Re-imagining Wildlife Management for the Tropics

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Abstract

Wildlife as a global and local good and responsibility needs to be re-imagined. As a local resource it needs to be locally managed yet the costs for that require support from all. Contrary to the adverse trends I describe previously there are now many examples where this has started to happen. Where international conventions and national land use improvements have had positive outcomes for wildlife & biodiversity. Where conservation projects from the west have made a difference. Where new ways of harvesting wildlife work or where endangered species, even critically endangered ones, are back from the brink. There are also more and more projects where collaboration between local people, governments, the international community, and even industry has developed which shows results and holds more future promise. New leaders are

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emerging, not necessarily from the west and a growing number of them indigenous people and women. In much of what happens now wildlife is often the catalyst for bigger things and many of those reflect our growing concerns, and efforts, around accelerating global change which includes the climate. Most importantly, the growing willingness and action around climate change has the potential to become a game changer in the scale of resources allocated. For the first time in human history, the protection of wildlife & biodiversity has become a compelling act of self-interest. The growing momentum around that will be supported by well established action networks which, through the courts, civil action or global consumer pressure can change national and international policies.

Keywords

Abandonment of highland pasture in the Himalayas • Clean Development Mechanism (CDM) hydropower projects 5 • Giant Panda conservation in China • Primate conservation • International Institute for Environment and Development (IIED) • International Tropical Timber Trade Agreement (ITTA) • Landuse by Purposeful Neglect • Reduction of emissions through deforestation and forest degradation (REDD and REDD+) • Wildlife conservation and REDD • International Timber Trade Organisation (ITTO)

Introduction

Contrary to the negative and worrying trends there are examples which show promise where conventions and land use improvements have had positive outcomes for wildlife, where conservation projects from the west *have* made a difference, where new ways of harvesting wildlife (e.g., turtle excluder devices, TEDs) have started to show reduced turtle (albatross or dolphin) mortality, or where endangered species, even critical ones, are back from the threshold. There are also islands like Mauritius or New Zealand, which have, by own and combined efforts of many scientists, NGOs, government departments, and an army of international volunteers, brought some species like the pink pigeon, the Mauritius kestrel, or the kakapo back from what seemed to be imminent extinction. There are also more and more projects where collaboration between local people, governments, the international community, and even industry (tourism industry) has developed which shows results and holds more future promise. And perhaps not so surprisingly, a growing number of those are not owned by the west/north any longer but by the growth of tropical civil society and a new type of leader, often women. What most of these new approaches have in common is also that they have taken place among communities which have been empowered through the application of Schumacher's principles (education, organization, discipline). These might have been imposed from the outside, the government, even as is the case often in China, at least at the beginning, but they have had so many tangible benefits that they have become owned. Wildlife was not always the target of these new models, although it

was often the catalyst for bigger things. In either way wildlife has also benefited, because, as it turned out, the ways which favor wildlife are also often, in our new economy, those that benefit local, rural, and indigenous people.

In this chapter I will try to apply that to tropical forestry which has operated in that world and has fought its own many battles to move from exploitative and destructive logging practices into more benevolent forms of sustainable management. More than anywhere else, the state has retreated in that sector, and its professional culture of foresters trained at many universities in its multiple uses (if not enough) are being increasingly replaced by a new culture which has lost its traditionally broad grounding and focuses on sheer financial goals, with species such as koala brushed aside and hidden as collateral damage. This shift has recently obtained a major boon with the recognition that forests are essential stocks and regulators of the world's GHG balance and by far our most effective, least costly, and least risky action to not only reduce CO_2 levels but also capture the cobenefits of all that for communities, environments, and wildlife. I would be therefore greatly amiss if I would not give REDD the consideration it deserves. Before I do this, however, a brief reappraisal of western science as it is applied in WM seems in order.

