Global Tiger Recovery Program 2.0
(2023-34)

Contents

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TRC with historical tiger presence (aiming for reintroduction)

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Acronyms

ADB: Asian Development Bank
BFD: Bangladesh Forest Department
CBD: Convention on Biological Diversity
CFS: Central Forest Spine
CHT: Chittagong Hill Tract
DNA: Deoxyribonucleic Acid
DTL: Dawna Tenasserim Landscape
eDNA: Environmental DNA
EIA: Environmental Impact Assessment
FFI: Fauna & Flora International
GCF: Green Climate Fund
GEF: Global Environment Facility
GIS: Geographic Information System
GTIC: Global Tiger Initiative Council
GTF: Global Tiger Forum
GTRP: Global Tiger Recovery Program
HWC: Human-Wildlife Conflict
INL: Bureau of International Narcotics and Law Enforcement Affairs
IPCC: Intergovernmental Panel on Climate Change
IPLC: Indigenous people and local communities
INTERPOL: The International Criminal Police Organization
JICA: Japan International Cooperation Agency
KPI: Key Performance Indicator
LLL: Lao Landscape Livelihood
Lao-WEN: Lao Wildlife Enforcement Network
MARD: Ministry of Agriculture and Rural Development
MDB: Multilateral Development Banks
METT: Management Effectiveness Tracking Tool
MoE: Ministry of Environment
MoNRE: Ministry of Natural Resources and Environment
MoU: Memorandum of Understanding
M-STrIPES: Monitoring System for Tigers - Intensive Protection and Ecological Status
MTCAP: Malayan Tiger Crisis Action Plan
MyTTF: National Tiger Conservation Task Force (Malaysia)
NFGA: National Forestry and Grassland Administration

NP: National Park
NTAP: National Tiger Action Plan
NTCAP: National Tiger Conservation Action Plan
NTLNP: Northeast Tiger and Leopard National Park
NTRP: National Tiger Recovery Priorities
PA: Protected Area
PES: Payment for Ecosystem Services
PIA: Priority Implementation Activities
REDD: Reducing Emissions from Deforestation and forest Degradation
SAWEN: South Asia Wildlife Enforcement Network
SOP: Standard Operating Procedure
SMART: Spatial Monitoring and Reporting Tool
STCAP: Site-specific Tiger Conservation Action Plan
TCAP: Tiger Conservation Action Plan
TCL: Tiger Conservation Landscape
TraMCA: Transboundary Manas Conservation Area
TRC: Tiger Range Country
UCL: Upper Chindwin Landscape
UNDP: United Nations Development Program
UNESCO: United Nations Educational, Scientific and Cultural Organization
UNODC: United Nations Office on Drugs and Crime
US DoJ: United States Department of Justice
WCO: World Customs Organization
WCS: Wildlife Conservation Society
WEFCOM: Western Forest Complex
WII: Wildlife Institute of India
WWF: World Wide Fund for Nature
ZoI: Zone of Influence
ZSL: Zoological Society of London

Executive Summary

Little more than a decade has passed since the launch of the Global Tiger Recovery Program (GTRP). This milestone initiative was done by the World Bank in 2010, under the aegis of its ongoing program, "The Global Tiger Initiative" (GTI). The convening power and presence of the World Bank enabled the GTI platform to bring together all Tiger Range Countries (TRCs) and like-minded organisations for saving the wild tiger across its range.

TRCs committed for doubling their wild tiger populations by 2022 at the St Petersburg Summit (2010). With the phasing out of the GTI by the World Bank, the Global Tiger Initiative Council was formed, mandating the existing intergovernmental platform of the Global Tiger Forum (GTF) as its implementing arm for the tiger agenda.

The GTRP is a composite portfolio of tiger actions – both national as well as transnational.

The period from 2010 to 2022 was eventful, with TRCs doing their bit on the tiger agenda, vis -a-vis their sovereign National Tiger Recovery Program in the form of Action Plans and managerial inputs. The numerous mission visits, ministerial and senior official level meets took stock of ongoing developments for course corrections.

However, looking back, the ecological retrospective generates more concern.

While the wild tiger status is good in South Asia and Russia, it is alarming in the South East Asia. Cambodia, Lao-PDR and Vietnam have lost their tigers. The situation is grim in other TRCs of the said region.

This makes us to dispassionately think – what worked? what didn't?

The threats in the past limiting the tiger agenda continue. The situation has been compounded by new threats. The overarching challenge is to secure existing wild tiger populations, while expanding their range.

The lack of tiger governance for want of a sound administrative setup in field formations as well as state and federal levels in several TRCs is a major bottleneck in the context. This is further accentuated by the need for an effective policy framework to implement "exclusive" tiger agendas in protected areas, complemented by an "inclusive" peripheral strategy to address human-wildlife conflict and other stressors emanating from ongoing agro-pastoral and other anthropogenic stress continuum. Such a situation has led to a cascading effect of local wild tiger extinctions. Several surviving wild tiger populations are demographically as well as genetically less viable.

Thus, several actions are required: antipoaching, habitat protection, addressing human-wildlife conflict, prey augmentation, tiger monitoring using state of the art protocol, intelligence-based enforcement, deployment of frontline staff preventing forest loss due to commercial needs, enhanced sovereign funding support, climate smart practices, smart green infrastructure, and others.

The drivers of decline are human induced warranting political commitment and prioritised resource support. An analysis done in 2022 has projected an annual funding gap of atleast 138.477 million USD only for protection in priority tiger protected areas. This shortfall is just 0.019% of the global biodiversity financing gap estimated in 2020.

Malaysia in particular stands out as trend setter in the context with many milestones. Cambodia is trying hard to bring back tigers. Thailand is working towards consolidating protection in ecologically significant Western Forest Complex (WEFCOM). Indonesia has strengthened its PA management and have managed to secure funding for conservation of Sumatran Tigers. China and Russia have strengthened protection of bordering protected areas for conserving amur tigers. However, more actions are needed.

The good practices and experiences are worth emulating - particularly South Asia (Bangladesh, Bhutan, India and Nepal) and North East Asia (China and Russia)

The hosting of two Global Tiger Summits by Russia, Asian ministerial conferences (hosted by Thailand, Bhutan, India, and Malaysia), and stocktaking conferences (hosted by India and Bangladesh) have enhanced global cooperation and commitments towards wild tiger conservation. Countries with historical tiger presence, such as Kazakhstan are undertaking efforts to reintroduce tigers in the wild.

The instant report brings together the long-drawn appraisal process, with country briefs based on TRC inputs highlighting their actions, challenges and opportunities. A dispassionate analysis of Tiger Conservation Landscape (TCL) data has been done to factor the anthropogenic stress continuum centripetally from TCL landscapes. This rapid appraisal based on thumb rule highlights the reduction of land parcels for *sensu stricto* actions, warranting more effort, time and resources to make them productive for tiger to build up the prey base for viable populations.

The GTRP version 2.0 has ongoing archetypals with new actions for a differentiated approach to save the tiger. It is synced with the CBD goals to highlight the fact that sustainable wild populations bring gains to biodiversity as well as humans.

The wild tiger is a multidimensional indicator, indicating the well-being of biodiversity as well as human society. Thus, tiger investment would go a long way in achieving adaptation

to climate change, providing livelihood options to locals through community stewardship, safeguard green capital to sustain ecosystem services and provide dilution effect to prevent spread of zoonoses.

Wild tiger investment is much needed – both sovereign from TRCs and from green donors and like- minded organisations. This is required to achieve the recent tiger commitments made under the Vladivostok declaration, 2022.

The GTF is committed to work with TRCs to save the tiger! Their commitment to the cause is reassuring!

1. What is Global Tiger Recovery Program (GTRP)?

The Global Tiger Recovery Program (GTRP) evolved in 2010, under the aegis of the Global Tiger Initiative (GTI), launched by the World Bank. This is a composite program of several action portfolios, agreed upon by Tiger Range Countries after extensive consultations, followed by a formal adoption at St. Petersburg in 2010 during the "Tiger Summit". The said summit has unique distinction of being the first of its kind to focus on a non-human species. The overarching goal was to reverse the rapid decline of wild tigers across its range, and to strive for doubling its number by 2022.

Targeted actions where the hallmark of the GTRP goals:

- effectively manage, preserve, protect, and enhance tiger habitats
- eradicate poaching, smuggling, and illegal trade of tigers, their parts, and derivatives
- cooperate in transboundary landscape management and in combating illegal trade
- engage with indigenous and local communities
- increase the effectiveness of tiger and habitat management
- restore tigers to their former range

The GTRP is based on National Tiger Recovery Plans (NTRP) of individual Tiger Range Countries (13). Such plans of individual countries prioritize urgent thematic actions to strengthen wild tiger conservation, in sync with the global goal. Such national actions also at times form part of a National Tiger Action Plan (NTAP) in some countries, involving actions at several levels, viz. site/tiger field formation, state, federal and transnational. Broadly, the tiger agenda in a source area focusses on protection vis-à-vis security planning, supported by related infrastructure, communication and technology. Top most priority is accorded to the said theme to control transboundary illegal trade and intelligence-based monitoring and enforcement. Portfolios for augmenting welfare factors focus on habitats, water conservation and enhancing productivity within the ecological carrying capacity. Other complementary portfolios include knowledge sharing, capacity building of frontline, engagement with local communities, fostering smart green infrastructure and advocacy. Additional actions to eliminate illicit demand for tiger parts and their derivatives and to undertake habitat valuation in order to promote Payment for Ecosystem Services (PES) schemes are also included in the GTRP portfolio.

The GTRP has a holistic portfolio of indicators, encompassing National, Site and Transnational tiger actions to address ecological and managerial concerns specific to TRCs. It aims to synergise overarching and TRC specific actions with differentiated approach.

2. Rationale for GTRP 2.0 (2023-34)

2.1 Overview of Tiger Range Countries (TRCs) based on key findings

2.1.1 Global Tiger Assessment: Synopsis

(*Qamar Qureshi, Vishnupriya Kolipakam, Dhruv Jain, and Y. V. Jhala*)

An assessment for an overview of global tiger status was done using available information on wild tigers. This focusses on availability of tiger source areas, corridor linkages, monetary inputs, and threats. In addition, scenarios have been projected to highlight loss of tiger habitats (removal of buffering habitats) across tiger conservation landscapes.

Information source

- **Tiger landscape maps -** Wikramanayake et al (2011)
- **Tiger population estimates, tiger source population (single or metapopulation), prey and tiger poaching** - country wise publications in reports, papers and action plans (Aziz et al 2019 DWNPP Malaysia, 2008; DNPWPC, 2010; DNPWC and DFSC, 2022; , Gray et al 2023: Ghimere 2022; Groenenberg,2020; Harihar et al 2018, Jhala, Y.V., Qureshi, Q. and Nayak, A.K,.2020; Lynam .J. 2010; NCD, 2019, Petersen, et al 2020; Phumanee, et al 2022, Qi, J, et al 2021; Rasphone et al 2019; Sanderson, et al 2019; Steinmetz, et al 2021; Suttidate et al 2021, Tempa et al 2019; Wong, R. and Krishnasamy, K., 2019)
- **Human impact** – Theobold et al (2022)
- **Hunting-induced mammal defaunation in the tropics** for assessing prey loss - López et al. (2019)
- **Economic status** - based on UN DESA (2023), and Global Tiger Forum (2022)
- **Conservation evaluation information** - assessed using van Uhm, D. P., and Wong, R. W. 2021, Thapa, et al 2022, Sanderson et al 2010, Ripple 2014, O'Kelly 2012, NCD 2018, Lindsey et al 2017, Kawanishi et al 2013, Johnson et al 2016, Joshi et al 2016, Johnson et al 2020, Jhala et al 2020, Jhala et al 2021, Global Tiger Initiative 2012, Dwiyahreni et al 2021, DNPWPC 2010, DWNPPM 2008, Carter et al 2014, Carter et al 2020, Appleton 2022.

Status overview

The Anthropocene extinction crisis is severe, as evidenced by the current status of many iconic species, including the tiger (*Panthera tigris*) in Asia. Although wild tiger populations are increasing in some range habitats, it continues to remain one of the most threatened

large cats. There are fewer than 5,000 wild tigers left, restricted to less than 10% of their historical range. During the 19th century, wild tigers were extirpated from several countries, and recently their population has become functionally extinct in Vietnam, Laos, and Cambodia. The successful long-term recovery of tiger requires both securing existing populations and expanding the species' range. South Asia (Bangladesh, Bhutan, India, and Nepal), China and Russia have done a commendable job in securing their remnant tiger populations. This was achieved through a variety of measures, including institutionalizing tiger governance, habitat protection, anti-poaching efforts, prey augmentation, reducing human pressure and tiger reintroduction. The most important aspect of tiger conservation in these countries is political will and organized administrative setup for field implementation, effective policy framework and resources to be effectively used for conservation goals. The situation in South East Asia is challenging due to wide spread prey and tiger poaching, inadequate patrolling and wildlife crime monitoring, proximity to wildlife trade hubs, forest loss due to commercial needs, rapid infrastructure development causing fragmentation, low investment in wildlife conservation and poor monitoring (Table 4.7-pp82). Tiger population, which will be demographically and genetically viable will not be sustained if steps are not taken now to reverse the current trend of habitat loss, prey depletion and tiger poaching.

The St. Petersburg Declaration in 2010 saw 13 tiger range countries commit to doubling tiger numbers by 2022. However, there is an ongoing debate on the best approach for tiger conservation. Some argue for protecting tigers in potential source sites, while others advocate for adopting a landscape approach with corridors. It is widely recognized that human-induced mortality of tiger and its prey is a significant driver of decline, and studies have examined the influence of environmental factors on tiger habitat use.

The average global expenditure on biodiversity conservation is 0.1% of GDP. However, the amount being spent on biodiversity conservation in Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand, and Vietnam is relatively low, with an average expenditure of 0.003% of GDP (table 4.7-pp82, table 4.8-pp84, and figure 4.2-pp81, figure 4.3-pp81). This indicates that the said countries allocate a smaller proportion of their GDP towards biodiversity conservation, compared to the global average. Several reasons contribute to this low level of spending. Biodiversity conservation is often seen as a low priority in the face of GDP centric growth targets, and there is a lack of comprehensive data on the costs associated with biodiversity conservation efforts. These factors contribute to the limited financial resources dedicated to conservation initiatives. Despite the low level of spending, there are ongoing initiatives, and over time there has been an increase in biodiversity conservation investments across some TRCs. These initiatives are supported by various stakeholders, including

governments, non-governmental organizations, and the private sector. Efforts are being made to raise awareness about the importance of biodiversity and its conservation, its intricate linkages to climate and human-well-being, as well as to mobilize funding and resources for conservation projects.

The tiger population monitoring has been systematically done at regular interval in India, Nepal, Bhutan, Bangladesh, and China. The population in Bhutan, India, and Nepal is increasing, while it is stable in Bangladesh (table 4.7-pp82). These countries also harbour source populations, ensuring dispersal and occupation of surrounding forests by tigers. All other available populations provide limited information to make an objective assessment and publications indicate likely decline (table 4.7-pp82, table 4.8-pp84 and figure 4.2 & 4.3-pp81). Habitat fragmentation and loss of connectivity is a common problem across the tiger range. The human modification is happening at rapid pace. In India, Nepal and Bhutan. the Protected Areas having tigers are fairly secure, but surrounding forested areas have shown decline in quality and decline in prey (table 4.7-pp82; table 4.8-pp84 and figure 4.2 & 4.3, pp81). The loss of forests is observed across its range with rapid decline in South East Asia. Hunting of ungulates is a major issue in South East Asia, Russia and non-Protected Areas in India, Nepal, Bhutan and Bangladesh. The climate vulnerability is extreme in Sundarbans of Bangladesh and India. Transboundary cooperation is extremely important between India-Nepal, India-Bhutan, India-Bangladesh, Thailand-Myanmar, Thailand-Cambodia, and Russia-China.

The future of biodiversity conservation in these countries remains uncertain, but there are reasons for optimism. The growing awareness of the significance of biodiversity and increasing investment in conservation efforts indicate a positive trend. As more attention is directed towards the importance of preserving biodiversity, it is likely that spending on conservation will increase in the future, leading to enhanced outcomes.

If we do not act now, we may lose majority of tiger population in South East Asia and other small populations in parts of South Asia. The situation calls for a policy framework, supported by political system, leveraging resources for long term, particularly the Government resources on the tiger agenda. The action for tiger recovery should involve following

Habitat Management: Habitat management plays a vital role in ensuring the survival of tigers, and other endangered species. One key element of habitat management and conservation is the establishment of an effective network of protected areas. These areas serve as sanctuaries for tigers, providing them with undisturbed habitats and sufficient prey populations.

Many tiger habitats have suffered from degradation due to factors, such as deforestation, illegal logging, and infrastructure development. Habitat restoration efforts are essential for reversing these damages and creating suitable conditions for tigers.

Corridor linkages are crucial for enabling tiger movement, and maintaining genetic diversity. Wildlife corridors can be conserved through collaboration between government agencies, local communities, and conservation organizations, considering factors like land-use planning, ecological connectivity, and mitigation of human-wildlife conflicts.

Prey augmentation: Poaching of prey is widespread and majority of erstwhile tiger habitat is devoid of prey, resulting in "empty forests" There is a need to augment prey population in selected patches. Identification of potential well-protected patches in a landscape is required for reintroducing appropriate ungulate species, having high growth potential.

Involving local communities: Tiger range countries recognize that sustainable conservation practices can only be achieved through the active participation and support of local communities. Engaging with communities through gainful stewardship and engagement, livelihood enhancement, education and awareness is key to securing tiger habitats.

Protection: Poaching poses a significant threat to tigers, driven by the illegal trade in tiger parts and products. Robust anti-poaching measures are recognized as essential to combat poaching and illegal trafficking. This is achieved through strengthening of anti-poaching units, implementing stricter wildlife protection laws, while enhancing surveillance and intelligence-gathering capabilities. Training and equipping rangers, establishing informant networks, and promoting public awareness about the consequences of poaching are vital components of anti-poaching efforts.

Research and monitoring: Credible monitoring system and objective assessments are required for assessing how many tigers are there, along with ungulate and habitat status. Many countries, have no systematic information of tiger populations and their habitats, which is essential to inform effective conservation strategies.

Creating source population of tigers: At present there is hardly any source population in South East Asia. It is important to identify patches well spread out in a landscape, which serve as source and revive the tiger population in them. Corridor linkages need to be revived and secured so that dispersal can happen in larger area. Once habitat is secured, and prey is augmented, tiger reintroduction may be considered in such areas.

Individuals belonging to various tiger subspecies, especially South East Asian countries are in various captive condition; Zoos, Rescue centres which need to be assessed for genetic integrity and health, and need to be secured for conservation breeding. This gains importance for want of adequate wild populations towards augmentation/reintroduction.

2.1.2 Anthropogenic stress continuum

The Tiger Conservation Landscapes (TCL) need to be viewed in the context of an ongoing human-enviro stress continuum. There is an ongoing agro-pastoral as well as other human induced modifications in several TCLs. Such stressors impact availability of welfare factors to major wild herbivores and thereby affecting the relative abundance of major carnivores including the tiger.

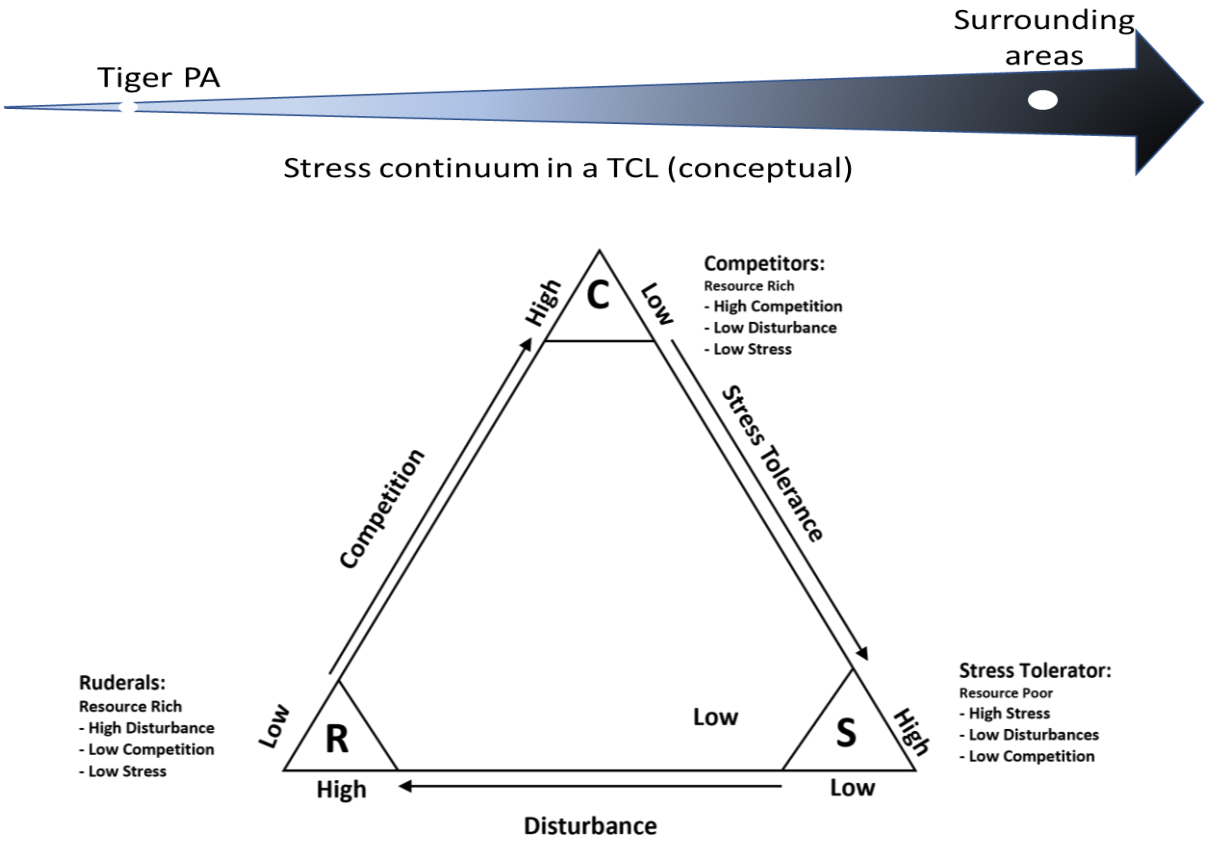


Figure 2.1: Grime's triangle

An agro-ecological perspective of the surrounding landscape becomes important for prescribing action towards sustainability while ensuring gains to local people. An analogy is required with the Grimes' plant life history strategies and the response of ecosystems to anthropogenic disturbance. By and large, it is seen that the gradient from a protected area (core) to peripheral areas is characterized by loss of resource, viz. from resource rich area dominated by competing indigenous species to resource poor areas dominated by stress tolerant species and weeds in a scenario of overuse.

Thus, owing to above compelling reasons it is important to reckon with the fact that in reality the extent of TCL is much reduced than what has been projected using remotely sensed data. This also highlights the need for more resources, efforts, and time to make such landscapes productive for *sensu-stricto* actions to foster wild tigers.

As discernable in the table 4.8 (pp84), reduction of a mere 3 km. disturbance buffer reduces the availability of TCL considerably, which warrants prioritized actions for arresting any further fragmentation.

2.1.3 GTRP scoring

The TRCs were scored across the 17 normatives (pp65) using expert knowledge, review of the updates provided by TRCs during stock taking, country briefs, and input from technical consultants. TRCs were scored out of 100 for each of the normative (70% weightage) and additional score (30% weightage) was given to TRCs if any special efforts were made. Further, each of the normatives were normalized across the countries and cumulative score was calculated. The cumulative score of each of TRCs was further divided by 18 (17 normatives and one special effort) to get the final normalized score of the TRC.

Further, spearman rank correlation was calculated to understand the correlation between the score and the tiger number. A strong correlation was observed between the score and the tiger number ($r=0.80$, $p=0.0011$).

