

POLICY BRIEF

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Resilience in Landscapes & Seascapes: Building Back Better from COVID-19

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Highlights

Strengthening resilience in landscapes and seascapes facilitates transformative recovery from crises such as COVID-19 and the shift towards a more sustainable future. Resilience assessments at the landscape or seascape level are crucial to recognise changes in human–nature interactions and develop strategies for building resilience while raising the capacities of local communities.

Recommendations:

- Integrate trade-off analysis in resilience assessments, actively incorporating knowledge and expertise related to health and well-being.
- Periodically assess social–ecological resilience to ensure and enhance adaptive management of landscapes and seascapes and mobilise resources for building resilience.
- Foster and extend social capital in the form of bonding, bridging, and linking to accelerate recovery from shocks, minimise suffering, and promote preventive strategies.

Transformative Recovery for Resilience

The COVID-19 crisis has exposed pre-existing vulnerabilities across society, including national health systems, food supply chains, and global markets — and starkly illustrated that the pursuit of sustainable pathways will inevitably fail if we continue business-as-usual practices. The main drivers of known pandemics, almost all of which originate in animals, are anthropogenic — including land-use change, agricultural expansion and intensification, and wildlife trade and consumption. With the continued rise in these human activities, the risk of pandemics is increasing faster than ever, and we will enter a “pandemic era” unless urgent action is taken towards transformative change (IPBES 2020).

To build back better from COVID-19 and pursue transformative recovery for a sustainable future, it is essential to reduce vulnerability and strengthen resilience to future shocks (UN 2020). Many coupled social–ecological systems at the local level have proven to be resilient to shocks like COVID-19 by providing food, water, and energy in times of supply chain collapse. They also contribute to addressing climate change, conserving biodiversity, and improving human well-being (Rockström et al. 2021). Reinforcing such resilience in an equitable and desirable manner, however, remains an enormous challenge for policymakers, planners, and regional managers (Li et al. 2020).

One tool for measuring and increasing resilience capacity is the Indicators of Resilience in Socio-Ecological Production Landscapes and Seascapes (SEPLS; UNU-IAS et al. 2014), which have been applied by local communities in more than 40 countries across the globe. This policy brief draws from experiences and lessons learned in the use of the indicators to highlight opportunities and approaches for strengthening resilience at the landscape and seascape level. Recognising that COVID-19 recovery spending has been skewed towards measures with no environmentally positive impacts (OECD 2021), it provides recommendations for policymakers and other stakeholders to build back better through green recovery for a more resilient and sustainable world.

Applying Resilience Indicators

The set of 20 indicators is designed for local communities to assess resilience in SEPLS — dynamic mosaics of habitats where harmonious human–nature interactions maintain biodiversity while providing multiple benefits for the livelihoods and well-being of local communities. The indicators thus consist of quantitative and qualitative indices to capture and measure multiple dimensions of key systems within SEPLS, including ecological, agricultural, cultural, and socio-economic factors. The spatial scale of the assessment reflects the area upon which community members depend for their survival and livelihoods, and the measurements rely on their observations, views, and experiences (Dunbar et al. 2020). The indicators may be adapted to the particular contexts of SEPLS, but also serve as a framework to facilitate discussion and analysis of resilience in connection

Rio Chone, ECUADOR

A resilience assessment by this community revealed a decline in traditional knowledge on the use of medicinal plants, leading to local action to protect the knowledge and ensure its intergenerational transmission. Through the assessment process, the local community identified diminished inter-generational interaction as a key driver and launched a new initiative whereby the youth used digital technology to document ancestral knowledge through interaction with the elderly. Recognising women as holders of traditional knowledge, it also mobilised internal and external resources (e.g., project funds) to provide them with access to education, training, and leadership development. The assessment helped to promote sustainable medicinal practices and augment well-being through community empowerment.

to livelihood objectives and to help develop and implement strategies for improving and enhancing SEPLS resilience.

Recognising Resilience Gaps in SEPLS

Conducting a comprehensive resilience assessment allows the community and individual members to recognise fundamental problems, and thus motivates them to take corrective action. The inclusive set of indicators helps to identify and compare advantages and disadvantages across resilience attributes in five areas: (i) land/seascape diversity & ecosystem protection, (ii) biodiversity, (iii) knowledge & innovation, (iv) governance & social equity, and (v) livelihoods & well-being. Each indicator can be scored by an individual and then collectively, often in a community-based workshop with a moderator guiding an interactive, participatory process of discussion and analysis, involving diverse stakeholders. Subjective values may vary, but interactive dialogue enables participants to gain new insights and foster mutual understanding. This process can change mindsets and even facilitate behavioural change if such needs are recognised.

Monitoring & Evaluating Progress in Improving Resilience

The indicators also enable continued monitoring and evaluation of efforts to improve resilience in SEPLS. Cross-sectional assessment helps to identify areas for intervention, and the temporal dimension of each indicator can be assessed based on perceptions of how the status is changing (Dunbar et al. 2020). If the indicators are used more than twice, or periodically in a similar setting, initial findings can be a baseline for monitoring and evaluation of a resilience-building strategy at the landscape or seascape level.

