

LOCALLY MANAGED ECOSYSTEMS



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SCIENCE FOR ACTION



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LOCALLY MANAGED ECOSYSTEMS

The Science for Action Series is jointly coordinated by the International Land Coalition (ILC) and the Global Land Programme (GLP). It brings together key findings from research networks relevant to ILC's ten commitments to People-Centred Land Governance. The Series facilitates exchange of knowledge between scientists, civil society and grassroots organisations to strengthen efforts of land users, practitioners and policy-makers to bring about positive change in land governance.

This brief refers to Commitment Six: 'Enable the role of local land users in territorial and ecosystem management, recognising that sustainable development and the stewardship of ecosystems are best achieved through participatory decision-making and management at the territorial level, empowering local land users and their communities with the authority, means and incentives to carry out this responsibility.'

It is based on the research of the Xavier Science Foundation (XSF) and members of the GLP.

As the climate crisis, biodiversity loss and unsustainable land use unfold, the ILC, GLP and partner groups that take a people-centred land governance approach are committed to promoting locally managed landscapes that work for the climate, biodiversity and people.

DEFINING LOCALLY MANAGED ECOSYSTEMS

Locally managed ecosystems support people's quality of life, working with all the interconnected relationships we have with nature.¹ Biodiversity is under threat with greatly enhanced species extinction rates due to human-induced climate change and unsustainable land use and direct exploitation.² Over the past decades, the cornerstone of biodiversity conservation has been the designation of protected areas with varying degrees of human uses. The total area of protected regions alone, however, will not be sufficient: many of the designated species live outside protected areas. The land management in surrounding areas greatly influences the effectiveness of protected areas.³

A major challenge today and into the future is to restore, maintain and enhance biodiversity and beneficial contributions of nature - not only in protected regions, but also in human-managed landscapes or 'working lands' such as farms, forests and rangelands. Recent studies show that some of these farm-, forest- and rangelands are more important for biodiversity than previously recognised.³ Supporting biodiversity in these

working lands requires developing a common vision among diverse actors. People perceive and value nature in many different ways depending on their knowledge systems, worldviews and culture. Conflicts over values often affect decision-making and sustainability. Research has shown that action taken to recognise the full diversity of values and to share science information supports collective and pluralistic decision-making that works for nature and people.^{1,3,4}

WORKING LANDS CONSERVATION

Earth's working lands such as farms, forests and rangelands are critical for protecting biodiversity. And, in turn, conserving biodiversity is critical to supporting the key ecosystem services that are the basis for sustaining livelihoods.⁵ Working lands can be managed both to complement the conservation goals of protected areas, and to maintain the diverse organisms that contribute to producing food, materials, clean water and healthy soils.³

Conservation measures in working lands also enhance connectivity between surrounding areas and protected areas by providing corridors and promoting the movement of organisms, which maintains both natural processes and

nature's contribution to people. A recent study estimates that at least 20% of the area of working lands should contain native habitats to ensure biodiversity.^{3,6} It should also guarantee that the production of food, fibre, fuel, and timber can be sustained while at the same time being more resilient to extreme events, such as floods, droughts, fires, or disease outbreaks, which are all becoming more frequent with climate change.^{3,6}

For thousands of years land management systems have been practised that supported nature and its contributions to humanity, especially by Indigenous peoples. Today, many of these multifunctional, biodiversity-based systems have been replaced by systems focusing on maximal short-term production and resource extraction.

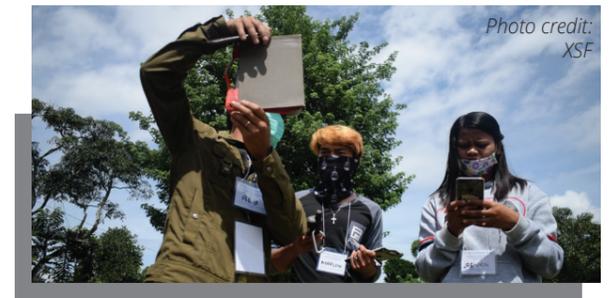
Conservation in working landscapes maintains biodiversity, provides goods and services for humanity, and supports the abiotic conditions necessary for sustainability and resilience.³

In addition to food, feed and fibre, multifunctional working lands also produce a wide range of other benefits such as flood control, and support cultural identities without getting degraded.

