



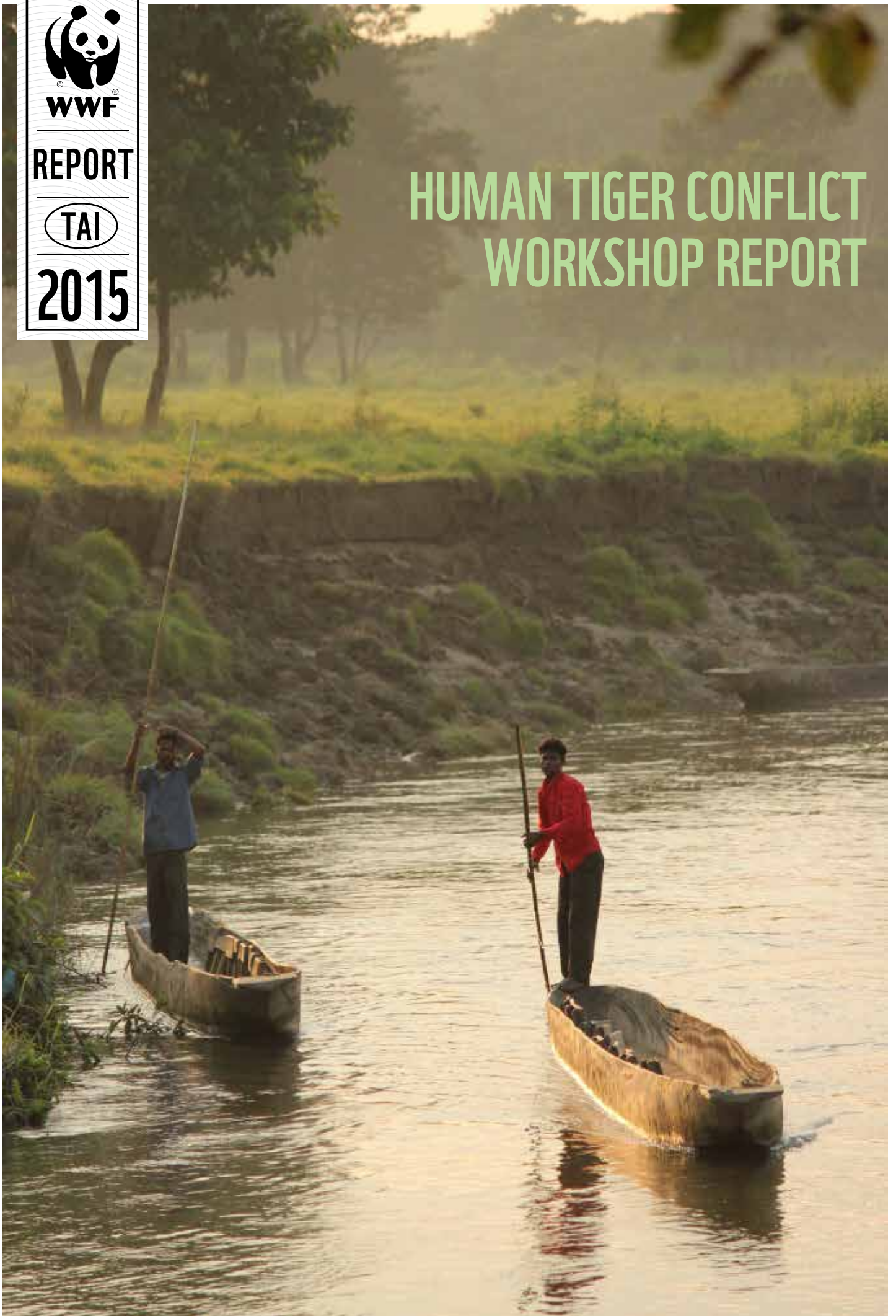
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REPORT

TAI

2015

HUMAN TIGER CONFLICT WORKSHOP REPORT



UNDERSTAND

WHAT

Human Tiger Conflict Workshop

WHEN

28th – 31st October 2014

SUPPORTED BY

WWF Tigers Alive Initiative & WWF Nepal

WHERE

Sauraha, Chitwan National Park, Nepal

WHY

Workshop Goals

1. To take stock of HTC in tiger range countries.
2. To develop strategies and a pilot program on HTC across tiger landscapes.
3. To develop a funding strategy for the pilot program.

Prepared by WWF Tigers Alive Initiative and the Human Tiger Conflict Working Group

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Front cover: Budhi Rapti River, Chitwan National Park Buffer Zone © WWF

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Workshop and Report Format

The workshop, held over four days, sought to elicit broad and in-depth discussion from network end users (i.e. tiger landscape practitioners), on all elements of Human Tiger Conflict (HTC). To ensure a rich and open discussion, presentations were kept brief and at a 10–slide maximum. Presenters and their topics were selected based on one or two exceptional projects or actions they had been undertaking at their site in terms of HTC management. Other sites or programs were selected for presentation based on the learning and adaptation that had been built up at that site over a long period of time. Following the discussions, the workshop broke into four discussion groups. Each group was led by a facilitator with rapporteur chosen randomly for each session. The facilitator was also given guiding questions on the theme to ensure the discussion moved forward but on topic. Groups were given a minimum of an hour to discuss, and then reported back to the plenary for comment from other groups. Each presentation is summarised below, and all group discussion points and findings have been incorporated and cited throughout the report below.



It was also deemed important to reinforce the positive linkages between each of the elements throughout the report – as an integrated approach to HTC, recognising these links was a cornerstone component of the workshop. Thus throughout the text, where there is an identified link between the element being discussed and another element of HTC, this is noted via the “∞” symbol in red, followed by reference to the linked HTC element in superscript. E.g. ∞Monitoring.

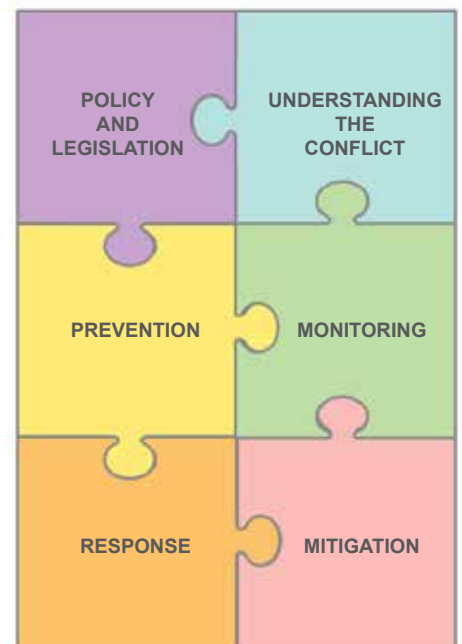


Referencing throughout the report follows the author-date style. However, given that all citations come from the workshop itself, only author is cited. Each workshop Group Discussion is treated as a single citation and referenced according to the topic of discussion (i.e. Group 2 Discussion on Policy: PG2; Group 4 Discussion on Response: RG4).

Introduction to the Workshop

Dr. Ashley Brooks, Land Use Specialist and Goal 3 Lead, WWF TAI

The complexity of HTC warrants a coordinated suite of responses. Despite decades of research, piloting, and financial investment, there remains a lack of fundamental understanding of what drives human wildlife conflict (HWC), as well as suitable management measures. This is largely due to HWC being dynamic in space and time, and driven by a complex combination of social, ecological, climatic, political, and economic forces. However, an integrated framework approach – flexible enough to allow for local nuances – seems to offer a way forward. It includes mutually supporting actions to prevent, mitigate, respond to, predict, and monitor HTC, while being underpinned by policy and legislation. Various actions in each of these areas have been implemented across Tiger Conservation Landscapes (TCLs) by WWF and others, but often in isolation of each other and never in a fully integrated manner. An integrated approach simply means that actions and lessons from each element of conflict informs and reinforces actions in the other elements, and effectiveness of the approach is contingent on all areas being implemented concurrently (Brooks).



Policy & Legislation

“Policy” was defined as any aspects of the following that are linked to HTC at any jurisdictional level:

- International law
- National law
- Wildlife and forest crime
- National strategy
- Translocation of problem tigers and response to conflict events
- Transboundary / regional / international collaboration

PRESENTATIONS

Human Wildlife Interactions - Law & Policy Perspectives

Dr. Dipankar Ghose, Director - Species and Landscapes Program, WWF India

The majority of government funds for HTC in India are spent on ex-gratia and compensation. The defining factor related to retaliatory killings of tigers is the diversity of state policies as well as the loss, whether economic or human causality. India's Standard Operating Procedure (SOP) To Deal With Emergency Arising Due to Straying of Tigers in Human Dominated Landscapes, developed by the National Tiger Conservation Authority, Government of India is a robust national guiding strategy that gives specific mandates to Chief Wildlife Wardens (CWLW) of states and local administration to act on HTC events. While powerful and backed by legal mandate, it needs more buy-in from the states and adequate fund back-up for the forest department officers to respond effectively to context-specific HTC events. Key challenges of the SOP include: the lack of clear guidelines pertaining to tigers that commit HTC acts outside the originating jurisdiction (if a tiger from one state wanders to a neighbouring state and commits an HTC act, there remains ambiguity over which state and therefore which CWW is the custodian of the tiger and, therefore, which state laws apply to the situation); and weak integration of the SOP into other enabling policies (e.g. with agriculture, livestock and land use planning) (Ghose).