Wildlife and Biodiversity Conservation "a New Land Use by Purposeful Neglect"

In Europe, Australia, the USA, upper Himalayas, and many other regions also in the tropical world, land abandonment because of low productivity and remoteness to markets but increasing degradation has become a major factor in the recovery of natural ecosystems and wildlife populations. This environmental change, "land use abandonment" widespread in Europe and the USA, has become recognized in Europe as a threat to many biodiversity/wildlife-rich cultural landscapes. There as in the USA it has, however, also become an opportunity for forests and forest wildlife to recolonize lost habitat. In Italy it has led to the return of the wolf in many regions while in the Qinling Mountains of China (cessation of logging) it has been instrumental in the recovery of species such as giant panda and golden takin. This trend is also evident in many other regions around the world including the tropics and is often related to the abandonment of marginal, degraded, and remote pastoral land, or the cessation of logging, often after forests had been all but logged out.

Abandonment of Highland Pasture in the Himalayas Over the past 30–40 years there has been a strong trend in the Nepalese Himalayas among farmers to abandon high-altitude environments and move downhill to the Terai or to the population centers in search of opportunities for a better life. Often, but not always, this downhill emigration leads to the removal of livestock on the marginal high-altitude land. Although studies by Khanal and Watanabe (2006) suggest that abandonment of agricultural plots in lower altitudes might lead to increased risks for landslides, the removal of livestock (yak, hybrids, sheep) in such remote areas will greatly

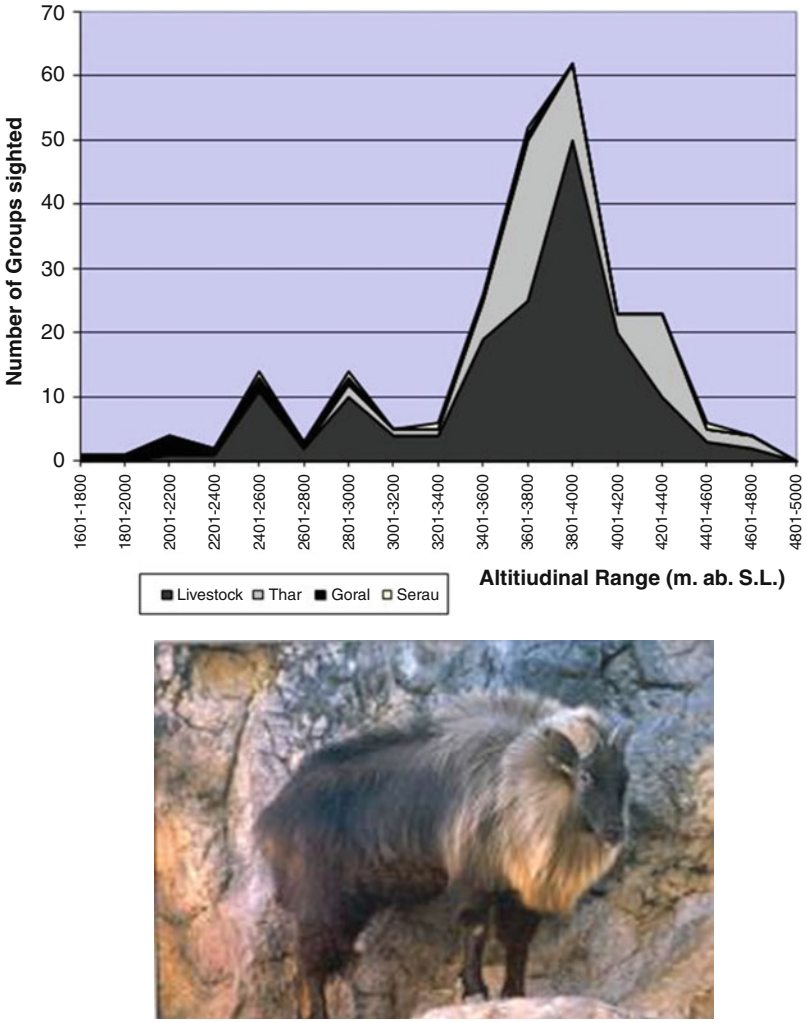

Fig. 1 In traditional grazing in the Himalayas livestock (*gray*: yak, hybrids, sheep) tend to utilize the altitudinal ranges which are also the main habitats of wild ungulates (*black*: thar, serow, blue sheep, goral). Once livestock grazing ceases in these upper altitudes new opportunities for wild ungulates open up

reduce competition with wild mountain ungulates (blue sheep, serau, goral, Himalayan thar) and conflicts with species such as snow leopard (Fig. 1).

