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DESIGNING PROJECTS IN A RAPIDLY CHANGING WORLD:
GUIDELINES FOR EMBEDDING RESILIENCE, ADAPTATION AND TRANSFORMATION INTO SUSTAINABLE DEVELOPMENT PROJECTS

Designing projects in a rapidly changing world:

Guidelines for embedding resilience, adaptation and transformation into sustainable development projects

A STAP Advisory Document

Introduction

Resilience, adaptation and transformation are a set of related concepts which can operate within a continuum – from maintaining a healthy, resilient system in its present state, through to incremental adaptive changes or indeed radical transformational change to a completely different system. This report is about how to build the ideas of resilience, adaptation and transformation into our plans for a sustainable future.

Resilience is the ability of a system (e.g. a community of people, an ecosystem, a city) to absorb shocks (e.g. disasters) or trends (e.g. increasing greenhouse gases), while maintaining the same identity. Adaptation is the process of change that enables a system to maintain its identity, and transformation is the shift from a current system to a new and different one (e.g. from a pastoral to a cropping system).

Understanding how to use resilience, adaptation or transformation to manage a system will help people to make intentional changes (or system interventions) with a stronger chance of reaching their sustainability goals. Modern society has not previously faced the current rate, magnitude and novelty of the changes that are now before us. There are no "off the shelf" solutions for these challenges. Therefore, we need a structured approach to learning from the interventions that we make, to enable constant improvement and adaptation of our management interventions, while understanding how the systems we are managing are themselves rapidly changing. These ideas are incorporated into the 17 Sustainable Development Goals (SDGs) adopted by the United Nations in its 2030 Agenda as the blueprint for a healthier, safer, fairer, happier and more sustainable future for ourselves and our planet.

The challenge now is to make operational the concepts of resilience, adaptation and transformation, and embed them into the design of development programs and projects. We have developed the Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) Framework to help project designers and planners build the ideas of resilience, adaptation and transformation into sustainable development projects from the start. This will help to ensure outcomes that are practicable, valuable and sustainable through time and change. This first version of the guidelines was developed particularly for meeting challenges around the future security of agriculture, but applies equally well to managing climate change, attaining sustainable growth in the Earth's megacities, better responding to the accumulating risks that confront humanity and transforming (or protecting) the social and ecological systems which support us. These challenges are compounded by rapid change and growing uncertainty, as

surging human needs and demands come up against the finite capacity of the Earth to meet them, at a time when the best-laid plans may be undone by unforeseen developments.

The core features of RAPTA are a systems view, focus on key drivers, risks and thresholds, adaptive management, and stakeholder participation in planning and implementation of intervention options. RAPTA is underpinned by the system description that identifies the main resources and products of the system, key controlling variables, threshold effects, cross-scale interactions and feedback loops. Detailed resilience assessment includes identifying risks or points-of-no-return, opportunities for adaptation and/or transformation, and the costs and benefits of these options. RAPTA does this iteratively, as understanding and competence grow. It builds in learning at every stage and uses the increasing understanding to refine the project plans and develop the capacity of stakeholders to manage them to successful implementation, no matter what else arises.

Building Resilience Thinking into the GEF Program

The GEF is a champion of the global environment, seeking to support transformational change and achieve global environmental benefits at scale. Building healthy systems that are resilient to future shocks is critical to the sustainability of the global environment – as well as people's livelihoods. The GEF recognizes the importance of resilience in ecosystems, social systems and responses to climate – important areas of work of the Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD).[1] The return on this effort can now be seen across a range of GEF projects and geographical regions.

To encourage holistic and synergistic investment, the GEF initiated the Integrated Approach Pilot (IAP) programs ("Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa", "Sustainable Cities" and "Taking Deforestation out of Commodity Supply Chains"), which are designed to test integrated approaches to urgent global social and environmental challenges. The GEF identifies the following as core priorities of the IAPs: integration, synergy, theory of change, resilience, gender dimensions and knowledge management[2]. Importantly, the IAPs incorporate "resilience thinking"[3] into their overall design and implementation (see Box 1 below).