Policy and Practices on Human Wildlife Conflict in Nepal

Dr. Maheswor Dhakal, Chief Ecologist, Department of National Parks and Wildlife Conservation, Nepal

HWC is increasing across Nepal, with the tiger considered by the government as one of the eight major conflict species. National HWC policies are however, fragmented and therefore efforts have been made to address the issue through an holistic approach with direct provision of relief and rescue funds, and preventive and mitigative measures. Various recommendations are offered to improve the current policy context: the development of a HWC policy with site and species specific manuals; annual planning systems on HWC to be instituted; the establishment of rescue centres (including capacity development for human and medical resources; and training); and the formulation of a national HWC relief fund at national and district levels (Dhakal).

Bhutan National Human Wildlife Conflict Management Strategy

Tandin Wangdi, HWC Senior Program Officer, WWF Bhutan

Livestock loss and crop damage are two major wildlife issues in Bhutan. The national HWC is a living document constantly being updated and improved. It was developed through a participatory approach and includes the following key elements: Integrated Conservation and Development processes, environmental education, and alternative livelihoods (e.g. ecotourism) are considered essential for success. It also contain species-specific conflict strategies for carnivores, primates and elephants. While considered to be a robust guiding framework, it still lacks sustainable finance to be rolled out (needs external funding to complement government funding) (Wangdi).

DISCUSSION

FINDINGS

Tiger Ranger Countries (TRC) exhibit the full spectrum of policy coverage – from countries with none at all, to India which has high level and specific policies regarding HTC. Various countries have no wildlife conflict-related policy due to no resources, no known conflict, or no official recognition of conflict (PG1). Where conflict-related policies do exist, with the exception of India, these were suggested to be insufficient / inadequate overall (PG3), with gaps in five key areas:

1. The lack of tiger-specific guidelines in national wildlife conflict management strategies (PG3);
2. The lack of specific policies, guides, mandates and protocols to define and address problem tigers. Where present, such procedures are ambiguous (PG3);
3. The lack of integration with other sectoral policies and into national planning processes. For example, with land use planning, disaster response, and livestock or farming strategies (PG4), or on regulations to incentivise private sector engagement in HTC management (Parakkasi *et al.*, PG4);
4. The lack of monitoring and feedback loops (∞Monitoring) to be able to determine performance and local applicability of HWC policies and enhance delivery over time (Ghose, PG2); and
5. The lack of community / stakeholder engagement throughout policy development. This was suggested to have precluded robust situation analysis and resulted in policies that do not reflect local contexts (PG1, PG2, PG4).

CHALLENGES

The common challenges to policy formulation and delivery include funding limitations, weak local capacity (training and resources) to deliver or actively participate in policy planning cycles (PG1, PG4). Community perceptions in terms of a lack of reporting ∞UtC [capturing the info] and considering the issue as 'local' may also constrain contribution to national policy dialogue (PG1).

NATIONAL POLICY CONTEXT *snapshot from group discussions*

Bangladesh	<ul style="list-style-type: none"> • Have protocols relating to tigers under development, but the national strategy needs improvement overall (PG3). • Some transboundary agreements are in place with India (PG3). • Have national Conflict Tiger Management Guidelines (Greenwood).
Bhutan	<ul style="list-style-type: none"> • Constant communication for transboundary issues with India, some of which are legally binding (PG3).
Cambodia	
China	<ul style="list-style-type: none"> • Guidelines are in place and these are managed at the state level. These are, however, not concrete / mandated nationally. Seems to be successful in the states that have chosen to adopt the guidelines. The government hires external consultants to verify kills and they submit a form to government and compensation occurs within three months (PG4).
India	<ul style="list-style-type: none"> • Concern for site level needs and awareness of top level policies (PG3). • Has clear procedures relating to tigers (PG3). • Constant communication for transboundary issues with Nepal and Bhutan, some legally binding (PG3). • Some transboundary agreements in place with Bangladesh (PG3).
Indonesia	<ul style="list-style-type: none"> • Greatest issue is lack of funding and lack of mandate on who responds to a conflict event and ultimate lack of policy delivery (PG1). • Refers to conflict mitigation, but lacks a field manual (PG3).
Laos	
Malaysia	<ul style="list-style-type: none"> • Recognition that HTC is an issue, but national strategy currently inefficient. This is currently being improved (PG3).
Myanmar	<ul style="list-style-type: none"> • No transboundary policy for HWC with Thailand (PG3).
Nepal	<ul style="list-style-type: none"> • Tiger is considered by government as one of the eight major conflict species (Dhakal). • Has clear procedures relating to tigers (PG3). • Constant communication for transboundary issues with India, some legally binding (PG3). • HTC policy framework with budgetary backing.
Russia	
Thailand	<ul style="list-style-type: none"> • No specific tiger plan due to low tiger conflict (PG2). • No transboundary policy for HWC with Myanmar (PG3).
Vietnam	

RECOMMENDATIONS

TRC governments need support to develop robust HTC / HWC policies (PG3). Policies need to have basic provision across the following areas (Parakkasi *et al.*, PG1, PG4):

- Definitions of problem tigers; ∞Policy
- Protocols for responding to HTC events; ∞Response
- Rapid response teams; ∞Response
- Integration with other planning and policy mechanisms (land use planning, agriculture, disaster response etc.); ∞Policy
- Private sector engagement; and
- Performance monitoring frameworks. ∞Monitoring

Prevention & Mitigation

“Prevention” defined as - stopping or preventing HTC before it occurs, and was broadly aimed at, but not limited to, the following common measures used across TRCs:

- Education
- Livestock management
- Zero poaching
- Deterrents
- Safe working environments
- Protecting tiger prey
- Habitat management
- Land use planning

“Mitigation” defined as – reducing the impacts of HTC after HTC occurs, and was broadly aimed at, but not limited to, the following common measures used across TRCs:

- Compensation /relief programs
- Insurance schemes
- Support for alternative livelihoods

PRESENTATIONS

The use of barriers and deterrents to keep straying tigers away from settlements in the Sundarbans and vice versa
Ratul Saha, Sundarbans Biodiversity Coordinator, WWF India

Four stand-out HTC prevention actions in the Indian Sundarbans: solar lights, fencing, cages, and forest honey. Solar streets lights: had wide ranging success in deterring straying tigers from entering villages. Challenges include unsolicited use of power from the solar batteries by local people, and issues around maintenance beyond the four year warranty period of the batteries; Nylon fencing: has been considered to be highly successful in preventing tigers straying into villages; Tiger cages: used to capture straying tigers in a light-weight cage. Tigers are then relocated back into their habitat. Cages developed in partnership with industry, send SMS to five mobile phones (including managers) to signal a tiger has been caged. A key feature of the cages is their weight and that they can be dis-assembled into six parts for ease of carriage; Forest / Blood free honey: An initiative to support the use of forest-based apiaries. Honey production and profits have doubled, human need to venture further and for longer into mangrove forests has declined (Saha).

Engaging private sector in Human Tiger Conflict Mitigation in Sumatra
Karmila Parakasi, Tiger Habitat and Monitoring, WWF Indonesia and TAI

Conflict is considered to be the fundamental challenge for wildlife conservation outside the protected areas. This is in large part due to the substantial loss of Sumatran forest and hence the presence of wildlife inside plantations. A range of actions are underway with private sector agencies to reduce livestock depredation and attacks on employees by tigers: better employee / staff conditions; improved

management of livestock (by staff); the need for staff to keep high alert; the identification of release sites for captured tigers; mobile and rapid response teams following events; the need for a more regional or systematic response across private sector for HTC. One of the challenges has been the risk of WWF associating with private sector entities and losing positive brand profile (Parakkasi *et al.*).

Successes, Challenges & the Way Forward: Interim Relief Scheme (IRS) in the Greater Corbett Landscape
Harshad Karandikar, Coordinator - Species & Landscapes, WWF India

Interim Relief Scheme (IRS) has offered breathing space for the local people of Corbett and their resident carnivores. Its strengths include rapid payment (within 24 hours) of ex-gratia or compensation, and immediate verification of claims. The IRS has been being reviewed for improvement to reflect changing on-ground realities. Recommendations include: shift modality from top-down to a community-led approach (government sets a target and then community decides how to achieve it). The new system reinforces the links between conflict and conservation, whereby communities are incentivised to reduce conflict events. A pilot of the new scheme will need to be rolled out (Karandikar).

