

## Chapter 3. Options for the Way Forward

### I. Introduction

1. A conservation model that embraces development would blend incentives for conservation (carrots) with deterrence and enforcement (sticks). The value of live tigers is considerably greater than that of dead or captive tigers. A key challenge is to find better ways to channel this value for conservation and to enlist the support of a broader range of interested parties: the communities who rely on forest resources and must live with tigers; businesses that harvest minerals, timber, and other resources from forests; the broader public who enjoy the benefits of the environmental services provided by forests; and, crucially, the government that has ultimate sovereignty over all decisions.



Sumatran Tiger (WCS)  
Photo Courtesy: WCS/ Save The Tiger Fund

2. Any solution would need to tackle three often intertwined problems: poaching and the trade that drives it, habitat fragmentation and conversion through intrusive activities, and the degradation of habitats through overuse (Box 3.1). The highest immediate priority is to devise strategies to address the poaching crisis. In the short term, the greatest need is to strengthen protection on the ground through improved financing, greater accountability, and scientific monitoring of results.

#### Box 3.1. The Amur Tiger: A Rare Success

The Amur (Siberian) tiger is the largest and one of the rarest subspecies of tigers. Almost all of the last remaining populations are found in the Russian Far East, in the Amur-Ussuri region of Primorsky and Khabarovsk Krays. Habitat loss, decline of prey species, and poaching had taken their toll, as elsewhere in the world, and by the mid 1980s it had been estimated that only about 250 remained. More recently, however, the combined efforts of governments, local and international NGOs and local communities have helped to reverse the decline, so that current populations approach about 500 individuals.

The government has established a number of different types of protected areas in the region, including strict reserves, nature reserves, ecological corridors, and areas of limited economic use, creating an integrated system of federal and local PAs. A medium-sized GEF grant (Strengthening Protected Areas Network for Sikhote-Alin Mountain Forest Ecosystems Conservation in Khabarovsk Krai, US\$ 750,000) supported the establishment of this diverse system of PAs, as well as a new Service for the Protected Areas and the Protection of Wildlife of the Khabarovsk Krai. The project, which was implemented by a local NGO in partnership with the regional government, also helped to improve efficiency of the PA network through preparation of management plans and provision of critical equipment and public awareness-raising and education efforts. A component for ecosystem and species monitoring support focused on the Amur tiger and three of its main prey species, both as indicator species for the Sikhote-Alin mountain forest ecosystems and as a means of increasing knowledge regarding the causes of changes in tiger populations and laying a solid foundation for development of recovery plans. Data collected from 2001 through 2005 at five sites (942,500 hectares in all) indicated a gradual improvement in habitat conditions and modest increases in all indicator species. Tigers observed increased from 20 to 31 individuals, while increases in primary prey species ranged from 12 percent (elk) to 400 percent (wild boar).

The IBRD-financed Sustainable Forestry Pilot Project (US\$ 60 million) also helped to protect the tigers' forest habitat by improving forest management through policy reforms, improved land-use management,

direct protection and regeneration of forest areas, and modernization of forest harvesting and processing technologies and utilization of non-timber forest products. Khabarovsk Krai, with a forested area of 43.6 million hectares, was one of three pilot areas covered by the project. The project focused on improving fire protection, regeneration of burned-over areas, protection of unique biodiversity values (including the Amur tiger), and development of wood and non-wood rural industries.

Despite the recent expansion, the PA system covers only 8 percent of the Amur tigers' habitat. Because the biomass of prey species is low in northern temperate forests, the tigers require large home ranges. An ongoing program of the Wildlife Conservation Society (WCS) aims to preserve tigers and tiger habitats outside PAs by strengthening the capacity of local Wildlife Management Organizations (groups of hunters who lease large areas of land and are responsible for managing hunting, controlling poaching, and monitoring wildlife populations in their leased areas) and by providing incentives to local communities. In 2005, together with the Far Eastern Association of Non-Timber Forest Producers (FEANTFP), WCS won a \$97,400 grant from the World Bank's Development Marketplace for a project on Linking Economic Development and Biodiversity.

