

Thematic Paper #2



- Smart Green Infrastructure
- **Conservation through Community Incentives**
- Capacity-Building
- Landscape-Scale Management
- Addressing Competing Demands
- Innovative Finance
- Costing Tiger Conservation



Creating Local Constituencies
for Tiger Conservation
through Community
Incentives and Alternative
Livelihoods



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INTRODUCTION

Tigers are projected to be in serious danger of extinction. There are no more than 3,500 individuals left in the wild and these are scattered in thirteen Asian countries. Poaching, habitat degradation and land-use change are the major causes of tiger declines all across Asia. One possible way to reverse the present situation is to re-examine approaches such as community incentives and alternative livelihoods (or supplementary incomes) to provide real benefits to local communities to change behaviour.

An important reason for tiger decline is the over-exploitation of habitats and the resulting forest degradation in and around tiger landscapes. The tiger shares its habitat with people who are heavily dependent upon forests and often live far below poverty levels (Table 1). Poverty drives people to over-exploitation of forest resources, leading to loss of habitat quality for tigers and other species. Further, poaching of tigers and other wildlife is often aided by local people who are alienated from the cause of conservation because of policies that marginalize local interests. Hostility to wildlife conservation is further heightened by the widespread losses to local livelihoods caused by wild animals such as through crop-raiding or livestock kills.

Table 1: Comparison Between Poverty Levels and Forest Dependency in Indian Tiger Reserves

Name of Protected Area	Per Capita Income	% Income from Forests
	(Annual, US \$)	
Sariska Tiger Reserve, India	193	85%
Mudumalai Wildlife Sanctuary, India	81	41%
Periyar Tiger Reserve, India	283	90%

Note: Estimated income from forests is based on livestock grazing, forest product sales and wage labour

(Sources: Hegde & Enters 2000, Shahabuddin et al 2007, Gubbi and MacMillan 2008)

It is often believed that the lack of a strong local constituency, in fact, poses one of the most important challenges to tiger conservation today. Lack of local support for wildlife protection is also associated with other problem areas such as ineffective law enforcement and weak governance. Thus creating strong local stakes in conservation and increasing public participation in design, protection and implementation is recognized as one of the vital steps towards sustainably safeguarding tiger habitats¹.

Participatory approaches in biodiversity conservation have been experimented with since the 1970's in a diverse range of environments through efforts such as Integrated Conservation and Development Projects (ICDPs), Community-Based Natural Resource Management (CBNRM) and Community-Based Conservation (CBC) in both tiger landscapes and elsewhere. Such projects have had the following aims:

- Channelling economic benefits from wildlife to local people through sustainable livelihoods that do not compromise biodiversity
- Compensating the human and economic cost of wildlife conflict in order to increase thresholds of tolerance for losses or damage to human life or property
- Substituting forest-based consumptive livelihoods with alternative ones that are either largely non-consumptive (for instance, ecotourism), with the aim of reducing direct dependence on wild habitats
- Awareness and education programs to create/renew intrinsic value for wildlife

However, there are clear indications that such projects, particularly Integrated Conservation and Development Projects, that have been quite widespread, have not had much success in developing countries in terms of meeting their biological conservation objectives². Further, the extent of livelihoods and/or economic incentives actually generated at the end of the project period has usually been rather limited³, often not enough to change land use or habitat use decisions among local communities. For instance, community-based enterprises such as those related to ecotourism have reached sustainability in only a small fraction of instances⁴. In many cases, benefits from conservation projects did not move beyond the pilot stage and reached only a small subsection of the target population⁵.

At the same time, there do exist scattered instances of conservation interventions where local people's livelihoods have been successfully transformed, pressures on livelihoods and biodiversity have been

¹ Wells et al 1999

² See, for instance, Van Schaik & Rijksen 2002, Wells et al 1999, McShane & Wells 2004b

³ Linkie et al 2008, Naughton-Treves et al 2005, Kiss 2004, Alers et al 2007, Gubbi et al 2009

⁴ Kiss 2004

⁵ Alers et al. 2007.

reduced and local support for conservation of endangered species has been established, at least partially⁶. There are also numerous instances of communities taking the lead in ecosystem restoration for reviving and maintaining their resource base as well as livelihoods, given a conducive policy environment⁷. The benefits of involvement of local communities are also becoming very evident in the marine realm in rejuvenation of fish stocks and fish diversity⁸.

This is the reason that despite identification of serious problems with community-centered approaches, most environmental organizations and funding agencies still remains broadly committed to it⁹. The lack of effectiveness of these programmes is being ascribed to problems in implementation rather than to their conceptual basis. Thus many authors propose a shift in the focus, modalities and the scale of these efforts rather than abandoning them¹⁰. Further, social scientists argue that ignorance of key aspects of social, anthropological and political processes that shape ecosystem management in specific contexts is also responsible for many of the observed short-comings of community-based approaches¹¹, lacunae that are possible to address through more engaged, informed and participatory approaches. Today, it has become important to critically examine existing community-based models, identify their shortcomings and investigate why specific conservation strategies have worked or failed. Only a foundation of clear introspection can lay the grounds for developing more successful and replicable strategies in the future.

THEME PAPER OBJECTIVE

In the face of continuing and mounting threats to wild tigers and their habitats, it is necessary to investigate the underlying reasons for successes and failures in the numerous community-based programs in the past that have attempted to develop broad-based local support for wildlife conservation. Evidence suggests that there are a range of socio-political, institutional, biological and economic factors that influence the effectiveness of such field interventions. Within this context, the principal aim of this paper is to distil out the principles that are common to interventions that have been at least partially or temporarily successful in an attempt to provide building blocks that can be replicated at a larger scale. Based on a review and analysis of site-specific models and existing meta-analyses, this paper identifies the *practical outcomes*, *enabling conditions* and *strategies* for creating strong local support for wild tiger conservation.

