Conservation Landscape will be conducted to identify tiger core areas and corridors. This will be shared with planning and infrastructure ministries to identify areas where Smart Green Infrastructure has to be implemented. A decree to identify what Smart Green Infrastructure means legally in Vietnam will be developed. At least one pilot infrastructure project will be worked on to show how the decree can be implemented to a) demonstrate how infrastructure can be developed to not harm tiger landscape integrity and b) show how infrastructure projects can help fund appropriate mitigation and off-set measures.	500,000
Technical assistance and capacity building to strengthen the management of captive tiger facilities in Vietnam. An effective national individual captive tiger registration system that incorporates stripe pattern, DNA and microchip identification into a central database will be established using international expertise and assistance including capacity building to support its implementation. To ensure compliance with national and international laws a transparent multi-agency monitoring protocol will be established with international assistance.	300,000
Pilot project on using professional law enforcement intelligence analysis system (e.g. i2 or GoCase) for wildlife crime enforcement at one demonstration province. Vietnam has yet to apply professional law enforcement intelligence analysis systems to support intelligence-led investigations or case tracking on wildlife crime. The General Department of police have been reviewing options in recent years but lack adequate funding to trial the more professional systems and adapt them to the Vietnamese context. A professional law enforcement information analysis system will be piloted in one province as a demonstration site that could be scaled up to other provinces and the country. This would involve initial payment for the system and its revision to Vietnamese, training from international experts and initial data input.	300,000
Support for Interpol Wildlife Crime division and ASEAN-WEN to assist in the development of enforcement operations and sustained campaign plans targeting illegal tiger trade networks and retailers selling tiger products and tiger prey. Although Vietnam has good expertise in designing enforcement operations targeting illegal	100,000

narcotic trade, wildlife crimes remain unfamiliar territory. Support to develop enforcement operation and campaign plans, technical assistance from the ASEAN-WEN secretariat and Interpol Wildlife Crime Division will be provided.		
Develop a monitoring system and base-line for tiger and tiger prey demand across Vietnam. Professional market research companies will be engaged to assist in designing an appropriate demand monitoring system that has acceptance amongst all relevant ministries. Accurate baseline behaviour data will be collected in 2011 with further monitoring surveys planned for 2015 and 2020.	300,000	
Design a professional multi-year behaviour-change campaign to reduce consumption of endangered species products and promote legal alternatives. Partnerships with media and marketing companies will be used to design a multi-year/multi-generational communication campaign strategy under a partnership with the Ministry of Health, Ministry if National Security, Ministry of Police and Ministry of Culture and Information. Messaging and plans for integrating this messaging within all relevant ministries plans will be developed. The first year of the campaign will be run as a pilot and then handed over to the relevant government agencies to continue it into the future.	400,000	
TOTAL	**2,900,000**	

GLOBAL SUPPORT PROGRAMS

Combating Wildlife Crime

Program Name: Combating Wildlife Crime

Synthesis of TRCs Needs from NTRPs Met by This GSP.

In their NTRPs, TRCs identified the need for support from the international community, and in particular, agencies involved in wildlife law enforcement, to improve cross-sector and trans-boundary cooperation in combating wildlife crime and to offer an effective transnational effort to stem illegal trade and trafficking in tiger parts and derivatives (as well as other wildlife and plants). (See Attachment 1 for a summary of each TRCs identified needs.)

Brief Description of the Problem, Including Explanation of Why Global Support is Necessary

Illegal trade and trafficking of tiger parts and products, and the poaching it engenders, has emerged in the last decade as the most immediate threat to the survival of wild tigers. If the GTRP is to be successful in stopping and reversing the extinction of tigers, a major focus will have to be on dramatically enhancing TRCs' capacity to combat poaching, illegal trade and smuggling of wildlife. Wildlife crime needs to be treated as serious criminal acts, with the involvement of organized crime, and is inseparable from other transnational criminal operations and networks. It cannot remain lingering at the bottom of law enforcement priority as it is today. Approaches and tools used in combating wildlife crime should adapt methods applied to fighting other types of serious organized transnational crime. Strengthening dedicated enforcers of wildlife law is needed but it has to be coupled with a serious commitment to get the mainstream law enforcement sectors seriously involved in fighting wildlife crime. To bring concrete changes of this magnitude, there is a need for high-level political will and brokering by a neutral third party. This is one of the benefits the partners in this GSP can offer as they include United Nations agencies as well as other technical experts. INTERPOL, CITES Secretariat, United Nations Office of Drugs and Crime (UNODC), the World Customs Organization (WCO), and the World Bank are collaborating on this program, which is pilot for the proposed ICCWC: the International Consortium on Combating Wildlife Crime.

Proposed Program

Program Goals:

- Greater cooperation within TRCs among the national agencies charged with various aspects of combating wildlife crime, such as forest officers, customs, police, financial crime units, and the military.
- Making wildlife crime a priority throughout the criminal justice system.
- Stronger regional and global cooperation in wildlife law enforcement to address the transnational nature of wildlife crime.
- High-impact wildlife crime interdiction operations that begin to dismantle or disrupt tiger trafficking networks, and also contribute to trans-boundary cooperation, development of intelligence-sharing networks, and capacity building.
- Increased wildlife law enforcement capacity at all levels of the criminal justice systems in TRCs.

Program Components:

The program components described below are designed to complement national-level actions pertaining to combating wildlife crime as outlined in respective NTRPs. These elements are to be seen as an additional catalytic coordinating functions to supporting sovereign national efforts and glue together the national and regional actions as appropriate.

- Upon request by a TRC, conducting **reviews** of current national wildlife crime responses, In many TRCs, the wildlife law enforcement efforts of various agencies are fragmented and might benefit from coherent, coordinated action. A tool to support a process for national review of the relevant agencies is being developed by UNODC in partnership with CITES, INTERPOL, WB, and WCO. These agencies can support the process of review through structured dialogues, aiding identification and implementation of national strategies to combat wildlife crime, tailored to local contexts. Depending on the wish of the specific country, in certain TRCs the tigers-angle could be fast-tracked or prioritized. Consultations and assessment to bring together multi-sector stakeholders in TRCs and their partners will be the key catalytic action to put various national-level crime-combating actions into context. This will build on the proposed pilot experience of Indonesia in articulating an effective national response to illegal wild life trade. (See Attachment 2.)

- Upon request from a group of TRCs, supporting coordinated targeted **trans-boundary interdiction operations,** to be conducted by TRC enforcement agencies. An operational mechanism at the international level to support transnational interdiction operations, coordinated by INTERPOL in partnership with UNODC, WCO, and CITES, focusing on high-visibility interdictions and seizures through intelligence-led policing techniques, dismantling specific syndicates, and making the poachers/traffickers feel the heat of increased capacity of government law enforcement agencies to introduce focused efforts. (Building on pilot activities planned in 4 TRCs, and similar efforts in Africa and elsewhere; see Attachment 3 for a description of these operations, and similar operations by ICCWC partners.) A Steering Committee representing all/participating TRCs to oversee and endorse the direction of these targeted operations will be established and will meet face-to-face on an annual basis and create a platform for information exchange and consultation through e-groups.
- **Support for legislative assessments for making wildlife crime a priority** in the entire chain of the criminal justice system. In order for TRCs to attain a game-changing level of action, it is important to mainstream the issue of wildlife law enforcement throughout the chain of the criminal justice system in a given national context and to make the issue a high priority beyond the agencies whose mandates are related to wildlife/forest/environmental affairs. This includes reaching out to mainstream law enforcement, and engaging with the judiciary. Weakness of legislative framework and its implementation by the judiciary (such as sentences not matching the seriousness of crime; maximum sentences not given, even where legal provisions are in place; inconsistent legal provisions, not tied sufficiently into criminal law; and inadequate use of existing criminal and common law statutes) are identified by practitioners and analysts of TRCs to be key challenges to be addressed to make it more costly and therefore unattractive to commit wildlife crime. Tied to the assessment and national strategy formulation process, thorough review of legislative provisions and pursuant drafting and policy support to change the legislative framework in each TRC would change the way wildlife crime is dealt with in the criminal justice system. By international experts from UNODC, CITES, WB working with relevant civil society groups looking at the issue from an international perspective, national legislative framework will be strengthened. In this model, it also opens the door to attaining regional-level coherence of legislative frameworks, depending on the willingness of each country to work collectively.
- **Upon the request of TRCs, capacity building support will** be delivered by the partner agencies in a coordinated manner to strengthen national agencies' ability to respond to wildlife crime. Depending upon the needs of individual TRCs, this could include instruction on such subjects as: anti-money laundering; border control (including risk-assessment, profiling and targeting); case preparation and evidence handling; interviewing techniques; intelligence gathering and analysis; scenes-of-crime examinations and forensic science support; surveillance techniques; and using informants. Personnel of TRC national enforcement agencies will be introduced to 'best practice' methodologies and policing skills that may not be readily available in their countries at present. CITES, INTERPOL, UNODC, and WCO have considerable in-house expertise across the spectrum of law enforcement, together with off-the-shelf training materials and programs, that can be rapidly deployed to support TRCs in their war against the criminals who prey on tigers and who exploit the local communities who are located in tiger habitats.

