



## Poverty and Conservation Learning Group

### Monthly Journal Digest

### Issue 3: December 2012

This Journal Digest is a PCLG information service intended to keep readers up to date with new journal articles on issues relating to biodiversity conservation and poverty alleviation as they are published. This is produced on a monthly basis, covering articles that have been published in the previous month. We have grouped articles into three key themes: biodiversity conservation and poverty; ecosystem service and poverty; biodiversity, poverty and climate change. Please note that in the majority of cases, because of copyright issues, the summaries provided are *not* the official abstracts of the articles.

Our current watch list includes: African Journal of Ecology; Agricultural Ecosystems and Environment; Agricultural Sciences News; Ambio; Animal Conservation; Antipode; Biodiversity; Biodiversity Conservation; Biological Conservation; Conservation and Society; Conservation Biology; Conservation Letters; Development and Change; Diversity and Distributions; Ecological Economics; Ecology; Ecology and Society; Ecosystem Services & Management; Environment and History; Environmental Conservation; Environmental Ethics; Ethics and the Environment; Frontiers in Ecology and the Environment; Global Environmental Change; Human Dimensions of Wildlife; Human Ecology; International Journal of Biodiversity Science; International Journal of Environmental Studies; Journal for Nature Conservation; Journal of Environment and Development; Journal of Political Ecology; Local Environment; Management of Environmental Quality; Natural Resources Forum; Nature; Oryx; Oxford Review of Economic Policy; PNAS; Science; Society and Natural Resources; Trends in Ecology and Evolution; Wildlife Research; World Development.

We would welcome your feedback on the usefulness of this service and your suggestions on key journals that we should add to our watch list to ensure we provide the most comprehensive service possible.

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## Biodiversity Conservation and Poverty

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Barua, M., S. A. Bhagwata, S. Jadhavc (2013); The hidden dimensions of human–wildlife conflict: Health impacts, opportunity and transaction costs; *Biological Conservation*; Vol. 157; Pages 309–316.

The effect that conservation policies have on human well-being is highly important in the integration of biodiversity conservation and poverty alleviation, particularly in low income counties, where human-wildlife conflict negatively affects the well-being of communities in close proximity to wildlife. This article looks into the hidden impacts of human-wildlife conflict in low income countries, presenting known as well as hidden impacts on rural communities. Many approaches taken to mitigate conflict focus on visible costs, while hidden impacts (uncompensated costs such as reduced psychosocial wellbeing, or disruptions of livelihoods and food security) are not adequately addressed. Many opportunity costs are incurred as a result of crop and livestock guarding. Bureaucratic failures may result in additional transaction costs when people seek compensation for damage. Although communities may be tolerant of wildlife, the hidden impact of conflict could threaten different components of global human well-being. The article's conclusions outline current knowledge gaps and set out areas for future research in addressing hidden dimensions of human-wildlife conflict.

Elsevier; <http://dx.doi.org/10.1016/j.biocon.2012.07.014>

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Scheidel, A. (2013); Flows, funds and the complexity of deprivation: Using concepts from ecological economics for the study of poverty; *Ecological Economics*; Vol. 86; Pages 28–36.

Poverty is increasingly being seen as multidimensional, depriving many aspects of life. The author explores issues and the implications of multidimensional poverty as a result of using concepts mainly used in ecological economics in which poverty is being seen as a complex topic which has many equally valid but varying descriptions. Georgescu-Roegen's flow/ fund framework is interpreted and informed by the capability approach put forward by Amartya Sen. A focus on flows as a proxy to assess poverty represents a short term perspective on access to satisfiers to fulfil particular needs. Contrary to this, focusing on valued funds could provide important information for analysing the capabilities that people and societies might use in the long term. Additionally it is argued that strong poverty alleviation needs to adopt analytical tools that can deal with non-trade-off cases where the improvement in one poverty dimension does not provide adequate compensation for the deterioration in other types of poverty, therefore rethinking the usefulness of aggregate multidimensional poverty indices, and additionally the predominant use of income measures.

Elsevier; <http://dx.doi.org/10.1016/j.ecolecon.2012.10.019>

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Zhanga, K., Y. Zhanga, H. Tiana, X. Chenga, H. Danga, Q. Zhanga (2013); Sustainability of social–ecological systems under conservation projects: Lessons from a biodiversity hotspot in western China; *Biological Conservation*; Vol. 158; Pages 205–213.