Community-based livestock and crop insurance schemes in Royal Manas National Park, Bhutan: An attempt to reduce HWC

Jigme Dorji, Senior Ranger, Royal Manas National Park, Bhutan

Due to the multiple conflict species context of Royal Manas National Park, and the multiple communities residing within and adjacent to the park, it was necessary to develop an insurance scheme that matches these local realities. Participating communities are covered for up to two years for their insurance payments that cover livestock and crop loss. Compensation payments are linked back to behaviour and management changes. For example, payments for guarded crops that were lost are 60%, while unguarded crops lost will only receive 40%. The incentive is, therefore, to put in place preventative measures. The challenges to the scheme include: not enough seed funding; complex conflict profile; and the challenges of working with rural communities with low literacy and education levels. The strengths of the scheme are: participating communities are small and homogenous; high level of local support and a willingness to compromise; business and income generation seen as a necessity, not a luxury; and the local ownership and management of the scheme (the community management committee meets annually) (Dorji).

DISCUSSION

FINDINGS: PREVENTION

Naturally considered a core tenet of conflict management – stopping conflict before it occurs – the richness of the discussions around this topic were reflected by a very rapid progression to how to enhance prevention overall. Group discussions avoided lengthy in-depth listing and analyses of specific measures (i.e. barriers and deterrents to tigers). With the exception of calls for better targeted education and community awareness on tigers, participants overall discussed how to enhance and improve prevention, learn and how to upscale successful actions in a sustainable manner.

Four overarching themes emerged as essential to improved HTC prevention: understanding the local context; monitoring; sharing lessons and scaling up; and collaboration beyond the site.

i. Understanding the local context

Preventative measures that do not reflect local realities will have minimal impact. Site managers and communities should develop a good understanding of conflict levels and the impact and severity of HTC (relative to other local issues), and ensure these factors are reflected in barrier and deterrent design (MG3) ∞UtC [impact/severity; hotspot; social characteristics]. Modelling of land use change to predict conflict scenarios (MG3), and the use of conflict hotspot maps could be used to inform which preventative measures were most appropriate and where to locate them (PMG2) ∞UtC [hotspot]. Social studies should also be used to identify who the most vulnerable people are in communities, and develop targeted education and awareness campaigns for them (MG3) ∞UtC [social characteristics].

ii. Monitoring

Monitoring performance of preventative measures was a key weakness identified across tiger landscapes. The lack of monitoring meant that knowing which measures were working and which to upscale was typically done through experimentation. There were common calls for a standard, or a framework for monitoring across TCLs (to identify the conditions for effectiveness of particular schemes and which to upscale) (MG3, PMG2) ∞Monitoring, but to ensure that the monitoring mechanism could be implemented over time and at a landscape scale (not just at community scale) (Ghose) ∞Monitoring.

It was also suggested that robust and long term monitoring could only be achieved with the active participation of and collaboration with local communities and district as well as village level administration (Ghose, PMG2) ∞Monitoring. Drawing on good baseline information, indicators for monitoring ‘effort’ would include: # of attempts to pass a barrier; distance walked; monetary cost of measure; and amount of maintenance required (PMG2). While, monitoring ‘effectiveness’, indicators would include: # of HTC cases vs. # of tigers; time delay of effect; maintenance required; conditions (i.e. land-use change or livelihood); and community attitudes (PMG2) ∞Monitoring.

iii. Sharing lessons and scaling up

A key deficiency identified was the lack of ability of sites to learn successes and approaches from other areas. Platforms such as online portals/web pages could be developed to share success and information in a structured way (MG3, PMG1) ∞UtC [capturing info]. Such wide-reaching information sharing and guidelines are considered useful, though they would need to be flexible enough to allow for local adaptation and ensure they can overcome issues of end-user access (e.g. communities that may not have regular internet) (PMG1). The more common approaches to sharing information also remained relevant and important: Workshops / conferences / webinars; publications: journals, reports and brochures; media: magazines, TV, film, newspaper; social media, websites, blogs, portals; email / newsletters; field days and site visits; and personal introductions (PMG1) ∞UtC [capturing info].

iv. Collaborating beyond the site

One of the vital components of enhanced preventative measures was the need to build partnerships beyond the sites themselves to develop best practice monitoring, increase the reach of success, and gain the participation of governments and NGOs in longer term efforts (MG3, PMG2, PMG3) ∞Policy; Monitoring. A clear plan of action in this regard is also necessary to ensure that the various actors involved understand their roles and there are clear plans for ongoing communication, collaboration and information-sharing (MG3) ∞UtC [capturing info].

FINDINGS: MITIGATION

Mitigation mechanisms, including compensation¹, interim relief schemes (IRS), insurance, revenue sharing incentives, conservation payments, alternative livelihoods, payments to encourage co-existence (PECs), and management of problem tigers are variously employed across TRCs and with varying degrees of success (Harihar, PMG2). In the Kaziranga Karbi Anglong Landscape, the interim relief scheme is considered to be successful in reducing animosity toward tigers (Borah). Typical conditions for success of the various mitigation schemes include: low requirement for significant external revenue² (Harihar); rapid and timely payments (Ghose, PG1) ∞Response; payments and incentives linked to conservation outcomes and conditions (Harihar, Karandikar); and that any payment could be a contributing factor to poverty alleviation (Harihar). In Corbett, the redesign of the IRS will see the links between conflict, interim relief and conservation tightened such that communities will be incentivised to reduce conflict events. In this case, communities will commit to an upper limit of conflict occurrences. If they can keep conflict events below this limit (e.g. through better livestock management and livelihoods practices) they will be compensated for losses at a higher rate than if conflict events exceed the agreed upper limit. The incentive is therefore to prevent conflict and keep it as low as possible (Karandikar).

Alternative livelihoods projects were present in many TCL sites, though two in particular had specific outcomes for HTC reduction. The support for forest-based apiaries near villages has resulted in a doubling of profits and production of “blood free” honey, and has reduced the need for people to venture further and longer into the forest to collect wild honey, and thus reducing potential for conflict with tigers (Saha). In Nepal, the adoption of biogas stoves has also meant that villages do not need to spend long amounts of time in the forest collecting firewood for cooking and has also reduced the incidence of HTC in those areas along the TAL (Dhungana). The key considerations for understanding the success of mitigation measures include trends in number of reported cases vs those actively identified, community perceptions, number of cases handled/managed (PMG2) ∞Monitoring, and whether the scheme is tailored to local realities and is community or government run (Harihar).

CHALLENGES

The challenges to effective prevention and mitigation cover all aspects of planning and HTC management programs.

1. First, the lack of resources and funding across all TRCs was a common call. A lack of funds and technical human resources meant that basic education and awareness raising could not be undertaken locally (PMG4), the motivation of communities and government could not be sustained (PMG3), reported conflict events could not be compensated (Harihar) ∞Policy, and any successful interventions

¹ When addressing human life, we can't talk of compensation – it should be termed ex-gratia. Compensation is property, crops, livestock etc. (PG4)

² External revenue refers to government or donor funds. Thus is a mitigation scheme can be community generated and self-sustaining, it has a higher chance of effectiveness.

- (particularly hi-tech or those that are capital intensive) could not be scaled up (PMG3).
- Second, informed guiding principles were not in place. Here discussion revolved around the need for more guidance to address HTC events that had no precedent (PMG4) ∞**Response, Policy**, more leadership from government in policy (PMG4) ∞**Policy**, weak linkages with other related policies and plans (e.g. land use planning) ∞**UtC [hotspot], Policy**, and weak collaboration with stakeholders and understanding the role of each (PMG4) ∞**UtC [social characteristics]**.
 - Third, there was a broad lack of guidance or methodologies to help local managers understand the site enough to be able to design locally applicable preventative and mitigative measures (PMG4) ∞**UtC [all]**. Examples cited included that in Bhutan where the insurance for livestock may not have worked because they did not make up the primary, or a significant part of, household income (Wangdi). Also in high conflict areas such as Corbett, India, livestock lost from HTC is small in number and severity compared to livestock lost to disease (Harihar), so such considerations need to be accounted for in design of any local intervention ∞**UtC [social characteristics]**.
 - Fourth, that compensation and insurance schemes are sometimes perceived as ‘aid’ by local communities. Such programs need to raise awareness of the scheme so it is not perceived that way, but in a way that communities are partners in conservation – not beneficiaries of aid. Effective designs are those that go beyond simple ‘payments’ to those that incorporate local preferences and needs linked back to a conservation outcome (Harihar) ∞**UtC [social characteristics]**.
 - And finally, monitoring was considered a key deficiency across the board, and this has been detailed above ∞**Monitoring**.