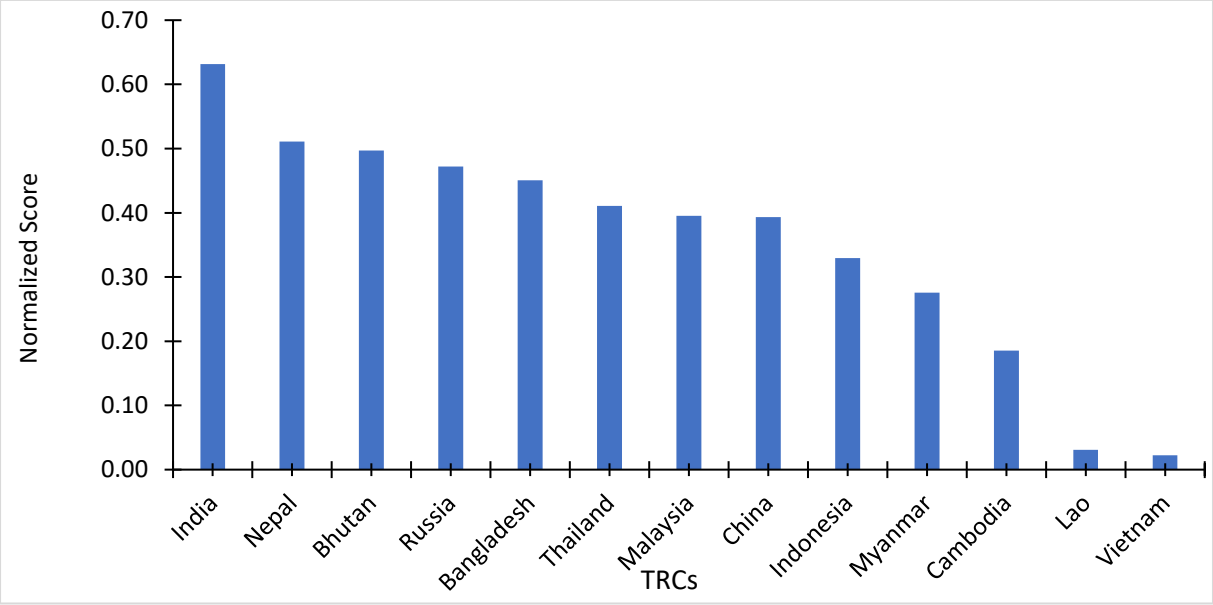


Figure 2.2: Country wise normalized score

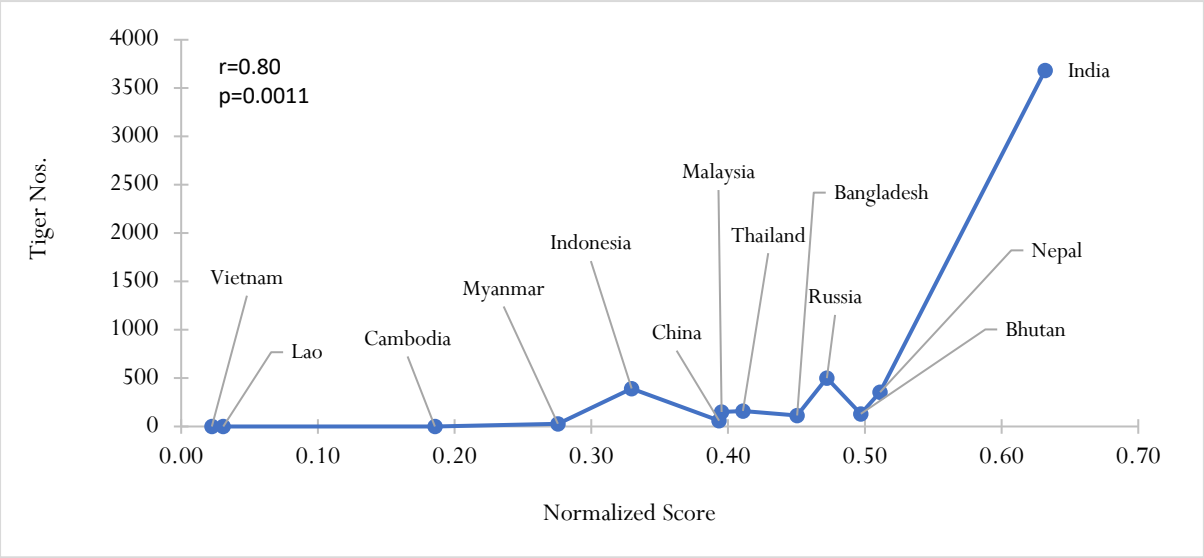


Figure 2.3: GTRP score v/s tiger numbers

2.2 Limiting factors/stressors of GTRP performance

Overarching Stressors

South Asia

- Habitat loss
- Fragmentation
- Human-Wildlife Conflict
- Lack of Community Livelihood
- Poaching
- Climate Change

South East Asia

- Tiger Extinction
- Prey Depletion
- Poaching
- Trafficking
- Habitat loss
- Weak Tiger governance, enabling legal regime
- Paucity of funds
- Paucity of frontline staff, lack of capacity
- Lack of Community engagement
- Conflict landscape
- No bilateral
- Tiger farming/captive breeding
- Climate Change

China

- Habitat loss
- Fragmentation
- Prey Depletion
- Human-Wildlife Conflict
- Lack of Community agenda
- Poaching
- Frontline
- Tiger farming/Captive breeding
- Inbreeding risk

Russia

- Human-Wildlife Conflict
- Loss of prey
- Habitat fragmentation

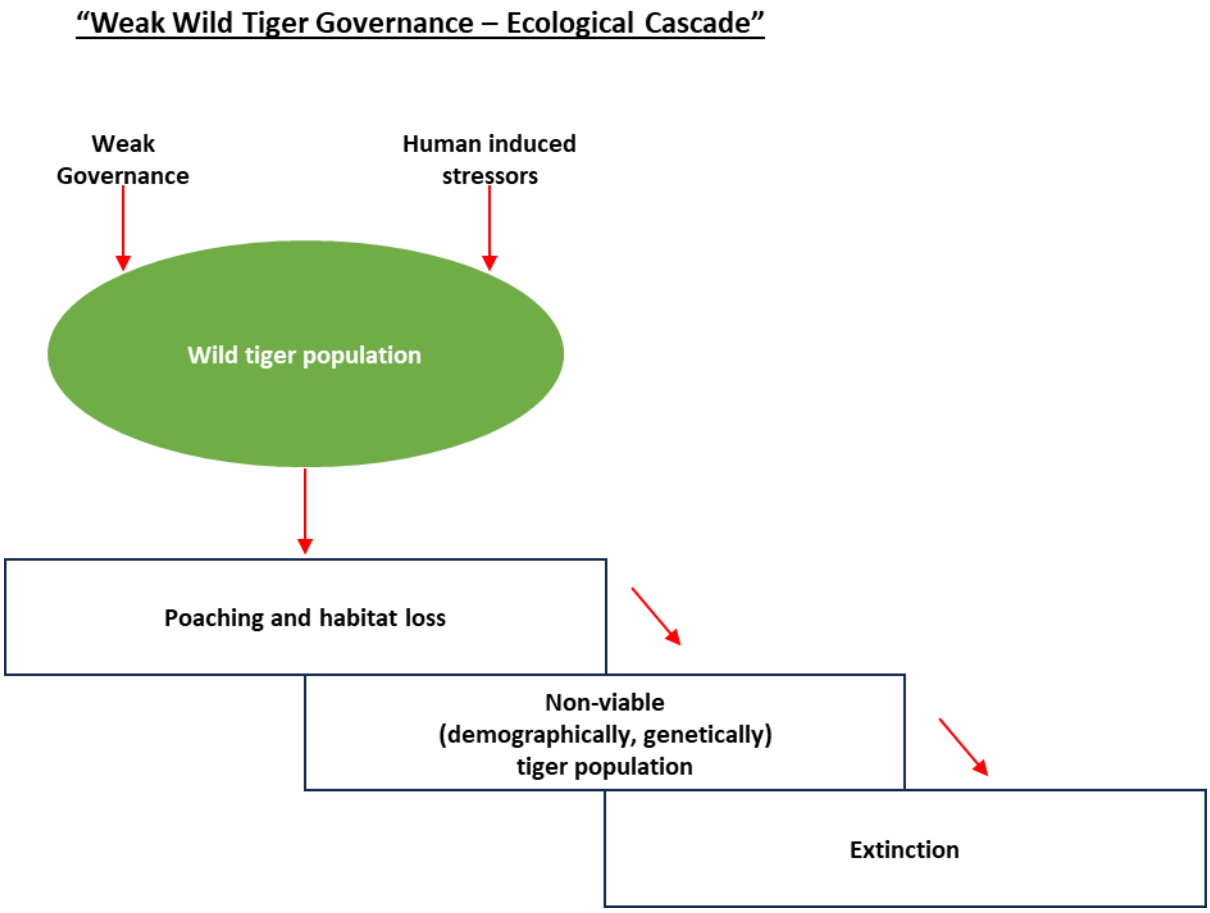


Figure 2.4: Weak Wild Tiger Governance – Ecological Cascade

The present status of wild tigers in several TRCs of South East Asia, owing to the cumulative effect of weak field governance (especially paucity of frontline field staff and protection infrastructure) human induced stressors and loss of habitat/prey, is a result of a "Weak Wild Tiger Governance – Ecological Cascade", akin to a typical "ecological cascade".

2.3 GTRP Past Program Review: Results by Country

Table 2.1: Past Tiger Recovery Goals of TRCs for 2010-2022 (source: GTRP 2010-22)

TRC	Baseline mean estimated number of tigers, adults (range)	Recovery goal, adults, by 2022	Estimated % increase potential; adults by 2022
Bangladesh	440	Demographically stable at or near carrying capacity	25%; 550
Bhutan	75 (67-81)	Demographically stable population	<20%; 90
Cambodia	10-30	50; may require translocation program	50
China	45 (40-50)	Significant population growth	100%; 90
India	1,411 (1,165-1,657)	50% increase	50%; 2,100
Indonesia	325 (250-400)	Increase tiger populations at 6 priority landscapes by 100% and occupancy levels by 80%	100%; 650
Lao PDR	17 (9-23)	100% increase	100%; 35
Malaysia	500	100% increase	100%; 1,000
Myanmar	85	50% increase	<50%; 120
Nepal	155 (124-229)	100% increase, 2010 survey estimated 155	100%; 310
Russia	360 (330-390)	50% increase	50%; 500
Thailand	200	300, 50% increase	50%; 300
Vietnam	Unknown, low numbers, estimates 10s	50 tigers; may require translocation program	50
Total	**Mean=3,643**	**Overall 60% increase**	**5,870**

BANGLADESH

GOAL 2022: By 2022, stable or marginally increased tiger numbers

2010 Estimate: 440
2022 Estimate: 114 (2018 survey)

Results and Lessons

- Tiger population in Bangladesh is stable with an 8% increase from the baseline of 106 in 2015 to 114 in 2018 through a scientific survey (camera-trapping with SECR model).
- A preliminary prey base estimation and carrying capacity of tigers in 2018 indicated 17.88 ungulates/km2 that could support a tiger density of 3.68 tigers/100 km2.
- Area of three wildlife sanctuaries has been recently increased from 23% to 52% of the Sundarbans. Facilities of freshwater availability inside forests have been improved for both wildlife & forest staffs including fisher folks. In this regard, four new ponds and 55 water holes were excavated; 88 ponds were re-excavated.
- Management Effectiveness Evaluation (MEE) was done in two wildlife sanctuaries of Sundarbans in 2016.
- A three-month ban (June-August) has been imposed on fishing, NTFP harvesting and tourism throughout the Sundarbans since 2020. Also, "Tiger widows" are getting fishing permits inside the Sundarbans.
- Following commitments under the 2014 Dhaka Declaration, frontline staff of the Sundarbans are getting a 30% extra risk allowance to their salary from 2017.
- The National Committee for Tiger Conservation is headed by the Secretary, Ministry of Environment, Forest and Climate Change, and a Divisional Tiger Coordination Committee has been formed.
- A Bangladesh-India joint working group has been activated to follow up the MoU and protocol signed in 2011 for conservation of Sundarbans and its tigers.
- The amended Wildlife (Conservation & Security) Act, 2012 has made tiger poaching a non-bailable offense with a maximum punishment of 12 years imprisonment.
- Forest Department staffs carry out SMART patrol using drones and foot patrol following the SOP throughout the Sundarbans for regular monitoring of 23 iconic wildlife including tigers and their prey.

- SMART patrolling activities are now supported by the revenue budget.
- Collaboration with the Community Patrol Group and intelligence network are being established to achieve zero poaching of tigers and its prey. Only one incident of retribution killing was reported since 2012. Tiger and prey poaching is reduced significantly after the promulgation of Informant Award Rules, 2021 that rewards wildlife crime informants.
- Bangladesh is working closely with INTERPOL, UNODC, SAWEN, US DoJ and INL to develop the capacity of Forest Department officials and other law enforcement agencies to combat forest and wildlife crime.
- The co-management committees with 49 Village Tiger Response Teams, four Forest Tiger Response Teams and Tiger Scouts voluntarily respond to human tiger conflicts across Sundarbans. Bangladesh achieved success in conflict mitigation compared to past high levels of human tiger conflicts among TRCs.
- The Wildlife Victim Compensation Rules 2020 were formulated and the amount of ex-gratia for the victim's family has increased threefold.
- Successful implementation of BTAP and NTRP coined remarkable outcomes and great lessons for tiger conservation in Bangladesh.

New Challenges

- Poaching of tigers and its prey is still the greatest challenge in Sundarbans.
- Sundarbans is one of the most climate vulnerable ecosystems in the world, experiencing eight out of ten deadliest tropical cyclones, originating from the Bay of Bengal. More than 70% of the Bangladesh Sundarbans is just a few feet above sea level. A habitat suitability modelling using two IPCC climatic scenarios revealed that climate change and rising sea levels may wipe out the world's last and largest Bengal tiger strongholds in the Sundarbans (Mukul et al., 2019).
- The Sundarbans is an active delta, notable erosion and deposition are happening. Salinity changes due to reduction of freshwater flow from upstream negatively influencing the vegetation pattern and posing threats on ungulate species as well on tigers.
- The Strategic Environment Assessment (SEA), 2021 of the south-west region of Bangladesh for conserving the Outstanding Universal Value of Sundarbans predicted a high growth investment and innovation will be observed to achieve Bangladesh a high-income country status by 2041. The main challenges are to

enhance the positive impact and to avoid or mitigate the negative impact of this high growth region adjacent to the Sundarbans tiger landscapes (BFD, 2021).

- There is a need for more skilled manpower for wildlife crime investigation and prosecution under the Forest Department.
- Training and sensitization of public prosecutors and judges to consider wildlife crime cases as priority agenda is always challenging.
- Ensure sustainable financing including alternative income generation (AIG) program for about 3.5 million forest-dependent people around Sundarbans is one of the big challenges.

Opportunities

- The government has approved the Sundarbans Tiger Conservation Project with a budget of $3.6 m for 2022-2025, considering special focus on the third phase of tiger and prey estimation, conflict management, capacity building, translocation of stray tigers for improving genetic diversity between populations isolated by wide rivers, and tiger disease research.
- Protection of The Sundarbans Mangrove Forests Project, Development and extension of ecotourism in Sundarbans project, Pond excavation and re-excavation project for the supply of fresh drinking water in order to sustainable forest management of the Sundarbans, Support to the management of Sundarbans Reserved Forests Project, Re-establishment of telecommunication system in Sundarbans project have been under implementation to uphold the outstanding universal value of this forest.
- SMART will be conducted outside the boundary of Sundarbans with Community Patrolling Group (CPG) and extensive intelligence network will be established to achieve zero poaching of tigers and its prey.
- Forensic lab will be strengthened and genome sequencing of Sundarbans tiger has been started.
- Forest Department is going to participate in Environmental DNA (eDNA) monitoring with the technical assistance from the UNESCO. Research and monitoring will be strengthened on climate change impact management. In addition, research on prey base and carrying capacity of tiger in Sundarbans are on-going under the Integrated Tiger Habitat Conservation Program.
- Biodiversity conservation activities in Sundarbans will be aligned with SDG 2030, National Adaptation Plan, Mujib Climate Prosperity Plan, Delta Plan 2100, and SEA 2021 including the Post-2020 Global Biodiversity Framework.

BHUTAN

GOAL 2022: By 2022, stable or marginally increased meta populations of tiger

2010 Estimate: 74 (67-81, based on sign survey from 1998);

2022 Estimate: 131 (based on National Tiger Survey Report, 2022)

Results and Lessons

- Bhutan has established a baseline tiger population of 103 from a first nationwide scientific survey using camera traps (28,225 km^2) in 2014–2015 with a density of 0.46 tigers per 100 km^2. Few areas like the RMNP, JSWNP, and JDNP have as many as 2-3 tigers/100km^2. The second nationwide tiger survey in 2021-2022 shows an increase of 27% in tiger numbers.
- The protected area network (10 protected areas and 9 biological corridors) amounts to almost 51% of the country's area, with inherent linkages.
- The two nationwide tiger surveys using camera traps found that landscapes outside protected areas are equally important for tigers, with nearly 50% of Bhutan's tigers occurring in the territorial divisions.
- Bhutan Tiger Center was established in 2017 under the Department of Forests and Park Services to consolidate and lead tiger conservation efforts at the national level.
- Conservation Assured Tiger Standards (CA|TS) has been accredited to 2 national parks: Royal Manas National Park and Jigme Singye Wangchuck National Park.
- Annual monitoring of tigers and prey has been established in three protected areas and two forest divisions.
- Bhutan has been implementing SMART patrol in all PAs and forest divisions with community participation.
- Two tiger action plans (2006-2015,2018-2023) have so far guided tiger conservation efforts in Bhutan.
- Bhutan Management Effectiveness Tracking Tool Plus (Bhutan METT +) was developed and used to assess management effectiveness in 10 protected areas and one botanical park from 2014-2016.
- The tiger investment amounts to BTN 619.63 million, the majority of which comes from the Government and Bhutan for Life (BFL) project, with some supplementary funding from donors.

- "Bhutan for Life" (2018–2034) is a Green Climate Fund project, with a total funding of $118.3M ($26.5M from the GCF and $91.7M co-financed). The said project aims to secure carbon neutrality by addressing threats in the context, apart from strengthening management of protected areas and biological corridors.
- Bhutan has successfully implemented the "Hunter to Hermit program", turning poachers into custodians of wildlife, in collaboration with religious, educational and government institutions.
- Gewog Tiger Conservation Tshogpa, an insurance scheme, was established at the grassroots level in several districts to compensate livestock losses due to tigers and other wildlife.
- Bhutan and India have successfully collaborated on the Transboundary Manas Conservation Area (TraMCA), covering 6,500 km^2 of tiger habitat with rich biodiversity. This is a major tiger population in the region.

Challenges

- Increasing human tiger conflicts, with 500 cases of compensation in 2018, rising to almost 1500 in 2021).
- Limited funding for compensation, the majority of which comes from the donors.
- Little scope for extending tiger habitat.

Opportunities

- Addressing human-tiger conflict at a landscape scale
- Reduction of poaching (90%)
- The BFL is a significant funding source providing scope for innovative active management.

CAMBODIA

GOAL 2022: By 2022, restore and conserve at least one source site within TCL that can hold 50 tigers

2010 Estimate: 10-30
2022 Estimate: 0

Results and Lessons

- The Cambodia Tiger Action Plan 2011–2022 coincides with the implementation of GTRP. The size of Protected Areas in Cambodia has been expanded to about 41% of the country's geographical area in 2022.
- Cambodia has high level support within the government to embark on active tiger reintroduction in the Southern Cardamom National Park.
- Cambodia has been working with local NGOs, including WWF and Wildlife Alliance, to undertake prey assessment and reintroduction of tigers.
- To prepare for the reintroduction of tigers, soft release infrastructures have been completed in the Southern Cardamom National Park in 2021.
- To assist in the reintroduction of tigers, Cambodia had several bilateral discussions with India that led to the signing of an MOU in October 2022.
- Cambodia has increased its frontline staff from 900 rangers in 2015 to 1,260 rangers in 2021, trained and equipped with patrolling techniques, equipment, and vehicles.
- Nationwide zero snare campaigns have been carried out to raise public awareness.
- A national consultation workshop on the Cambodia Tiger Recovery Action Plan has been undertaken to replace the Cambodia Tiger Action Plan 2011–2022.

Challenges

- Cambodia is facing threats related to demands on forest land for cultivation, with loss of more than 600 sq.km. from protected areas, apart from encroachment, poaching, illegal wildlife trade and lack of capacity to apprehend and prosecute offenders.
- Need for assessment of people's perception on tiger reintroduction warranted, especially from those who are living in or adjacent to Protected Area selected for tiger reintroduction.
- Awareness and capacity building efforts need to be undertaken among rangers and local communities to deal with human-tiger conflicts.

- The Eastern Plains of Cambodia with contiguous forest cover, which was a major habitat for tiger in the past, has the potential for tiger reintroduction.
- Snaring continues to be a major threat, which calls for "Zero snaring approach" with stepped up protection, frontline deployment and capacity building for intelligence-based enforcement and prosecution.

Opportunities

- Cambodia has a high level of commitment for tiger reintroduction, and has established a Tiger Recovery Technical Team under the Ministry of Environment (MoE).
- A MOU has been signed with India including possible sourcing of tigers for the reintroduction program.
- Cambodia hopes to reintroduce tigers in the Cardamom Mountain Landscape by 2025.
- To fund some of the related activities, Cambodia is actively pursuing external funding, including REDD+, ADB, JICA and GEF projects.
- Cambodia has also established an inter-ministerial working group, while establishing mobile enforcement teams to strengthen law enforcement and combat illegal wildlife trade.
- Cambodia is also keen on transboundary and collaborative efforts with other Tiger Range Countries, including establishment of transboundary PAs.

CHINA

GOAL 2022: By 2022, realize a significant growth in wild tiger populations and a large-scale expansion of restored habitats, and, as a result of stricter protection in the wild tiger range, much richer biodiversity

2010 Estimate: 40-50
2022 Estimate: >60 (2021 estimate)

Results and Lessons

- Wild tiger population, particularly in the northeast China bordering Russian Far East, has shown an increase in recent years, and during 2022-2023 wild tiger reoccurred in Great Kingan Mountains since 1970s.
- There may be at least 60 Amur tigers mainly in the forested landscapes of Laoyeling, Zhang-Guangcailing, Wandashan and the Lesser Khinghan Mountains (cumulative area 47,813 km^2), owing to new protection measures and support from the government. In the Northeast Tiger and Leopard National Park (NTLNP), there are at least 50 Amur tigers.
- China has been implementing "Three Strict Prohibitions", the mitigation of human-tiger conflicts, the crackdown on illegal trade, and the strengthening of international cooperation. These efforts have resulted in a significant increase in the wild Northeast tiger population and a continuous improvement in habitat conditions.
- Habitat restoration and creation of nature reserves, improved law enforcement to control poaching, and compensation for human-tiger conflicts have reduced pressure on tiger population recovery.
- China is putting serious efforts in the northeast to create a viable population of wild tigers, connected across four landscapes to serve as a source population.
- China has established a National Interagency CITES Enforcement Coordination Group in 2011, while organising an Inter-Ministerial Joint Conference on Combating Illegal Wildlife Trade in 2016.
- Anti-poaching campaign, with a third-party inspection mechanism, was initiated in the NTLNP, resulting in a total of 46,200 patrols covering 206,100 kilometers, and clearing more than 10,000 snare traps.

- Increased patrolling efforts have resulted in more than 97% decrease in snare trap encounter rate.
- The National Forestry and Grassland Administration (NFGA) has initiated "Planning for the Construction of Major Projects for Ecological Protection and Restoration of the Northeast Forest Belt (2021-2035)", to ensure intactness of tiger habitat.
- Tiger Conservation and Research Center and Feline Research Center are being established within the National Forestry and Grassland Administration (NFGA) to coordinate Amur tiger and leopard monitoring, conservation, and research.
- The National Forestry Northeast Tiger Monitoring and Research Center was established by the NFGA in 2016, and an agreement has been entered with the Land of the Leopard National Park across the border with Russia for a joint cross border Amur tiger and leopard monitoring.
- A dedicated Tiger Conservation Office has been established under the State Forestry Administration. The Action Plan on Conservation of Wild Tigers in China has been drawn by the SFA.
- A Central Forestry Ecological Protection Restoration Fund (National Park Subsidy) was established in NTLP in 2020-2021 for compensation towards losses and damages from wildlife.
- Community support like development of alternative and tiger-friendly livelihoods, emergency response systems for disasters, health clinics, relief works, emergency shelters, and facilities for community safety have been initiated.
- Protocols have been established with India and Russia, including a MoU with Nepal.
- Transboundary collaboration between China and Russia on Amur tiger and leopard is ongoing since 2013, and finished the Sino-Russia jointly camera trap and DNA monitoring Amur tiger population in 2016.