3. In the medium term, solutions must be sought that harmonize development and conservation outcomes. There is no universal remedy, and the precise mix and type of policies will vary across countries, reflecting local opportunities and pressures. The appropriate conservation model for the sparsely populated landscapes of the Russian Far East would differ considerably from those suited to the densely populated economies of East and South Asia. Where high-quality habitats exist, incentives to encourage their retention could be made a priority. The links are most obvious where private profitability depends directly on the health of ecosystems, as in the case of ecotourism. Alternatively, where the returns on agriculture (the opportunity cost of land) are low, the potential to restore habitats may be a more cost efficient and effective strategy.

4. Tailored to local conditions, an effective and sustainable conservation paradigm would need to incorporate new instruments to address the root causes of the decline in tiger populations and their habitats: weak incentives, market failures, and institutional impediments. These would need to complement enforcement and protection measures. The approaches could include mechanisms to:

- a. Enlist the support of communities by creating incentives for conserving land as habitat and for reducing poaching;
- b. Develop ecotourism where appropriate as a strategy for sharing benefits and generating incentives for conservation;
- c. Strengthen and make cost effective the management of protected areas;
- d. Develop mechanisms to enlist the inevitable growth of infrastructure to the cause of conservation; and
- e. Tackle poaching, the demand for tiger products, and the illegal trade that delivers them.

## II. Creating Direct Incentives: Environmental Service Payments

5. **Habitat fragmentation and degradation is largely a consequence of weak incentives for conservation.** Although many tiger habitats provide global services far more valuable than their commercial uses (mines, agricultural land, and so on), habitat conversion is individually rational, though it remains a global folly. The explanation lies in the "tragedy of the commons." Market-based economies excel at producing what people are willing to pay for. They do not perform well at preserving what may be priceless but is not rewarded. Much of the ongoing loss of biodiversity can be attributed to the lack of incentives and markets that provide compensation for the supply of essential environmental services, including water, breathable air, and biodiversity.

6. **Environmental service payments are a new conservation instrument designed to provide direct incentives for the preservation of habitats.** More than 300 such projects have been introduced in a variety of contexts and countries. There is now sufficient experience

with these schemes to suggest a way forward for tiger conservation. Most frequently, environmental service payments are made to encourage changes in land-use practices, such as reforestation, reductions in grazing pressures, or the retention of landscapes (Box 3.2). Cases of payments made for the protection of a particular species are rare, but this does not imply they are unfeasible or ineffective. This approach would be particularly important in landscapes in which poaching is the major threat and enforcement capacity is weak. It could include a scheme as simple as a conservation contract among communities living in or around a tiger reserve, with payments linked directly to the focal species. At the other extreme are more complex systems such as the Australian Bush-Tender program, which creates markets through sealed-bid auctions.

**7. A key lesson that has emerged is that payment schemes directly targeting the desired environmental objective are more cost effective and efficient.** If the objective is to reverse habitat degradation or promote habitat restoration, payments need to be conditional on measurable and verifiable indicators of habitat improvement. If the aim is to protect a focal species, rewards need to be linked to verified and credible evidence of population trends. Such schemes have the potential to become valuable transfer mechanisms that simultaneously promote rural development and conservation. A disadvantage is that payment schemes often require the creation of a new financing mechanism to gather and disburse funds. Developing effective institutions with credibility and transparency increases transaction costs and may not be feasible in countries where capacity and governance are weak.

### III. Ecotourism

**8. Ecotourism is big business and has been widely used to generate resources for conservation and to share benefits with local inhabitants.** It is among the fastest growing industries in the world and has expanded by a factor of ten in the last two decades. Growth of the industry is linked not just to the tremendous demand for wildlife, but also to its scarcity. People pay large sums of money because of the rarity of charismatic species and habitats. For example whale watching generates \$1.1 billion annually for the United States and Canada, and wildlife tourism contributes to a significant proportion of GDP growth and export earnings in much of Africa, Australia, and the Galapagos.

**9. Ecotourism in the tiger-range states is largely underdeveloped and under managed.** This is partly due to the remoteness of many tiger landscapes and partly due to the difficulties of seeing tigers in dense tropical rain forest, the primary tiger habitat in South East Asia. But where opportunities exist, they should provide a valuable source of revenue and an opportunity to generate and share benefits that are directly linked to the presence of tigers.