APPROACH

For this paper, a number of programs involving local communities has been examined for their possible application in tiger landscapes such as:

- Integrated Conservation and Development Projects (ICDP)
- Community-Based Conservation (CBC)
- Community-based Natural Resource Management (CBNRM)
- Direct Payments for Conservation

For this paper, we have not found it necessary to limit our review to cases simply in tiger habitat or in the tropics, for the following reasons:

(1) The underlying processes that determine the scale and nature of wildlife-human interaction are very similar across the world in terms of costs and benefits. There do exist differences related to extent of human dependence on forests, ability of governments and local people to bear costs, extent of

⁶ Western 2002, Weber & Vedder 2001, Uniyal & Zacharias 2001, Brandon & O'Herron 2004

⁷ Sudtongkong & Webb 2008, Mugisha & Jacobson 2004, Schwartzman & Zimmerman 2005

⁸ Gell & Roberts 2003

⁹ Wilshusen *et al* 2002, Schwartzman *et al* 2000, McShane & Wells 2004, Alers *et al* 2007

¹⁰ Naughton-Treves *et al* 2005

¹¹ Wilshusen *et al* 2002, Twyman 2000

awareness about and appreciation for wildlife, access to technical knowledge or in the allocation of national resources by governments to resolving human-biodiversity conflicts. However, the fact is that nearly all countries of the world continue to face such problems in varying degrees and the basic groupings of stakeholders remain similar.

(2) Some of the instances where considerable progress has been made in ameliorating human-biodiversity conflicts come from the developed world, where more attention and resources have been devoted to conservation issues than in developing countries. Thus there are likely to be important lessons that could be drawn from developed countries that tiger-range countries could usefully learn from.

(3) Finally, in analysing shortcomings and proposing solutions, we do recognize that the specific types of livelihood or compensatory activities that will be undertaken in core (inviolable) zones and buffer (multiple-use) zones will be different, in keeping with their respective conservation goals. However, these differing strategies are not discussed in separate sections in this paper. This is because the emphasis of the paper is on the processes and principles underlying field interventions and, as this paper will show, the basic principles underlying effective community involvement are universal across preservationist and sustainable use paradigms.

OUTLINE OF THE PAPER

This theme paper is divided into three sections:

1. **The practical, on-the-ground outcomes of community-based interventions that are envisaged;**
2. **the enabling conditions that will help the realization of these outcomes and,**
3. **strategies to be put into play to achieve the desired outcomes**

SUMMARY OF FINDINGS

OUTCOMES

(1) **The Link between Alternative Livelihoods, Local Constituencies and Successful Conservation Programs as the Key Component of a Successful Strategy**

One of the most important outcomes necessary for the purposes of creating and building local constituencies is the development of alternative livelihoods that can partially or wholly substitute for reduced access to forest resources for subsistence and commercial use. Of necessity, these should be livelihoods that do not compromise biodiversity goals, as far as is possible.

While there have been many programs in the past that have attempted this, most have been unsuccessful in their goals. One of the primary constraints that have been identified in meta-analyses is the lack of establishment of clear and direct linkages between resource conservation and the local economy¹². In many cases, increasing incomes from new livelihood activities has not been seen to necessarily reduce dependence on forests. Further, substantial and widespread economic benefits from the chosen strategy are important in order to keep local communities involved and interested a condition that has not been met in most cases¹³. Most livelihood activities typically bring in marginal economic benefits and also reach only a small proportion of target beneficiaries¹⁴ so that land and forest use decisions in the community as a whole, are not influenced. Other issues that have constrained the expansion and replication of livelihood programs are the requirements for skill development and

¹² Wells et al 1999, Alers et al 2007, Wells & McShane 2004

¹³ Adams & Hulme 2001, Alers et al 2007

¹⁴ Alers et al 2007, World Bank 2008, Walpole & Thouless 2005.

training at the local level and presence of sustainable sources of credit in remote areas. Finally, market linkages for enabling secure livelihoods are often weak or absent, leading to failure of new business models. Stable biodiversity-based livelihoods with assured returns require stable markets. For instance, wildlife-viewing is dependent on the buoyancy of industrialized economies¹⁵. A recent meta-analysis has advocated modification of existing livelihood strategies to add value and make them less damaging rather than attempting to create new livelihoods (Alers et al 2007). Such an approach would do away with the uncertainties of new livelihoods such as the need to develop new skills and market linkages. For instance, in Periyar Tiger reserve in India, incomes from pepper-cultivation to farmers in the buffer zone were considerably enhanced by change in marketing strategies, which were supported by the reserve managers¹⁶.

As an income-generating activity, ecotourism stands out as one of the possible options that can be developed in tiger landscapes. Tigers have proven to be extremely attractive to tourists- even though they are elusive animals- due to varied landscapes in which they live and the abundance of other attractive wildlife. However, in a meta-analysis of ecotourism projects around the world, it was found that the potential of ecotourism to provide viable economic alternatives for local people remains unrealized in most cases. One of the important reasons that have been advanced is that most of the ecotourism operations are not owned or managed or even co-managed by local communities so that the profits and employment accruing to them are minimal¹⁷.

The potential of ecotourism as a revenue-generating activity can be greatly enhanced and realized through ensuring ownership and management by the local community, their participation in planning and decision-making, and through coordinated investments with private parties in local infrastructure and services¹⁸. Tax collections from tourist and local resorts, to subsidise local development/incomes can also be a useful means of benefiting local people¹⁹. It has been found in several cases that user fees can be multiplied several-fold without causing a decline in tourist visitation, revenues that can be used for park management and community development²⁰. The role of the national governments in regulating tourism as well as its impact, supporting training programs for locals and creating policies that encourage co-investments between companies and village councils, is also critical.

Other revenue-sharing mechanisms are in place in many countries and are being seen to have considerable gains for conservation²¹. For instance, in Nepal, the practice of sharing 40-60% of the park entry fees with buffer zone villages has created positive attitudes toward wildlife²². Ferraro and Kiss²³ advocate direct payments to local people to conserve wildlife and maintain biodiversity so that the risks of unsuccessful outcomes of biodiversity investment can be avoided. For instance, the Costa Rican government annually pay rural residents \$35 per hectare of forest conserved and the Wildlife Foundation in Kenya pays \$4 per acre per year to private land-holders for conservation of mammal migration corridors outside of protected areas²⁴. So far these approaches appear to be working reasonably well though there are still problems associated with monitoring and delivery mechanisms.

In general, local services or products should be diversified so that the local economy does not become too dependent on a single source such as tourism. La Amistad Caribe Conservation Area in Costa Rica has taken such a 'basket' approach with good results ²⁵ including ecotourism, organic farming and

¹⁵ Adams & Hulme 2001

¹⁶ Uniyal & Zacharias 2001

¹⁷ Brandon 1996

¹⁸ Brandon 1996

¹⁹ World Bank 2008, Child and Dalal-Clayton 2004

²⁰ Brandon 1996

²¹ World Bank 2008

²² World Bank 2008

²³ Ferraro & Kiss 2008

²⁴ Ferraro & Kiss 2008

²⁵ Brandon & O'Herron 2004

carbon sequestration programs. Local sea turtle protection and associated tourism activities have today created an active, vocal peasant constituency whose livelihoods are closely tied to biodiversity outcomes.