No process at that scale can be done without government support and regulation. There is no grant culture as we are inundated with in Australia but a consistent effort as the one carried out by China in its protected area system and landscape replanting efforts. Conservation and wildlife can only take advantage of that

process if it is managed by the owners of that land, supported by governments and science. Much of that management could provide new livelihoods for a new generation of empowered farmers and even scientists. Neither existing government departments nor NGOs can direct, support, and regulate that process. New institutions are required. Commerce and industry including markets have their firm place in that but should never drive it. They should be supported, advised, and regulated, all at the same time and not as an afterthought as often happens.

Learning from China

China has, in conservation matters also, gone its own way. Within 20 years it has established more than 2000 protected areas which now protect, as effectively as anywhere else, often more so, what remains of its magnificent natural and cultural legacy. This country also has a range of "last-ditch species efforts" and reintroduction programs which work and in many of these areas has developed (an often state-owned) tourism industry which has delivered income to local communities, including Tibetan minorities, that their counterparts in other countries could only dream of. Most of these ventures happened because of a strong, if at times heavy-handed, government commitment. Much of that has now become the backbone of what is now the largest domestic tourism market in the world. The giant panda is only one of the many species which has benefited from that. The West and WWF had little to do with it. Most of that was "made in China."

Domestic Tourism Around Giant Panda: Different, Very Chinese, but Very Effective Giant panda conservation in China only became successful once China started to own it. This "ownership" proceeded over intensive care units which in a uniquely Chinese effort managed to breed this species successfully in captivity (1), establish a network of protected areas across most of its range (2), and, perhaps most importantly, ensure that the income was available to fund all that through a massive giant panda industry (3) which it grew around that and which was more or less based on visitors being able to touch "exhibits." All this is done in a very Chinese way, which I would describe as well resourced (2), driven by central government, effective to generate income for local communities and government (4), and extremely consistent (5). King (2006), comparing this approach by Chinese authorities with what is being done, for example, in Australia, concluded that the Chinese system was considerably more successful (based on Bauer et al. 2001a, b, 2005; King 2006; STCRC 2003, Fig. 2).

REDD as a "Qualified" Wildlife Opportunity

One of the most persistent and least controversial themes during the Annual Conferences of Parties (COP) of UNFCCC is REDD. Introduced by Costa Rica and PNG in Montreal in 2006, the Reduction of Emissions through Deforestation