**10. The experiences of India and Nepal provide contrasting examples of both the challenges and the potential of tiger tourism.** India, with its former stronghold of tigers and rising prosperity, has the largest tiger tourism industry in the world. More than 1.29 million tourists visit tiger reserves annually, and this number excludes perhaps another 2 million people who visit the reserves for pilgrimages. The average Indian reserve receives 60,000 tourists per year but collects little in revenues, largely due to low entry fees. It is no surprise that tourism is often viewed as an administrative and management burden on forest staff and a drain on their limited capacity and resources.<sup>26</sup> Hotels located outside the park boundaries benefit from the presence of tigers in the park but contribute little to the tigers' survival or management. Overcrowding in the reserves has caused many to view tourism as a drain on scarce conservation budgets. In contrast, Nepal has developed a community-based tourism model, with a strong emphasis on sharing benefits with locals and on the regeneration of degraded forests (Box 3.3). The approach has been successful in reducing poaching, restoring habitats, and creating a local constituency for conservation.

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<sup>26</sup> The income from tourism varies tremendously, from close to zero in some reserves to about Rs 9 million (\$200,000) in Ranthambore (Government of India 2005).

### Box 3.2. Can Carbon Markets Save the Sumatran Tigers and Elephants?

Riau Province in central Sumatra is exceptional. It boasts some of the world's most biodiverse ecosystems. It is host to the critically endangered Sumatran tiger and the endangered Sumatran elephant and has a higher floral diversity than any other tropical forest examined. In addition, Riau's forests are high-priority Tiger Conservation Landscapes. Yet Riau's tigers and elephants are in precipitous decline. Both species' populations are falling faster than the forest cover, likely due to the extreme fragmentation of their habitats. In the last quarter century, Riau's Sumatran elephant population declined by as much as 84 percent, to perhaps as few as 210 individuals in 2007, and the Sumatran tiger population declined by 70 percent, to 192 individuals in 2007.

Riau has lost 65 percent of its original forest cover and has among the highest rates of deforestation in the world, driven by conversion of native forest to pulpwood plantations; to industrial oil-palm plantations, undergoing rapid growth caused by the shift to biofuels; to agricultural use; and even to waste land without replacement by crops (17 percent). A business-as-usual scenario suggests that Riau's natural forest cover will decline from 27 percent today to only 6 percent by 2015.

All of this comes at a global cost. The average annual CO<sub>2</sub> emissions from deforestation in Riau exceed the emissions of the Netherlands by 122 percent and are about 58 percent of Australia's annual emissions. Between 1990 and 2007, Riau alone produced the equivalent of 24 percent of the targeted reduction in collective annual greenhouse gas emissions set by the Kyoto Protocol Annex I countries for the first commitment period of 2008–2012.

If the profits from marketing the environmental services of forests, such as avoided deforestation, soil and water protection, and biodiversity conservation, are comparable to those of marketing timber, concession holders will likely protect more natural forest, especially Riau's carbon-rich peat-land forests.

Can carbon trading can provide a new economic incentive to protect Riau's forests? Under the current system none of this is likely to occur. First, countries do not get rewarded for retaining forest canopy (avoided deforestation) — the emphasis is on afforestation. Second, although there are new programs under consideration that would provide incentives for conserving forests, there is a risk that the prevailing price of carbon may be too low to shift incentives from clearing for biofuels or pulp to conservation. Third, even if the price of carbon rises sufficiently, Riau may not get priority over other forests with higher carbon sequestration potential. The problem here is that the proposed new systems do not pay much attention to the biodiversity value of forests — so their futures may not be secured by the carbon markets.

As a counterexample, in parts of South Asia the returns (present value) of arable land are often as low as \$100 to \$150 per hectare. Clearing a hectare of tropical forest could release 500 tons of CO<sub>2</sub>. At an extraordinarily low carbon price of even \$10 per ton of CO<sub>2</sub>, an asset worth \$5,000 per hectare is being destroyed for a less valuable land use. A modest payment through the newly proposed avoided deforestation scheme would be sufficient to shift incentives in some of the unproductive arable land in South Asia.

