



Assumptions supporting an evolving Theory of Change for Engaging Communities in Tackling Illegal Wildlife Trade:

Supplementary Material to accompany IIED Briefing, February 2016

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Assumption	Notes and references
Community rangers will use equipment and training to combat IWT and not poach themselves or for other purposes (eg 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)
Assume collaboration between communities and other enforcement agencies will lead to stronger action against IWT and not stronger collusion in IWT or other activities (eg Community governance is at an adequate level and corruption is sufficiently controlled).	See Bennett (2015); Smith et al. (2015), Smith et al. (2003)
Communities are willing to enforce more strongly against IWT both within their communities and outside them.	See Brunckhorst (2010)
Communities are willing to collaborate with external enforcement agencies and that historical or existing tensions with the police force and/or park rangers are not excessively high.	eg Adams and Hutton (2007)
Ensure formal sanctions are fair and proportionate (eg penalties are reasonable and fines can be avoided).	Ostrom 1990

The community understands and agrees that there is a wildlife poaching problem.

Depends on the right and legality of selling wildlife products — eg Trophy hunting, or animal parts, locally, nationally and internationally.

Many high value wildlife products (eg ivory, rhino horn) have restrictions on their domestic and international sale and export. This impacts on the ability of governments to allocate wildlife rights to local communities eg see Norton-Griffiths (2007), Stiles (2004)

Communities will be interested in and willing to engage in harvesting wildlife and managing wildlife products.

Some communities may prefer livestock or crop farming, even if it offers lower returns than wildlife related livelihoods from fisheries see: Pollnac et al. (2001)

There is a market for wildlife products.

There has to be a market for a legally produced product eg see Phelps et al. (2013)

Protected area authorities are willing to share revenues.

Some PA authorities may feel very cash constrained and are unlikely to want to share revenue

There is a donor for the Payment in Ecosystem Services scheme.

PES schemes requires financing

That ownership leads to pride and a sense of importance.

Sense of ownership and pride is an important outcome of allocating rights and responsibilities to communities (Brooks 2010, Salafsky et al. 2001)

Revenue sharing and Payment in Ecosystem Services schemes lead to pride in living with wildlife.

Perceptions of benefit may or may not lead to increased pride — this is often context dependent — eg Brooks (2010)

There is a sufficient perception of the link between wildlife and revenue that it generates.	It is possible that communities receive benefits but do not perceive that they stem from wildlife
Adequate monitoring is possible at an affordable cost for the Payment for Ecosystem Services scheme to work.	Monitoring the achievement of Payment in Ecosystem Services outcomes can be expensive and difficult leading to payments for non- achievement and other fraudulent outcomes (Laurance 2004)
There is not an unhealthy level of elite capture (a form of corruption) that undermines Payment for Ecosystem Services schemes, and that cost sharing is sufficiently equitable.	Elite capture can undermine the functioning of the incentives from wildlife ownership or PES (eg Jones et al. 2012)
Legally produced products substitute wild products in the market place rather than yielding parallel markets.	Biggs et al. 2013
Communities are willing to engage in capacity building programs (eg to become nature guides, engage in Payment for Ecosystem Services 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.
Donor funding is available to facilitate and support capacity building programs.	
Funding is available for increased compensation.	
There is a functioning and equitable distribution mechanism for compensation payments for wildlife damage, eg money is not subject to elite capture and corruption.	Jones et al. (2012)
The strategies to mitigate human wildlife conflict, eg chilli peppers for elephants or improved fences actually work.	
Compensation does not lead to perverse behaviour, eg damage from wildlife is not actively induced to receive payments.	There is widespread anecdotal evidence of perverse outcomes from compensation schemes

Community governance is adequate to ensure no elite capture of alternative livelihood strategies.

Jones (2007) contains an example from Royal Chitwan National Park, Nepal

Alternative livelihood schemes do not generate perverse incentives, eg money earned is not reinvested in poaching or other land-uses that negatively affect wildlife.

See McAllister et al. (2009) for a vicuna example and discussion

Donor funding to support schemes is available.

