International Symposium

26-28 February 2015

Glenburn Lodge, Muldersdrift, South Africa

Event report

Beyond enforcement:

communities, governance, incentives and sustainable use in combating wildlife crime

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Background

The symposium 'Beyond enforcement: communities, governance, incentives and sustainable use in combating wildlife crime' was organised by IUCN CEESP/SSC Sustainable Use and Livelihoods Specialist Group (SULi), the International Institute of Environment and Development (IIED), the Austrian Ministry of Environment, the ARC Centre of Excellence for Environmental Decisions (CEED), University of Queensland and TRAFFIC — the wildlife trade monitoring network — to explore the role of communities in tackling illegal wildlife trade. It was held from 26-28 February 2015 at Glenburn Lodge in Muldersdrift, South Africa, and brought together 80 participants (see Annex 1) from a diverse range of backgrounds, including representatives from United Nations agencies, national governments, academia, conservation NGOs and local communities.

The primary objective of the meeting was to explore whether and under what circumstances community-based interventions[1] are likely to achieve success in combating current patterns of illegal use and trade of wildlife (plants and animals). The programme was designed to directly respond to international commitments made with regards to the interaction between communities and Illegal wildlife trade and in particular to the London Declaration — the output of the Intergovernmental London Conference on Illegal Wildlife Trade, held in February 2014. It was also designed to inform and influence the 2nd Intergovernmental Conference on Illegal Wildlife Trade in Kasane, Botswana on 25 March 2015.

DAY ONE

Session 1. Introduction

The meeting was opened with speeches from **Braulio de Souza Dias**, Secretary-General of the Convention on Biological Diversity (CBD) and **John Scanlon**, Secretary-General of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (via a representative, **Tom de Meulenaer**).

Braulio de Souza Dias highlighted the important role of local communities in the management of natural resources. He emphasised, however, that there was still a long way to go in terms of equitable sharing of the costs and benefits of conservation. Currently, for example, revenue sharing schemes for communities living around protected areas tend to only distribute around 5-10 per cent of the revenue received by the protected area. He highlighted the importance of moving toward more participatory and more equitable governance arrangements for protected areas and biodiversity conservation, and noted that governments are now more open to moving in this direction, citing examples from the Philippines, Iran, Brazil, Kenya and others. He drew attention to the importance of economics — particularly local benefits — in motivating community support for conservation. The full text of the speech is available here: www.cbd.int/doc/speech/2015/sp-2015-02-26-wildlife-en.pdf.

John Scanlon noted that within CITES, it was recognised that the convention has a particular role to play in involving local communities in addressing wildlife crime. Various relevant resolutions and activities were highlighted including Res. Conf. 8.3; Res. Conf. 16.6 and the forthcoming CoP17. The work of the CITES and Livelihoods working group was also highlighted, including its development of a toolkit and guidelines and the production of a set of case studies one of which will be focussed on wildlife crime. The full text of John Scanlon's speech is available here: http://cites.org/eng/sg_beyond_enforcement.

Rosie Cooney (SULi) and **Dilys Roe** (IIED) then provided an overview of the symposium including the origins and background to the meeting and the structure of the programme for the following days (see Annex 2). **Duan Biggs** (CEED) presented a draft theory of change (TOC) for understanding the impact of different types of community-level interventions for tackling illegal wildlife trade (IWT). The theory of change was developed by the organising partners in the run up to the meeting, and it was explained

[1] The term *communities* is used here to comprise '*indigenous peoples and local communities*' as per agreement at CBD CoP12.

that one of the purposes of the meeting was to test and further refine the logic flows, assumptions and causal linkages of the TOC, based on the presentations given and the experiences of the participants.

Key discussion points arising from the presentations included:

- The need to make sure the theory of change remains focussed on community engagement and does not becomes a theory of everything
- The need to think about enabling conditions at the national level
- The need to take account of disabling as well as enabling conditions.

Session 2. Wildlife crime and local communities: why bother?

Session 2a. Communities and wildlife crime: what are the linkages? Broad context

Caroline Peterson (UNDP) opened the session, emphasising that illegal wildlife trade (IWT) is as much a development issue as an environmental one. For example, she noted that wildlife based tourism was important for national development in many countries and that IWT undermines this. UNDP has adopted a three-pronged approach to dealing with IWT:

1. Expand economic opportunities and livelihoods options
2. Strengthen governance and law enforcement
3. Raise awareness of problem among stakeholders.

"It is now widely recognised that to save iconic wildlife, we need not only stronger institutions and law enforcement, but also a full assault on poverty, the creation of economic opportunity, and the full involvement of communities in decision-making."

Helen Clark, UNDP Administrator, 2014

Within the first 'prong', activities include generating co-benefits from sustainable use (eg trophy hunting), addressing human-wildlife conflict, promoting alternatives to bushmeat, and providing support to ecotourism and 'alternative' livelihoods. It also includes training communities as eco-guards and intelligence providers. These activities are underpinned by some important assumptions which, however, may not always hold true:

- Neighbouring communities benefit from wildlife tourism
- Benefits are equitably shared
- Alternative livelihood options prevent illegal livelihoods
- There is a clear distinction between subsistence poaching and syndicates
- Communities perceive gain from participation in intelligence networks
- Reducing human wildlife conflict reduces poaching.

Brian Child (University of Florida) underscored the need for new rules for wildlife conservation 'for a crowded planet', noting the current market failure for wildlife and that the wrong land use is practised in the wrong place. He discussed the problem of increasing population pressure on land and the subsequent expansion of agriculture into drylands and forests. He noted that wildlife populations have halved in the last 100 years while the amount of domestic stock has increased 4.5 times, making the point that wildlife globally are being replaced by agriculture and livestock, and IWT is only a small part of the decline. Although wildlife has a comparative advantage over agriculture in dryland areas, a market failure means its value has effectively been reduced to zero. This is largely due to the current suite of responses to biodiversity loss, which emphasise protected areas, bans on consumptive use and centralised management, and remove options for local people to benefit from wildlife. By contrast, in

areas where community-based natural resource management (CBNRM) is effective, wildlife populations have increased and domestic livestock decreased, while parks have been used to generate public benefits such as jobs. Brian emphasised the importance of strong local ownership over natural resources, particularly high value ones, if we are to move from a 'no hope' economy of rampant exploitation and ineffective enforcement to one that incentivises stewardship and sustainability of use. Brian concluded with some 'simple rules' which he suggested could form the basis of an international compact on CBNRM including:

1. Devolve genuine land and resource proprietorship:
   Full retention of income at household level
   Village-based title (scale is critical)

2. Require sound micro-governance with two objectives (to avoid ubiquitous elite capture):
   Equitable benefit sharing
   Full participation in decision-making

3. Remove market restrictions on uses that are sustainable:
   'Make the case' for biodiversity
   Don't lock into local, low value, subsistence/artisanal systems or illegal trade.

He suggested that the overall implications for responding to IWT are: 1) Encourage trade where and only where use conforms to the above criteria; 2) discourage/disallow trade when it does not (in open access resource situations).

The session concluded with a presentation from **Henry Travers** (Imperial College, London) and **Jacob Phelps** (CIFOR) on typologies of wildlife crime. The presentations highlighted the huge diversity and complexity within what is labelled as wildlife crime or illegal wildlife trade. This includes diversity in the number of types of species affected by trade (the vast majority of which are plants), their geographic distribution, the value chains associated with trade and the socio-economic profiles and motivations of different actors engaged in trade — from harvesters, to middlemen, to consumers. They highlighted the enormous knowledge gaps around IWT, including the socio-economic profiles of poaching.

A key discussion point following these session was the importance of **tangible** benefits from wildlife, including cash and meat, as effective drivers of stewardship.

Session 2b. Communities and wildlife crime: what are the linkages? Case studies

The session was opened with a case study from **Kimon de Greef** on illegal trade in abalone in the Western Cape area of South Africa. South African abalone is an endemic species and was once exceptionally abundant, but in the last 20 years the resource has been subjected to unsustainable levels of illegal harvesting. Abalone poaching began as an informal activity but evolved into an extremely well organised and lucrative illegal fishery in the early 1990s, traded to East Asian markets. International organised crime groups moved in to control the trade, offering large sums for abalone that had been illegally harvested. Small-scale fishers come from poor and marginalised groups frustrated with the slow post-apartheid fisheries reform process, inadequate job creation under the new government, perceived corruption of government officials, illegal harvesting by the commercial fisheries companies, and with few or no other economic options. The fishery has now grown to the extent that stocks have collapsed to the verge of commercial extinction.

The presentation highlighted how the illegal trade has had both positive and negative impacts. Positive impacts include money, direct access to resources, sense of entrepreneurship, resistance — acted as uniting factor among communities. Negative impacts include a perceived breakdown of values, increased conflict (among poachers, with those from outside, and with law enforcement agents), and consolidation of illicit economies (eg drugs). The case study highlighted the need to consider the economic and social roles that illicit trades play at the community level: abalone poaching fills an economic void and supports livelihoods — but it also carries costs. Combatting the problem requires development of a legitimate fisheries governance framework and significant economic investment in the area — actions far beyond simply stopping illegal fishing. Without addressing the socio-economic and

political factors and underpinning motivations for poaching, stricter law enforcement will not solve the problem.

In the ensuing discussion a question was asked as to whether CITES listing would help abalone as it has helped Queen Conch. Kimon replied that it was likely that the CITES listing would simply result in deepening the corruption and sending the trade further underground, emphasising that if abalone was not harvested it would simply be replaced by some other illicit substance unless the much more deep rooted problems of social disenfranchisement were addressed. Furthermore, the fishery is in such a state of decline that it may be too late to resuscitate a legal wild-caught abalone industry.

Samia Saif (Durrell Institute for Conservation and Ecology) presented a case study of tiger poaching in the Bangladeshi Sundarbans. As with the earlier presentation on wildlife crime typologies, the case study highlighted how tiger poaching is complex involving different people with different motivations. The two main drivers are commercial international values and local medicinal values but there are also other factors at play. For example, professional poachers are solely driven by commercial profit while villagers are more likely to poach as a result of human wildlife conflict (20-30 people are killed every year by tigers) with one to three tigers killed per year in response.

Edson Gandiwa (Chinhoyi University of Technology) presented a similar picture of differing drivers and motivations for poaching of elephant and other species in Gonarhezou National Park in Zimbabwe. Local people may poach themselves, but may also harbour illegal hunters and share information with them. There the main drivers include high poverty levels, limited benefits from CBNRM, encroachment in wildlife areas, inadequate law enforcement, weak legal frameworks, and readily available markets for wildlife products. Resonating with the UNDP presentation, Edson also noted how illegal wildlife trade is undermining the development potential of the area. In particular it is perceived to be compromising the ecotourism potential, reducing the trophy quality for safari hunting, and limiting the financial benefits from CBNRM. It is also resulting in increased tension between local people and protected area staff. Recommendations included:

- Develop innovative ways of enhancing community livelihoods (diversify CAMPFIRE)
- Increase benefits and incentives for conservation
- Enhance conservation awareness
- Strengthen transboundary collaboration (incl. enhancing local community involvement in this).

The final case study of the day was presented by **Mlandelwa Nqobizitha Ndlovu** (Resource Africa) who looked at motivations for rhino poaching in Kruger National Park. As with previous case studies he identified a diversity of factors driving poaching by local people including poverty, unemployment, absence of alternatives, lack of social cohesion, poor ‘people and parks’ relations (a deep history of mistrust; inequality and benefit sharing), corruption, elite capture and exploitation. He also highlighted that poaching has both positive (income and improved quality of life) and negative (erosion of heritage, social conflict) impacts. He stressed that we are now at the stage where communities no longer simply want to be stakeholders in conservation, but shareholders. He stressed that communities are the first line of defence against poachers. Options to encourage communities to get involved in conservation include awareness raising (eg through community theatre), capacity building (helping communities to have a voice, through supporting their ability to organise themselves), building business linkages to enable them to gain benefits from wildlife, and community involvement in rhino farms. The latter initiative involves rhino farms owned and run by communities.

The Honourable Minister **Edna Molewa** (South Africa Department of Environmental Affairs) closed the first day with a speech that highlighted the progress that South Africa was making in engaging communities in tackling illegal wildlife trade — particularly in the context of rhino poaching. She noted that unless communities receive tangible economic benefits, conservation will continue to be seen as an elitist business. People must feel ownership over wildlife in order to have the incentive to conserve it. The Minister highlighted the ‘biodiversity economy’ strategy that South Africa is developing with the objective of bringing previously disadvantaged groups into game ranching and wildlife management. The Minister concluded that excluding local communities from conservation simply does not work and that the long-term survival of biodiversity will depend on engagement of local communities.

