PLOTTING CHANGES IN OPTION SPACE OVER TIME

PURPOSE OF ACTIVITY

The purpose of this activity is to assess and visualize how different dimensions of resilience change over time. This provides an understanding about whether a system's option space is increasing or decreasing and can highlight issues that needs to be targeted to navigate towards a more sustainable future. See also related discussion guide.

RESOURCES NEEDED

Required skills: Basic math, interview/survey skills helpful
Time: Approximately 1/2 to 3 days; Varies depending on data availability
Materials: Calculator, spreadsheet software helpful

HOW TO DO IT

STEP 1
Develop 2-5 indicators specific to the system context for each of the seven dimensions. The indicators must be relevant to the specific dimension and to the system, and be logistically feasible to assess. For example, a rural agricultural community might choose indicators such as the number of crops grown and/or livelihood options an indicator for "Maintaining social and ecological diversity and redundancy". The indicators should be relatively easy to rank on a scale of 1-5 for two or more time periods. Suggestions for indicators are given below however, in most cases it is useful to modify or create unique, context-specific indicators to include in the analysis.

Phase 3: Exploring system dynamics
Module B: Exploring option space
Work card 22: Analyzing trends in option space over time
Revised 2018-08-01
Available at wayfinder.earth

STEP 2

Create a survey tool to rank each indicator on a scale from 1 to 5 and invite stakeholders with some knowledge of the system's history to complete the survey. Other types of data could also be used if there are e.g. historical records on some of the chosen indicators. The type of data used should be described and documented.
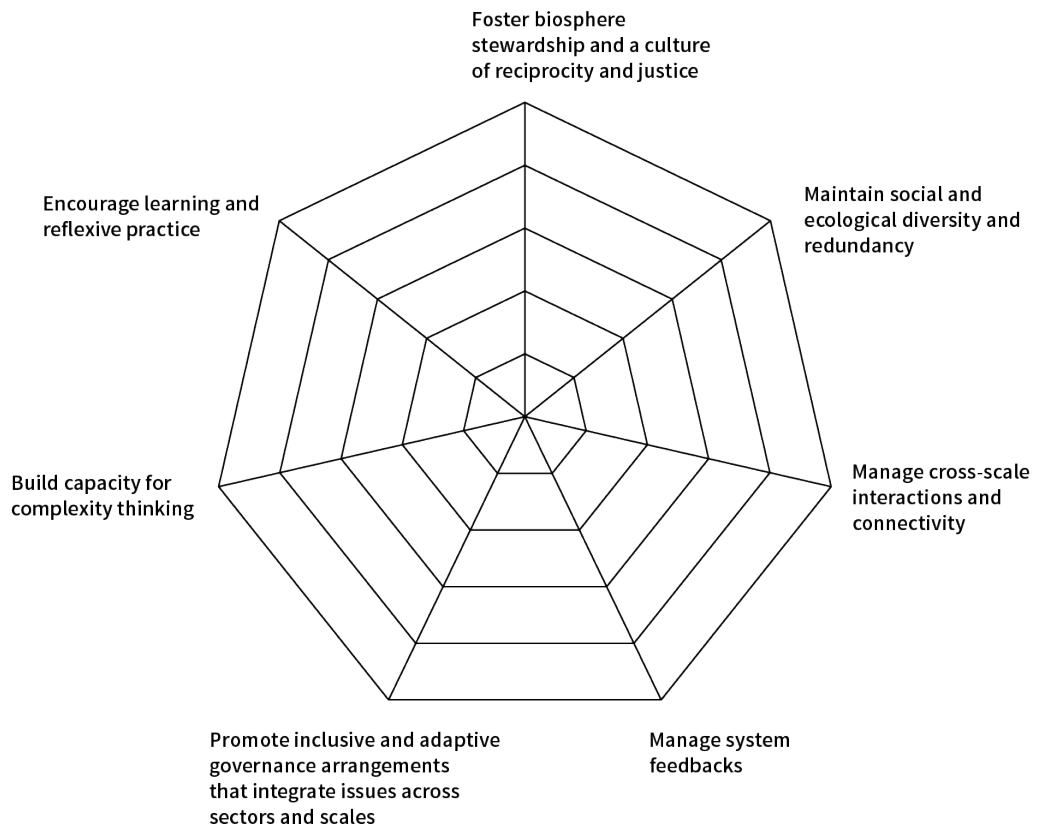
STEP 3

Calculate mean values for each indicator and for each dimension for two or more time periods (e.g., past & present), and plot the average scores for each dimension on the web diagram.

STEP 4

Once the data has been plotted and a visual representation of changing option space has been created, the results should be presented to participants and other stakeholders and discussed. Are the findings as expected? Why or why not? What explanations are suggested by participants? Have the loss of some resilience dimensions reduced the option space in a way that people have already experienced? How? Do the results shine light on any particular issues that needs to be targeted to navigate towards a more sustainable future.

TIPS

It might be useful to include a confidence rating for each indicator or dimension. The quality of the information and data that goes into the analysis should be taken into account when interpreting and using the findings.

Foster biosphere stewardship and a culture of reciprocity and justice

Maintain social and ecological diversity and redundancy

Manage cross-scale interactions and connectivity

Manage system feedbacks

Promote inclusive and adaptive governance arrangements that integrate issues across sectors and scales

Build capacity for complexity thinking

Encourage learning and reflexive practice

Sample Indicators
The following list of possible indicators for each dimension are suggestions only and should be adapted to the specific context/system. The list should not constrain the development of indicators that are not included below or that may be unique to a particular system.

1. Foster biosphere stewardship and a culture of reciprocity and justice
Stewardship organizations, degree of resource sharing, perceived fairness, etc.

2. Build capacity for complex systems thinking
Willingness to embrace change, preparedness to cope with unexpected events, degree to which experimentation is used to inform decisions and planning, etc.

3. Encourage learning and reflexive practice
Efforts to stimulate innovation, education, active listening, multiple knowledges considered, use of traditional/local knowledge, sharing of scientific resources, etc.

4. Maintain social and ecological diversity and redundancy
Species diversity, other measures of biodiversity, land use diversity, livelihood diversity, variety of perspectives, etc.

5. Manage cross-scale interactions and connectivity
Degree of information/knowledge sharing, number of collaborative activities, amount of resource sharing, efforts to deal with global and regional drivers, e.g. climate change etc.

6. Manage system feedbacks
Extent to which gradual changes are understood and slow variables are acknowledged, degree to which monitoring is used to inform/update decisions, etc.

7. Promote inclusive and adaptive governance arrangements that integrate issues across sectors and scales
Collective decision making, number of grassroots groups, evenness of power distribution, indigenous authority, willingness for conflict resolution, degree of overlap among governing actors, redundancies in the functions of institutions, cross-scale governing bodies, governing bodies that align with biophysical boundaries such as catchmen management agencies etc.