Additional skills and training are required for developing new income sources for communities in most projects. Thus sufficient time and finances should be allocated in project schedules for training purposes (Alers et al 2007). Existing rural financial infrastructure can be involved in providing credit-with credit being tied to economic activities that are compatible with protected area goals.

For any project to succeed, it is important to involve local communities and NGOs in all planning and decision-making processes from the early stages of conceptualization of the project. Local participation in conservation planning is critical to achieving the right outcomes, whether it is in developing alternative livelihoods or undertaking community development activities²⁶. The time and funds required for developing and maintaining close rapport with individual communities and enlisting their participation is often ignored or underestimated (Alers et al. 2007). One of the major flaws in the India Eco-development Project which was undertaken in several tiger reserves in India was the lack of involvement of local communities as key partners and lack of rapport of the forest personnel with village-level institutions²⁷.

It is becoming increasingly evident that even low intensity extraction can have deleterious impacts upon ecosystems, with some species of plants and animals being extremely vulnerable to extraction²⁸. Thus most conservationists today do not advocate livelihood activities based on sustainable harvest and processing of NTFP in core areas, particularly in the absence of well-established regulation and monitoring systems. However, resource-consumptive models are being applied to corridors and buffer zones, where some degree of habitat degradation would not affect the long-term viability of tiger populations in the landscape. In the lowlands and mid-hills of Nepal, community forestry is already playing an important role in providing wildlife corridors; serving as a sink for dispersing mammals and buffering the effects of biomass extraction on national parks (see Box 1 for a similar program in India).

Fuelwood and fodder represent two of the important forest products required by local communities for their livelihoods and whose uncontrolled utilization accelerates the process of forest degradation. Alternatives that could at least partially substitute for these resources have been attempted in many sites. Biogas installation can work in areas of moderate to heavy rainfall. For instance, biogas installations have become common in the agricultural households of the buffer zone of Chitwan National Park in Nepal. In other sites where road accessibility is not a problem, liquefied petroleum gas (LPG) can be adopted with some subsidies from the government. In Bandipur Tiger Reserve in India, cooperatives are being created to supply cooking gas to peripheral households (pers.comm. M.D. Madhusudan).

(See Table 2A. for a summary of proposed livelihood project outcomes and guidelines on how to achieve those goals, and Table 3A. for a summary of successful outcomes)

Community-based compensation schemes based on insurance that will allow locals themselves to verify claims and deliver payments have been suggested to reduce delays and faults in the compensatory process, particularly in developing countries with limited field infrastructure. However, there are still very few instances of sustainable locally-run insurance schemes that can function without governmental support²⁹. In some cases of insurance that have been studied, the cost of premium paid by local households often exceeds the average loss annually, while in others, the premium paid does not cover the costs and requires governmental assistance³⁰. In most cases, in both developing and developed countries, governments still bear the burden of compensation for the purposes of protecting wildlife. As another instance, in the Russian Far East, neither international aid nor non-governmental insurance

²⁶ Alers et al. 2007, World Bank & Smithsonian 2008, Bajracharya et al 2005

²⁷ Das 2007, Baviskar 2003

²⁸ Shanker et al 2004

²⁹ But see Hussain 2003

³⁰ Nyhus et al 2005

was found to be a sustainable means for compensatory payments for livestock lost to Siberian tigers³¹. In the present circumstances, efficient payments by government based on rapid response and evaluation appears to be the only workable solution to reduce local conflicts, followed up by appropriate mitigative measures.

While compensatory payments can reduce alienation at the local level, a sound conflict management or mitigation strategy is also important alongside to reduce recurrence of problems³². Mitigation measures can involve capture and captivity, translocation of the troubling animal to another location or lethal control, in extreme situations³³. These different mitigative measures are still controversial in terms of their ability to improve the conflict situation and have been discussed in detail in Woodroffe et al (2005)³⁴. As of now, these options require considerable scientific substantiation before policies and protocols can be drawn up. Along with immediate measures such as animal removal, other ameliorative steps such as creation of physical barriers, changing cropping patterns and improved livestock herding practices, need to be taken up in localities with chronic conflicts, shored up by widespread public education and livelihood activities.

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Box 1
Forest-based Livelihood Regeneration:
A Self-initiated Forest Institution in Saigata, Central India

³¹ Miquelle et al 2005

³² Karanth & Gopal 2005

³³ Western & Waithaka 2005

³⁴ Treves & Naughton-Treves 2005

³⁵ But see Hussain 2003

³⁶ Nyhus et al 2005

³⁷ Miquelle et al 2005

³⁸ Karanth & Gopal 2005

³⁹ Western & Waithaka 2005

⁴⁰ Treves & Naughton-Treves 2005

The role of community institutions in common property resource management has come to be seen as that of crucial importance to the sustainability of both the resource and welfare of the resource-dependent community. Such community-initiated efforts can be of considerable significance around tiger areas by forming corridors and sink habitats and diverting the pressure of biomass collection from core habitats. As this instance demonstrates, a conducive policy environment and consensual democratic approach can do a lot to encourage and reward such efforts so that community-based conservation can become a long-term anchor for tiger conservation.

Saigata, a quiet village located in Maharashtra state in western India is a community of cultivators, dominated by traditionally marginalized classes. Today, the village extends over an area of 566 ha of which forest covers 280 ha (49% of village area). Saigata had lush forests not very long ago. Many living people today narrate their encounters with tigers and other wild animals. This village then lay within a corridor connecting two wildlife sanctuaries – Andhari Sanctuary (now part of the 600 sq.km. Tadoba-Andhari Tiger Reserve) 20 km away on its western side and the recently created Bhamragarh Sanctuary, 100 km to its south-east. The villagers remember how the forest within the village boundary provided them with sufficient fuel wood, fodder and timber for household use as well as surplus for commercial sale. Over the years, unsustainable exploitation of NTFP, headloading, encroachments on forestland, timber extraction, charcoal manufacture, and a growing number of settlements in the neighborhood, nearly wiped out the forest. Between 1955 and 1975, the forest around Saigata had changed from thick multi-layered forest to degraded status. The growing denudation of the forest disturbed Suryabhan Khobragade, a resident of Saigata, who had witnessed the changes in land-use patterns. After many discussions with the like-minded people in the village, a multi-dimensional approach was adopted. Community action first began with setting up ‘Farmers’ Discussion Group’, where the issue of deteriorating condition of the forest was taken up. Through continuous dialogue, the firewood sellers were made to realize that they were actually losing out by under-charging each head load, while the charcoal-makers were making neat profits. The conservationist group in the village convinced the charcoal-makers that their business would last only till the forest lasted. All the households of Saigata were simultaneously educated about the ill-effects of indiscriminately exploiting forest products. The villagers had, by now, started to experience lowering of water level in their wells and shortages of fodder. Already facing such hardships, the community was easily persuaded to rethink their modes of forest utilization.