Source: Y. Uryu, et al., 2008, Deforestation, Forest Degradation, Biodiversity Loss and CO<sub>2</sub> Emissions in Riau, Sumatra, Indonesia (Jakarta, Indonesia: WWF Indonesia Technical Report); and World Bank calculations.

**11. Tiger tourism should be further refined and developed.** Most importantly, receipts from tourism need to be invested in conservation, in the retention of landscapes, and in sharing benefits with local residents. Where tourist densities are high (as in many Indian reserves), recreational viewing needs to be expanded outside the park as a strategy both to relieve pressures within the park and to link habitat corridors. This is a common approach in Southern Africa where the merger of protected areas with wildlife-viewing buffer zones has created unfragmented habitats. Missing in South and East Asia is the policy will and mechanisms needed to facilitate an expansion of habitats through recreational activities. Finally, it needs to be recognized that tiger tourism is inherently more challenging than other forms of wildlife viewing. Tigers are solitary animals and generally hard to find, particularly in the dense forests of East Asia. There is a need to develop innovative approaches to address these challenges. An example is gorilla tourism, which has successfully attracted visitors and generated high revenues despite the remoteness of habitats, the difficult terrain, and regular periods of instability.

### Box 3.3. Adapting the Chitwan Model of Community-Based Ecotourism Development

Mounting pressures on natural resources in the developing nations of Asia make conserving lands adjacent to protected areas an important goal. In Nepal's Chitwan National Park (an anchor of the Terai Arc Tiger Conservation Landscape) local communities were given the tools and the responsibility to regenerate degraded buffer zone areas, which then became tourist destinations. This generates income that is invested in community development, such as schools and health-care facilities.

Why has the tourism ecodevelopment project succeeded in Chitwan? The key, initial step was a policy change, enacted by the Government of Nepal that enabled communities to share in the revenues generated by tourism to the national park. This was the single most powerful tool for enhancing the success of community-based comanagement of the landscape. Chitwan is also an ecologically forgiving landscape — a flood plain habitat with high resiliency and moderate to potentially high integrity. Thus, the buffer-zone areas in the project regenerated rapidly, attracting both wildlife and tourists within a few years. Moreover, poaching pressure on tigers and prey was relatively low. Remarkably, the project continues to succeed despite the years of conflict and associated down-turn in tourism.

Dinerstein, et al., identified a distinct set of conditions essential for successful implementation of community-based tourism. These include:

- An accessible reserve with a well-protected core area containing charismatic megafauna that tourists can see;
- A fraction of buffer zone (or strips of land between the protected area and the agricultural frontier) remaining for regeneration;
- A secure land-tenure system to minimize immigration in response to the magnet effect of ecodevelopment projects;
- A stable privately-owned ecotourism industry that can serve as a precursor to a community-based approach and can absorb some of the initial costs;
- Policies that enable local people to participate in enterprise activities in buffer zones adjacent to protected areas;
- A cooperative working relationship between local people and protected-area officials; and
- Strong local institutions that enforce conservation rules, ensure equitable distribution of benefits from joint activities, and respond to changing economic conditions and new opportunities.

Source: Adapted from Dinerstein, et al., 1999.

## IV. Strengthened and Cost-Effective Management of Protected Areas

**12. Where institutions are weak, joint management between government and other actors can improve cost-effective conservation.** Joint approaches are widely used in other areas of government enterprise and include a diverse range of activities such as public-private partnerships in health, education, and infrastructure. These arrangements recognize that, while ultimate sovereignty over resources rests with governments, other agencies bring resources and skills perhaps not readily available in government institutions.

13. Few attempts have been made in the tiger-range states to enlist support from non-governmental actors, but such management agreements are quite common in Latin America and parts of Southern and East Africa. Such arrangements are advantageous because they can address the many obstacles that constrain government management of protected areas. Especially important, for example, has been the ability to invest in protection and to provide adequate salaries. In addition, NGO relationships with surrounding communities would likely be of a different nature compared to those experienced by government. Box 3.4 provides an example of one such initiative in Indonesia, where a block of habitat has been released to a conservation trust.