Expected Outcomes: Enhancement of TRCs' wildlife law enforcement, enhanced regional cooperation, and high-visibility interdictions that will reduce wildlife crime in TRCs and result in reduced poaching, trafficking, and trade of tigers and their parts and derivatives.

Duration of the Program: This is expected to be a long-term program but the activities proposed here will be conducted within about two years and after evaluation and adjustment be continued for another 3 years

Location: Multiple TRCs upon request.

Participants: TRCs and "ICCWC" (INTERPOL, CITES Secretariat, United Nations Office of Drugs and Crime (UNODC), the World Customs Organization (WCO), and the World Bank).

Capacity. Briefly describe what kind of capacity is needed (enhanced or created) to achieve the Program Objectives.

Support is required to offset incremental costs of

- INTERPOL/WCO will need the services of an operational coordinator/expert for the additional interdiction operations;
- UNODC will need short-term consultants for strategic coordinator/expert for the law enforcement assessment;
- Specialized trainers will be recruited for developing and delivering training programs.

Program Performance Indicators

Short-term Performance Indicators

- Number of arrests made in INTERPOL-coordinated transnational interdictions.
- Number of known transnational poaching and trafficking rings broken up by interdictions.
- Level of involvement of national enforcement agencies in interdictions in participating TRCs.
- Quality of intelligence developed and exchanged by national and international agencies.
- Number of TRCs in which a legislative assessment and follow-up work led to a strengthened national legislative framework related to wildlife/forest/environmental crime.
- Number of TRCs in which national agencies' ability to respond to wildlife crime has been strengthened through ICCWC-coordinated review of national wildlife crime responses and ICCWC-delivered capacity building programs, as measured by (a) gaps in capacity identified and closed, and (b) ratio of detected wildlife crimes to arrests and convictions with stiff penalties in those TRCs.

Medium-term Indicator

- Number of detected incidents of poaching and trafficking in tigers and their derivatives initially increases from TRC baselines, then declines rapidly with the same level of enforcement effort.

Final achievement indicator

- Poaching of tigers is negligible, with no PA experiencing tiger declines due to poaching. (This will not be accomplished by law enforcement alone; simultaneous demand reduction and community engagement are required to meet this goal.)

Program Implementation

All support to be included in the assessment and capacity building programs would be based on demand articulated by TRCs. Each program would be led by a lead partner designated for the program, working in close coordination with other partners.

Budgets for specific interdiction programs would be subject to endorsement of TRCs participating in the specific program, which would be conducted by sovereign entities empowered by law to do so. The international partners would provide cross boundary coordination and methodological support.

At the end of 2 years, an independent program evaluation will be organized by GTI and its recommendation and new directions endorsed by TRCs, before continuing with the next 3-year phase.

Funds raised for the program would be managed through the GTI trust fund, and released to implementing partners as TRCs' demands are received and prioritized based on need. Annual reports on program implementation would be issued by GTI to TRCs.

Indicative Program Costs in US$ for phase 1 of 2 years.

Program Component	**Costs**
Law Enforcement Assessments	
National Workshops (estimated 6 at $45,000 each)	$270,000
Assessment Strategy Articulation and Follow up Support (estimated 6 at $110,000 each)	$660,000
Strategic coordinator/expert for 12 work months	$165,000
Subtotal	$1,095,000
Trans-boundary Interdictions Support	
20 Focused operations at hotspots in 10	$1,500,000

TRC locations ($75,000 each)	
Operational coordinator/expert for 24 work months	$275,000
Subtotal	$1,775,000
Legislative assessments for Making Wildlife Crime a Priority	
Legislative review and drafting support (estimated 6 countries at $55,000 each)	$330,000
Specialized Capacity Building Support	
Block allocation	$750,000
TOTAL	**$3,950,000**

Attachment 1: Summary of TRC needs from NTRPs

Bangladesh - establish trans-boundary protocol and system for effective cross-border collaboration with India to curb poaching, smuggling and trade in wildlife

Bhutan - establish / enhance trans-boundary collaboration with India and China, as well as regional links to curb illegal trade of tiger parts, derivatives, and other wildlife and plants

Cambodia - continued regional collaboration on law enforcement
- establish a trans-boundary agreement between Cambodia and Vietnam concerning tiger conservation and protected area management in the Eastern Plains Landscape and combating wildlife crime across the border

China - improve international cooperation mechanism for wild tiger conservation

India - all core areas inviolate and all corridors mainstreamed for tiger conservation
- improve trans-boundary collaboration on illegal wildlife trade issues
- encourage more regional interaction between tiger range countries through regional workshops and roundtables

Indonesia - obtaining commitment of countries involved in international trade of tiger, its parts, and derivatives to stop the demand

Lao PDR - increase international cooperation to reduce the illegal trade of tiger and prey to neighboring countries

Malaysia - strengthen and improve cooperation with the Singaporean, Indonesian, and Thai governments to curb the trade in tigers and parts across borders and in the Straits of Malacca through bilateral corporation and through ASEAN-WEN
- enhance the collaboration with ASEAN-WEN, CITES member countries, and INTERPOL to crack down on international trade of tigers and organized wildlife trade networks

Myanmar	- trans-boundary agreements between the Government of Myanmar and the Government of India, Thailand, and China for cooperation on reducing tiger and other wildlife crimes
Nepal	- empower South Asia Wildlife Enforcement Network (SAWEN) to reduce poaching and to control transnational trade in tigers and tiger-parts
	- Establish effective trans-boundary cooperation mechanisms with India and China
Russia	- establish two trans-boundary tiger reserves for seamless movement for Amur tigers and other wildlife across the border with China
	- coordinate actions of customs authorities of different countries to suppress illegal exports of and trade in Amur tigers, their parts and derivatives. To cause respective entities to exchange information about international channels of illegal exports and trade, with a focus on the Asian and Pacific Region.
Thailand	- use WEFCOM as a center to support capacity building for regional effort in tiger conservation
	- strengthen performance and progress monitoring of CITES office and ASEAN-WEN
Vietnam	- trans-boundary MoUs
	- Vietnam actively participates in the ASEAN-WEN Asian Big Cat task force
	- UNODC's Border Liaison Offices expanded to include wildlife crimes

Attachment 2: Indonesia Pilot Assessment

Since mid-2009, the United Nations Office of Drugs and Crime (UNODC) has been intensifying efforts to enhance its support to Member States in combating environmental crime. With its partner agencies, INTERPOL, CITES Secretariat, World Customs Organization, and the World Bank, UNODC is developing a 'Wildlife and Forest Crime Assessment Toolkit' as part of an effort to produce an inventory of the key components of an effective national response to this crime, and, above all, to begin structured dialogue with interested governments to assess needs. The aim of the Toolkit is to aid Governments in identifying challenges to combating environmental crime, and the to strengthen criminal justice response.

UNODC presented the draft Toolkit at a workshop held with the Government of Indonesia in June 2010 on "identifying effective national response to environmental crime"; at the same workshops, the CITES Secretariat presented on the pilot ICCWC program to strengthen international support for combating wildlife crime. The lessons learned and best practices that emerged from this workshop are informing further improvement to the Toolkit draft. Further, the workshop recommended that the Government of Indonesia take part in a pilot program to implement the Toolkit. The Toolkit, as it is refined following the pilot, may be used to conduct Assessments in other TRCs that request them, as proposed in the GSP on Combating Wildlife Crime.

Attachment 3: Background on Transnational (Multi-lateral) Interdiction Operations Coordinated by INTERPOL

Multi-lateral law enforcement operations involving wildlife law enforcement agencies, who very often do not receive the equivalent 'in-depth' training given to national police agencies, invariably expose capacity/training gaps and poor cooperative working relationships with police and other agencies. The purpose of these types of operations is to recognize the existing capacity shortfalls, should they exist, and fill that need in such a way as to reinforce training and build relationships in a measurable, sustainable and meaningful way, in the process building inter agency relationships in a sustainable fashion. This is reinforced by structuring the process so it focuses on a real and current crime problem, thereby also providing a suppressing effect on a given crime type, and reinforcing

the learning and capacity building process.