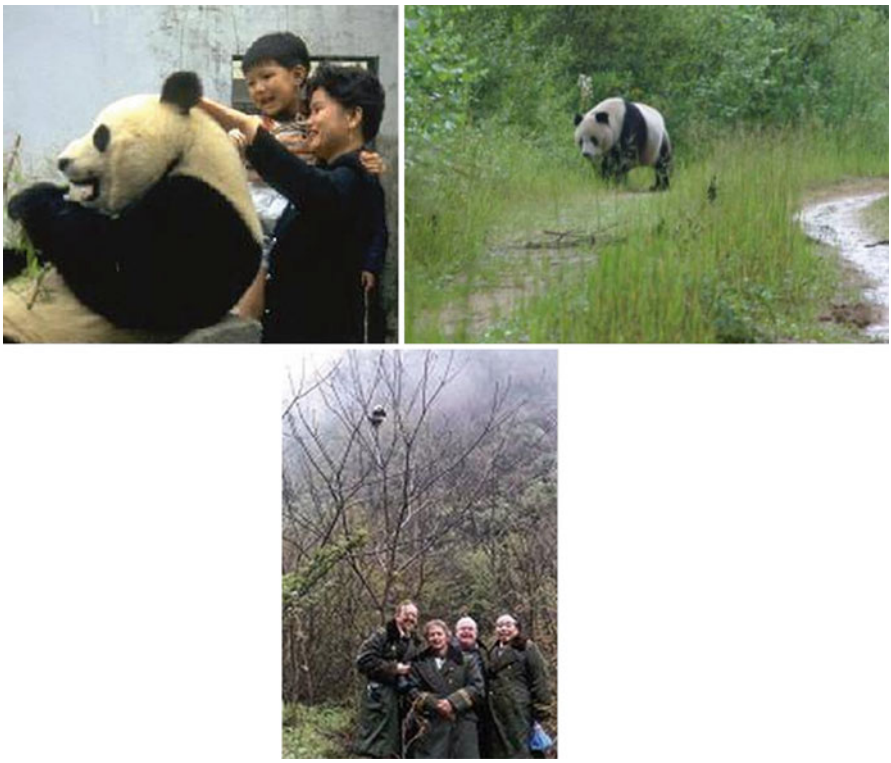

Fig. 2 Giant Panda experiences for the huge domestic market is one of the major reasons why the decline of this species has been halted. The recovery of this and many other species in the Qinling mountains of Shaanxi Province is intimately related to the post-logging (1984) recovery of a mountain landscape. Intensive care units and touching experiences are a Chinese expression of caring which, rather than distract, complements and enables conservation efforts in the wild (Bauer et al. 2001a, b; Bauer et al. 2005)

and Forest Degradation (*REDD*/*REDD*+) led by UN-REDD (www.un-redd.org) (and scrutinized, e.g., by Fritz Lang on REDD-Monitor (www.redd-monitor.org)) is based on the pervasive and simple logic to reduce GHG emissions cheaply and effectively by paying countries to keep their forests – an old theme really, but never supported by the new environmental currency: carbon.

As REDD (and in particular its newer, more flexible form REDD+) aims to keep forests and restore degraded ones are more or less synonymous with wildlife and biodiversity conservation, it is not surprising that most wildlife charities now have their own REDD program and have already been very successful in accessing a new large funding base. Indigenous organizations have been less enthusiastic as it is already now very clear that REDD could yet be another mechanism to curtail their rights to use forests, for example (Schroeder and McDermott 2014). While it remains to be seen how REDD will eventually evolve it seems clear that never

before was there such an opportunity to combine community development with ecosystem and wildlife conservation even for the transfer of wealth from the rich to the poor and from the rich to wildlife. I have chosen two examples, one from Thailand and Sub-Himalayas and one about "Flagship" species to show how the charity sector has started to apply REDD in its wildlife programs.

Developing the REDD Market for Wildlife

Wildlife has to be "developed" in its role as "cobenefit," and if REDD becomes the market mechanism it needs to become "competitive" and talk "economo-lingo." Dinerstein (2010) proposed to ensure that this happens by developing "The Wildlife Premium Market Initiative," whose aim is described on the document as follows:

> **Wildlife Premium Market +REDD: Creating a Financial Incentive for Conservation and Recovery of Endangered Species and Habitats** (Dinerstein et al. n.d.)
>
> The proposed "Wildlife Premium Market Initiative" would assiduously avoid complicating the application and evolution of REDD and REDD+, which many view as already complex. Rather, wildlife premiums would only be available to countries, districts, community forest groups, and other participants once either a formal global compliance market for carbon trading becomes operational or a significant voluntary fund for forest carbon conservation arises in an area of global biodiversity importance. Norway has already created such a voluntary fund for Indonesia, Tanzania, and Brazil. The wildlife premium market would require such mechanisms to be in place, and countries or large provinces to be abiding by carbon emissions baselines before any premium payments are available. Without this linkage to a carbon payment, the wildlife premium would represent business-as-usual in conservation. But linking REDD mechanisms to a wildlife premium would be a magnificent opportunity to both reverse the current extinction crisis and provide more financial support to impoverished communities who will ultimately determine the future of those forests and the wildlife they contain. Premium markets can result in higher carbon prices than regular markets because they tend to attract socially or environmentally responsible investors (environmentally conscious travellers and shareholders of companies, private citizens, etc.) who would be willing to pay higher prices for carbon credits from projects that create co-benefits. For example, because Clean Development Mechanism (CDM) hydropower projects are not accepted under the European Trading System, credits are traded at lower prices, whereas CDM projects under the Gold Standard – which certifies projects that fulfil the additional requirements for sustainability and environmental impact – achieve significantly higher prices. The higher prices can compensate for the higher costs of producing carbon credits that also create co-benefits, such as wildlife conservation, and could incentivize project designers from tropical countries to focus on such five projects. The challenge, however, is to create the demand for premium carbon credits and establish a market for monetizing the additional value of wildlife conservation.

