

Appendix 1. Qualitative text analysis

Description and results (Table A1.1) from the qualitative text analysis, which allowed us to identify distinctions and commonalities between the Transition Movement approach and the Resilience Assessment approach, through comparing their respective written guidelines (i.e. Resilience Alliance 2010, and Hopkins 2008, 2011).

Process and framework

In line with Esaiasson et al. (2007), the qualitative text analysis consisted of a careful reading of the text, with respect to its parts, the whole and its context, in order to highlight and make sense of the content that was relevant to our research question. It was an iterative process of reading through the material thoroughly while taking notes, and then returning to different parts of it over and over. To ensure the validity of our results, we focused on findings that were repeated throughout the material and that were clearly expressed in the texts.

We developed a framework to structure the comparison (Esaiasson et al. 2007), based on existing frameworks and principles (e.g., Leach et al. 2010, Biggs et al. 2015), a recent study of a resilience assessment process (Sellberg et al. 2015), and the preliminary case study findings (Table 1). In order to not miss interesting findings, we also included interpretations of resilience in practice that emerged from the text analysis.

The first category (*1. Narrative*) included a brief narrative analysis, which helped provide a context for the rest of the findings (Table 1). This approach builds on Leach et al. (2010)'s framework, which focuses on alternative narratives of pathways to sustainability. Narratives both “define a problem, explain how it comes about and show what needs to be done to avert disaster or bring about a happy ending: in other words, what is wrong and how it must be put right” (Leach et al. 2010:130). Based on this definition, we used “what is the problem and what should be done about it?” as a guiding question to distill narratives from the texts.

The second category (*2. Definition and use of resilience concept*) clarified the different interpretations of resilience (Table 1). The sub-categories captured how resilience is defined, the scope of *what* it is that should be resilient, and to *what* (Resilience Alliance 2010), if persistence, adaptability, or transformability are emphasized as aspects of resilience (Folke et al. 2010), and how resilience is interpreted in practice, using the resilience principles in Biggs et al. (2015). Transformability is the ability “to create a fundamentally new system when ecological, economic, or social structures make the existing system untenable” (Folke et al. 2010).

Based on the case study, as well as a recent study of a resilience assessment process (Sellberg et al. 2015), we expected the Transition Movement approach to focus more on practical tools. We also expected the Resilience Assessment to have a stronger theoretical foundation, especially with

respect to social-ecological interactions and cross-scale connections. Therefore, we also included this as a third category in the text analysis framework (3. *Emphasis on theory vs. practical tools*, Table 1).

Table A1.1. Results from the qualitative text analysis

	Transition Movement Approach <i>(Hopkins 2008, 2011)</i>	Resilience Assessment Approach <i>(Resilience Alliance 2010)</i>
1. Narrative		
A. Goal	Make communities sustainable and achieve global sustainability (incl. environmental, social justice, and human well-being dimensions) (e.g., 2011:28 and 39).	Sustain the long-term capacity of social-ecological systems to deliver environmental benefits linked to human-wellbeing (p. 4).
B. System delimitation	Local scale communities across the globe, but with focus on Western World, and global scale changes, e.g. climate change.	Local and regional natural resource management across the globe.
C. Narrative summary	Our societies dependence on heavy use of fossil fuels means that “we’re likely to run into /.../ dangerous climate change and an energy famine when oil reserves run low” (2008:86). Therefore, we need to “move rapidly to a zero carbon society” (2008:142), and since there is no substitute for cheap liquid fossil fuels on the scale we use them, we need urgently to prepare for a future with less energy. Our communities also have become dependent on the global economy. We need to rebuild the resilience of our communities, through the measures above, as well as through e.g. strengthening the local economy, local production of essentials, and social networks. These enormous changes imply a major transition of our culture, economy and infrastructure, but if we plan proactively and creatively, there	The problem is increasing environmental change and loss of resilience in social-ecological systems to that change, which could lead to undesired shifts in social-ecological systems. Loss of resilience threatens the long-term capacity of social-ecological systems to deliver environmental benefits linked to human-wellbeing, and this loss is often caused or worsened by traditional management. Therefore, we need another natural resource management that is based on a social-ecological systems framework and an understanding of how to cope with change and uncertainty. This type of natural resource management can enhance/maintain resilience of desired system states. Performing resilience assessments of those systems will generate the type of system understanding needed, which should be used as a

is a possibility for a more desirable future than the present. Communities need to take a leading role in this transition, since e.g. governments won't dare take the steps necessary if they don't have the public's support. So far, environmental campaigns have failed to engage enough people on the scale required and we need a new approach – the Transition approach, using e.g. positive visioning, insights from psychology, and inclusive processes, and build a global movement around it.

decision basis for new management strategies that enhance/maintain resilience.

