POLICYBRIEF

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Mainstreaming Incentive Systems for Integrated Landscape Management: Lessons from Asia

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Highlights

Mainstreaming incentive systems to encourage integrated management of landscapes and seascapes that incorporate high levels of human production activities requires consideration of cultural, technical, and economic factors. Lessons from Asia include linking livelihood enhancement and ecosystem-service provision, integrating multiple knowledge systems at the landscape level, and implementing broad, performance-based, and innovative incentive systems.

Recommendations:
- Project designers and implementers should integrate the ecological knowledge of locals, scientists, the public, and policymakers in interventions at the landscape level.
- Policymakers should remove barriers to the implementation of effective, efficient, and fair performance-based incentive systems through public- and private-sector funding.
- All stakeholders should facilitate local collective action, capacity building, and development programmes with the participation of both women and men, including young people.

Incentives for Sustainable Production

Around the world, there exist diverse landscapes and seascapes made up of dynamic mosaics of land- and sea-uses, formed through the co-evolution of interlinked societies and ecological systems. These so-called "socio-ecological production landscapes and seascapes" (SEPLS; see note) can support human production activities, livelihoods, and well-being by providing diverse bundles of ecosystem services — the material and non-material benefits that people obtain from nature (Takeuchi 2010).

A major problem for the long-term sustainability of SEPLS is market externalities, which occur when the value of ecosystem services provided by these landscapes is not reflected in the cost of goods and services produced in them. This reduces the incentives for producers toward sustainable use and management of the ecosystem. Systems are needed that encourage producers to protect and sustainably use ecosystem services through management of crops, livestock, forests, and fisheries, including conservation of endangered species and their habitats. For example, the FAO has promoted "packages of measures that aim to support farmers in the adoption of sustainable agricultural practices that will benefit the environment and improve long-term food security" (FAO 2018). However, the communities that live in and rely on SEPLS face barriers

to sustainable production, such as socioeconomic and demographic changes. Without effective incentive systems, communities are unlikely to invest time and capital to engage in sustainable production activities.

Direct public- and private-sector funding for such incentive systems is not easily available. For this reason, integration of conservation-oriented actions into development programmes, including those for agriculture, economy, and infrastructure, can provide financial and non-financial incentives. Such projects can range from local development programmes that diversify livelihood options and enhance local economies, to carbon-credit payments and other broad-scale schemes.

This policy brief summarises lessons from several case studies collected by UNU-IAS under the International Partnership for the Satoyama Initiative (IPSI; see note), and uses examples from Asia to provide insights that are applicable globally for designing, implementing, and mainstreaming broad, performance-based, and innovative incentive systems.

Challenges, Solutions, and Enabling Policies

Challenges to mainstreaming incentive systems identified in the cases can be broadly characterised as policy barriers, on-the-ground implementation bottlenecks, and combinations of the two. Suggested solutions to these challenges are

Sabah, MALAYSIA — "Good Practices for Diversity"

A UNDP–GEF project to identify "Good Practices for Diversity" applied community biodiversity management to promote conservation and sustainable use of biodiversity by supporting in-situ conservation focusing on fruit trees. Tree diversity was conserved using incentives through product development and community involvement in product processing and packaging for value addition, increasing household income in the landscape. A lack of community capacity and awareness was identified as a major barrier at the beginning of the project, and was addressed through capacity-building workshops and training in simple technologies and documentation practices. Long-term sustainability for the project will require the creation of local co-operatives and new market linkages to create sufficient income to reverse the trend toward urban migration (Wong and Malangkig 2017).

provided in the following sections. While many of these recommendations may seem straightforward, implementation can be complex, particularly when data at relevant scales is lacking, policy barriers exist, and there are no intermediary bodies with the capacity to bring stakeholders together. These should be seen as steps in an incremental and adaptive evolutionary process involving trial-and-error, particularly when it comes to upscaling and replication.

- **Perverse incentives as a policy barrier to behaviour change at the local level.** These can be confronted by conducting analysis of the incentive policy and its impact on local practitioners, to advocate for the removal of policy barriers and the creation of policies that enable positive incentives, and to organise joint planning with respective government agencies at community, district, national, and other levels.

- **Inequitable distribution of resources coming from incentive schemes.** Policymakers should seek to avoid problems of inequitable distribution — both real and perceived — by ensuring transparency in designing incentive schemes and benefit distributions, targeting beneficiaries through processes that are legitimate, democratic, transparent, and effective.

- **Local attitudes, low literacy levels, and dependency on subsidies.** At the scoping stage for interventions, project designers should conduct participatory assessments at the village level to capture the community context, including resource mapping and face-to-face interaction with communities. Awareness programmes on biodiversity and environmental conservation have proven effective in local communities, but facilitators must also be trained in how to implement innovative projects. Building capacity to "train the trainers" can be a long and difficult process. Simple technologies aligned with traditional and local knowledge can be used by community members for monitoring and evaluation, with only limited training needed.