### Box 3.4. Harapan: A New Model to Support Conservation Species

The richest terrestrial ecosystems in Indonesia are the lowland forests, but these are also very valuable for timber. As a result, the protected areas tend to contain mainly higher elevation forest, with the lowland forests allocated to logging concessions, many of which have evolved into conversion forests for oil palm, rubber, and industrial timber estates.

Burung Indonesia, BirdLife International's partner in Indonesia, persuaded the Indonesian Ministry of Forestry to allow private organizations to manage logging concessions in the interests of nature conservation. In June 2004, the Ministry passed a decree on Forest Restoration in Production Forests enabling "production forest" already designated for clearance to be restored and managed for conservation. The legal framework created now makes it possible for other private organizations to manage logging concessions for the good of nature rather than for commercial profit.

With this important new policy agreed, BirdLife was able to acquire the rights to manage the 102,000 hectare Harapan Rainforest, which straddles the border between Jambi and South Sumatra provinces in Sumatra, as a model for forest restoration, wildlife conservation, and sustainable local development. This mosaic of primary and regenerating secondary forests will be the first restoration forest of its kind in Indonesia. Harapan appears to support some 10 to 15 Sumatran tigers and good populations of prey.

The partners (Burung Indonesia, BirdLife International, and the Royal Society for the Protection of Birds) are working hard to secure the financial sustainability of Harapan Rainforest by creating an endowment fund. Once the desired target of \$13 million is secured, the annual interest payments should be sufficient to cover conservation-management costs for the forest and sustainable livelihood projects for local communities.

The vision for the next 20 years is to:

- Halt destruction of habitat important to the survival of the twenty Sumatran tigers and 267 species of forest-dependent birds living in the forest;
- Restore and rehabilitate the forest to create prime wildlife habitat;
- Preserve elements of the forest-dwelling lifestyle previously enjoyed by the indigenous people who live in this area;
- Provide environmental education for local communities;
- Involve local communities in planning and offer job opportunities in sustainable forest management;
- Develop ecotourism and alternative income generation;
- Provide a model for forest ecosystem restoration, carbon sequestration, and sustainable management in Indonesia.

Source: Based on <http://www.birdlife.org/action/ground/sumatra/>



Tracking of tigers in the snowy tiger landscapes of the Russian Far East  
Photo Courtesy: Save the Tiger Fund / Linda Kerley

## V. Biodiversity-Sensitive Infrastructure: Are Trade-Offs Inevitable?

**14. Infrastructure in tiger habitats has traditionally involved making difficult choices and trade-offs between conservation and development.** It is no surprise that conservation, which is viewed as an economic burden, inevitably loses this struggle in rapidly expanding economies. The source of the problem often lies in inadequate planning and the failure to recognize that although infrastructure may impose an environmental cost, it also generates resources that provide opportunities for improving environmental outcomes. Capturing this potential requires new mechanisms to ensure that the final balance is not one of environmental loss.<sup>27</sup>

**15. The precarious state of tiger populations suggests the need to prioritize landscapes based on their conservation significance.** Throughout many lower priority habitats it is inevitable that large infrastructure will overlap natural habitats. But these could provide opportunities to enhance conservation. Infrastructure brings benefits that could be used to leverage substantial and additional funds for promoting conservation that would otherwise not be available. Use of these funds could go beyond basic amelioration of impacts to advance conservation outcomes.<sup>28</sup>

**16. With careful attention to incentives, the development of sensitive infrastructure could be used as an opportunity to halt or even reverse the degradation of habitats.** The precise mechanisms through which this objective could be achieved will depend upon institutional capacity. Where institutional structures are well developed and effective, project resources could be mobilized to further strengthen enforcement capacity, establish new protected areas, or reduce pressures from induced impacts. Where capacity is weak, it will be more costly to obtain the desired environmental outcomes. In this case, project resources could be used to develop highly targeted environmental service payments linked to focal species or other well-defined outcomes (Box 3.5).