Challenges

- Presence of tiger farms and internal trade of tiger body parts and derivatives
- Fragmentation and patch isolation of tiger habitats with less productivity in the context of welfare factors. However, tiger habitats of northeast China have been improved remarkably
- Human-tiger conflicts are continuously increasing in the Laoyeling mountains
- Need for enhanced community support, with tiger as a multi-dimensional index of social and economic well-being.
- Need for stepping up capacity building to handle tiger agenda.

- The risk of inbreeding pressure in tiger population of Laoyeling National Park connected with Leopard National Park of Russia should be controlled.
- Addressing tiger poaching vis-à-vis the market demand for body parts and derivates.

Opportunities

- Recovery of tiger population and its habitat through National Park Program, enhanced law, and intelligence monitoring system.
- Reducing human-tiger conflict through monitoring tiger population and appropriate preventive and control measures
- Developing an agenda for active management and rapid response, with state of the art scientific and technological inputs including a communication strategy to elicit public support
- Developing cross-border ecological corridor and transboundary cooperation in conservation.
- Developing the tiger disease monitoring and preventive system

INDIA

GOAL 2022: By 2022, safeguard tiger habitat and source population to foster viable tiger population

2010 Estimate: 1,411 (2006 estimate)
2022 Estimate: 3,682 (2022 estimate)

Results and Lessons

- India holds more than 70% of the global wild tiger population, and conducts country-wide assessment of tiger, co-predators, prey, and habitat every 4 years since 2006 covering all potential tiger bearing areas.
- Tiger population in India has been increasing at the rate of 6 to 7% per annum over the years, and the Tx2 goal has been achieved.
- Tiger occupancy has increased from 1,758 cells of 100 sq.km. in 2018 to 1,792 in 2022.
- Tiger corridors have been mapped in tiger landscapes with the actions to secure tiger gene porosity.
- Starting with nine tiger reserves during the launch of the Project Tiger fifty years ago (April 1973), India now has fifty-three tiger reserves, covering 75,796.83 sq.km., amounting to 2.3% of the country's geographical area. Of this, core areas (having the status of national park or a wildlife sanctuary) amount to 41,499.37 sq.km., while peripheral buffer total upto 34,297.46 sq.km.
- India has been allocating significant amounts of sovereign funding in conservation of its national animal, the tiger (total of $287 million allocated between 2012-2021, amounting to $42.3 million annually between 2012-2018, which increased to $48.4 million annually during 2012–2021).
- Standard operating procedures are in place for tiger governance in field formations to deal with various exigencies.
- A state-of-the-art day to day monitoring protocol – "M-STrIPES" (Monitoring System for Tiger Intensive Patrolling and Ecological Status) has been launched in tiger reserves across the country for patrolling, monitoring, ecological data collection and conflict assessment.
- Several reserves have a Special Tiger Protection Force.
- Security audits of tiger reserves are performed periodically.

- India has improved its wild tiger governance, backed with special legislation institutional arrangements technical guidance and stepped enhanced funding support for implementing an "Exclusive" tiger agenda complemented by an aggressive people "Inclusive" co-occurrence agenda. As many as 5 million man-days are generated annually through deployment of local workforce in tiger reserves owing to tiger investment by the federal and state governments.
- An independent Management Effectiveness Evaluation of Tiger Reserves (MEETR) is carried out every 4 years.
- Conservation Assured Tiger Standard (CA|TS) has been accredited to twenty-three tiger reserves apart from three forest divisions.
- Economic valuation of several tiger reserves has been carried out, including appraisal ecosystem services and adaptation to climate change. The monetary value flow from tiger reserves amounts to $5,519-$10,024/ha/year; tiger reserves conserve carbon stock worth $1.95 billion to $13.08 billion; ecosystem benefit equivalents range from $571–$1,801 millions/year, with more than 350 rivers flowing through from tiger reserves.
- The Kanha-Pench green corridor on National Highway 44 has set an example of smart green infrastructure that allows vehicular traffic without hindering wildlife movement.
- Reintroduction of tigers in Madhav National Park, Panna, Sariska, and Rajaji tiger reserves; and augmentation of prey species in low density areas stand out as successful examples of active management.
- India has bilateral arrangements with Bangladesh, Bhutan, Myanmar, Cambodia, China, and Russia on tiger/big cat conservation.
- Based on the successful track record of wild tiger conservation, India has successfully launched "Project Cheetah".
- India has launched the "Amrit Kaal Ka Tiger Vision – Tiger @ 2047" with an aim towards securing tigers for posterity.
- The country has recently launched the "International Big Cat Alliance" for strengthening global cooperation towards big cat conservation.

Challenges

- Maintaining desired and uniform level of protection in tiger landscapes with state of the art practices to cope up with emerging threats for the wild tiger, its prey and habitat.

- Addressing human-tiger interface and institutionalising gainful community stewardship in the context.
- Ensuring effective communication to stakeholders for syncing wild tiger conservation with development, to demonstrate tiger as a multi-dimensional index of biodiversity and human well-being with a centrifugal landscape scale approach.
- Consolidation of tiger governance with adherence to normative standards across all tiger reserves.

Opportunities

- Implementing the "Amrit Kaal Ka Tiger Vision – Tiger @ 2047".
- Strengthening big cat conservation across range countries through the newly launched International Big Cat Alliance.
- Institutionalising wild tiger conservation based on gainful community stewardship at a landscape level under "Payment for Ecosystem Services".

INDONESIA

GOAL 2022: By 2022, conserve the Sumatran tiger while fostering harmonious tiger coexistence with development activities on Sumatra Island

2010 Estimate: 325
2022 Estimate: 393 (2018)

Results and Lessons

- Indonesia has the distinction of being the home to Sumatran tiger, found only at Sumatra.
- Indonesia is home to the Sumatran tiger populations, which is critically endangered occupying Aceh and North Sumatra. There are about 33 locations reported to harbour wild tigers, of which 25 are above 500 sq km.
- Six protected areas are considered priority sites for tigers: Bukit Barisan Selatan NP – Bukit Balai Rejang, Kerinci Seblat NP – Batanghari, Bukit Tigapuluh, Kuala Kampar – Kerumutan, Berbak Sembilang and Gunung Leuser – Ulu Masen.
- The management of tiger PAs has been strengthened with METT assessments done by trained staffs.
- Science-based monitoring have been undertaken at priority tiger habitats. Based on the survey done in 2011 - tiger occupancy at Kerinci Seblat NP – Batanghari was the highest (85%).
- Priority tiger habitats amounts to 25,000 sq. km.
- Tiger density in the above six PAs (year 2021) survey are: Bukit Barisan Selatan NP - Bukit Balai Rejang 1.45 tiger per 100 sq.km, Kerinci Seblat NP – Batanghari 0.95, Bukit Tigapuluh 1.5, Kuala Kampar – Kerumutan 0.25, Berbak Sembilang 1.54 and Gunung Leuser – Ulu Masen 0.49. The estimated tiger population is 250.
- External funding has been obtained for tiger conservation from GEF-UNDP Sumatran Tiger Conservation Forum (known as HarimauKita), Wildlife Conservation Society (WCS), Fauna & Flora International (FFI) and Zoological Society of London (ZSL)

Challenges

- Human-tiger interface conflicts
- Loss of productivity in forest landscape to support viable prey base for the tiger

- Eliciting community support for the wild tiger through gainful community stewardship
- Targeted killing of tiger and its prey
- Timber felling

Opportunities

- Potential for emerging as a model tiger country in Southeast Asia, through consolidation of tiger source areas, and innovative strengthening of wild tiger governance.
- Evolving viable protection normatives, institutionalising gainful community stewardship through a landscape scale approach, green business models to complement sovereign tiger investment along with bilateral instruments for addressing areas of mutual concerns with neighbouring countries.

LAO PDR

GOAL 2022: By 2022, elevate the existing tiger numbers to the level of viable breeding populations

2010 Estimate: 17
2022 Estimate: 0

Results and Lessons

- Lao PDR's current National Tiger Action Plan is for the period 2010–2020. The country has carried out detailed planning with policy initiatives, including Assessment and Strategic Planning for Tiger Conservation in the Priority Tiger Conservation Landscape along with Site-specific Tiger Conservation Action Plan (STCAP) (2019–2023).
- The list of protected wildlife species has been revised in 2021, including upgradation of tiger status as totally protected. Efforts have been made to strengthen wildlife protection and implementation of CITES related commitments.
- Lao PDR has also established the Lao-WEN to combat Illegal wildlife trade, with the relevant SOP approved in 2021.
- Lao PDR has decided to undertake DNA study of around 300 tigers in captivity with a view to rewild pure-bred animals.
- A new National Tiger Action Plan (NTAP) is under preparation.
- Lao PDR has also recently amended the Wildlife and Aquatic Law to strengthen its efforts against wildlife crime.

Challenges

- Lack of data on habitat quality and prey status.
- Need for enabling policy regime to foster tiger agenda
- Presence of tiger farms and internal trade of tiger body parts and derivatives
- Need for putting in place tiger governance infrastructure in field formations, deployment of frontline based on protection normatives along with related measures to safeguard habitat welfare factors based on a tiger conservation plan

Opportunities

Lao PDR has actively participated in the international forum to develop the new Southeast Asia Tiger Recovery Action Plan (STRAP) where it would want to focus on:

- Policy framework for strengthening enforcement of the recently amended wildlife legislation and CITES-related commitments.
- Strengthening of habitat management and restoration of tiger habitat at the Nam Et Phou Louey National Park for prey species augmentation and monitoring with the involvement of local communities.
- Transboundary collaboration with:
    - Vietnam: to address illegal wildlife trade
    - Thailand: establishing transboundary Protected Areas
    - Malaysia: assisting wildlife forensic training.

MALAYSIA

GOAL 2022: Doubling its Malayan tiger population from 500 to 1,000 in the wild within the CFS landscape

2010 Estimate: 500
2022 Estimate: 150

Results and Lessons

- Malaysia has embraced enthusiastically the global Tx2 target by incorporating it in the National Tiger Conservation Action Plan (NTCAP) 2008–2020. The plan was developed under the leadership of the Department of Wildlife and National Parks (DWNP) with the support of several stakeholders.
- Comprehensive surveys of tiger and distribution of prey were undertaken at three priority tiger habitats between 2010–2015. This was followed by the first National Tiger Survey (NTS 2016–2020) that revealed Malayan tiger population is below 150 wild tigers.
- The management of core tiger habitats has been strengthened with management planning and METT assessments.
- The Royal Belum State Park has been nominated as a Conservation Assured Tiger Standard (CA|TS) site.
- Malaysia has implemented several Integrated patrolling efforts with participation of the army and police.
- The Wildlife Conservation Act 2010 was passed with higher penalties for crime against wildlife.
- The Central Forest Spine (CFS) initiative, incorporating almost all the 45,000 sq.km. of tiger habitat, continues to be the major national land use planning tool with federal funds used for developing four ecological corridors.

Challenges

- Many actions under the NTCAP could not be implemented owing to administrative bottlenecks.
- Under the financial gap analysis undertaken by the GTF in 2021, all three core tiger habitats in Malaysia fall under Level 2 of the Tiger Governance Pyramid. Therefore, more efforts are needed on the ground to raise their status raise to Level 1.

- Malaysia has addressed the paucity of frontline staff by hiring 1,000 local community rangers, and more effort are underway.
- Need for enhanced government funding to develop CFS ecological corridors linking fragmented tiger habitats.

Opportunities

- Malaysia has recognized the crisis of Malaysian tiger population and several policy initiatives have been undertaken:
    - The Malayan Tiger Crisis Action Plan (MTCAP) has been prepared for implementing nine Extraordinary Actions, including:
        - Formation of a high-level tiger task force MyTTF to be chaired by the Prime Minister
        - Creation of a Wildlife Crime Bureau (WCB) under the Royal Malaysian Police.
- MyTTF had its inaugural meeting on 10 January 2022, followed by inauguration of the 4th Asia Ministerial Conference by the Prime Minister, reiterating Malaysia's commitment to save the Malayan tiger under the 2022 Kuala Lumpur Joint Statement.
- The first tiger reserve in region has been declared by the State of Pahang under the patronage of His Royal Highness, The Regent of Pahang, Malaysia.
- The government has approved additional staffing for creation of Wildlife Crime Bureau under the police while establishing the Tiger Unit under DWNP.
- Through the MyTTF, more incentives are expected to be given to the Tiger Ranging States in Malaysia for securing additional tiger habitats.
- External funding has been secured from the GEF-financed Global Wildlife Program, through the UNDP, for strengthening the capacity of WCB and Tiger Unit.

MYANMAR

GOAL 2022: By 2022, undertake monitoring to determine the actual population numbers and conserve the tiger at priority tiger habitats

2010 Estimate: 85
2022 Estimate: 28

Results and Lessons

- Distinction of having two sub-species of wild tiger, viz. Bengal and Indo-Chinese. Myanmar developed its first National Tiger Action Plan for five years (2003–2007), and the second National Tiger Action Plan for another five years (2020-2025) has been documented.
- Monitoring efforts covered 10% of tiger habitats (Upper Chindwin Landscape (UCL), Dawna Tenasserim Landscape (DTL)); however, many sites are inaccessible owing to conflicts.
- Community participation has been remarkably increased under the Community Monitoring and Reporting System and awareness programs.

Challenges

- Inability to undertake country-wide enforcement and monitoring across tiger landscapes, especially those in the northern area with a decline in wildlife and tiger populations.
- Inaccessibility of several areas owing to conflict prudent situation and governance issues.
- Paucity of sovereign funding and decrease in external support.
- Insufficient field frontline staff for patrolling and monitoring, along with need for coordination amongst stakeholders and communities to combat illegal wildlife trade.

Opportunities

- Evolving a policy framework to strengthen tiger governance, including the formation of a high-level task force, establishment of a centralized database that could be shared by various agencies, formal collaboration with donor agencies and like-minded organizations to support tiger conservation.

- Protection and intelligence-based enforcement by frontline staff, complemented by the ongoing Community Monitoring and Reporting System (CMRS) to curb illegal wildlife trade.
- Habitat restoration and monitoring based on protected area specific tiger conservation plan.
- Capacity building of staff at border checkpoints on national laws, and CITES for effective enforcement.
- Strengthening transboundary cooperation with tiger range countries (TRCs).

NEPAL

GOAL 2022: By 2022, double tiger numbers

2010 Estimate: 155
2022 Estimate: 355

Results and Lessons

- Almost tripled tiger population from a baseline of 121 in 2010 to 355 in 2022 (density range 1-7/100 km^2)
- Around 5,500 km^2 of area is in the form of core tiger habitat in five protected areas (PAs), with addition of 678 km^2 of habitat through extension of existing reserves and declaration of the new Banke National Park.
- Strong governance and leadership with the National Tiger Conservation Committee chaired by the Prime Minister.
- Creation of Wildlife Crime Control Bureau, and Wildlife Crime Control Committee to strengthen efforts from national to district levels.
- "Zero poaching" status maintained for several years owing to enhanced Inter-agency coordination and intelligence sharing, backed by enabling policy regime, and funding support to combat wildlife crime.
- Implementation of real time SMART patrol and frontline deployment (4,000-armed patrolling staff)
- Use of technology (drones, CCTV, anti-poacher cams, sniffer dogs), and periodical sweeping operations (thorough scanning of forest in susceptible areas) for ensuring protection.
- Implementation of informant network support, targeted wildlife crime control measures, together with community based anti-poaching units.
- The South Asia Wildlife Enforcement Network (SAWEN), a regional secretariat for a coordinated fight against organized illegal wildlife trade, is based in Nepal.
- Guidelines for relief and compensation towards crop/livestock depredation and injury/death to humans issued to reduce retaliatory killing.
- Wildlife Friendly Linear Infrastructure Guidelines, developed in collaboration with the Department of Roads under the Ministry of Physical Infrastructure and Transport in 2022, to minimize the impact of large linear infrastructure on wildlife.

Challenges

- Habitat fragmentation and degradation outside the protected area system.
- Limited scope of tiger habitat expansion.
- Feasibility of tiger habitat in high altitude being explore, based on tiger presence recorded.
- Increased Human-tiger conflicts.
- Poaching of tiger is a persistent threat owing to the illegal international demand, with criminals using Nepal as a transit route for trafficking of wildlife parts and derivatives.
- Rescue and rehabilitation of wild animals causing distress.

Opportunities

- Institutionalising multistakeholder engagement (government departments, non-governmental agencies, local community for eliciting public support and factoring tiger concerns in other sectors.
- Gainful community engagement for addressing human-tiger conflicts.
- Securing corridor connectivity in the TAL for managing the metapopulation of tiger.
- Promoting host community driven sustainable wildlife tourism.
- Securing sustainable financing to carbon trade for gainful community engagement, while promoting Payment for Ecosystem Service (PES).

RUSSIAN FEDERATION

GOAL 2022: By 2022, safeguard a viable population of the Amur tiger consisting of at least 500 animals across the Russian Federation

2010 Estimate: 360 (330-390) adults
2022 Estimate: 573-600

Results and Lessons

- Two new national parks (Land of the Leopard and Bikin) and two game reserves (Sredneussuriysky and Gusarovsky zakazniks) have been established.
- A system of protecting the Amur tiger, its prey and habitat is fully operational: control of hunting and Protected Area management services well equipped, with field infrastructure, apart from a system for staff bonus and advanced training.
- Another national park (Pompeyevsky) is being planned, which (including territorial zakazniks) would result in the coverage of almost 25% of the Amur tiger habitat.
- In 2013, criminal liability was introduced for illegal hunting and trafficking. Cross-border transport of Amur tiger and its body parts are banned.
- During 2019, illegal hunting and trafficking of valuable wild animals were categorised as moderate and serious criminal offenses (leading to decline of poaching from 50-70 tigers per year in the past decade to 10-15 tigers).
- The Amur Tiger Center was established in 2013, at the behest of the President of the Russian Federation, as a specialized NGO to support tiger conservation goals in Russia.
- Conflict resolution teams have been set up, equipped and trained in the Primorsky and Khabarovsk Regions.
- A damage insurance system has been introduced (2015)
- Implementation of tiger rehabilitation and reintroduction projects.

Challenges

- Need for active One Health measures to mitigate and prevent zoonoses.
- Addressing human-tiger conflicts through revision of livestock grazing practices along with state system of conflict resolution, complemented by capacity for tiger rehabilitation and reintroduction.

- Preventing Habitat Fragmentation through regulation of new mining and linear infrastructure (gas & oil pipelines, roads).
- Fostering public awareness for effective Law Enforcement and conviction in Courts of Law.

Opportunities

- Expanding the network of field research stations across the Amur tiger habitat for protection and monitoring.
- Expanding the "Stream" registration system that tracks vehicles entering remote areas to improve anti-poaching efforts.
- Developing use of technology for preventing human-wildlife conflicts.

THAILAND

GOAL 2022: By 2022, increase the tiger population at the Western Forest Complex Landscape by 50%

2010 Estimate: 200
2022 Estimate: 148-189 (2022)

Results and Lessons

- Thailand harbors the largest Indo-Chinese wild tiger population.
- It is also home to a small population of Malayan tiger at the south, bordering Malaysia.
- Tiger conservation is guided by the "Thailand Tiger Action Plan" - 2010–2022.
- Monitoring and patrolling through SMART system being done at the Western Forest Complex, along the Thailand–Myanmar border, including the Huai Kha Khaeng Wildlife Sanctuary.
- International cooperation has been enhanced for tiger conservation and addressing illegal transboundary wildlife trade
- Commitment to the CITES implemented for monitoring and managing captive tigers.
- Protected Area Committees (PAC) and Community Committees (CC) have been formed, with access to information for local level planning.
- Ecotourism for wildlife developed with gains to local community (sharing of benefits).
- Capacity-building and training of protected area rangers and managers undertaken for good tiger governance.
- Implementation of science-based monitoring of tigers and their prey.

Challenges

- Enhancing frontline staff deployment in tiger protected areas based on normatives to strengthen protection.
- Stepping up protection along international borders with: Myanmar, Lao PDR, Cambodia, and Malaysia.
- Vulnerability to tiger poaching driven by the illegal global demand for tiger body parts and derivatives.

- Mitigating habitat loss and fragmentation owing to development projects and related infrastructure.
- Institutionalising bilateral cooperation under the ASEAN-WEN to address illegal wildlife trade.
- Concerted efforts for phasing out of tiger farms to ensure security of wild tigers.

Opportunities

- Incorporating active management in the "Thailand Tiger Conservation Action Plan.
- Joint monitoring of Malayan tiger at the Malaysia-Thailand border based on transboundary engagement.
- Evolving the Tiger Conservation Training Center at Huai Kha Khaeng as a regional training center in Southeast Asia.

VIETNAM

GOAL 2022: By 2022, protect and conserve tiger, its habitat and prey by preventing the decrease and gradually recover and increase the population by 2022

2010 Estimate: 10
2022 Estimate: 0

Results and Lessons

- Vietnam has a National Action Plan for Tiger Conservation (2014–2022), implemented by the Vietnam CITES Management Authority with the support of NGOs and other stakeholders.
- Comprehensive surveys of tiger and prey distribution were undertaken at six priority tiger habitats, indicating presence of Indochinese tiger in low numbers.
- The National legislation has been strengthened to protect wildlife: the Criminal Code (2015), is effective from 2018, which has categorised hunting and trading of tiger and endangered species as a major crime leading to imprisonment of fifteen years.
- Other laws are also in place to protect the habitat and prey species: the Law on Biodiversity (2014), the Law on Forestry (2017), and the Law on Investment (2020).
- A decision has been made at the level of Prime Minister in 2014 for a National Program on Tiger Protection (2014–2022).

Challenges

- Forest resource dependency of communities.
- Illegal wildlife trade fostered by the international demand for wildlife body parts and derivatives.
- Envisioning an institutional mechanism (high-level task force) for coordination/ implementation of the National Programme on Tiger Protection, in view of wildlife management being mandated to two Ministries, viz. MARD and MONRE.
- Stepping up frontline deployment with capacity building for patrolling, monitoring, and law enforcement on the ground.

Opportunities

- Strengthening the legal regime to combat wildlife crime and its illegal trade.

- Phasing out of tiger farms/breeding facilities in a time bound manner.
- Consolidating/strengthening the governance of protected areas under the National Programme on Tiger Protection through security planning forming part of a larger tiger conservation plan with active management to revive the habitat, prey and the tiger.
- As a part of phasing out tiger farms, undertaking DNA analysis of captive tigers.
- Institutionalising transboundary cooperation with Lao PDR, Cambodia, and Malaysia.

KAZAKHSTAN

GOAL:Tiger reintroduction in its historical range

Results and Lessons

- During the period from 2010 to 2022, the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, has done concerted efforts for wild tiger reintroduction.
- The country participated in the GTRP meetings including Tiger Summits in 2010 and 2022, apart from the Asia Ministerial Conferences on Tiger Conservation.
- A program for reintroduction was developed, and approved, including concurrence by the IUCN.
- During 2017, a Memorandum of Understanding was formulised between the Government and WWF for the tiger reintroduction program.
- The Ile-Balkhash reserve was created (415,000 ha) in 2018, with subsequent area additions (635,000 ha of the Karoysky and Pribalkhashsky complex reserves), along with the Kapchagay-Balkhash ecological corridor.
- The Bukhara deer reintroduction program was launched in 2019, and the current wild population status of the deer is more than one hundred.
- During the period 2019–2022 around two million hectares of habitat was protected which includes reforestation and fire prevention.
- The Kulan reintroduction program was launched in 2022.
- Between 2018–2022 the ungulate population (Wild boar, Roe deer, Goitered gazelle, and Bukhara deer) has registered an increase, with a density of more than fifteen animals per 1,000 ha in the release area.
- Technology is being used for monitoring of reintroduced animals (involving remote sensing, thermal imaging, camera traps, and smart patrolling).
- Systematic outreach program is ongoing to prevent in the context of human-wildlife conflicts, apart from eliciting local public support.

Challenges

- Restoring productivity of tiger source area, complemented by a co-occurrence agenda with local people.
- Ensuring the ecological integrity of the lake Balkhash and the habitat selected for tiger reintroduction, with sustained flow in the Ili River.