2. Definition and use of resilience concept

A. Definition of resilience	<p>“...the capacity of an individual, community or system to adapt in order to sustain an acceptable level of function, structure and identity” (2011:45)</p> <p>Community resilience is “the ability of a community to withstand external shocks and stresses without significant upheaval”, and also adding that a resilient community would have “a resilient and accessible resource base and a dynamic range of viable livelihood and responsive institutions” (Adger 2002, cited in 2011:44).</p>	<p>“Resilience is fundamentally a system property. It refers to the magnitude of change or disturbance that a system can experience without shifting into an alternate state that has different structural and functional properties and supplies different bundles of the ecosystem services that benefit people.” (p. 5)</p>
B. Resilience of what, to what	<p>Resilience of communities' abilities to “sustain life and thrive” (2011:13) in the face of peak oil, climate change and disruptions in the global economic system</p>	<p>Resilience of key components of SES, i.e. natural resources and ecosystem services that stakeholders rely on, to disturbances, disruptions and uncertainty (p. 15)</p>
C. Emphasis on persistence, adaptability, or transformability	<ul style="list-style-type: none"> – Persistence of communities (see 2B) – Adaptability in the transition process and as key aspect of resilience – Transformability is necessary for becoming resilient 	<ul style="list-style-type: none"> – Persistence of natural resources and ecosystem services (see 2B) – Adaptability in the assessment process and in governance and as key aspect of resilience

as aspects of resilience

- Transformability needed if existing structures become untenable (p. 48)

D. Interpretation of resilience in practice, based on principles for resilience

1. Maintain diversity and redundancy

Diversity is part of the permaculture framework underpinning the approach and increased diversity is addressed as part of building resilience (see narrative, 1C). The approach promotes e.g. diversification of local and rural economies, food and energy sources, and a diversity of solutions in different communities.

Diversity is part of general resilience attributes and the stewardship strategies (table 4, p. 47).

2. Manage connectivity

Increased modularity is addressed as part of building resilience (see narrative, 1C), through decreasing functional dependencies to the global systems, and rebuilding connections and social networks within the community. The movement itself also has a modular, network structure.

Modularity is addressed as part of general resilience attributes and the stewardship strategies (table 4, p. 47).

3. Manage slow variables and feedbacks

Not thoroughly theorized, but addresses e.g. reinforcing mechanisms of climate change and the current regime, changes in slow variables, such as culture and values, and maintenance of regulating ecosystem services (one of the permaculture principles). Emphasis is on tightening feedbacks, as part of building resilience, through localization, which will make the “results of our actions /.../ more obvious” (2008:56). The movement itself is providing a feedback through responding to slow environmental changes.

Key part of Resilience Assessment framework, e.g. social-ecological systems (figure 2), and process, e.g. key feedbacks and slow variables are supposed to end up in the conceptual model constructed through the Resilience Assessment process. Tightness of feedbacks is a general resilience attribute.

4. Foster an understanding of social-ecological systems as complex adaptive systems

Part of the philosophical underpinnings (permaculture principles and idea of self-organizing systems), manifested through focus on e.g. resilience to changes, locally adapted and self-organizing responses, exploring scenarios of how peak oil and climate change will play out, and by visualizing tipping points in the pedagogical tool “the web of resilience exercise” (2008:60).

Part of Resilience Assessment framework, (e.g., p. 7) and the assessment is about creating this type of understanding of the focal system.

Learning approach focuses on explaining theoretical concepts and giving examples of how they are applied to a case, lacking experience-based pedagogical tools.

5. Encourage learning and experimentation

Key strategy of the approach: communities need to learn and adapt in order to be resilient, and collective learning (incl. triple-loop) and innovation is also needed for an intentional transition. Hopkins (2011) provides a lot of tools and ingredients to encourage learning and self-reflection (individually and collectively) within the movement. Experimentation encouraged e.g. through the non-hierarchical organization, seeing the whole movement as an experiment, emphasizing “learning by doing”, and the open-source approach.

Promoting adaptive governance and management, which are characterized by experimentation and learning.

Monitoring to increase understanding of the system.

The assessment process is intended to be reflexive and iterative (e.g. by encouraging to “reflect and connect” in the end of each section), and promote learning, from first to third loop.

6. Broaden participation

Key strategy of the approach: “we need to be generating a response on a previously unseen scale” (2008:76) in order to meet the scale of the challenges and transition successfully. The potential of Transition initiatives is to “create a truly community-led process” (2008:144) and inclusion and diversity are essential for the success of an initiative.

