



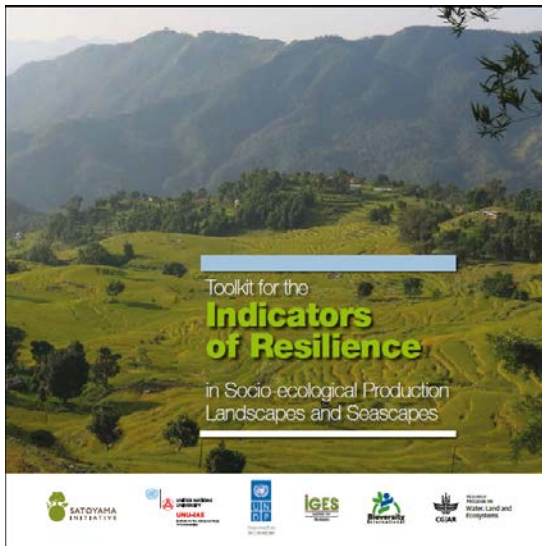
SATOYAMA  
INITIATIVE



*ICBRDS in UPB:*

# Supporting tool to develop and implement resilience-strengthening strategies

- Toolkit for the indicators of resilience in socio-ecological  
production landscapes and seascapes (SEPLS)



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Baguio, the Philippines*

# Socio-Ecological Production Landscapes and Seascapes (SEPLS)

- Areas that communities enjoy its bounty for the long term have created unique and sustainable landscapes and seascapes.
- Areas that have provided humans with goods such as food and fuel, and services such as water purification and rich soil, while hosting a diversity of animal and plant species.



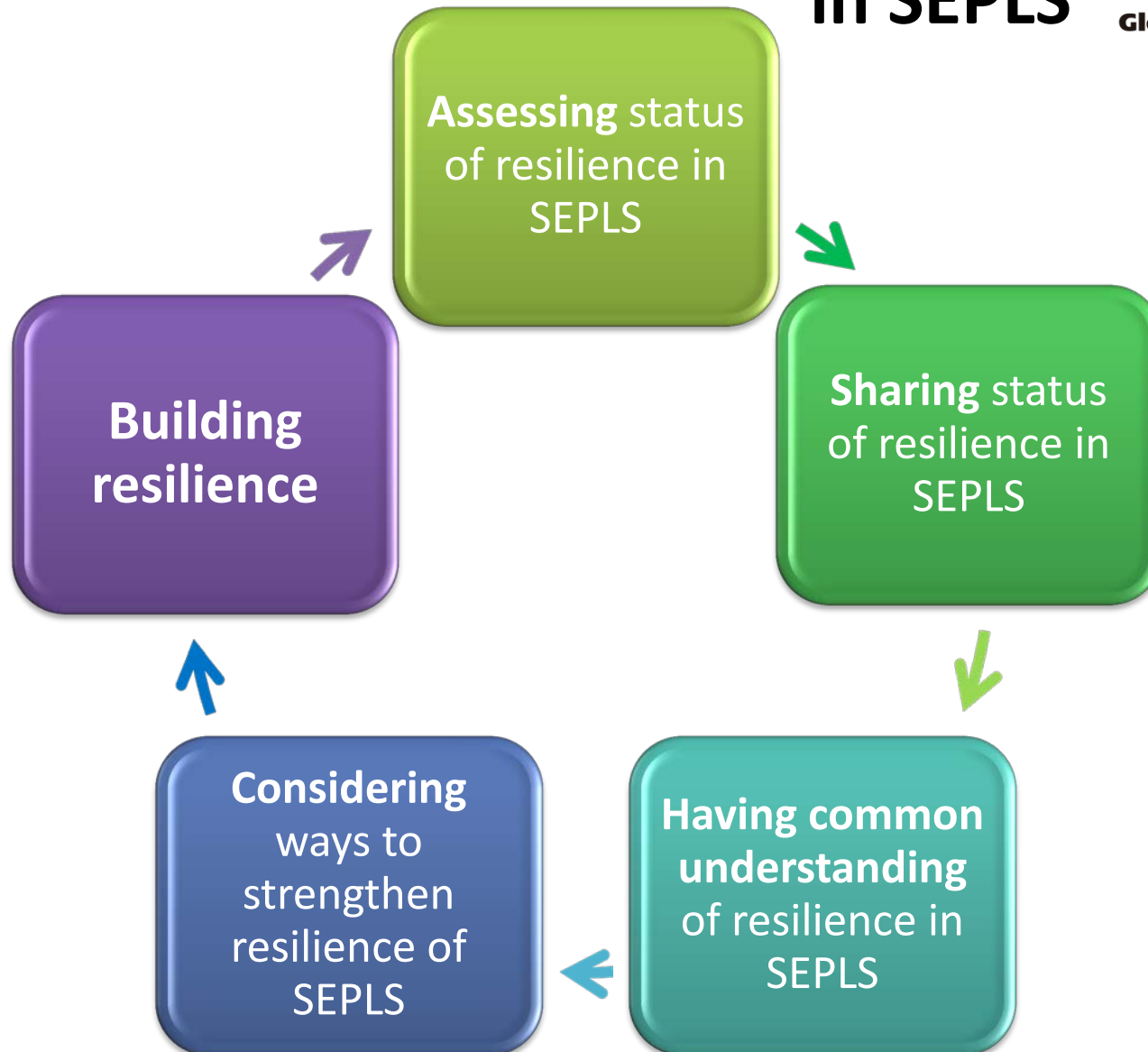
*Dynamic mosaic of habitats and land uses in Gamri Watershed, Bhutan*