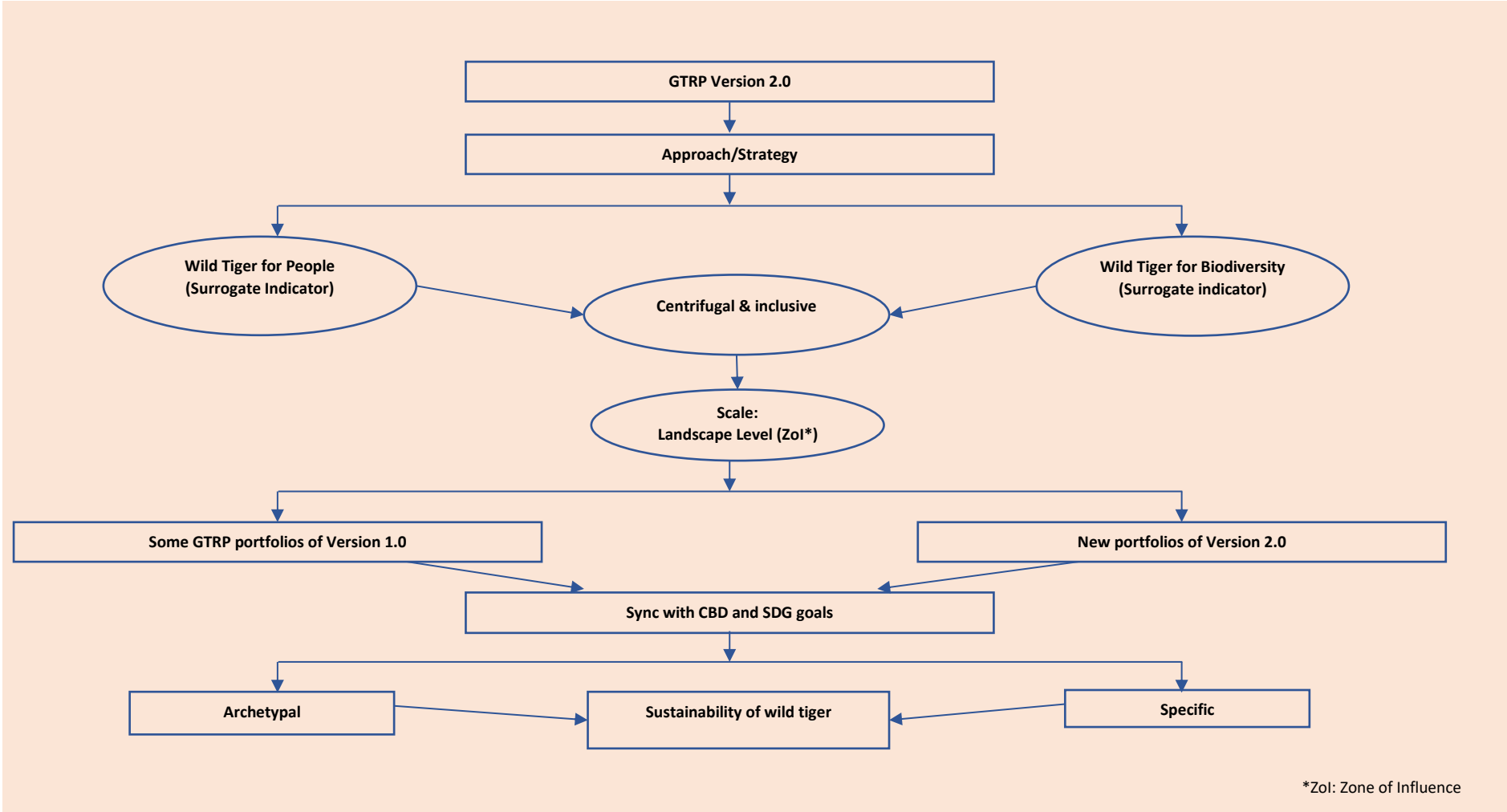
- Containing forest fires in the Ili River Delta and Southern Balkhash region.
- Implementing the Memorandum with the Russian Federation (as executed at the Vladivostok Summit in September 2022) for tiger reintroduction.

Opportunities

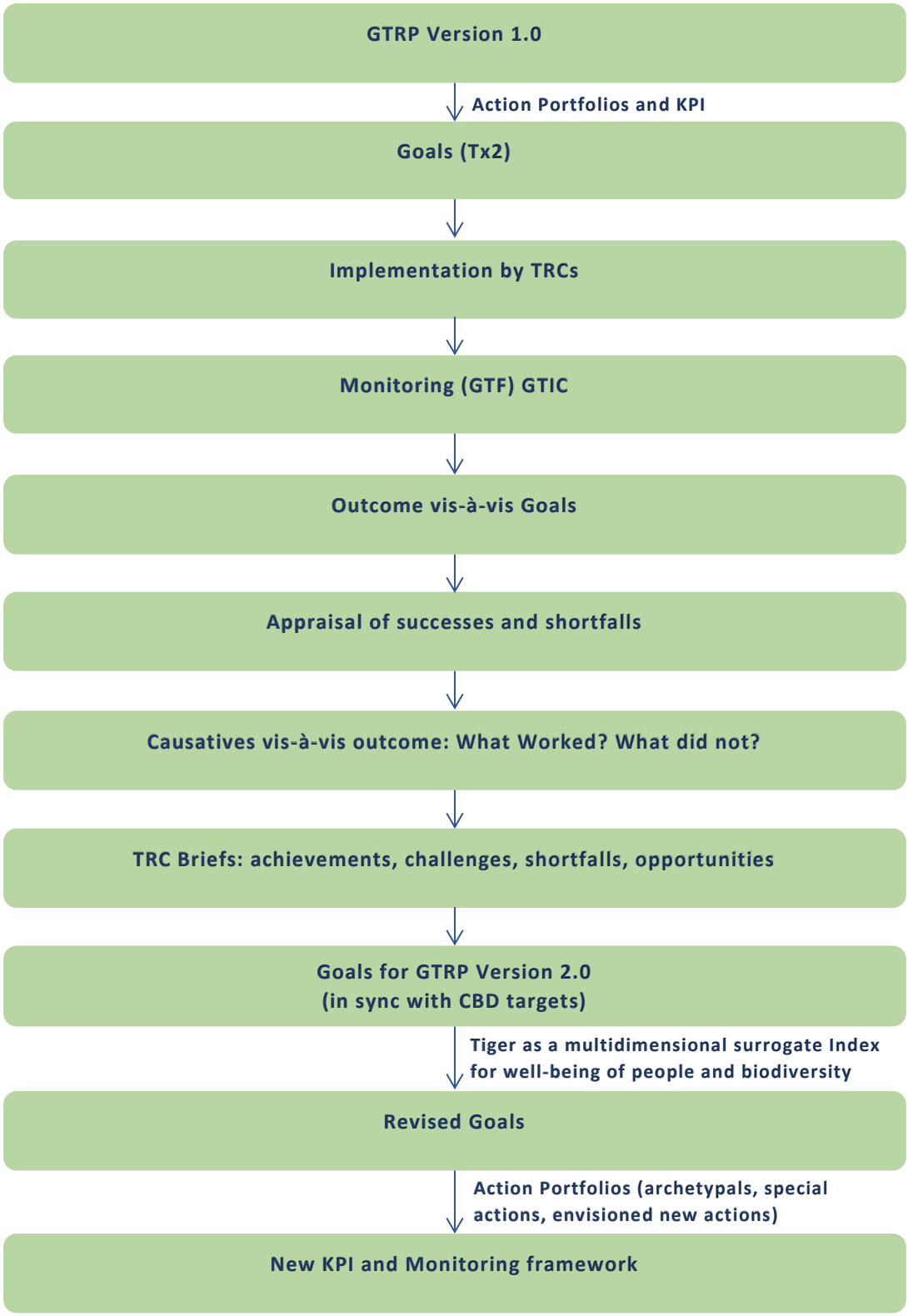
Demonstrating collaborated active management for wild tiger revival in its historical range, to serve as a surrogate, multidimensional indicator for the well-being of biodiversity and people.

3. GTRP 2.0 (2023-34)

GTRP 2.0: Contours and synergy



Flow Chart: Process of firming up GTRP Version 2.0 (Steps)



3.1 Vision and Goals

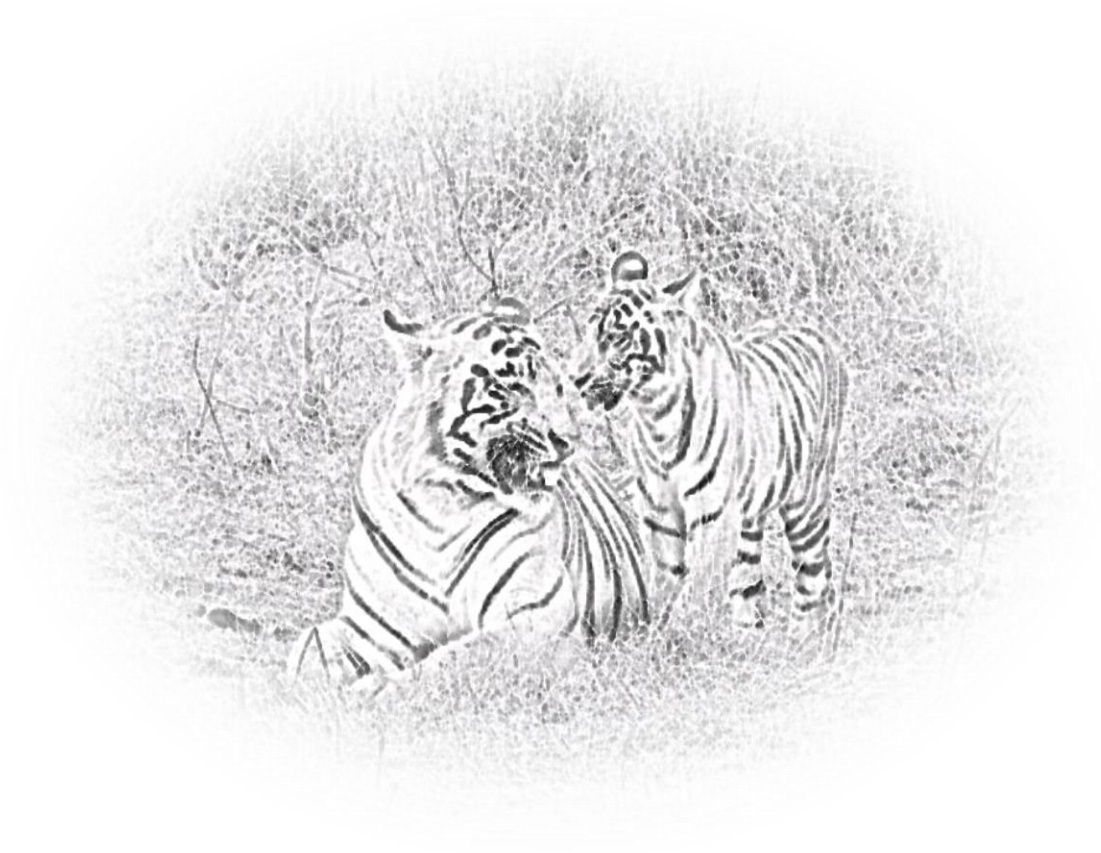
The overarching vision of GTRP 2.0 is for the tiger to remain WILD in perpetuity, based on the following Goals

Wildlife crime across tiger landscapes is effectively addressed

Institutions for tiger governance are strengthened across range states

Landscape scale approaches with stakeholder involvement for tiger conservation are widely adopted

Development supporting holistic green growth, social equity, and climate resilience is mainstreamed into tiger conservation



3.2 Alignment with the Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework (GBF) of the Convention for Biological Diversity (CBD) was signed by 188 countries - including all tiger range countries (TRCs). It provides a blueprint to 2030 for the coordinated global effort to reverse a dangerous and accelerating biodiversity crisis. The period during which TRCs will refine their national biodiversity strategies and action plans to meet the provisions of the GBF precisely overlap with the initial months of the new Global Tiger Recovery Program (2023-2034). This provides TRCs and other institutions with a unique opportunity to ensure that future tiger conservation actions both align with, and serve as engines for successes, under that newly agreed global framework.

This GTRP itself features several pathways through which these two processes might be impactfully integrated. One such path pertains to the unique suitability of tigers and other Big Cat populations to serve as important *indicators* for the health of the ecosystems and intactness of biodiversity assemblages in those areas where they are resident. Such an approach has further potential when it is considered that gains made in the high-biodiversity areas - of the type necessary to support tiger presence - are explicitly prioritized in GBF Target 1. With the potential for new tools such as Tiger Conservation Landscape 3.0 to generate far more tiger-related data, and in smaller intervals of time, the avenues for incorporating 'tiger indicators' as part of GBF reporting can be further explored.

Importantly, the tracking of tiger-related data during the new GTRP period can be expanded to generate a broad suite of social-science data, an idea that is explored through the concept of a *multi-dimensional tiger index* outlined in this publication. This would support the broader ambition in the GTRP goals to ensure that local communities are central to the delivery of - and their derived benefits from – future tiger conservation efforts, in a manner responsive to GBF Targets 9, 21, and 22. Other clear overlaps in purpose between the two processes can be found in this GTRP - for example the focus on significantly reducing wildlife crime (GBF Target 5).

When considering the decade to come, the single most important goal that features in the GTRP and GBF would likely be the stated ambition to bring a *whole-of-government approach* to the numerous and diverse challenges facing governments around biodiversity and tiger recovery. Articulated under Target 14 of the GBF, and the 'Institutionalizing' element of the GTRP vision, the process of greatly expanding the diversity of government decision making and ministries coordinating on tiger conservation - perhaps directly under new GBF-related architecture - will be critical to meeting these highly complex challenges.

While the tiger range countries go forward in formalizing and interlinking the delivery of GBF and GTRP portfolios in the coming months, the Global Tiger Initiative Council (GTIC) and Global Tiger Forum (GTF) and other partners will commit to explore cooperation with the CBD institutions, as was suggested under the *cooperation and synergies* provision of the GBF.

3.3 Overarching Outcomes

The following outcomes, linked to the Goals and the GBF are anticipated from the implementation of the GTRP 2.0.

1. **Policy and Institutions for Strengthening Wild Tiger Governance :** A cross-sectoral approach is adopted at the national level in Tiger Range Countries with sufficient institutional support for tiger conservation vision and goals
2. **Resources:** Tiger Range Country governments substantially increase political and financial investment for the conservation of tigers, prey and their habitats with substantially increased support from funding agencies including Multilateral Development Banks (MDBs) and the private sector
3. **Protection:** Tiger and prey populations have the highest level of protection at the country and trans-boundary levels
4. **Monitoring and Habitat Management:** Robust, data-driven planning, monitoring and habitat management approaches for tigers, prey and habitats are implemented
5. **Addressing Human–Wildlife Conflict:** Human-wildlife conflict is effectively managed at all levels using a diversity of approaches with engagement of multiple stakeholders
6. **Active Management for Tiger/Prey Revival:** Tiger populations have recovered in key landscapes through active management/translocation
7. **Community Stewardship:** Policies and guidelines that promote stewardship of natural resources and incentives for conservation are in place
8. **Landscape Approach:** Development actions mainstream tiger conservation to ensure continued landscape functionality and connectivity
9. **Wildlife Crime and Illegal Trafficking:** Illegal trade in tigers and their body parts is significantly reduced in the range countries and demand for tiger derivatives is reduced in the consumer countries
10. **Transboundary and International Cooperation:** Tiger Range Country governments strengthen collaboration for the conservation of tigers, prey and their habitats, in transboundary landscapes

11. **Climate Change Adaptation and One Health Approach:** Nature based solutions are adopted in tiger conservation strategies that can help countries achieve their climate targets, and a One Health approach is adopted at landscape levels towards reduced risk from transmissible wildlife diseases

3.4 Action portfolios

Action Portfolio	Actions
1. Policy and Institutions for Strengthening Wild Tiger Governance	• Statutory backing for a national level institutional mechanism to support tiger conservation (e.g., National Tiger Conservation Authority, MyTTF)
	• Evolving Standard Operating Procedures for field formations to deal with various situations
	• Evolving partnerships with thematic institution to strengthen science, research, and technology
	• Enabling policy regime for providing legitimacy to landscape level strategy
	• Legal provision for securing inviolate tiger habitats while fostering "inclusive" wildlife-people co-occurrence agenda in peripheral zones
	• Develop a policy framework to regulate the existing captive tiger population using global standards with science-based efforts to support in situ conservation, where needed.
2. Resources	• Address financial resource gaps through enhanced government funding support
	• Leverage support for community engagement through existing programs of other line departments (beyond forest and environment)
	• Explore possibilities for evolving innovative financial instruments (pooled funds, bonds, joint venture among others)
	• Securing support from global climate and biodiversity focussed financial instruments
	• Leverage private sector engagement for conservation activities in tiger landscapes
	• Evolving partnerships with industry for deploying technology towards protection, monitoring, and addressing HWC issues

Action Portfolio	Actions
3. Protection	• Implementing site security planning and audit
	• Deployment of adequate anti-poaching frontline with support squads (vehicular squad, elephant, sniffer dog), State of the art technology support for patrolling and surveillance (SMART, MSTrIPES, AI based camera systems, among others)
	• Establishing 24x7 control rooms fully equipped with communication facilities for on-field communication and mobility support
	• Special joint patrolling and monitoring actions with transboundary tiger sites with neighbouring protected area/states/district/province/countries
	• Capacity building of patrolling squad
	• Ensuring special protection during rainy season and pinch period
4. Monitoring and Habitat Management	• State of the art tiger conservation plan/management plan
	• Site level tiger/co-predator camera trap-based monitoring
	• Regular countrywide tiger assessment e.g., four-year cycle
	• Assessing Management Effectiveness (e.g., CA|TS/ METT/MEE)
	• Computing habitat carrying capacity for tiger
	• Adopting "micro core" approach for reviving low density areas
5. Addressing Human-Wildlife Conflict	• Development and implementation of SOPs and guidelines for HWC mitigation
	• Rapid response teams established in collaboration with local communities to deal promptly with the human-tiger conflicts based on accepted SOPs and guidelines in all TRCs
	• Implementing state of the art preventive and control measures based on best practices and site feasibility
	• Maintaining dashboard of wildlife mortality/ livestock-crop depredation; Maintaining monthly charts of human wildlife conflict score in the GIS domain and syncing with patrolling data
	• Fixing of maintaining IDs of individual tigers based on tiger reserve camera trap repository

Action Portfolio	Actions
	• Day to day patrolling of frontline/community stewards/elephant squads towards issuance of alerts/forecasts
	• Syncing monthly calendar of local harvest/ phenology/NTFP collection with spatial movement of wild animals
	• Insurance and quick compensation mechanism for local people in conflict prone areas
	• Evolving village/cluster level radio hubs for broadcasting day to day hourly alerts by trained local community stewards towards movement of tiger/elephant and other wild animals in vulnerable areas
	• Day to day reporting of animal presence/interface events to nearby control room
6. Active Management for Tiger/Prey Revival	• Identifying/providing inherently productive areas and tallying with prevalent wild ungulate carrying capacity for considering prey/predator augmentation
	• Providing wild stock for repopulating other areas
	• Computation of inherent biological carrying capacity of the habitat for tiger and for deciding active actions
	• Capacity building of frontline and community stewards in implementing translocation protocols
	• Creation of in-situ rewilding enclosure
7. Community Stewardship	• Strengthening community-based entrepreneurship for ecodevelopment and economically gainful stewardship
	• Prioritising gainful engagement with local community for active host community driven ecotourism
	• Prioritising community engagement in rural parcels/settlements contiguous with river stretches/forest edges, non-tiger/elephant corridors, forest patches
8. Landscape Approach	• Identification and Regular monitoring across ecological corridors (including stepping stone/satellitic micro-cores) to ensure habitat connectivity
	• Sectoral integration for complementary resource support from line departments

Action Portfolio	Actions
	• Developing proximal urban townships (as sustainable tiger town) to ensure development practices are in tune with natural environ/ecological setting
	• Smart Green Infrastructure and retrofitting measures for linear development project
9. Wildlife Crime and Illegal Trafficking	• Establishing interagency coordination mechanism (e.g., Wildlife Crime Control Bureau) to strengthen law enforcement and wildlife crime control measures
	• Implement CITES Resolution Conf. 12.5 (Rev. CoP18) and associated Decisions regarding the closure of domestic markets; destruction of stocks; work with the traditional medicinal community to eliminate use and promote alternatives; and eliminate the use of skins as trophies, ornaments, and clothing.

	• Commit to responsibly phasing out existing tiger farms and preventing the creation of new ones across and outside the tiger range, including the following steps:
	  • halting further breeding in captive facilities through efforts such as separating sexes whilst the phase out plan developed
	  • ensuring DNA and stripe pattern databases are established, robust and accessible, so that testing and analysis procedures are standardized and independently verified

	• Establish a national behaviour change program for demand reduction (involving appropriate government agencies, and experts in tiger trade, SBC approaches and social marketing) in each relevant country
10. Transboundary and International Cooperation	• Bilateral instruments towards joint patrolling, wildlife and habitat monitoring in transboundary tiger sites
	• Strengthening regional wildlife enforcement networks
	• Strategic partnerships between thematic institutions across TRCs to address contemporary challenges
	• Collaboration between TRCs for translocation/reintroduction

Action Portfolio	Actions
	• Sharing best practices and ensure availability of data and knowledge for decision/policy makers to guide effective planning and strategic interventions
11. Climate Change Adaptation and One Health Approach	• Protect tiger habitats as natural indicators for climate change adaptation
	• Evolving a national level epidemiology map (historical, periodically updated with prevailing disease occurrence)
	• Fostering research on vectors related to pastoral/sylvatic cycles; Valuation of ecosystem services, carbon sequestration
	• Maintaining green buffers in human-forest interface areas
	• Develop climate change impact monitoring framework
	• Establishment of permanent Climate Change & Ecological Monitoring stations where necessary along with equipment installation, training, and operational support
	• Develop National Level One Health Joint Plan of Action
	• Develop and maintain a dashboard for day-to-day reporting of emerging wildlife disease, detection, affected species, mortality cases and wildlife to human transmission; training modules with the support of One Health Secretariat

3.5 Resource gap and options for support

(Source: Wild tiger conservation across TRCs: An appraisal of financial shortfalls, 2022)

Wild tiger agenda across Tiger Range Country requires adequate and sustained funding support for Global Tiger Recovery Programme implementation. There is a big gap in terms of financial support to the wild tiger which requires prioritized bridging. Over the vicissitude of time, as a sequel to ongoing global landscape transformations, the tiger is no longer an **arithmetic** of any one single government department. Rather, a multi-sectoral approach operating at a macro-tiger landscape level is warranted to address protected areas, general forests, rural interface areas and **urban-scapes**. This entails envisioninga landscape approach for engaging with several stakeholders operating in a tiger landscape with varied land uses warranting tiger filters. Such an engagement requires, considerable investment both in tiger Protected Area and beyond, with an overarching masterplan and monitoring architecture identified within the governance system in vogue. No single agency or donor maybe in a position to sustain such an effort, but an enabling policy regime

of a Tiger Range Country, legitimizing the approach can support creation of a regional trust fund for obtaining assured complementary support to sovereign funding in the long-run.

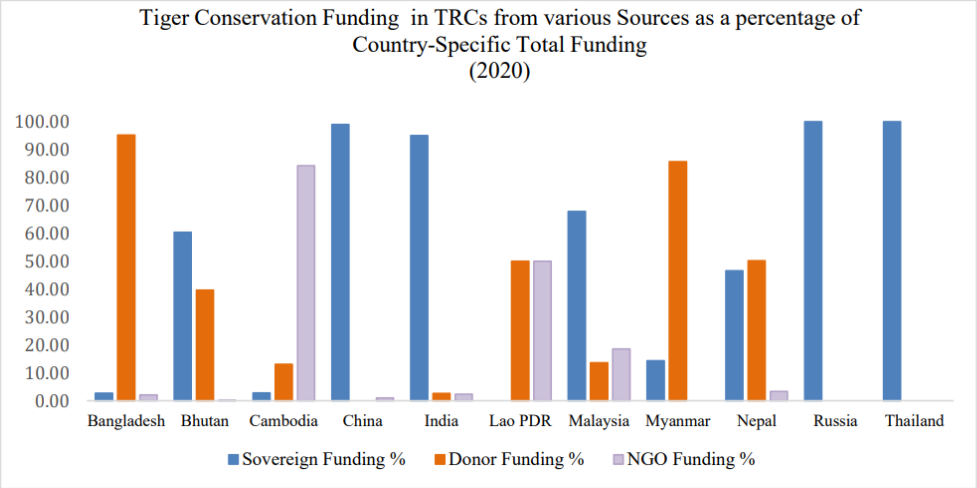


Figure 3.1: Tiger Conservation Funding in TRCs from various Sources as a percentage of Country-Specific Total Funding (2020)

The above analysis has projected an annual funding gap of atleast 138.477 million USD only for protection in priority tiger protected areas. This shortfall is just 0.019% of the global biodiversity financing gap estimated in 2020.