PREVENTION AND MITIGATION *snapshot from group discussions*

Bangladesh	
Bhutan	<ul style="list-style-type: none"> Livestock insurance scheme did not take off as livestock rearing was not the primary source of livelihood (Wangdi). Locally produced electric fence (rather than expensive imported fence material), ~US\$480 - 640 p/km was cheaper compared to over US\$1,600 p/km for an imported product (Wangdi).
Cambodia	
China	<ul style="list-style-type: none"> There are provincial level compensation ‘guidelines’. But it is not compulsory under national policy/ law. Seems successful in the provinces that have chosen to adopt the guidelines. The government hires consultants to verify kills and they then submit report to government and compensation delivered within three months (PG4).
India	<ul style="list-style-type: none"> Some movement toward frameworks for measuring efficacy of interventions (PMG4).
Indonesia	<ul style="list-style-type: none"> Difficult in implementing tiger actions largely due to lack of resources, manpower, funding (PMG4). Low awareness in tiger areas in central Sumatra, and low resources to conduct awareness training (PMG4)
Laos	
Malaysia	
Myanmar	
Nepal	<ul style="list-style-type: none"> 30-50% of park revenue goes toward some form of park-people conflict reduction programs around protected areas, buffer zones and conservation areas (Dhakal). US\$3,000 given by government to families in the event of a human death (Dhakal). US\$500 for human injury (Dhakal). Preference is for lower compensation amounts that are provided rapidly following HTC events, as opposed to higher amounts that take longer to deliver, and result in local frustration (Dhakal). WWF Nepal has piloted an insurance scheme with relief funds and community cooperatives. HWC is a priority within WWF Nepal’s current planning processes (Basnet).
Russia	<ul style="list-style-type: none"> No compensation, but an insurance scheme is considered to be successful (PG4).
Thailand	
Vietnam	

RECOMMENDATIONS

For enhanced effectiveness of preventative and mitigation measures, the following are considered of high priority (MG3, PMG2, UCG4):

- The formulation of a monitoring framework to assess effectiveness (including cost benefit analysis) of all schemes over time and across TCLs; ∞**Monitoring, UtC [impact/severity]**
- The development of guidelines and protocols at national level for tiger handling after an HTC event; ∞**Policy, Response**
- The development of a sustainable finance mechanism for both preventative and mitigation measures. This should be a combination of:

- Internal / local level fundraising
- Contributions from development agencies
- Network fund raising
- Integration into government budget and plans ∞Policy
- Private sector collaboration to up-scale innovations
- Should include a discretionary ‘innovation’ fund that can support local ideas and technical innovations particularly preventative measures
- That all actions need to be strongly linked back into local awareness raising and education programs;
- The development of overarching guides on what interventions work, why they work, in what contexts they work, and the methodologies used to understand their success; ∞Monitoring and
- That all preventative measures are linked back to incentives and conservation outcomes. This will also encourage reporting of events. ∞UtC [capturing the info]

Understanding the Conflict

“Understanding the conflict” covers all aspects of research into the conflict profile.

Broadly covering:

- Hotspot mapping
- Spatial and temporal characteristics
- Social characteristics of communities
- Severity and impact
- Capturing conflict information

PRESENTATIONS

Methodologies and uses of spatial risk modeling for mitigating human-carnivore conflict

Jennie Miller, PhD Candidate, Yale School of Forestry & Environmental Studies, USA and Wildlife Institute of India

Hotspot mapping can be a highly useful tool to help managers decide where to locate staff / response teams, fencing, insurance schemes, or support for re-vegetation of habitat and grazing areas. When creating a risk map for management, it is essential to account for feedback and collect data to monitor effectiveness and changes as a result of management. The basic process is: collect data; build risk model; map predicted risk; apply to conservation; account for feedbacks. On-the-ground basic actions of staff in assessing kills sites, include taking GPS points and field observations of the site (carnivore identification, kill vs. cache site (drag), livestock value (age, size, health), villagers’ attitudes and perceptions). For analysis, there needs to be GIS and statistical modelling, and account for spatial attributes (Human activity: roads, villages, human density; Species: carnivores & prey presence/density; Environment: land cover, water, topography; Management units: core/buffer, beats, ranges) (Miller).

Understanding community perceptions toward conflict in Kaziranga Karbi Anglong Landscape

Jimmy Borah, Senior Coordinator, Tiger Conservation Program, WWF India

Extensive work undertaken across KKL to understand community attitudes and conflict context in terms of spatial and temporal monitoring of tiger movements and livestock kills. Thus far, the extensive data collected hasn’t been used to its full potential. The interim relief scheme implemented across KKL has been considered successful in reducing animosity toward tigers. Overall key HTC gaps in the area include the need for improved policies and prevention measures (Borah).

Understanding community attitudes to tigers near Chitwan National Park, Nepal

Dr. Neil Carter, National Socio-Environmental Synthesis Center (SESYNC), University of Maryland, USA

Understanding of community attitudes is critical overall, and especially where HTC trends are shifting. In and around Chitwan, tiger attacks on humans are increasing, so monitoring attitudes was a critical need. The research showed that local positive attitudes toward tigers led people into anti-poaching patrols, forest protection and supporting conservation actions and behaviours, while negative attitudes were associated with retaliatory killings, loss of support to conservation, and poaching or harbouring poachers. Spatially, attitudes also differed. In the western area of the study, a concentration of negative

attitudes were associated with: recent and increasing trend of tiger attacks on people there; less formal education; and people from marginalized ethnic groups. In the eastern area, a cluster of positive attitudes was associated with: people from higher castes and with greater education; fencing; and conservation awareness programs (Carter).

WWF Nepal conflict mitigation

Ritesh Basnet, Program Officer, Enforcement Support, WWF Nepal

The national HWC strategy for Nepal is currently being prepared. Some of the key aspects of this will be the creation of a national-level fund for relief and a community-level relief for rapid response and delivery of compensation / ex gratia. It is also envisioned that local youth will be a central part of the effectiveness of the strategy, and particularly in response teams (Basnet).

Capturing information on human wildlife conflict: An experience from Sumatra

Febri Widodo, Tiger Biologist and Researcher, WWF Indonesia

NGOs across Sumatra – under the banner of Harimau Kita organisation – have developed an online conflict portal/database. Is it seen as highly useful, though still has some bugs that are currently being fixed. A key challenge is who is mandated to input the data. A key limitation is the scale of uncertainty on which carnivore killed the livestock (i.e. 100% sure it was a tiger, or fairly certain it was tiger). The data can be used to analyse and determine if the conflict is valid, urgent or more details are needed. In and near oil palm plantations, youth send in information on HWC in the communities (Widodo *et al.*).

Understanding local perceptions to tigers as relates to conflict

Dr. Abishek Harihar, Tiger Recovery Consultant, WWF TAI

There are various basic challenges around communities and conflict. Many HTC events are not reported due to difficulty to file a claim and corruption. While in other cases, the reported events do not receive any compensation or response anyway. Any mitigation measures, such as Payments to Encourage Co-existence (PEC's) need to be sustainable and clearly linked to conservation actions. For long effectiveness of interventions, you may need to use an entry point that relates to a greater issue for local people in the area (e.g. employment or elephant conflict, etc.). This is for landscapes where HTC is an issue, but is outweighed by other more important issues. Allowing local communities to choose their own options to access or address conflict of other issues is essential when working to improve their situation and the conflict context itself (Harihar).

DISCUSSION

FINDINGS

Four overarching themes were discussed in detail by the groups: hotspot mapping, understanding community attitudes, measuring impact and severity, and reporting.

i. Hotspot mapping

Hotspot mapping was considered a highly valuable tool for HTC management in the right contexts. There was broad consensus that: the hotspot models should serve as hypotheses that can then be confirmed by experts; there needs to be clear assumptions around the use of data and what to collect; there needs to be local community involvement in the process; that the process can be highly useful for informing preventative measure design (e.g. where to do habitat restoration and weed management, and where to locate barriers and target education) (UCG1) ∞Prevention. It was also suggested that hotspot mapping may not work in places that have low levels of HTC, where biased data or assumptions were used, or where there was a low prey base (UCG1). Correlation between prey density and livestock kills was, however, suggested to be low. It is the encounter rate that increases the livestock kill rate (Miller).

ii. Community attitudes

Understanding community attitudes was vital to knowing how communities perceive HTC, but the processes of research were also key to understanding who in the community were the most vulnerable to severe impacts of HTC (PG4, PMG3). One of the suggested requirements was the need for a simple replicable/standardised methodology to roll out community attitude surveys before, during and beyond the immediate HTC interventions. Consideration needs to be given to local people's active involvement in the survey itself and also that incentives around HTC locally may impact the results (UCG2).

iii. Severity and impact

The primary indicators for assessing severity and impact will include: type of loss; frequency of HTC; community attitudes; and relative economic situation of the event vs other household or community challenges (UCG3).

iv. Reporting

Reporting intensity will be a function of the scale of HTC and the management requirement and response for HTC event (UCG4). Viable reporting systems need to be: user friendly and bottom-up; site-based; fully resourced with capacity, tools, funds and local willingness; linked back to compensation / incentives and rapid responses ∞Mitigation, Response; time bound; and linked to preventative measures (UCG4) ∞Prevention.

CHALLENGES

The overarching challenge identified was the issue around reporting. Many HTC victims simply do not report. This is for a range of reasons: inadequate awareness – i.e. that people did not know they could report; the reporting process is too lengthy / difficult and scepticism surrounds the veracity of the reporting and claim process; many reported HTC events do not receive the compensation payment; and management interventions are invisible, thus reporting irrelevant (Harihar, UCG4). Reporting was found to be higher in areas that had higher tiger occupancy (Harihar), as well as in places where reporting was linked back to existing transparent and functioning incentive schemes (UCG4).