DAY ONE SUMMARY

- Now much more openness to improving participation and equity in governance of wildlife, and attention by governments and international institutions
- IWT has become a development, not just an environmental, issue
- In many places, policies have led to wildlife having a legal value of zero, therefore no longer competitive
- We need to understand incentives and motivations of all players, and there are major information gaps here
- Incentives for engaging in illegal activity frequently far outweigh the incentives for stewardship
- Disincentives for engaging in illegal activity are not strong
- Deep histories of disenfranchisement and inequality still influence behaviour today
- There are efforts to address this, but can they overcome the incentives for engaging in highly valuable illegal trade in time?

Special evening session. Focus on Namibia

Namibia is often held up as a case study of successful CBNRM — a country which has moved beyond ad hoc project-level successes to a national level programme mainstreamed across government sectors. A panel session was held with key individuals who have been driving the CBNRM programme in Namibia to explore the lessons learned from their experiences, particularly in the context of the current IWT crisis. The panel was chaired by **Holly Dublin** (IUCN SULI Steering Committee and African Elephant Specialist Group) and composed of **Garth Owen-Smith** (IRDNC), **Maxi Louis** (NACSO), **Johnson Ndokosho** (Ministry of Environment and Tourism) and **Greg Stuart-Hill** (WWF Namibia).

Garth opened the discussion by providing some history of the CBNRM programme. He described how from 1975 until 1990 poaching was widespread — as it was in other parts of Africa. In Namibia, elephant and rhino populations had declined by ca. 70 per cent. In 1982, working with one government official Garth sought the support of the local community to address the problem. Working through traditional leadership structures in the Kunene region (north west Namibia), they appointed game guards who worked in return for food only. Within a couple of years poaching had stopped. In 1993, the programme was extended to Caprivi (north east Namibia) with the same success — within five years, the poaching had stopped there as well.

Johnson pointed out how the government recognised the need to support these successful activities with policy and legislation. In 1996 the government amended the law to make it possible for communities to have rights of ownership over wildlife, through a programme called community conservancies. The government sets quotas for consumptive wildlife use — mainly through trophy hunting. One hundred per cent of the revenues from this and from other forms of tourism goes to communities.

Maxi noted that the first four conservancies were registered in 1998. Initially there was a lot of duplication of effort by supporting NGOs and so a forum — the Namibian Association of CBNRM Support Organisations (NACSO) — was established to coordinate efforts. NACSO now has three thematic areas — natural resources, institutional and capacity building, and the most important one — financial management. They work together — with all that entails, including disagreement and debate — but ultimately a coordinated approach.

Greg described some of the impacts of the CBNRM programme. There are currently 82 conservancies on the books, wildlife numbers have increased, 7000 jobs have been generated — including 500

community game guards — and large amounts of income have been generated. The majority comes from tourism — particularly in the form of trophy hunting. However, in recent years there has been a downturn. The money generated has led to a certain amount of corruption and associated bad press. Poaching has now returned to Namibia — elephant in Caprivi and rhino in the north west. Strengthening community engagement is key to tackling this problem but he emphasised that a possible major disruption is the anti-hunting lobby globally, which has the potential to undermine Namibia's entire CBNRM programme. Without the benefits that hunting can generate to provide conservation incentives to local communities (up to 80 per cent of community income) there is no chance of tackling the poaching.

"Living with wildlife has a cost. Benefits are needed to offset that."

Holly asked the panel if the Namibian experience could be replicated elsewhere. Johnson replied that it could but that it required a long time and a sustained period of donor investment (totalling around US$45 million from USAID and USD$100 million from the Millennium Challenge Account). Garth agreed that the broad principles - the need to build relationships, undertake joint action, and devolve rights and responsibilities — could be applied everywhere. One of the things that is different about Namibia compared to many other countries is that 100 per cent of the benefits from tourism and trophy hunting go to the community. There is no government retention of revenues as in most other CBNRM programmes.

Holly enquired about the sustainability of the programme if revenue declines, and Greg highlighted again the concerns about what might happen if the trophy hunting industry was diminished by, for example, a ban on the import of trophies in countries where the hunters come from. Johnson pointed out the government was trying to prepare for this possible scenario through more diversified investment in non-consumptive tourism.

The final question to the panel concerned the current outbreak of poaching and what was driving this. Garth noted that, in 2014, 15 rhinos were poached in the north west, most of them in an area that is not part of any conservancy. He noted that the community is well aware of who is doing the poaching (outsiders rather than members of the community) and has provided a lot of information to the police. However, the police lack the motivation to deal with rhino poaching and do not perceive it as a serious crime. That is where the problem lies. Greg agreed that in the case of elephant poaching in Caprivi, the poachers are also well known but the problem is the judiciary and the limited capacity to bring about successful prosecutions. Hence there is no deterrent. Engaging these new stakeholders — police, judiciary and so on — will be a major focus of their programme going forward.

Questions from the floor focused on a range of issues including:

- Financial sustainability: it was reiterated that the programme has received a lot of investment over a long period of time and this has been critical for success. However the conservancies are now generating their own income in a number of cases and the possibility of trust funds is also being explored.
- The different roles of government and communities — it was noted that government still retains responsibility for surveying wildlife populations and setting hunting quotas — although this is done in collaboration with the conservancies – while the conservancies choose the hunting/tourism operators and retain the benefits.
- Comparative advantage of wildlife — in the Namibian context wildlife has a comparative advantage over agriculture or intensive livestock rearing, which might make it more difficult to replicate in other countries where the land is better suited for agriculture or rearing stock. The panel acknowledged the reliance of the programme on charismatic, high value species such as elephants, rhinos and lions and that it was more challenging in areas where there was less tourism and hunting potential.
- Rhino ownership and hunting — all of Namibia's black rhinos are owned by government but there is a custodianship programme whereby rhinos are allocated to individuals to look after in order to attract tourists to their areas. Despite Namibia having a legal CITES quota for five rhino trophies, trophy hunting of rhinos has not yet taken place. Even following the controversial hunting permit

auction in Dallas, the rhino in question has not yet been hunted despite being a post-reproductive male which is disrupting breeding in the wider population.

- Potential impact of CITES decisions — the biggest threat to Namibia's CBRNM programme is stricter domestic legislation of trophy import countries, such as unilateral sanctions, that stop the conservancies from unlocking the benefits of their own natural resources: *"We definitely would wish that the international community would support us in making sure they support the programme that makes sure wildlife is conserved*".

DAY TWO

Session 2b continued. Communities and wildlife crime: what are the linkages? Case studies

The second day opened with a presentation from **Noelia Zafra Calvo** (United Nations University) looking at trade-offs in the Ruvuma landscape, which straddles northern Mozambique and southern Tanzania and incorporates the Selous Niassa Wildlife Protection Corridor (SNWPC) and the Quirimbas Niassa Corridor (QNC). She highlighted how in both corridors, poaching is the main source of income to local communities. In SNWPC the main motivation for poaching is the opportunity cost that conservation has on agriculture. In QNC by contrast it is related to a breakdown of traditional use systems and effective common property resource management institutions. Communities think any conservation activities that impact on subsistence systems are not sustainable and they also think that benefit sharing is currently not equitable. There is considerable resentment about current logging and trophy hunting concessions and the poor benefits they return to communities. To gain community support, an effective conservation strategy in the Ruvuma landscape would need to incorporate improved smallholder agriculture, community based forest management, and joint venture trophy hunting and tourism.

This was followed by a case study from **Jo Shaw** (WWF-South Africa) and **Rodgers Lubilo** (Southern African Wildlife College) on community attitudes toward wildlife and conservation in Mangalane, Mozambique. Jo Shaw opened by exploring what has changed in recent years to drive the sudden upsurge in rhino poaching. A number of factors were identified including:

- Increased demand and increased price (as a result of increasing wealth in Asia)
- Transnational organised crime/illicit supply chains (that are not product specific) — driven by increased globalisation making it much easier to move money and products — being responded to at a national rather than transnational level
- At the community level — poverty, corruption, lack of social justice, lack of alternatives.

This raised the question as to whether, under these global circumstances, communities **can** be effective in reducing poaching for IWT. The second half of the presentation started to address this question. Rodgers presented the 'learning by doing' approach to CBNRM that has been adopted by SAWC and promoted amongst the Mangalane community in Mozambique who live adjacent to the private Sabie Game Park. When Sabie was established, a fence was erected to keep local people out and there were no benefits from conservation. In 2013, after seven years of conflict and poaching, 20 per cent of the revenue from Sabie is now shared with the Mangalane community with 300 households receiving an average 500 South African Rand cash dividend each. This brought about 'overnight' a real change in attitude towards the park, and outcomes including establishment of wildlife zones, volunteer patrolling systems, a community scouts programme, collection of snares and firearms, and reduced poaching. This year, Sabie has established a rhino fund where payments to the community will be performance-based (linked to prevention of rhino poaching). Sixty per cent of funds will be allocated to community projects and 40 per cent for the community scouts programme. The community scouts programme is also extending to deal with other forms of crime that impact on communities — in particular cattle theft — and other opportunities for income generating schemes are being explored.

The final case study in this session was provided by **Kenly Greer** from the US State Department exploring community attitudes to rhino poaching on the western and eastern boundaries of Kruger National Park. The study identified a number of drivers of poaching including:

1. Porous borders between South African and Mozambique (it is estimated that about 80 per cent of poaching in Kruger originates from Mozambique)
2. Anger as a result of wildlife killing cattle and also a sense of marginalisation and feelings of betrayal by the government and a sense of 'us vs them' with respect to the park
3. Economic incentives (and fear for the future) and a lack of non-poaching alternatives
4. Corruption (at all levels) and lack of political will.

"My family has to eat so I have to find a way to put food on the table. I have to do a serious crime just to feed them"

Reasons for poaching that emerged from focus group discussions varied widely between and within communities and included:

- Ignorance about conservation
- Need to provide more benefits to families
- Enjoyment of the significant financial rewards and the lifestyle/status changes these bring
- Enjoyment of risky behaviour
- Peer pressure/intimidation.

The presentation highlighted three possible solutions: i) community programmes, ii) improved law enforcement and iii) increased technical capacity (including intelligence sharing). It was recognised, however, that solutions needed to respond to the motivations of different poachers along a fluid poaching spectrum, noting that motivations were diverse rather than a simple 'poverty/greed' dichotomy. For example, the use of sports halls could be a possible approach in communities where thrill seeking is one of the drivers and youths are the predominant poachers. Much could be learned from other sectors — including the sex industry — as to how to work with individuals to help them develop long term visions rather than responding to immediate thrill seeking or illicit revenue generating opportunities.

The case studies stimulated a lively question and answer session. Discussion points included:

The sudden spike in poaching that appeared between 2010 and 2013 — the underlying drivers were there all along but just took a catalyst to create the perfect storm. In this case it was alienation of local communities by Peace Parks and the Mozambican government that drove them towards poachers as alternative benefactors — a classic conservation failure.

Banning trophy hunting — the community programme at Sabie is funded from trophy hunting and other donations. It was pointed out that Mozambique has just produced its ivory and rhino horn action plans under CITES under the threat of sanctions. It has until January 2016 to show progress against its plans. But will sanctions really help? Should we not be better providing an enabling environment? If trophy hunting was banned it would have a major detrimental effect on the community programmes that are starting up and remove the incentive for communities to conserve.

Impact of income on attitudes — the presentations by Rodgers and Kenly covered similar communities yet Kenly painted a negative picture of attitudes towards conservation and Rodgers a positive one. It was suggested that because the fieldwork for Kenly's presentation was conducted before the revenue sharing programme came into effect, it would be interesting to revisit the communities in question to determine the effect of the revenue sharing programme on poaching attitudes and behaviour.

Session 2b. Enforcement strategies: when do they work, and what are their limitations?

Aiden Keane, University of Edinburgh, opened the session by providing an overview of what we have learned from enforcement approaches to dealing with wildlife crime. Enforcement is an important component of many conservation interventions and one that has a significant impact on the effectiveness of conservation — for example he noted that in a survey of factors affecting the effectiveness of protected areas conducted by Geldmann *et al.* (2013), it was found that anti-poaching interventions were the single biggest influence. It has also been found in a study by Chhartre and Agarwal (2008) that enforcement is a key condition of success in management of forest commons. But when and under what conditions does enforcement work best?

Poaching is a rational choice and is only likely to happen when the net benefits exceed the net costs — including direct costs, opportunity costs and enforcement costs. Enforcement costs can be considered to be a function of the size of the sanction/penalty and the probability of being sanctioned/penalised.

On this basis, enforcement is likely to be successful when:

- The total benefits of crime are low
- The social sanctions and opportunity costs are high (eg Namibian conservancies)
- Costs of sanction to the poacher and probability of sanction is high (although high sanctions become meaningless when people can't afford to pay them).

However, while this helps us understand when enforcement might and might not work there is lack of evidence as to how best law enforcement strategies should be designed: for example, how large should a patrol team be; how much effort should be invested in enforcement compared to other strategies; how should patrol effort be distributed? Answering these questions is difficult because illegal activities are hard to study and so we lack a detailed empirical evidence base. This implies the need for adaptive management rather than rigid prescriptions in the search for solutions.