This paper focuses on the Jinshui watershed, which is a biodiversity hotspot in China's Qinling Mountains. Conflicts between sustainability and economic development are hard to resolve, particularly in poor rural areas, at the same time extreme poverty is prevalent around many biodiversity hotspots. The research assesses the sustainability of social-ecological systems under conservation projects such as the Foping National Nature Reserve (FNNP) in 1978 and the implementation of the Natural Forest Conservation Program (NFCP) and the 'Grain-for-Green' Program (GGP) since 2000. An analysis of land use/ land cover change using remote sensed Landsat MSS/ TM/ ETM imagery from the growing season from 1978, 1994, 2000 and 2007, information about the population of giant pandas (*Ailuropoda melanoleuca*) within the FNNP, socio-economic circumstances as well as local farmers' perceptions and attitudes. The results showed conservation efforts had protected the forest, aided in the recovery of vegetation as well as economic development, while the panda population within the park had also increased. Farmers' attitudes towards the GGP project varied between areas depending on the level of human disturbance. Farmers in areas with varying as well as slight to moderate human disturbance intensities showed positive attitudes towards the GGP, whereas the perceptions of farmers in more intensively disturbed zones were negative. These findings have implications for restoration/conservation projects, in rural areas which have high levels of poverty in developing countries.

Elsevier; <http://dx.doi.org/10.1016/j.biocon.2012.08.021>

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Wheeler, D., D. Hammer, R. Kraft, S. Dasgupta, B. Blankespoor (2013); Economic dynamics and forest clearing: A spatial econometric analysis for Indonesia; *Ecological Economics*; Vol. 85, Pages 85–96.

This study investigates the determinants of forest clearing in Indonesian kabupatens since 2005 using a large panel database. This incorporated short-run changes in prices and demands for timber products and palm oil, the exchange rate, the quality of local governance, the real interest rate, land-use zoning, forest protection, population density, the availability of communications infrastructure, transport cost, local rainfall, the estimated opportunity cost of forested land, the poverty rate, and terrain slope. The econometric results demonstrate the role of dynamic economic variables such as product prices, demands, the real interest rate as well as the exchange rate, communications infrastructure, commercial zoning, terrain slope and rainfall. No significance was found for other variables, although the authors stated that the measure used for protected-area status was too general to imply an empirical relationship between protection and forest clearing. The lack of significance for transport costs found may be due to collinearity with the proxy for communications (negative) and the effectiveness of local forest regulation (positive). The results support a model of forest clearing as an investment that is highly sensitive to expectations about future forest product prices and demands, changes in cost of capital, the cost of land clearing (indexed by local precipitation), and the relative cost of local inputs. The results imply that the opportunity cost of forested land fluctuates widely with changes in international markets and decisions by Indonesia's financial authorities about interest rates and the exchange. The results suggest that forest conservation programs may be unlikely to be successful if they ignore these important issues.

Elsevier; <http://dx.doi.org/10.1016/j.ecolecon.2012.11.005>

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Dinerstein, E., K. Varma, E. Wikramanayake, G. Powell, S. Lumpkin, R. Naidoo, M. Korchinsky, C. Del Valle, S. Lohani, J. Seidensticker, D. Joldersma, T. Lovejoy, A. Kushlin (2012); Enhancing Conservation, Ecosystem Services, and Local Livelihoods through a Wildlife Premium Mechanism; *Conservation Practice and Policy*; Advance Online Publication: 26 Nov 2012.

This paper suggests that the wildlife premium mechanism is an innovation that could be used to conserve endangered large vertebrates. This is a payment scheme based on performance which allows stakeholders in low-income countries to create revenue as a result of maintaining and recovering threatened fauna which could act as umbrella species (their protection benefitting other species present in the same area). The authors propose three options for applying the premium. Option 1 which would embed premiums in a carbon payment, option 2 would link premiums to a related carbon payment, and option 3 which would link premiums to non-carbon payments for conserving ecosystem services (PES). Each option has its own challenges such as establishing a subnational carbon credit scheme, and advantages such as improving the livelihoods of poor people who live in areas where umbrella species occur. Pilot projects are now underway in Kenya, Peru, and Nepal, which are mainly following option 1. The Kasigau (Kenya) project is the first voluntary carbon credit project to gain approval from the 2 leading bodies that sanction these protocols, and to date has sold carbon credits of over \$1.2 millions since June 2011. A proportion of the earnings have been divided between community landowners and projects that support community members, creating over 350 jobs in the local area. All of the case studies involve community management as they occur where local people either hold the title to the land or are leasing it from the government in the long-term. Transparent methods for collecting data on key indices are needed for monitoring, reporting and verification so that the premium payments are credible to investors. These can be carried out by trained community members, but verification of the reporting would be needed to be carried out by a biologist. A wildlife premium readiness fund could allow for these types of pilot programmes to be expanded and test different types of wildlife premium mechanism options.

