

## Assessing advantages and disadvantages of community natural-resource management.

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Natural resources management (NRM), i.e. how we take care of resources such as water, land, or biodiversity, focuses on long-term impacts of our actions that affect the quality of life of current and future generations. It can therefore be said that NRM is about sustainability.

According to the World Bank "*Community-based natural resources management (CBNRM) is an approach under which communities become responsible for managing natural resources (forests, land, water, biodiversity) within a designated area. The community – often assisted and monitored by outside technical specialists – utilizes and protects natural resources within established guidelines or according to a detailed, mutually agreed plan.*" (The World Bank Group, 2011, online).

At the core of this essay will be community natural resource management that revolves around the conservation of biodiversity, i.e. the variety of micro-organisms, plant and animal life, their genes and the ecosystems of which they are part.

The term biodiversity is often attributed to the US biologist Edward O. Wilson, who organised the first US forum on biodiversity in 1986, to address observed biodiversity loss (Humphreys and Fall, 2009). At the 1992 Rio Earth Summit, the Convention on Biological Diversity promoted sustainable development and was the first major political response to the loss of biodiversity around the world,

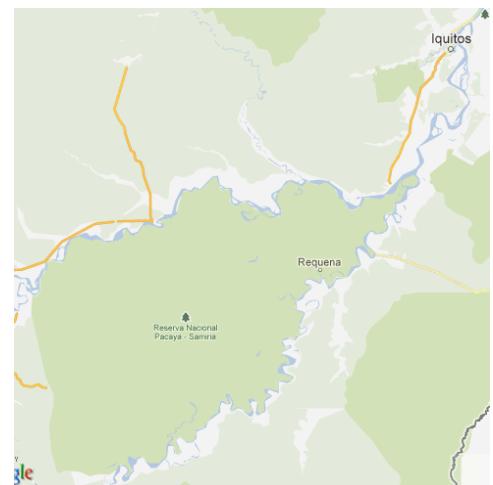
ratified by 150 government leaders (Convention on Biological Diversity, 2013).

This exemplifies that 'biodiversity' is socially constructed and framed as a problem, as it is based on the value judgement that whatever decreases the range and variety of species is unwanted.

In this essay the author will draw on case studies to show how community(-based) NRM is being organised with regards to biodiversity, and will demonstrate that the advantages of community involvement outweigh the disadvantages of community NRM.

The case studies used are:

- Community involvement in the Pacaya-Samiria reserve in the Peruvian Amazon basin.



- The Sangha Tri-National Conservation Area, a transboundary conservation effort that spans 746,309 hectares and connects protected areas in three African nations.
- Leases for fishers' groups in south-western Bangladesh.

In 2010, the author experienced community-based natural resource management first hand, as part of a team of volunteers assisting lead scientist Dr. Richard Bodmer and his local team of biologists with data collection in the Pacaya-Samiria National Reserve, and we met with local villagers and hunters who are actively involved in reserve management (<http://www.earthwatch.org/europe/exped/bodmer.html>).

The reserve spans two million hectares and has gone through a major shift in its management policies over the past three decades, from an area of strict protection that excluded the indigenous population, to an area where local people work together with the reserve management. Dr. Richard Bodmer, who has been conducting research in the western Amazon basin since 1984, was key to implementing this significant shift in conservation policy, that led to an increase in endangered wildlife populations through a reduction in hunting pressure (Bodmer, 2008).



When the park administration started to involve local communities in the management of the area, attitudes of the indigenous population changed because they were no longer considered poachers. They were able to use a limited amount of resources legally, with reserve

administration approval, and could see the long-term benefits of the reserve in relation to their own future and livelihoods. Community involvement resulted in better NRM outcomes and helped the communities.

Particular advantages in this case are as follows:

- Indigenous populations who are close to their resources and whose livelihoods are impacted by natural resources make ideal guardians of the habitats they are a part of.
- Due to the proximity to and intimacy with their environment, local communities have better knowledge and expertise in the management of the natural resources than government agencies or private industry, who often disappropriate land or knowledge of traits of plants, so-called acts of 'biopiracy', for economic gain.
- Multiple-purpose management of resources, by park administration and local populations, results in more varied land use and greater diversity of species than private management systems would.
- Furthermore, this kind of community management of natural resources does not rely on government funds, and local participation is therefore more cost effective.

The success of the community-based approach in the Pacaya-Samiria is mainly due to the fact that poachers have become reserve managers and keep other poachers out of their management areas.

The next case also deals with poaching, this time in sub-Saharan Africa, and the conservation area spans international and political barriers.

The great apes of Africa, in this case the western lowland gorilla and the chimpanzee, are threatened by poaching and destruction of their rain forest habitat. In order to protect these apes and other flagship species such as elephants, the Sangha River Tri-National (STN) Conservation Area in the Congo basin was created, '*aiming at preserving the second largest rain forest area of the earth as an initiative of the Central African Forest Commission (COMIFAC)*', and the '*first tri-national institutions have been established in order to plan and implement common activities concerning anti-poaching, research and the promotion of tourism.*' (Dzanga Sangha, n.d., online). The latter two point to activities that provide economic gain for the countries involved.

The accord involves the governments of the Central African Republic, the Republic of the Congo, and Cameroon, who agreed that their security and forestry staff can '*work across national borders in pursuit of poachers and illegal loggers*' (Humphreys and Fall, 2009, p.203). Poachers and illegal loggers are often poor people in pursuit of their livelihoods, whereas governments' interest in conservation of great apes and other large mammals often has to do with a greening of their image, and in this case excludes the involvement of local community members, unless they have joined the ranks of rangers and government security staff.