The process consists of five parts, coordinated by the INTERPOL General Secretariat, namely:

1. Identifying an existing crime problem that affects a number of countries which share common borders. A 'cluster' of countries, usually consisting of 6 to 8 neighboring States, which could potentially participate in joint or coordinated operations, is also identified. This is achieved by undertaking dialogue with the countries, evaluating existing intelligence on crime types, recommendations from other international bodies such as CITES, examining open source information, and dialogue with applicable NGOs;
2. Evaluating the capacity of those countries to effectively apply specific law enforcement solutions to the problem and, if necessary, undertaking measures to fill any existing lack of capacity to implement the solutions, either by provision of equipment or training;
3. Coordinating a multilateral planning meeting as the first step in undertaking a law enforcement operation. This consists of bringing together relevant officers from police and wildlife agencies in each country to discuss the crime problem and begin a process leading towards operational activity. This meeting will also cover operational planning and command structures, resource needs, establishing budgets, setting time lines, and selecting a lead person, or persons, as the coordination point for the operation in each country;
4. Coordinating and supporting an information and intelligence gathering phase, which can also be referred to as the 'target acquisition' part of the operation. Experience shows that this part of the process invariably takes approximately 2 to 3 months.
5. The termination phase. This is the conclusion of the process whereby teams of law enforcement officers from a variety of agencies, including wildlife and police, cooperate over a given period of time, usually 2 or 3 days, in a simultaneous and targeted operation focusing on the previously identified crime type.

Sample Outcomes of Operations

INTERPOL Operations in Africa

Operation Baba (2008):

- 70 arrests
- One ton of illegal-origin ivory recovered
- Foreign nationals detained

Operation Costa (2009):

- 170 suspects taken into custody
- 1.7 tonnes of ivory seized
- Weapons and ammunition recovered

Operation Mogatle (2010):

- 83 arrests
- 600 kgs of worked ivory and 35 tusks seized
- One illegal ivory factory closed down
- Leopard, elephant, and lion skins and bushmeat seized
- Unlicensed gold, drugs, firearms, and cigarettes seized
- Over 1,500 vehicles and 6,843 persons searched
- 7 illegal immigrants detained

The operations, in total, involved over 800 officers from over 20 agencies, including police, wildlife departments, Customs, security and intelligence agencies, together with the Lusaka Agreement Task Force, and in some cases the army. In many cases these operations were the first occasion that national police had worked together with wildlife law enforcement agencies. Of particular note in these operations was much-improved relationship between the various law enforcement agencies and a willingness to work together on future operations without requiring the input of INTERPOL. This cooperation has extended into bilateral cooperation between agencies in neighboring countries sharing a common border.

Other Enforcement Operations Around the Globe

Project AIRCOP, funded by European Commission, coordinated by the UNODC and implemented by the WCO and INTERPOL, aims at building drug-enforcement capacities at international airports in West Africa, South America, and the Caribbean, as well as in Morocco, to target trafficking in narcotics, counterfeit products, hazardous waste, wildlife, avoidance of duties, etc.

Operation COCAIR (2008):

- Seizures of cocaine, heroin and cannabis to the value of USD 600,000
- Firearms and ammunition seized
- 88 kg of cultural items prohibited from export

Operation COCAIR 2 (2010) in 25 international airports from 22 countries under the multi-annual Project AIRCOP:

- 3,000 kg of chemical precursors
- 1,800 kilograms of herbal cannabis, and 15 kilograms of cocaine
- One handgun seized
- 20 kg of cultural items prohibited from export
- Chemical precursors seized
- One false passport

UNODC/WCO Container Control Programme (CCP) helps States create sustainable law enforcement structures in selected seaports to minimize the exploitation of maritime containers for illicit drug trafficking and other transnational organized criminal activities. CCP has been implemented in 8 countries since 2004, and is to be expanded to a further 21 countries.

Seizures by June 2010:

- 36,828 kg of narcotic drugs
- 769,250 kg of chemical precursors
- 1,554,000 kg of protected wildlife

In addition, within the WCO environmental programmed, two important functions are capacity building and operational support. In the last year, WCO organized four Green Customs workshops for Customs officers from more than 50 countries; at the same time, the Green Customs Initiative, in which four of the ICCWC partners are members, have hosted several Green Customs workshops worldwide. The WCO has also successfully organized several global joint operations targeting wildlife, hazardous waste, and ozone-depleting substances since 2009.

Demand Reduction

Program Name: A Communications Program To Reduce Demand For Tiger Parts & Products

Synthesis of TRCs Needs from NTRPs Met by This GSP.

TRCs have mentioned in their NTRP's the need for communications and awareness programs to support their efforts towards tackling illegal trade, reducing demand and creating a positive response to tiger conservation by involving the public at large. (See Attachment 1 for a summary of some of the TRC's identified needs.)

Brief Description of the Problem, Including Explanation of Why Global Support is Necessary

Whether decorated on a coat of arms, or worshipped alongside a Goddess; no animal is graced with a greater halo of power and majesty in both folklore and reality than the tiger. It is this very grandeur that is accelerating its extinction. The demand for tiger parts as medicine and curios is largely steeped in cultural and societal beliefs and attitudes either as a status symbol (curios and skins) or as possessing unlimited curative powers. But attitudes can be changed…through persuasion and as a response to effective and consistent communication. Therefore communication should not be seen as an external component to demand reduction but as an integral part which will symbiotically work towards demand reduction. Since demand fuels supply, and demand is subject to social attitudes and cultural beliefs, TRCs will need to have an equally strong focus on creating a mechanism to combat demand of tiger parts through a communications program aimed at changing attitudes and influencing buying behaviour.

The Demand Reduction Global Support Program describes the steps to be taken to develop a global awareness campaign that incorporates Broad and Damania's recommendations for transmitting and reinforcing the message that use of tiger parts is socially unacceptable. The volume and focus of public and targeted communications aimed to deter tiger product consumption needs to be vastly improved.

Market analysis should form the basis for identifying, segmenting and targeting key audiences and innovative approaches should be used to frame and deliver messaging.

There is an enormous amount to gain in this regard by looking at actions, results and lessons gained from social cause communications in Asia in other spheres of concern, such as HIV-AIDS, child labour, conflict diamonds and narcotics. This can be researched through existing information and case studies in social messaging. New media need to be employed more creatively and new ideas, such as disruptive marketing may have a place to play. It is easy to be cynical about the likelihood of success from demand reduction campaigning, but for tigers in particular it has simply not been tried at a scale where impact could expect to be measured.

Designing such a program will require an exhaustive understanding of the motivations, desires and attitudes of the various demand related segments such as consumers of skins and curios, consumers of tiger parts as tonics and medicines, consumers of tiger meat etc. which will be done through a consumer research. Based on the outcome of the research a communication plan will be developed aimed at changing consumer attitudes towards consuming tiger parts through effective messaging and placement in various media, and in the long run reducing demand.

Ideally this program will also require and benefit from the intelligence and support of organizations such as TRAFFIC, INTERPOL, WWF, WCS and other members of the GTI.

Proposed Program

Program Goal:

Through understanding consumption patterns and needs, to change attitudes toward consumption of tiger parts among the various consumer segments involved with a communications program (currently to be carried out for three test markets which can be adapted to other TRCs on demand and by factoring in additional costs)

Program Components:

1. **Process of discovery:** The aim of this study will be to determine the key demand segments, and identify their motivations for consumption of tiger parts, by understanding attitudes and behaviors (and cultural dynamics). In conservation (not unlike other consumer product categories) to access the consumer mindset we need to understand the psychology of how the consumer is influenced by his or her environment (e.g., culture, family, heroes, idols, signs, media); and how do they think, feel, reason, and select between different alternatives (e.g. allopathic medicines, naturopathy, home remedies, animal based medicines) and why they need to possess animal parts as trophies/curios. Therefore we need to get to the essence of the consumer and a large and crucial chunk of the pre-work will be on understanding the consumer motivations.

   We propose to carry out the research in USA, Vietnam & Hong Kong

   We have chosen the three mentioned markets (USA, Hong Kong Vietnam) for the following reasons:
   Our ultimate objective from research is to come up with cultural/human insights based on which we can arrive at a communication program which will include mass media, digital and on ground events.

   To maximize the cost benefit of communications, most global brands create common communication programs that run across the globe to ensure economies of scale. Therefore you have Nike's 'Just do it' or LG's 'Life's Good' running across the globe.
   GTI too will eventually have to follow this strategy as our demand markets are as diverse as they are for any global brand. And therefore research will be needed to be done in representative markets (we cannot do it in all markets) to enable us to arrive at a common communication platform. USA, Hong Kong and Vietnam are chosen by us for the pilot research as we need representatives' clusters of population that will be indicators of attitudes and motivations in demand markets in the west as well as South East Asia.

   Because:

- USA is by far the most evolved market for advertising with evolved advertising sensibilities, it can also represent the bigger western markets
- Hong Kong while equally evolved can deliver a cut of Chinese traditional values and attitudes towards traditional medicines for research purposes
- Vietnam can be an indicator/representative market for rest of South East Asian countries as it is a significant market for wildlife trade in SEA. Their NTRP also mentions this as a need.
- Research in more than these test markets will be on request of TRCs with additional costs

   Consultation Workshop: The process of discovery will be incomplete without taking into account the valuable experience and information that is available with GTI members and TRC partners, who have been working on this issue before. We propose a two day workshop with interested GTI members and TRC partners for the same, where attendees can share information and validate ideas (costing for the same will depend on the number of people attending and venue).