Quy-Toan Do (World Bank) provided more detailed insights into this issue, focusing specifically on the case of poaching for elephant ivory. He noted that for survival of wildlife, benefits for poachers minus costs of harvest must be lower than conservation revenues. More specifically, using elephants as an example, the ivory market price minus the harvesting costs has to be less or equal to conservation revenues in order for elephants to be worth more alive than poached for their ivory. If not, elephants are likely to be poached. In this case the harvesting cost is the same as the direct costs, opportunity costs and enforcement costs from Aiden's presentation, while the conservation revenues are the income from tourism, hunting and so on, less the cost of dealing with human wildlife conflict. Toan noted that even though poverty has been highlighted in the case studies as a driver of poaching, reducing poverty at an individual poacher level is unlikely to have a significant effect on poaching unless the poverty of the broader population is also targeted, which is a much different and bigger challenge. He also suggested, importantly, that conservation revenues were unlikely to act as an individual incentive since they tended to accumulate at the community level. For example, poverty reduction and alternative livelihoods interventions often do not target poachers, but the whole community, and were unlikely to be enough of a deterrent, given value of the proceeds of the crime.

Changing the behaviour of individuals therefore implied increasing harvesting costs and specifically, increasing the scale and probability of penalties and sanctions. This also implied a need for local governance mechanisms to translate revenues into higher harvesting costs for would-be poachers — requiring a mix of legal and social sanctions in order to make enforcement responsive to local governance contexts and to fit with traditional structures. Toan further concluded that there was a need to increase community de facto ownership (regardless of formal ownership), meaning that the flow of conservation revenues needs to co-move with the market value of the wildlife stock — ie it should reflect increased numbers/decreased poaching of the elephant population, and the changing local market value of ivory.

Toan then moved on to discuss the impact of different interventions on ivory prices. He noted that the impact of supply side interventions such as anti-poaching strategies depends on the price sensitivity of

demand. The demand for ivory does not appear to be influenced by price so reducing the supply of ivory simply has the effect of driving the price up and increasing the profits made by poachers. Law enforcement can make harvesting costs higher for poachers but these need to be coupled with demand side interventions which result in lower quantities of ivory demanded rather than just relying on higher prices to do the job.

Elisa Reuter (German Police Service) concluded the first half of this session with a case study of Balule Nature Reserve, a private park adjacent to Kruger National Park in South Africa where she has been using crime prevention theory (CPT) to understand and combat rhino poaching. Crime results from a combination of: i) a motivated offender, ii) lack of capable guardianship iii) a suitable target. The latter two factors are much more controllable than the first. CPT focused on reducing the motivations of potential criminals by:

- Increasing the anticipated effort required to carry out the crime (eg rhino collaring, visible policing)
- Increasing the real and perceived risk of being caught (eg increased surveillance and intelligence)
- Reducing the expected reward (eg dehorning rhinos)
- Removing excuses (eg conservation awareness, rule setting).

Employing these tactics to understand — and thus effectively combat — poaching in Balule has resulted in no poaching in the last nine months, co-benefits through the establishment of an eco-rangers programme employing 23 local people, environmental education of both children and adults, improved cooperation with surrounding communities (who see the benefits and would like to share in them), and increased cooperation between private landowners and tourism operators.

The second half of the session opened with a presentation from Ana Puyol (TRAFFIC) presenting on behalf of Patricia Mencay Nenquiui (Asociación de Mujeres Waorani de la Amazonía Ecuatoriana (AMWAE)), and Bernardo Ortiz (TRAFFIC). The key message of the presentation was that enforcement alone will not be effective without sustainable alternatives that are freely chosen by communities themselves and reflect their values and priorities. The presentation discussed the case of Yasuni Biosphere Reserve in Ecuador, where bushmeat hunting had become unsustainable because of its expansion from subsistence purposes to commercial trade. Using food sovereignty as an entry point, particularly the concerns of women about feeding their families, commercial hunting has been stopped in order to ensure the sustainability of subsistence hunting. Cocoa farming to produce high quality chocolate has been introduced as an economic alternative.

Adrian Lombard (International Association of Falconry) closed the session with a case study of the Saker Falcon. Here, an action plan promoting sustainable use has been used as a strategy to manage illegal trade, rather than banning trade completely. The Saker Action Plan includes activities for engaging falconers and trappers in monitoring and conservation, but also has introduced the use of artificial nests in order to support larger numbers of breeding pairs and therefore increase the population that will be available for sustainable harvest.

The question and answer session following the presentations highlighted a number of key issues:

- The impact of ownership — it was pointed out that it was necessary to make a distinction between actual ownership and de facto ownership. If financial flows from conservation to communities are assigned in the same way as if they owned elephants then they act as de facto owners. They don't need to be actual owners to be incentivised to conserve.
- Inelasticity of demand of ivory and rhino horn — ivory and horn are luxury goods where the social status of owning them increases as the price increases. They also have storage value and are non-substitutable.
- Potential for sustainable trade in ivory — free trade in ivory will lead to depletion of elephant populations. To date the response to this has been a ban. In theory a ban on production sends a signal of a stigma on consumption, which can drive the price down. However, there is a social cost to this in the form of money foregone to local people. This could be rectified through some kind of payments for existence of elephants, as well as through actual trade.

- The role of enforcement — enforcement can sometimes have the effect of crowding out cooperation. What conditions do we need for enforcement to reinforce other interventions and not undermine them? It is very difficult to design external enforcement interventions which do not disrupt existing systems. Local level systems can work better especially when coupling social sanctions with legal measures.
- The challenge of 'leakage' — it was highlighted that success in tackling poaching in one areas may have the effect of simply pushing poaching into a different area — along the path of least resistance — rather than stopping it.
- The potential of cash benefits — the earlier case studies on CBNRM highlighted the importance of individual cash benefits in terms of changing attitudes to conservation. In other cases benefits are targeted at the community level. We need a better understanding of the circumstances under which tangible benefits work best and when the number of potential poachers that need to be targeted is so large that this type of individual cash incentive approach will not be effective.
- The challenge of greed and corruption — greed and corruption contribute to poaching and affect the equitable sharing of benefits. Until the value of wildlife in terms of conservation exceeds the value from poaching this challenge is going to remain.
- The need to listen to community needs and develop IWT response strategies that respond directly to those — for example the choice of cocoa farming as a livelihood alternative was only introduced after very close consultation with the local community and an understanding of their priorities.
- The need to package enforcement with other strategies — enforcement on its own is unlikely to be effective without community buy-in, coupled with strong but sensitive deterrence and the provision of appropriate economic alternatives.

Session 2c. Impacts of enforcement-led strategies on communities and community-based conservation

Khristopher Carlson (Small Arms Survey) opened the session with an overview of the increasing militarisation of poaching and anti-poaching responses. Weak firearms control in many states is contributing to a proliferation of weapons. While militarised anti-poaching interventions have led to an increase in the number of arrests, it is not clear that they have actually led to a decrease in poaching rates. More data is needed. At the same time, impacts on local communities have included:

- Insecurity — local people often get caught in the crossfire between poachers and anti-poaching patrols
- Decreased access to land and resources — as a result of heavy enforcement of protected area regulations
- Proliferation of firearms — militarisation is linked with poor arms control in many countries
- Human rights violations (killing, rape and torture) — when militarised groups lose control or state enforcement agents abuse their powers
- Erosion of community confidence in the government and in anti-poaching activities.

In addition to these negative impacts a major concern is that the increasing militarisation of anti-poaching interventions fuels the poachers' response and vice versa leading to an upwardly spiralling arms race.

Kumar Paudel (Greenhood, Nepal) followed up with a case study exploring the impact of enforcement-led approaches to IWT on local communities on the Araniko Trail in Nepal. He explained how, in the Nepali case, most arrestees often don't know that they are doing anything wrong because of lack of awareness of wildlife laws. Furthermore those arrested are often low down the poaching chain and are often the key earners in the household. Their detention therefore affects household income, food security, education and overall social cohesion and they rarely have alternatives but to return to poaching even after being apprehended. He recommended that anti-poaching strategies should focus

on the key players and drivers of poaching rather than those on the ground who are often just trying to make a living.

Gordon Bennett (a barrister at New Square Chambers in London who has worked extensively with Survival International) provided more insights into the negative social impacts of heavy-handed enforcement. He described how enforcement of wildlife laws can destroy links between people and the land or between people and wildlife. He also noted that quite often the wildlife laws that are being enforced are seriously flawed or deficient:

- They often fail to distinguish between wildlife crime and subsistence hunting
- They give too much power to individual ministers who are then able to override rights allocated to the community
- They can place enforcement in the hands of guards who have no understanding of or respect for traditional ways/customs
- Penalties are often handed out on the spot with no due process and no right to redress due to a chronic abuse of power.

He suggested that legitimate wildlife law should recognise the traditional right of tribal communities to hunt and should not allow conservation priorities to override tribal rights. The case of hunting in Botswana was given as an example. Traditional hunting was banned in 2014, but the ban was introduced by Ministerial order — enforced by the military — and with no consultation. The San Bushmen could be the eyes and ears of the Ministry of Wildlife and help in tackling commercial poaching, but this opportunity has been lost because the San don't trust the government and so are not willing to get involved. Gordon suggested that the London Declaration makes no distinction between subsistence hunters and poachers, and this should be rectified.

Nathalie van Vliet (CIFOR) picked up on the theme of illegitimate or flawed wildlife laws with a focus on Central Africa. She noted that in Gabon, for example, the law says a permit is needed to hunt. However, no institution has ever seen such a permit or knows how to issue one, so de facto all hunting is banned. She highlighted the need to revise current legislation in order to decrease negative impacts on poor people — and also to increase conservation effectiveness. She suggested that laws should be there not just to protect wildlife and ban use but also to enforce local peoples' rights.

A presentation on behalf of Takanori Oishi (Kyoto University) provided a further example of the negative impact of enforcement in Cameroon. The presentation noted that 100 AK47s have been seized 2007-14 and that at least three rangers are killed every year. As a result in 2008 the government launched a large scale militarised anti-poaching operation. This resulted in:

- Sudden decrease in the local population and sedentary village settlements
- Physical and mental trauma of local people caught up in violent anti-poaching activities
- Increasing social tension between local people resulting from suspected betrayals by community informants.

At the same time, however, it is not clear if there has actually been any beneficial conservation impact. While poaching has been reduced in some sites, it might just have been displaced to other sites rather than actually having been reduced overall.

Session 3. Responding to the London Declaration commitments

Session 3a. Understanding and quantifying the negative impact of wildlife crime on sustainable livelihoods and economic development

Greg Stuart Hill (WWF Namibia) described how different forms of wildlife use generate different benefits for different people at the community level. In the case of wildlife tourism, the majority of tourism benefits come in the form of jobs for individuals. This contrasts with trophy hunting where benefits largely come in the form of cash payments to conservancies — although an often over-looked benefit is meat which results from hunting and which goes directly to communities, often reaching the poorest of the poor.

Illegal wildlife trade undermines the tourism resource base and hence the benefits which flow to communities. For example the existence of rhinos is estimated to generate an additional N$3 million/year for each lodge where they occur, making the lodges more viable and able to support local jobs. Less directly, the presence of rhinos and elephants is critical in terms of attracting tourists to Namibia in general and to community enterprises specifically. Ninety five elephants were poached in Namibia in 2014. Each elephant represents the loss of potential revenue from trophy hunting and meat associated with trophy hunting. Furthermore the presence of elephant carcasses has led to a large increase in carnivores and hence increased human wildlife conflict.

Trophy hunting is a key conservation, economic development and anti-poaching tool in Namibia. It is estimated that if trophy hunting in Namibia were to stop, annual losses of revenue to communities would be in the order of US$1million per year. In addition, approximately 500 jobs would be lost (and 500 would-be poachers generated) as well as 500,000 kilograms of meat (equivalent to 2million high protein meals). A stop to hunting would profoundly affect the financial viability of the majority of Namibia's conservancies, which earn up to 80 per cent of their income from trophy hunting.

Discussions around Greg's presentation focussed on the importance of trophy hunting as a conservation incentive:

Trophy hunting generates meat as a by-product, which is highly valued. Trophy hunting is also useful for tackling human wildlife conflict. For example hunting of a single lion generates ca. US$30,000, which can contribute to compensating farmers for the loss of livestock. The question was then asked as to whether there are no other ways of providing a way of compensating local communities other than a few high value trophies? The example was given of the government-funded scheme in Bhutan for compensating local people for livestock killed by tigers. Other possibilities might be some kind of levy on tourism to generate a compensation fund. Garth Owen-Smith noted that this was already happening to some extent in Namibia. For example if tourists see a predator a reward fee goes into a fund. They are looking at linking this fund with other donations into the fund and/or the establishment of a PES scheme for wildlife conservation (which might also act as a useful Plan B should trophy hunting be stopped completely).