### Box 3.5. Nam Theun 2 Hydroelectric Project

Nam Theun 2 is a World Bank–supported 1070 MW transbasin hydroelectricity project. It was planned to flood about 450 square kilometers of a mosaic of logged forest, riparian forest, meandering river, anthropogenic wet-grasslands, and a rather small area of forest within the adjacent protected area. The mitigation measure acceptable to the World Bank — the offset — was the financial and institutional means of managing 4000 square kilometers of forested protected area in the watershed of the dam, including two new forest corridors linking the main protected area to adjacent established protected areas. All these areas are part of a major Tiger Conservation Landscape (Northern Central Annamites) judged to be a Regional Priority, even though the current tiger population is very small. A fully comprehensive watershed management plan sensitive to the needs of the minority communities living within the protected area was prepared before the project was approved.

The overall conservation package included:

- A specialized agency established to manage the program;
- Secure financing of US\$ 31.5 million for 30 years;
- Conservation programs that strengthen patrolling and monitoring, enforcement, biodiversity, and forest management and reduce cross-border threats;
- Livelihood development activities that enhance land- and resource-use rights, improve management of natural resources, provide better access to infrastructure and services, and provide compensation for any adverse impacts through livelihood and community development activities; and
- The set-up of a conservation trust fund.

<sup>27</sup> See Quintero 2008

<sup>28</sup> Though seldom recognized, this would also be consistent with the principles of sound economic development. Economics suggests that internalizing (i.e., correcting) externalities (unaccounted damages) is both efficient and necessary for promoting effective development.

17. **With a plummeting tiger population, further fragmentation of high priority core habitats should be avoided.** These core areas comprise a very small portion of the land area of any country where tigers are found. These are also the watersheds of countries and provide a host of other valuable environmental services. In India, the core tiger areas are less than 4 percent of the total land area. With such a small area devoted to conservation, it is unlikely that further fragmentation of these last habitats would resolve any economic problem that remains unsolved by access to the remaining 96 percent of the country. Instead, it is likely to be cheaper and economically more efficient to retain these core areas as suppliers of ecosystem services than it would be to re-create them.

## VI. The Trafficking of Wild Tigers

18. **The wildlife trade is a global problem that transcends national boundaries and hence requires international responses.** With large and permeable national and park boundaries, the protection of habitats alone will not suffice to address the illegal trade. Responses are needed that tackle both the demand and the supply side of the illegal market. On the supply side, one of the most important and difficult areas has been the detection and arrest of dealers who organize the illegal trade in tiger parts. Intermittent seizures and occasional arrests of dealers do occur, but this has not been sufficient to control the trafficking. Responding to this problem, the ministers of the Association of Southeast Asian Nations (ASEAN) agreed to develop a Regional Action Plan on Trade in Wild Flora and Fauna and to expand the regional wildlife law enforcement capacity (Box 3.6). The result is ASEAN-WEN (Wildlife Enforcement Network),<sup>29</sup> which aims to improve the efficiency of customs law enforcement officers in the region by providing equipment and improved networking capabilities. This is a useful start, but China, considered an essential partner in curbing wildlife crimes in the region, should be encouraged to join, and India should be given observer status.

19. Interventions on the supply side need to be accompanied by vigorous efforts to eliminate the root causes of the problem — the demand for tiger products. Since the legitimate TCM industry stopped using tiger products in the early 1990s, demand for tiger parts has been largely linked to self-prescribed use of tiger bone, especially in wines considered health tonics. Another recent trend is consumption of tiger meat as an exotic cuisine in Vietnam, Malaysia, Taiwan, and China. Ornamentation also drives the market, and a flourishing market in tiger skins, claws, and teeth has been unearthed.

20. History has shown that laws do not and cannot alter desires and demands completely. This is especially true for products whose demand is rooted in history. Consequently, trade bans and supply-side interventions can only have a limited impact. Addressing demand calls for a high-level advocacy campaign to curb demand for these products and to raise awareness that the perceived medicinal benefits have no scientific foundation. Mechanisms to reduce demand are clearly needed, but appropriate approaches have yet to be defined on a broad scale because little is known about the demographics and motivations of users and the associated retail dynamics.