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[1] "GEF-6 Programming Directions", May 2014.

[2] "GEF-6 Programming Directions", May 2014.

[3] For the purposes of this brief, resilience thinking encompasses the concepts of resilience, adaptation and transformation.

Box 1 - Definitions[4]

The terms resilience, adaptation and transformation are used in this brief in a manner consistent with social ecological resilience literature.

Resilience is the capacity of a social–ecological system to absorb shocks and trends (e. g. drought) and reorganize so as to retain the same functions, structure, and feedbacks (i.e. the same identity).

Adaptation refers to the process of change that enables a system to maintain its identity, so that it is better able to cope with trends and shocks, or to reduce vulnerability to disturbance.

Transformation is a shift from the current system to a new one with a different identity (e.g. from cropping to an agro-pastoral system.

Applying resilience thinking to the design and management of projects and programs will better enable them to deliver their intended outcomes and long-lasting environmental benefits in the face of large, often unpredictable change. In the past, projects typically focussed on the current condition of the system and sought to improve it. Today, it is increasingly recognised that interventions can be more effective and sustainable if they take into account not only the state of the system, but also its trajectory – and of large-scale, unpredictable external changes that may impact on it.

Resilience thinking encourages project developers to think about the system's capacity to cope with both anticipated and unexpected shocks and stresses, and to determine whether incremental adaptation is required, or whether more fundamental transformational change of the system is needed to achieve the goal. Resilience thinking helps to focus efforts where interventions will be most effective; it considers key drivers, vulnerabilities and proximity to thresholds. Resilience thinking applies adaptive management to implementation, uses results from monitoring and assessment (M&A) to revise strategies, and tests hypotheses expressed in the Theory of Change.

Resilience, adaptation and transformation are here seen as a continuum that ranges from maintaining the present system, through to transforming it into a different system where necessary. These terms are used differently by some groups, but consensus on definitions is not a prerequisite to applying them – while the language used may differ, the objectives and approaches are similar: resilience-based approaches seek to focus attention on improving the capacity of the system to cope with stresses, and facilitating change where needed. In practical terms, this means the user initially focuses on understanding system dynamics, drivers and controlling variables, and then on the magnitude and types of interventions possible, along with

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[4] Distilled from many sources in the social-ecological resilience literature, including Walker, BH & Salt, D 2012. Resilience Practice: Building capacity to absorb disturbance and maintain function, Island Press, Washington, D.C., USA.

pathways for achieving system resilience and/or implementing changes to the system required to reach the desired goals.

Resilience Thinking for Projects under the IAP Programs and for the GEF Program

As projects are being developed under the IAP programs, or under the GEF Program Strategies, the following questions are key to systematically demonstrating resilience thinking:

1. Resilience of what? It is important to understand the valued products and services delivered by the system;
2. Resilience to what? What hazards or shocks could impact the system's capacity to deliver those products and services?
3. What are the key determinants or controlling variables of resilience in the system[5]?
4. How is the project expected to influence those key determinants?
5. How will the effects of the project be monitored?

Below are key components for building resilience thinking into project design, including how to consider opportunities for adaptation or transformation in order to meet project goals. Much of what is proposed will be familiar to experienced project planners. Distinguishing factors include system analysis at multiple scales, along with explicit consideration of options for both incremental adaptation and transformational change where necessary to achieve project goals.

The GEF acknowledges that incorporating resilience thinking into project design will require modifying the project development process, and will have implications for resourcing and effort required for project development. The GEF is committed to assisting project developers by providing practical guidance, and allowing flexibility in how resilience aspects are considered.

RAPTA components

1. *Scoping*: a standard component of project development that summarises the purpose and nature of the project. These guidelines highlight the aspects of scoping that are unique to RAPTA. Applying RAPTA in the project identification stage involves a "light pass" through all seven components, after which *Scoping* is revisited to confirm or revise the initial plan.

