

Transformation for Resilient Landscapes and Communities Partnership

Glossary

Resource Sheet No 12 (RS 12)

Adaptations: changes that fit with new situations or surroundings; sometimes as slow incremental adjustments and at other times as abrupt change or transformations

Adaptive cycle: a widely used heuristic to characterise the growth, decline and re-growth stages that many systems – or parts of a system – experience over time

Adaptive capacity/Adaptability: the capacity to adapt and to shape change. Adaptability is the capacity of actors in a system to influence resilience. In a social-ecological system, this amounts to the capacity of humans to manage for resilience.

Adaptive governance: societal power-sharing, institutional and decision making arrangements that can readily adapt in the face of uncertainty and constantly changing circumstances, and that can deal with different knowledges, values, interests, perspectives and power in ways that enable effective self-organisation in the face of change

Adaptive management: structured learning-by-doing; the implementation of policies and programs in flexible ways that enable frequent monitoring, reflection on assumptions and changes in methods of implementation through learning

Agency: capacity to carry out individual will – extended here to include capacity of a whole community to exercise its collective will

Capitals Framework: a sustainability framework developed by the Forum for the Future in the 1990s, as a way of describing the five sources of capital stocks from which goods and services are derived. The five capitals are: natural, social, human, built and financial.

Collective learning: structured learning by a group of individuals with diverse interest and different ways of knowing (i.e. with different knowledge cultures) that come together to tackle intractable problems through a creative synergy

Feedbacks: signals within a system that loops back to control the system. In natural systems feedbacks can help to maintain stability in a system (negative feedback) or it can speed up processes and change within the system (positive feedback).

Heuristic: a useful, but not always universal, rule of thumb. A visual model or a metaphor to aid interpretation, for example the adaptive cycle

Identity: the key structures and functions that characterise a system and –that make it what it is. In science it is purely descriptive. In a

social sense it is normative – what we identify with, or belong to, including a place or landscape or community or industry. In a personal sense it is who we are or believe we are. These distinctions lead to confusion and misinterpretation.

Landscape: visible product of current and historical interactions between humans and their environment. They can be thought of as complex adaptive social ecological systems. Some of the shaping forces can be slow and barely noticeable while others can be rapid and result in abrupt change.

Panarchy: the influences of multi-scale interactions; understanding that a system experiences a range of feedbacks across and between different scales. The term derives from adding pan- (across everything) to -archy (denoting a type of rule or government, as in hierarchy, monarchy, etc.).

Participatory action research: research where those being studied are collaborators, co-learners and/or co-designers of the research process and outcomes; where the researchers seek to actively influence the outcomes of the phenomenon being studied

Planning-by-doing: a form of adaptive planning where plans are gradually built and updated from learning gained through taking action in projects. This is in contrast to comprehensive plans which precede implementation and are reviewed periodically, nominally every five years.

Reflective Transfer: an extension of reflective practice used to describe the process of taking learning from one situation in a case study and providing the latest and up to date version of heuristics based on that learning to new partners.

Regime: a term from resilience science describing the set of possible system states within a stability landscape. A regime has characteristic structures, functions, feedbacks and therefore, identity.

Regime shift: is the rapid reorganisation of a system from one relatively unchanging state (or regime) to another.

Resilience: the ability of a system to absorb shocks, to avoid crossing a threshold into an alternate and possibly irreversible new state, and to regenerate after disturbance. There can be two types:

General resilience – The resilience of any or all of the parts of a system to all kinds of shocks, including novel ones

Specified resilience – The resilience “of what, to what”; resilience of some particular part of the system, related to a particular control variable, to one or more identified kinds of shocks.

Safe arenas: a space where innovative practices and ideas can be nurtured without undue interference from countervailing forces

Scenario: A scenario is a story that describes a possible future, by identifying significant events, actors and mechanisms. A set of scenarios that bracket the range of possible futures is a useful tool for examining the kinds of processes and dynamics that could lead to a SES developing along particular trajectories.

Shadow networks: networks of people that operate outside formal societal structures and can explore alternative futures with freedom

Social-ecological system (SES): an integrated system of ecosystems and human society with reciprocal feedback and interdependence. The concept emphasises the 'humans-in-nature' perspective.

Social learning: broad-based societal changes in thinking that have resulted from shared experiences or purposeful collaborative activity – usually depicted as the outcome from such shared learning, but is also presented as the process of how to achieve such an outcome

Stable state: refers to a system with stability. Stability being the ability of a system to return to an equilibrium state after a temporary disturbance. The more rapidly it returns, and with the least fluctuation, the more stable it is.

State variable: a component in the system for which the amount of that component can be tracked or measured. State variables include items such as land, biomass, livestock, farmers, roads, etc.

Threshold: a breakpoint on a trajectory of change for a particular variable (especially one that changes slowly) that, when crossed, changes a critical feedback causing the system to reorganise along a different trajectory and into a new regime

Tipping point: the moment of dramatic, rapid change such as, with the rapid rise or fall of an epidemic, or critical mass of voters in an election.

Transformation: a change that results in a fundamentally new structure, function, feedback loops and identity. Can apply to personal world views or mental models, and paradigms. There can be two types.

Active transformation: the deliberate initiation of a phased introduction of one or more new state variables (a new way of making a living) at lower scales, while maintaining the resilience of the system at higher scales as transformational change proceeds.

Forced transformation: an imposed transformation of a social-ecological system that is deliberately introduced by external actors.

Transformative capacity: the capacity to create a fundamentally new system when ecological, economic, or social (including political) conditions make the existing system untenable.

Transition: a transformation from one recognisable form or state to another, which takes place over a period of time by incremental steps

Wicked problem: a highly complex and intractable problem such as those related to NRM and sustainability; a problem that is shared and persistent, where existing solutions often impede change and where more effective solutions can come from unexpected sources