A ‘*Van Sanrakshan Samiti*’, (or ‘Forest Protection Committee’) was set up in 1979 to deliberate on forest conservation. Every household participated in decision-making activities at the meetings of this Committee. Since every decision was taken unanimously, it was binding on everyone. The whole community also began to share the responsibility of protecting the forest from outsiders with households taking turns to patrol. After their initial successes, people gradually moved towards improving the quality of the forest through management. Different parts of the forest were thus reserved for different uses such as fodder collection, extraction of NTFP, wood-cutting, commercially valuable tree species and preservation of mixed forest. Each management zone was closed for harvesting for a certain period of time in order to allow natural regeneration. In 1992 the Forest Department, approached Saigata inviting the community to join the Joint Forest Management Program (JFM) under which village management would be institutionalised. The villagers decided to register their forest under JFM in 1993. JFM, a set of rules promulgated by Indian government in 1990, provides for co-management of government forests with people under an agreement that allows access to local people for fulfilling their livelihood needs with the responsibility of protection, regeneration and monitoring, belonging to the village committee. Almost 30 years after the community started protecting forest, it today boasts of sighting a tigress with cubs!

(Source: Ghate, 2004.)

In countries with dense human populations, lack of professional, well-trained and adequately-equipped response teams results in frequent mishandling of dangerous conflict situations. Mishandling of such situations often leads to additional human and animal injury. Forest managers are themselves, constrained by financial limitations and legal frameworks that do not allow independent action

appropriate to the situation⁴¹. Specialized training is therefore required to enable a measured and scientific response on the part of park managers and field personnel in dealing with such conflicts⁴².

National policies to deal with human-wildlife conflicts need to incorporate a range of solutions in a hierarchy based on the degree of conflict, the spatial zoning of land use and behavioural characteristics and population dynamics of the species in question⁴³. Specific situations may require lethal control or other ameliorative measures that also need a certain degree of flexibility in the legal framework. Increasing facilities for rapid response and adequate financial allocations are necessary components so that the average forest manager is well-equipped to respond responsibly in conflict situations.

Further, an information-based, participatory approach to managing conflicts which incorporates public awareness activities can both help reduce local hostility as well as enable solutions to chronic conflicts (see Box 2)⁴⁴. In Kenya, for instance, attitudes to wildlife, even in situations of conflict, are far more positive in areas that have ongoing animal control and educational programs, than in areas with inadequate intervention⁴⁵. Experience in the Russian Far East⁴⁶ shows that the presence of federally mandated rapid response teams that interact with locals, can bring about a feeling of security, even in situations where the problem predator has not been controlled. Establishment of mechanism of dialogue between different sections of the local community and national/provincial government is the first step towards involving local people and improving livelihoods and incentives. The best biologically designed management plans will fail if people are not willing to accept, or at least tolerate wildlife. This is especially seen when working towards the conservation of large carnivores where management needs to be more socio-political in nature than biological. Understanding people's attitudes and concerns and then addressing their concerns through effective public involvement are aspects of Human Dimensions research⁴⁷.

This perspective can be applied using facilitated workshop approaches to resolve conflicts and work toward people's wildlife acceptance capacity (see Box 2 for an example from Croatia).

Finally, innovative solutions have to be found for mitigating human-wildlife conflicts such as in Yellowstone – here non-profits help sheep ranching operations in the Greater Yellowstone Ecosystem to develop non-lethal solutions for guarding against wolves and other predators in return for assistance in marketing 'predator-friendly wool' from them⁴⁸. Thus reduction of wildlife-caused damage can be imaginatively linked up to positive incentives. (See Table 2B for a summary of proposed conflict management objectives and guidelines on how to achieve those goals and 3B for examples of successful outcomes)

(2) Relocation and Resettlement of Villages Need to be an Effective and Equitable Process.

Historically, relocation of people from wildlife areas has been one of the tools utilized for creating large continuous and undisturbed habitats that can sustain viable animal populations and functioning ecosystems. However, relocation has a controversial legacy, being opposed on grounds of being inequitable and forcible in many cases and as leading to cultural and material impoverishment and loss of livelihood security for the oustees due to ineffective rehabilitation⁴⁹. In many cases, local hostility to the wildlife cause has been heightened because of inadequate resettlement programs. More recently, some examples have shown that better results are possible if the potential oustees are included in the decision making process from the start.

⁴¹ Karanth & Gopal 2005

⁴² Seidensticker *pers. comm.*

⁴³ Western & Waithaka 2005

⁴⁴ Bangs et al 2005, Western 1997

⁴⁵ Western & Waithaka 2005

⁴⁶ Miquelle et al 2005; Western & Waithaka 2005

⁴⁷ Bath and Majic 2004

⁴⁸ Glick & Freese 2004

⁴⁹ Cernea 2000, Sharma & Kabra 2007, Rangarajan & Shahabuddin 2006, West et al 2006

The adverse impacts of resettlement programs on oustees are primarily due to the lack of attention to socio-economic and cultural constraints that forest-dependent people face in re-establishing secure livelihoods in an alien environment, particularly when people are transitioning from a forest-dependent lifestyle to an agricultural livelihood. Such constraints are heightened in situations where basic infrastructure is not fully developed in the resettlement site, compensatory packages are low and inadequate and the needs and aspirations of the oustees are not taken into account.

Today, there is a general consensus that displacement of people should be the last resort for consolidating wildlife habitats, given the traumas and uncertainties of displacement. Yet, village relocation might be necessary in certain situations, such as where human-wildlife conflicts seriously threaten livelihoods and where settlements fragment otherwise viable habitats for endangered species. Relocation might be necessary to safeguard core tiger habitats where biomass extraction activities can endanger forest integrity.