2. *Engagement and Governance*: Effective stakeholder engagement means getting the right people involved, in the right way, at the right time, using ethical and transparent processes. Stakeholder engagement seeks to develop shared understanding of the many perspectives on problems and solutions. Defining the roles, responsibilities and accountabilities of stakeholders involved in project design, implementation and governance should be an important component of projects seeking to integrate resilience. *Engagement and Governance* is essential to all

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[5] Controlling variables regulate the system through their direct effects and feedback loops (e.g. percentage ground cover, that controls soil erosion and rainfall infiltration ; the area of habitat required to maintain a species; social norms and laws about resource access rights and extraction levels)

phases of the project cycle. Using RAPTA, it comes in early and is continually strengthened and modified as the project develops.

3. *Theory of Change*: Existing Theory of Change methods can be complemented and enhanced by RAPTA, by systematically considering resilience, adaptation, and transformation (e.g. there is a deliberate consideration of options for transformational versus incremental change). It emphasizes the testing of initial hypotheses, improvement through learning and responsive management. *Theory of Change* is a key activity in the project identification phase and early in the project design phase. It is also an important input into the implementation phase of a project and underpins monitoring and assessment, and project evaluation.

4. *System Description*: Drawing from stakeholders' diverse perspectives, as well as the literature, the *System Description* produces a record of the current understanding of what the system consists of and how it is connected, and the assumptions and evidence underpinning this understanding. It forms a fundamental base for assessing the system's resilience, and underpins both the next two components.

5. *System Assessment*: The *System Assessment* identifies potential risks, points of no return and key controlling influences ('controlling variables') associated with anticipated future shocks or changes, as well as opportunities for adaptation or transformation. It draws heavily on resilience concepts and tools that are central to the RAPTA. It is a major focus early in the project cycle and is often revised, through *Learning.*

6. *Options and Pathways*: Here, the intervention options are identified and arranged into a provisional order for implementation. Their qualitative and quantitative benefits and costs are estimated. This helps form an implementation plan which is closely linked to *Learning* and is actively updated and adaptively managed over time.

7. *Learning*: an iterative component, which encompasses Monitoring and Assessment and Knowledge Management, that connects all other RAPTA components. Effective learning requires a structured approach that utilises the *system description* and *system assessment* to guide the focus of monitoring and assessment (M&A) (e.g., data collection and interpretation), so that the insights gained are used in project design and implementation. Results of M&A inform adaptive management and testing of the *Theory of Change*. Learning is captured to inform future phases of the project and program, as well as future projects. The engagement of stakeholders (e.g. land users, government policymakers, NGOs, community members) in *Learning* is essential to enhance self-assessment, awareness of their roles and their capacity to influence future action.

Where to start?

The RAPTA components are presented in the order which we think works well. However, following this order is not essential: users should choose a sequence that best suits their project.   Each project is a complex social system in its own right and requires its own capacity

to learn and adapt in a sequence that best serves its goals. Within each component, these guidelines offer a logical sequencing of tasks. Users may wish to adapt the sequence to suit their own project – for example, the component on *Options and Pathways* will be more robust if all of the previous components are completed, but may still be of use in adaptation planning even if a full resilience assessment is not conducted.

Rather than prescribing an order or sequence, the components and their steps can form a checklist, to help the project team reflect on project activities and ensure that all components have been considered. Where a well-established practice for a particular component (e.g. Theory of Change) already exists, the guidelines are not intended to replace it but rather show how it can be adapted to incorporate resilience thinking.

RAPTA supports the design of actions which can help to guide linked social and ecological systems into the future, informed by sound science, underpinned by a structured learning process to gather and analyse evidence, followed by continual adjustment of actions based on what has been learned. It opens a new way to think about development projects, one which offers more durable and flexible outcomes and longer-lasting benefits in the face of the rapid, unpredictable change, whether global or local, human or environmental, which confronts the modern world.