3.6 Key Performance Indicators

Global Tiger Recovery Program 2023-2034 (GTRP 2.0)

*Indicator**	*Unit*	*Baseline*	*Stocktaking Period*			
		2023	*2023-2025*	*2026-2028*	*2029-2031*	*2032-2034*
KPI 1: Policy and Institutions for Strengthening Wild Tiger Governance						
1.1 National level institutional mechanism is in place	Y/N					
1.2 Interagency coordination mechanism to strengthen law enforcement and wildlife crime control measures (e.g., WCCB) is in place	Y/N					
1.3 Policy for legitimising landscape level strategy is in place	Y/N					
KPI 2: Resources						
2.1 Secured Government and donor funding for tiger conservation	$					
2.2 Strategy for securing support from global climate and biodiversity focussed instruments to address financial gaps	Y/N					
KPI 3: Protection						
3.1 Number of frontline staff; (in-place: required)	#					
3.2 Number of Protection Infrastructure; (in-place: required) (Anti-poaching camps, Watch towers, patrolling vehicles)	#					
3.3 Area of tiger conservation landscapes covered through technology-based patrolling e.g., SMART/MSTrIPES or equivalent	km^2					

*Indicator**	*Unit*	*Baseline*	*Stocktaking Period*			
		2023	*2023-2025*	*2026-2028*	*2029-2031*	*2032-2034*
3.4 Number of violations recorded during patrolling, in tiger conservation landscapes	#					
3.5 Training module for frontline Staff development and fostering professionalism is in place	Y/N					
3.6 Number of staff development trainings (Conducted: Planned)	#					
3.7 SoPs/Guidelines are in place for safety/security and well- being of the frontline staff	Y/N					
KPI 4: Monitoring and Habitat Management						
4.1 Tiger PA management plan/Action plan in place e.g., TCPs	Y/N					
4.2 Number of Tiger Protected Areas in tiger landscapes assessed for effective management e.g., MEE, CA|TS or equivalent	#					
4.3 Number of adult tigers in the wild as regularly determined by a science-based, peer-reviewed monitoring protocol	#					
4.4 Area of natural habitats where the presence of wild tigers has been recorded by a science-based, peer-reviewed monitoring protocol	km^2					
4.5 Area covered by regular science-based monitoring of tiger habitat	km^2					
4.6 Total area of tiger conservation landscapes	km^2					
4.7 Framework for effective implementation of One Health approach in tiger conservation is in place	Y/N					

*Indicator**	*Unit*	*Baseline*	*Stocktaking Period*			
		2023	*2023-2025*	*2026-2028*	*2029-2031*	*2032-2034*
KPI 5: Addressing Human-Wildlife Conflict						
5.1 Number of wild tigers killed or translocated in response to human-tiger conflicts	#					
5.2 Number of HWC prevention cases recorded	#					
5.3 Number of HWC cases recorded	#					
5.4 Total number of human-tiger conflict cases recorded	#					
5.5 Number of livestock depredations by tigers	#					
5.6 Number of livestock depredations by tigers for which compensations were issued	#					
5.7 Number of people killed by tigers	#					
5.8 Number of compensations issued for death of humans by tigers	#					
5.9 Number of tigers killed due to human-tiger conflicts	#					
5.10 SOPs / Guidelines in Place for HWC mitigation	Y/N					
5.11 Number of sites with state-of-the-art preventive and control measures e.g., RRTs; (in place: required)	#					
KPI 6: Active Management for Tiger/Prey Revival						
6.1 Number of sites identified for tiger reintroduction	#					
6.2 Tiger reintroduction plans are in place for each identified site	Y/N					
6.3 Source of prey/predator identified	Y/N					
KPI 7: Community Stewardship						
7.1 Resolution on inclusive agenda for people is in place	Y/N					

*Indicator**	*Unit*	*Baseline*	*Stocktaking Period*			
		2023	*2023-2025*	*2026-2028*	*2029-2031*	*2032-2034*
7.2 Number of communities (HH) formally engaged in tiger conservation activities	#					
7.3 Number of communities (HH) with alternative livelihood projects that support human-tiger coexistence	#					
7.4 Number of communities with basic services (clinics, schools, local product markets)	#					
7.5 Number of community stewardship groups engaged in tiger conservation	#					
7.6 Estimated total number of communities (HH) in tiger conservation landscapes	#					
KPI 8: Landscape Approach						
8.1 Ecological corridors covered under effective monitoring (being monitored : identified)	#					
8.2 Number Sites with complementary support/Partnership is secured from line department	#					
KPI 9: Wildlife Crime and Illegal trafficking						
9.1 National behavioural change program or similar effort for demand reduction in place	Y/N					
9.2 Number of stakeholders engaged in demand reduction campaign	#					
9.3 Number of individuals involved in orientation and capacity building to prevent wildlife crime	#					
9.4 Number of recorded tiger crime cases leading to legal punishment	#					
9.5 Number of recorded tiger crime cases from cross-border collaboration leading to legal punishment	#					

*Indicator**	*Unit*	*Baseline*	*Stocktaking Period*			
		2023	*2023-2025*	*2026-2028*	*2029-2031*	*2032-2034*
9.6 Total number of tiger crime cases recorded from cross border collaboration	#					
9.7 Total number of recorded tiger crime cases	#					
9.8 Number of wildlife crime recorded	#					
9.9 Strategy for phasing out tiger farm/captive breeding facility, if any	Y/N					
9.10 Number of tigers in captive breeding facility, if any	#					
KPI 10: Transboundary and International Cooperation						
10.1 Bilateral instruments towards joint patrolling, wildlife, and habitat monitoring in transboundary tiger sites are in place	Y/N					
10.2 Number of transboundary meetings/workshops for strategic partnerships, strengthening regional wildlife enforcement network, and sharing good practices	#					
KPI 11: Climate Change Adaptation and One Health Approach						
11.1 National level epidemiology map is in place	Y/N					
11.2 Number of tiger protected areas valuated for ecosystem services, carbon sequestration	#					
11.3 Strategy for green buffers in human-forest interface area	Y/N					

* To be reported at the tiger conservation landscape, country, and range-wide levels, as applicable.

Multi-dimensional Tiger Index (MTI)

Tiger for Biodiversity

S No.	Assessment Criteria		Method/Scalability	Relevance for CBD overarching goals	Temporal sensitivity
	Biodiversity Variable class	**Biodiversity variable example**			
1	**Tiger populations**	Abundance and distribution	• Counts • Presence/Absence survey (for species monitoring across sites complemented with opportunistic data)	Goal A Indicators: IPI, WPI, RLI Population and Extinction risk trends of target species Forest specialists in forest under restoration Species that provide ecosystem services Trends in invasive alien species Trends in climatic impact on populations	Annual

2	**Community Composition**	Taxonomic diversity	• Multi-taxa surveys	Goal A Indicators: Trends in condition and vulnerability of ecosystems Trends in climatic impacts on community composition	Annual
3	**Species traits**	Phenology	• Timing of leaf coloration by remote sensing with ground truthing	Goal A Indicators: Trends in extent and rate of shifting of boundaries of vulnerable ecosystems	Annual
4	**Ecosystem structure**	Habitat Structure	• Remote sensing of cover (or biomass) by height or depth	Goal A, B Indicators: Extent of forest and forest types Extent of habitats that provide carbon sequestration	Annual

Tiger for People

S No.	Assessment Criteria		Method/Scalability	Relevance for CBD targets	Temporal sensitivity
	Biodiversity variable for people	**Biodiversity variable example**			
1	**Materials and Assistance**	Sustainable agriculture	• Survey and Mapping	Goal C Indicators: Areas of agricultural land under organic production Areas of agricultural land under conservation agriculture Proportion of agricultural area under productive and sustainable agriculture	Annual
		Agrobiodiversity	• Survey and Mapping	Goal B, C Indicators: Areas of agricultural land under conservation agriculture Wild Bird Index for farmland birds / Living Planet Index (farmland specialists)	Annual
		Traditional knowledge	• Survey	Goal A, B, C Indicators:	Three years cycle

				Number of local community-based monitoring on traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity	
		Livelihood options	• Survey	Goal B, C Indicators: Trends in the degree to which ecosystem services provides for the needs of women, indigenous and local communities, and the poor and vulnerable Trends in the practice of traditional occupations	Annual
2	**Non-material**	Health and life quality • Disease occurrence (landscape disturbance related) • Prophylactic safeguards • Waste management	• Local level Health survey • Door to door Survey	Goal C Trends in the degree to which ecosystem services provides for the needs of women, indigenous and local communities, and the poor and vulnerable	Annual
3	**Regulation and Mitigation**	• Climate smart practices	• Carbon arithmetic assessment • Ecological footprint assessment • Adaptation/Mitigation assessment	Goal A, B, C Trends in carbon stocks within ecosystems	Two years cycle

		• Safe water	• Water quality measurement • Watershed quality mapping • Watershed restoration mapping	Goal A, B Percentage of population using safely managed drinking water services	Annual
		• Natural disaster protection	• Disaster vulnerability safeguard assessment	Goal A, B Trends in ecosystem resilience	Annual

4. Appendices

4.1 Contours of South East Asia Tiger Recovery Action Plan (STRAP)

The Need for STRAP

Tiger populations in South East Asia have declined across most habitat ranges, while in some others the populations are almost extinct. Therefore, at the Fourth Asia Ministerial Meeting on Tiger Conservation hosted by Malaysia, it was decided that that the SEA TRCs come together and collectively prioritise to take some common actions under the South East Asia Tiger Recovery Action Plan (STRAP).

Priority Actions of Southeast Asia Tiger Recovery Action Plan

During the consultation process, it was agreed that many of the actions under the national Tiger Action Plan and GTRP 1.0 (2010-22) were beyond the decision-making purview of the focal biodiversity related agencies and ministries. Therefore, in many of the SEA TRCs there is an urgent need to strengthen policy framework, including the establishment of a high-level tiger task force with each TRC to integrate tiger conservation into other sectors and state and provincial governments. In addition, actions related to protection, habitat management and transboundary collaboration need to be strengthened.

Each SEA TRC undertook further consultations to determine the priority STRAP actions.

Major Priority Actions Identified by SEA TRCs

SEA TRCs	Priority Tiger Conservation Sites	Policy	Protection & Enforcement	Transboundary efforts	Habitat Management & Restoration
Cambodia	• Southern Cardamom NP • Tatai WS.	• Formation of inter-ministerial high level task force • Sustainable financing for tiger reintroduction	• Zero Snaring campaign to combatting snaring in PAs	• Collaboration with India, CITES and IUCN for translocation of tigers	
Indonesia	• Bukit Barisan • Kerinci Seblat • Bukit Tigapuluh • Kuala Kampar • Berbak Sembilang • Gunung Leuser	• Mainstream Biodiversity including tiger conservation at national and provincial levels	• Strengthen community participation in resolving human-wildlife conflict		• Undertake Sumatra Island wide survey
Laos	• Nam Et Phou Louey NP	• Review and Update of CITES Decree by Prime Minister's Office	• Increase number of boots on the ground in priority PAs	• Establish transboundary collaboration with Vietnam to combat illegal	• Implementation of Lao Landscape Livelihood (LLL) project

			for tiger conservation	logging and poaching	under GEF funding
Malaysia	• Taman NP • Royal Belm SP • Endau Rompin NP	• Operationalization of high-level tiger task force (MyTTF)	• Strengthen boots on the ground (1 ranger per 10 km^2 of PA) • Wildlife Crime Bureau (WCB) established under Police	• Establish collaboration among Royal Belum SP and, Hala Bala WS/ Bang Lang NP, Thailand	
Myanmar	• Hukaung and Htamanthi Wildlife Sanctuaries	• Institutionalize High Level Task Force for Tiger Conservation	• Scale-up Monitoring and Reporting System to monitor Illegal Wildlife Trade	• Formalize cooperation with Thailand, India and China	• Strengthen the management of PAs • Undertake the National Tiger Survey
Thailand	• Huai Kha Khaeng WS	• Establish high level inter-ministerial committee.	• Upgrade the Training Centre for the SEA region	• Establish MOU between Malaysia and Thailand	
Vietnam	• Chu Mom Ray NP • Song Thanh NP • Vu Quong NP	• Review Tiger protection program in accordance with Prime Minister's Decision No. 539	• Conduct training for police and rangers	• Transboundary collaboration strengthened with Laos and Cambodia	• Securing tiger habitats as PAs

4.2 GTRP Score: Normatives

In addition to key performance indicators, following 17 normatives were developed to score the implementation of GTRP by each of the TRCs.

1. Enabling Law - Dedicated legislation
2. Enabling Policy for National Funding - Committed sovereign allocation and budgetary provision
3. Policy on Donor Support - Dedicated externally aided project for tiger/protection
4. National Resolution/Policy on Corridor/SGI - Identification of corridors and resolution on SGI
5. Resolution on inclusive agenda for people- Commitment for PES, livelihood options
6. Frontline staff- Staff deployment per unit area/and salary support
7. Action Plan - Approved National Action Plan / NTRP
8. Tiger Monitoring- Use of modern protocol (camera traps and GIS based inference)
9. Tiger Management Plan- Exclusive tiger plan for the site in tune with action plan
10. Use of technology - Support for technological inputs
11. Smart Patrol and Monitoring - SOP and Protocols in place

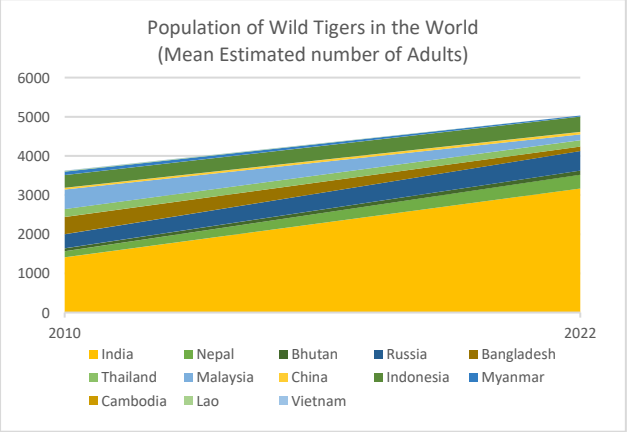
12. Protection Infrastructure - Range Stations/barriers/communication network etc.
13. Antipoaching/tiger/other wildlife body parts trafficking prevention - Effective surveillance
14. In-situ prey/predator buildup and securing inviolate space - Protocols and field action ongoing
15. Human-Wildlife Interface - SOP and Compensation regime defined
16. Assessment (MEE/CA|TS) - Protocols and directives in place
17. Transnational Actions - Ongoing bilateral engagement

4.3 GTRP 1.0 (2010-22): Retrospective and Lessons Learnt

The GTRP has helped to gain focus on wild tiger conservation, while securing collective resolve/commitment of TRCs in the context. It has helped in obtaining donor and partner support to some extent for the wild tiger cause, and has sensitised policy makers and the global community to a considerable extent.

The said program, in an ongoing manner, has been useful in TRC specific course corrections based on dispassionate review.

Wild tiger population has increased globally from 3,200 (2010) to around 5,000 (2023). However, the said increase is not discernible in the Southeast Asia region where, by and large wild tigers have a sub optimal status. Tigers have become locally extinct within the said region, viz. Cambodia, Lao PDR, and Vietnam, warranting active revival on a priority basis.



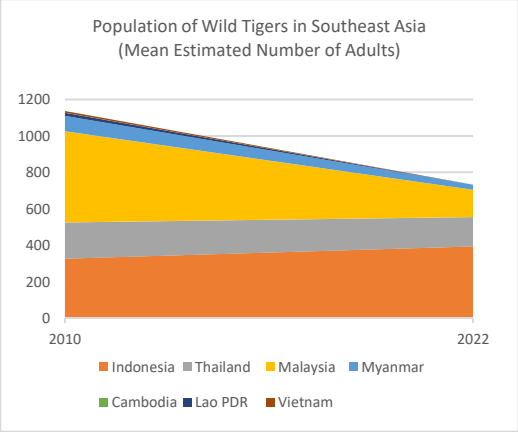
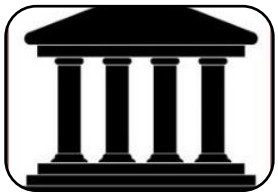
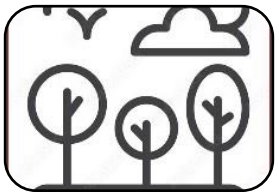


Figure 4.1: Population status of tigers in the world and in Southeast Asia 2010 -2022

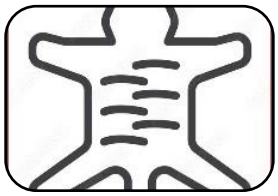
4.3.1 Themes



Policy and Institutions

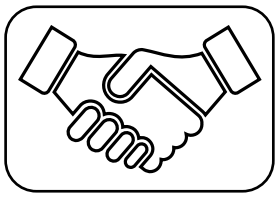


Habitat Management

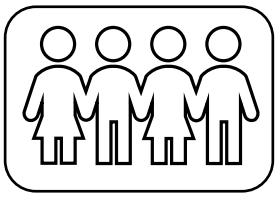


Controlling Illegal trade and reducing demand

Controlling prey and tiger poaching

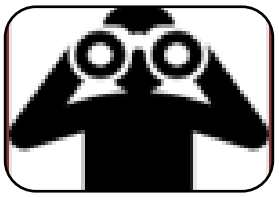


Transboundary collaboration



Community engagement

Institutional strengthening and capacity Building



Scientific monitoring, surveys and research

4.3.2 Thematic portfolios of TRCs

Table 4.1: Synthesis of Policy and Institutional Activities from NTRPs

Policy and institutional activities	Bangladesh	Bhutan	Cambodia	China	India	Indonesia	Lao PDR	Malaysia	Myanmar	Nepal	Russia	Thailand	Vietnam
Policy													
Improved legal protection of critical tiger habitats and/or increasing penalties for wildlife crime.	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Stronger legal basis for making critical tiger habitats inviolate			✓			✓	✓			✓	✓		✓
Improved inter-sectoral coordination, and establishing best management practices for industry and infrastructure development in buffer zones		✓	✓	✓		✓		✓	✓	✓			✓
Strengthened policies for community participation and sharing of benefits from conservation efforts in buffer zones.	✓	✓		✓						✓		✓	
Develop policies for a captive tiger registration and monitoring system and conservation breeding management plans for the Indochinese tiger													✓

Strengthened policies for transboundary management of shared landscapes and effective transboundary collaboration in law enforcement.	✓	✓	✓	✓	✓					✓	✓		✓
New policies for sustainable finance to ensure adequate transfers for ecosystem services from tiger landscapes.	✓	✓				✓	✓			✓	✓	✓	✓
Institutional													
Create separate and specialized wildlife conservation and enforcement units.	✓		✓			✓	✓			✓		✓	
Support frontline staff with equipment, infrastructure, training, incentives, and insurance.		✓	✓	✓	✓	✓			✓		✓	✓	✓

Table 4.2: Portfolio in Habitat Management

TRC	Activity title	Activity description
Bangladesh	Habitat management	Habitat restoration through afforestation and grassland development.
Bhutan	Habitat and species conservation	Classify and define tiger habitat at a landscape scale.
Cambodia	Designation of an inviolate source site	Secure at least one inviolate potential source site, free from habitat conversion and human interference; integrate habitat management into landscape plans.
China	Conservation, extension, and amelioration of wild tiger habitat, and trial reintroduction	Identify priority habitat areas; conserve, extend and ameliorate the habitats through recovery of farmland to forests and change of unsuitable forests and vegetation; and explore trial reintroduction of captive-bred tigers into their original range area.
India	Securing habitats and improving management	Create inviolate critical tiger habitats, reduce tiger-human conflict, improve habitat management, research and monitoring activities, support patrolling staff.

Indonesia	Creating legal basis of tiger protection	Secure the source sites as the last stronghold for Sumatran tiger population, maintain the integrity of those landscapes, reduce international demand on tiger, its parts and derivates.
Lao PDR	Establishing inviolate core zone at Nam Et Phou Louey NPA	Establish inviolate core zone to secure source tiger population and connectivity between TCLs.
Malaysia	Enhancing the linkages between the priority habitat areas	Secure the critical tiger habitats in the Central Forest Spine and ensure connectivity through functional corridors.
Myanmar	Enacting legal protection of tiger landscapes	Identify remaining important areas for tigers in and around both TCLs.
Nepal	Managing tiger and habitats	Manage the Terai Arc Landscape as a priority conservation landscape with core areas, buffer zones, corridor to conserve tigers as a metapopulation with transboundary ecological linkages.
Russia	Strengthening protected area network	Revise, strengthen, and increase the network of PAs.
Thailand	Habitat management	Provide long-term support for tiger habitat restoration activities.
Vietnam	Strengthening the status and management of protected areas	Recognize and strengthen management of 1 tiger protected area, and make this PA inviolate to development.
Key Study	Translocation of Tigers	Workshop to develop a coordinated, science-based plan for translocation, reintroduction, and rehabilitation of tigers to habitats from which they have been extirpated, or nearly so, and of "problem tigers" that have been involved in conflict situations.

Table 4.3: Portfolio for Combating Poaching and Illegal Trade

TRC	Activity title	Activity description
Bangladesh	Habitat protection	Deploy an effective and efficient cadre of wildlife conservation field staff to conserve tigers and tiger habitat
	Controlling illegal trade and reducing demand	Strengthening wildlife circle and enhancing wildlife crime control activities throughout the country; introduction of smart patrolling in the Sundarbans.
Bhutan	Habitat and species conservation	Strengthen anti-poaching and wildlife law enforcement.

Cambodia	Law enforcement and habitat management	Increase capacity and effectiveness of law enforcement agencies in wildlife and habitat conservation.
China	Strengthen law enforcement	Add protection and monitoring agencies in tiger range areas to form more complete network and strengthen its capacity building for stricter habitat patrolling against poaching and other human disturbance, promote capacity building among wildlife law enforcement agencies to fight against smuggling and illegal trade of tiger products, undertake public awareness campaigns on tiger conservation.
India	Controlling prey and tiger poaching	Establish dedicated Tiger Protection Force for anti-poaching operations in tiger reserves.
Indonesia	Scaling up specialized law enforcement and conflict mitigation	Implement a strengthen patrolling and law enforcement system supported by skilled people, adequate finance and infrastructure, robust management system, and linked to a strong domestic and international network.
Lao PDR	Adopting enforcement and monitoring standards	Implement standard monitoring methods in protected areas across TCLs to monitor tigers and prey (e.g. camera trapping, occupancy survey) and law enforcement (e.g. MIST).
	Controlling illegal trade and reducing demand	Strengthen law enforcement to reduce wildlife crime.
Malaysia	Strengthen law enforcement	Provide effective and long-term protection for tigers and their prey.
Myanmar	Controlling prey and tiger poaching	Strengthen law enforcement to reduce wildlife crime, development of participation and awareness program in local communities.
	Controlling illegal trade and reducing demand	Increase law enforcement units and wildlife police forces, fulfil actions.
Nepal	Adopting enforcement and monitoring system	Institutionalize and implement effective tiger protection and monitoring systems.
Russia	Preventing human-tiger conflict	Prevent human-tiger conflicts and settle conflicts in a timely fashion.
Thailand	Strengthen direct conservation action and enforcement	Promote conservation efforts at the scale of entire populations (e.g., forest complex and associated corridors).
	Facilitating international cooperation	Facilitate international cooperation in tiger conservation efforts, support national and international efforts to manage captive tigers responsibility, convey tiger conservation-related messages to a diverse Thai public and to policy-makers and politicians.