Replete with marketing lingo this document tries to make a financial case to develop premium carbon markets around endangered "flagship" species such as tiger. While an increasing number of projects, most of them trying to incorporate cobenefits on biodiversity generally or more specifically wildlife such as tiger, come into being there are organizations which try to support that development and "protect them from the markets."

REDD, a Last Window of Opportunity for the World's Vanishing Tigers?

Over the past 60 years three of the world's eight subspecies of tigers have gone extinct (Mills and Jackson 1994), and since 1994 the number of remaining ones has declined from an estimated 5–7 500 animals (Mills and Jackson 1994, see also Fig. 3 from WWF (2013)) to a population of little more than 3000, surviving within an increasingly isolated network of protected areas, declining habitat suitable for hunting, less prey, and poaching for the tiger bone market or as retaliation killing. This dramatic decline happened despite the establishment of protected areas over tens of thousands of square kilometers for the tiger, countless studies, and many millions of dollars spent.

Tiger initiative has started to coordinate what is now a greatly improved understanding of the conditions of those tigers which remain, and, as happens for other species also, REDD is being proposed as an opportunity (e.g., Pattanavibool n.d.) to improve habitat conditions (cover, prey) for tigers on nonprotected land (see the two examples in Thailand and in the Sub-Himalayan region, others, e.g., by F&FI on Sumatran tiger within and around Kerinci-Seblat National Park). This opportunity to combine tiger (and associated species) conservation with carbon income and forest recovery (for forestry income also) might well be the last chance for the tiger.

Primates and Forestry

The world's 300+ species of primates are the largest group of mammals, shared by most tropical forest environments in the world, which are one of the most obvious victims of land use and land use change. With the great majority of primates leading an arboreal existence mostly in tropical forest ecosystems logging and often associated activities (bush meat) pose a major threat to many primate species in the world. This forest dependence is most pronounced in the great apes about which Sunderland et al. (2013) have the following to say (Fig. 4):

Key Points in Great Ape Conservation/Management

- Great apes occur in sub-Saharan Africa and Southeast Asia (Sunderland et al. 2013). Efforts to link great ape conservation and poverty alleviation on the two continents share considerable similarities. The common issues allow the development of widely applicable guidelines and policy practice. However, the different sociopolitical, economic, and ecological contexts of Africa and Asia need to be considered in developing any such guidance and practice.
- All six species of great apes are distributed in countries with high levels of rural poverty.
- The main threats to great apes in both Africa and Asia are large-scale land-use changes due to commercial enterprises such as oil palm plantations and logging,