NATURE'S CONTRIBUTION TO PEOPLE (NCP)

NCP is contributions of living nature to people's quality of life.¹ The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. The IPBES introduced the notion of nature's contributions to people to recognise the different strands of knowledge, worldviews, interests, and values as well as to increase the possibility of effective and equitable decisions about nature and its importance to human well-being.^{4,7}

The idea of NCP embraces descriptions such as ecosystems goods and services, nature's gifts and many other analogous concepts used to describe what people get from and with nature. The approach is inclusive, seeing human and nonhuman entities as interwoven in deep relationships. For example, co-production of



food in agroforestry systems can be seen as a set of biological and technological inputs aimed at maximising coexistence between useful plants and animals in order to achieve higher yields. But it can also be seen as a practice of care¹ through social relationships and spiritual connections

between human and non-human entities. There are two sometimes-overlapping perspectives through which the NCP approach understands our relationship with nature. The first is a generalising perspective, which is universally applicable and refers to aspects that are comparable across regions such as soil fertility, food production or water quality regulation. For example, IPBES used 18 categories of NCP to assess the state and trends of NCP across the whole planet. The second perspective is context-specific, which allows for descriptions of nature's contributions to people that do not fit well with the "universal" categories above, and sometimes see the links between people and nature as bidirectional, with mutual care and obligations. The context-specific perspective is based on the recognition that people have the right to interpret their relationship in their own way. This inclusiveness of different perspectives and values can result in better and co-produced solutions that are more legitimate and thus more likely to be incorporated into policy and practice.

Today, however, this wide spectrum of perspectives and values is often missing in decision-making. Identifying, recognising and making visible these values is often challenging, despite their crucial importance for long-term success.⁴ ►

UNDERSTANDING THE CONTEXT

Effective management of local ecosystems needs a full understanding of the stakeholders and their interests, as well as the dimensions of NCP within these contexts. When advocating for locally managed ecosystems, it is important to consider:

- **Multifunctional and biodiversity-based land management:** Native habitat areas within working lands form the foundation of these management systems and practices.^{3,8}
- **Land rights and tenure clarity:** Clear definitions of land rights, tenure, and, where appropriate, co-management agreements are crucial for securing stakeholder commitment and ensuring long-term success.
- **Conservation measures:** Properly implemented conservation actions can enhance social equity and promote environmental justice.
- **Integration of diverse actors:** Bringing together different stakeholders is essential, as conflicting claims over the same land often arise at various levels and sectors.^{9,10}

FACING CHALLENGES

MAKING VALUES VISIBLE FOR BIODIVERSE LANDSCAPES

IPBES classifies values into three categories:

1. **Intrinsic values** such as those of nature by itself without any human consideration;
2. **Instrumental values** such as habitat creation and extreme-event regulation; and
3. **Relational values** such as cultural identity.

Many policies tend to emphasise the differences between intrinsic values and instrumental values of nature instead of acknowledging and embracing that they are different. Research has shown that valuing pluralism may lead to policy change in favour of diverse worldviews as opposed to single worldviews. In addition, carefully designed strategies and instruments based on a valuation assessment that includes different perspectives and values contribute to successful ecosystem management.

The following sections outline some of the distinctions needed to recognise, make visible and respect the diverse values to develop a common

vision based on local and Indigenous knowledge and science.^{4,7}

DEVELOPING A COMMON VISION BASED ON LOCAL AND INDIGENOUS KNOWLEDGE AND SCIENCE

Values are assigned to things based on people's experiences, beliefs and understandings as well as their socio-cultural context. These individual or collective values cannot be elicited by valuation measurement tools. Moreover, the word 'value' can have different meanings for different people. It can refer to a principle such as a specific worldview within a cultural context; a preference, for instance for a particular state of the world; an importance attributed to something for itself or for others, now or in the future; or a measure, such as the number of trees per hectare. Research points out that this distinction is important as, for example, the biophysical measure of how much tropical forest provides habitat to wildlife is only one way to measure the importance of forest.⁴