2. **Insight mining:** The most effective communication programs are a result of simple yet profound consumer/human insights that people can relate to. An insight throws light on an unmet need or a better way of satisfying a need. In this case we aim to understand the various human insights into consumption

of tiger parts for the various demand segments (based on the process of discovery and secondary research through existing literature and online resources). These insights will later be developed into conceptual communication ideas for a pre-communication research in test markets. On approval the winning concept will be taken forward into a creative communication program.

3. **Communication program:** Based on the budget the communication program will be designed for maximum impact (by Publicis). It will consist of elements such as a television ad, newspaper/magazine press ads, posters, outdoor billboards, virals, online activity, and on-ground events and programs.

4. **Effectiveness study:** This study (carried out by a market research agency) will periodically evaluate the impact, likeability and effectiveness of the communication program placement in media.

Expected Outcomes:

- A sharp consumer insight that can inspire and elicit a strong response in the consumer (of tiger parts as curios and medicines)
- A creative communications program that best captures this insight and develops effective messaging for demand reduction

Duration of the Program:

- **Process of discovery and insight mining** This will be a 6 month process post which the communication program will roll out

- **Communication program** While we are looking at a 5 year effort towards demand reduction, the communication program will be broken down into yearly plans with quarterly placement in media.

  It will be reviewed quarterly based on the reports of the effectiveness study and will be adjusted to suit the requirements at every review stage (this is because the attitudes, values and behaviors of people are constantly changing and it is necessary to keep communication objectives flexible for maximum impact)

- **Effectiveness study** will follow communication placement in media on a quarterly basis (yearly program)

Location: Currently three test markets – Hong Kong, USA & Vietnam. Rest on request of TRC's by factoring in additional cost.

Participants: GTI members, Nielsen (Market Research agency)

Capacity.

- Cost of consultation workshop can be estimated only on basis of participation and venue, hence not included here.
- Cost for developing stimulus material for consumer research will be upto $50,000. Stimulus material is used as a research tool that aids in eliciting deeper responses. Stimulus could be anything from pictures and concept cards to audio visual material.
- Development cost of creative campaign (communication program) and its media placement costs are not included in the costing below
- Checking of effectiveness of communication program post media placement is costed for only one round of media placement release. Subsequent costs will depend on actual creative elements to be placed in media.

Program Performance Indicators

- Increased awareness of the issue among the mass public
- Negative publicity for tiger part consumption and subsequent reduction in demand
- In the long term increased public pressure on authorities to take action

Indicative Program Costs in US$

Program Component	**Costs**
USA	
Process of discovery	$100,000
Insight mining	$50,000
Effectiveness study	$50,000
Subtotal	**$200,000**
HONG KONG	
Process of discovery	$65,000
Insight mining	$35,000
Effectiveness study	$25,000
Subtotal	**$1,25,000**
THAILAND	
Process of discovery	$40,000
Insight mining	$20,000
Effectiveness study	$15,000
Subtotal	**$75,000**
Stimulus material	$50,000
TOTAL	**$450,000**
Country specific taxes extra as applicable **Travel and stay costs of any member of GTI willing to attend research @actuals**	

Attachment 1: Summary of some of the TRC needs from NTRPs

MYANMAR : Continue to raise public awareness on Tiger conservation for cross-sectoral support and the crimes associated with Tiger tra for elimination

RUSSIA : Public awareness identified as an immediate measure for tiger conservation by their conservation Strategy

- Propagation of intolerance to poaching

VIETNAM : List of needs:

- Carry out enforcement campaigns targeted at reducing retails of tiger and prey products
- Identify economic, social, cultural factors that cause increasing declines in wildlife and tigers
- Part of VIETNAM'S NATIONAL PLEDGES : To carry out strategic communication campaigns on changing attitudes and behaviors towards tiger conservation and use of tigers and tiger preys products

Institutional Development and Capacity Building

Program Name: Capacity Building for Effective Management and Conservation across Tiger Landscapes

Synthesis of TRCs Needs from NTRPs Met by this Global Support Program.

All TRC representatives have indicated the need for capacity building at the individual, institutional or community level to achieve effective management and conservation across tiger landscapes. They have also expressed the need for increased numbers of skilled workers to address the local management and conservation challenges. Protected area management personnel often lack necessary experience and knowledge in the disciplines of wildlife and habitat management, protection, conservation and communication. Additionally, staff often lack the skills, confidence and motivation to lead essential enforcement, patrolling, monitoring, assessment, and community engagement activities.

Robust institutional structures and sustained support mechanisms are vital to ensuring the success of training programs for conservation professionals. Failures in leadership at the management level are due, in part, to the lack of tangible incentives for tiger managers who work under extremely challenging conditions. Frequent rotation of staff among posts, an aging and poorly compensated workforce, deficient infrastructure (i.e., including guard posts, access roads and clean water), inadequate equipment (i.e., patrol vehicles/boats or other modes of transport GPS devices, communication facilities such as walkie-talkie radios and basic field gears) and insufficient well-established targeted systems (e.g. patrolling and law enforcement) all combine to erode management effectiveness. Competing funding priorities and bureaucratic barriers also result in limited, inefficient and uneven distribution of financial resources. Communication, information management and networks for information sharing are limited or nonexistent, and access to information is hampered by the lack of uniform standards and distribution mechanisms. The establishment of a coordinated regional capacity building strategy and a conservation and development network would help to address some of these barriers to success and facilitate a process to achieve management excellence to recover wild tiger populations.

Brief Description of the Problem, Including Explanation of Why Global Support is Necessary

The National Tiger Recovery Plans (NTRP), *Executive Leadership Forum* and *Training of Trainers* participants, as well as a regional needs assessment identified the critical need for increased staff with the technical and professional skills needed to enhance protected area management in tiger conservation landscapes. Existing training paradigms are insufficient to the challenge of conserving wild tigers. A regionally focused program, which meets the following three themes in capacity building, has been identified by the TRCs.

- A cadre of professional leaders, managers, and staff at all levels working on the ground in tiger protected areas, corridors, and local communities, with appropriate skills and adequate tools, as discussed below.
- Institutional arrangements, policies, and practices that support, monitor, and provide high-value management and leadership for that cadre of professionals to succeed in stabilizing and restoring the tiger populations entrusted to them.
- Networks of collaborators, colleagues, and partners within and among tiger range states, as well as regionally and internationally, through which knowledge is shared. These networks must be developed among protected area professionals, the scientific community, civil society, and governments.

Proposed Program

(i) The ultimate goal is to build a strong cadre of knowledgeable and skilled field staff who are supported by an institutional and community framework that enables for the recovery of wild tiger populations.

The pilot program complements current national efforts by supporting three focal areas:

I. Professionalize core wildlife, habitat and protected area management positions and ensure capacity is

available to address tiger and wildlife conservation on the ground.

II. Engage high-level policy and decision-makers in enhancing institutional capacity that enables effective, efficient and sustainable support of professionalized tiger conservation staff.

III. Provide for ongoing opportunities for learning, knowledge sharing, collaboration and support among stakeholders to maintain the highest level of capacity.

(ii) The program has several components, including (1) Centers of Excellence, (2) Community of Practice, (3) Training of Trainers Program, (4) Executive Leadership Forum, (5) Leadership training for Wildlife and Protected Area Managers, and (6) Institutional Assessment/Consultation Process.

(iii) Each component is expected to increase the capacity of its target audience leading to effective conservation and management actions, such as monitoring and assessment, enforcement, and others. Some long-term outcomes are identified in Appendix D.

(iv) A two year capacity building pilot program is presented here and will be evaluated at different stages of the implementation process and upon completion.

(v) The program will take place mostly within TRCs and upon request.

(vi) Participants include representatives from government agencies (at local and national levels), non-governmental organizations, and academia within TRCs and internationally.

Capacity.

Expert staff for oversight of respective projects

Partners and collaborators with expertise in successful capacity building programs.

Program Performance Indicators.

Successful establishment and elements of one sustainable Center of Excellence to facilitate capacity building and networks.

1. Number of participants and evaluation results from Training of Trainers programs and Wildlife and Protected Area Management Leadership training programs.
2. Number of active participants in Executive Leadership Forum and Community of Practice and assessment of activities conducted.
3. Increased capacity at institutional level resulting from assessment and consultation process and evaluation of activities conducted
4. Evaluations from capacity building efforts demonstrating outcomes are occurring.

Program Implementation

The different program components are an integral part of the overall program with each project proposed having a separate implementation plan and timeline which will be developed in consultation with TRCs and with GTRP oversight.