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Box 2
Managing Human-Wolf Conflict: From Exclusion to Participation in Croatia

⁵⁰ Cernea 2000, Sharma & Kabra 2007, Rangarajan & Shahabuddin 2006, West et al 2006

⁵¹ Shahabuddin *et al* 2007

The dismal record of extinctions and growing numbers of species listed on endangered species or red lists worldwide indicates the futility of non-participatory approaches that have been adopted so far. Even a group of concerned biologists or environmentally friendly NGOs, regardless of their political power, law enforcement abilities or biological expertise, will fail in achieving conservation until they realize that local people and key interest groups must be involved in a proactive manner.

The wolf story in Croatia begins like the wolf situation in many parts of the world. Historically, wolves were considered pests and extensive efforts were made to exterminate them through poisoning and hunting even up to the middle of the twentieth century. Traps and bounties were removed shortly after in 1976. In 1986, the wolf ranked fourth on a pest list by the general public behind the bear, wild boar and fox; in 1993, it ranked seventh on the pest list. In 1994, the wolf appeared on a Croatian postage stamp for Earth Day. The situation appeared to be improving.

In 1995, a small group of biologists and individuals concerned about wolves and their conservation, and with good intentions, successfully got the wolf completely protected in Croatia. During the first three years of legal protection, wolf mortality actually increased between five and 11 times suggesting that the public was not supportive of the change in legislation. At that time no efforts were made to collect data to assess attitudes, nor were there any efforts to build partnerships, trust and credibility amongst key interest groups.

Human dimensions research began in 1999 with various interest groups (including wildlife biologists and sociologists) and the general public in three zones within the Croatian wolf range. On one occasion, the research team visited a small rural village where five wolves were illegally killed in one evening. Local residents filled a small one- room school house and spouted their anger toward both wolves and government authorities: a government official with the research team feared for their safety. At the end of two hours of discussion, however, local residents expressed their thankfulness that someone came to listen to their concerns. They realized that a sincere attempt was being made to address some of their critical concerns.

After finishing this research-oriented human dimensions study involving local residents quantitatively and qualitatively (Bath and Majic 2000), results were presented to the various key interest groups. The participants demanded that this process of working with people continue. In 2002, through a series of eight facilitated research workshops, a wolf management plan was created with 100% consensus from 26 different interest groups and more than 80 participants. The Croatian Minister of Culture officially adopted the plan without making any changes on 7 December 2004. In 2006, as agreed by the wolf working group, the management plan was reviewed again but kept unchanged. The interest groups have agreed to meet once again in five years to review the plan.

The end result agreed upon by all interests involved removing complete protection of the wolf and allowing a small quota to be killed legally each year. To this date, hunters have actually never filled the hunting quota set each year, but feel secure in the knowledge that they have one. Illegal killing has been almost completely eliminated and wolves are increasing in the country each year (Source: Bath and Majic 2000; pers. comm. Alistair Bath).

A few recent cases in India show that it is possible to undertake rehabilitation justly through involvement of the oustees in the planning and resettlement process (see Box 3)⁵². Financial packages have recently been increased by ten-fold in India with the realization that sufficient compensation can help people re-establish themselves. Finally, a just relocation with positive effects on incomes and social infrastructure can lead to a snowballing demand for resettlement among the remaining villages in a given area. *See Table 2C for a summary of proposed objectives in relocation projects and guidelines on how to achieve those goals and Table 3C for examples of successful instances*

⁵² See also Negi 2003

Box 3

Relocation and Resettlement: The Case of the Bhadra Tiger Reserve, India

Bhadra Tiger Reserve is located in India's Western Ghats, a biodiversity hotspot and covers an area of 492 sq km. The reserve has more than 300 bird species and several threatened mammals such as tigers, leopards, Indian bison and elephants. An early British record indicates the existence of small villages. During 1956–1966, a major irrigation reservoir was constructed inside the reserve. The reservoir limited access and provision of basic amenities to some of the villages. During the monsoons, several bridges and roads would be washed away leaving many villages isolated for months. There were no functioning schools, hospitals or communication facilities. People living inside this reserve faced intense wildlife conflicts from crop-raiding and livestock kills. Further, human activities such as grazing and fuelwood extraction had degraded 8 to 10 per cent of the reserve.

In the 1970s, some people voluntarily asked the state governments for help to settle outside the reserve, leading to the initiation of a voluntary resettlement program. However, no steps were taken for drawing up a relocation plan until 1987 and even after that it took several years for the state government to raise funding for resettlement. In the 1990s, the government also faced lawsuits from some people who did not want to move even while others welcomed the steps towards relocation. Interventions by NGOs and a consultative approach adopted by the reserve managers, helped to gradually change people's minds about relocation. By 2002, 419 households from 11 villages were moved from the reserve to a new location. Attitudinal surveys carried out during relocation in 2002 showed that most people were reasonably satisfied with their new situation (70-80% satisfaction level).

There are many important reasons for the project's success in relation to many others carried out in India. First, there was no forcible eviction of people, with some people voluntarily choosing to relocate and others choosing to relocate once they received fair compensation. Second, people in Bhadra, who are primarily cultivators, did not have to alter their livelihoods post-relocation, as has often happened in other parts of the country. The people remain agrarian with access to better facilities and now even have opportunities to improve crop productivity. Third, the facilities provided at the resettlement site in terms of housing, water supply, electricity, solar lights, and cooking stoves are far better than those before relocation. This was partly because the financial allocation per household had been increased four-fold for this relocation. A high degree of community cohesiveness and organization, greater education levels among the oustees, active participation by local NGOs and sympathetic government officials ensured that the households could negotiate their entitlements more fairly. Almost all households obtained fertile and irrigated land, fair financial compensation and access to basic health care, schools, transportation and communication, electricity and markets in the new site. However, there still remain problems of livelihood security, firewood access, fodder availability and social adjustment for many and satisfaction levels among the oustees had dropped to 50% in 2006. Yet the provision of high quality agricultural land and better connectivity to towns and cities has led to overall improved standard of living and enhanced assets among the oustees.

Relocation from Bhadra Tiger Reserve in southern India is today considered a success by the Forest Department, NGOs and, most importantly, by the villagers themselves. It has significantly improved wildlife habitat by reducing fragmentation of the reserve and vacating of important wildlife habitats. The case of Bhadra provides an opportunity to understand how cooperation amongst oustees, NGOs and government can be effective in resolving complex conservation issues in an equitable manner.