Suppression of indigenous people is global, e.g. the aborigines in Australia, and exclusion of communities in Africa was a feature of conservation projects during colonial times, and is still happening in more recent times. In the 1990s a group

of the Bambuti Ba'twa tribe of Pygmies were evicted from a conservation area in the Democratic Republic of Congo that is inhabited by the eastern lowland gorilla. According to John Vidal, the chief of a group of Pygmies who lived in squalor at the periphery of the park, said: "*Life was healthy and good but we have become beggars, thieves and prowlers*" (Vidal, 2008, quoted in Aradau, 2009, p.51).

A similar case occurred when the Serengeti park was established in Tanzania and all local tribes apart from the Masai were evicted. The Masai were initially allowed to remain on their land, as they were seen as 'primitive' people and little more than an ornamental addition to the wildlife. However, when the Masai tribe diverged from this image and began hunting and cultivating in pursuit of their livelihoods, they too were evicted from their traditional lands.

These cases demonstrate inequalities that are laid bare when NRM excludes communities, and denies indigenous peoples the rights to control and own their traditional lands, or at the very least have a voice and participate in management decisions concerning their areas.

The lack of involvement, transparency and accountability often leads to conflicts because of denial of property rights, and because natural resources often form the basis for rural economic activities, and are therefore particularly pertinent for poor people. Access to natural resources can increase livelihood opportunities, whereas denial of access can disrupt traditional economies.

The next case shows how poor and disadvantaged groups, and in particular women, can be empowered through community NRM.

The International Fund for Agricultural Development (IFAD), an agency of the United Nations, was established in 1977 as an international financial institution, with the mission to help alleviate poverty of rural people around the world by way of community involvement in natural resources management.

One of IFAD's projects has empowered landless poor people through leases of fisheries in 23 lakes in south-western Bangladesh (IFAD, 2006). Initially inland fisheries were leased by the Government on an annual basis by auction. This meant that poor fishers were outbid by wealthier, more powerful local people. Furthermore, the lack of secure tenure from year to year did not incentivise the lessees to invest in the lakes. The result was that the lakes became overgrown and degraded.

Subsequently the government tried to manage the lakes with the aid of funds from the World Bank, but maintenance of lakes and fish-stocking were sporadic and unsustainable due to corrupt government practices.

IFAD initiated the 'Oxbow Lakes Small-Scale Fishermen Project' (IFAD, 2006) in order to rehabilitate infrastructure of the lakes and decentralise resource management by offering long-term leases to groups of impoverished fishers, predominantly men, who shared costs and benefits in equal measures between themselves. 45000 individual fishers were involved, forming over 2000 groups of fishers.

According to IFAD, this innovative method of transferring lease rights of lakes to local communities proved invaluable and replicable, and in 1998 a second project was set up in order to extend this experience and also include and empower women.

With the help of national and local NGOs (Non Government Organisations), new groups were formed for 740 hectares of lakes, and almost half the new fishers' groups are now managed by women, who established an ownership right over the fish due to their labour, knowledge and ownership of capital. One of the participating women is quoted as saying: "*My husband cannot take fish from the pond, if he wants fish, he must ask me, for the fish are mine*" (IFAD, 2006, p.24). IFAD reports that families are benefitting from the raised status of women and from increased income, and communities benefit from better productivity of a scarce food resource. The transfer of common-pool resources to community management groups benefitted NRM as well as the community, and its principles are transferable to other NRM areas such as land management and leasehold forestry.

Advantages of this IFAD project were that it:

- considered the interests of poor people, for whom natural resources are a basis of rural economic activities.
- improved the low status of women, without affecting the dignity or traditional mediation rights ('purdah') held by the men when buying or selling fish.

- transferred resource use rights and promoted not only economic growth but also resulted in improved maintenance of the lakes, as this is in the best interest of the fishers' groups.
- improved access and thereby increased livelihood opportunities.

Disadvantages of this community NRM often involve policy implementation issues, as contention over the management of natural resources is highly political, because they are important assets for production and prosperity. Powerful actors, whether governments or private land owners are naturally hesitant to share resource management or give up control over natural resources, and therefore come into conflict with local stakeholders over scarce resources or with regards to native titles to land.

Other disadvantages are that:

- the very proximity to the natural resources that they manage may mean that communities do not easily see the bigger picture, such as how maintenance of their particular ecosystem can affect biodiversity on a wider regional, national or even international level. An example of this is wetlands that are important for fisheries, but might also be important nesting areas for migratory birds.
- abnegation of government-led or external controls by scientists or technology experts can result in over-exploitation of natural resources or grazing grounds and lead to a tragedy of the commons.

All successful cases of community NRM have the common factor that the communities have the knowledge, skills, capacity, and leadership that are required to manage the assigned project tasks, and be included in decision-making with regards to how their natural resources are managed.

In order to be efficient, community involvement in the management of natural resources needs to offer benefits to individuals that outweigh the costs, such as in the case of the Bangladesh fishers' lease. Groups and communities also need to have a common interest and address a perceived need, such as is the case with the indigenous communities in the Pacaya-Samiria reserve.

The cases in this essay have shown that the advantages of involving local communities in the management of natural resources far outweigh the disadvantages, if implemented and monitored with the communities' needs as well as biodiversity in mind.

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