Indicative Program Costs in US$

Program Component	Costs
Centers of Excellence	$800,000
Training of Trainers Program	$600,000
Community of Practice	$160,000
Executive Leadership Forum	$400,000
Protected Area Manager Leadership Training.	$200,000
Assessment/Consultation at Institutions	$200,000
TOTAL	$2,360,000 (for six projects over two years)

Summary of Global Support Program Template (GSP)

Program Name: Capacity Building for Effective Management and Conservation across Tiger Landscapes

Background: In addressing the threats to tiger conservation, capacity building emerges among the critical priorities. Without a skilled workforce, strong managerial and institutional framework and community support, achieving the goal of doubling wild tiger populations by 2022 will not be possible. Using the information generated through the National Tiger Recovery Priorities (NTRPs) consultations, coupled with previous needs assessments and feedback from pilot capacity building initiatives of the GTI, this Global Support Program specifically addresses where a regional approach and international support for capacity building have been requested. This Global Support Program outlines the cross-cutting themes identified by the TRCs and summarizes the capacity building projects to support existing and future national initiatives. These efforts will support national programs to enable individuals, institutions and communities in TRCs to gain the competences, knowledge, skills and abilities needed for the development and implementation of effective strategies to stabilize and increase wild tiger populations.

The proposed capacity building projects further the missions of TRCs and international organizations and complement the capacity building efforts outlined in the Convention of Biological Diversity and Agenda 21 (Rio Summit Declaration) for long-term biodiversity conservation and sustainable development. Tiger conservation will enhance biodiversity and landscape conservation while maintaining ecosystem services. Pursuing a regional and international approach provides opportunities for TRCs and the international community to leverage funds, human resources, and infrastructure and improve information management, dissemination and conservation networks. Implementing best practices across TRCs and organizations will also improve the quality of the capacity building efforts and increase positive outcomes. Additionally, funding mechanisms can be drawn from sources with an educational and outreach agenda.

Capacity Building Needs Identified by TRCs:

Capacity building and development is strengthening capabilities (at the individual, institutional or community levels) to achieve a particular goal or mission in an effective, efficient and sustainable manner. As it relates to the GSP, the capacity building projects proposed will provide a comprehensive strategy to complement the initiatives outlined in the NTRPs and provide the TRCs the support their executives and practitioners identified and requested (see Appendix A for TRC specific details and Box 1 for cross-cutting summary).

Previous efforts at capacity building have not had sufficient large scale impacts to change the tiger's downward spiral toward extinction. As highlighted in Chapter 4 Part 6, the capacity building needs identified by TRCs can be summarized into three themes.

- A cadre of professional leaders, managers, and staff at all levels working on the ground in tiger protected areas, corridors, and local communities, with appropriate skills and adequate tools, as discussed below.
- Institutional arrangements, policies, and practices that support, monitor, and provide high-value management and leadership for that cadre of professionals to succeed in stabilizing and restoring the tiger populations entrusted to them.
- Networks of collaborators, colleagues, and partners within and among tiger range states, as well as regionally and internationally, through which knowledge is shared. These networks must be developed among protected area professionals, the scientific community, civil society, and governments.

Box 1: Summary of cross-cutting capacity building needs identified in NTRPs

Individual Capacity:

Increase skills in monitoring (tigers, prey and habitat)
Increase skills in enforcement (smart patrolling/MIST, crime scene investigations, judiciary capacity, etc.)
Increase skills in community relations (co-management, ecotourism, addressing human-wildlife conflict)
Increase skills in conservation leadership and management (communication, conflict resolution, etc.)
Enhance motivation and interest in conservation (incentives and empowerment for staff and communities)

Institutional Capacity:

Increase skills in prioritizing the conservation mission within ministries or departments
Create and enhance dedicated wildlife protection units
Increase numbers of skilled conservation and management staff in protected areas
Adopt modern managerial strategies and tools (i.e., project management skills, develop incentives and motivation for staff; maintain duration of trained staff in positions, etc.)
Provide adequate infrastructure, equipment and tools and training for them
Establish sustainable funding mechanisms for staff incentives, training and support
Increase ability to work collaboratively with communities for conservation stewardship

Community or Societal Capacity:

Increase skills in the public recognition of importance and value of tigers and landscapes
Increase skills in communication among stakeholders
Increase skills in collaborations and partnerships among stakeholders
Increase skills in enhancing and implementing policies

Proposed Program Components:

The ultimate goal is to build a strong cadre of knowledgeable and skilled field staff who are supported by an institutional and community framework that enables for the recovery of wild tiger populations. TRC executives and conservation and wildlife practitioners were asked to identify 'game changing' elements and how to scale up good practice models and develop innovative approaches to bring about the desired change. Based on this information, three focal areas have emerged with six projects designed to achieve measurable results on the ground and contribute to the key objectives of stabilizing tiger populations and doubling their numbers by 2022.

The projects described below are meant to support and enhance existing efforts in TRCs and fill identified gaps. They are expected to be spearheaded and conducted by a variety of qualified agencies and organizations. Additionally, these projects work synergistically with the capacity building components outlined in other GSP documents, such as in Combating Wildlife Crime. A two-year pilot initiative is proposed in this chapter to provide an opportunity for monitoring and evaluation and incorporation of adaptive management into the concept.

Program Focal Areas and Projects:

I. Professionalize core wildlife, habitat and protected area management positions and ensure capacity is available to address tiger and wildlife conservation on the ground.

Tiger conservation needs a cadre of professionals, individuals who are 'experts' in addressing tiger conservation on the ground, such as in the areas of enforcement, monitoring, community engagement, sustainable development and others. Addressing the need for a highly skilled, motivated and long-term workforce entails the concept of professionalization. Professionalization refers to imposing a structure or status of a particular profession. This focus is meant to enhance the quality of existing formal and informal training and standardize outcomes based on competencies. Professionals will receive high quality training, and managers can be assured their staff will acquire the required knowledge, skills and abilities to perform their necessary job responsibilities. As a result, actions on the ground that promote tiger conservation are implemented.

Centers of Excellence (CoE). Excellence in capacity building already exists in TRCs. To identify, harness and enhance existing efforts, while addressing the need to professionalize expertise in tiger conservation, formation of Centers of Excellence are proposed. CoEs will engage the leading government, non-governmental and private sector entities in providing standardized and professional capacity building across TRCs that meet core

competencies of each "profession" (enforcement, research, etc.) and are offered in the quantity and frequency to meet the need. CoEs will ensure professionals have the necessary 'know-how' needed to address tiger conservation. CoEs will serve as clearinghouses where individuals can learn about and acquire academic degrees, certifications, continuing education courses, materials, workshops, study tours, mentorships and fellowships, project seed funding, and ongoing support offered by TRC and international members.

CoE Architecture: Upon request of TRCs, CoEs can be formed or existing centers enhanced to undertake a comprehensive and cohesive approach to professionalizing respective tiger conservation areas of expertise on a regional or sub-regional basis. They may be based on one priority conservation theme, such as enforcement, or be multi-thematic in nature, addressing monitoring, enforcement, human dimensions, and others. Headquartered within a respected and existing entity (see suggested criteria in Box 2 for development of a CoE), each CoE is comprised of multiple committed member partners located within TRCs and internationally, including governmental, non-governmental and academic institutions. An advisory panel comprised of representatives from the member organization guides the direction and activities of the CoE. The CoE staffs are responsible for providing support to members, facilitating communication among stakeholders, ensuring continuity and shaping standards across partner programs and with other CoEs, soliciting outside technical and financial support, conducting evaluations, supporting a database of programs and trainees and more.

Box 2: Potential criteria for development and strengthening of a Center of Excellence.

Categories may include:

- Administrative capacity/support
- Support from the leadership to be a CoE
- Technical capacity/expertise
- Technological capacity
- Existing partnership base
- Regional reach/ respected entity
- Independent from any one organization
- Existing record/capacity of work with professionals/networks/groups and different stakeholders (government, NGO, CBO, academia, etc.)
- Accessibility to other countries/airports, etc.
- Proximity to other organizations that can provide expertise/facilities
- Ability and history of securing extramural funding
- Sustainability of institution (time it has existed, funding base, ability to leverage resources))
- Capacity to work in multiple languages
- Capacity to build 'state of the art' content that years later is in high demand

Training of Trainers Program (ToT). The Training of Trainers program seeks to identify and enhance the capacity of those programs in TRCs which are already conducting training for field staff and communities. A ToT program has been suggested by some TRCs to increase the proficiency in the various thematic areas to ensure content is appropriate, current technology and protocols are used and best practices are incorporated. Whether working with communities to provide them with training on alternative livelihoods or providing frontline staff with enforcement training, those conducting the training will have the confidence they are providing the best learning opportunity to their respective target audiences and hopefully in turn see the results with the implementation of on-the-ground conservation practices. A pilot ToT, including 25 individuals from seven TRCs, was conducted in 2010 by GTI. The valuable lessons learned from this endeavor will be used for development of future ToT programs.

II. Engage high-level policy and decision-makers in enhancing institutional capacity that enables effective, efficient and sustainable support of professionalized tiger conservation staffs.

Field staff work within a larger framework, one that has the ability to help or hinder the implementation of their professionalized skills. Providing a working environment that promotes performance of field staff is essential. Whether it is the physical infrastructure and tools required, or the incentives to get the job done, the supporting managerial and institutional framework plays a huge role in what a professional achieves. Enhancing managerial and institutional capacities, therefore, enables success on the ground, which in turn leads to a stabilized and restored wild tiger population.