(Sources: Karanth 2007; Kabra 2008)

TABLE 2: LESSONS LEARNT FROM PAST PROJECTS

2A. Alternative Livelihoods	
<i>Area of Action</i>	<i>How to Achieve the Goal</i>
<i>Clear linkages with conservation goals: the success of any proposed project activity should be linked directly to an established biodiversity goal.</i>	<i>Both biological and business experts should be involved in planning process so that direct linkages can be developed.</i>
<i>Quantum of Incentives: incentives have to be sufficiently high to justify people's participation in any livelihood program and to influence land use/livelihood decisions by local people</i>	<i>Higher pricing of product or services, enhancing revenues, and governmental subsidies in initial stages</i>
<i>Spatial spread of Incentives: incentives have to be sufficiently widespread within the community to have an impact on land use in the tiger landscape</i>	<i>Communication and involvement of large proportion of local residents from the beginning, through consultative process, to decide business models and modalities</i>
<i>Participatory Approach: high degree of involvement of local residents in planning and decision-making increases chances of success</i>	<i>Rapport-building and consultation with local institutions and representatives from the beginning stages of project</i>
<i>Ownership Issues: local ownership of the business/livelihood activity improves revenues and employment locally and results in better chances of success</i>	<i>Co-investments between government and local institutions or between private sector and local institutions</i>
<i>Diversification of livelihoods: services or products should be diversified so that dependency on single market (e.g. wildlife tourism, revenue-sharing or a medicinal product) is not disproportionately high.</i>	<i>Simultaneous development of more than one livelihood option</i>
<i>Financial sustainability: Livelihood should be financially sustainable even after end of the externally-aided project period.</i>	<i>Financial architecture needs to be carefully thought out. Locally based revolving funds, cooperatives or individual household loans can be considered.</i>
<i>Skill development and training: local people require assistance with building up relevant skills</i>	<i>Project-planning should account for the time and project personnel required for skill development and training of local communities</i>
<i>Conducive policy environment: national policies that give local communities a business advantage in their chosen livelihood</i>	<i>Reducing government-run or private interests; helping with marketing of product and creating linkages with national transport, communication and rural development policies.</i>
<i>Credit availability: Local livelihoods require dependable and low-interest sources of credit</i>	<i>Available rural infrastructure can be utilized or modified for developing sources of credit. Locally contributed revolving funds are another option.</i>
<i>Reduction of biomass dependency: forest dependency in core habitats should be minimized to avoid compromising biodiversity goals.</i>	<i>Innovative approaches to substitute energy, fodder and other biomass needs are required in settlements dependent on core zones.</i>
2B. Compensatory Mechanisms for Wildlife-caused Damage	

<i>Area of Action</i>	<i>How to Achieve the Goal</i>
<i>Speed of response: well-trained, professional and well-equipped rapid-action forces need to be created and deployed to promptly investigate distress calls, evaluate claims and help mitigate conflict.</i>	<i>Training programs with inputs from developed countries with well-established compensatory programs such as Russia, Norway, Sweden</i>
<i>Monetary compensation: sufficient compensation is required to offset market cost of crops or livestock lost, or for medical attention to human injury.</i>	<i>Successful schemes compensate value of mature livestock and also for claims that cannot be clearly verified.</i>
<i>Simplification of rules related to compensation: will allow faster processing of claims</i>	<i>The procedures related to filing claims for wildlife-caused damage and receiving compensation should be simplified.</i>
<i>Public awareness about rules related to compensation and mitigation: can help create a sympathetic environment for wildlife and also enable speedier filing of claims</i>	<i>Time and effort should be spent creating awareness about the official rules and regulations regarding compensatory and mitigatory action, through local workshops and meetings.</i>
<i>National policy on management of human-wildlife conflicts: to manage different types of conflict situations should be worked out and deployed in field areas.</i>	<i>Inputs from biologists, field personnel and national policy-makers should be used in a consultative process</i>
<i>Mitigative measures that are suitable to the area and species under consideration should be compulsory and governmental assistance for the same should be provided</i>	<i>Compensatory payments should be linked to commitments from local farmers/livestock owners for adopting preventive measures</i>
<i>Funding mechanisms to support compensations</i>	<i>Governmentally-sponsored schemes and locally-run insurance schemes can be used to fund compensations.</i>
<i>Faster processing of claims: Means to speed processing of claims have to be adopted</i>	<i>Availability and autonomy of local field personnel to admit and process claims and monitor mitigation.</i>
<i>Linkage of non-lethal mitigative measures to positive incentives can increase compliance locally and decrease local hostility</i>	<i>Adoption of non-lethal mitigative measures by local people can be linked to marketing opportunities or other incentives.</i>

2C. Relocation and Resettlement	
<i>Area of Action</i>	<i>How to Achieve the Goal</i>
<i>Substitution or improvement of pre-relocation standard of living and access to amenities</i>	<i>Baseline socio-economic and forest dependency assessments are required before compensatory packages and rehabilitation plans are drawn up, so that existing livelihoods can be secured or even improved.</i>
<i>Participation of oustees in plan development</i>	<i>Involvement of proposed oustees as partners rather than adversaries, and negotiations on equal terms, can turn them into allies for wildlife conservation.</i>
<i>Substantial relocation package</i>	<i>The relocation package should compensate the oustees over and above their existing assets in order to make relocation attractive; governments need to invest more in rehabilitation measures</i>
<i>Transparency and accountability of administration</i>	<i>Transparently functioning administration can increase trust of oustees in the government machinery and smoothen the transition process; greater accountability is needed in administration.</i>
<i>Development infrastructure in resettlement site</i>	<i>Development infrastructure and amenities should be in place before the physical movement of people (such as roads, electricity, water sources)</i>
<i>Livelihood support beyond relocation</i>	<i>Livelihood support should be provided to the oustees in the relocation site until the new livelihoods are fully secured, in the form of cash compensations, agricultural inputs and raw materials for any cottage industry.</i>
<i>Conducive legal framework</i>	<i>Laws to be enacted to put the onus of effective rehabilitation on district/forest administration</i>