While the reliance on subjective perceptions of the participants precludes purely quantitative analysis of changes in resilience, it allows the indicators to be applied in a wide range of settings, including those where rich quantitative data is not available. Also, comparing assessment outcomes over time can reveal changes in perceptions of resilience and helps the community identify the reasons behind them, including impacts of earlier interventions. It can thus aid course-correction and adaptive management to bolster resilience. Furthermore, if such longitudinal analysis is conducted for a funded project, the indicators can support evidence-based policymaking and implementation.

Building Social Capital for Resilience Enhancement

An assessment also offers opportunities for generating and fostering social capital. The indicators are part of a broader process whereby participants collectively explore, analyse,

and discuss various attributes to generate information and form agreement on the challenges, and develop strategies to overcome them (Dunbar et al. 2020). This process stimulates negotiation as well as sharing and co-production of knowledge among local actors — critical factors to create social capital for landscape and seascape governance (UNU-IAS et al. 2014). Containing questions related to social capital and governance capacity, the indicators also help to identify their status and monitor how it changes. This can further social capital and raise local capacity, supporting implementation of community-driven projects.

Social capital can serve to ensure the health and well-being of communities — for instance through maintaining individuals' subjective sense of well-being and controlling epidemics (e.g., Chuang et al. 2015; Tobiasz-Adamczyk & Zawisza 2017). COVID-19 has highlighted this important role, but also exposed a challenge in maintaining social capital under extraordinary circumstances, sometimes exacerbating gender-differentiated impacts (Wabnitz et al. 2021). There is growing evidence that communities with high social capital can better handle pandemics (e.g., reduced growth rate of infections, more hygienic practices; Wu 2021). However, some control measures (e.g., social distancing) have changed patterns of social interactions and limited access to social support, raising mental health concerns (e.g., stress, mental morbidity; Wong & Kohler 2020). This may prompt or exacerbate the decline in social capital, and in turn contribute to undermining the health and well-being of communities.

Policy Recommendations

1. Integrate trade-off analysis in resilience assessments, actively incorporating knowledge and expertise related to health and well-being.

Trade-offs are inherent in the integrated approach to enhancing resilience in SEPLS. To allow local communities to explore unintended consequences, identify ways to mitigate negative trade-offs, and create synergies among different attributes of resilience, planners and regional managers, including assessment facilitators, should integrate discussion and analysis of potential trade-offs in resilience assessments.

Assessments with the indicators are essentially built on local perceptions and therefore may not address conditions of health and well-being unless they are recognised as salient issues by the community. Assessment facilitators should actively engage stakeholders with health-related knowledge and expertise so the community can better address such dimensions of resilience and prepare for future pandemics.

Naga Communities, INDIA

Repeated assessments by these communities in Northeast India provide evidence on the effectiveness of a local initiative to protect biodiversity and secure local livelihoods. Noticing an alarming decline in wildlife due to the replacement of traditional hunting methods (e.g., traps, snares) with modern technologies (e.g., rifles), three villages jointly created community-conserved areas (CCAs) free from hunting and promoted conservation and wise-use practices — including legal recognition of CCAs, ecological restoration, and livelihood alternatives (e.g., wildlife ecotourism). Assessments using the indicators (May 2017 and December 2018) demonstrated the progress of the initiative in terms of alternative livelihood means, control of wildlife exploitation, and raising awareness. This case also suggests that assessments can reveal trade-offs (e.g., wildlife consumption for nutrient intake vs. biodiversity conservation) and synergies (e.g., wildlife ecotourism contributing to biodiversity conservation and livelihood development).

2. Periodically assess social–ecological resilience to ensure and enhance adaptive management of landscapes and seascapes and mobilise resources for resilience-building.

While the emergence and spread of zoonoses result from non-linear, complex human–nature relationships, local resources underpinning SEPLS resilience — including natural, human, and social capital — could deteriorate due to internal and external factors. This requires adaptive management. Greater investments should be made by a wide range of stakeholders, including policymakers at different levels and local communities, to support and conduct periodic assessments so that communities can (re-)identify and recognise vulnerability, take advantage of what they have, and adjust and improve their strategies. Longitudinal analysis can also legitimise earlier investments, or if no progress is found, help further mobilise resources for improvement.

3. Foster and extend social capital in the forms of bonding, bridging, and linking to accelerate recovery from shocks, minimise suffering, and promote preventive strategies.

The beneficial effects of social capital in pandemic responses accrue through various channels, including trust and norms among individuals, social networks across communities, and public trust in political institutions (Wu 2021). In different

socio-economic and political contexts, social capital takes various forms, including “bonding” (relationships among members who identify themselves as being similar), “bridging” (links across different groups without similar statuses or identities), and “linking” (connections to formal and institutionalised power; Szreter & Woolcock 2004). These can effectively complement each other to respond to and prepare for pandemics (Wong & Kohler 2020). Policymakers, planners, and regional managers should explore such complementary combinations of different forms of social capital (e.g., virtual community networking) to better deal with future pandemics and other shocks. They can leverage the resilience assessment process to identify optimal combinations and thus reinforce overall social capital to address new challenges.

Note

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