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EUROPEAN POLICY BRIEF

Resilience in biocultural community-based conservation: Coping with global environmental change

Policy implications of COMBIOSERVE, an EU-funded research project on community-based conservation in Latin America

Ongoing project

September 2012

INTRODUCTION

Can community-based conservation help local communities deal with social-ecological uncertainty?

Environmental policies and programs have widely acknowledged the need to consider community-based conservation strategies as key tools to protect biodiversity, support ecosystem services, and maintain cultural traditions. However, the debates around the extent to which the devolution of natural resource management to rural and indigenous communities contributes towards effective conservation while facilitating local adaptation to critical changes are not over.

In Latin America, many rural and indigenous communities have traditionally managed their natural resources according to their experience with social and ecological disturbances and changes. But, in the current context of unprecedented global transformations and related unpredictable perturbations and risks (e.g. climate change), are these communities able to anticipate changes and plan for an uncertain future? And, if so, how is such adaptation taken into account by conservation and adaptation policy programs?

These questions are explored by COMBIOSERVE, a participatory and interdisciplinary research project involving ten partners (universities, research centres, and civil society organisations) from **Bolivia**, **Brazil**, **Mexico**, and **Europe**. Scheduled for completion in 2015, the research project aims to understand and characterize successful forms of community-based conservation in indigenous communities influenced by nearby state-managed protected areas. Insights from existing literature confirm that local communities rely on their ecological knowledge and their own institutions, cultural values, and worldview to cope with change while promoting biodiversity conservation and enhancing their livelihoods. But evidence also suggests that the formalization of community-based conservation initiatives through imposed management and government regulations can undermine local knowledge and conservation practices.

EVIDENCE AND ANALYSIS

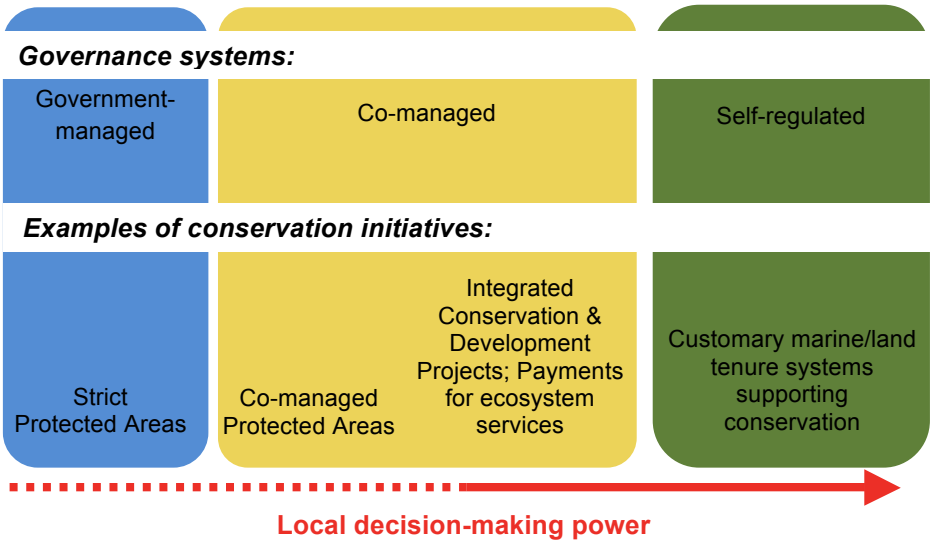
What is 'community-based conservation'?

Any natural resource management initiative voluntarily conducted by or with the participation of rural communities that protects biodiversity or ecosystem services and provides some sort of incentives -often economic- to local populations can be considered community-based conservation.

Community-based conservation includes a myriad of initiatives with different aims, governance systems, and levels of local decision-making power, ranging **from self-regulated to collaboratively-managed (or co-managed) conservation strategies**.

Traditionally, rural and indigenous peoples have defined their territories and resource management systems while acknowledging that maintaining biodiversity and ecosystem functions is essential for their wellbeing. As a result, several community-managed and sacred forests, agro-pastoral systems, and small-scale fisheries are examples of self-regulated conservation initiatives. More recently, international and national agencies, with the support of non-governmental organizations, have promoted co-managed conservation projects that consist of formalising management rules and establishing monitoring and compliance mechanisms with local communities.

Self-regulated and co-managed conservation initiatives diverge in the degree of local involvement in decision-making and in the incentives provided to communities for participation. The figure below provides a few examples of such initiatives, compared with strict protected areas that exclude local people from decision-making.



Local involvement in community-based conservation decision-making by governance system

Indigenous peoples and community conserved areas and territories

The role of many communities in biodiversity conservation has been historically documented and acknowledged. Research suggests that indigenous territories often overlap with areas of high biodiversity and that biological and cultural diversity **(*biocultural* diversity)** are interrelated and can be mutually supportive. International organizations also recognize the role of communities in biodiversity conservation. For example, the International Union for Conservation of Nature (IUCN) established a category of protected areas governance known as **Indigenous peoples' and Community Conserved Areas and territories (ICCAs)** where:

- Local people are closely related to the site because of their cultural values, survival or livelihood dependence;
- Communities' natural resource management leads to conservation outcomes although the main objective of management may be different (e.g. water security); and
- Local or customary institutions are the major players in the site decision-making and management.

