

research evidence for policy



Collective fishing, Yanasha in Palcazu Valley, Peru.
Photo: Peter Bille Larsen

Biosphere reserves and extractive industries: towards a new sustainability agenda



Case studies featured here were conducted in the Peruvian Amazon.

Policy message

- Extractive industries such as mining, oil, and gas are a both a source of income and an increasing source of social conflict.
- While the global network of 564 biosphere reserves seeks to offer “learning sites for sustainable development,” many of the management approaches used to address extractive industries may be characterised as fire-fighting and case-by-case ad hoc reactive responses.
- A comprehensive set of standards for extractive industry activity is still lacking.
- This policy brief argues for the importance of a global learning process leading to the establishment of socio-environmental standards for extractive industry projects overlapping with or affecting biosphere reserves.

- Without global standards for extractive industry development in biosphere reserves, attention tends to be limited to fire-fighting and individual cases rather than allowing for structured learning processes. This brief suggests a more ambitious policy agenda that recognises the magnitude of extractive industry challenges as well as the site diversity at stake. Biosphere reserves often combine both protected areas and areas without protection status creating a need for differentiated standards and mitigation mechanisms. Such standards could embrace a “green” focus on environmental sustainability as well as a social equity agenda in relation to human rights, benefit-sharing, and consultation.

The expansion of extractive industries

- The global network of biosphere reserves has been proposed as “learning laboratories” (Ishwaran et al. 2008) in a broader call for “working examples that encapsulate the ideas of UNCED” (UNESCO 1996). Demand for raw materials has triggered a global expansion of oil, mining, and gas projects that also affects biosphere reserves. This not only presents an ecological challenge, but threatens livelihood systems, local economies, and the rights of indigenous and local communities living in these areas.
- Whereas in the past some biosphere reserves kept extractive industries outside their boundaries, many biosphere managers today face increasing demands to allow exploration and extraction activities.

The knowledge gap

The extent to which extractive industries operate in biosphere reserves has not been systematically assessed. A recent global meeting spoke only of “at least 20 biosphere reserves having mining or oil and gas extraction” (MAB and IGCP 2011), yet the true figure is arguably much higher. This knowledge gap, and resultant lack of normative and socio-environmental policies to manage exploitative industry operations in biosphere reserves, stands in stark contrast to the significance of the industry’s presence and long-term impacts felt locally.

From reaction to planning

The cases reviewed suggest a lack of strategic planning relating to extractive activity within biospheres.

Featured case studies

Social learning about extractive industries

The Oxapampa–Asháninka–Yánesha Biosphere Reserve, in the central Peruvian Amazon, covers more than 1.8 million ha. More than 85 mining concessions and four oil concessions overlap with some of the reserve's key watershed and agricultural areas, presenting major social and environmental challenges. Central and local institutions, it was found, lacked a strategic policy and planning framework to address local concerns about extractive industries operating in the reserve. The NCCR North-South, working with the Instituto del Bien Común, Oxapampa, Peru, also found that local officials lacked the knowledge and capacity to assess the potential impacts of extractive activities and set up effective mitigation measures. Lack of political will, clear standards, and functional institutions resulted in weak and ad hoc application of measures such as ecologically fragile no-go areas (e.g. watersheds) and adequate consultation with local stakeholders, driven by individual concession projects rather than an overall biosphere framework. These findings led to the inclusion of extractive industries in the provincial development plan, and triggered discussions about socio-environmental safeguards. Work started on identifying ecologically vulnerable areas, and mapping of mining and oil concessions overlapping with the biosphere reserve. These are the beginnings of innovative efforts at a local level to resolve the profound socio-environmental conflicts affecting Peruvian society.

- Most responses to extractive industries have been linked to specific industry projects or social protest.
- Historically, management policies have emphasised sustainable management of renewable resources, neglecting sustainability challenges linked to non-renewable resources.
- The Madrid Action Plan for Biosphere Reserves (MAB 2008) makes no specific reference to extractive industries, and there has been no systematic attempt to monitor or research extractive industries across the biosphere network. Forms used for periodic reviews do not include categories for extractive-industry-specific information. Lack of clear normative frameworks on extractive industry development hampers efforts to effectively manage and mitigate the socio-environmental impacts of extractive industry activity.