Alternative livelihoods provide jobs opportunities for the currently unemployed, or the potential perpetrators of wildlife crimes.

G1	Better trained, better equipped guards are willing to use their skills and equipment to counter IWT and do not use their more advanced equipment for more poaching or other purposes.	Anecdotal evidence and media reports of community guard and ranger complicity
G2	Collaboration between communities and other enforcement agencies leads to a willingness to take stronger action against IWT and not stronger collusion in IWT or other activities, eg governance and control of corruption is at an adequate level.	Anecdotal evidence and media reports of community guards and ranger complicity. Also see: Bennett (2015), Smith et al.(2015), Smith et al. (2003), and the literature on combatting illegal narcotics (eg Chambliss 1992; Cussen and Block 2000)
G3	Increased in non-financial benefits contributes to willingness to take 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	Police and rangers are not involved or linked to illegal activities.	eg www.environment.gov.za/mediarelease/formersan_parksranger_arrested
G5	Communities have not already been intimidated by poachers, and are therefore willing and able to take stronger action against poachers.	eg http://america.aljazeera.com/multimedia/2015/1/the-human-cost-of-rhinopoaching.html
H1	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	When communities receive benefits from wildlife they will 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	The community has full knowledge about how benefits are being shared and distributed.	Child (2015) Presentation at Beyond Enforcement (IUCN et al. 2015)
I1	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	Communities who experience a decreased cost of living with wildlife have a decreased incentive to actively or tacitly support IWT and are more willing to stand up to it.	
K	Communities who are better able to mitigate wildlife conflict feel decreased antagonism towards wildlife.	
L	That IWT is not so high in value that that all other potential forms of income through tourism etc. cannot compete financially.	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 less likely to actively or tacitly support poaching.	
O1	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 in both capacity and equipment, 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 they are too scared to take action against poachers from inside and outside the community, even when the benefits from wildlife increase.	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	That communities with decreased incentives to poach are more willing to stand up to poaching.	
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 e.g. 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).	eg see Biggs et al. (2013), Cussen and Block (2000)
U	Communities have the capacity to confront poachers, eg they are not excessively intimidated or 'outgunned' by poachers from within the community.	Anecdotal evidence and media reports

Supporting information S2: Assumptions in the detailed TOC (Supporting information S2). Source: Biggs et al. (2015).

Biggs, D., Cooney, R., Roe, D., Dublin H., Allan, J., Challender, D. W. S., Skinner D. (2015) Engaging local communities in tackling illegal wildlife trade: Can a 'Theory of Change' help?

<http://pubs.iied.org/14656IIED>

Literature on which the assumptions are based

Adams W., Hutton J. (2007) People, Parks and Poverty: Political Ecology and Biodiversity Conservation. *Conservation and Society* 5, 147-183

Bennett E.L. (2015) Legal ivory trade in a corrupt world and its impact on African elephant populations. *Conservation Biology*

Biggs D., Ban N.C., Hall C.M. (2012) Lifestyle values, resilience, and nature-based tourism's contribution to conservation on Australia's Great Barrier Reef. *Environmental Conservation* 39, 370-379

Biggs D., Courchamp F., Martin R., Possingham H.P. (2013) Legal Trade of Africa's Rhino Horns. *Science* 339, 1038-1039.10.1126/science.1229998

Biggs D., J. T., Fabricius C., Spenceley A. (2011) The value of avitourism for community-based conservation – an analysis from South Africa. *Conservation and Society* 9, 80-90