Russell Taylor (WWF Namibia) noted that the importance of trophy hunting should not be under-estimated. He suggested that the success of community conservation in southern Africa is based on the ability to realise immediate and tangible benefits from hunting. Furthermore, foreign hunters are more resilient to issues of security concern, economic decline and other external factors than photographic tourists generally are. Namibia has been caught on the back foot as far as responding to the anti-hunting lobby goes and the first thing they plan to do is start to pull data together to highlight the significance of the industry.

Lim Teck Wyn (Resource Stewardship Consultants Sdn Bhd, Malaysia), presented a case study of Tanam Negara National Park in Malaysia where poaching — and responses to it — have had significant effects both on the wildlife of the park and on the indigenous Orang Asli community. Rampant illegal and destructive harvesting of agarwood *(Aquilaria spp.)* since the 1990s has, in turn, led to opportunistic poaching of rare species including rhinos and tigers. The poaching — conducted by outsiders — has led to increased enforcement effort by authorities. Orang Asli agarwood collectors

have been a relatively easy target since they are non-confrontational, live locally and do not carry firearms — but are not responsible for the large scale illegal harvest. The courts have recently upheld the rights of the Asli to continue to sustainably harvest agarwood — the test will be whether official recognition is reflected by amendments to statutes, regulations and actual implementation on the ground.

In the discussion session participants discussed how strengthening the rights of the Asli would help in tackling illegal trade:

Lim noted that the Asli are well aware of the identities of those engaged in the illegal trade but they don't inform the forest and wildlife authorities because they distrust them. If their rights were recognised they would be far more likely to act as the eyes and ears on the ground — working in partnership with the wildlife authority.

Session 3b. Engaging indigenous and local communities in conservation: the role of governance, rights and incentives, and challenges of this approach

Calvin Cottar (Cottar's Safari Service) highlighted how in Kenya — where the population is growing at a rate of 8 per cent per year — IWT is largely a product of land use change, and in particular the conversion of rangelands to agricultural land. Protected areas account for only seven per cent of the land area with the majority of Kenya's wildlife living outside of these sites — on private or communal land. However, ownership and rights over wildlife rest with the state and so there is little incentive to conserve it rather than convert the land to other uses. Because of this competition, landowners have killed off wildlife at a rate that will see it effectively gone in 20 years and land conversion is occurring at a rate of 8 per cent per year in the worst hit areas.

Kenya is well known for its wildlife conservancies, particularly in the arid and semi-arid lands (ASAL) where wildlife viewing tourism generates revenues. Here, benefits such as the increased security as a result of wildlife guards, community development benefits — in the form of schools, clinics, etc, and revenue sharing from tourism have proved to be an effective model for providing conservation incentives. In areas of higher rainfall, however, where agriculture is a more viable alternative, a different model is required. Around the Maasai Mara, the Cottars have worked with local landowners to establish a wildlife conservancy that is maintained through the payment of conditional land leases — whereby the landowners receive hard cash on a per hectare per year basis that is conditional on the continued presence of wildlife. The lease fee paid is calculated to be equivalent or higher than the potential revenues possible from alternative land uses. Poaching, cattle grazing or other infringements result in deductions. The fact that these deductions represent a collective loss means that the landowners identify, discipline or fine the individual responsible and the community effectively polices itself.

IWT has reduced as a result of this approach. However, all the Mara conservancies have a major weakness in that they are all dependent on revenue from tourism. This is fickle at the best of times and has declined significantly as a result of insecurity and, more recently, misunderstandings about the geographical distribution of the ebola outbreak. Calvin concluded by suggesting that competitive land leasing, most likely from external financial sources, is one of the few hopes for securing Kenya's wildlife and alternative sources of funding need to be urgently found to make it a viable option.

Laura Darby (GRASP) switched the focus of the meeting onto great apes. Illegal trade in apes — unlike elephants, rhinos and some other species — tends to be more opportunistic than organised and can be associated to a large extent with the growth of extractive industries such as logging. These industries bring in outsiders who often have very different cultural values from local people. Ecotourism has been a successful strategy in raising awareness of the value of apes. In Rwanda, for example, it generated US$294million in 2013, of which five per cent is used to fund community development initiatives. In other cases, such as in Cross River in Nigeria, gorilla poachers have been trained as 'Gorilla Guardians' and employed both as eco-guards and as outreach workers who can train others and increase conservation awareness. Visible results can be seen from this programme — incidents of snares and other forms of poaching have halved in some areas.

Alejandro Morales (ARCAS) then took us to a completely different continent to learn about sustainable use of olive ridley turtles in Guatemala. Olive ridleys are listed on CITES Appendix I and many areas have faced major IWT problems. Since the 1980s, there has been an informal arrangement whereby local people are allowed to collect and trade eggs in a domestic market, as long as they donated one dozen eggs per nest to a registered hatchery (the turtles lay huge numbers of eggs but with very low hatching success in the wild). In 2012, the government formalised the arrangement, whereby local egg collectors were allowed to harvest olive ridley nests as long as they donated 20 per cent of each nest to a local hatchery. There has, however been a lack of resources to regulate and monitor this and over-exploitation has occurred. This is not surprising since people can sell eggs for US$50 a nest compared to an average wage of US$175-313 per month.

To address this ARCAS started a programme with local children rewarding them with an excursion for donating one nest per year to hatcheries. These children were so motivated by this that they applied pressure to their parents to donate eggs in order for them to participate in the excursions. ARCAS has now further adapted its approach whereby instead of paying money for the donated eggs, they provide a food basket. This has had a huge impact since the money used to go to the men whereas now that payments are made in food, it goes to the women who are more committed. In 2014 ARCAS received nearly 50,000 eggs and had a 90 per cent hatching rate.

Louise Swemmer (SANParks) brought the discussion back to South Africa and presented SANPark's new approach to community engagement around Kruger National Park. Two million people in 200 towns/villages live on the western edge of Kruger and there are high levels of unemployment and a long history of distrust of Government as a result of forced removals from wildlife areas and other legacies of the apartheid era. Community outreach to date has largely focussed on environmental education with little in the way of tangible benefits. SANParks has recognised that this needs to change. The first thing they have done is to introduce a compensation scheme to address human wildlife conflict (between 50 and 150 cows are killed every year). They are also starting to introduce limited resource harvesting — mopane worms, thatch and Pepperbark trees. These initiatives are relatively low cost for conservation agencies but the gains in terms of relationships are large. Benefits from mopane and thatch harvesting supports marginalised households, avoiding elite capture. A further initiative is promoting access to alternatives – for example planting trees outside the park has resulted in reduction in illegal timber extraction inside the park. While these are steps in the right direction the challenges facing SANParks are huge. Most of the poachers come from the eastern edge of the park where it borders with Mozambique, and the scale is huge — for example in 100 days between July and September last year there were an estimated 600 poachers in the park.

Alex Kisingo (College of African Wildlife Management) presented a case study of another challenging site — the Selous Game Reserve in Tanzania where elephant numbers have declined from 60,000 to 13,000 in less than ten years. Tanzania has nearly 40 per cent of its land area under protected areas but has very limited capacity to protect its wildlife resources. Alex particularly noted the low levels of staff and vehicles for anti-poaching. Governance of protected areas (including community managed Wildlife Management Areas – WMAs) is perceived, by communities, to be generally poor and this is considered to be a result of a disconnect between people and wildlife — which is owned by the state. This disconnection of wildlife ownership from communities has resulted in a proliferation of corruption from the arrest of poachers to their acquittal in courts of law. Alex suggested that the solution in Tanzania is to improve capacity for law-enforcement through decentralization of wildlife and protected area governance to communities in order to incentivize community support.

The session was closed with the screening of short video submitted by Clara Lucia Serra Diaz (Regional Environmental Authority, Córdoba, Colombia) who was unable to attend the meeting in person. The video presented the case study of the American Crocodile *Crocodylus acutus* — in which all trade is banned. The species was subject to high levels of poaching for IWT in the later part of the twentieth century. In Cispata Bay a group of ex-poachers have established a cooperative — ASOCAIMAN — which works to protect the crocodile through scientific research, education and awareness-raising. There are currently no economic benefits from crocodile conservation but ASOCAIMAN is hoping it will eventually be downlisted to CITES Appendix II so that limited trade can recommence.

The question and answer session covered a number of key issues:

- How to focus limited resources — it was suggested that hotspots for human wildlife conflict as well as hotspots for poaching should be the focus for community engagement. Multiple opportunities inside and outside of parks should be explored for increasing resources. Most successful projects are those where the underlying drivers of community disenchantment (of which IWT is one symptom) are tackled rather than IWT being the only issue to address.
- The importance of ownership — wildlife governance in Tanzania is poor because wildlife is considered as state property even when it is on community land. The WMA policy was intended to give more rights to communities but four years ago the government reneged on this promise and has retained the majority of tourism and hunting revenues arising from wildlife. It is a classic case of policy failure. Similarly in Kenya, you can own land but you can't own wildlife or benefit from its use.
- The role of the private sector — the presentation by Calvin Cottar highlighted the facilitation role they, as a private sector tourism operator, can play. The earlier case study of Sabie Game Park also highlights the importance of joint ventures between communities and the private sector.
- The limits of tourism — the 60 per cent tourism decline in Kenya highlights the need for a diversified approach. If tourism declines similarly in Rwanda the gorillas will be in serious trouble. Community owned tourism provides a stake but needs a diversified approach. Countries where sustainable consumptive use is not allowed are foreclosing on some options. Land leases might be one opportunity but again only if the funds to pay for them can come from non-tourism sources.
- Opening the trade in crocodiles — the American crocodile downlisting proposal was not accepted by CITES CoP16 because of concern that the wild population is still very small and it wasn't a ranching proposal. It wasn't clear that the precautionary mechanisms were being met. ASOCAIMAN plan to resubmit their request, but based on a ranching proposal.

DAY TWO SUMMARY

- IWT is like a perfect storm waiting to happen — the conditions are in place for it to happen suddenly anywhere if the catalyst is right. Furthermore, anti-poaching success in one place can simply push the problem to the next place — the path of least resistance.
- IWT is often a symptom of deeper underlying forces involving political, social and economic dynamics and broader patterns of land use change. Successful interventions require all these complex dynamics to be taken into account.
- It is not clear whether alternative livelihoods are a solution or not. They may in practice be 'additive' to poaching rather than 'alternative'.
- It is difficult for incentives at individual (poacher) level to be enough to outweigh attraction of poaching — there is a long chain of people that would need to be compensated from lost income/opportunity from poaching.
- Money, food/meat, jobs, other benefits — different types of incentives going to different groups have different outcomes.
- Conservationists may not always be the right people to understand the underlying social dynamics of IWT and design interventions. Issues such as empowerment of women, social cohesion, job generation in a continent of massive unemployment require social and political expertise more than ecology.
- Militarisation can break down community cohesion and cause more disenfranchisement. It can undermined human rights can cause further escalation of the problem.
- Policy and legislative failure is common — both in terms of the content of laws and their implementation and enforcement.
- CITES should encourage governments to work with communities and not threaten them with sanctions on the use of valuable natural resources.
- Adaptive management is critical.

DAY THREE

Session 3c. Involving communities in law enforcement efforts

David Wilkie (WCS) provided an overview of a study he is conducting on behalf of USAID, exploring the risks and rewards of engaging communities in anti-poaching efforts. He defined poaching as the illegal or illegitimate (when it goes against the interests of communities) taking of wildlife and noted that there are very different scenarios depending on the types of poacher (local people or outsiders); the type of product (high or low value) and the type of land (community or state). He concluded that when communities have rights they have a much higher incentive to conserve. When communities perceive poaching as stealing from them, they are highly motivated to stop it. Based on an experts survey he also suggested that while communities can be successfully engaged in anti-poaching activities they should not have arresting authority and should not be armed — rather they should be the 'eyes and ears' on the ground. However, to do this effectively they need to be really sure that the government/state law enforcement agencies will provide a timely and competent response.

Hasina Randriamanampisoa (Durrell Wildlife Conservation Trust) presented a case study of community engagement in protection of the ploughshare tortoise in Baly Bay, Madagascar. Local people are recruited as eco-guards and receive meals, equipment and a regular wage. This has instilled a sense of pride and increasing social status. However it has been difficult to incentivise local people to provide intelligence on poachers since arrests rarely lead to convictions and informants are thus fearful of potential reprisals. The case study highlights the role of an NGO such as Durrell in building a relationship and trust with local people in order to make community programmes effective. The lessons noted by Hasina were that communities need permanent partners for trust, a shared vision and an equitable distribution of funds.