UNDERSTANDING THE CONFLICT *snapshot from group discussions*

Bangladesh	<ul style="list-style-type: none"> Severity and impact: HTC quantification is conducted. Severity of impact to both people (economic and social variables) and tigers assessed. Indicators used: type of loss and frequency. Impacts: attitudes of local politicians (UCG3).
Bhutan	<ul style="list-style-type: none"> No spatial risk modelling (UCG1).
Cambodia	<ul style="list-style-type: none"> No reporting system (UCG4)
China	<ul style="list-style-type: none"> Severity and impact: Assessment of conflicts but no impact analysis. Relative severity of conflict: HTC rated medium. Lower than poaching, lack of prey, and other HWC (bears and boars) (UCG3).
India	<ul style="list-style-type: none"> Some spatial risk modelling in places (UCG1). Severity and impact: Quantification of severity conducted. Severity for people and tigers measured. Indicators used: type of loss and frequency. Impact assessed through relative economic impact. Conflict rated as medium and less than impacts of: land use change, development, roads, mining and other HWC (UCG3). Site-based reporting only. No national database (UCG4).
Indonesia	<ul style="list-style-type: none"> Spatial hotspot mapping: coarse, but there is a plan for further development (UCG1). Severity and Impact: quantification of severity conducted. Severity for tigers and people conducted. Indicator: type of loss. Conflict rated as medium. Less than forest conversion for plantations, and poaching (UCG3). No government system for reporting. Currently NGOs collecting information. No national database (UCG4).
Laos	<ul style="list-style-type: none"> No reporting system (UCG4).
Malaysia	<ul style="list-style-type: none"> Severity and impact: Assessment but no analysis. Conflict is rated as low. Less than other HWC, habitat loss and poaching (UCG3).
Myanmar	<ul style="list-style-type: none"> No reporting system (UCG4).
Nepal	<ul style="list-style-type: none"> Local communities protest (occasionally violently against district or national authorities particularly during human casualties) (Dhakal). Hotspot mapping: data available, training needed, systematic data in protected areas and improvement needed outside protected areas). Opportunity for centralised data collection outside PA (UCG1). Reporting: site based to national, linked to compensation (PA centric). Severity and impact: quantification of severity conducted. Severity for people and tigers conducted. Conflict is rated to be medium and in comparison to other issues is less than: increased poaching, development / land use change, other HWC (UCG3).
Russia	<ul style="list-style-type: none"> Reporting: tiger response teams reporting at national level (UCG4).
Thailand	<ul style="list-style-type: none"> Severity and impact: Assessment but no analysis. Conflict rated as low. Less than habitat loss and poaching (UCG3). Hotspot mapping: paper-based data available, training needed (UCG1). No reporting system (UCG4).
Vietnam	<ul style="list-style-type: none"> No reporting system (UCG4).

RECOMMENDATIONS

- Develop a protocol for hotspot mapping to be used in high conflict areas, that will help in

management actions.

- Need to develop standard methodology for assessing community attitudes, and that can be replicated over time. Requires standardised indicators in order to be able to aggregate regional data.
- Develop a methodology to take a snapshot of the relative severity of tiger conflict compared to other issues in that area/landscape. This will then inform what type of intervention (or suite of) should then be rolled out there, and should also inform who in the community are the most vulnerable to HTC.
- The concurrent development of hotspot mapping, community attitude surveys and improved reporting systems will require a central analyst to analyse the data from all landscapes to provide consistent database across the TCLs as the statistical modelling can be very technical.
- Conduct a review of existing reporting mechanisms and recommend options that can be adapted to TCLs and sites. Review should include discussion of how best to maximise reporting potential (e.g. free hotlines, SM-based, linked to incentives and rapid response teams) ∞Mitigation, Response.

Response

“Response” means all the measures taken to alleviate a specific or ongoing HTC incident.

PRESENTATIONS

The Tiger Response Team (TRT) or “Conflict” groups – effectiveness and lessons from Russia

Anastasia Kirilyuk, Biodiversity Conservation Program Specialist, WWF Russia

80% of Amur tiger habitat is within hunting leases with around 16% inside protected areas. Thus HTC is both a critical and a costly challenge in Russia. Over the last decade, there have been very few examples of HTC within protected areas. WWF Russia supports and trains “Conflict” groups as well as coordinating an intelligence network and hunters, and supporting a tiger rehabilitation centre. The two TRTs that WWF supports operate under the basic guidelines of a Decision Tree: 1. Collect information about the HTC event from local community; 2. Take permission and make decisions; 3. Analyse conflict situation and hazard level; 4. Take appropriate action; 5. Level I – euthanasia, Level II, III, IV – hazing, removal. The biggest challenges are: lack of state finance; specialists; objective reporting; and legislative approvals and methodologies for releasing conflict tiger back into the wild (Kirilyuk and Fomenko).

Tiger Response Team in the Bangladesh Sundarbans

Christina Greenwood, Director, Wild Team Bangladesh

Four key points to consider when creating response teams: 1. Clarify team roles and responsibilities. The context of the Sundarbans necessitates having three response teams (village + emergency + forest). The groups operate in different areas (village vs forest) and for different events (emergency event where a tiger needs to be managed); 2. Create decision making support tools. These are vital for continuity, to support complex incidents, and in cases where there are lots of parties involved; 3. Provide long term coordination and training. The conflict coordinating team (consisting of each response team) coordinate regular village meetings, conduct evaluation, and arranges regular training; and 4. Create ownership to support sustainability. This develops a sense of trust and everyone equally contributing to the challenge. It can also help to institutionalise the teams into local government and communities. Success is dependent on the long-term commitment of the work (Greenwood).

Community based response to conflict around Chitwan National Park

Bashu Dev Dhungana – Chairman, Chitwan National Park Buffer Zone Committee, Nepal

Between 2011 and 2013, there were 14 human deaths and 10 people injured as a result of tigers in and around Chitwan NP. It is a serious context and increasing. There is a HWC victim relief fund in place (Human death ~USD500, Human injury up to ~USD250, and Livestock compensated at 50% of cost), as well as a range of other preventative measures: electric fencing; biogas; awareness and education; alternative crops; habitat improvement; community mobilisation; community-based anti-poaching

initiatives; and rescue. Outside the buffer zone the committee partners with government and NGOs to continue HTC work. The multi-stakeholder approach is vital for successful management (Dhungana).

DISCUSSION

FINDINGS

There was universal consensus around the need for response teams, and that they must be rapid. Indeed, all TCLs have response teams in some form or another. The specific nature of the response teams – their source of funding, where they should be located, and what types of response teams are required – was, however, more dependent on the local HTC context. Response teams were suggested to be ideally located where HTC problems were, but this would depend on the type of conflict (RG2) ∞**UtC [Hotspot, social characteristics, impact/severity]**. In many countries, the mode of funding was also different with some response teams being government funded, NGO funded, voluntary or a combination of each (RG1, RG2). Nevertheless, response teams require equipment, training, some form of base / infrastructure, and a local / national mandate in order to fulfil their roles (RG1, RG3). These include: GPS units, vehicles, crowd management, first aid, animal management, and verification of HTC events (site observations, carnivore identification, kill vs cache site, livestock value, and village attitudes) for monitoring, management, and compensation purposes (Miller, RG3) ∞**Monitoring**. Importantly, response teams were considered to be of vital importance of enhancing all other elements of HTC (RG3) ∞**Policy, Prevention, Mitigation, UtC [all], Monitoring**.

Rapid response teams also need to be recognised and embedded within national government policies, strategies and budgets (PG1, PG2, PG4, RG1, RG2, RG3, RG4) ∞**Policy**, and where response teams exist there should be provision to allow for local volunteers to integrate into them (RG1). The formation of policies that include response teams should, however, not come at the expense of decentralised decision-making in response to HTC events. I.e. local response teams and officials need to have the power to make rapid decisions that are backed by national policy (RG4) ∞**Policy**.

CHALLENGES

Given that each TCL and TRC have response teams in some format, there were various challenges identified from field experience that constrained the ability of the response teams:

- Gaining and maintaining commitment from volunteers, and also from response teams in low conflict contexts (RG2, RG4);
- Lack of trust in response teams (RG4);
- Lack of transparency in reporting processes (RG4);
- Lack of decentralised decision trees and effectiveness of protocols (RG3, RG4);
- Lack of government policy re. response teams (PG1, PG2, PG4, RG1, RG2, RG3, RG4). This was also linked to a lack of political will, lack of resources (RG3), and ultimately, a lack of sustainability (RG2). In places where it was deemed necessary to have response teams, but they were non-existent, this lack of funds was suggested as the cause (RG2) ∞**Policy**;
- Lack of reporting and free hotlines (RG2) ∞**UtC [capturing the info]**;
- Weak human capacity / low training levels (RG3);
- Slow response times (RG3); and
- Location of villages (RG4).