Vietnam	Adopting enforcement and monitoring system	Activate a national monitoring system for law enforcement effectiveness for entire protected area system.
	Combating wildlife crime and regulating captive tiger facilities	Establish national individual captive tiger registration system and professional monitoring program. Develop national conservation breeding plan for Indochinese tiger. Prosecute criminals organizing the illegal trade in tigers and prey base. Reduce retail of tiger and prey products. Strengthen information sharing and intelligence analysis. Launch communications campaigns. Delist instructions on use of endangered species.
Global Support Program	Combating Wildlife Crime	Combating Wildlife Crime against tigers, in particular transnational illegal trade and trafficking, requires a global response. A consortium of CITES Secretariat, INTERPOL, UNODC, WCO, and the World Bank, in association with ASEAN-WEN and other WENs, will offer the following on the request of a TRC: (i) Law Enforcement Assessment Workshops; (ii) Transboundary Interdiction Support to sovereign empowered national agencies to conduct interdiction operations at hotspots for trade and trafficking; (iii) Legislative Assessments to identify ways to make wildlife crime a priority throughout criminal justice systems; and (iv) Capacity Building support to implement the findings of assessments.
Key Study	Illicit Demand Elimination	An expert workshop will be held to gather currently available knowledge about consumers' attitudes and motivations, and plan a large-scale, coordinated, and targeted global campaign to change the illicit behaviour of current consumers of tiger and its derivatives, to be approved by TRCs.

Table 4.4: Portfolio in Transboundary Collaboration

TRC	Activity title	Activity description
Bangladesh	Transboundary management	To ensure uninterrupted migration of wildlife in the transboundary landscape and to share better conservation knowledge and techniques with India.
Bhutan	Habitat and species conservation	Strengthen transboundary collaboration with neighbouring countries to maintain ecological linkages of tiger landscapes and to curb the illegal trade in tiger parts and derivatives.
Cambodia	Transboundary collaboration	Strengthen transboundary collaboration with neighbouring countries to reduce wildlife poaching and cross-border illegal activities.

China	Transboundary collaboration	Improve communication and information exchange with other TRCs at different levels, especially for local law-enforcement agencies in borders and ports. Develop international workshops and/or seminars to share technology and experiences, and to discuss key issues. Coordinate joint law-enforcement actions with other TRCs and organizations.
Malaysia	Transboundary cooperation	Malaysia has designated Belum (117,500 hectares), a critical tiger habitat at the Malaysia-Thailand border, as a protected area. Transboundary cooperation needs strengthening.
Lao PDR	Transboundary collaboration	Strengthening international cooperation to reduce cross-border illegal wildlife trade.
Myanmar	Improving transboundary cooperation	Strengthen transboundary collaboration with the Governments of India, China, and Thailand.
Nepal	Transboundary collaboration	Nepal is working closely with neighbouring countries India and China. It plans to enhance the collaboration efforts in the future in order to reduce the illegal wildlife trade and trafficking.
Russia	International cooperation	Strengthen interdepartmental international cooperation, first of all with the Government of China. Develop cooperation with international conservation organizations, charity foundations, and other non-governmental organizations.
Thailand	Transboundary cooperation and management	Strengthen bilateral cooperation with Cambodia, Lao PDR, Malaysia, and Myanmar for transboundary management, enforcement, monitoring, and research.
Vietnam	Transboundary cooperation and management	Strengthen transboundary collaboration with neighbouring countries to establish transboundary tiger protected areas and combat wildlife poaching and smuggling.
Key Study	Transboundary collaborations	Workshops will develop active dialogues to lead to joint planning and management among TRCs that share the high -priority transboundary TCLs of Northern Forest Complex-Nandapha-Manas (Myanmar, India, Bhutan), Russian Far East-Northeast China (Russia, China), Tenasserims (Thailand, Myanmar), Terai Arc (Nepal, India), Belum Taman Negara-Halababa (Malaysia, Thailand), Sundarbans (India, Bangladesh), Southern-Central Annamites and Eastern Plains (Cambodia, Lao PDR, Vietnam), and Nam Et Phou Loey (Lao PDR, Vietnam).

Table 4.5: Portfolio in Community Engagement

TRC	Activity title	Activity description
Bangladesh	Engaging local communities	Reduce community dependency on forest resources, tiger and prey poaching, tiger-human conflict, and involve local communities in forest management.
Bhutan	Integrating tiger conservation and rural livelihoods	Provide alternative forest resource-use practices to reduce anthropogenic pressure on tigers and tiger habitat.
Cambodia	Law enforcement and habitat management	Integrate habitat management into landscape plans.
China	Coordination of wild tiger conservation with local society and economic development	Compensate injury to humans and property losses from tigers and their prey, adopt proactive measures to prevent injury and losses, and explore and demonstrate tiger-friendly economic development models for better local livelihoods.
India	Community engagement and development	Address human-wildlife conflict, test new landscape-based approaches for conservation and sectoral integration to benefit communities, sustainable livelihoods in buffer, fringe, rural areas, and implement provisions for rehabilitation and resettlement of de-notified tribes.
Nepal	Building local community stewardship for conservation	Develop local stewardship and support for tiger conservation.
Russia	Building public awareness and education	Raise public awareness of the Amur tiger as a species of unique national and global value.
Thailand	Empowering local communities	Support local communities in developing sustainable economies that reduce dependence on forest resources; provide protected area committees and community committees with quality information (e.g., data from smart patrol system) on which to base threat reduction decisions and activities.
Vietnam	Building awareness and sustainable economies	Community development program to improve local awareness and reduce reliance on nature resources for livelihoods.

Table 4.6: Portfolio to Increase the Effectiveness of Tiger and Habitat Management

TRC	Activity title	Activity description
Bangladesh	Building institutional capacity	Develop capacity in the Forest Department for effective wildlife and habitat conservation in the Sundarbans.

	Scientific monitoring, surveys, research	Regular biodiversity status survey, population census, behavioural and ecological study based on the latest scientific methodology.
Bhutan	Habitat and species conservation	Establish a nationwide monitoring program for tigers and prey.
Cambodia	Monitoring of tigers and prey	Implement consistent tiger and prey monitoring protocols in potential source sites.
China	Strengthening institutional capacity	Improve monitoring system and capacity for managing wild tiger populations and their habitats; undertake regular and continuous habitat patrolling and monitoring of wild tiger populations and their habitats according to the scientifically developed guidelines and manual; improve international cooperation mechanism for wild tiger conservation.
India	Institutional strengthening and capacity building	Improve infrastructure and provisions for regular tiger census and monitoring, improve knowledge agenda. Undertake analytical research, special studies, develop knowledge base for policy development, and strengthen the National Tiger Conservation Authority. Ensure provisions for exchange of good practices and strengthening knowledge institutions.
Indonesia	Creating robust monitoring system	Provide long-term biological monitoring data on tigers and their prey as a scientific-based evaluation tool for overall conservation interventions.
Lao PDR	Strengthening institutions and cooperation	Strengthen institutions and cooperation to protect tigers, tiger prey, and habitat.
	Confirming tiger presence	Conduct scientific surveys in all TCLs by 2020. If tigers are confirmed present, then create inviolate core areas to stabilize both tigers and prey.
Malaysia	Adopting monitoring system	Establish a monitoring system for tiger and prey in critical tiger habitats.
Myanmar	Improving management capacity	Improve capacity of management and law enforcement agencies to achieve conservation, strengthen support for tiger conservation across all Myanmar line agencies.
	Adopting monitoring system	Implement standardized monitoring protocols in source landscapes.
Nepal		Implement MIST.
Russia	Amur tiger monitoring and research	Improve methodological frameworks for Amur tiger monitoring.
Thailand	Building capacity based on successful models	Establish a Regional Tiger conservation and Research Center at Huai Kha Khaeng Wildlife Sanctuary.
	Monitoring, research, and	Monitor tiger and prey populations in priority landscapes.

	information management	
Vietnam	Scientific monitoring, surveys, research	Implement consistent tiger and prey monitoring systems, comprehensive scientific surveys nationwide on wild tiger population, and attitude surveys on consumption of tigers and prey.
	Enhancing policies and strengthening institutional capacity	Promulgate a new decree on endangered species management. Develop a policy framework for implementing sustainable financing mechanisms for wildlife conservation. Build strong partnerships among government and other stakeholders, including civil society and the private sector. Establish mechanisms for effective information sharing and cooperation among relevant government and international agencies.
Global Support Program	Capacity Building and Knowledge Sharing	To complement national capacity building efforts, this GSP will support Centers of Excellence, provide Training of Trainers Programs, formalize an Executive Leadership Forum, offer Leadership Training for Wildlife and Protected Area/Tiger Conservation Area Managers and Institutional Capacity Assessments, and support a Community of Practice. In addition, WCS, WWF, Save the Tiger Fund, and the Smithsonian are forming a consortium, to open to others, to offer coordinated support to TRCs for capacity building for frontline protected area staff.
	Scientific Monitoring	This program, to be offered by a partnership of the Smithsonian Institution, WWF, and WCS, will conduct workshops, as requested by TRCs, to develop the appropriate monitoring frameworks for particular TCLs; determine baselines on which to measure progress; assess what further capacity building and technology will be required; and, subsequently, assist in meeting those needs.

4.3.3 Key Performance Indicators

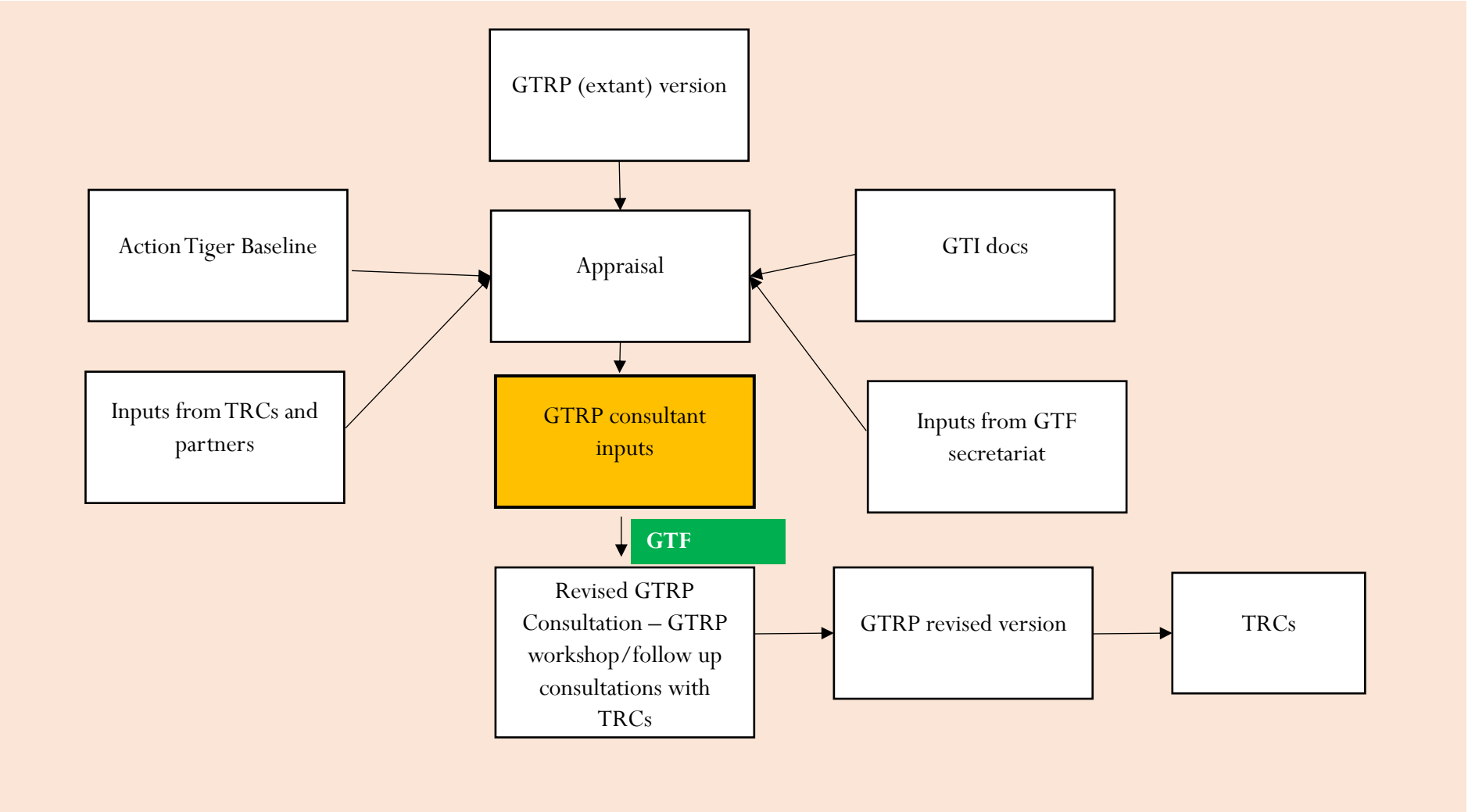
As a part of the final item on the Thimphu Action Agenda, the TRCs committed to "Develop national action plans for a period of two years for each TRC with criteria and indicators to monitor NTRP/GTRP implementation". All 13 TRCs agreed on a set of 14 Key Performance Indicators (KPIs) to measure individual country progress in implementation of National Tiger Recovery Priorities (NTRPs) and collective progress toward reaching the goals of the GTRP.

Indicator	Measure
1. Extent of total needed resources actually allocated to implement NTRP	National resources (budget, other) actually allocated for implementing NTRP
	Total (internal and external) resources needed to implement NTRP
2. Share of external support received as part of total resources needed to implement NTRP	Actual mobilization (i.e., donor projects signed or program budgets formally approved) from all external sources
	Total (internal and external) resources needed to implement NTRP
3. Extent of skill enhancement achieved	Total number of staff who have received skill development support since the launch of NTRP
	Total number of staff in all tiger protected areas /reserves who will need skill enhancement support
4. Extent of park management effectiveness performance reviews conducted	Number of such reviews actually completed
	Number of reviews of protected areas/parks planned
5. Extent of critical tiger breeding areas made inviolate under national laws	Total area of all such areas actually declared inviolate under national laws
	Total area of all critical tiger breeding areas that need to be inviolate
6. Extent of adoption of "smart" patrolling	Size of tiger protected areas / reserves with full complement of staff, skills, equipment, and mobility needed for "smart" patrolling
	Size of tiger protected areas / reserves that need to be covered by "smart" technology-based patrolling
7. Extent of tiger crime cases legally recorded leading to legal punishment	Total number of recorded tiger crime cases leading to legal punishment
	Total number of tiger crime cases formally recorded in the national justice system
8. Extent of cross-border collaborative interdictions leading to seizure and punishment	Total number of framed tiger crime cases emerging from cross-border collaboration leading to punishment
	Total number of legal cases framed as a result of cross-border collaborative interdictions
9. Extent to which losses due to incidents of human-tiger conflict are compensated	Total number of incidents of human-tiger conflict for which losses have been compensated
	Total number of reported incidents of human-tiger conflict with losses
10. Extent to which park interface communities impacted by tigers have economic development / alternative income /	Estimated total number of communities impacted by tigers with such programs *Total number of man-days of employment generated by tiger conservation (India will report these numbers)*
	Estimated total number of communities impacted by tigers

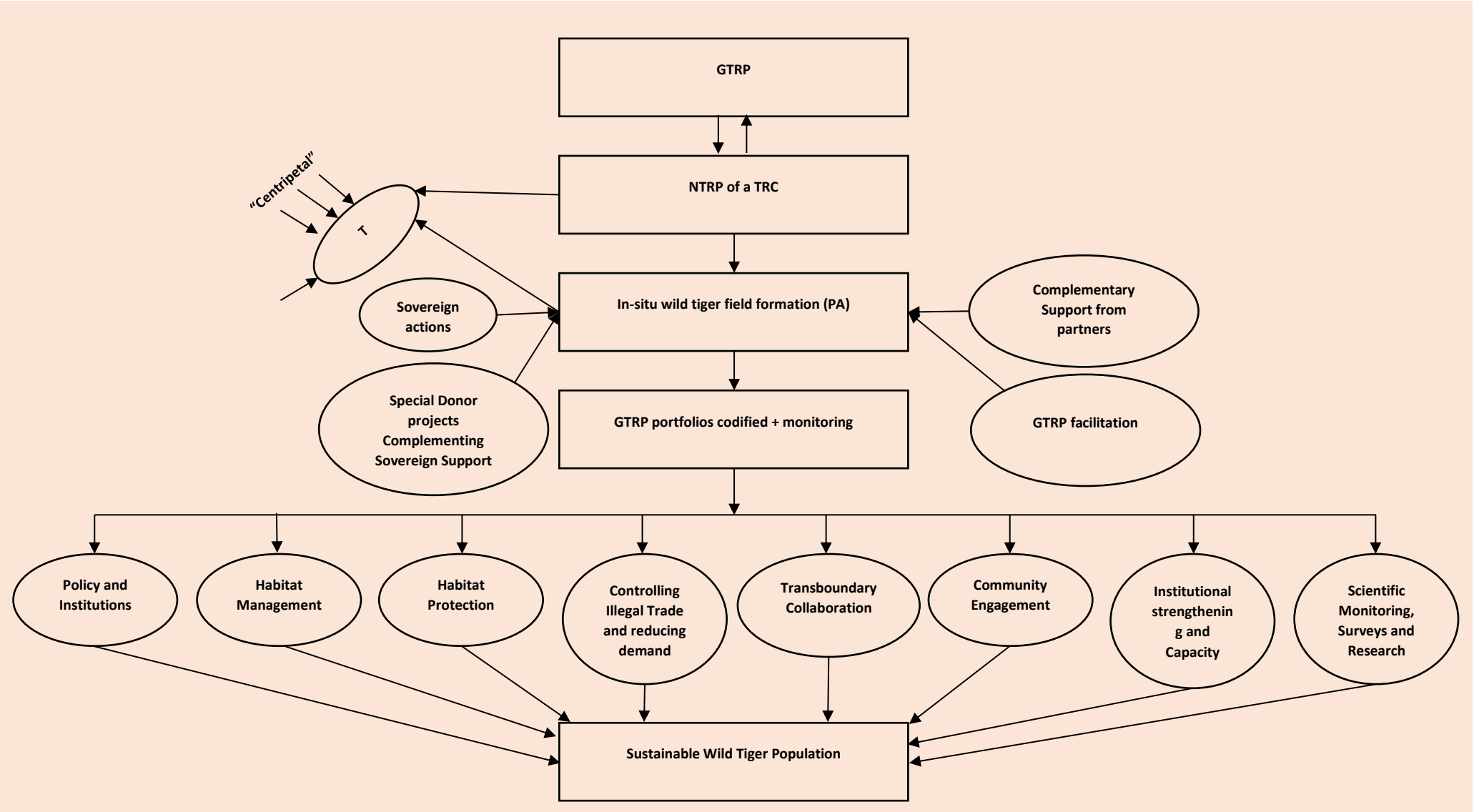
benefit-sharing / livelihood programs	*Estimated number of families living in and around tiger reserves (India will report these numbers)*
11. Extent of implementation of Priority Implementation Activities (PIAs)	Actual score, based on 2 for completion, 1 for being underway, and 0 for not done
	Total number of PIAs to be implemented, multiplied by 2 for completion
12. Extent of implementation of science-based monitoring of tigers, prey, and habitat	Total area over which such a protocol has been applied
	Total area which should be covered by science-based monitoring of tiger, prey, and habitat
13. Change in area of tiger habitat	Estimated total area of habitat occupied by tiger at time of assessment
	Estimated total area of habitat occupied by tiger at the time of the Summit
14. Change in tiger population since the Summit	Estimated total tiger population at time of assessment
	Estimated total tiger population at the time of the Summit (2010)

4.3.4 GTRP appraisal process

Flow chart of appraisal process:



4.3.5 Linkages in GTRP appraisal/implementation



4.4 Tables and Maps (Global Tiger Assessment: Synopsis)

(*Qureshi et al. 2023*)

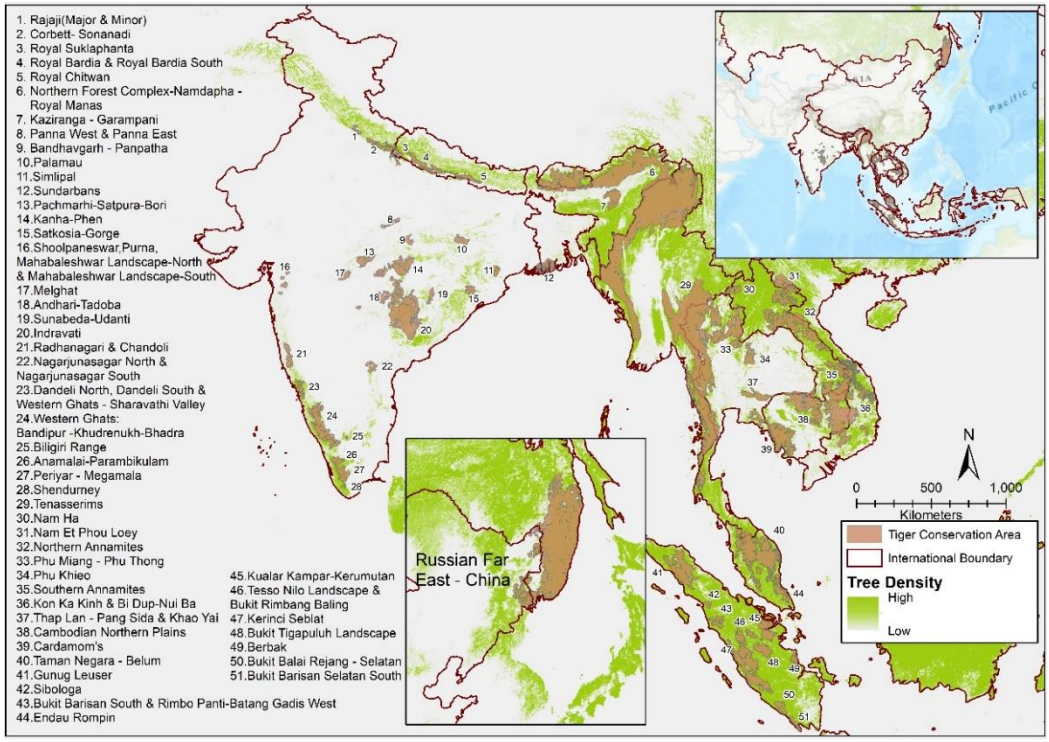


Figure 4.2: Tiger Landscape and tree cover (Source: Wikramanayke et al 2011 and Crowther et al 2015)

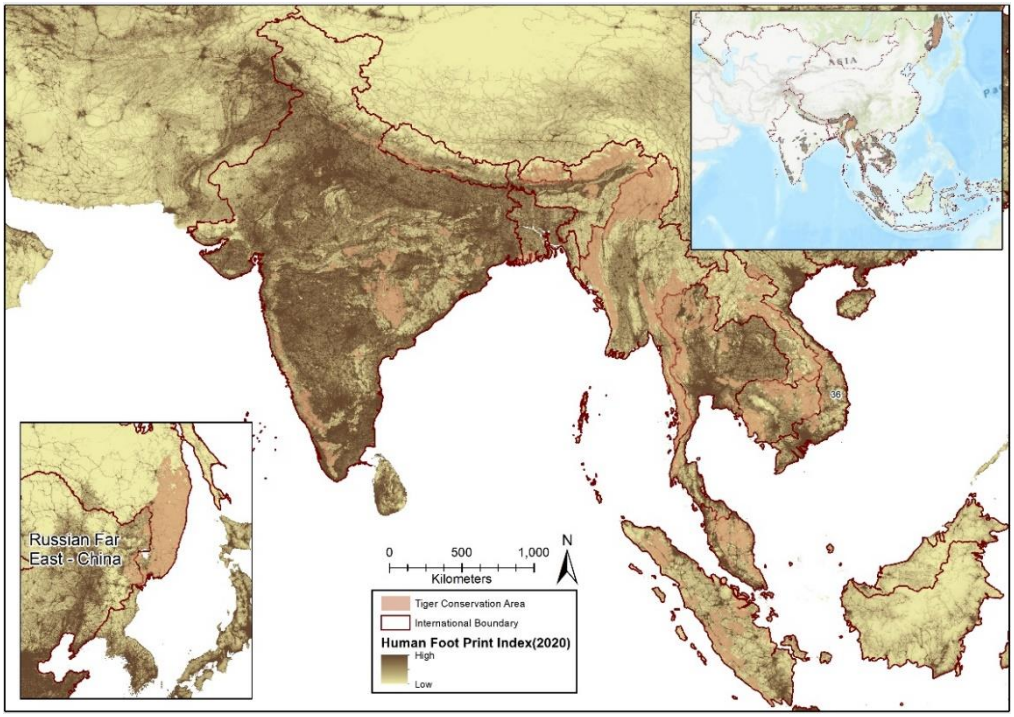


Figure 4.3: Tiger Landscape and Human Foot Print (Source: Wikramanayke et al 2011 Williams et al 2020)