Joe Kassongo (Juristrale) described an anti-poaching project in DRC. Here they have tried to raise awareness about the new wildlife law by making people aware of it and establishing a mechanism to allow people to submit information about poaching. Information on poachers or trafficking is passed on to the government enforcement agencies and attention has been paid to building the capacity of the judiciary to ensure that cases are brought to court. The project has found this awareness raising approach (including awareness of the potential penalties of engaging in wildlife crime) is proving to be effective — fear of going to prison is a big incentive not to poach. In addition, local people have developed a greater understanding of wildlife as a common good that belongs to them and that they need to protect for future generations.

Issues covered in the question and answer session included:

- The potential for sustainable use of ploughshare tortoises in Madagascar — it was noted that the ploughshare project is very donor dependent and an alternative might be to establish a captive breeding programme which would then allow for legal trade in the tortoises. This could be a valuable business. Hasina suggested that because poachers are well organised this would just compound the problem as it would not be possible to distinguish between the wild-caught and captive-bred tortoises and the poachers would use this to their advantage. He also mentioned that Durrell had spent years establishing a captive breeding programme, which had never really succeeded in its goals and that was why they had transitioned to a more community-based approach.
- Limited knowledge of wildlife legislation — in DRC the new wildlife law only came into effect in 2014. Even people in the capital are not familiar with its contents so knowledge in rural villages is limited.
- Pride and social status as an incentive — in Madagascar, pride comes from the fact that the person works closely with the authorities. There isn't the sense of ownership yet but the community rangers get a regular wage and are able to save money and improve their living standards/ social status.

The final set of case studies started with a presentation from **Max Jenes** (PAMS Foundation) on the Ruvuma elephant project in the Selous/Niassa Corridor in Tanzania. The project site covers two million hectares and includes village and agricultural land, forest and game reserves as well as community-based Wildlife Management Areas. Game scouts are drawn from the local villages, are trained, work alongside the government rangers, and receive performance related rewards. Villagers also act as an

informant network. Generating this level of cooperation requires a good relationship and so the project has also focused on tackling issues of concern to the local communities, and in particular, human elephant conflict. Chili fencing has been used very effectively to deter elephants — and also produces a cash crop that can generate revenue. The project has had the effect of dramatically reducing poaching while also helping villagers protect their crops. Max noted that similar successes could be replicated elsewhere as long as local people are treated as equal partners and respect is shown for their priorities as well as to conservation priorities; and where they are fairly and consistently rewarded for their cooperation.

Daniel Ole Sambu (BigLife) described a joint initiative between Big Life and the African Wildlife Foundation in Amboseli in Kenya where 75 per cent of elephants are found in communal lands. This is another example of a community ranger programme involving 235 Masai in Kenya and 60 in Tanzania. The community rangers provide intelligence on poaching activities and are rewarded in cash in a timely manner. The community programme is coupled with aerial patrols, armed response units and sniffer dogs. Like the Ruvuma Elephant Project, human–wildlife conflict is also dealt with. A Predator Compensation Fund has been running for 11 years and is the only one of its kind in east Africa. Financial sustainability is a problem — the fund is donor dependent — but it is a critical component of the overall anti-poaching programme and has resulted in an increase in lion numbers from fewer than ten to 127. Another innovation is the introduction of the 'Masai Olympics' which is intended to replace cultural lion killing when young Masai are initiated as warriors and instead compete for money and medals.

"If elephants disappear it means the environment is no longer good for us"

Susan Canney (Oxford University) provided the final presentation of the meeting with a case study — compiled with **Nomba Ganame** — of the Mali Elephant Project. The project covers an area of 32,000 square kilometres and involves many different ethnicities including pastoralists, agro-pastoralists and agriculturalists — all of whom have different systems of resource management. The project has revolved around revitalising traditional CBNRM institutions and has always been based on dialogue and the development of shared visions and shared solutions. Elder-based resource management committees have been established with the younger men forming 'brigades de surveillance' or vigilance networks. As with other case studies the Mali case emphasised the sense of pride that local people get from being part of such schemes, seeing the presence of elephants as part of their identity. The members of the vigilance networks are not paid — except in food — but this is considered to be a noble profession and has been sufficient to prevent young men from joining jihadist groups who have been operating in the area since 2012. They are also not armed and cannot make arrests, but they work in collaboration with the state law enforcement agencies. The emphasis on locally developed solutions has been critical to success. It has highlighted how money is not always the driving incentive for engagement — in this case, ownership, pride, self-esteem and improved natural resources (including clean water) have proven to the be the critical ingredients. There had been no poaching in the area until the coup in January 2012 and now the involvement of local people is even more critical to keep the poaching under control.

The final Q&A session focussed particularly on the issue of whether or not rangers should be armed:

Susan pointed out that in Mali arming the village brigades would make them a target because the country is still in a post-conflict situation. They are expected to be informants only rather than armed patrol units — a job that is fulfilled by the state rangers. Daniel and Max both highlighted that in their cases, asking villagers to face armed poachers without themselves being armed would be disastrous — the first thing the rangers ask to have is a gun: *"It's a war in Tanzania. You can't face poachers with no arms."*

Final panel discussion

The meeting concluded with a panel session chaired by Holly Dublin and comprising **Jeremy Eppel** (UK Govt); **Moemi Batshabang** (Botswana Govt); **Braulio de Souza Dias** (CBD); **Tom de Meulenaer** (CITES); **Hubert Boulet** (FAO), **Mary Rowen** (USAID) and **Klemens Riha** (GIZ). The panelists were first asked to highlight the key messages that they had taken from the meeting. These included:

- Decision making is needed all the way from the local to the international level. The work of people on the ground that has been shared is humbling and can inform international processes.
- The IWT problem is exceptionally complex. Law enforcement is part of the solution but we need to pay more attention to the beginning of the IWT process — where things happen within the reach of local communities. No single solution will fit all cases — we need an adaptive approach.
- Communities need to be involved in wildlife management. They need to be accountable, responsible and get benefit. Communities also need to play a role in law enforcement — including have appropriate laws to protect themselves. Wildlife conservation should be for the people, with the people, by the people.
- Social sustainability should be a key factor in thinking about IWT — both in terms of how to tackle IWT and how IWT affects communities. Communities need to be able to make their own decisions.
- Communities need to be integrated into the entire project cycle. While we all know this in theory, in reality it is not often done or followed through.
- We need to focus on evidence-based decision making. The theory of change is extremely important in this regard. But we also need to look beyond theory and see where we can engage with health, education, agriculture, mining, governance. Conservation and combatting IWT need to be part of a wider sustainable development agenda — something we have to really push and be alert and keep inserting into the wider post-2015 agenda — the SDGs.
- Botswana has been very busy trying to explore ways of improving wildlife conservation. We need to involve communities more in management — to the same level as our focus on law enforcement and demand reduction.
- We need to get better at communication — how do you best convey to government the key things that they need to do differently to help all of those communities in the field achieve the results that we all want. We need to find a way to where the best information-sharing and understanding of best practice be found and be available to governments and to communities.

The panellists were then asked how they would take the learning from the meeting into their own organisations. Responses included:

- Conveying messages to the multiple departments of government that have a concern with IWT and pushing for more attention to the beginning of the trade chain to complement the focus on the demand and transit side.
- Combining IWT with other thematic areas including land use, carbon credits, and ecosystem services, economic development, tourism and so on.
- Improving donor planning cycles so that we can adopt a long term perspective. It might lose political attention — we need to get the basics right to have the resources to work on it in the longer term.
- The need to build relations with the police and other agencies in particular to tackle issues of corruption.
- The lessons from the meeting could be incorporated into the work of the Collaborative Partnership on Wildlife.
- The SDGs present a key opportunity. We need to explore and communicate how sustainable wildlife management is relevant for the broader goals including food security, eradicating poverty, etc. FAO has recently released a new policy framework for sustainability, clearly recognizing the role of

biodiversity and ecosystem services. We can also use the opportunity of the CBD we to bring issues to a higher policy level. We have principles and guidance to promote sustainable use but we haven't made a great effort under the CBD to operationalize these and follow these up with actions on the ground. At the very least we should organise the information we have collected in the meeting and make it more widely available. The CBD also has programme on PAs through which issues of governance and equity can be addressed. The GEF could be an important mechanism to promote greater support of community engagement in tackling IWT.

- We should also strengthen links with the CITES and Livelihoods Working Group, including contributing to outputs planned for the next Standing Committee in January 2016. We should also try and feed some of these lessons into the National Ivory Action Plans that a number of countries have developed.
- The latter half of 2016 presents some great opportunities for policy advocacy including IUCN World Conservation Congress (Sept 2016); CITES CoP16 (Oct 2016) and CBD CoP13 (Dec 2016).

The final question to the panel focussed on how the symposium convenors could help drive this agenda forwards. All the panellists applauded the convenors for the high quality meeting and endorsed the need for ongoing work by the group. This could include:

- Continue the momentum to promote sustainable use including bringing it to the fora we just highlighted. We need a clear and convincing communications strategy.
- Similar meetings in other continents would further enrich the discussion — providing further and good examples.
- IWT is potentially a crowded field and there is a risk of duplicating work. The group needs to map who is already doing what and define its comparative advantage, building links with other initiatives.
- The discussion needs to expand now to other sectors. IWT is a development, conservation, and security issue — we need to think how best to bring the message to those fora.
- The group should utilise the report from this meeting to influence the work plan for the CPW over the coming years. Further discussion could also be started in the CBD at the next SBSTTA meeting (November 2015) where the report could be tabled as an information document and a side event held.

Participants were given a final opportunity to comment. **John Robinson** (WCS) suggested that the group could make a valuable contribution by thinking about those specific configurations of conditions that enable an alignment of different players around supporting local communities to combat IWT. Within United for Wildlife there is recognition that local communities are part of the solution — the mechanisms that were outlined in the last few days will richly inform that whole process. **Lim Teck Wyn** applauded the inspiring examples presented at the meeting – and the value in contrasting experiences from one context and continent to another. **Alejandro Morales** also highlighted how we all have the same problems and we all have different solutions — learning from each other is invaluable. **Thea Carroll** noted how South Africa is fortunate to have strong commitments to biodiversity within its National Development Plan (until 2030). The meeting has re-confirmed that their integrated approach, engaging the communities much more actively, is the way to go for tackling rhino poaching. With hindsight though, it is clear to see that if communities had been engaged as the first line of defence from the start, South Africa would not be in the situation it is currently in. Collective action is critical — there was a meeting with African rhino range States in October last year and this will be continued to share lessons of success and failure.

Conclusions and recommendations

The conclusions and recommendations from the meeting were produced iteratively over the three days and in consultation and discussion with the participants. A draft set of conclusions and recommendations were presented to the participants during the afternoon of day three, discussed, and extensively amended. A draft Statement (on which the Conclusions below are based) was read out and shown to the group. Time did not permit discussion of every section, but participants were given the opportunity to raise any major issues. Recommendations were thoroughly discussed and all participants present agreed they represented the broad views of the group. Final editing and synthesising of the conclusions and recommendations presented below was undertaken by the organisers immediately after the meeting ended.

Conclusions

1. Unless the current scale of illegal wildlife trade (IWT) is significantly reduced, many populations and even species of wildlife will cease to exist and will no longer contribute to community wellbeing and national economic development.

2. Governments and international agencies are now more open to recognizing the role of indigenous peoples and local communities in the governance of natural resources, but in the context of IWT this linkage has been largely overlooked in the face of the urgent nature of the threat. Even when this linkage has been recognized, there is still a major gap in implementation.

3. Enforcement[2] is a critical ingredient in successful conservation. However, current approaches to enforcement, focusing primarily on state policing, are inadequate or failing, and worldwide the depletion of many species of wildlife in illegal trade continues unabated.

4. Furthermore, current practices of increasingly militarised state-led enforcement can create threats to communities, governance and human rights, as well as having major economic costs for governments and support agencies. Where carried out in a way that does not respect human rights, such enforcement approaches can undermine other conservation efforts that are based on building trust and cooperation with communities.

5. Increasing sanctions for illegal activity can also increase opportunities for corruption, and undermine legitimacy of the legal system due to perceived unfairness.

6. Even when enforcement is successful at an individual site, the poaching threat may simply be displaced to other areas with weaker enforcement and where local communities are poor enough to be incentivized to engage in IWT. Since high levels of enforcement cannot be applied everywhere at all times, and since most populations of high-value species coincide with areas of high poverty, this implies that the IWT challenge will likely continue to move along the path of least resistance.

7. Where enforcement is successful in reducing levels of poaching, and demand for poached commodities is inelastic, the decreased supply is expected to drive prices up. This increases the payoffs for poaching, other factors being equal.

8. Communities can be powerful and positive drivers of change. Efforts to address IWT need to understand and address the incentives and motivations of the major players, including local community members, which can be diverse, ranging from poverty to thrill-seeking to revenge.

9. In many places, international and national wildlife policies have led to wildlife having little or no economic value to the people who live with it, making it no longer competitive with other land uses such as livestock and agriculture. This removal of economic value not only leads to habitat loss, but also removes a major incentive for local people to protect it from illegal offtake or to sustainably manage it.