RESPONSE *snapshot from group discussions*

Bangladesh	• Volunteer-based, but they need recognition and motivation (RG1).
Bhutan	
Cambodia	• Have park rangers, and also some funded by NGOs, private sector, and partnerships with NGOs (RG4).
China	• Have response teams at all levels except at village level (RG3).
India	• Formal guidelines are in place for response to conflict (Ghose, RG1). • No specific team in most places; anti depredation squads for elephants in some places. • WWF and NGOs also support for consumables and ancillary expenses. • Typically government led / centralised decisions (RG1). • Government and NGOs run response teams (RG4).
Indonesia	• Teams exist in theory, but usually these are WWF and other NGOs. • Currently being designed, with some being run by private sector (RG1). • Any government team only exists at the provincial level not lower (RG3). • Have some response teams run by and funded by government (RG4).
Laos	• Have park rangers, and also some funded by NGOs, private sector, and partnerships with NGOs (RG4).
Malaysia	• Have teams at the district level (RG3).

Myanmar	<ul style="list-style-type: none"> • Have park rangers, and also some funded by NGOs, private sector, and partnerships with NGOs (RG4).
Nepal	<ul style="list-style-type: none"> • Response teams in each park with technical backup from NTNC and support from WWF Nepal. • Wildlife technicians and a central team in Kathmandu. • 27 elephant response squads (11 members in CNP). • WWF/NGOs supported for consumables and ancillary expenses. • No formal Standard Operating Procedure (RG1). • Have response teams at all field level sites (RG3). • Park staff / technicians, active community (esp. in buffer zones), funded by government and NGOs (RG4). • Hope to engage youth in conflict mitigation in response teams for conflict situations (Basnet).
Russia	<ul style="list-style-type: none"> • WWF / NGOs supported, including support for consumables and ancillary expenses (RG1). • Have response teams run by government. Funds from government, community, and NGOs. • Centralised system (RG4).
Thailand	<ul style="list-style-type: none"> • Have response teams at central and provincial level, not at village level (RG3). • Have park rangers, and also some funded by NGOs, private sector, and partnerships with NGOs (RG4).
Vietnam	<ul style="list-style-type: none"> • Have park rangers, and also some funded by NGOs, private sector, and partnerships with NGOs (RG4).

RECOMMENDATIONS

- Support the development of national conflict policies that include response teams and support to them ∞Policy.
- Identify ways to integrate and link the work of response teams with that of ongoing monitoring (species, modelling, and community attitudes), and enforcement agencies (e.g. rangers and community based patrol units) ∞UtC [all], monitoring.
- Develop a standardised monitoring and reporting system for replication across multiple sites / landscapes ∞UtC {capturing the info}, Monitoring.
- Where response teams are in place, support their enhancement and training through identifying gaps or constraints to their operation in that area and alleviating them. These could include the need for equipment and resources, or for the development of response decision trees.
- Where response teams are non-existent but HTC is considered severe, support the establishment, training and equipping of response teams in that area.

Monitoring

“Monitoring” means measuring the impact and effectiveness of HTC management interventions over time. Parameters include:

- Social
- Biological

PRESENTATIONS

Measuring impact and severity of Human Tiger Conflict in the Bangladesh Sundarbans

Dr. Adam Barlow, Director, Wild Team Bangladesh

Base M&E plan on a sound theory of change. This helps to determine what indicators are needed and what they reveal with regard to progress toward an ultimate goal. Standardised indicators should also be developed to allow for upscaling data and comparing across TCLs. It is also important to ensure that monitoring and evaluation emphasis is always placed on the result you want achieved rather than the action you are using (e.g. fencing) to achieve it (Barlow).

TCL monitoring overview

Dr. Ashley Brooks, Land Use Specialist and Goal 3 Lead, WWF TAI

There is an overall lack of monitoring of HTC effectiveness across TCLs despite the extensive work being implemented. Therefore we have only sparse knowledge of how effective efforts are in reducing

or managing HTC. We need to develop standard indicators, and also a vision of what success looks like in HTC management.

Monitoring general overview

Dr. Sunarto, Sumatra Manager, WWF Indonesia

Monitoring has to have a specific target linked to management and interventions. Critical steps include: good design; training of local people on how to implement. Ensure people who collect data and the respondents have a full understanding of the design; then implement, evaluate, communicate, and engage.

DISCUSSION

FINDINGS

With an almost complete lack of any examples of monitoring HTC management effectiveness across TRCs, the discussions centred around what could and should be put in place regarding M&E and were informed by the discussions over the preceding days. Broad areas of discussion included: envisioning success; indicators; frequency of monitoring; and upper HTC limits.

i. Envisioning success

One long term goal offered up was, “To stabilise HTC levels and improve community perceptions of conflict through robust conflict management systems and processes, data driven conflict response systems and sustained engagement of key stakeholders” (MG4). Other groups posed: “TX2 = CX0 (zero causalities)” (MG1); and, “Human coexistence with tigers, Humans and tigers are safe, Minimal conflict (minimum cost and time), and Positive attitude (even where conflict occurs) happy living together (MG3).

ii. Indicators

Indicators for effective M&E of HTC interventions will need to be clearly measurable, the process should actively encourage the participation of local people, and feedback loops for adaptive management need to be included (MG1, MG3, PMG2). The participation of local people is vital for sustainability (PMG2). Effective monitoring and therefore interventions will depend on solid baseline information, and situation analysis of the drivers of the threat / conflict (MG3) ∞UtC [hotspot, social characteristics, impact/severity]. The formulation of a theory of change is also critical to selecting indicators, and is able to link threats, ensure that assumptions are recognised, and that overall M&E program is linked back to a biological impact (MG2).

iii. Frequency of monitoring

The frequency of monitoring will be contingent on the HTC context at the site, the frequency of change and the parameter being evaluated (e.g. biological or social) (MG1). Regardless, the analysis of data and subsequent reporting needs to be time bound (MG4) ∞UtC [capturing the info].

iv. Upper limits

The new IRS scheme being developed around Corbett in India will have upper limits for HTC events set by communities and authorities. The upper limits, or targets, are then linked to proportion of compensation amounts paid out under the scheme. It is, therefore, inherent in the design that communities work actively to reduce HTC event incidence through such things as guarding livestock, and improved livestock grazing patterns (Karandikar) ∞Prevention. The merits of setting upper limits was discussed. Upper limits / tolerance levels were deemed to be appropriate, but only in specific HTC contexts. For example, once HTC events reach a certain threshold, then upper limits could be set for that area (MG1, MG2) ∞UtC [all]. Importantly, the setting of upper limits should not be done by any single party, but there should be a process by which communities, government, rangers and NGOs come together to discuss and identify upper limits jointly (MG1, MG2, MG4). It is also suggested that these not remain fixed but should be open to adaptive management over time (MG4). Defining upper limits will also depend on the context of the preventative methods (e.g. education, land use planning, barriers and deterrents) that are used locally (MG3) ∞Prevention.

CHALLENGES

Some of the challenges envisioned to landscape HTC monitoring regimes include:

- Difficulty in obtaining correct / robust information due to the covert nature of conflict;
- The lack of data – to establish baselines or understand HTC context; ∞UtC [all]

- Having both biological and social parameters to monitor and evaluate;
- The lack of funds for good monitoring;
- The time required to sufficiently collect data, analyse and report findings; and
- The development of approaches that are not practical locally.

MONITORING *snapshot from group discussions*

Bangladesh	
Bhutan	• No regular or standardised system, it is on a case by case basis (MG1)
Cambodia	
China	
India	
Indonesia	• No regular or standardised system, it is on a case by case basis (MG1).
Laos	
Malaysia	
Myanmar	
Nepal	• The monitoring system is only partial (done by WWF, Government and NTNC). Nothing systematic at the landscape scale (MG1).
Russia	
Thailand	
Vietnam	

RECOMMENDATIONS

- Response team and monitoring team should be linked up, and with a standard process and reporting system ∞Response;
- Support the development of national HTC / HWC policies that include provision for and guidelines for monitoring ∞Policy;
- Share best practice between TRCs through a centralised database or structured system ∞UtC [Capturing info];
- Ensure that reporting back on findings occurs regularly ∞UtC [Capturing info];
- Develop standardised indicators for all TCLs;
- Landscape and site managers should set up and understand a theory of change, drivers and results chain for their site in order to develop appropriate strategies and indicators ∞UtC [All];
- Clearly link monitoring back to management when designing the monitoring framework; and
- Ensure that the monitoring framework includes provision for multiple agencies to be involved where applicable. This can include the training of and active participation of local communities in the collection of data and in informant networks, as well government agencies, NGOs, protected staff and academic institutions in all aspects of data analysis, and dissemination.