Choices about valuation methods are not just technical, they are also political, because they are subject to the preferences of people holding the power to influence choice and thus influence the scope and orientation of results. The type of approach taken, the type of questions asked, as well as the methods selected, all influence and often implicitly decide whose values are included and which values are featured. Making the reasons for such choices explicit and context specific can help highlight value dimensions more clearly in decision-making.^{4,7}



Research by IPBES proposes a six-step approach to a meaningful valuation process:^{3,7}

1. **Identify** the purpose;
2. **Scope the process** and make explicit the reasons for choosing a certain approach in a specific context;
3. **Choose valuation methods based on the scoping process.** It is important to reflect on methods as they will determine the assessment;
4. **Integrate, bridge and up-scale.** Choose and apply methods for integrating and bridging different valuation approaches;
5. **Communicate** with the public and decision-makers to share the knowledge gained and as a starting point for iterative and adaptive decision-making; and
6. **Review the process** to analyse its strengths and weaknesses and to support adaptive decision-making.

A pluralistic valuation assessment is time and resource consuming but more equitable, which is a prerequisite for sustainable solutions.

BRINGING DIVERSITY BACK TO FORMERLY SIMPLIFIED SYSTEMS

Results of the valuation assessment can guide choices about conservation instruments that are beneficial for people and nature. Although many various regulatory, voluntary and financial tools exist to promote sustainable land management, many barriers prevent individuals, communities and corporations from adopting biodiversity-based practices, including deeply entrenched policy and market conditions that favour industrialised or extractive models of land use. Careful attention to the design of programmes could increase their success. The following section outlines strategies and conservation instruments that can further support models of locally-managed ecosystems.¹

The challenge of shifting from managing working lands solely for profit to managing working land for conservation and well-being is not insignificant, but there are clear paths toward larger-scale integration of this approach. Strategies and conservation instruments include:

- **Voluntary incentives** (such as incentive programmes for landowners for land management activities that can help with restoring or maintaining working landscapes);
- **Market instruments** (such as certification and labelling schemes or payments for ecosystem services);
- **Environmental regulations** (such as environmental regulations designed to protect the environment by restricting habitat or species loss); and
- **Governance instruments** (such as community-based management where management authority is devolved from government to local communities).

Each approach has challenges, especially around reconciling conservation and socioeconomic objectives. Collectively, problems associated with incentives and regulations can include inter alia lack of permanence or compliance, complex implementation, unintended economic consequences, low adoption rates, high monitoring costs, and little evaluation of effectiveness against the goals.³ Further, instruments for private lands may result in management actions that have little positive effect on the landscape level. Some of the instruments (for example trading development rights) may lead to unequal distribution of costs and benefits in communities. Finally, there is often a trade-off between the rigour of certification schemes and the likelihood of adoption. For example, payments for forest conservation in Costa Rica are based on area, whereas transaction costs are the same for all, preventing particularly smallholders from participating in the programme.³ ▶

FINDING SOLUTIONS

INCLUSIVE PROCESSES AND CLEAR REGULATORY FRAMEWORKS

Providing space for context-specific perspectives recognises that there are multiple ways of categorising relationships between people and nature. NCP is an approach to facilitate respectful cooperation across knowledge systems in the co-construction of knowledge for locally managed ecosystems. This is ultimately a social process. Achieving robust participation in this process relies on building a common vision among diverse actors, including non-traditional conservation actors, such as corporations or commodity groups, regulatory agencies and civil society organisations.

Governance issues can present challenges and opportunities. A clear regulatory framework, including incentives for conservation, is needed to promote private sector engagement. Incentives such as payments for ecosystem services can prevent the development of working lands, however inequitable distribution of benefits can have perverse impacts.

Clarity on land rights and tenure, as well as agreements on co-management where applicable, is important to secure commitment from the participants. For example, it is crucial to recognise the rights of Indigenous peoples, including the right to Free Prior Informed Consent with respect to any initiative affecting their lands, territories or cultures.¹²

Prioritising the most beneficial interventions relies on local knowledge, including assessing feasibility, costs and ensuring the operations will be self-sustaining. It also relies on science and information, such as empirical data from similar systems and relevant models that include future climate conditions.