Recognising diversity

- A first lesson concerns the diversity of biosphere reserves at stake. Whereas the 1984 Action Plan spoke of biosphere reserves as “protected areas,” more than 80% of designated areas established after 1996 fall outside protected areas (Ishwaran et al. 2008). This generates different protection and management needs.
- While the current policy trend is to argue that biosphere reserves are different from or “more than” protected areas (MAB and IGCP 2011), a considerable number of reserves in practice consist mainly of protected areas. In such cases, “innovating” extractive industry management may lead to watering down of protected area arrangements unless adequate safeguard measures are in place.
- Many extractive industry projects within biosphere reserves are contes-



Child and parrot in Puerto Bermudez, Peru.
Photo: Peter Bille Larsen

ted on a number of social, environmental, and economic accounts, and these need to be addressed. Innovative management of extractive industry presence should not offer a back-door entrance to contested protected area sites, but rather allow for equitable conflict resolution.

Integrating extractives and equity aspects

Monitoring of biosphere reserves has largely focused on ecological processes and renewable natural resources. This “green” bias has till date limited the role of biosphere reserves in spearheading standards innovation and learning in relation to social and economic concerns linked to the management of non-renewable resources such as appropriate consent measures, resource rights, and benefit-sharing. For example, 10 years ago, only 10% of biosphere reserves monitored social dynamics (MAB 2002). Since the adoption of the Madrid Action Plan (MAB 2008), the Man and the Biosphere Programme (MAB) has put a strong emphasis on social, cultural, economic, and spiritual aspects. Given the need to prevent the substantial social conflicts often linked to extractive industry presence, far more explicit attention to such resource and social equity concerns is warranted. This may include how to put into practice human rights-based approaches, such as the United Nations “Protect, Respect and Remedy” Framework, or how to deal with specific process rights, such as the right to free prior and informed consent or substantial rights linked to customary livelihoods, health, and the environment.

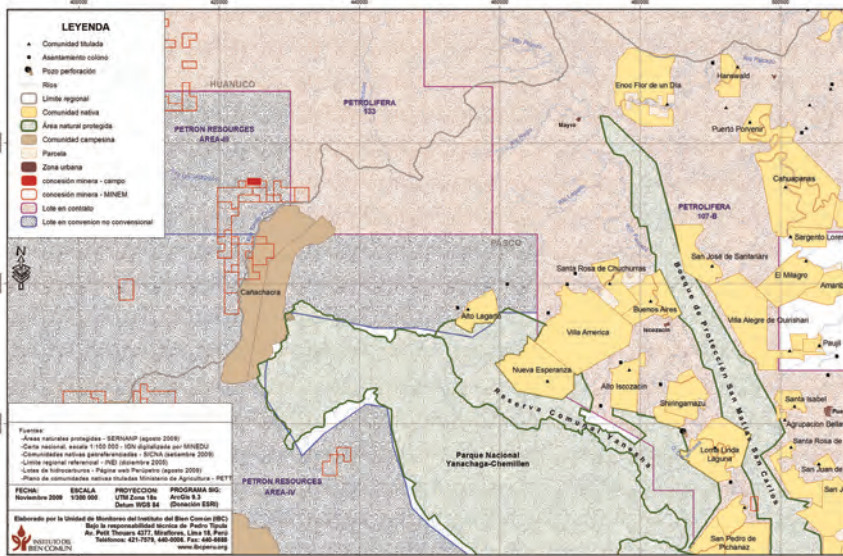
Strengthening the policy agenda

Two recent processes may change the global approach to extractive industries. First, reserve planning and zoning measures adopted under the Madrid Action Plan (MAB 2008) may lead to de facto decisions on dealing with extractive industries. Second, experts at a recent UNESCO meeting that considered the question of extraction of earth resources “strongly recommended that it would not be possible to develop global guidelines for mining in biosphere reserves” (MAB and IGCP 2011). The conclusion echoed statements from the private sector noting “there is

already a lot of guidance for the mining sector and not much appetite by industry for new guidance. The real gap is implementation and the dissemination of good practice” (MAB and IGCP 2011). Lack of guidance is, however, unlikely to transform the current levels of fire-fighting and social conflict. This policy brief therefore recommends the alternative to develop and disseminate global standards and guidance for extractive industry presence in biosphere reserves.