The Fifth World Parks Congress and the Programme of Work on Protected Areas of the Convention on Biological Diversity have also endorsed and promoted community conserved areas to integrate and encourage the full participation of local communities in protected areas decision-making.

Community conserved areas promote the appreciation of the knowledge and practices, customary institutions, and values of indigenous and rural communities in the context of community-based conservation and to sustain biocultural diversity.

Does community-based conservation enhance or undermine social-ecological resilience?

Resilience can be defined as ecosystems' ability to absorb shocks and maintain structure while securing the provision of ecosystem services, including those that may be beneficial for human wellbeing. Ecosystems can have multiple equilibrium states, shifting from one state to another triggered by external perturbations. However, when affected by extreme shocks, ecosystems can lose their resilience. The conservation of biological diversity within and across ecosystems is a key mechanism to maintain ecosystems' resilience.

Ecosystems do not exist in isolation from social systems; they merge in so-called **social-ecological systems**. Social systems can be more or less resilient depending on their ability to organise and adapt to changes and shocks. Institutional rules may contribute to resilience but sometimes may also enhance social vulnerabilities and uneven access to natural resources, economic opportunities, and decision-making of indigenous and peasant communities.

In those rural and indigenous peoples that have developed community-based conservation initiatives, conservation practices and institutions can act as either a facilitator or a constraint to social-ecological resilience.

Traditional ecological knowledge and resilience

Our research will analyse the resilience of natural resource management systems in rural communities in Latin America, emphasising the role of community-based conservation and traditional ecological in fostering or undermining resilience.

In theory, community-based conservation can contribute to maintaining biological diversity and ensuring rural and indigenous peoples' ability to benefit from natural resources and to anticipate and adapt to social-ecological change. However, this may not always be the case. In rural and indigenous contexts, local adaptation is mediated by formal and informal institutions and access to decision-making over land and natural resources. Capacity for positive adaptation despite adversity is also dependent on **existing local ecological knowledge and practices**, particularly in the context of climatic variability and risks.

Through a systematic review of peer-reviewed articles dealing with community-based conservation and local adaptive capacity, a number of factors that enhance or compromise social-ecological resilience have been identified (see the table below)**.** Although these factors cannot be universalised because of the complexity and heterogeneity that characterise social-ecological systems, they suggest that climatic, economic, institutional, and social factors and processes are key to understanding social-ecological resilience.

Examples of factors affecting social-ecological resilience in community-based conservation

Factors *enhancing* resilience	Factors *decreasing* resilience
Decision-making based on local observations and beliefs	Leaders' corruption
Respect of customary institutions in decision-making	Cross-institutional conflicts
Institutional mechanisms for flexible decision-making	Official conservation regulations
Trust and social bonds	Climate change
Knowledge networks between local people and scientists	Market integration
	Religion conversion

Do national climate change adaptation and conservation policies consider community-based conservation?

Climate change is likely to increase weather-related risks in the Latin American region and particularly in those biologically and culturally diverse countries that can be highly vulnerable because of social, political, and economic reasons. This is the case of **Bolivia, Brazil, and Mexico** where many rural and indigenous people living in remote, marginal areas, such as floodplain forests and coastal areas, are likely to be affected by an increase in the exposure to and frequency of extreme hydro-meteorological events.

The **conservation and sustainable management of forests** can be considered a key strategy to deal with and reduce vulnerability to climate change. Forests act as both carbon reservoirs and sinks, and they can buffer against floods and support livelihoods in times of food insecurity and economic hardship. Protecting forests and biodiversity while respecting community-based natural resource management and conservation practices is both a need and a political challenge.

Our research has reviewed Bolivia, Brazil, and Mexico's protected areas laws and plans[1] and climate change adaptation strategies[2] to assess how governments address and incorporate local communities' participation in decision-making around forest conservation and management as a key means for adaptation.

Bolivia has designed yet a formal climate change adaptation plan whereas **Mexico** and **Brazil** have draft general programs defining a set of actions to cope with and adapt to climate change, including vulnerability studies. These actions integrate conservation into climate change adaptation planning mainly through the creation and expansion of protected areas.