Table 3A. Instances of Successful Outcomes in Developing Alternative Livelihoods

Successful Instances	Why It Worked	Continuing Constraints	References
Case 1: Payment for Environmental Services (PES) in Costa Rica: created as a way to channel payments from the beneficiaries of forest protection to the providers of environmental services, mediated by the government.	Direct linkages between livelihoods and forest conservation; conducive policy framework for PES with appropriate incentives; economic incentives provided by PES were sufficient to influence local land use decisions; strong institutions at national levels	There is still a lack of objective monitoring mechanisms to ensure that entire range of biodiversity is being restored; benefits going largely to large farmers and landowners.	Pers. comm. Carlos M. Rodriguez, Conservation International, 2009; Zbinden & Lee 2005; Sanchez-Azofeifa <i>et al</i> 2007
Case 2: Community Forestry Program in Nepal created incentives for the regeneration of degraded forests in lowland and mid-Hills of Nepal through providing forest access to community-based user-groups in return for protection responsibilities.	The government granted autonomy to the village committees for protection and management; there is direct linkage between forest restoration and people's livelihoods.	Recent political instability has led to clear-cutting of regenerated forest in some areas due to weakened village control; overall effectiveness has been patchy over the landscape.	Nagendra (2007); visit by author (2004-2007)
Case 3: Converting NTFP smugglers into nature guides in Periyar Tiger Reserve, India. This was one of the activities undertaken as a component of the India Ecodevelopment Project that sought to reduce pressures on PAs.	A direct linkage was made between the new livelihood and one of the important causes of habitat degradation; the traditional knowledge and skills of the ex-poachers was leveraged by the reserve managers in ecotourism; effective reserve management.	In 2009, the program was discontinued because of disagreements between the trained guides and the local forest functionaries.	Uniyal & Zacharias (2001); pers.comm. Belinda Wright, Wildlife Protection Society of India
Case 4: Gandoca-Manzanillo Wildlife Refuge and La Amistad-Caribe Conservation Area in Costa Rica: Conserving a matrix of mangrove, swamp and coral reef ecosystems through a multi-pronged livelihoods approach including ecotourism, organic farming and carbon sequestration	Long and sustained outreach program; high social capital in the local community; availability of revolving loans for tourist infrastructure, support and development of existing economic activities; direct link between projects and conservation goals	The activities were carried out at a relatively small scale, consequently, benefits reach only a small proportion of stakeholders	Brandon & O'Herron 2004

Case 5: Community Baboon Sanctuary, Belize; ecotourism based on sightings of black howler monkeys that supplanted shifting cultivation practices among the locals	Wholly locally owned and operated; benefits reach a large proportion of dependent people; low interest revolving loans are available to improve tourism infrastructure, direct link between conservation and livelihood success	The project is threatened by foreign interests that are attempting to build hotels to capitalize on the success of the sanctuary (1996); maintaining a steady stream of visitors is still difficult; more work needed on networking and publicity.	Brandon 1996; Alexander 2000
Case 6: Bwindi Impenetrable Forest Conservation Project : Ecotourism based on visitation to mountain gorilla groups and other nature activities	10-20% of revenues from entry fees, guiding and accommodation go to local communities; Park is run on Trust Fund money of which 60% of annual allocation is for local development activities; locals well-represented on Trust Fund management.	Private tourist operators are attempting to get permits for more gorilla visitations per day, which might be risky for the gorillas and their habitat.	Brandon 1996
Case 7: Annapurna Conservation Area Project, Nepal: Ecotourism based on high-altitude trekking and hiking with local communities managing the tourist load	Strong village institutions; stable benefits to local communities from tourism; strong training component in initial stages; highly participatory approach adopted	Mostly affluent and landed households could benefit from the ecotourism; revenues from gate receipts did not reach local communities; new road constructions could threaten local livelihoods; well-established village programs suffered setbacks during insurgency	Visit by author, 2005; Bajracharya et al 2005
Case 8: Luangwa Integrated Resource Development Project: Wildlife tourism in national park and safari-hunting in game reserve supports adjoining villages in eastern Zambia	Wholly community-owned and operated with international aid; Benefits reach a large proportion of people; direct link between large mammal abundance and tourism/hunting revenues; high degree of financial accountability at local level; strong local institutions	Tourism activities still limited by lack of sufficient rural infrastructure; elephant-caused damage needs widespread mitigative measures.	Child and Dalal-Clayton 2004

Table 3B. Instances of Successful Outcomes in Human-Wildlife Conflict Management

Successful Instances	Why It Worked	Continuing Constraints	References
Case 1: Greater Yellowstone Ecosystem, USA - Conflict management strategy around the reintroduced wolves in Yellowstone National Park and surrounding areas in Idaho, Montana and Wyoming (USA)	Increased public communication about wolf recovery plans; lethal control allowed in extra-ordinary circumstances; government and NGO assistance with techniques for non-lethal control; effective livestock compensation program being run by NGO based on prompt field investigations	There is still opposition to wolf recovery among game hunters and livestock ranchers despite the low frequency of conflicts; the situation requires better public communication and more active management of wolf-caused conflicts in order to maintain public tolerance.	Bangs <i>et al</i> (2005)
Case 2: Mitigation of damage caused by wolf and bear to reindeer and sheep herds in Sweden	Government-subsidized mitigation measures; prompt investigation and compensation of damage claims; compulsory mitigation measures by herders required for compensatory payments; quota-regulated hunting allowed; transparent population monitoring and management of carnivore populations.	Public demands are increasing for higher compensations for damage caused by carnivores and for controlled reduction in carnivore populations; illegal killings still occur.	Swenson & Andren (2005)

Table 3C. Instances of Successful Outcomes in Village Relocation and Resettlement

Successful Instances	Why It Worked	Continuing Constraints	References
Case 1: Resettlement of villagers from Bhadra Tiger Reserve, India: 4191 households were moved from core habitats to agricultural land outside the reserve	Park managers and NGOs worked closely with displaced villagers to ensure entitlements, substantially enhanced compensation package; awarding of high quality agricultural land in a well-connected locality.	Continuing livelihood problems for a minority of households, scarcity of fuelwood and livestock fodder.	K. Karanth (2007); Kabra (2008)
Case 2: Resettlement of villagers from Corbett Tiger Reserve, India-300 families were moved outside.	High quality agricultural land was awarded; community wishing to relocate voluntarily; good connectivity and development facilities in the relocation site; involvement of village representatives and local NGOs in land allotments	NA	Negi (2003)

I. BASIC ENABLING CONDITIONS NEEDED FOR SUCCESSFUL COMMUNITY BASED PROJECTS

A review of the literature indicates that certain enabling conditions can considerably improve the chances of success of livelihood and other community-based projects that might be undertaken in and around tiger landscapes. These include:

(1) Clear land tenure and property/access rights

Almost every analysis of community-based interventions suggests that the lack of clear land tenure and access rights in and around wildlife habitats has been a major cause of failure⁵³. Lack of clarity on tenure and access rights, for instance, does not allow clear differentiation of rights and responsibilities for the local people living in and around a PA who are unsure about what they are allowed and what they are not⁵⁴. Enforceability of wildlife laws is also at a premium in such situations, often leading to expanding agricultural frontiers, illegal timber extraction and illegal grazing on forest land⁵⁵. It is not surprising that the few successful instances of community-based resource management come from sites where land tenure is clearly recorded such as the Community Forestry Program in Nepal and the Luangwa Integrated Resource Development Project in Zambia⁵⁶. Experience shows that the type of land tenure is not important and successful projects have been undertaken on communal, private or government-owned forest land. The important requirement is that there should be clarity on boundaries and tenure as well as clear access rules for particular forest products.