Adopting global standards

Whereas current impact mitigation measures rely on basic legislation and zoning parameters, a far more ambitious socio-environmental agenda could be envisioned for biosphere reserves. To switch from fire-fighting to controlled best practice and learning in biosphere sites, this policy brief suggests adopting core international environmental and human rights standards as global benchmarks for extractive industry performance. This may take into account specific recommendations from civil society for the establishment of no-go zones for important biodiversity and watershed areas (CER 2011), or more general recommendations seeking to raise the environmental and social standards and necessary safe-guard measures



Map of Extractive Industries in the Biosphere Reserve Oxapampa-Asháninka-Yánesha, Peru.

such as free prior and informed consent. In 2003, the International Council on Mining and Metals – comprising 15 of the world’s largest mining and metal-producing companies – pledged not to explore or mine in World Heritage sites. Aiming for high standards will allow biosphere reserves to become truly innovative in relation to no-go zones, environmental impact assessments, indigenous rights, consultation and consent procedures, and ultimately allow for social, cultural, and environmental issues to be fully addressed.

- **Definitions**
- **Biosphere reserves:** Sites under UNESCO’s Man and the Biosphere Programme that combine three functions: conservation, development, and support for research and demonstration projects.
- **Extractive industries:** Industries engaged in prospecting for and extracting primarily non-renewable resources (oil, gas, minerals, etc.) and in the preparation of extracted materials for sale but not in processing extracted materials.
- **Man and the Biosphere Programme:** The Man and the Biosphere Programme is an intergovernmental scientific programme of the United Nations Educational, Scientific and Cultural Organization (UNESCO) that aims to provide a scientific basis for the improvement of relationships between people and their environment globally.
- **Protected areas:** A protected area is a clearly defined geographical space, recognised, dedicated, and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN).



Oil company public consultations 2008, Peru. Photo: Peter Bille Larsen



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Policy implications of NCCR North-South research

The Madrid Action Plan aims for biosphere reserves to “ensure environmental, economic, social (including cultural and spiritual) sustainability” through “places acting as demonstration areas and learning sites with the aim of maintaining and developing ecological and cultural diversity, and securing ecosystem services for human well-being” (MAB 2008). The very first Man and Biosphere project by UNESCO was indeed created in the Amazon following international protest and consciousness about the frontier problems. Whereas the international conservation community has long been under fire for not sufficiently responding to the social and economic concerns of developing countries and their populations, biosphere reserves offer a unique network of international “learning sites for sustainable development” (MAB 2002) to also address the extractive industry challenge. Emerging lessons could be used to develop and strengthen clear global standards and normative frameworks on extractive industry development within biosphere reserves. The opportunity is therefore to consolidate an ambitious policy agenda for the MAB network in relation to extractive industries. To achieve this end, the MAB programme and other stakeholders, including scientific institutions, business organisations, and indigenous and local community organisations should:

- Establish a comprehensive monitoring and learning strategy for extractive industries and biosphere reserves in terms of their impacts, mitigation strategies, and management approaches.
- Conduct a global study on the social and environmental impacts of extractive industries in biosphere reserves.
- Facilitate a transparent process to define global standards guidelines, and safeguard measures for extractive industries and biosphere reserves.
- Present the results of the studies and draft standards and safeguard measures at the World Parks Congress in 2014 for a broader consultation process.

Further Reading

CER (Centre for Environmental Rights). 2011. http://awsassets.wwf.org.za/downloads/cer_letter_to_minister_shabangu_re_mprda_s49_1_feb_2011.pdf

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