Making GEF investments resilient

A STAP Information Brief
May 2021

STAP SCIENTIFIC AND TECHNICAL ADVISORY PANEL
An independent group of scientists that advises the Global Environment Facility

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ABOUT STAP:
The Scientific and Technical Advisory Panel (STAP) provides independent scientific and technical advice to the GEF on its strategies, programs and projects. https://stapgef.org

ABOUT GEF:
The Global Environment Facility is the world's largest funder of biodiversity protection, nature restoration, pollution reduction, and climate change response in developing countries. It finances international environmental conventions and country-driven initiatives that generate global benefits. The GEF partnership connects 184 member governments with civil society, Indigenous Peoples, and the private sector, and works closely with other environmental financiers for efficiency and impact. Over the past three decades, the GEF has provided more than $22 billion in grants and blended finance and mobilized another $120 billion in co-financing for more than 5,000 national and regional projects, plus 27,000 community-led initiatives through its Small Grants Programme. https://www.thegef.org

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INFORMATION BRIEF: MAKING GEF INVESTMENTS RESILIENT

The Global Environment Facility (GEF) aims to facilitate enduring and transformative change that delivers global environmental benefits which are resilient to future shocks and stresses that may otherwise undermine them. **Applying *resilience thinking* and a simple scenario-based approach to known future risks can help GEF investments produce more resilient outcomes.**

1. RESILIENCE AND RESILIENCE THINKING

The term *resilience*[1] is used in many ways by the GEF and its agencies, for example climate-*resilient* smallholder food systems; cultivating *resilience* in Costa Rica; *resilient* livelihoods, healthy ecosystems; *resilience* of cities; *resilient* islands, *resilient* communities; and *resilience* to coastal erosion. In each of these uses, **resilience matters to the GEF** as it enables the delivery of enduring global environmental benefits in the face of rapid environmental change and increasing systemic risk (as highlighted by the World Economic Forum's regular reports[2]), including events with unexpected and profound impacts like the COVID-19 pandemic.

Resilience is about maintaining the essential character of systems where human beings and the natural world interact, including how such systems work and what benefits they deliver to humans. But **more resilience is not always a good thing**: systems can be resilient in undesirable ways, such as degraded agricultural landscapes where soils may never recover without active rehabilitation, or the pervasive use of plastic in packaging which is leading to ocean pollution. **Systems that are resilient in undesirable ways often need to transform.**

The concepts of ***resilience, adaptation* and *transformation*, as well as *durability*, are closely linked:**[3]

- **Adaptation** is a process that allows a resilient system to *maintain* its essential characteristics in the face of shocks and stressors, when this is desirable; for example, a diversified rural economy may continue to deliver sustainable livelihoods in the face of shocks from an economic downturn or a drying climate. (This is a wider definition of adaptation than for climate change alone.)

- **Transformation** is about *changing* a system's structure or the way it works when its resilience is no longer desirable, for example transforming a commodity value chain (such as coffee) from one that causes land degradation to one that delivers widespread environmental benefits to biodiversity, and soil condition, and to local livelihoods.

Resilience is often scale dependent: farmers may become part of a *provincial* transformation to carbon forestry and renewables to deliver more resilient *national* energy and carbon management. It is important to understand whose interests are served by adapting to be resilient as opposed to transforming. **For environmental benefits to endure, they need to be supported by relevant stakeholders at all levels**; in this example, a good multiscale engagement process[4] could allow a government to *adapt* its policies to achieve national resilience and, at the same time, empower farmers in the decision so that they are supportive of their local livelihoods being *transformed*.

Hence **a key question in resilience thinking**[5] **is: resilience *of what*** (the scope and scale of the social-ecological system), ***to what*** (what trends in what stressors and shocks), **and *for whom*** (who sets the purpose of the system; who defines "good" or "bad" resilience)?