## VII. Conclusions

21. The emerging experience with wildlife management indicates that incentives are a powerful policy tool for improving stewardship of undervalued natural assets and can be used to leverage support from a wider constituency of stakeholders and actors. The aim of this chapter has been to outline some of the strategies available for achieving this. These options attempt, in varying degrees, to address some of the root causes of biodiversity loss by creating a development-friendly conservation paradigm. There is clearly no universal formula for how this can be achieved, and determination of the most appropriate instruments depends on local and country circumstances.

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<sup>29</sup> This is backed by grants from the U.S. Agency for International Development to nongovernmental organizations, Wildlife Alliance, TRAFFIC, and their local partners.

### Box 3.6. Economic and Social Drivers of Wildlife and Related Trade-Control Efforts

Illegal and unsustainable trade in wildlife in Asia is threatening tigers and many other wild species with extinction despite significant investment to address both conservation and development. The effectiveness of these investments could be improved through better knowledge of the socioeconomic factors driving the trade in wildlife and of the conditions under which different interventions reduce illegal and unsustainable trade. This is the key to improved targeting and design of future interventions and therefore the likelihood of their success. Effective mechanisms have yet to be developed, however, for collecting and analyzing this information in a systematic fashion for either individual species, such as tigers, or for Asia's wildlife trade more generally. To help address this knowledge gap, TRAFFIC, with funding from the World Bank-Netherlands Partnership Program, canvassed experts on the trade in a wide variety of plant and animal-based wildlife products, including tiger products. This allowed the distillation of expert opinion on both the drivers of wildlife trade and the effectiveness of related interventions. The results of this review, which focused on trade from Cambodia, Lao PDR, Indonesia, and Vietnam, illustrate the complexity of wildlife trade chains, the range of approaches being applied to change wildlife-trade dynamics, and the variation in views of the effectiveness of different approaches. Several of the study's results in relation to the trade in tiger products, for which information was collected from 11 experts, are provided below. The full study, *What's Driving the Wildlife Trade?* will be published in 2008.

Regulatory approaches to prevent hunting and trade of tigers are, not surprisingly, believed to be the most widely used form of intervention, with most experts believing that CITES was at least somewhat effective at regulating trade and that, where they had been increased, national trade controls had also resulted in a reduction in the number of tigers harvested. Nevertheless, all but one respondent believed that hunting was taking place in protected areas. Furthermore, most believed that when an intervention was effective in addressing trade along one trade route, the trade merely shifted to a new route. This belief corresponds with the view held by most respondents that legal instruments were more effective in controlling trade when targeted as a series of interventions across the trade chain. The awareness campaigns aimed at consumers and designed to reduce consumption of tiger products were believed to have resulted in a decline in consumption in two out of five cases where they were noted. Awareness campaigns aimed at harvesters and traders were generally considered to have been successful in raising awareness but not in reducing poaching. Where they were targeted to control harvest, traditional norms were generally believed to be somewhat effective at reducing hunting of tigers.

The results of this initial compilation of expert beliefs cannot be viewed as definitive. Rather, they are a starting point from which a more comprehensive and site-specific assessment of the factors influencing tiger poaching and the trade in tiger products from these and other countries could be developed. Such an analysis could survey a much wider group of experts and incorporate available data on, for example, poaching rates, market availability, enforcement effort, human-wildlife conflict, and other factors believed to influence both poaching and trade.

Experience shows that poor people are disproportionately at risk of crime and violence and are under served, relative to more affluent populations, by police and public safety agencies. Crime, corruption, commercial fraud and high costs posed by vulnerability to crime and its consequences are also significant burdens on the economic enterprises on which growth depends. Over the last decade, starting with the Bali Ministerial Meeting on Forest Law Enforcement and Governance (FLEG), the World Bank, together with concerned governments, donor agencies and non government organizations has convened a series of international processes that have brought the previously ignored issues of prevention, detection, and suppression of forest and wildlife crimes into open discussion. The Regional FLEG Processes in East Asia, Africa and Europe and North Asia are helping to raise the level of international cooperation and professionalism in attacking these crimes, bringing in international enforcement agencies, including the U.N. Office on Drugs and Crime, Interpol, the Financial Action Task Force (FATF), the World Customs Organization, as well as national and regional authorities.