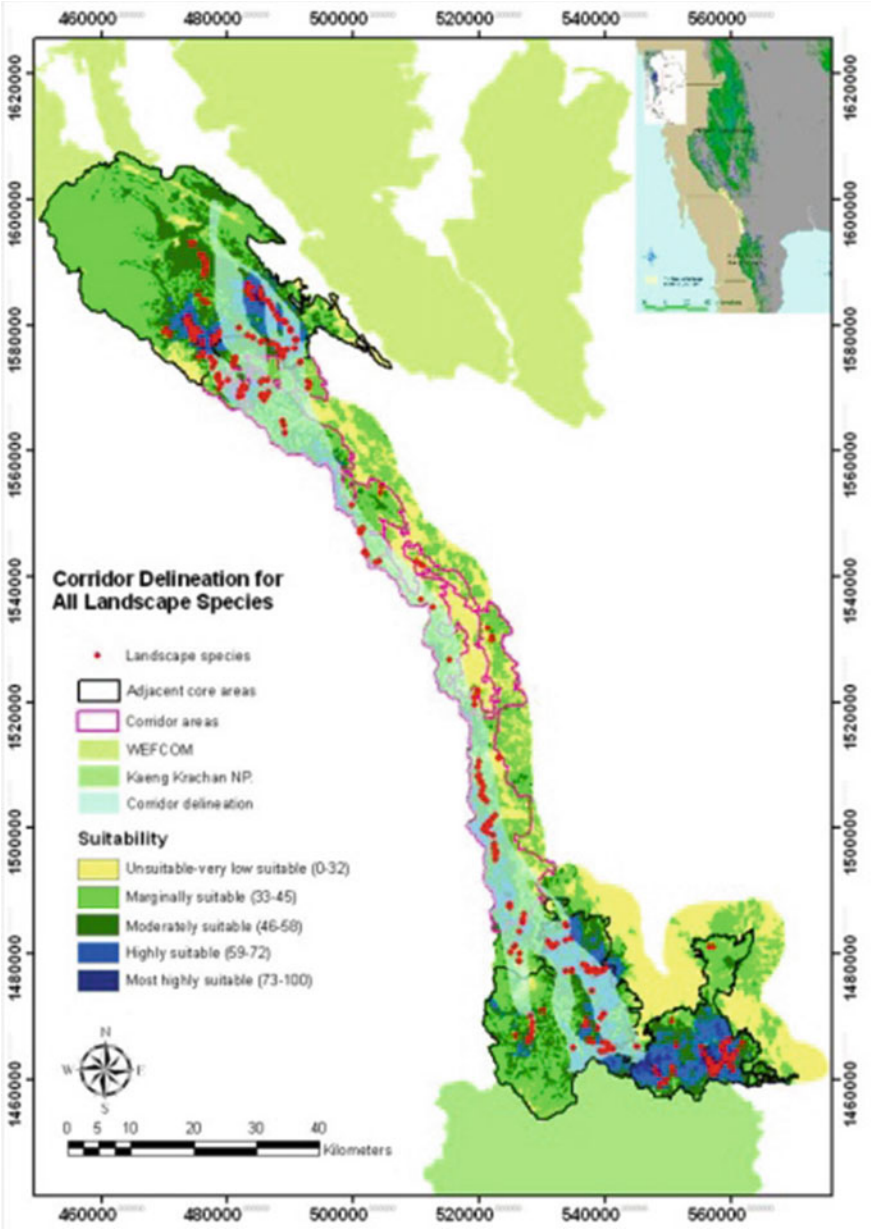

Fig. 3 (continued)

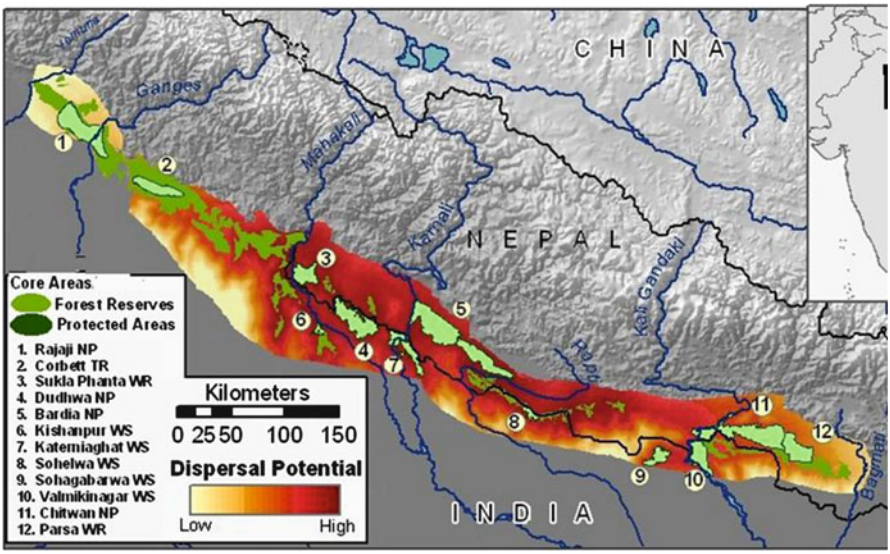

Fig. 3 Two examples of tiger conservation as part of proposed REDD/REDD+ project activities and income: Thailand's Andaman Coast Region (*left*) and the Sub-Himalayan Region (*right*) (Pattanavibool n.d.)