SMALL STEPS FOR BIG WINS

Working lands with native habitats may benefit most from complementary approaches in the cultivated portions of landscapes. Examples include enhanced crop-diversity and service crops in rotation. Achieving >20% target could be enacted in phases in areas where currently no to little native habitats are available. Such an incremental strategy would ease potential

burdens on landowners and at the same time also allow a continued assessment of benefits and cost. This in turn would allow adapting practices and policies according to new knowledge gains.

Civil society organisations can transform information into more useful forms and help with communication and mediation, thereby contributing to effectively plan and build collective impact. Demonstration projects that allow land managers and the larger community to observe desired outcomes and discuss lessons learned can bring solutions to scale. Continued monitoring is required to flexibly adapt, particularly under rapid climate change.

LOOKING TO THE FUTURE

Practices that use biodiversity for managing land rely more on knowledge than technology. They fit well with indigenous and local communities that have long managed their natural resources.

Community-driven projects to manage working landscapes for conservation and sustainability are one of the most promising new developments in land governance. These activities can be scaled up to make a collective influence and drive changes in government policies to help the conservation of working lands through connecting grassroots organisations, social movements, and public-private partnerships. By collaborating with one another, involving the public, listening to different ways of knowing, and co-creating landscapes that support both biodiversity and humans, scientists and conservation practitioners may support these endeavours. Multiple perspectives and worldviews are included in co-constructed knowledge, which strengthens its legitimacy and makes it more likely to be incorporated into policy and practice.³ ●



Photo credit: XSF

MIARAYON-LAPOK-LIRONGAN-TINAYTAYAN TRIBAL ASSOCIATION (MILALITTRA), PHILIPPINES

A case that illustrates this perspective is MILALITTRA's quest for the collective governance of their ancestral domain through the issuance of a Certificate of Ancestral Domain Title (CADT). In the past, the ancestral Mount Kalatungan landscape has succumbed to economic pressures because of lacking land tenure recognition and security. The first incursion was massive illegal logging that destroyed a substantial portion of its native forests. Then came agricultural investments that transformed the landscape into a highland production area. This continued for some time, until a devastating tropical storm triggered massive damage to communities downstream. Subsequently, MILALITTRA strengthened its organisation and advocated its traditional practices to highlight the relations between land tenure, land management and climate change and to secure local resilience, particularly in face of extreme weather events such as typhoons.

The issuance of a CADT and the consequent legal recognition allowed MILALITTRA to partner with other local actors in land use planning and development. As a result, they raised awareness of the important contributions made by MILALITTRA as environmental steward in managing the Mount Kalatungan forest landscape and thus enhancing the community's land tenure security.¹¹

Research on MILALITTRA documents the community's traditional knowledge, practices and relations with nature. It also highlights how the community successfully protects, conserves and manages their ancestral forests. Given the collected data, research concludes that recognition of land tenure and locally-managed ecosystems can have substantial impact on forest conservation which is critical given the current climate and biodiversity situation.⁸

ACKNOWLEDGEMENTS

We would like to thank Roel Ravanera (Xavier Science Foundation), Unai Pascual (Basque Centre for Climate Research), Sandra Díaz (CONICET and National University of Córdoba, Argentina), Claire Kremen and Adina Merenlender (Institute for Resources, Environment, and Sustainability, University of British Columbia) for their contributions.

This brief is based on the following research and articles used in consultation with the authors:

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For a full list of references please refer to the Annex - [End Notes](#)

Science for Action is a jointly coordinated series of ILC and GLP, gathering key research findings on land governance and land science from researchers in their networks.



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DOI: XXXXXX

ILC [International Land Coalition], GLP [Global Land Programme]. (2025). Locally managed ecosystems, Science for Action Series No. 6. Rome, Italy and Bern, Switzerland: ILC and GLP/Centre for Development and Environment, University of Bern.

This brief is based on the research of the Xavier Science Foundation (XSF) and members of the GLP.



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