- Brooks J.S. (2010) Economic and Social Dimensions of Environmental Behavior: Balancing Conservation and Development in Bhutan. *Conservation Biology*
- Brunckhorst D.J. (2010) Using context in novel community-based natural resource management: landscapes of property, policy and place. *Environmental Conservation* 37, 16-22.10.1017/s0376892910000342
- Challender D.W.S., MacMillan D.C. (2014) Poaching is more than an enforcement problem. *Conservation Letters*
- Chambliss W.J. (1992) The consequences of prohibition, crime, corruption, and international narcotics control. pp. 13-33 in H.H. Traver, M.S. Gaylard editors. *Drugs, law and the state*. Hong Kong University Press
- Child B. (1996) The practice and principles of community-based wildlife management in Zimbabwe: The CAMPFIRE programme. *Biodiversity and Conservation* 5, 369-398
- Cussen M., Block W. (2000) Legalize Drugs Now!: An Analysis of the Benefits of Legalized Drugs. *American Journal of Economics and Sociology* 59, 525-536
- Frost P.G.H., Bond I. (2008) The CAMPFIRE programme in Zimbabwe: Payments for wildlife services. *Ecological Economics* 65, 776-787. <http://dx.doi.org/10.1016/j.ecolecon.2007.09.018>
- Gelcich S., Edwards-Jones G., Kaiser M., Castilla J. (2006) Co-management Policy Can Reduce Resilience in Traditionally Managed Marine Ecosystems. *Ecosystems* 9, 951-966
- Gelcich S., Fernandez M., Godoy N., Canepa A., Prado L., Carlos Castilla J. (2012) Territorial User Rights for Fisheries as Ancillary Instruments for Marine Coastal Conservation in Chile. *Conservation Biology* 26, 1005-1015.10.1111/j.1523-1739.2012.01928.x
- Jones S. (2007) Tigers, trees and Tharu: An analysis of community forestry in the buffer zone of the Royal Chitwan National Park, Nepal. *Geoforum* 38, 558-575
- Jones B.T.B., Davis A., Diez L., Diggle R.W. (2012) Community-Based Natural Resource Management (CBNRM) and Reducing Poverty in Namibia. pp. 191-205. *Biodiversity Conservation and Poverty Alleviation: Exploring the Evidence for a Link*. John Wiley & Sons, Ltd
- Kaufmann D., Kraay A., Mastruzzi M. (2011) The Worldwide Governance Indicators: Methodology and Analytical Issues. *Hague Journal on the Rule of Law* 3, 220-246.10.1017/s1876404511200046
- Laurance W.F. (2004) The perils of payoff: corruption as a threat to global biodiversity. *Trends in Ecology & Evolution* 19, 399-401
- McAllister R.R.J., McNeill D., Gordon I.J. (2009) Legalizing markets and the consequences for poaching of wildlife species: The vicuña as a case study. *Journal of Environmental Management* 90, 120-130.10.1016/j.jenvman.2007.08.014
- Norton-Griffiths. (2007) How many wildebeest do you need. *World Economics* 8, 41-64
- Ostrom E. (1990) *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press, Cambridge, United Kingdom
- Ostrom E. (2005) *Understanding Institutional Diversity*. Princeton University Press
- Phelps J., Carrasco L.R., Webb E.L. (2013) A framework for assessing supply side conservation. *Conservation Biology*
- Pollnac R.B., Pomeroy R.S., Harkes I.H.T. (2001) Fishery policy and job satisfaction in three southeast Asian fisheries. *Ocean & Coastal Management* 44, 531-544
- Rivalan P., Delmas V., Angulo E. et al. (2007) Can bans stimulate wildlife trade? *Nature* 447, 529-530.10.1038/447529a
- Salafsky N., Cauley H., Balachander G. et al. (2001) A systematic test of an enterprise strategy for community-based biodiversity conservation. *Conservation Biology* 15, 1585-1595

Smith R.J., Biggs D., St John F.A.V., t'sas Rolfe M., Barrington R. (2015) Not just the ivory trade: corruption undermines every aspect of elephant conservation but can be reduced – a response to Bennett. *Conservation Biology*

Smith R.J., Muir R.D.J., Walpole M.J., Balmford A., Leader-Williams N. (2003) Governance and the loss of biodiversity. *Nature* 426, 67-70

Stiles D. (2004) The ivory trade and elephant conservation. *Environmental Conservation* 31, 309-321

Vogel I. (2012) Review of the use of theory of change in international development p. 86. UK Department of International Development (DFID)