[2] Monitoring and sanctioning of non-compliance with norms and laws, traditional or formal, that regulate access to and use of wildlife resources.

10. The rights and responsibilities of communities in efforts to reduce IWT need to be recognised and strengthened. If local communities have a collective sense of ownership over their wildlife and view poaching as stealing from them, they are highly motivated to help combat IWT.
11. This must be supported through enabling policies that support community's abilities to exercise their options and opportunities to benefit from wildlife, and that build their motivation and capacity to steward wildlife.
12. Effective enforcement will require and be enhanced by active engagement of local communities. Communities are in the best place to know what is happening on the ground, including the movements and activities of poachers. They can be the 'eyes and ears' of state-led enforcement efforts. Community engagement needs to be based on listening, building trust, respecting traditional authority, and developing shared, co-created solutions.
13. Strong relationships with effective and responsive arresting authorities are critical. When capable government agencies collaborate closely with motivated and empowered local communities, they together will be able to effectively enforce wildlife regulations and halt the unsustainable and illegal trade in high value wildlife — saving species and securing human livelihoods for long into the future.

Recommendations

The following recommendations are made to governments, international organisations, NGOs, overseas development agencies, donors, and multilateral policy processes, when developing and implementing approaches to address IWT:

Support community rights and responsibilities through:

- Recognising that IWT is a development as well as a conservation issue
- Recognising the central role of the communities that live close to wildlife in addressing and combating IWT
- Seeking to understand, respect and respond to community rights, needs and priorities in designing initiatives to combat IWT
- Recognising the distinction between IWT and legitimate, sustainable use and trade of wild resources
- Ensuring enforcement efforts are sensitive to potential negative impacts on local communities and are accompanied by appropriate accountability mechanisms
- Recognising, supporting and providing an enabling environment for communities to be involved in wildlife governance and derive benefits from its conservation and sustainable use.

Strengthen community voices through:

- Supporting a mechanism for communities affected by IWT to learn from each other and to have their voices heard in national and international policy fora
- Strengthening the ability of communities to be involved in decision-making surrounding action to combat IWT, including use and management of wildlife, and to derive benefits from conserving wildlife.

Strengthen partnerships through:

- Encouraging the development of partnerships between communities, conservation NGOs and law enforcement agencies in tackling IWT
- Recognising the role of the private sector in generating the benefits from wildlife that support community engagement in conservation.

Strengthen the evidence base through:

- Building knowledge and understanding about the motivations for, drivers of, dynamics of, and responses to, IWT.

Annex 1: List of participants

First name	Last Name	Organisation
Max	Abensperg-Traun	Federal Ministry of Environment, Austria
Nick	Ahlers	TRAFFIC
James	Allan	The Centre of Excellence for Environmental Decisions CEED, The University of Queensland
Moemi	Batshabang	Ministry of Environment Wildlife and Tourism, Botswana
Gordon	Bennett	Survival International
Duan	Biggs	ARC Centre of Excellence for Environmental Decisions @ The Centre for Biodiversity and Conservation Science
Hubert	Boulet	FAO
Noelia Zafra	Calvo	United Nations University
Susan	Canney	Mali Elephant Project
Khristopher	Carlson	Small Arms Survey
Thea	Carroll	Department for Environmental Affairs South Africa
Jaime	Cavelier	GEF
Dan	Challender	IUCN Global Species Programme
Brian	Child	University of Florida / GEF STAP
Kai	Collins	Wilderness Safaris
Rosie	Cooney	IUCN Sustainable Use and Livelihoods Specialist Group
Calvin	Cottar	Cottar's Safari Service
Laura	Darby	GRASP
Kimon	de Greef	Independent Researcher
Tom	De Meulenaer	CITES
Braulio	de Souza Dias	CBD
Toan	Do	The World Bank
Holly	Dublin	IUCN/SSC African Elephant Specialist Group and IUCN SULi Steering Committee
Jeremy	Eppel	UK DEFRA
Kathleen	Fitzgerald	African Wildlife Foundation
Jumanda	Gakelebone	Kalahari Game Reserve
Edson	Gandiwa	Chinhoyi University of Technology
Kenly	Greer	US State Department
Max	Jenes	PAMS Foundation
Roopa	Karia	USAID
Joe	Kassongo	Juristrale, Democratic Republic of the Congo
Aidan	Keane	Imperial College London
Alex	Kisingo	College of African Wildlife Management
Mike	Knight	IUCN/SSC African Rhino Specialist Group
Adrian	Lombard	The International Association for Falconry and the Conservation of Birds of Prey.

Maxi	Louis	NACSO
Rodgers	Lubilo	South African Wildlife College
Katharine	Mansell	IIED
Moscow	Marumo	Department for Environmental Affairs South Africa
Roland	Melisch	TRAFFIC
Minister Edna	Molewa	Ministry of Water and Environmental Affairs
Alejandro	Morales	ARCAS, Centro de Rescate y Rehabilitación de Vida Silvestre
Mike	Murphree	African Centre for Disaster Studies and IUCN SULi Steering Committee
Abdallah	Mwanauta	Ministry of Natural Resources and Tourism, Tanzania
Mlandelwa Nqo	Ndlovu	Resource Africa
Johnson	Ndokosho	Ministry of Environment and Tourism, Namibia
Benjamin	Neusel	GIZ NRM Project Tanzania
Daniel	Ole Sambu	Big Life Foundation and African Wildlife Foundation
Garth	Owen-Smith	IRDNC
Kumar	Paudel	Greenhood Nepal
Scott	Perkin	IUCN Asia Regional Office
Caroline	Petersen	UNDP
Jacob	Phelps	CIFOR
Ana	Puyol	TRAFFIC
Hasina	Randriamanampisoa	Durrell Wildlife Conservation Trust, Madagascar
Elisa	Reuter	German Police Service
Klemens	Riha	GIZ
John	Robinson	WCS
Doreen	Robinson	USAID
Dilys	Roe	IIED
Mary	Rowen	USAID
Samia	Saif	Durrell Institute of Conservation and Ecology
Jo	Shaw	WWF
Maya	Sivagnanam	UK FCO
Diane	Skinner	Environmental & Wildlife Consultant
Iain	Stewart	FCO
Greg	Stuart Hill	WWF
Naresh	Subedi	National Trust for Nature Conservation, Nepal
Louise	Swemmer	SANParks
Russell	Taylor	WWF
Henry	Travers	Imperial College London
Nathalie	van Vliet	CIFOR
David	Wilkie	Wildlife Conservation Society
Lim Teck	Wyn	Resource Stewardship Consultants Sdn Bhd, Malaysia

Annex 2: Programme

DAY ONE: 26 February 2015

1.30pm start		
1. INTRODUCTION (Open session) *Chair: Max Abensperg-Traun*		
	Minister Edna Molewa, Minister of Environmental Affairs, South Africa	Opening address
	Braulio de Souza Dias, Secretary-General, Convention on Biological Diversity (CBD)	Illegal Wildlife Trade and biodiversity conservation
	John Scanlon, Secretary-General, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (via representative: Tom de Meulenaer)	Communities and wildlife crime in context: an overview of illegal wildlife trade and current international responses
	Rosie Cooney, IUCN CEESP/SSC Sustainable Use and Livelihoods Specialist Group and Dilys Roe, International Institute for Environment and Development	Introduction to the symposium: objectives and approach
	Duan Biggs, ARC Centre of Excellence for Environmental Decisions, University of Queensland, Australia	Presentation of draft 'Theory of Change'
	Questions and discussion	
2. WILDLIFE CRIME AND LOCAL COMMUNITIES: WHY BOTHER?		
2a. Communities and wildlife crime: what are the linkages? The broad context. *Chair: Nick Ahlers*		
3.00	Introduction to the session	
	Caroline Petersen, United Nations Development Programme	Illegal Wildlife Trade and local development - what are the links?
	Brian Child, University of Florida	The sustainable use approach, communities and wildlife trade
	Henry Travers, Imperial College London and Jacob Phelps, Centre for International Forestry Research, Indonesia	Typologies of wildlife crime
	Questions and discussion	
3.45-4.00	***Afternoon tea (Open session ends)***	
2a. Communities and wildlife crime: what are the linkages? Case studies. (Closed session begins)		
4.00	Samia Saif, Durrell Institute of Conservation and Ecology	Who kills the tiger and why? Motivations of tiger poachers in the Sundarbans (Bangladesh)
	Edson Gandiwa, Chinhoyi University of Technology	An assessment of wildlife crime in Southern Zimbabwe: a case study of Gonarezhou National Park and adjacent communities
	Kenly Greer Fenio Greer, US State Department	Community attitudes on poaching rhino horn in South Africa and Mozambique
	Kimon de Greef, Independent Researcher	Abalone poaching in Hangberg: a functional alternative to the state fisheries sector?
	Questions and discussion	
5.30	Wrap up of day and close (Holly Dublin)	
6.30 River Lapa	Namibian team: representatives from the Ministry of Environment and Tourism, NACSO, WWF in Namibia, IRDNC and Save the Rhino Trust *Moderator: Holly Dublin*	Special evening session to discuss (informally and in-depth) Namibia's experience in supporting communities and reducing illegal use and trade

DAY TWO: 27 February 2015

9am start		
Recap of Day 1 – Rosie Cooney		
2. WILDLIFE CRIME AND LOCAL COMMUNITIES: WHY BOTHER? *Cont.*		
2a. Communities and wildlife crime: what are the linkages? Case studies. *Cont.* *Chair: Nick Ahlers*		
	Noelia Zafra Calvo, United Nations University	Assessing local communities' trade-offs to support cost-effective conservation strategies: the case of the Ruvuma landscape
	Jo Shaw, World Wide Fund for Nature, South Africa and Rodgers Lubilo, South African Wildlife College	Community attitudes toward wildlife and conservation in Mangalane, Mozambique
	Mlandelwa Nqobizitha Ndlovu, Resource Africa	Community perspectives on benefits derived from conservation of rhino in the Kruger National Park
	Questions and discussion	
2b. Enforcement strategies: when do they work, and what are their limitations? *Chair: Duan Biggs*		
10.00	Introduction to the session	
	Aidan Keane, Imperial College London	Enforcement responses to wildlife crime - what have we learnt?
	Quy-Toan Do, the World Bank	The economics of enforcement-led responses to wildlife crime
	Elisa Reuter, German Police Service	Keeping the horn on the rhino: using crime prevention theory to understand and combat rhino poaching
	Questions and discussion	
10.45-11.00	***Morning tea***	
11.00	Ana Puyol, TRAFFIC presenting on behalf of Patricia Mencay Nenquiui, Asociación de Mujeres Waorani de la Amazonía Ecuatoriana (AMWAE), and Bernardo Ortiz, TRAFFIC	Using integrated approaches based on economic alternatives as the main driver of change to combat illegal use and trade - insights from the Ecuadorian Amazon
	Adrian Lombard, International Association for Falconry	The CMS Global Action Plan for the Saker Falcon: promoting conservation and combating illegal trade through engagement of stakeholders
	Questions and discussion	
2c. Impacts of enforcement-led strategies on communities and community-based conservation *Chair: Roland Melisch*		
11.30	Introduction to the session	
	Khristopher Carlson, Small Arms Survey	The militarisation of poaching and anti-poaching
	Kumar Paudel, Greenhood, Nepal	Understanding the impact of enforcement-led approaches to IWT on local communities on the Araniko-Trail, Nepal
	Gordon Bennett, barrister at New Square Chambers	Negative impacts of wildlife law enforcement in Botswana, Cameroon and India
	Nathalie van Vliet, Center for International Forestry Research (CIFOR)	Formal regulations on wildlife use in Central African countries and their local impacts on people's livelihoods and biodiversity

	William Kamgaing, Graduate School of Asian and African Area Studies, Kyoto University, presenting on behalf of himself and Takanori Oishi, Research institute for Humanity and Nature, Kyoto, Japan	Anti-poaching operations by military forces and their impacts on local peoples in southeastern Cameroon
	Questions and discussion	
12.30-1.30	***Lunch***	
3. RESPONDING TO THE LONDON DECLARATION COMMITMENTS		
3a. Understanding and quantifying the negative impact of wildlife crime on sustainable livelihoods and economic development *Chair: Dan Challender*		
1.30	Introduction to the session	
	Greg Stuart-Hill, WWF in Namibia	How poaching is affecting communities
	Lim Teck Wyn, Resource Stewardship Consultants Sdn Bhd, Malaysia	Traditional and commercial exploitation of flora and fauna in Taman Negara National Park, Peninsular Malaysia
	Questions and discussion	
3b. Engaging indigenous and local communities in conservation: the role of governance, rights and incentives, and challenges of this approach *Chair: Mike Murphree*		
2.15	Introduction to the session	
	Calvin Cottar, Cottar's Safari Service, Kenya	Rights and tenure as the basis for new ways to reduce illegal wildlife trade
	Laura Darby, UNEP-UNESCO Great Apes Survival Partnership	Great Ape ecotourism and Illegal wildlife trade
	Alejandro Morales, ARCAS - Centro de Rescate y Rehabilitación de Vida Silvestre, Guatemala	Sustainable egg harvesting and community engagement in protecting Olive Ridley Turtles (*Lepidochelys olivacea*), Guatemala
	Questions and discussion	
3.15–3.45	***Afternoon tea***	
	Louise Swemmer, South African National Parks	Neighbouring communities, conservation and wildlife crime – A SANParks Perspective
	Clara Lucia Serra Diaz, Regional Environmental Authority, Córdoba, Colombia (via pre-recorded video)	Incentives and community engagement in conservation and anti-poaching of the American crocodile in Cispata Bay, Colombia
	Alex Kisingo, College of African Wildlife Management	Governance and compliance failures in fighting illegal ivory trade: Perspectives from Tanzania
	Questions and discussion	
4.45	Duan Biggs, ARC Centre of Excellence for Environmental Decisions, University of Queensland, Australia	Review of draft "Theory of Change" in light of proceedings, followed by discussion
approx 5.15	Wrap up of day and close (Holly Dublin)	