HWC Gap Analysis

Mapping WWF's capacity to prevent and mitigate HTC
Nilanga Jayasinghe, WWF United States

The analysis was based on the tiger portion of a wider capacity mapping exercise undertaken by the WWF Network Human Wildlife Conflict Working Group for six species. The analysis reviewed HTC actions (including actions in education, deterrents, livestock management, and compensation) on the ground across all 13 of WWF's TCLs. The results revealed that most TCLs experience conflict with tigers and other species. Results clearly demonstrated where actions were and were not being implemented overall, and which landscapes and sites could be used as Best Management Practice sites that other landscapes could learn from. The analysis also examined levels of community engagement, which revealed a significant lack of attitude data and the need to understand the human context of HTC in order to develop effective interventions. In addition, it revealed an overall lack of funding and capacity to address HTC, and the need for significant expertise to handle various components of HTC.

Way Forward

The conclusion of the workshop brought an agreed broad framework of next steps and actions. Laying the foundation for long term action on HTC was “**The 7 Point Chitwan Understanding**”:

1. Formation of the HTC Working Group (HTC WG).
 - This group would consist of nine representatives covering a broad spectrum of TCLs and network offices. The purpose of the group will be to develop the HTC Management strategy, and be the reference point for in the WWF National Office for HTC issues across the network;
2. Development of fundraising and program strategies.
 - The HTC WG will compile and synthesize the recommendations from the workshop to guide and develop both a comprehensive program strategy as well as the funding strategy to fulfil the program of work. Both strategies will be circulated around the network for comment and support;
3. Enhance delivery of existing field / site actions and support learning.
 - The HTC WG will continue to work with all existing programs on the ground to share lessons learned and best practice from the workshop to ensure ongoing programs also have maximum potential for success. This can be through both in-situ and ex-situ learning and sharing mechanisms;
4. Develop demonstration actions.
 - The program strategy will serve as the guide for the roll out of the demonstration programs across TCLs. The proposal is to guide implementation based on a three scale ranking of HTC at sites: 1-low; 2-med/emerging; and 3-high;
5. Support mainstreaming of HTC into programs / proposals (akin to monitoring and communication strategies).
 - The HTC WG will support all existing TCL programs to ensure that conflict management is incorporated into every proposal from now on, and work with WWF National Offices to integrate HTC management into any emerging national conservation strategies;
6. Develop and grow partnerships for HTC.
 - The HTC WG will lead and support the integration and growth of the HTC management work across organisational and landscape boundaries.
7. Engage in larger development and policy issues.
 - One of the key longer issues for the HTC WG to tackle will be to consider the drivers of conflict (e.g. land conversion and habitat loss). Tackling drivers as relates to HTC will become a key part of the longer-term vision and programing of the HTC WG.

The nominated members of the HTC WG are:

1. Ghana S. Gurung (Nepal, CHAIR)
2. Diwakar Chapagain (Nepal)
3. Dipankar Ghose (India)
4. Harshad Kandikar (India)
5. Sunarto (Indonesia)
6. Nilanga Jayasinghe (United States)
7. Ashley Brooks (TAI, FACILITATOR)
8. Gert Polet (Netherlands)
9. Rebecca May (United Kingdom)
10. Chris Wong (Malaysia)
11. [Connie] Quanhua Shi (China)

APPENDIX I: Agenda

Tuesday 28th October			
8:30 – 8:45am	WELCOME: Background to the workshop and HTC Working Group	Ghana Gurung, Conservation Program Director, WWF Nepal	Plenary
8:45 – 9:00am	SETTING THE SCENE: Workshop overview & Introduction to: Policy and Legislation	Ashley Brooks, Goal 3 Leader, WWF TAI	Plenary
POLICY & LEGISLATION			
9:00 – 9:15am	India's Standard Operating Procedure for tigers	Dipankar Ghose, Law & Policy for HWC Management, WWF India	Plenary
9:15 – 9:30am	Nepal's Human Wildlife Conflict relief fund and government strategy	Dr. Maheswor Dhakal, Ecologist, Department of National Parks, and Wildlife Conservation, Nepal.	Plenary
9:30 – 9:45am	Bhutan national Human Wildlife Conflict Strategy	Tandin Wangdi, WWF Bhutan	Plenary
9:45 – 10:00am	SUMMARY - Session Facilitator: Santosh Nepal		Plenary
10:15 – 10:30am	BREAK		
10:30 – 11:15am	GROUP DISCUSSIONS: Policy and Legislation for HTC		Group
11:15 – 11:45am	GROUP REPORT BACK: Policy and Legislation for HTC		Plenary
PREVENTION & MITIGATION			
11:45 – 11:50am	Introduction to: Prevention and Mitigation	Ashley Brooks, TAI	Plenary
11:50 – 12:05pm	The use of barriers and deterrents to keep straying tigers away from settlements in the Sundarbans	Ratul Saha, WWF India	Plenary
12:05 – 12:20pm	Engaging private sector to be part of the Human Tiger Conflict solution in Sumatra	Mila Parakasi, WWF Indonesia	Plenary
12:20 – 12:35pm	Successes and challenges of the Interim Relief Scheme at Corbett Tiger Reserve	Harshad Karandikar, WWF India	Plenary
12:35 – 1:35pm	LUNCH		
1:35 – 1:50pm	Buffer zone community insurance schemes in Royal Manas NP Bhutan – making them work for HTC	Jigme Dorji, Senior Ranger, Royal Manas National Park	Plenary
1:50 – 2:05pm	SUMMARY - Session facilitator: Dipankar Ghose		Plenary
2:05 – 3:05pm	GROUP DISCUSSIONS - Prevention and Mitigation		Group
3:05 – 3:50pm	GROUP REPORT BACK - Prevention and Mitigation		Plenary
4:00 – 5:30pm	Canoe trip along Rapti River; visit to elephant breeding centre.		
6:00 -	DINNER		
Wednesday 29th October			
6:30 – 8:00am	CHITWAN NP BUFFER ZONE ELEPHANT TRIP		
8:00 – 8:45am	BREAKFAST		
8:45 – 9:00am	INTRODUCTION TO DAY 2 - Understanding the Conflict and Response	Ashley Brooks	Plenary
UNDERSTANDING THE CONFLICT			
9:00 – 9:15am	Methodologies and uses of temporal and spatial modelling in the Satpuda Maikal Landscape, India	Jennie Miller, Yale	Plenary
9:15 – 9:30am	Understanding community perceptions toward conflict in Kaziranga Karbi Anglong Landscape	Jimmy Borah, WWF India	Plenary
9:30 – 9:45am	Understanding community attitudes to tigers near Chitwan National Park, Nepal	Dr. Neil Carter, National Socio-Environmental Synthesis Center (SES-YNC)	Plenary
9:45 – 10:00am	WWF Nepal's role in Human Wildlife Conflict	Ritesh, WWF Nepal	Plenary
10:15 – 10:30am	BREAK		
10:30 – 11:15am	Measuring impact and severity of Human Tiger Conflict in the Bangladesh Sundarbans	Dr. Adam Barlow, Director, Wild Team Bangladesh	Plenary
11:15 – 11:30am	Capturing conflict information – using digital platforms	Febri Widodo, WWF Indonesia	Plenary
11:30 – 11:45am	Understanding local perceptions to tigers as relates to conflict	Abishek Harihar, WWF TAI Consultant	Plenary
	SUMMARY - Session facilitator: Nilanga Jayasinghe		Plenary
11:45 – 12:45pm	GROUP DISCUSSIONS - Understanding the conflict		Group
12:45 – 1:45pm	LUNCH		
1:45 – 2:15pm	GROUP REPORT BACK - Understanding the conflict		Plenary

RESPONSE			
2:15 – 2:25pm	Introduction to: Response	Ashley Brooks	Plenary
2:25 – 2:40pm	The Tiger Response Team (TRT) – effectiveness and lessons. With reference to decision trees and protocols.	Anastasia Kirilyuk, WWF Russia	Plenary
2:40 – 2:55pm	Wild Team – the roles and effectiveness of response teams in the Bangladesh Sundarbans.	Christina Greenwood, Director Wild Team Bangladesh	Plenary
2:55 – 3:10pm	Community-based responses to conflict around Chitwan National Park, Nepal.	Basu Dhungana, Chairman Buffer Zone Committee, Chitwan National Park	Plenary
3:10 – 3:30pm	SUMMARY - Session facilitator: Darren Grover		Plenary
3:30 – 4:30pm	GROUP DISCUSSIONS - Response		Group
4:30 – 5:00pm	GROUP REPORT BACK - Response		Plenary
5:00 – 6:00pm	FREE		
6:00 -	DINNER		
Thursday 30th October			
9:00 – 9:15am	ARRIVE / COFFEE		
MONITORING			
9:15 – 9:25am	Introduction to: Monitoring - Monitoring frameworks for HTC management performance. What approaches could we use?	Ashley Brooks	Plenary
	SUMMARY - Session Facilitator: Sunarto		Plenary
9:25 – 10:25am	GROUP DISCUSSIONS - Monitoring HTC Monitoring		Group
10:25 – 11:00am	GROUP REPORT BACK - Monitoring HTC Monitoring		Plenary
11:00 – 12:00pm	FREE		
12:00 – 1:00pm	LUNCH		
1:30 – 5:00pm	JUNGLE DRIVE IN CHITWAN NATIONAL PARK		
6:00 -	DINNER		
Friday 31th October			
8:45 – 9:15am	Workshop evaluation	Ashley Brooks TAI	Plenary
9:15 – 9:30am	A summary of the gaps to addressing HWC across tiger landscapes	Nilanga Jayasinghe, WWF US	Plenary
9:30 – 9:45am	WWF Australia program overview	Darren Grover WWF Australia	Plenary
9:45 – 10:45am	HTC Workshop summary report	Ashley Brooks TAI	Group
10:45 – 11:45am	HTC Management Way forward; HTC Working Group, and close	Ghana Gurung	Plenary
11:45 – 1:00pm	LUNCH		
	TRANSFER BY ROAD BACK TO KATHMANDU		