Table 4.7: Overview of TRCs with related metrics/data

Country	Extant	Forest Area (sq. km)	Natural Forest Loss	Population Status	Source Population	Meta-population Source	Population trend	Corridors Identified	Conflict	Human Modification	Threats	Monetary inputs (%GDP)	Extinction Vulnerability	Conservation input
Bangladesh	Extant	6017 (provided by BFD)	Nil	100-150	1	0	Stable	Yes	Medium	Medium	Poaching, high dependency on Climate resources, Climate change	Low	High	Strengthen Protection, Community stewardship, using modern tools and techniques of conflict management
Bhutan	Extant	29750	Low	131	0	1	Increasing	Yes	Medium	Low	Poaching, Prey decline, Habitat loss	Low	High	Protection, conflict management
Cambodia	Extinct	76790	High	0	NA	NA	Extinct	NA	NA	High	Habitat loss, Poaching, Prey decline, Protection	Low	NA	Protection, Prey augmentation, Tiger reintroduction
China	Extant	2260820	Low	>60	0	0	Increasing	Yes	Low	Medium	Prey decline, habitat fragment	Low	high	Prey augmentation, conflict management, green infrastructure
India	Extant	672950	Medium	3682	7	4	Increasing	Yes	Low	Medium	Habitat quality, Fragmentation, Prey decline, Poaching	Low	Medium	Protection, Prey augmentation, conflict management, mitigate fragmentation
Indonesia	Extant	1531260	High	350-400	0	0	Likely decline		Medium	High	Habitat loss, Fragmentation, Prey decline	Low	Very high	Protection, Prey augmentation, conflict management

Country	Extant	Forest Area (sq. km)	Natural Forest Loss	Population Status	Source Population	Meta-population Source	Population trend	Corridors Identified	Conflict	Human Modification	Threats	Monetary inputs (%GDP)	Extinction Vulnerability	Conservation input
Lao PDR	Extinct	190790	High	0	NA	NA	Extinct	NA	NA	High	Habitat loss, Poaching, Prey decline, Protection	Low	NA	Protection, Prey augmentation, Tiger reintroduction
Malaysia	Extant	286340	High	100-150	0	0	Decline	Yes	Medium	High	Habitat Loss, Prey decline, Poaching, Fragmentation	Low	Very high	Protection, Prey augmentation, conflict management
Myanmar	Extant	444480	High	<50	0	0	Decline		Medium	High	Habitat loss, Poaching, Prey decline, Protection	Low	Very high	Protection, Prey augmentation, Tiger reintroduction
Nepal	Extant	69470	Low	350-400	2	1	Increase	Yes	High	Medium	Fragmentation, Poaching, Prey decline	Low	High	Protection, Prey augmentation, conflict management, mitigate fragmentation
Russia	Extant	7757010	Low	573-600	0	1	Likely decline	Yes	Low	Low	Poaching, Prey decline, Habitat loss, Protection	Low	Very high	Protection, Prey augmentation, conflict management
Thailand	Extant	247450	Low	<50	0	0	Decline	Yes	Medium	High	Poaching, Prey decline, Protection	Low	Very high	Protection, Prey augmentation, conflict management
Vietnam	Extinct	198730	Medium	0	NA	NA	Extinct	NA	NA	High	Habitat loss, Poaching, Prey decline, Protection	Low	NA	Protection, Prey augmentation, Tiger reintroduction

Table 4.8: Tiger conservation scenarios indicating area reduction after factoring in human-enviro stress continuum (3 km, 5 km)

TCL Name	Class	Priority	Total TCL (km^2)	Priority NM	Total Area (km^2)	5km Buffer Removal		3km Buffer Removal	
						Area (km^2)	Area (%of total area)	Area (km^2)	Area (%of total area)
Anamalai-Parambikulam	IV	4	3,071	Insufficient Data	3106.88	869.76	27.99%	1600.71	51.52%
Andhari - Tadoba	I	1	3,680	Global	3543.11	728.08	20.55%	1544.56	43.59%
Bandhavgarh - Panpatha	IV	4	2,020	Insufficient Data	1937.70	309.08	15.95%	770.83	39.78%
Berbak	IV	4	2,543	Insufficient Data	2950.53	823.09	27.90%	1458.21	49.42%
Bi Dup-Nui Ba	IV	4	1,660	Insufficient Data	1656.29	231.44	13.97%	598.84	36.16%
Biligiri Range	IV	4	278	Insufficient Data	278.31	N/A	N/A	44.10	15.85%
Bukit Balai Rejang - Selatan	II	2	3,884	Regional	4719.92	1715.97	36.36%	2670.67	56.58%
Bukit Barisan Selatan South	III	3	2,107	Long-Term	2604.01	621.89	23.88%	1290.83	49.57%
Bukit Barisan South	III	3	2,890	Long-Term	3249.07	666.63	20.52%	1344.20	41.37%
Bukit Rimbang Baling	III	3	4,395	Long-Term	5003.94	1946.94	38.91%	2666.47	53.29%
Bukit Tigapuluh Landscape	I	1	7,106	Global	8176.29	4417.73	54.03%	5686.28	69.55%
Cambodian Northern Plains	II	1	26,835	Global	26523.14	10428.05	39.32%	15672.90	59.09%
Cardamom's	III	3	26,345	Long-Term	26344.98	11178.10	42.43%	15570.21	59.10%
Cat Tien	IV	4	3,359	Insufficient Data	3367.48	1504.20	44.67%	2141.58	63.60%
Chandoli	IV	4	1,682	Insufficient Data	1634.50	199.63	12.21%	543.16	33.23%
Corbett - Sonanadi	I	1	5,996	Global	5805.66	611.67	10.54%	1635.65	28.17%
Dandeli - Anshi	III	3	2,316	Long-Term	2275.90	221.72	9.74%	645.83	28.38%
Dandeli North	III	3	517	Long-Term	506.96	6.84	1.35%	121.61	23.99%
Endau Rompin	III	3	6,505	Long-Term	7125.93	1941.14	27.24%	3259.68	45.74%
Gunug Leuser	IV	4	22,319	Insufficient Data	24074.42	12924.77	53.69%	16186.13	67.23%
Heilongjiang	IV	4	1,315	Insufficient Data	1501.78	233.66	15.56%	619.36	41.24%

TCL Name	Class	Priority	Total TCL (km^2)	Priority NM	Total Area (km^2)	5km Buffer Removal		3km Buffer Removal	
						Area (km^2)	Area (%of total area)	Area (km^2)	Area (%of total area)
Hin Nam Ho	III	3	2,727	Long-Term	2649.43	625.54	23.61%	1251.54	47.24%
Indravati	IV	4	44,238	Insufficient Data	42689.68	19274.50	45.15%	26544.98	62.18%
Kanha u Phen	I	1	10,598	Global	10174.36	3648.10	35.86%	5727.12	56.29%
Kaziranga - Garampani	I	1	7,514	Global	7221.44	3489.60	48.32%	4711.88	65.25%
Kerinci Seblat	I	1	28,162	Global	32915.37	15749.28	47.85%	21445.51	65.15%
Khao Yai	II	2	2,253	Regional	2218.42	967.08	43.59%	1373.39	61.91%
Khlong Saeng	II	2	4,816	Regional	4920.10	1501.77	30.52%	2391.87	48.61%
Kon Ka Kinh	III	3	6,389	Long-Term	6289.95	456.38	7.26%	1250.56	19.88%
Krau	III	3	1,248	Long-Term	1347.57	341.66	25.35%	637.61	47.32%
Kualar Kampar-Kerumutan	II	2	9,835	Regional	11123.93	5533.67	49.75%	7357.15	66.14%
Mahabaleshwar Landscape - North	IV	4	406	Insufficient Data	390.11	70.93	18.18%	162.94	41.77%
Mahabaleshwar Landscape - South	IV	4	344	Insufficient Data	331.05	23.48	7.09%	107.79	32.56%
Melghat	II	1	2,398	Global	2303.74	625.64	27.16%	1125.77	48.87%
Nagarjunasagar North	IV	4	915	Insufficient Data	892.74	106.24	11.90%	280.60	31.43%
Nagarjunasagar South	IV	4	1,699	Insufficient Data	1659.83	423.43	25.51%	825.91	49.76%
Nam Et Phou Loey	I	1	17,866	Global	17190.38	6650.91	38.69%	9948.65	57.87%
Nam Ha	III	3	3,217	Long-Term	3094.79	662.92	21.42%	1316.16	42.53%
Northern Annamites	II	2	28,826	Regional	27872.43	10826.84	38.84%	16592.60	59.53%
Northern Forest Complex - Namdapha - Royal Manas	I	1	237,820	Global	228791.02	165358.25	72.27%	189612.75	82.88%
Pachmarhi - Satpura - Bori	I	1	4,924	Global	4725.66	1306.20	27.64%	2261.68	47.86%

TCL Name	Class	Priority	Total TCL (km^2)	Priority NM	Total Area (km^2)	5km Buffer Removal		3km Buffer Removal	
						Area (km^2)	Area (%of total area)	Area (km^2)	Area (%of total area)
Painganga	IV	4	442	Insufficient Data	426.18	39.90	9.36%	117.91	27.67%
Palamau	IV	4	3,209	Insufficient Data	3078.26	977.04	31.74%	1677.52	54.50%
Panna East	III	2	1,390	Regional	1333.78	82.66	6.20%	332.09	24.90%
Panna West	III	3	539	Long-Term	517.13	3.91	0.76%	80.68	15.60%
Pench	I	1	2,918	Global	2802.61	326.79	11.66%	1001.63	35.74%
Periyar - Megamala	II	2	5,978	Regional	6085.84	2439.12	40.08%	3768.18	61.92%
Phu Khieo	IV	4	5,760	Insufficient Data	5607.67	2050.65	36.57%	3104.90	55.37%
Phu Miang - Phu Thong	II	2	16,273	Regional	15748.46	7745.96	49.19%	10467.74	66.47%
Purna	IV	4	1,002	Insufficient Data	963.42	165.53	17.18%	405.40	42.08%
Radhanagari	II	2	2,945	Regional	2871.33	658.01	22.92%	1353.98	47.16%
Rajaji Major	III	3	322	Long-Term	313.33	0.23	0.07%	40.53	12.94%
Rajaji Minor	III	3	1,044	Long-Term	1014.66	50.48	4.97%	219.60	21.64%
Rimbo Panti-Batang Gadis West	III	3	1,486	Long-Term	1665.18	390.68	23.46%	751.26	45.12%
Royal Bardia	II	2	6,777	Regional	6540.72	1500.02	22.93%	2943.43	45.00%
Royal Bardia South	III	3	499	Long-Term	481.05	1.12	0.23%	86.22	17.92%
Royal Chitwan	II	2	4,055	Regional	3906.21	830.47	21.26%	1569.53	40.18%
Royal Suklaphanta	II	2	1,144	Regional	1106.36	21.39	1.93%	250.14	22.61%
Russian Far East - China	I	1	269,983	Global	309520.18	217107.36	70.14%	250452.97	80.92%
Salak-Phra	III	3	647	Long-Term	635.98	52.64	8.28%	211.49	33.25%
Satkosia-Gorge	IV	4	2,699	Insufficient Data	2596.47	613.62	23.63%	1167.84	44.98%
Shendurney	III	3	603	Long-Term	617.81	61.19	9.90%	212.11	34.33%
Shoolpaneswar	III	3	511	Long-Term	490.79	39.33	8.01%	142.78	29.09%

TCL Name	Class	Priority	Total TCL (km^2)	Priority NM	Total Area (km^2)	5km Buffer Removal		3km Buffer Removal	
						Area (km^2)	Area (%of total area)	Area (km^2)	Area (%of total area)
Sibologa	IV	4	1,292	Insufficient Data	1431.28	351.37	24.55%	694.03	48.49%
Simlipal	I	1	2,412	Global	2316.31	741.08	31.99%	1203.80	51.97%
Southern Annamites	I	1	61,252	Global	60426.26	26947.63	44.60%	36642.57	60.64%
Sunabeda-Udanti	IV	4	2,287	Insufficient Data	2201.75	432.88	19.66%	943.06	42.83%
Sundarbans	III	1	5,304	Global	5092.06	222.22	4.36%	1051.13	20.64%
Taman Negara - Belum	I	1	49,181	Global	52520.34	24650.75	46.94%	32211.00	61.33%
Tenasserims	I	1	162,726	Global	158610.56	101501.15	63.99%	121226.57	76.43%
Tesso Nilo Landscape	III	3	2,332	Long-Term	2646.76	739.46	27.94%	1326.36	50.11%
Thap Lan - Pang Sida	II	1	4,445	Global	4380.02	1867.68	42.64%	2580.25	58.91%
Western Ghats - Sharavathi Valley	III	3	321	Long-Term	316.42	49.24	15.56%	124.39	39.31%
Western Ghats: Bandipur - Khudrenukh u Bhadra	I	1	18,973	Global	18907.26	6221.81	32.91%	10019.48	52.99%
Xe Bang Nouan	IV	4	657	Insufficient Data	642.03	151.19	23.55%	307.73	47.93%
Yokdon	II	2	1,787	Regional	1760.41	437.52	24.85%	801.25	45.52%

4.5 Monitoring Tiger Conservation Landscapes, TCL 3.0 (*Dale Miquellle, and Eric Sanderson, 2023*)

Secure tiger habitat is essential for tiger recovery. Tiger Conservation Landscapes (TCLs) represent core habitat management units for the future of tigers. Under the GTRP, TCLs are the basic management unit upon which local, national, and transboundary habitat conservation plans, including ecological corridors between landscapes, can be developed.

The 2010 Global Tiger Recovery Plan (2010) identified the existence of 76 Tiger Conservation Landscapes, encompassing 1.2 million km^2 in 13 Tiger Range Countries (Sanderson et al., 2006), providing a geographic basis for assessing where tiger populations could be supported over the next 12 years.

The most recent analysis (TCL 3.0; see details at www.act-green.org), including data through January 1, 2020, represents another series of methodological advances, a re-analysis of the original indigenous range of tigers (table 4.9-pp93), the current state of tiger conservation landscapes (figure 4.4-pp90), and an assessment of how tiger habitat and landscapes have changed over the last twenty years (Sanderson et al. in review).

As of 2020, there were 63 Tiger Conservation Landscapes in ten range states (figure 4.5-91, table 4.10-pp94). Each TCL is known to have extant tiger populations over the last 5 years and enough habitat with sufficiently low levels of human influence to sustain a population of at least 5 adult females. Designating an area as a TCL does not mean that tigers exist everywhere within the habitat blocks; rather these landscapes represent the suggested core management units for the future of tigers. The human footprint index (figure 4.6-pp92) provides an indicator of the human impact on an area, and is used in assessing the probability of a landscape retaining tigers.

Over the last 20 years, the total area of Tiger Conservation Landscapes (TCLs) declined from 1,025,488 km^2 in 2001 to 911,901 km^2 in 2020, a range-wide loss of 11%. TCLs also became more fragmented, increasing by 37%, from 3,477 km^2 in 2001 to 4,787 km^2 in 2020, though such fragments with tigers represent only a tiny percentage – less than 1% -- of overall occupied habitat.

Eight of the 63 areas are trans-boundary. Some are quite large, for example, the Chittagong – Northern Triangle – Namdapha – Medog – Manas TCL of India, Myanmar, China and Bhutan, covers 294,847 km^2, the largest contiguous block of occupied tiger habitat in the world. Others are smaller such as the Dawna Range, Ranthambore or Kaziranga, all less than 500 km^2. India has the largest number of separate TCLs at 35

landscapes, Nepal the fewest (1), but an important one, the extensive Terai Arc landscape of grasslands and riparian forests, shared with India.

Three countries have lost tigers entirely over the last 15 years, notably in South East Asia. However, every country has an opportunity to contribute to tiger conservation, because Tiger Conservation Landscapes are not the only areas relevant to tiger conservation. One of the revelations of the TCL 3.0 analysis is how much empty habitat remains: only 50% of the potential effective habitat extant in Asia on January 1, 2020 contains tigers. The remainder is some combination of Restoration Landscapes, where tigers are known to be extirpated; Survey Landscapes, where the status of tigers is unclear; or small fragments (tiger fragment, restoration fragment, or survey fragment; see figure 4.4-pp90), where only a minimal tiger population is possible, though such areas may be important as "stepping stones" to larger blocks of habitat. In landscapes with no known tigers but suitable habitat, restoration of tigers may be possible in the future.

Although the total area of TCLs remained virtually unchanged between 2010 and 2020, sizeable parts of TCLs continued to be lost to agricultural conversion and infrastructure (India, Indonesia, Thailand). These loses were offset by recent increases in the TCL area (Bhutan, China, Myanmar, Nepal, Russia), which were mainly the result of tiger dispersals and more expansive surveying which led to an upgrade of some habitat patches that were previously categorized as unoccupied (i.e., Restoration Landscapes).

Available data suggest that habitat patches that have lost tigers tend to dramatically decrease in size due to development pressures, while large blocks of habitat with tigers have remained mainly stable in size, sometimes even showing a slight increase. The sheer presence of tigers appears to helps preserve landscape integrity, reinforcing the case for tiger recovery at a landscape level.

TCL 3.0 provides a near-real time baseline for identifying priority landscapes for tiger conservation and a means to monitor future progress against local, national or range-wide goals for tiger conservation, even as Asian landscapes continue to change. However, its full potential can only be realized if all stakeholders, including all TRCs, collaborate and contribute to maintenance of the database to ensure an accurate and complete understanding of the tiger's distribution and status.

Analytical steps

Indigenous range map – defines area of interest (AOI)
Time frame of the analysis – defines length of time series

Structural habitat
- What defines habitat?
- What remotely sensed / other inputs can be used to make those maps?

Effective potential habitat
- How are human beings interacting with the species?
- Where are the human beings?

Patch size and connectivity
- What is a minimum patch size to be relevant to this species?
- What distances can be so easily crossed for two patches to be considered connected?

Species observations
- Where and when was the species surveyed?
- Where was it observed?

Figure 1. Schematic diagram of the species conservation landscape process.

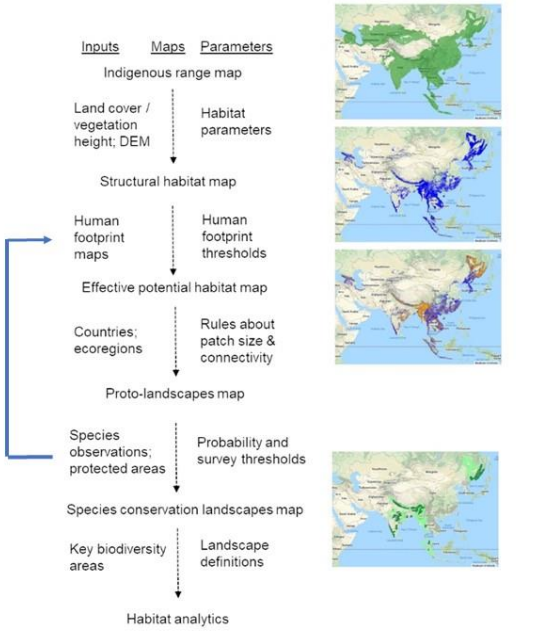


Figure 4.4: Analytical steps taken in identifying Tiger Conservation Landscapes (landscapes where tigers currently occur), Restoration landscapes (where tigers once were present and where they might be reintroduced) and Survey Landscapes (where the status of tigers is currently unknown)

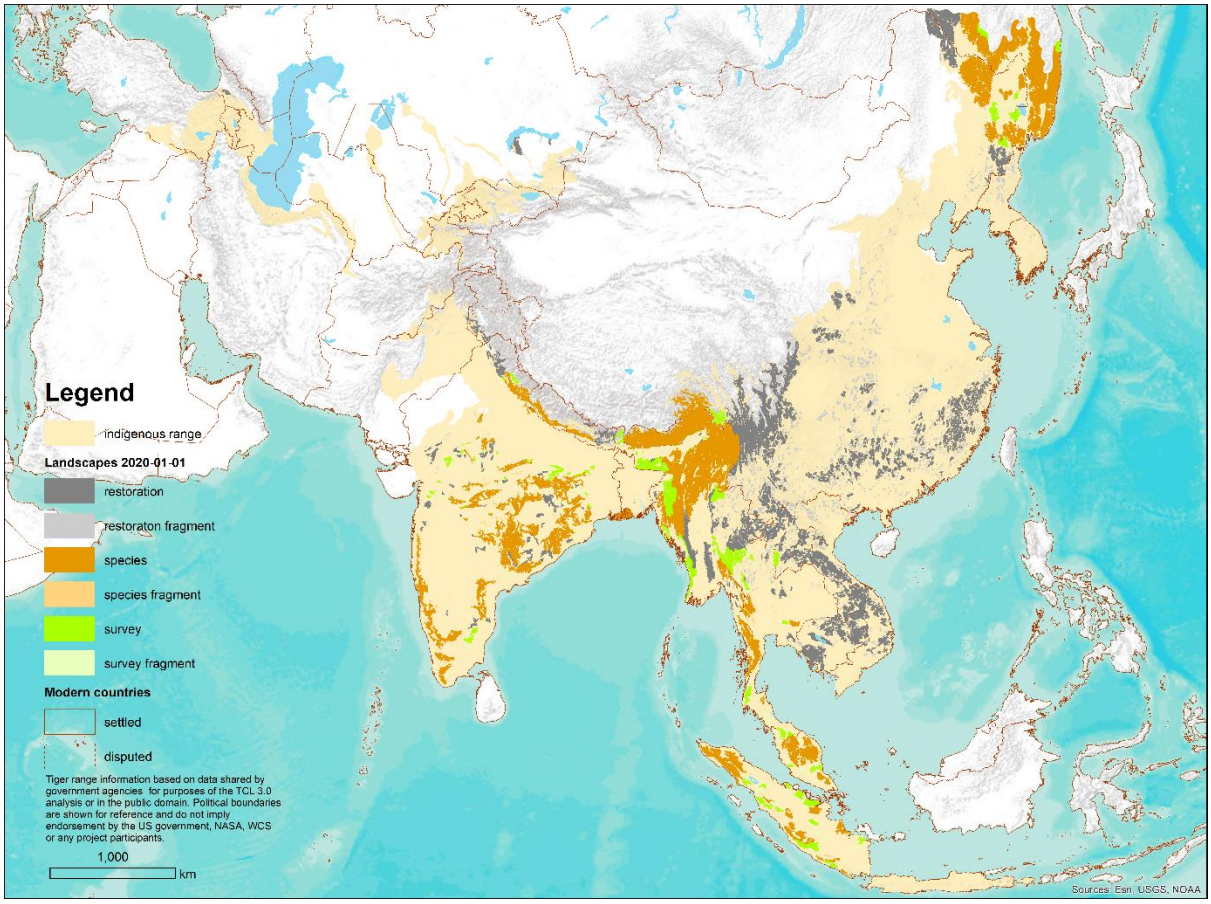


Figure 4.5: Sixty-three Tiger Conservation Landscapes (in brown) as of January 1, 2020. Tiger Conservation Landscapes (TCLs) are large blocks of habitat with low human footprint with confirmed tiger presence within the last 5 years and enough habitat with sufficiently low levels of human influence to sustain a population of at least 5 adult females. Survey Landscapes (in green) are large blocks of habitat with low human footprint where the status of tigers is uncertain. Restoration Landscapes (grey) are large blocks of habitat with low human footprint where tigers are extirpated. Fragments of each of these landscape types are areas of the same designation too small to sustain 5 adult females

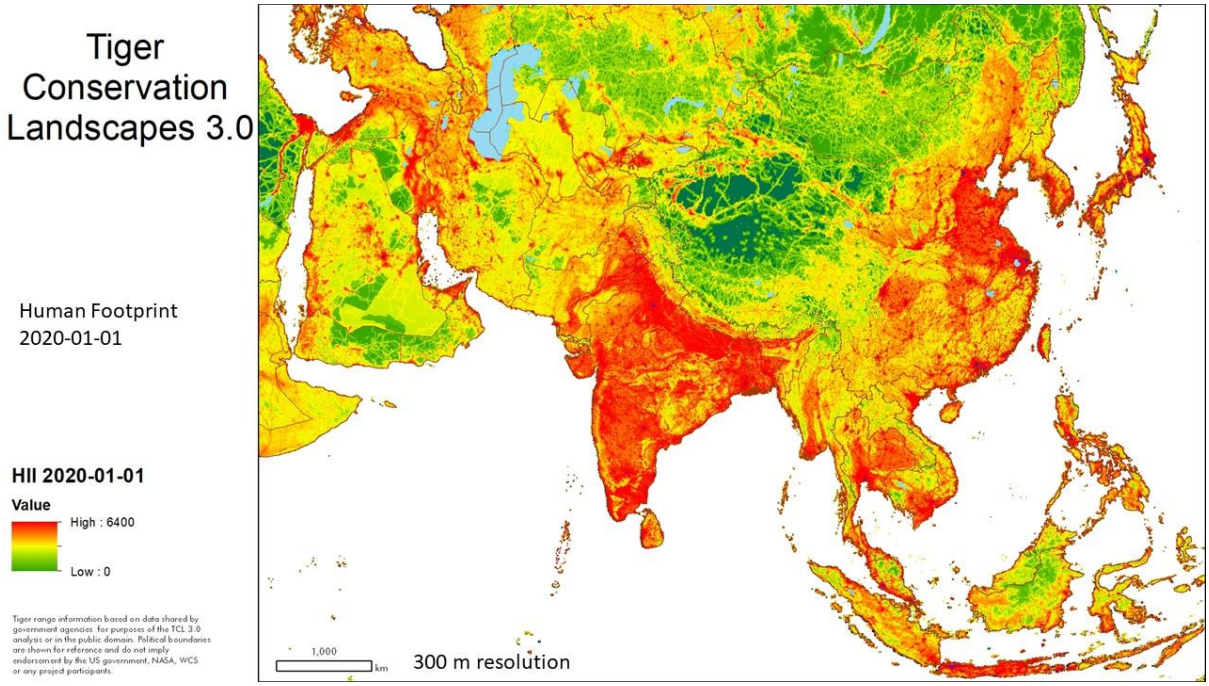


Figure 4.6: The Human footprint is an indicator of the level of human impact on the landscape, representing a composite picture of seven key parameters: human population density, road density, railway density, infrastructure, power grids, and land use. Its composite picture provides an indicator of the suitability of an area for tigers and overall habitat integrity

Table 4.9: Tiger conservation landscape types by country as of 2020-01-01. Estimates of the total indigenous area of tiger habitat by country (i.e., the historical range of tigers), the amount of structural habitat, and the area of effective habitat (see Figure 3.5-pp90) as well as the percentage of this area comprised of Tiger Conservation Landscapes, Survey Landscapes, and Restoration Landscapes, as well as fragmented parcels of each of these landscape types are provided for each modern country where historically tigers were reported.