DAY THREE: 28 February 2015

Recap of Day 2 – Rosie Cooney		
9am start		
3. RESPONDING TO THE LONDON DECLARATION COMMITMENTS *Cont.*		
3c. Involving communities in law enforcement efforts *Chair: Dilys Roe*		
	Introduction to the session	
	David Wilkie, Wildlife Conservation Society	Rewards and risks associated with community engagement in anti-poaching and anti-trafficking
	Hasina Randriamanampisoa, Durrell Wildlife Conservation Trust, Madagascar	Community engagement in protection of the ploughshare tortoise in Baly Bay, Madagascar
	Joe Kassongo, Juristrale, Democratic Republic of the Congo	Where and how to engage communities in strengthening law enforcement, and what factors underlie success *Impliquer les communautés dans les efforts de renforcement de la loi: où et comment s'engagent les communautés dans le renforcement de l'application de la loi et quels facteurs sous-tendent la réussite*
	Questions and discussion	
	Max Jenes, PAMS Foundation	Ruvuma elephant project: communities and anti-poaching in the Selous-Niassa corridor, Tanzania
	Daniel Ole Sambu, Big Life Foundation and African Wildlife Foundation	Community engagement in law enforcement networks
	Susan Canney, Mali Elephant Project, The WILD Foundation	Protecting elephants, biodiversity, livelihoods & people: an integrated community-government response to combat wildlife crime in Mali
	Questions and discussion	
10.15-10.45	***Morning tea***	
10.45-12.30	Discussion and finalisation of symposium Statement and Recommendations *Chair: Rosie Cooney*	
12.30-1.30	***Lunch***	
1.30-3.00	Discussion and finalisation of symposium Statement and Recommendations	
3.00-3.30	***Afternoon tea***	
3.30-5.00	**Panel Discussion** among high level representatives of key governments, donors, and policy-relevant institutions, reflecting on the implications of the findings of the symposium for practice and policy. **(Open session).** *Moderator: Holly Dublin*	
5.00-5.30	**Media question and answer session**	
5.30	**Close of meeting**	

Annex 3: Theory of change

Developing a theory of change for communities, governance, incentives and sustainable use in combating illegal wildlife trade

Compiled by: Duan Biggs, Rosie Cooney, Dilys Roe, Holly Dublin, James Allan, Dan Challender, Diane Skinner, with input from the symposium delegates

Acronyms: IWT = Illegal Wildlife Trade

Suggested citation: Biggs, D; Cooney, R; Roe, D; Dublin, H; Allan, J; Challender, D; Skinner, D; *et al.* Developing a theory of change for communities, governance, incentives, and sustainable use in combating illegal wildlife trade. Annex 3, Symposium Report, 'Beyond enforcement: communities, governance, incentives and sustainable use in combating wildlife crime', 26-28 February 2015, Glenburn Lodge, Muldersdrift, South Africa.

Background, purpose and definitions

Theories of change (TOCs) are used to think through and plan action and interventions which address a specific societal or environmental problem (Vogel 2012). TOCs map out the logical steps that are needed for an intervention to lead to a desired outcome and ultimately to broader societal impact. A TOC typically functions according to sequential logic that runs from:

- **Actions:** Activities undertaken by an agency such as an NGO or government department (usually in partnership with local communities). For example, decrease human-wildlife conflict by initiating or expanding a compensation scheme for damage causing animals or strengthening preventative measures such as fencing.
- **Outputs:** The expected direct results of the activities undertaken. For example, the cost to communities imposed by the presence of wildlife is reduced.
- **Outcomes:** The expected result that stem from the outputs being achieved. For example, there is decreased antagonism towards wildlife by community members.
- **Impacts:** The expected end chain result. For example, there is reduced poaching by the community which contributes to decreased Illegal Wildlife Trade (IWT) overall.

The assumptions behind the logic of change are important in TOCs, and these assumptions should be made explicit (Vogel 2012). Assumptions point to the circumstances under which an action may fail to lead to a desired outcome if the assumption does not hold up. For example, if a project is Initiated to allocate increased tourism revenue to local communities with the aim of reducing poaching and the, there is, among others, an assumption that the increased revenue will reduce dependence on IWT as a source of income, and therefore reduce poaching.

The actions in the TOC are categorised into four main streams:

1. **Strengthening disincentives for illegal behaviour:** Actions that make it more difficult and costly to engage in the illegal wildlife trade.
2. **Increasing incentives for stewardship:** Actions that strengthen both the financial and non-financial rewards for the care and sustainable management of wildlife.
3. **Decrease costs of living with wildlife:** Actions that reduce the burden of living with wildlife.
4. **Supporting alternative non-wildlife livelihoods:** Actions that create livelihood and economic opportunities not related to wildlife, for example bee-keeping, craft development.

We also identified a set of broader enabling actions that underlie the potential success of all four streams. These are: Strengthen the institutional framework for IWT and increase the perceived legitimacy of wildlife conservation laws; fight corruption and strengthen governance; and, build community capacity. These are discussed in more detail below.

Process for advancing the TOC during the symposium

The symposium represents the coming together of policy-makers, practitioners, and funders of programs with tremendous collective experience about the types of actions and projects to combat IWT that have and have not worked (and the reasons for their success or failure) in a wide variety of settings. A small group within the organising committee worked collectively in the three months prior to the symposium to develop a draft TOC. This was presented at the symposium, with a request to all symposium participants to actively contribute to advancing the TOC during the symposium, and refer to it during their talks and symposium discussions where relevant.

A handout of the TOC was included in the conference pack. In addition, a large poster version of the TOC was placed in a central location in the symposium venue. Post-it notes and pens were placed next to the TOC to enable easy contribution to the TOC during the conference sessions. The assumptions behind the draft TOC that were presented were indicated using letters in the TOC poster. Each assumption was described and referenced in the tables accompanying the TOC poster. The assumptions were also in the conference hand-outs.

Insights on the TOC from the symposium

In the numerous and iterative discussions on the TOC during the symposium a number of key points were emphasised. These are discussed below.

The criticality of strengthening governance and controlling corruption

Governance is defined by the Oxford English dictionary as the action, manner, and system of governing a state or organisation. The World Bank's Worldwide Governance Indicators measures six dimensions of governance (see http://info.worldbank.org/governance/wgi/index.aspx#home) (Kaufmann *et al*. 2011). These are: Voice and accountability; Political stability and absence of violence; Government effectiveness; Regulatory quality; Rule of law; and Control of corruption.

In discussions of the TOC and the input of symposium participants frequently referred to the importance of challenges to combatting IWT that relate closely with improving one or more of these six dimensions of governance. In particular, the more effective control of corruption was widely mentioned as a critical prerequisite to greater success in combatting IWT. Indeed, research has shown that governance quality, in particular the control of corruption, is a key predictor of the health of populations of key IWT species such as the African elephant, and the Black rhino (Smith *et al*. 2003).

However, the symposium discussions on the TOC also highlighted another critical issue pertaining to governance. It was emphasised on a number of occasions that the laws for the conservation of wildlife themselves are often perceived as illegitimate. Indeed, many of these laws date from the colonial era and disenfranchised local communities from the ability to harvest, own, or benefit from wildlife. Many of these laws have not been removed or modified since those days. This results in the perception that wildlife conservation laws are illegitimate. This is closely related to the lack of the control of corruption. If laws are perceived as illegitimate, and the individuals responsible for implementing laws are often under-paid, it creates tremendous scope for corruption. The issue of the perceived illegitimacy of laws falls within the 'voice and accountability' dimension of governance. The lack of voice and accountability of local communities in the rules that define wildlife access, ownership and use is another issue that urgently needs to be dealt with if there is to be greater success in combatting IWT. It is likely that if voice and accountability improves that corruption will also become easier to control, as laws will be perceived as more legitimate.

The importance of feedback loops

A number of participants suggested that the TOC appears too linear. In reality, feedbacks between the different streams and activities are critical and do not come through clearly enough in the TOC diagram. Specifically, there was a strong feeling that actions that aim to strengthen community enforcement against IWT will have strong feedbacks with actions that generate financial and non- financial benefits from wildlife. More specifically, if individuals, households, and communities feel that they are benefitting from the presence of wildlife, they are more likely to participate and support enforcement efforts against IWT. Hence, there is a strong feedback between the 'increasing incentives for stewardship stream' and the 'strengthening disincentives for illegal behaviour stream'.

In addition, it was highlighted that if the actions are successful in leading to the outputs, and the expected outcomes, that there will be positive feedbacks to the enabling conditions. I.e. if an action to strengthen community enforcement against IWT is successful, it will probably also support the broader enabling action of better controlling corruption and improving governance.

Feedbacks were added to the TOC diagram (Figure 1) using green arrows.

Importance of real grassroots participation, co-learning, and adaptive management of actions and interventions for IWT

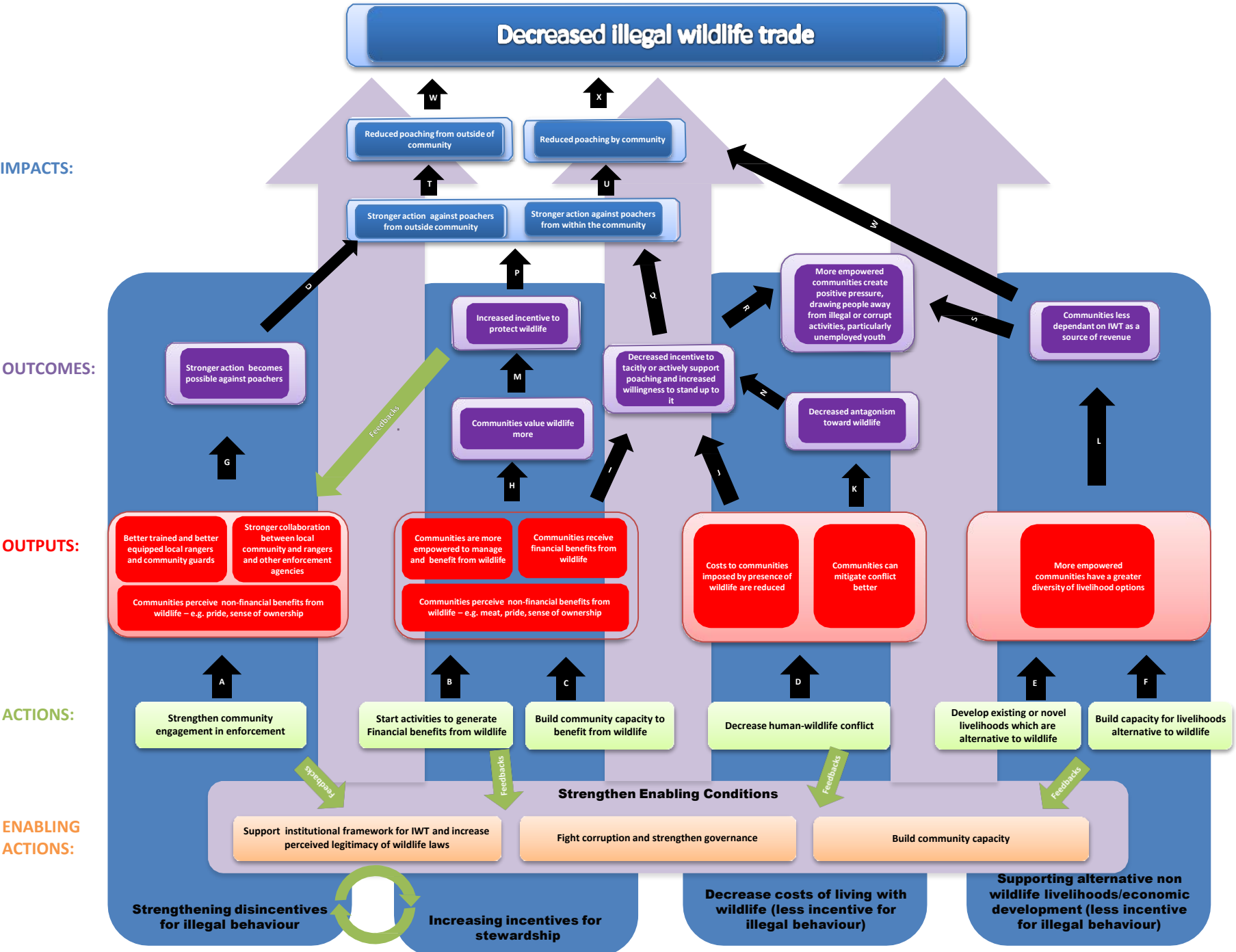
The point was raised that the actions as described in the IWT created the impression that they are carried out by external actors (eg NGOs, development agencies or governments), and the importance of real community participation, and co-learning with communities to decide on actions to best counter IWT was under-emphasised. This co-learning with local communities should be an ongoing process of adaptive management, and local communities should be empowered actors in defining and managing interventions to address IWT.