2. SPECIFIED AND GENERAL RESILIENCE

Resilience of what to what? **It is important to distinguish *specified resilience* (resilience of a defined system to a known set of shocks and stresses) from *general resilience* (resilience to overlooked or unforeseeable threats that affect an unpredictable range of actors and systems).** Experience shows that putting all the effort into building resilience to one known risk often creates new vulnerabilities, such as establishing monocultures of a crop that is resistant to pest damage but creating, through that monoculture, vulnerabilities to climate or market changes. Conversely, the COVID-19 pandemic was a foreseeable shock, but it was very hard to foresee the systemic consequences for economies, supply chains and inequality it would bring. **A balance is needed between *building the resilience of a defined system to specified risks*,** such as known trends in population or climate, or known possible shocks such as extreme events, **and *building general resilience*** to unforeseeable events or events with unforeseeable implications by building the adaptive capacity to deploy in the face of any shock.

3. USE SCENARIOS TO DESIGN FOR SPECIFIED RESILIENCE

Projects often identify trends in drivers like climate change,[6] population, migration, conflict or the economy but are less good at incorporating these trends into project design to ensure that *maladaptation* (adaptation that fails) is avoided and that enduring benefits are created.

For example, a project may involve planting trees and choosing species able to cope with a warmer climate but not consider that an increased risk of forest fires in the longer term could undo the carbon sequestration and biodiversity benefits. Or, in the face of uncertain trends, farmers may be encouraged to adopt a crop that would work well in a warmer, wetter future but that fails disastrously in a drier climate, setting farmers up for maladaptation; whereas there may be another crop (or a mixed cropping system) that continues to produce in both wetter and drier climates. This would be **a *robust* option – one that works reasonably well in all possible futures, rather than working very well in one future but failing disastrously in others.**

To design projects under conditions of uncertainty, **it is important to look at multiple scenarios** that imagine different futures and explore the main uncertainties. For this, STAP recommends:

- identifying the most important drivers of change (e.g. climate, demography, security), as appropriate to the context, and creating three or four qualitative descriptions of diverse possible future conditions to consider how these would affect the baseline case

- developing possible responses, including those that are likely to work in all the future scenarios, considering explicitly whether adaptation or transformation is needed to achieve resilience, and for whose benefit

- selecting the best response, giving priority to options that are robust to future uncertainty

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4. AVOID UNDERMINING GENERAL RESILIENCE

While focusing on the delivery of global environmental benefits, **GEF investments should be designed explicitly to avoid undermining general resilience**, and in some cases to enhance it. There are eight attributes of a system with general resilience that the GEF could look for:[7] maintaining adequate **reserves** of key capitals (e.g. soil carbon, spare grid capacity, financial reserves); supporting **response diversity** (e.g. multiple supply chains, diverse crops); investing in **social capital** (e.g. knowledge exchange networks) and **human capital** (e.g. equitable capacity-building); applying **systems thinking**[8] **across scales**; maintaining **appropriate connectivity**; and promoting **adaptive learning**.

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ENDNOTES

1 Resilience can be defined formally as *the capacity of a social-ecological system to absorb, withstand or adapt to shocks and stresses such that the system remains within the same regime, maintaining its essential structure and functions, or less formally as the capacity of a system to deal with change and continue to develop*. But both definitions raise as many questions as they answer. This brief argues it is more important to *put resilience thinking into practice* than to wordsmith a definition.
2 For example, WEF, 2021. See also Helbing, 2013; Renn, 2020; Schweizer, 2019.
3 See O'Connell et al., 2016, 2019.
4 See the Scientific and Technical Advisory Panel paper on multi-stakeholder dialogues (Ratner and Stafford Smith, 2020).
5 See O'Connell et al., 2016, 2019; Walker and Salt, 2006.
6 See STAP's 2019 guidance on climate risk screening.
7 Distilled from Anderies et al., 2006; Folke et al., 2010; O'Connell et al., 2016; Walker, 2019.
8 See STAP's paper on nature-based solutions (STAP, 2020, 16–18).

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