Executive Leadership Forum (ELF). Building the individual competence of high-level decision-makers provides the foundation for enhancing the institutional capacity necessary to address the challenges in tiger conservation. An Executive Leadership Forum (ELF) has been requested by many participants who took part in a pilot initiative conducted in April 2010. The ELF will provide high-level decision-makers the opportunity to strengthen their personal communication, managerial, networking and leadership skills. Forum activities may include workshops, symposia, study tours, print and multi-media materials and web-based discussion platforms, among others. To ensure cross-pollination of knowledge, ideas and collaborations, it is recommended the forum be comprised of heads of government, non-government, communities, industry and academic institutions from different sectors (forestry, wildlife, development, tourism, etc.). The ELF participants may become an essential advisory body to the GTRP.

Leadership training for protected area and wildlife managers. At the forefront of tiger conservation are protected area and wildlife managers. Upon request, a tailored leadership training program will be implemented. Using existing core competencies developed by ASEAN-WEN and other organizations as a guide (see Box 3 and Appendix B), organizations will provide tailored training for protected area and wildlife managers in tiger range countries through workshops, short courses, study tours, professional certifications, distance education (online, CD, etc.) and written materials. Most of these offerings will provide the opportunity for protected area and wildlife manager staff to network with each other and participate in a peer-learning process. Protected area and wildlife managers need a basic and holistic understanding of the biology, ecology, policy, economic and social issues of tiger conservation so they can make informed management decisions. Additionally, skills such as problem solving, effective communication, conflict resolution and negotiation, project management, motivating staff, fundraising and developing and maintaining collaborations, are priorities. Protected area and wildlife managers also need the analytical capabilities to adapt to changing policies, technology, practices, public values and threats.

Box 3: List of core competencies in protected-area management from review by ASEAN WEN by Appleton et al. 2003 and further data by Roberts et al. 2010.

- Generalize personal and work skills
- Financial and physical resource management
- Human resource management
- Staff development and training
- Communication
- Technology and information
- Project development and management
- Field craft
- Natural resource assessment
- Conservation management of ecosystems, habitats, and species
- Socio-economic and cultural assessment
- Sustainable development and communities
- Protected area policy, planning, and management
- Site management, enforcement
- Recreation and tourism
- Awareness education and public relations

Institutional assessment/consultation process. An institutional level assessment and consultation provides government agencies the opportunity to gain insights into their current institutional capacity. Upon request, a group of independent experts in the field of institutional capacity will conduct assessments on the institution's policies (organizational governing), resources (personnel, funding, physical infrastructure, equipment and materials) and management (planning, communication, partnerships and collaborations, and program elements). The status of organizations in meeting their priority outcomes will be assessed, highlighting areas of strengths and where gaps exist. The consultancy team will provide suggestions on how institutions may address gaps and mitigate identified deficiencies. Full reports provided will be used at the discretion of the TRC institution and not made public. If TRCs agree, summary reports may be made public. This process is meant to serve as a learning tool and not an evaluation.

III. Provide for ongoing opportunities for learning, knowledge sharing, collaboration and support among stakeholders to maintain the highest level of capacity.

Community of Practice (CoP). The establishment of or enhancement of an existing Community of Practice (CoP) based on a social networking model has already been requested and will help fill the knowledge and communication gaps in tiger conservation. CoPs are groups of people who share information, insight, experience, and tools about an area of common interest. The CoP framework will facilitate information management and knowledge transfer and capitalize upon the personal and professional knowledge, experience, and personal networks each member has developed over a lifetime, which can be leveraged for the benefit of tigers. It is a means of peer-based learning. Initially starting as a virtual community, where members will communication through an online portal, the CoP could expand to include conducting special symposia, hosting gatherings for members at professional conferences, development of joint publications, seeking of joint funding and project collaboration, among other endeavors.

CoP Architecture: The CoP should be established and maintained by an organization with the necessary infrastructure and resources to develop the web-based portal. The staff responsible for coordinating the CoP will develop the infrastructure and identify, seek, and make accessible in one location the knowledge assets that are being produced and used by members, so that the entire community is kept appraised. In addition the staff will seek and create links to existing communications being used by members and their organizations. The staff will also monitor infrastructure for tools and information management, upload and promote information and provide both physical and virtual support for events bringing together members of the CoP. The portal should provide a means to share information and exchange knowledge in an efficient and effective manner.

In closing, this GSP chapter broaches all the major capacity areas deemed important by the TRCs and seeks to supplement, complement and enhance on-going country efforts. Many of the proposed projects have already been requested by TRCs. While each opportunity and action proposed offers unique benefits, the projects in concert with each other will provide the greatest outcome (Appendix C).

3. Executive Leadership Forum		GTI and regional partners.	$200,000 per year x2 years = $400,000	Cost estimated based on one staff person and supporting initiatives
4. Protected Area Manager Leadership Training		National and International Organizations	~ $100,000 per year x 2 years = $200,000	One training per year, plus supporting print and multi-media materials, study tours, etc.
Proposed initiative	Roles/Partners		Estimated cost	Comments
1. Establish and strengthen pilot Center of Excellence	Each CoE is headquartered at one respected TRC entity with existing government, non-governement and academic institutions in TRCs and internationally as members.		$400,000 per year x 2 years = $800,000	One pilot CoE will be established in the region as a pilot project; provides funds for small staff, supporting equipment and programs, including travel, evaluations, meetings of members, material development, database development, workshops, etc.
5. Assessment and consultations of institutional capacity (2-4 assessments/consultations)	Independent consultant groups with expertise in institutional capacity		$200,000	Cost dependent on institutions and TRC; includes travel of group to TRC, assessment/consultation and report
6. Community of Practice	GTI and partners		$80,000 per year x 2 = $160,000	Funding to support one staff person and framework for the online portal
2. Training of Trainers Program	Subject matter experts and national and international organizations		~ $60,000 each x 5 courses per year x 2 years = $600,000	ToT courses will be thematic and minimum of two weeks and use best learning models; courses will range in cost with duration, location, topic, # of participants, equipment, etc. - estimated average cost included; need TRCs to prioritize topics.

Proposed capacity building initiatives with outline of roles/partners and estimated costs over a two year period.

	Total (existing requests)	**$ 2,360,000** ***for six projects over two pilot years***

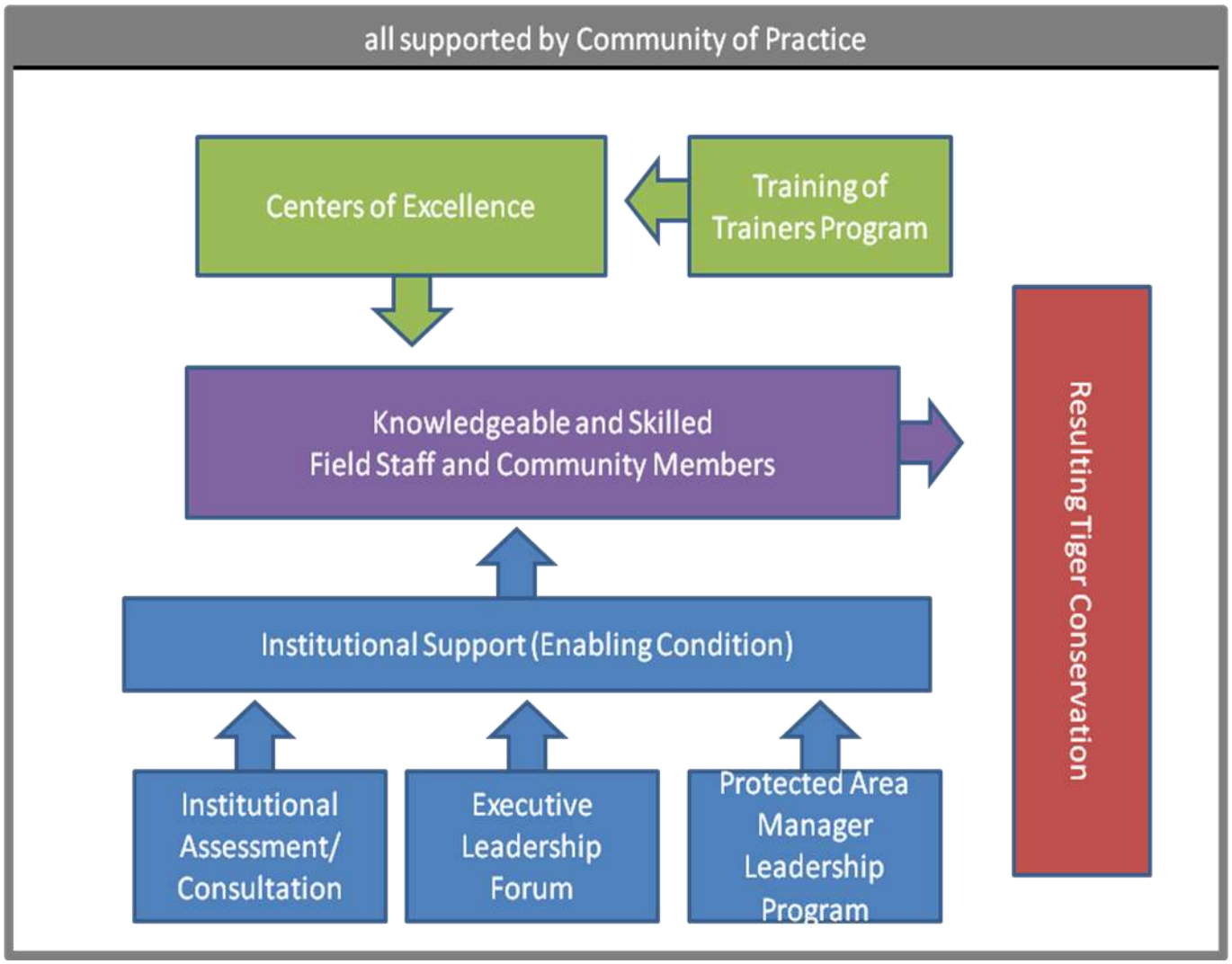
Appendix A: Specific Training needs identified by each Tiger Range Country in their National Tiger Recovery Program.