Many of activities require a “diversity of perspectives” and insights from both scientific and local knowledge (e.g. identifying main issues and related values).

Exercises for mapping the key stakeholders and social networks.

Effective stakeholder participation and collaborative

Provides multiple strategies and tools for how to engage people and make participation successful, e.g. strive for inclusivity (e.g. through open space processes), use psychological insights, and build social networks.

processes is required to manage for resilience and ecosystem-based stewardship.
Nothing about how (or if) to include participants in the process, who to invite, how to design the process.

7. Promote poly-centric governance

Promoting poly-centricity through the network structure within the movement and the initiatives, e.g. the “Project Support Project concept” (2008:142), and by advocating local responses that act in parallel but in collaboration with government at different levels.

Addresses the scale-mismatch between global climate change and resource depletion, and local action, e.g. by promoting a global movement of local responses (2008:Ch. 13).

Theory on governance systems is addressed, with emphasis on adaptive governance, institutions and social networks (Ch. 4).

Promoting polycentric governance as a stewardship strategy (table 4, p. 47).

Addresses social-ecological-mismatches e.g. in Grand Canyon example (p. 10) and in the assessment exercise on p. 38.

E. Other interpretations of resilience in practice, emerging from text analysis

1. Power and influence

Community-scale resilience involves that the community regains a certain degree of influence, by e.g. having locally owned businesses (2008:57), and the devolution of powers to local communities (2008:75). This is even more emphasized in Hopkins (2011), reflected e.g. in adding the subsidiarity principle to the principles of transition (p. 78). Resilience means independence, which implies ability to make decisions and shape your own responses.

Differences in power and influence over resource use are to be mapped and discussed in the assessment, as well as conflicts (p. 38–39), but not clear how that relates to the resilience of the system.

2. Capitals

Different forms of capital as increasing resilience, e.g. financial capital (2008:40), which also is a requirement for

Various forms of capital, mainly social, addressed as part of transformability (p. 48–50). Social capital (e.g. trust,

successful localization (2011:287), and social capital, reflected in e.g. re-building social networks in a community (e.g., 2008:60).

leadership, social networks) also brought up as a stewardship strategy (table 4, p. 47).

3. Emphasis on theory vs. practical tools

A. Activities and methods included in the different approaches

Activities for the collective transition process, with Hopkins (2011) expanding with activities further on in the transition process: not only preparing the system for change and raising awareness and building networks, but actually starting to e.g. build the alternative infrastructure, and to formalize and scale up initiatives.

In Hopkins (2008), transition is described through twelve steps, but in Hopkins (2011) this is developed into a cookbook of practical ingredients and tools divided into the sections: starting out, deepening, connecting, building, and daring to dream. The task is to navigate the local context using the tools and ingredients.

B. Conceptualization of social-ecological interactions

Human-nature interdependence recognized in the ideas that underpin the approach, e.g. the permaculture principles and tools. Focus on resilience of communities and not of social-ecological systems, but Hopkins (2011) adds that a resilient community would have “a resilient and accessible resource base” (see 2A).

The practical manifestations has potential to strengthen peoples’ relation to essential ecosystem services, mostly by involving more people in the generation of ecosystem

An assessment process, which includes describing the system, understanding the system and its dynamics (incl. e.g. cross-scale interactions and governance), and synthesizing and acting on the assessment (Figure 1, p. 5). The output from the first two steps is two diagrams: a conceptual model of the social-ecological system, and a diagram of the identified threshold effects (p. 43), which forms a basis for developing strategies for coping with change. The process goes through the key concepts of the framework and applies them to the focal system, in successively more theoretical depth.

Each section of the workbook goes through: theory, an example from another case, assessment questions, discussion, reflect and connect, and summarize.

At the core of the Resilience Assessment framework (figure 2, p. 6) and significant throughout the workbook in all of the assessment exercises.

Social-ecological interactions part of the focus on social-ecological systems components (resilience of what) and the sustainability goal.

Adaptive management has potential to emphasize “the capacity to adapt to changing relationships between society and ecosystems in ways that sustain ecosystem services” (p.

services, such as food, and by moving it closer to people.

C.
Conceptualization
of cross-scale
interactions

Promotes a community-led response within a global/international perspective. Recognizes need for scaling up movement, but recommends to grow from the bottom up through creating networks across scales. Acknowledging both support and constraints from government at different scales, and that “any successful response needs to operate on a range of scales” (2011:53).

8).

At the core of the Resilience Assessment framework (Ch. 3), e.g. the panarchy concept, managing social-ecological systems requires understanding of cross-scale interactions, which is a mix of bottom-up and top-down processes.