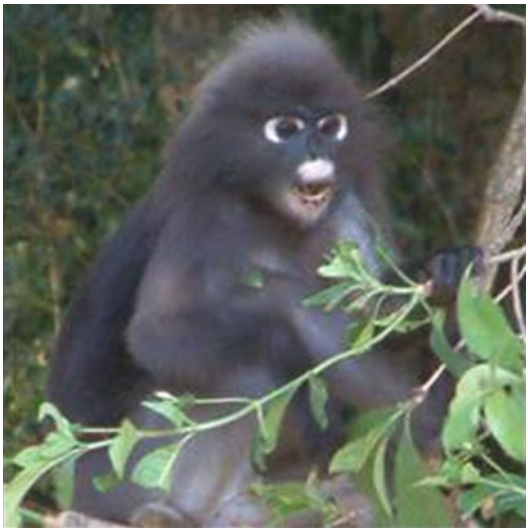

Fig. 4 Dusky langurs at the South Andaman Coast of Thailand tolerate humans, yet are increasingly affected like some dozen species of other primates in that region by the large-scale loss and fragmentation of their forest habitats

rather than local poverty. Nevertheless local poverty is a threat in fragmented forest habitats and in countries where the pressure on land is intense.

– The conservation of great apes has multiple links to poverty alleviation. Poverty can be a driver of local species loss. Conservation can either contribute to

poverty alleviation or further exacerbate poverty, depending on how it is implemented and the benefits it generates. Many opportunities exist to link great ape conservation and poverty alleviation; however, inherent trade-offs must be considered. One of the most important is that all great apes are at serious risk of extinction, so conservation is the most critical priority. To that end national and international laws and conventions that protect great apes should be implemented and adhered to.

- The international interest in carbon conservation, and associated REDD+ schemes, has the potential to provide significant cobenefits to great ape conservation and poverty alleviation by preserving forests of biodiversity value. However, REDD+ also presents risks to both local livelihoods and great apes due to a sole focus on carbon conservation. Potential risks include the exclusion of local people from forest resources and "leakage" of forest degradation and deforestation activities from high-carbon forests to high-biodiversity forests, including those with great ape populations.
- Equitably managed great ape tourism can, in the right circumstances and in a limited number of sites, generate significant revenues and contribute to both great ape conservation and the livelihoods of local people.
- Conflict between humans and great apes can damage the livelihoods of poor people, for example, by ape consumption of subsistence crops. Human–wildlife conflict can also undermine conservation efforts, such as through killing of great apes or loss of local support for conservation initiatives. Great ape tourism runs the risk of exacerbating such conflict because it is based on habituating great apes to humans.

Toward Cooperation and Pluralism

Management of wildlife has often been driven by ideological considerations. This has led to polarized stands and all but eliminated a diverse, healthy, and experimental way to approach what are often local and specific problems. There are no solutions which fit all, and I am not even saying that corporate industries cannot manage the environment and wildlife. I am sure they can if they are regulated well and if they are driven by a transparent and ethical corporate culture and shareholder community. They just rarely do (Fig. 5).

