

# POLICY BRIEF

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## Transformative Change for Sustainability: Nurturing Seeds of Change in Socio-Ecological Production Landscapes & Seascapes

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### Highlights

Transformative change in socio-ecological production landscapes and seascapes (SEPLS) builds on local innovations fostered through adaptive co-management to enable social-ecological resilience. Through a systemic approach to facilitate integration across levels and sectors, it advances multiple agendas to address fundamental local needs as well as global goals including the 2030 Agenda for Sustainable Development and the 2050 Vision for Biodiversity.

#### Recommendations:

- Ensure that actions are driven by local communities based on value pluralism, and authority over resources within SEPLS is equitably shared.
- Apply systemic and transdisciplinary approaches to foster “niche innovations” and realise sustainable solutions at multiple scales.
- Facilitate multi-level networking grounded in local initiatives and promote peer learning, building on integrative, participatory, and inclusive assessments of social-ecological well-being.

### Transforming the World by 2030

With the adoption of the 2030 Agenda for Sustainable Development, UN Member States pledged to transform our world, shifting onto a sustainable and resilient path by 2030 (UN 2015). If insufficient progress is made towards transformative change, however, global goals for sustainability will not be met, including those set out in the 2030 Agenda and the 2050 Vision for Biodiversity (IPBES 2019).

Transformative change is defined by the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES) as a “fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values.” IPBES points to five key levers for generating transformative change (e.g., incentives, cross-sectoral cooperation), which can be collaboratively applied at eight prime leverage points (e.g., visions of a good life, values) to achieve broader impact (IPBES 2019). Yet, there remains a lack of clear understanding on the meaning of transformative change and how it can be initiated (Chan 2019).

This policy brief offers three guiding principles for policymakers and other stakeholders to promote transformative change, by taking advantage of “seeds of change” for sustainability that are growing in landscapes and seascapes. It draws from

research on landscape and seascape management, including 11 case studies in various countries (see Acknowledgements), to clarify the concept of transformative change and effective methodologies, and present lessons learned.

## Seeds of Change in Socio-Ecological Production Landscapes & Seascapes

In practice, integrated approaches to pursue paths towards sustainability have been developed in the management of socio-ecological production landscapes and seascapes (SEPLS) — areas where production activities help to maintain biodiversity and ecosystem services while sustainably supporting the livelihoods and well-being of local communities. SEPLS balance the diverse needs and interests of different actors within landscapes and seascapes in facilitating equitable and ethical transformation to realise societies in harmony with nature.

### Systemic Approaches to Change

In the context of SEPLS, transformative change can be conceptualised as radical change that is built on “niche innovations” of local initiatives fostered through adaptive co-management to enable social-ecological resilience. From a complex adaptive systems perspective (Preiser et al. 2018), management of SEPLS promotes innovations at the operational level, which occur when stakeholders see “business as usual” pathways as not providing the desired benefits, and look for feasible solutions to achieve their aspirations. Motivated to reconcile local and global priorities of development and conservation, these actors endogenously initiate and engage in a process of change inclusive of the multiple values of various stakeholders in a landscape or seascape.

Examples of such innovations include a triad system in Nepal, consisting of three farming families, to experimentally develop a participatory livelihood strategy for local communities. The wider adoption of this system in the region resulted in multiple synergetic outcomes — including reforestation on abandoned farmland by introducing carbon credits, advancement of cultural ecotourism and biochar fertilisation, improvements in food security and tree biodiversity, and poverty reduction (Nishi et al. 2021). In Tuscany, Italy, equitable multi-sectoral supply chains associated with wheat production have led to sustainable cultivation practices and increased revenues for the least compensated members of the production chain.

These innovations are gradually interlinked and synchronised to form a new configuration of social, ecological, and

technological elements as a broader system. In many cases they can be characterised as “seeds” of emerging transformative change, which are often facilitated by local non-governmental organisations (NGOs), community leaders, or independent intermediaries to initiate bottom-up communication and learning, but remain in “incubation rooms,” requiring further radical change (Geels 2005).

Movements towards transformative change need to be catalysed by interventions applied at both “shallow” and “deep” leverage points (Abson et al. 2017). The former are interventions aiming to have direct biophysical or social impacts (e.g., land-use policies), while the latter aim to address fundamental barriers to sustainability and can trigger system-wide change (e.g., people’s sense of place). To advance this process a more systemic approach is required, addressing deeper leverage points and facilitating integration across various levels and sectors to pursue multiple sustainability agendas while meeting essential local needs.

### Empowering Approaches to Overcome Challenges & Seize Opportunities for Assessments

Assessing the progress of transformative change is essential, particularly to identify areas for improvement. However, monitoring and evaluating a multi-dimensional process is highly challenging. Even the best efforts on quantification may fail to capture intangible values such as identities and motivations. Moreover, given the dynamic nature of transformative change, together with the diversity of SEPLS specific to different contexts, a static, universal framework is inappropriate to measure progress where reference parameters may change over time. Specific challenges facing assessments range from capturing the multiple dimensions of progress that are perceived differently by multiple stakeholders, to downscaling global indicators to the local and regional levels — and vice versa.