Country	Area of likely resident indigenous range (km2)	Area of structural habitat (km2)	Area of effective potential habitat (km2)	Tiger Conservation Landscapes		Tiger Conservation Fragments		Survey Landscapes		Survey Fragments		Restoration Landscapes		Restoration Fragments	
				% of eff. pot. hab.	#	% of eff. pot. hab.	#	% of eff. pot. hab..	#	% of eff. pot. hab.	#	% of eff. pot. hab.	#	% of eff. pot. hab.	#
Afghanistan	46,816	6,482	0												
Armenia	28,348	7,045	278											100%	8
Azerbaijan	73,345	10,370	4											100%	3
Bangladesh	134,619	24,720	8,897	93%	2					1%	4			6%	11
Bhutan	31,993	29,566	26,905	99%	1					1%	2				
Cambodia	177,080	102,823	49,760							<1%	1	96%	7	4%	25
China**	4,006,417	1,811,507	513,572	20%	6			3%	6	1%	52	59%	128	17%	785
Georgia	25,413	11,663	1,724									58%	1	42%	11
India	2,512,229	691,734	401,771	75%	35	1%	56	11%	38	4%	368	9%	54	<1%	55
Indonesia	555,207	252,147	88,899	58%	11	1%	**4**	29%	13	11%	64			1%	9
Iran	136,938	19,083	556											100%	10
Iraq	5,992	294	0												
Kazakhstan	148,031	12,275	5,419									86%	2	14%	11
Kyrgyzstan	107,447	5,969	15											100%	2
Laos	228,558	161,364	73,884					**2%**	1	<1%	2	92%	12	5%	47
Malaysia	128,983	74,103	41,713	83%	2			11%	3	6%	19			<1%	1
Myanmar	661,644	403,684	257,121	65%	7	<1%	2	10%	8	1%	23	22%	13	2%	62
Nepal	71,381	41,522	19,695	60%	1	1%	4	<1%	1	1%	6	31%	2	7%	17
North Korea	120,561	82,304	4,826									<1%	1	100%	27
Pakistan	272,378	14,360	1,481									43%	3	57%	25

Russia	376,857	306,012	234,972	83%	5			4%	3	1%	24	11%	1		
Singapore			0												
South Korea	92,522	56,454	446											100%	6
Syria	8,688	1	0												
Tajikistan	67,194	658	0												
Thailand	507,060	161,012	46,884	30%	9	1%	2	34%	8	13%	55	14%	11	8%	60
Turkey	146,809	20,739	657											100%	10
Turkmenistan	49,735	131	0												
Uzbekistan	79,182	1,143	0												
Viet Nam	322,149	153,669	37,187									72%	14	28%	91
Range-wide	11,123,576	4,462,834	1,816,666	50%	63	0.3%	67	8%	73	2%	608	32%	226	7%	1229

eff.: effective; pot.: potential; hab.: habitat

* Occupied habitat is inclusive of TCLs and species fragments; Available habitat is the sum of restoration landscapes/fragments and survey landscapes/fragments

** Includes area from Macao and Hong Kong

Table 4.10: The 63 remaining Tiger Conservation Landscapes, with total area within each Tiger Range State, as of 2020-01-01

		Areas[1] within Tiger Conservation Landscapes and Country as of 2020-01-01										
Lsid	**TCL Name**	India	Russia	Myanmar	China	Indonesia	Bhutan	Malaysia	Thailand	Nepal	Bangladesh	Total
1	Kaziranga	94										94
2	Northern Triangle*	101,211		144,542	17,562		26,765				4,768	294,847
3	Leuser Landscape					27,703						27,703
4	Northern Kawthoolei			5,323					34			5,357
5	Trumon - Singkil					684						684
6	Dawna Range			466								466
7	Southern Tanintharyi*			16,929					4,092			21,022
8	Southern Western Forest Complex*			345					1,362			1,707
9	Mulayit Tuang*			716					6			723
10	Western Forest Complex*			93					5,335			5,429
11	Batang Gadis - Malampah Alahan Panjang					1,004						1,004
12	Khao Luang								889			889
13	Kerinci Seblat					7,989						7,989
14	Bukit Rimbang Baling					2,078						2,078

Lsid	TCL Name	India	Russia	Myanmar	China	Indonesia	Bhutan	Malaysia	Thailand	Nepal	Bangladesh	Total
15	Batang Hari					1,447						1,447
16	Taman Negara - Hala-Bala*							31,296	73			31,368
17	Thap Lan - Pang Sida								2,239			2,239
18	North Bukit Balai Rejang Selatan					816						816
19	Kerumutan					3,718						3,718
20	Endau Rompin							3,352				3,352
21	South Bukit Balai Rejang Selatan					1,335						1,335
22	Bukit Barisan Selatan					671						671
23	Berbak - Sembilang					3,842						3,842
24	Southern Zhangguangcailing				8,077							8,077
25	Lesser Khingan				53,493							53,493
26	Pri - amur		72,138									72,138
27	Laoyeling*		2,691		14,187							16,879
28	West Wandashan				3,088							3,088
29	East Wandashan				3,962							3,962
30	Sikhote-Alin		120,993									120,993
31	Sahyadri	1,669										1,669
32	Radhanagari	1,328										1,328
33	Western Ghats	22,739										22,739
34	Yawal	2,103										2,103
35	Jawahar Sagar	459										459
36	Sariska	846										846
37	Ranthambore	253										253
38	Anamalai-Parambikulam	3,620										3,620
39	Akola District	247										247
40	Ratapani-Singhori	1,808										1,808
41	Periyar - Megamala - Shendurney	4,467										4,467
42	Rajaji Minor	390										390
43	Terai Arc*	9,775								11,762		21,538
44	Ghatigaon	2,443										2,443
45	Painganga	4,542										4,542
46	Eastern Dehgaon-Bamori Range	273										273
47	Bor	193										193
48	Nagarjunasagar	6,615										6,615
49	Sri Lankamalleswara	413										413
50	Melghat	8,511										8,511
51	Andhari - Tadoba	2,288										2,288

Lsid	TCL Name	India	Russia	Myanmar	China	Indonesia	Bhutan	Malaysia	Thailand	Nepal	Bangladesh	Total
52	Sri Penusila Narasimha	5,219										5,219
53	Pilibhit	399										399
54	Bandhavgarh	423										423
55	Umaria District	253										253
56	Panpatha	1,892										1,892
57	Panna West	3,950										3,950
58	Central Indian Landscape	51,656										51,656
59	Papikonda	7,910										7,910
60	Satkosia Gorge	19,250										19,250
61	Palamau District	28,545										28,545
62	Simlipal	3,411										3,411
63	Sundarbans*	1,324									3,540	4,864
	Total	**300,519**	**195,822**	**168,415**	**100,368**	**51,286**	**26,765**	**34,647**	**14,030**	**11,762**	**8,308**	**911,920**

*Transboundary TCLs.

[1]All areas measured in km2 of "potential effective habitat" as defined in the text.

4.6 Tiger Protected Areas of TRCs

Bangladesh - 01

1. Sundarbans Reserved Forest

Bhutan - 10

1. Bumdeling Wildlife Sanctuary
2. Jigme Dorji National Park
3. Jigme Khesar Strict Nature Reserve
4. Jigme Singye Wangchuck National Park
5. Jomotshangkha Wildlife Sanctuary
6. Phibsoo Wildlife Sanctuary
7. Phrumsengla National Park
8. Royal Manas National Park
9. Sakteng Wildlife Sanctuary
10. Wangchuck Centennial Park

Cambodia - 06

1. Bokor National Park
2. Botum Sokor National Park
3. Central Cardamom Mountains National Park
4. Phnom Aural Wildlife Sanctuary
5. Phnom Samkos Wildlife Sanctuary
6. Southern Cardamom National Park

China - 20

1. Beijicun National Nature Reserve
2. Dajiahe Provincial Nature Reserve
3. Daxiagu National Nature Reserve
4. Dongfanghong National Nature Reserve
5. Huanglianshan National Nature Reserve
6. Huangnihe National Nature Reserve
7. Hunchun National Nature Reserve
8. Jidong Fenghuangshan National Nature Reserve
9. Maolangou National Nature Reserve
10. Muling Chinese Yew National Nature Reserve
11. Northeast Tiger and Leopard National Park
12. Qixinglazi National Nature Reserve
13. Shuanhe National Nature Reserve
14. Suiyang Laoyeling National Nature Reserve
15. Taipinggou National Nature Reserve
16. Tianqiaoling Provincial Nature Reserve
17. Wangqing National Nature Reserve
18. Xiaobeihu National Nature Reserve
19. Xinqing National Nature Reserve
20. Xishuangbanna National Nature Reserve

India – 53 (Tiger Reserve)

1. Achanakmar
2. Amrabad
3. Anamalai
4. Bandhavgarh
5. Bandipur
6. Bhadra
7. Biligiri Ranganatha Temple
8. Bor
9. Buxa
10. Corbett
11. Dampa
12. Dudhwa
13. Indravati
14. Kalakad Mundanthurai
15. Kali
16. Kamlang
17. Kanha
18. Kawal
19. Kaziranga
20. Manas
21. Melghat
22. Mudumalai
23. Mukundara Hills
24. Nagarahole
25. Nagarjunsagar Srisailam
26. Namdapha
27. Nameri
28. Nawegaon Nagzira
29. Orang
30. Pakke
31. Palamau
32. Panna
33. Parambikulam
34. Pench, Madhya Pradesh

35. Pench, Maharashtra
36. Periyar
37. Pilibhit
38. Rajaji
39. Ramgarh Vishdhari
40. Ranipur
41. Ranthambore
42. Sahyadri
43. Sanjay Dubri
44. Sariska
45. Sathyamangalam
46. Satkoshia
47. Satpura
48. Similipal
49. Srivilliputhur Megamalai
50. Sundarbans
51. Tadoba Andhari
52. Udanti Sitanadi
53. Valmiki

Indonesia - 07

1. Batang Gadis National Park
2. Gunung Leuser National Park
3. Kerinci Seblat National Park
4. Sembilang National Park
5. South Bukit Barisan National Park
6. Tesso Nilo National Park
7. Way Kambas National Park

Lao PDR - 01

1. Nam Et Phou Louey National Protected Area

Malaysia – 04

1. Royal Belum State Forest
2. Endau Rompin (Johor and Pahang) National Park
3. Taman Negara National Park
4. Al-Sultan Abdullah Royal Tiger Reserve

Myanmar – 05

1. Bumhpabum Wildlife Sanctuary
2. Htamanthai Wildlife Sanctuary
3. Hukaung Valley Wildlife Sanctuary
4. Lenya National Park
5. Tanintharyi Nature Reserve

Nepal – 05

1. Banke National Park
2. Bardiya National Park
3. Chitwan National Park
4. Parsa National Park
5. Suklaphanta National Park

Russia – 11

1. Anyuisky National Park
2. Bolshekhekhtsirsky Nature Reserve
3. Botchinsky Nature Reserve
4. Kedrovaya Pad Nature Reserve
5. Komsomolsky Nature Reserve
6. Land of the Leopard National Park
7. Lazovsky Nature Reserve
8. Sikhote-Alinsky Nature Reserve
9. Udegeyskaya Legenda National Park
10. Ussurisky Nature Reserve
11. Zov Tigra National Park

Thailand – 21

1. Bang Lang National Park
2. Dong Yai Wildlife Sanctuary
3. Erawan National Park
4. Hala Bala Wildlife Sanctuary
5. Huai Kha Khaeng Wildlife Sanctuary
6. Kaeng Krachan National Park
7. Khao Luang National Park
8. Khao Yai National Park
9. Khlong Lan National Park
10. Khuean Srinagarindra National Park
11. Kui Buri National Park
12. Mae Wong National Park
13. Nam Nao National Park
14. Pang Sida National Park
15. Phu-Khieo Wildlife Sanctuary
16. Salakpra Wildlife Sanctuary
17. Sai Yok National Park
18. Ta Phraya National Park
19. Thap Lan National Park
20. Thung Yai Naresuan Wildlife Sanctuary
21. Umpang Wildlife Sanctuary

Vietnam – 07

1. Chu Mom Ray National Park
2. Pu Mat National Park
3. Sop Cop Nature Reserve
4. Song Thanh Nature Reserve
5. Vu Quang National Park
6. Xuan Lien Nature Reserve
7. Yok Don National Park

4.7 List of Consultations / Workshops

S. No.	Meeting details	Date
1	Virtual consultation with officials from Malaysia	01 September 2021
2	Virtual consultation with officials from Malaysia, Indonesia and Thailand	10 September 2021
3	Virtual discussion with official from Vietnam	18 September 2021
4	Meeting with senior official from Nepal	20 September 2021
5	Virtual consultation with officials from Thailand and Malaysia	23 September 2021
6	Virtual consultation with officials from Malaysia and Indonesia	24 September 2021
7	Virtual consultation with officials from Malaysia and Vietnam	30 September 2021
8	Virtual consultation with officials from Malaysia and Cambodia	04 October 2021
9	Virtual consultation with officials from Indonesia and Malaysia	01 November 2021
10	Virtual consultation with officials from Lao PDR and Malaysia	09 November 2021
11	Virtual consultation with official from Cambodia	10 December 2021
12	Virtual consultation with official from Indonesia	23 December 2021
13	The 4th Asia Ministerial Conference on the conservation of Tigers hosted in hybrid mode by Malaysia in association with the Global Tiger Forum at Kuala Lumpur, Malaysia	19-21 January 2022
14	Virtual discussion on GTRP with conservation partner agency	01 February 2022
15	Virtual consultation meeting with officials from Cambodia	08 February 2022
16	Virtual consultation meeting with officials from Myanmar	09 February 2022
17	Virtual consultation meeting with officials from Vietnam	09 February 2022
18	Virtual consultation meeting with officials from Lao PDR	23 February 2022
19	Virtual consultation meeting with officials from Thailand	09 March 2022
20	Virtual consultation on GTRP-2: Roles, responsibilities, and timeline with GTRP experts	17 March 2022
21	Virtual consultation meeting with officials from Thailand	20 April 2022
22	Virtual consultation on GTRP with South Asian TRCs (Bhutan, Bangladesh, India, and Nepal)	17 June 2022
23	Virtual consultation on GTRP with South East Asian TRCs (Thailand, Malaysia, Myanmar, Indonesia, Cambodia, Lao PDR, and Vietnam)	23 June 2022
24	Virtual consultation on GTRP with China, and Russia	27 June 2022
25	Pre-summit meeting of The Tiger Range Countries (TRCs) organised in hybrid mode at New Delhi, India	10-11 August 2022

26	Virtual discussion on GTRP 2.0 and relevant program-wide KPIs with GTRP experts and other conservation partner agency	13 September 2022
27	Virtual consultation meeting with officials from Myanmar	20 September 2022
28	Virtual meeting with officials from Malaysia	02 November 2022
29	Virtual consultation between the GTF and the GTRP experts	21 November 2022
30	A two-day workshop (hybrid) to discuss the Global Tiger Recovery Program (GTRP 2.0) with Tiger Range Countries (TRCs) organized at New Delhi, India.	29-30 November 2022
31	Meeting with officials from Bhutan and Nepal at New Delhi, India	01 December 2022
32	Virtual consultation meeting with officials from Cambodia	22 December 2022
33	Virtual consultation meeting with officials from Thailand	30 December 2022
34	Virtual consultation meeting with officials from Indonesia	17 January 2023
35	Meeting with officials from Bhutan and Nepal at New Delhi, India	09 February 2023

4.8 The Vladivostok Declaration on Tiger Conservation

THE VLADIVOSTOK DECLARATION ON TIGER CONSERVATION

(Vladivostok, Russian Federation, September 5, 2022)

We, the representatives of the People's Republic of Bangladesh, the Kingdom of Bhutan, the Kingdom of Cambodia, the People's Republic of China, the Republic of India, the Republic of Indonesia, the Lao People's Democratic Republic, Malaysia, the Republic of the Union of Myanmar, the Federal Democratic Republic of Nepal, the Russian Federation, the Kingdom of Thailand, and the Socialist Republic of Vietnam, collectively referred to as the Tiger Range Countries (TRCs), being custodians of the last remaining tigers in the wild, along with countries with an intent to reintroduce tigers such as the Republic of Kazakhstan, have gathered at the 2nd International Tiger Conservation Forum in Vladivostok, Russian Federation, on 5 September 2022, with the common goal of ensuring viable wild tiger populations through conservation, recovery and reintroduction.

We:

EXPRESS strong concern that Asia's most iconic animal faces imminent extinction in the wild, primarily due to loss, degradation and fragmentation of habitats, climate change impacts, poaching, prey-base depletion and human-tiger conflict.

RECOGNISE that the tiger is one of the most important indicators of biodiversity and healthy ecosystems and a symbol of sustainability. Current negative drivers and stressors will result in the extinction of tigers from the wild and loss of biological diversity together with the ecosystem services they provide, while also exacerbating the adverse impacts of climate change.

ACKNOWLEDGE the efforts of the TRCs to implement the Global Tiger Recovery Programme (GTRP), the outcome of the first International Tiger Forum in St. Petersburg in 2010. As a result of the measures taken, the number of wild tigers in the world has registered a recovery from as few as 3,200 to over 4,700.

RECOGNISE, with concern that there has been uneven progress towards tiger recovery, and some regions are continuing to lose or have lost their tiger populations.

EXPRESS concern about the continued paucity of sovereign funds for tiger conservation in several TRCs.

SUPPORT efforts of the TRCs to implement their National Tiger Recovery Programmes (NTRPs) while also noting that tiger conservation is a national priority and a collective responsibility, requiring cooperation and coordination between TRCs.

WELCOME the intent of countries to reintroduce wild tigers to areas where numbers need to be actively augmented, including in key parts of their historical range.

EXPRESS serious concern that there is still no comprehensive strategy to address the issue of phasing out of tiger farms while their impact on driving illegal tiger trade continues unabated.

RECOGNISE the importance of enabling intra-sectoral policies and cross-sectoral coordination for the long-term conservation of tigers and their habitats.

CONFIRM our commitment to the principles reflected in international treaties that ensure the conservation of biological diversity and the protection of rare and threatened species, including the tiger and its prey species, such as the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Migratory Species (CMS), the World Heritage Convention, the 2030 Agenda for Sustainable Development, the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement and other relevant initiatives.

RECOGNISE AND APPRECIATE the contributions of partners including international organisations and civil society in the implementation of the GTRP and NTRPs, and call upon the Global Tiger Forum and Global Tiger Initiative Council to continue to support and coordinate these efforts in future.

REAFFIRM our collective commitment to the principles and actions of the Hua Hin Declaration on Tiger Conservation (2010), the St Petersburg Declaration on Tiger Conservation (2010), the Thimphu Affirmative Nine-Point Action Agenda (2012), the Dhaka Recommendations (2014), the New Delhi Resolution on Tiger Conservation (2016), and the Kuala Lumpur Joint Statement on Tiger Conservation (2022).

To fulfil our commitment to conserve wild tigers and to pass the benefits on to future generations, we hereby declare to undertake the following:

1. Adopt and implement the next Global Tiger Recovery Programme (2022-2034) and the revised National Tiger Recovery Programmes (NTRPs) with measurable and timebound indicators;
2. Develop updated National Tiger Reintroduction Programmes for the next 12-year period for countries where required;
3. Strengthen community stewardship for tiger conservation through enabling policy regimes leading to equitable benefit-sharing mechanisms (including Payment for Ecosystem Services), mitigating and managing human-tiger conflict, developing alternative and sustainable livelihoods (including green skills development) for enhancing their economic status and social well-being;
4. Address identified financial gaps through creating incentive mechanisms and leveraging conventional and innovative sources of funding, including government/sovereign funding, bilateral funds, private sector funding, endowments/trust funds, tiger bonds, etc. for long-term conservation of tigers;
5. Support the implementation of the South East Asia Tiger Recovery Action Plan (STRAP) based on agreed priorities, better coordination among countries, and setting up a well-resourced institutional structure;
6. Protect tiger habitats and prevent any further loss and degradation, including by increasing various forms of Protected Areas in prioritised tiger habitats;
7. Ensure adequate prey-base for tigers through better protection, recovery of habitats and populations and reintroduction where necessary;
8. Promote landscape-level conservation of tigers including the integration of ecological corridors in land-use policies, and implementation of climate-smart practices and green infrastructure in tiger habitats and corridors;
9. Strengthen law enforcement through enhancing numbers and professionalization of frontline staff/rangers, involvement of other enforcement agencies, establishing national database systems, harmonizing laws across countries (through bilateral instruments) and coordinated border patrols;
10. Strengthen the collaboration and sharing of information on wildlife crime among existing law enforcement agencies and regional networks (SAWEN, ASEAN-WEN) through adequate capacity and resourcing by the TRCs and donors;
11. Adopt the One Health approach to ensure sustainability of tiger landscapes and safeguard against zoonotic disease transmission;
12. Set up mechanisms and supportive policies to enable the mainstreaming of ecosystem services in development agendas;
13. Carry out regular monitoring of tigers and assessment of prey-base and habitats using best practices and enhance law enforcement monitoring as well as management assessment using tools such as SMART, M-STrIPES, MEE and CA|TS;
14. Conduct ongoing, cutting edge and inter-disciplinary research through institutional partnerships to ensure that tiger conservation is informed and driven by robust science;
15. Promote and strengthen Communication, Education and Public Awareness (CEPA), including citizen science approaches to garner civil society support for tiger conservation.

In order to ensure effective implementation of the objectives and principles enshrined in this Declaration, TRCs commit to establish a mechanism that would oversee timely and efficient implementation.

By the adoption of this, the Vladivostok Declaration, we, the Tiger Range Countries of the world call upon the international community to join us in turning the tide and setting the tiger on the road to recovery.

4.9 Contributors

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4. Technical team: GTF and GTIC

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Tiger Range Countries

TRC with historical tiger presence (aiming for reintroduction)

GTF

GTI Council