When it comes to adapt to climate change and conserve forests by strengthening the protected area system, countries differ with regard to the devolution of authority and responsibility to local people:

Involvement of indigenous peoples in decision-making in Bolivia

- **Bolivia** relies on **participatory processes** to address local people's needs and **highlights the value of traditional ecological knowledge** and local experiences to identify successful climate change adaptation strategies and to effectively conserve water and forests and manage protected areas. In indigenous territories designated as protected areas, Bolivia supports the shared governance of natural resources by recognising indigenous peoples' rights and customary regulations;

[1] ***Bolivia:*** *Political Constitution (2009); General Environmental Law (1992) for Protected Areas National System.* ***Brazil:*** *Law nº 9885 (2000) for National System of Conservation Units; Protected Areas National Strategic Plan and Decree (2006).* ***Mexico:*** *Protected Areas National Programme (2007-2012); General Law on Ecological Equilibrium and Environmental Protection (1988) and Decree 16/05/2008.*

[2] ***Bolivia:*** *National Mechanism of Adaptation to Climate Change (2007).* ***Brazil:*** *Climate Change National Plan (2008).* ***Mexico****: Climate Change Special Programme (2009-2012).*

Dialogue between local communities and policy makers in Brazil

- **Brazil** stresses the **need for dialogue** between policy makers and society on climate change adaptation and foresees **training and economic aid** to promote timber and non-timber forest products processing and trade partnerships. These actions aim to improve indigenous people and traditional communities' sustainable forest management. Brazil recognises the contribution of indigenous peoples, *quilombo* communities (people of African origin), and other local communities to biodiversity conservation, but only guarantees their effective participation in decision-making and management in protected areas overlapping with their recognised territories;

Passive participation of rural and indigenous communities in decision-making in Mexico

- In **Mexico** -where community forests cover around 70% of the country forests- climate change adaptation planning is less inclusive and focuses on the creation of protected areas and the promotion of **environmental education and economic incentives** (e.g. Payments for Ecosystem Services) to engage local communities in forest protection. Mexican rural and indigenous communities are only allowed to participate in the management of protected areas when they voluntarily allocate their land for conservation purposes (i.e. Voluntary Conservation Areas). In other protected areas (e.g. National Parks, Biosphere Reserves), local communities must be informed and consulted but they do not hold any decision-making power.

Photo: Isabel Ruiz-Mallén

Payment for Ecosystem Services in Once de Mayo, Calakmul, Campeche, one of the participant Mexican communities in COMBIOSERVE.

POLICY IMPLICATIONS AND RECOMMENDATIONS

Successful climate change adaptation strategies can draw on bottom-up conservation

- **Support collaboration between local communities and natural and social scientists** to design successful strategies for adaptation to climate change and other environmental hazards that improve biodiversity conservation and contribute to maintain cultural diversity, in community-based conservation areas and beyond;
- **Develop full participatory mechanisms** to include the needs and interests of the most vulnerable groups of people living in areas of high biodiversity value into climate change adaptation and protected areas management plans;
- **Incorporate traditional and indigenous communities'** experience, observations, beliefs, and institutions (i.e. **traditional ecological knowledge**) in natural resource management decision-making to cope with perturbations;
- **Promote adaptive management approaches** based on flexible institutional rules to deal with uncertainty, improve response to unexpected events, and promote resilience;
- **Enlarge national conservation policies** to include areas of multiple uses by communities while respecting their natural resource management practices;
- **Create specific legal and financial means** for the recognition and respect of self-regulated community-based conservation initiatives to improve rural and indigenous peoples' wellbeing;
- **Respect indigenous peoples and local communities' right to give or withhold their free, prior, informed consent** before any conservation or climate change adaptation action is promoted and implemented in community areas or indigenous territories;
- **Promote exchange of successful experiences** on community-based conservation and resilience across and within countries.

RESEARCH PARAMETERS

Objectives

COMBIOSERVE (Assessing the effectiveness of community-based management strategies for biocultural diversity conservation) is a collaborative project involving European and Latin American research institutions, civil society organizations and indigenous communities that seeks to identify the conditions and principles of successful community-based conservation initiatives in selected locations in **Brazil**, **Bolivia**, and **Mexico**.

The main objectives of the project are to:

- Develop, through participatory and interactive research, new scientific knowledge on the current effectiveness of community-based conservation strategies in promoting local resilience to global environmental change;
- Collaborate with civil society organizations and local people in order to foster a process of co-enquiry and mutual learning;
- Contribute to public debates on the definition and effectiveness of community-based natural resource management for biodiversity conservation.

Methodology

The project relies on multi-disciplinary and participatory methods that have been co-developed by the consortium's research institutions and civil society organisations, with the informed consent of local communities. These methods include:

- Community-based biological monitoring to assess current biodiversity outcomes of community conservation efforts;
- Participatory mapping to assess land use/land cover change, local landscape perception, and socio-environmental conflicts;
- Empirical assessment of the social conditions for community-based management to analyse common property management rules, cooperation, and enforcement mechanisms;
- Use of a participatory resilience approach to examine historical, present, and future communities' adaptive capacity to socio-ecological change;
- Implementation of methodological protocols for community-based research to scale up and consolidate the project findings and to empower communities to do their own research; and
- Dissemination through tools, including posters and videos, to transfer the results to local participants and to support them in enhancing their ability to resolve environmental challenges.

The COMBIOSERVE team will transfer the results to other civil society organisations and research centres and will disseminate findings to policy makers.

PROJECT IDENTITY

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Website

www.combioserve.org

For more information

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Further reading

Ruiz-Mallén, I. & Corbera, E. 2013. Community-Based Conservation and Traditional Ecological Knowledge: Implications for social-ecological resilience. Ecology and Society 18(4):12. http://dx.doi.org/10.5751/ES-05867-180412