APPENDIX II: Attendees

Name	Organisation	Position	E-mail	
1	Darren Grover	WWF Australia	National Manager - Species, Terrestrial and Indigenous Partnerships	dgrover@wwf.org.au
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APPENDIX III: External participant biographical sketches

Jennie Miller	Jennie Miller is a Research Affiliate at the Wildlife Institute of India in Dehradun, India and a PhD Candidate at the Yale School of Forestry & Environmental Studies in Connecticut, USA. Her doctoral research examines the landscape drivers and human perceptions of tiger and leopard attacks on livestock in Kanha Tiger Reserve, central India. She is particularly interested in applying ecological principles to develop practical tools for mitigating human-carnivore conflict.
Jigme Dorji	Jigme Dorji works for Royal Manas National Park (RMNP), Bhutan. The RMNP is oldest of ten protected areas in Bhutan. He is a professional forester and has been working under Department of Forests and Park Services for over 16 years. Currently, he is the head of Community, Recreation and Development Section in RMNP and looks after Ecotourism and Livelihoods of the local communities residing inside the park areas. Jigme is focal person for number of Human-wildlife mitigation measures initiated by the parks. He will present case study on the Crop and Livestock Insurance Scheme that are implemented in RMNP to resolve the Human-wildlife conflict.
Neil Carter	A postdoctoral fellow at the National Socio-Environmental Synthesis Center (SESYNC), University of Maryland. He studies human dimensions of wildlife management, wildlife behaviour and habitat, human impacts on wildlife, protected area and forest management, and other related subjects. Carter earned a PhD in the Department of Fisheries and Wildlife at Michigan State University. His doctoral work entailed the use of social surveys, field cameras, and remotely-sensed images to evaluate the complex relationships between humans and tigers in and around Chitwan National Park in Nepal. He is currently developing a model to examine the impacts of different conservation policy scenarios on tigers.
Chloe Inskip	In her role as Conservation Scientist, Chloe works with Chester Zoo to develop and establish long-term conservation projects focusing on reducing human-wildlife conflict. Along with her colleagues, she is currently developing a human-tiger conflict management initiative for conflict hotspots in Nepal's Terai Arc. Chloe is particularly interested in understanding and addressing the human dimensions of conflict scenarios, using interdisciplinary research methods and approaches to addressing conflict to achieve this. She recently completed her PhD at the Durrell Institute of Conservation & Ecology, University of Kent, which explored the social aspects of human-tiger conflict in the Bangladesh Sundarbans.
Susana Rostro	Susana is a conservation biologist with an emphasis on felids. She obtained her Postgraduate Diploma in International Wildlife Conservation at the University of Oxford in 2013, after which she received a scholarship to study leopard ecology in eastern Cambodia in 2014. Currently, applying for a PhD at the Wildlife Conservation Research Unit, University of Oxford, in collaboration with the Chester Zoo, U.K. The project is being developed and will likely involve: 1) ecological research on tigers and leopards in and around the Chitwan and Bardia National Parks, and 2) human-wildlife conflict mitigation and evaluation protocols.
Anil Shresta	Completed PhD in Wildlife Ecology from Wageningen University, the Netherlands. Currently, affiliated with Chester Zoo, UK and Green Governance Nepal as a Country Coordinator for upcoming human tiger conflict project. His research and work primarily focuses on socio-ecological complexity of endangered wildlife conservation in Nepal, particularly tiger/elephant/rhino in Terai Arc and snow leopard/red panda in the Himalayas. Moreover, he is also involved in preparing strategy to reduce Human Wildlife Conflict in the TAL and assessing effectiveness of site and species specific mitigation measures in the TAL.
Julia Chase Grey	Dr Julia Chase Grey is a Research Fellow at Durham University in the UK. She conducted her PhD on trophy hunting and human-wildlife conflict between leopards and cattle farmers in Limpopo Province, South Africa. She is currently working on a collaborative project to mitigate human-wildlife conflict between tigers and local communities in the buffer zone forests of Chitwan National Park, Nepal. The project focuses on establishing networks of forest guards in the buffer zone forests to warn villagers of problem tigers in high conflict zones and building predator proof corrals to prevent livestock predation by tigers.
Adam Barlow	Director of WildTeam UK, and has been working in tiger conservation for the last 14 years in Nepal, Thailand, and Bangladesh. Adam's PhD was on the ecology and conservation of tigers in the Sundarbans of Bangladesh. Adam has researched the scale of HTC in Nepal and Bangladesh and helped set up response teams to monitor and mitigate HTC in Bangladesh. Adam's work now focuses on building the capacity of other conservation teams to help them design, implement, and monitor effective conservation plans.
Christina Greenwood	Director of WildTeam UK, and has been working on tiger conservation in Bangladesh for the last six years. During that time Christina helped to set up and manage WildTeam's efforts to reduce THC. Christina also coordinated a national level workshop to draft HTC response guidelines. Before that, Christina was managing a project in Kenya that investigated ways of using mobile phone technology to reduce Human Elephant Conflict. Christina has also worked for 8 years as a project manager in the corporate sector, where she developed her skills in organisational development and capacity building.
Alexandra Zimmerman	Head of Conservation Science at Chester Zoo (UK) and a Research Associate at the Wildlife Conservation Research Unit at Oxford University. She specialises in human-wildlife conflict, in particular social research and community-based approaches. She founded the Assam Haathi Project for human-elephant conflict in India, has led three Darwin Initiative project and advised on HEC matters in Sumatra and Bhutan. For her doctoral research at Oxford she studied human-jaguar conflicts across all of Latin America, including 17 field case studies in seven countries. She is currently leading a small team seeking to assist with human-tiger conflict in the Terai Arc.

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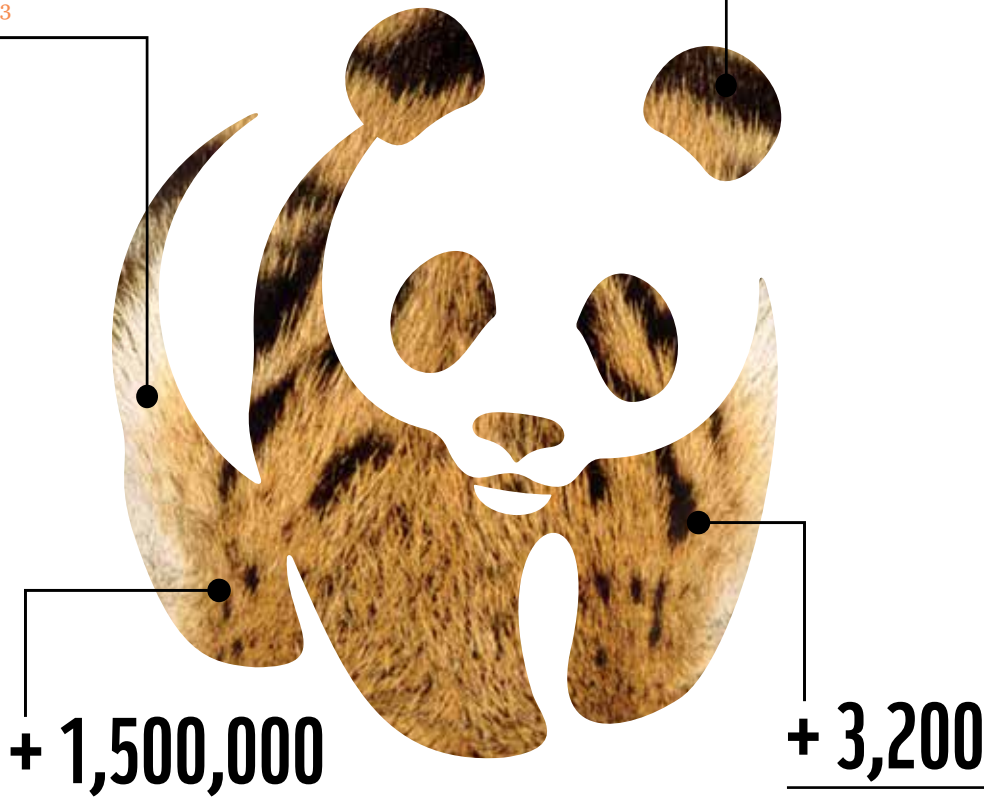


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