	Bangladesh	Bhutan	Cambodia	China	India	Indonesia	Laos PDR	Malaysia	Myanmar	Nepal	Russia
Institutional Reform	X	X			X		X		X		
Engaging Local Communities	X	X		X	X	X				X	
Trained PA and field staff	X	X	X	X	X		X	X	X	X	X
Providing staff Incentives	X		X							X	X
Smart Patrolling/MIST	X	X	X	X	X	X	X	X	X	X	X
Wildlife crime enforcement	X	X	X	X	X	X	X	X	X	X	
Smart Infrastructure Development		X			X	X		X			
Willdife, habitat and tiger Monitoring		X	X	X	X	X	X	X	X	X	X
Greater awareness of threats to tiger survival and valuation of tiger			X	X			X	X	X		X

Appendix B: An example of general and specialized specific skill sets required for Natural Resources Assessment core competences. This category deals with skills related to surveying, evaluating, assessing and monitoring the natural recourses of a protected area. The standards are designed to recognize the important role that semi-skilled workers (Level 1) with good local knowledge can play in surveys. Level 2 skills focus on supervised gathering of field data using established methodologies while Level 3 would be expected to be more competent in more areas, but not necessarily all of them. Level 4 skills concern the scientific design of survey and monitoring schemes and advanced aspects of conservation biology and valuation (modified from Appleton et al. 2003: http://www.aseanbiodiversity.org/index.php?option=com_docman&Itemid=130)

Level 1	Level 2	Level 3	Level 4
Recognize common and habitat types, plants and animal species	Conduct supervised surveys of wildlife, habitats natural resources and physical landscape features	Organize and lead biophysical survey and monitoring activities	Design biophysical research and monitoring methods and programs
Accurately record and report wildlife observations	Collect, prepare and care for field specimens of flora and fauna	Operate specialized survey equipment	Determine the value of ecological/environmental services
Assist in census, monitoring and other field survey work	Record and report survey and monitoring data	Analyze, interpret and present survey and monitoring data	
Recognize tracks and signs of key animals	Use identification aids to identify plants and animals	Lead specialized taxonomic, habitat and ecosystem surveys (according to individual expertise and experience)	
	Use and care for scientific instruments	Curate collections	
		Interpret air photographs and remote sensing information	

Appendix C: Schematic diagram depicting relationships of the core elements proposed herein.



Appendix D: Possible outcomes of proposed capacity building initiatives for individuals, institutions and communities.

	Enforcement	Monitoring	Human-Wildlife Conflict	Development
Individual	Rangers have ability to conduct investigations, make arrests, process forensic evidence, etc.	Staff use modern technologies and standard protocols; ability to interpret data and inform management practices	Staff respond quickly to disturbances; implement preventative and mitigation measures (behavioral, physical, etc.) in buffer zones.	Staff are capable of conducting economic, impact and other assessments.
Institutional	Adoption of Mist; improved leadership and management structures and infrastructure within wildlife protection units; better collaborations with agencies within and across countries	Hire enough trained staff; implementation of standardized protocols and procedures across TCL; Provide staff equipment needed to implement monitoring plans.	Establish sustainable compensation and insurance programs; Restrict use of core areas by local communities; support alternative livelihoods	Develop policies to prevent development in buffer zones and TCLs; protect corridors and integrate Smart Development.
Community	Demand reduction; more powerful wildlife crime legislation	Engagement of communities adjacent to protected areas in monitoring efforts	Appreciation for wildlife; modify behavior to reduce retaliatory killings	Appreciate importance of wildlife and pressure governments to implement Smart Development approaches

Scientific Monitoring

Program Name: Scientific Monitoring

Synthesis of TRCs Needs from NTRPs Met by This GSP.

Most TRCs indicated a need and desire to implement scientific monitoring of tigers, prey, and habitat. Also, to monitor and report on progress toward meeting the global goal of Tx2.

Brief Description of the Problem, Including Explanation of Why Global Support is Necessary

Many TRCs have not yet implemented scientific monitoring programs and these are essential not only to tracking progress toward Tx2 but to serve as early warning signals of any increase in threats in the landscape. Global support is need to conduct workshops in each TRC that requests one to develop the monitoring framework and to offer subsequent capacity building to train field and program staff in scientific monitoring.

Proposed Program

Program Goals: To assist TRCs, on request, in developing and implementing scientific monitoring programs in their TCLs.

Program Components: One to two day workshops for each TCL or cluster of TCLs.

Expected Outcomes: Scientific monitoring frameworks in place in all TRCs.

Duration: Workshops to be offered in the last quarter of 2010 and first half of 2011. Further capacity building will follow the workshops.

Location: Landscapes or clusters of landscapes in TRCs that request the workshop.

Programs Participants: Field and program staff in TCLs, range-country and/or international specialists.

Capacity..

No other additional capacity is necessary to conduct this program. There are many range country and international specialists qualified to assist TRCs in developing monitoring frameworks and then providing training in scientific monitoring.

Program Performance Indicators.

1. Each TRC has a science-based monitoring framework in place that is broadly compatible across the range.

2.Field and program staff have the capacity to conduct scientific monitoring.

3.TRCs use their monitoring programs to provide input into the GTRP Tiger Progress Report (Dashboard).

Program Implementation

Each TRC's monitoring program should be designed by field and programmatic staff charged with managing tiger conservation projects in the landscapes, but with some oversight by qualified scientists to ensure that the programs are scientifically defensible as well as practical.

1-2 day workshops will be offered for each landscape (or cluster of landscapes where field conditions will be similar) where the conservation biologists and managers, and field and program staff develop specific monitoring protocols that suit their landscapes, and are also compatible with a basic monitoring framework that is relevant across the range. Scientists and statisticians should be included to maintain scientific rigor and defensibility in protocols. Involving the stakeholders in developing practical monitoring protocols and methods will result in more ownership and agreement about the goal, the questions to be asked, the indicators, the scale, the financing, and who will do what. Importantly, the protocols will be more likely to become implemented.

The workshops will also offer an opportunity to assess exactly what capacity building and technology will be required. Once identified, tailored workshops and courses will be developed to meet those needs.

Indicative Program Costs in US$

Program Component	Costs
Framework Development Workshops (estimated 10)	$300,000
Capacity Building Workshops, Courses, Technology (Block Allocation)	$500,000
TOTAL	$800,000

Implementing Monitoring Systems Must Have User Buy-in

Experience has shown that a monitoring program that is imposed from the top will not work. There have been many attempts over the last decade or more to promote scientifically robust monitoring protocols within field programs; however, these have been very complex, complicated, time and resource intensive, and expensive.

Consequently, field programs—which are usually stretched financially and in terms of human resources and capacity—have not embraced these programs. Thus, we propose an approach in which the monitoring program is designed by field and programmatic staff charged with managing tiger conservation projects in the landscapes, but with some oversight by qualified scientists to ensure that the programs are scientifically defensible as well as practical.

To achieve this, we suggest 1-2 day workshops in each landscape (or cluster of landscapes where field conditions will be similar) where the conservation biologists and managers, and field and program staff develop specific monitoring protocols that suit their landscapes, and are also compatible with a basic monitoring framework that is relevant across the range. Scientists and statisticians should be included to maintain scientific rigor and defensibility in protocols. Involving the stakeholders in developing 'home-grown', practical monitoring protocols and methods will result in more ownership and agreement about the goal, the questions to be asked, the indicators, the scale, the financing, and who will do what. Importantly, the protocols will be more likely to become implemented.