Experiences from management of SEPLS suggest that participatory and empowering approaches are most effective for on-the-ground monitoring and evaluation, as they help to mobilise diverse expertise and resources within SEPLS for assessment work. By drawing on local knowledge, the process generates quality data, promotes co-learning, and further strengthens local capacities while instilling a sense of ownership of the assessment results, leading to a better chance of achieving radical change. The challenge of capturing emerging qualitative data becomes a learning opportunity when local communities collect data themselves. For instance, “photovoice” — a participatory method for documenting and reflecting reality — helps elicit visions of a community through photographs that are taken and

evaluated by local people, reflecting both tangible and intangible dimensions of change.

### Challenges to Moving beyond Seeds of Change

Realising transformative change requires both enablers to make decisions and actions to implement them. Efforts to address these challenges in the context of SEPLS help to identify and concretise the leverage points under specific circumstances and make the levers actionable. There are three types of interrelated enablers: (i) problem recognition, (ii) technical and financial capacities, and (iii) authority over management. To be motivated as agents of change, stakeholders must first understand the problem, which can be challenging due to the multi-dimensional nature of SEPLS. Related to this, their technical and financial capacities, which are often insufficient or unavailable — particularly for the most vulnerable — may hamper informed and equitable decision-making on SEPLS management. This is indicative of power asymmetries that are also evident in the disproportionate allocation of resources across multiple stakeholders. This prevents them from exercising their rights to decide on change and legitimise their decision in an ethically sound manner.

Even if a decision is formalised in policies, it must be translated into action to realise change, but divergent levels of commitment are almost inevitable due to the multiple needs and views among stakeholders. Local stakeholders who steward SEPLS can be silenced or prevented from making bold, ambitious decisions, particularly when there are deep uncertainties over the direct impacts on their livelihoods.

An illustrative example is the predicament of Afro-descendant communities in the Colombian Pacific region that have suffered from illegal exploitation by unauthorised armed groups, despite legislation to protect their collective rights to land ownership and promote their socio-economic development. In this case, local stakeholders who were granted nominal authority over SEPLS management, but with limited economic and political powers, were prevented from implementing the national decision.

### Policy Recommendations

These challenges can be opportunities for transformative change if policymakers and other stakeholders at various levels collectively leverage the multi-dimensional features of SEPLS. The following three recommendations are presented to guide such holistic efforts by capitalising on local knowledge and experiences.

#### 1. Ensure that Actions are Driven by Local Communities based on Value Pluralism, and Authority over Multiple Resources within SEPLS is Equitably Shared

Actions must be endogenously driven by diverse stakeholders at the community level who proactively design their plan of action, and make and implement decisions to address their needs and interests. Examples in Italy and Taiwan, Province of China show that communicating multi-dimensional values of a product to its consumers through branding and marketing can help to change consumption behaviour. All stakeholders' perspectives must be respected, and the plurality of values of landscapes and seascapes that they perceive should be acknowledged as this increases the possibility of effectively promoting chains of change and ensures equitable sharing and distribution of benefits.

Rights to access and use of natural resources should be equitably shared and clearly defined for policymaking and implementation. As evident in the predicament of the Colombian Afro-descendant communities, being respectful of customary rights and local priorities is a necessary condition to ensure that both social and ecological goals are achieved. This allows for an ethically sound and legitimate process of decision-making and implementation to advance movements towards transformative change.

#### 2. Apply Systemic and Transdisciplinary Approaches to Foster "Niche Innovations" and Realise Sustainable Solutions at Multiple Scales

A systemic approach to foster niche innovations requires creative integration of different knowledge systems to realise sustainable solutions, and therefore the expertise of people with a diversity of backgrounds (e.g., farming, capacity development, conservation, and marketing) is needed. This is evident in case studies in India, Kenya, Madagascar, and Nepal. The approach needs to be reflected in the implementation of national or regional policies to ensure coherence between multiple policy objectives so that they are mutually supportive across different sectors.

#### 3. Facilitate Multi-level Networking Grounded in Local Initiatives and Promote Peer Learning Building on Integrative, Participatory, and Inclusive Assessments on Social-Ecological Well-being

Networking between actors at multiple levels is crucial to allow for a systemic approach, often benefitting from a strong facilitator that mobilises the community for envisioning and acting on a common agenda. Communication strategies for SEPLS management taken

by locally grounded facilitators in Antigua and Barbuda, Madagascar and the United Kingdom, for example, have fostered peer learning within and between communities and other actors. This is of great importance to enable more effective sharing of learning experiences regarding contextually replicable solutions towards sustainability.

It is also important to develop a management strategy for SEPLS, which is clear to all, and particularly local stakeholders, to monitor, evaluate, and adaptively manage changes towards desired outcomes. In India, Kenya, Nepal and the Philippines, assessments have been built on local knowledge and experiences for adaptation. This process should be participatory, inclusive, and respectful with clear boundaries that enable systemic assessments of change (including social and ecological dimensions) and course corrections.

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