Additional points and notes

1. For clarity of understanding, the stream originally called ‘develop alternative livelihoods’ should be renamed ‘develop non-wildlife related alternative livelihoods’. These could be non-wildlife activities already occurring in a community that are strengthened or new activities that are initiated.
2. The high levels of youth unemployment in communities was raised as a key challenge to any action that aims to address IWT. New activities and opportunities need to be developed to draw people away from illegality.
3. The TOC focusses on communities at the source areas for wildlife products. It is important that it is interpreted in the broader context of efforts along the entire international value chains to combat IWT, such as demand reduction efforts in consumer countries.

The updated TOC figure and the assumptions follow below.

Note this represents a work in progress and references remain incomplete.


Decreased illegal wildlife trade
IMPACTS:
OUTCOMES:
OUTPUTS:
ACTIONS:
ENABLING ACTIONS:
W
X
Reduced poaching from outside of community
Reduced poaching by community
T
U
Stronger action against poachers from outside community
Stronger action against poachers from within the community
V
O
P
Q
R
S
Stronger action becomes possible against poachers
Increased incentive to protect wildlife
Decreased incentive to tacitly or actively support poaching and increased willingness to stand up to it
More empowered communities create positive pressure, drawing people away from illegal or corrupt activities, particularly unemployed youth
Communities less dependant on IWT as a source of revenue
M
N
Communities value wildlife more
Decreased antagonism toward wildlife
Feedbacks
G
H
I
J
K
L
Better trained and better equipped local rangers and community guards
Stronger collaboration between local community and rangers and other enforcement agencies
Communities perceive non-financial benefits from wildlife – e.g. pride, sense of ownership
Communities are more empowered to manage and benefit from wildlife
Communities receive financial benefits from wildlife
Communities perceive non-financial benefits from wildlife – e.g. meat, pride, sense of ownership
Costs to communities imposed by presence of wildlife are reduced
Communities can mitigate conflict better
More empowered communities have a greater diversity of livelihood options
A
B
C
D
E
F
Strengthen community engagement in enforcement
Start activities to generate Financial benefits from wildlife
Build community capacity to benefit from wildlife
Decrease human-wildlife conflict
Develop existing or novel livelihoods which are alternative to wildlife
Build capacity for livelihoods alternative to wildlife
Feedbacks
Feedbacks
Feedbacks
Feedbacks
Strengthen Enabling Conditions
Support institutional framework for IWT and increase perceived legitimacy of wildlife laws
Fight corruption and strengthen governance
Build community capacity
Strengthening disincentives for illegal behaviour
Increasing incentives for stewardship
Decrease costs of living with wildlife (less incentive for illegal behaviour)
Supporting alternative non wildlife livelihoods/economic development (less incentive for illegal behaviour)

Assumptions for the theory of change

	Assumption	Notes and References
A1	Community rangers use equipment and training to combat IWT and not to poach themselves or for other purposes (ie community governance is at an adequate level and corruption is sufficiently controlled)	Media reports, personal communication with practitioners, also see Bennett (in press), Smith *et al*. (in press), Smith *et al*. (2003); and literature on combatting illegal narcotics (Chambliss 1992; Cussen and Block 2000)
A2	Assume collaboration between communities and other enforcement agencies leads to stronger action against IWT and not stronger collusion for IWT or other activities (governance and control of corruption is at an adequate level)	See Bennett (In press); Smith *et al*. (in press); Smith *et al*. (2003)
A3	Communities are willing to enforce more strongly against IWT both within their communities and outside	See Brunckhorst (2010)
A4	Communities are willing to collaborate with other enforcement (eg historical, existing tensions are not excessively high)	For example Adams and Hutton (2007)
A5	Ensure formal sanctions are fair and proportionate (eg penalties may be reasonable and fines can be avoided)	Ostrom
A6	Assume the community understands and agrees that there is a wildlife problem	
B1	Depends on the right and legality to sell a wildlife product (eg trophy hunting, or animals parts, locally, nationally internationally)	Many high value wildlife products (eg ivory, rhino horn) have restrictions on domestic and international sale and export. This impacts on ability to allocate wildlife rights to communities, for example see Norton-Griffiths (2007); Stiles (2004).
B1	Communities are interested and willing to engage in harvesting and managing wildlife products	Some communities may prefer livestock or crop farming, even if they of1fer lower returns. An example from fisheries see: Pollnac et al. (2001)

B2	There is a market for wildlife products	There has to be a market for a legally produced product, for example see Phelps *et al*. (2013)
B3	Protected area authorities are willing to share revenue	Some protected area authorities may feel very cash constrained and are unlikely to want to share revenue
B4	There is a donor for the payment for ecosystem services (PES) scheme	PES schemes requires financing
B5	Ownership leads to pride	Sense of ownership and pride is an important outcome of allocating rights and responsibilities to communities (Brooks 2010; Salafsky *et al*. 2001)
B6	Revenue sharing and PES schemes lead to pride over wildlife	Perceptions of benefit may or may not lead to increased pride — this is often context dependent — eg Brooks (2010)
B7	Sufficient perception of link between wildlife and revenue	It is possible that communities receive benefit but do not perceive that that benefit stems from the well-being of wildlife
B8	Adequate monitoring is possible at an affordable cost for the Payment for Ecosystem Services (PES) scheme to work	Monitoring the achievement of PES outcomes can be expensive and difficult leading to payments for non-achievement and other 'fraudulent outcomes' (Laurance 2004)
B9	GENERAL: There is not an unhealthy level of elite capture (sufficiently equitable) that undermines the schemes	Elite capture can undermine the functioning of the incentives from wildlife ownership or PES (eg Jones *et al*. 2012)
B10	Legally produced products substitutes wild products in the market place rather than yield parallel markets	Biggs *et al* 2013

C1	Communities are willing to engage in capacity building (eg to become nature guides, engage in PES schemes etc)	Some communities and individuals may prefer current activities (eg domestic livestock) for cultural and other reasons — even if financial returns are lower. Pollnac *et al*. (2001) contains an example from fisheries
C2	Donor fund to facilitate and support capacity building	
D1	There are funds available for increased compensation	
D2	There is a functioning distribution mechanism for money distributed for wildlife damage — eg it is not subject to elite capture	See Jones *et al*. (2012)
D3	The strategies to mitigate conflict — eg chilli peppers for elephants, improved fences actually work	
D4	Compensation does not lead to perverse behaviour ie damage from wildlife is actively induced to receive payments	Widespread anecdotal evidence of perverse outcomes from compensation schemes
E1 and F1	Community governance and adequate governance of elite capture of alternative livelihood strategies	Jones (2007) contains an example from Royal Chitwan, Nepal
E2 and F2	Alternative livelihood schemes do not generate perverse incentives ie money is not reinvested in poaching or other land-uses that negatively affect wildlife	See McAllister *et al*. (2009) for a vicuna example and discussion on this
E3 and F3	There is a government agency or donor willing to support schemes	
E4 and F4	Alternative livelihoods provide jobs opportunities for the currently unemployed, or would be perpetrators of wildlife crimes	
G1	Better trained, better equipped guards are willing to use their skills and equipment to counter IWT and not use their more advanced equipment for more poaching or other purposes	Anecdotal evidence and media reports of community guard and ranger complicity

G2	Assume collaboration between communities and other enforcement agencies leads to willingness to take stronger action against IWT and not rather willingness for stronger collusion for IWT or other activities (governance and control of corruption is at an adequate level)	Anecdotal evidence and media reports of community guard and ranger complicity – also see: Bennett (In press); Smith *et al*.(in press); Smith *et al*. (2003), literature on combatting illegal narcotics (eg Chambliss 1992; Cussen and Block 2000)
G3	Assume that increases sense of non-financial benefits contributes to willingness to act more strongly stronger action against poachers	Brooks 2010 suggests that non-financial benefits can be an important determinant of conservation outcomes. Also see: Biggs *et al*. (2012); Biggs *et al*. (2011)
G4	Assume police and rangers are not involved or linked to illegal activities	For example: https://www.environment.gov.za/mediarelease/formersanparksranger_arrested
G5	Assume that communities have not already been overly intimidated by poachers, particularly armed groups	For example: http://america.aljazeera.com/multimedia/2015/1/the-human-cost-ofrhinopoaching.html
H1	Assume that communities that are more empowered to manage wildlife value it more	Evidence from a range of Natural Resource Management settings and behavioural experiments (eg Child 1996; Gelcich *et al*. 2006; Ostrom 1990; Ostrom 2005; Salafsky *et al*. 2001)
H2	Assume that when communities receive benefits from wildlife that they value it more	Evidence from a range of Natural Resource Management settings and behavioural experiments (eg Child 1996; Gelcich *et al*. 2012; Ostrom 1990; Ostrom 2005; Salafsky *et al*. 2001)
H2	Assume the community has full knowledge about how benefits are shared and distributed	
I1	Assume that communities who value wildlife more have a decreased incentive to actively or tacitly support poaching and are more willing to stand up to it	See Child (1996); Frost and Bond (2008)

J1	Assume that communities who experience a decreased cost of living with wildlife have a decreased incentive to actively or tacitly support it and are more willing to stand up to it	
K	Communities better able to mitigate wildlife conflict feel decreased antagonism towards wildlife	
L	IWT is not excessively valuable that all other forms of income cannot compete	See Challender and MacMillan (2014)
M	Increased value of wildlife to communities leads to increased incentive to protect it	Foundational economic assumption
N	Individuals and communities that are less antagonistic towards wildlife are more less likely to actively or tacitly support poaching	
O1	Assume collaboration between communities and other enforcement agencies leads to stronger action against IWT and not stronger collusion for IWT or other activities (governance and control of corruption is at an adequate level)	
O2	Poachers have not similarly strengthened their capacity and equipment to poach negating the relative gain in an ongoing arms race	see Biggs *et al*. (2013); Cussen and Block (2000); Rivalan *et al*. (2007)
P1	Communities have the willingness, equipment and the capacity to take stronger action against poachers from outside or inside the community	Anecdotal evidence and media reports
P2	Poachers do not intimidate communities with fear to the level that even increased incentive to protect wildlife they are too scared to take action from poachers from inside and outside the community	Anecdotal evidence and media reports
P3	Community has the sufficient levels of social capital and cohesion to take collective action against poachers from inside and outside the community	Anecdotal evidence and media reports
Q	Further input needed	
W	The relative value of illegal wildlife products are not so high that communities participate in it anyway	See Challender and MacMillan (2014)
T1	Communities have the capacity to confront poachers, ie they are not excessively intimidated or 'outgunned' by poachers from outside of the community	Anecdotal evidence and media reports

T2	The relative value of illegal wildlife products is not so high that new players enter into the system and negate the stronger action against poachers that has come into place (eg a powerful private security firm, or army unit, called into defend wildlife does not itself become an offender because the relative gains are so high)	For example see Biggs et al. (2013), Cussen and Block (2000)
U	Communities have the capacity to confront poachers, ie they are not excessively intimidated or 'outgunned' by poachers from within the community	Anecdotal evidence and media reports

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Poaching and associated illegal wildlife trade (IWT) are devastating populations of iconic wildlife species such as rhinos and elephants, as well as a host of lesser known ones such as pangolins, some birds, reptiles, primates, medicinal plants and timber species. International responses to date have emphasised strengthening state- and private sector-led law enforcement, and reducing consumer demand for illicitly sourced wildlife commodities. Considerably less emphasis has been placed on the role of the local communities who live with wildlife in tackling IWT and sustainably managing wildlife populations. The 'Beyond Enforcement' symposium brought together over 70 researchers, community representatives, United Nations and government officials and NGOs to explore whether and under what circumstances community-based interventions are likely to achieve success in combating current patterns of illegal use and trade of wildlife.

Event Materials

Biodiversity

Keywords:
Wildlife crime, illegal wildlife trade, community-based approaches, livelihoods

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