Futures for Tropical Forests Which Include Wildlife and Indigenous People

When Japan called for the establishment of ITTO it had in mind a commodity agreement, facilitating timber trade and ensuring its future supply. It was, however, not quite as easy as that, and the debate on the functions of forests was dramatically expanded once the UK-based policy research organisation, The International Institute for Environment and Development (IIED), entered the debate, demanding that

Fig. 5 Birdwatching tourism is one of the major attractions of Kosi Tappu Ramsar Site in Eastern Nepal. Current earnings from this industry are insufficient for the government and communities for eco-development. As one of the major growth sectors in the industry there are expectations that this will improve over the years (from Singh 2001)

any such organization could not restrict itself to timber trade itself but include the other, even more important services of forests. With the rising prominence of environmental organizations and concerns about forests and their wildlife, no western country or donor could ignore that call. What came out was a contradictory International Tropical Timber Trade Agreement (ITTA), signed in November 1983, after 6 years of arguing. It was designed on the one hand to promote tropical timber trade and on the other to ensure forest conservation.

The world, the world's forests, and ITTO have moved ahead since. While ITTO, like World Bank, tried very hard to address its shortcomings and include forest

people and forest wildlife/biodiversity into its modus operandi, many millions of hectares of forests continued to be destroyed, and even when devastating forest fires in Indonesia and Amazonia made it clear that logging and its associated activities had a price tag for society and industry (Singapore Airlines had to ground its air fleet for weeks because of smoke from Sumatran fires) there was declining action to transform forestry while many other environmental crises erupted on a regular basis. Forestry still, so it seemed, remained in that unfortunate dilemma, that it had to deal with natural ecosystems which, unlike agriculture, for example, contained too much wildlife which needed protection. All this it had to do in an economic environment which started to favor production at almost any cost, including wildlife.

In our case study on koala scenario five was the one chosen by the company, and while that might have saved costs over the years when it was applied, this strategy proved disastrous for the company – as it should. Not so much because of fines, which as we all know will be lenient and gradually reduced by a competent army of lawyers, but because national and international media and probably campaigns (see www.avaaz.org) will have the capacity to drive them out of their markets, in this case Japan, with its more educated and discerning public (except when it comes to whales). There would have been also another strategy available for the company to deal with its "Koala Problem." It could have applied and combined principles of ecological forestry, of wildlife management and conservation, and of conflict management in an honest, open, and ultimately society- and government-supported approach. While this would certainly have come at a cost, this cost would have been most certainly much lower than what it will face now. Applying it, it would have ensured sustainability, generated some welcome employment (much welcomed by many unemployed wildlife ecologists), and, perhaps most importantly, ensured the sustainability of its operations and staff which are now threatened. This situation is the one found around a growing part of the world's forests, in a nutshell so to say. Surely, foresters must be able to do better than that!

Conclusions

Wildlife as a global and local good and responsibility needs to be reimagined. As a local resource it needs to be locally managed, and the costs for that need to be supported by all. If the global community "votes" for putting a stop to the hunting of Siberian falcons in northern India (which might be quite sustainable (compensatory) as there are naturally high migration losses) it has to compensate the local community for lost livelihoods. Similarly, if the global community of tourists wants to see tigers in the wild, they have to carry a significant part of the costs for the establishment and administration of protected areas and the reduction of conflicts with local people. In the same train of thought, the indirect and long-term costs of mega hydro-development, mining, or logging on communities and landscapes including their wildlife need to be costed in. We have been talking about that for the past 30 years at least, yet little has happened. If these costs are not carried, for

example, in Ok Tedi Copper Mine in PNG (where local communities took the miners in the face of great adversity and at great odds to the International Water Tribunal in the Hague – which they won), there must be an international process to do this automatically. Unless these things happen very soon irresponsible and in fact criminal practices as pursued by companies in the Upper Amazon will destroy the tropical under-regulated world of wildlife and indigenous people, their guardians.

None of that happens currently and despite the protestation as to the opposite. It has been made abundantly clear by industries and governments that neither national laws nor industry voluntary self-regulation work at present, nor will in the foreseeable future. International laws will, however, especially if combined with consumer pressure like Avaaz.org with its 34+ million voting members. If South-East Asia keeps logging orangutan habitat it can be punished, perhaps not by international laws or sanctions but by millions of tourists who stop visiting because they have been alerted, or hundreds of millions of people who stop buying products with palm oil. The opportunities to act are endless.

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