Framework for Monitoring Indicators

The monitoring framework should strike a balance between ease of execution and scientific defensibility. It should cover all scales, from site to landscape to tracking the global goal. The indicators and results at different scales should be considered in a holistic manner. Thus, we suggest the following framework on which to build the landscape-specific indicators:

1. State the goal for the landscape.
    a. What is the key measureable criterion in the goal statement?
        1. Is the criterion quantitative or qualitative?
        2. If the latter, can it be measured in some way?
        3. What criterion will best reflect tiger recovery or stabilization?

Based on the above, identify a set of indicators for tigers, prey, and habitat using the framework below, and develop protocols based landscape/habitat conditions; i.e., what methods are feasible and practical in the respective habitats; and available human resources (including with capacity building).

2. Suggested scales of measurement for monitoring of **tigers**
    a. *Core Site* (protected area or other site with a breeding tiger population). At the core site level, monitoring should include details of tiger demographics; i.e., at the minimum, presence and relative abundance of adults, juveniles, and cubs. Presence of juveniles and cubs will indicate that the population is reproducing and cubs are surviving—an important indicator of a healthy, viable population and reflects an increasing/decreasing/stable trend. The monitoring program should ask:

- *Are the tiger populations in the core sites increasing, decreasing, or stable?*
- *For increasing and decreasing populations, at what rate?*
    1. Demographic indicators (at the minimum, information should include relative abundance of adults:juveniles/cubs) :
        i. adult females, males
        ii. juveniles/cubs
        iii. resident females

2. Number of tigers killed/poached

b. *Corridor* (habitat linkages between protected areas, core source sites, core areas to facilitate tiger movement). The monitoring program should ask:

- *Are we successfully managing a tiger metapopulation?*
- *Are tigers using habitat corridors to move between core source sites and to core areas?*

1. Presence indicators
    i. Presence of adult (transient) or juvenile/sub-adult tigers in corridors

c. *Landscape* (the complex of core source sites, core sites linked by corridors). Note that the indicators represent a landscape-scale spatial analysis of information collected at core and corridor scales. The monitoring program should ask:

- *What is the distribution of tigers across the landscape?*
- *What is the relative abundance of tigers in the core sites in the landscape?*
- *What is the trend of the relative abundance index over time and space?*
- *Which corridors are functional; i.e., used by tigers?*
- *Where are the poaching/killing hotspots?*

1. Distribution of tigers in landscape
2. Relative abundance of tigers in core sites/core source sites (will be a temporal indicator of intra- and spatial indicator of inter- core site status dynamics).
3. Corridors with tiger presence
4. Map tiger poaching/killing

d. *Global* (the collective status of wild tigers across the range). The monitoring program should ask:

- *Is there a net increase in the range-wide tiger population?*
- *Where is the greatest increase?*
- *Is there a net increase in the distribution of tigers?*
- *Where is the increase?*

1. Map the range-wide status and distribution of tigers

3. Suggested scales of measurement for monitoring tiger **prey**

a. *Core Site* (protected area or other site with a breeding tiger population). The monitoring program should ask:

- *Are prey populations in the core sites increasing, decreasing, or stable?*

1. Population estimates
2. Relative abundance and trends

4. Suggested scales of measurement for monitoring tiger **habitat**

a. *Core Sites and corridors*. The monitoring program should ask:

- *What are the levels of anthropogenic threats from human activity?*

1. Extent and type of habitat degradation/restoration (invasive plants, resource extraction, community forestry and other restoration strategies, etc)
2. Extent and type of human activity (wood cutting, livestock grazing)
3. Human-tiger conflict

b. *Landscape*. The monitoring program should ask:

- *What and where are threats of habitat degradation?*
- *Where and how is habitat restoration progressing?*

1. Map extent of habitat degradation and restoration in core areas and corridors using a combination of remote sensing and ground- truthing.
2. Track development plans among line agencies and ministries for planned and proposed infrastructure and other economic development projects, and map and model their impacts on important tiger habitat; i.e., apply tiger filter.

The monitoring program should also identify a suite of indicators to track the outcomes from the following objectives:

- Smart green infrastructure becomes policy and major project initiated in TCL
- Sustainable financing plan established, ratified, and percent achieved
- Where possible, reserves extended or areas with other land use put under more restrictive use to benefit tiger recovery
- Local NGOs created or strengthened as watchdogs to help implement recovery
- Head of government, national media, and parliament take active interest in tracking recovery of tigers
- Poaching rings smashed and sentencing for poachers stiff, swift, and with public support
- Improved governance of entire tiger landscape
- Tier III carbon accounting provided for each priority TCL and other ecosystem services valued
- Compensation for opportunity costs to communities (livestock depredation, alternative income opportunities and options)
- A cadre of professional leaders, managers, and staff recruited, trained, and deployed at all levels
- Institutional arrangements, policies, and practices that support, monitor, and provide high-value incentives for stabilizing and restoring the tiger populations.
- Networks of collaborators, colleagues, and partners within and among tiger range states, regionally and internationally.

Resources Needs for Implementing Reliable Tiger Monitoring at Landscape and Core (Source) Sites Scales

There is no need to reinvent tiger monitoring programs. Best practice is available in peer-reviewed literature, software, and instruction manuals. Table 1 provides details about the recommended monitoring methods, objectives, spatial scales, frequencies, intensities, and other technical details in quick summary form. Details and justifications for these are in literature cited in Karanth et al. (2009).

Tiger monitoring must carefully consider and integrate available man-power, skill levels, equipment, laboratory facilities and other resources. Table 2 provides some examples of typical resource needs for conduct of surveys based on surveys in Malenad-Mysore Tiger Landscape (MMTL) of India under the WCS/Panthera supported Tigers Forever Project. These needs require to be adjusted for local variations in costs and social context. Of course, not all methods need to be implemented at all sites or landscapes.

Table 1: Tiger and prey monitoring methodologies: objectives, scale, and intensity method

Method code	Metrics of focus	Spatial Scale of Surveys	Intensity and coverage	Frequency and duration	Remarks
Large Cell Occupancy (LCO)	Tiger distribution, relative density & tiger numbers	TCLs are areas typically over 10,000 km2; 50-100 large cells	Cell size of 200 to 2000 km2; Effort walked typically 40 km per 200 km2 habitat	Once in 3-5 years; survey duration of about 3-6 months	Cell size and survey design by experts critical
Photographic capture-recapture (closed model) (PCRC)	Tiger numbers and density as a 'snap shot'; Age-class and sex	Source areas of 500 km2 or more, with potential for 25 breeding females	100 trap-days per 100 km2	Once a year; Survey duration of 30-45 days	Requires dozens of cheap camera traps. Survey design critical
Genetic capture-recapture (closed model) (GCRC)	Tiger numbers and density as a snap shot; age-sex; relatedness	Source areas of 500 km2 or more, with potential for 25 breeding females	Intensive sweeps on foot to collect scats in a manner amenable to CR analysis	Once a year Survey duration of 30-45 days	Stringent scat collection protocols, only 1-2 labs can do this analysis
Photographic or genetic capture recapture (Open model) (PCRO GCRO)	Changes in tiger numbers and density; survival rates, losses, recruitment; temporary emigration	Source areas of 500 km2 or more, with potential for 25 breeding females	Same as in the case of PCRC and GCRC	Once a year for 30-45 days, continued across multiple years	Same as in the case of PCRC and GCRC
Line transect Sampling (LTS)	Prey densities and current carrying capacity for tigers	Source areas of 500 km2 or more, with potential for 25 breeding females, done where terrain and access permit	Minimum 20 spatial replicates of 2-4 km length; Temporal replication to ensure 40 detections for each species	Once a year if feasible, if not once in 2-5 years; Survey duration 15-30 days	Distances must be measured with range finders; Design-based placement of transects critical.

Small Cell Occupancy survey (SCO)	Relative densities of prey species; Intensity of habitat use of different parts of a source area	Source areas of 500 km2 or more, with potential for 25 breeding females; where LTS is not feasible	50-100 cells; Cell size of 3-15 km2; Effort typically 4-15 km walked per cell	Once in 2-5 years; Survey duration of 30-60 days	Cell size linked to expected ungulate home range size. Survey design by experts c

Table 1 Tiger and prey monitoring costs

Monitoring method code	Major equipment (in addition to these 3-4 vehicles will be needed)	Manpower-technical; Field skills +equipment reading, setting	Manpower-field personnel (tracker, guard, volunteer)	Capital costs US $	Operating costs US $)
LCO	GPS and compasses 10-20	100-200 man-days	200-400 man-days	6000	40000
PCRC	Camera traps 50-100+shell	100-150 man-days	200-300 man-days	18000	20000
GCRC	Genetics lab	100-150 man-days	200-300 man-days	>few million	10000
PCRO	Camera traps 50-100+shell	100-150 man-days	200-300 man-days	18000	20000
GCRO	Genetics lab	100-150 man-days	200-300 man-days	>few million	10000
LTS	Rangefinders, compasses -25 sets	120-240 man-days	120-240 man-days	8000	15000
SCO	GPS and compasses 10-20	100-200 man-days	200-400 man-days	6000	20000