- **Urban migration of young people.** Rural youths tend to migrate to find work in urban areas and overseas, leading to abandonment of production areas. Different proportions of males and females among migrants also causes unequal employment in rural landscapes and seascapes, where men and women often have different roles in agricultural and other production work. Policymakers developing incentive systems should emphasise job security for the younger generation in landscapes and seascapes, and effective means for their products to support livelihoods while ensuring sustainability, in particular by considering market linkages.

• **Lack of scientific information to anticipate and measure ecological, economic, and social impacts of incentive systems.** Project designers should maximise the application of traditional methods and modern technology for data collection, effective data sharing, programme planning, and management. Local communities should be empowered to establish a baseline, using available tools and technology to ensure the robustness of the information. Internal monitoring and evaluation (M&E) should be established that is appropriate for the specific community and also integrated with larger-scale M&E processes.

Policy Recommendations

• **Integrate and apply multiple knowledge systems including local, scientific, and public ecological knowledge.** Integrating multiple ecological knowledge systems has been shown to be successful as a basic principle for effective, efficient, and fair incentive schemes (Leimona et al. 2015a). Scientific knowledge provides verifiable evidence of the measurable economic and ecological benefits of land-use practices, while resulting interventions in landscape and seascape management will only gain high adoption levels if they are compatible with local and traditional knowledge. "Public/policy ecological knowledge" refers to knowledge concerning environmental protection and management that builds up in a certain jurisdictional area and context including courses of action, regulatory measures, laws, and funding priorities. It may be possible to re-contextualise or generalise parts of this knowledge for wider application. Understanding of this knowledge by policymakers and project implementers can potentially expose contradictions with other knowledge systems, and both enables more effective policy recommendations and avoids policy barriers.

• **Remove policy barriers to implementing effective, efficient, and fair performance-based incentive systems through public- and private-sector funding.** To be effective, incentive schemes should be performance-based, meaning the producers themselves benefit, and only if they actually contribute to the provision of diverse ecosystem services from the landscape or seascape. An effective scheme is therefore an efficient system, as conservation managers do not have to waste resources on poor performers. Fairness refers to pro-poor incentive schemes, where livelihood options and local traditions are sufficiently considered when designing and implementing the policies and programmes (Leimona et al. 2015b). Payment for ecosystem services (PES) is a form of incentive that has been practiced in many developing countries with both public- and private-sector funding, and its performance-based

> **West Kalimantan Province, INDONESIA — Village Fund to Support Sustainable Agroforestry Practices**
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> A village fund has been implemented by some communities to resist the expansion of oil palm plantations, which negatively affect food security and clean water, with profits going to large companies rather than local communities. More biodiverse agroforestry practices incorporating inter-cropping and cultivation of pepper and coffee ensure local food security, while supporting other ecosystem benefits such as fresh water, timber, hunting, fishing, non-timber forest products, and eco-tourism. This, in turn, is in keeping with the culture and customs of the local people. The fund is distributed based on village programmes to develop more areas for food production, and encourages strong local customary and cultural bodies and laws (Luckyharto 2017).

principle enables incentive schemes that are effective, efficient, and fair when implemented well (Namirembe et al. 2018).

• **Facilitate local collective action, capacity building, and development programmes with participation by both female and male community members, including young people.** Incentive systems will be more effective and have greater impact if interventions — whether they are implemented by governments, NGOs, international agencies, or others — are integrated with programmes emphasizing the broadest possible stakeholder representation. This will ensure that the benefits to local communities in the landscape or seascape are clearly understood, and help to leverage additional resources for mainstreaming and upscaling effective practices. It is important to note that poor representation may not only be due to policymakers' attitudes — it may also reflect low interest and capacity in local communities. Policymakers and project designers should not assume that the mere availability of resources will result in broad representation; they may need to actively seek out various stakeholders and convince them to participate.

Notes

The concept of "socio-ecological production landscapes and seascapes" (SEPLS) was introduced by the Japan Satoyama-Satoumi Assessment, based on research led by UNU-IAS, to denote areas that support a harmonious relationship between people and nature. The Satoyama Initiative was established as a global effort to promote the revitalization and sustainable management of these SEPLS.

The International Partnership for the Satoyama Initiative (IPSI) is a global network of more than 200 organizations that promotes efforts to realise societies in harmony with nature through a landscape approach to sustainability. It was launched in 2010 at CBD COP 10 through collaboration between UNU and the Ministry of the Environment, Japan (MOEJ).

This policy brief is based on case studies compiled by UNU-IAS through IPSI, which were presented at the Regional Workshop for the Satoyama Initiative in Sabah, Malaysia in April 2017. The workshop was organised by UNU-IAS, the Sabah State Government, and the Japan International Cooperation Agency (JICA) Project on Sustainable Development for Biodiversity and Ecosystems Conservation in Sabah (SDBEC), with support from MOEJ.

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