Wiley-Blackwell; DOI: <http://dx.doi.org/10.1111/j.1523-1739.2012.01959.x>

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Rives, F., M. Antona, S. Aubert (2012); Social-ecological Functions and Vulnerability Framework to Analyze Forest Policy Reforms; *Ecology and Society*; Vol. 17 (4), Article 21.

We explore the impact of forest policy reforms implemented in the early 1990s in Niger in the wake of the severe droughts that affected the Sahel in the 1970s and 1980s. We focus on Sahelian multiple-use forest ecosystems and set out to analyze policy-induced changes in the patterns of interactions between various uses, users, and dry-forest ecosystems, interactions that influence the effective management of rural forests. We put forward the hypothesis that the new forest policy reforms were designed according to a vulnerability diagnosis, highlighting two stressors: droughts and increased demand for firewood. This led to a single-issue policy focused on firewood provision and was implemented through the Household Energy Strategy (HES). The HES established new local management schemes for “rural forests” through “rural firewood markets” (RMs) to regulate firewood harvesting and trade. We studied one of the first rural forests to become an RM in Niger in 1993. We used the concept of social-ecological functions as processes emerging from the interactions between social and ecological systems (SES). We identified sixteen SES functions and specifically analyzed the changes in three of them, whether they were targeted by the policy reform (firewood provision) or not (gum provision and livestock production). The changes generated by the creation of the RM have had different impacts on SES functions, as well as on the social and ecological components that contribute to these functions, because of their interaction with firewood

provision. Mutual benefits and competitions between SES functions have been identified. The analysis of mutual benefits and competitions reflects the ambiguous role of the policy reform on rural forest ecosystems in Niger. Our results show that the patterns of interactions between key SES functions have played a more important role in the SES trajectory than any single resource such as timber or firewood. This provides insight into strengthening potential feedback between rural forest functions for improved resilience and livelihoods.

Resilience Alliance; <http://dx.doi.org/10.5751/ES-05182-170421>

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Lam, M. E. (2012). Of fish and fishermen: shifting societal baselines to reduce environmental harm in fisheries. *Ecology and Society* Vol. 17(4): Article 18.

If reasonable fishery harvests and environmental harms are specified in new regulations, policies, and laws governing the exploitation of fish for food and livelihoods, then societal baselines can shift to achieve sustainable fisheries and marine conservation. Fisheries regulations can limit the environmental and social costs or harms caused by fishing by requiring the fishing industry to pay for the privilege to fish, via access fees for the opportunity to catch fish and extraction fees for fish caught; both fees can be combined with a progressive environmental tax to discourage overcapitalization and overfishing. Fisheries policies can be sustainable if predicated on an instrumental and ethical harm principle to reduce fishing harm. To protect the public trust in fisheries, environmental laws can identify the unsustainable depletion of fishery resources as ecological damage and a public nuisance to bind private fishing enterprises to a harm principle. Collaborative governance can foster sustainable fisheries if decision-making rights and responsibilities of marine stewardship are shared among government, the fishing industry, and civil society. As global food security and human welfare are threatened by accelerating human population growth and environmental impacts, decisions of how to use and protect the environment will involve collective choices in which all citizens have a stake – and a right.

Resilience Alliance; <http://dx.doi.org/10.5751/ES-05113-170418>

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Kahler, J. S., G. J. Roloff, M. L. Gore. (2012) Poaching Risks in Community-Based Natural Resource Management. *Conservation Biology*; Advance Online Publication: 19 November 2012.

This study used local stakeholder knowledge and poaching records to map and rank the risk of poaching in areas managed by community members in Caprivi, Namibia. Local stakeholder perceptions of the risk of wildlife damage to livelihoods, the risk of poaching, and wildlife distribution and compared these maps with spatial records of poaching events. Stakeholder perceptions of where poaching occurred and recorded poaching events were not correlated, but the places where documented poaching events occurred were correlated with the areas where wildlife was perceived as a threat to livelihoods. This suggests that poaching occurred as a result of wildlife damage, and indicate a need for an integrated and continued monitoring of poaching activities with further interventions needed at the wildlife-agriculture interface. Stakeholders involved in the study were considered to be informants rather than suspects, and the authors point out those involving stakeholders in the assessment of poaching risks promotes participation, a vital tenet of community based management. To reduce poaching, different strategies should be incorporated in different

areas, with increased patrolling needed in remote areas and interventions that reduce human-wildlife conflict required in residential areas. Maps of human-wildlife interactions generated by local stakeholders could be a valuable intervention support and enforcement tool.

Wiley Blackwell; <http://dx.doi.org/10.1111/j.1523-1739.2012.01960.x>

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