(2) Capacities of governments for law enforcement, scientific management and rural development

Implementation of complex and large-scale community-based projects requires high capacity in national governments to enforce forest laws and develop interventions with local communities. In their meta-analysis of ICDPs in Indonesian protected areas, Wells *et al* (1999) found that lack of effective law enforcement had allowed illegal logging and agricultural encroachments in reserves where ICDP interventions were being initiated. A more recent study in Kerinci-Seblat National Park in Sumatra found that there was little difference in the deforestation statistics between ICDP and non-ICDP villages – which was primarily because of selective logging concessions that had been allowed near these villages. Most authors today extend broad support for suggestions that community-based conservation projects need to be supplemented with rigorous enforcement of relevant legislation within PAs⁵⁷. Lack of adequate staff with required training for protection is a major constraint in enforcement in many protected areas that needs to be addressed urgently⁵⁸.

Lack of technical capacity for scientific management of tiger habitat is another constraining factor in the effectiveness of such projects⁵⁹. In such a situation, issues such as invasive species control or wildlife monitoring do not get the attention that they need and such problems remain unresolved. Thus training and capacity-building for scientific reserve management should necessarily be at the top of the conservation agenda in tiger-range countries. The institutional capacity to adapt and react to new and emerging threats and situations will also come from enhanced abilities for problem-solving among administrators⁶⁰.

⁵³ Eg. Alers *et al*. 2007, Wells *et al* 1999, Lynch & Alcorn 1994

⁵⁴ Baviskar 2003

⁵⁵ Wells *et al* 1999

⁵⁶ Metcalfe 1994, Child and Dalal-Clayton 2004

⁵⁷ Linkie *et al* 2008, Brandon & O'Herron 2004

⁵⁸ Singh & Sharma 2004

⁵⁹ Wells *et al* 1999

⁶⁰ Wells *et al* 1999

(3) Enhanced local awareness about importance of forests to quality of life and to livelihoods

It has been shown that the creation or renewal of a sense of the importance of and pride in forests and biodiversity among local people is one of the prime factors that encourages them to participate in ameliorative projects⁶¹. It is not enough simply to create economic incentives locally, for that might even skew the balance of utilization to unsustainable levels in order to maximise economic returns⁶². While economic incentives are important, it is possible to create a positive situation for wildlife even when such monetary incentives are limited.

For instance, in the Community Baboon Sanctuary in Belize, even when local residents were not completely satisfied with management, they strongly supported maintaining it due to positive attitudes created during project development⁶³. Again, one of the key factors in the successful launching of ecotourism based on visits to mountain gorillas in Parc National Los Volcans in Rwanda was the high level of support for the gorillas within the country and the bureaucracy that was created through a large-scale and intensive awareness program in schools and government departments during the previous few years⁶⁴. Awareness and educational programmes have today become an important component of any conservation intervention and is one of the pillars on which all participation, planning and implementation will rest.

(4) Well Functioning Local Institutions and Good Governance

Strong local institutions are needed as the *via media* for change to take place⁶⁵. It is worth noting that most of the gains in forest restoration outside protected areas have been made in regions that had experienced long-term investment in local institutions such as in the Community Forestry program in Nepal⁶⁶. Well functioning institutions are linked to good governance, accountability and transparency and it is this combination that leads to better results of projects and programs on the ground. Presence of social cohesion and organization of a community can lead to improved negotiation, representation and mobilization of people for better realization of conservation goals. Institutional capital in local governments can be seen in the establishment of clear rules and regulations for ecosystem use, monitoring, management and protection, high degree of financial accountability and the capacity for leadership and conflict resolution⁶⁷.

II. STRATEGIES AND ACTIONS NEEDED FOR DEVELOPING STRONG LOCAL CONSTITUENCIES FOR TIGER CONSERVATION.

Based on the review of past projects, we recommend the following strategies:

I. Developing livelihood projects with clear linkages to conservation goals based on:

- Ensuring local ownership or co-ownership of the project
- Diversification of income-generating activities
- Participatory approach by integrating communities in decision-making processes
- Sound financial architecture that ensures sustainability and accountability
- Minimisation of ecosystem- dependency within core habitats
- Dependable credit sources
- Maximisation of spatial spread and quantum of economic incentives to the local community

⁶¹ Alers et al 2007, Wells and McShane 2004, Allendorf et al 2006

⁶² Hussain 2007

⁶³ Alexander 2000

⁶⁴ Weber & Vedder 2001

⁶⁵ Murphree 1994

⁶⁶ Nagendra 2007, World Bank & Smithsonian 2008, see also Ghate 2006

⁶⁷ Ghate 2004, Agrawal 2005

- Skill development and training among beneficiaries
- Developing conducive policy environment that reduces livelihood competition for local communities

II. Establishing strategies for managing human-wildlife conflict based on:

- Establishment of professional rapid action forces to deal with conflict situations
- Increase in speed of response to conflict situations
- Maximisation of financial compensation to affected people
- Simplification of procedures related to filing and processing claims for compensation
- Increasing public awareness of rules and regulations related to prevention and mitigation of conflicts
- Governmental assistance for preventive and mitigative measures
- Tying of compensation to compulsory preventive measures by farmers and herders
- Sound financial basis tied to insurance schemes and governmental schemes.

III. Facilitating fair and effective relocation of people from core tiger habitats and their resettlement based on:

- Adequate substitution of and improvement over pre-relocation socio-economic status
- Participation of oustees in the planning process as equal negotiators
- Sound financial package that compensates for change in livelihood and movement to an alien environment
- Transparency and accountability in the administrative processes of rehabilitation
- Provision of development infrastructure before the physical shifting of people
- Adequate financial support until new livelihoods are securely established
- Legal framework to increase accountability of government for effective rehabilitation

IV. Improving the enabling conditions for success by:

- Capacity-building among forest managers for developing partnerships with rural communities, for scientific management of tiger habitat and for effective law enforcement and governance.
- Capacity-building among local community institutions for running independent conservation, livelihood and awareness programmes
- Awareness generation programmes both at the local and national levels
- Clear delineation of PA boundaries, tenure regimes and access rights

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