# Outline of presentation

1. Toolkit for the indicators of resilience in socio-ecological production landscapes and seascapes (SEPLS)
2. Purpose and benefits of using the toolkit
3. Users of the toolkit
4. Indicators for resilience in SEPLS
5. Assessment of resilience in SEPLS in Fiji
6. Toolkit: practical guidance for using the indicators
7. How to utilize the result of the resilience assessment
8. Outcomes from resilience assessment



# 1. Toolkit for the indicators of resilience in SEPLS



## 2. Purpose and benefits of using the toolkit (1)

Main *purpose* of the indicators toolkit:

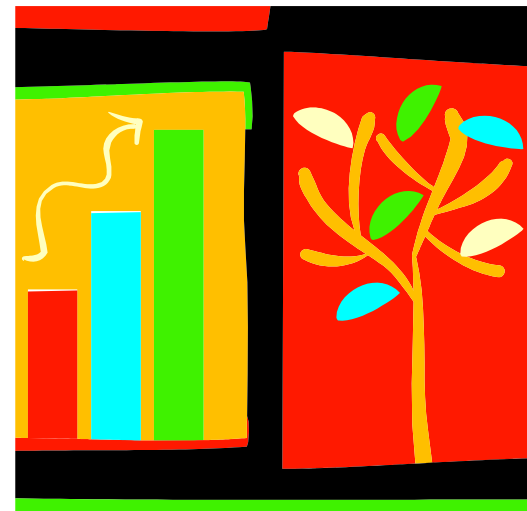
- Assisting communities in developing resilience-strengthening strategies that communities can increase their capacity:
  - ✓ to respond to social, economic, and environmental pressures and shocks,
  - ✓ to improve their environmental and economic conditions,
  - ✓ thus increasing the social and ecological resilience of their landscapes and seascapes.



## 2. Purpose and benefits of using the toolkit (2)

### *Benefits:*

- Understanding the resilience of SEPLS
- Supporting development of resilience -strengthening strategies
- Enhancing communication among relevant stakeholders
- Empowering local communities in decision-making and adaptive management



### 3. Users and areas of the indicators

#### *Users of the indicators:*

- Local communities
- NGOs and development agencies
- Project planners and policy makers
- Researchers

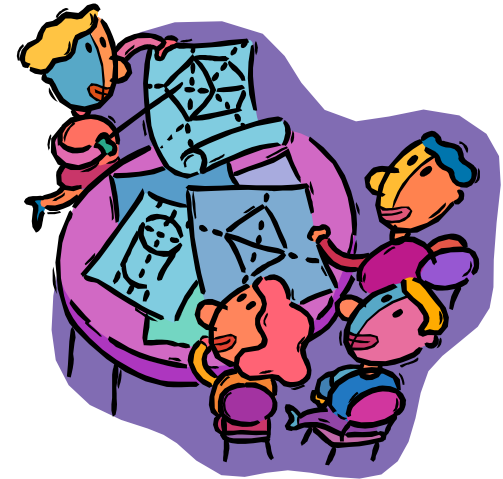


#### *Applicability of areas:*

- Diverse types of socio-ecological production landscapes/seascapes (SEPLS), which includes agriculture land, watershed, costal area, inland water bodies, mountain, forest, river or lake basins, pastoral land, glass land etc.

## 4. Indicators for Resilience in SEPLS (1)

1. Landscape/seascape diversity and ecosystem protection
2. Biodiversity including agricultural biodiversity
3. Knowledge and innovation
4. Governance and social equity
5. Livelihoods and well-being





## 4. Indicators for Resilience in SEPLS (2)

	Group	Indicators
<b>1</b>	Landscape/seascape diversity and ecosystem protection	1) Landscape/seascape diversity, 2) Ecosystem protection, 3) Ecological interactions between different components of the landscape/seascape, 4) Recovery and regeneration of landscape/seascape
<b>2</b>	Biodiversity including agricultural biodiversity	5) Diversity of local food system, 6) Maintenance and use of local crop varieties and animal breeds, 7) Sustainable management of common resources
<b>3</b>	Knowledge and innovation	8) Innovation in agriculture and conservation practices, 9) Traditional knowledge related to biodiversity, 10) Documentation of biodiversity-associated knowledge, 11) Women's knowledge

## 4. Indicators for Resilience in SEPLS (3)

	Group	Indicators
4	Governance and social equity	12) Rights in relation to land/water and other natural resource management, 13) Community-based landscape/seascape governance, 14) Social capital in the form of cooperation across the landscape/seascape, 15) Social equity (including gender equity)
5	Livelihoods and well-being	16) Socio-economic infrastructure, 17) Human health and environmental conditions, 18) Income diversity, 19) Biodiversity-based livelihoods, 20) Socio-ecological mobility

# 5. Assessment of resilience in SEPLS in Fiji (1)



Figure: Map of the Bouma National Heritage Park in Taveuni Island

# 5. Assessment of resilience in SEPLS in Fiji (2)



# 5. Assessment of resilience in SEPLS in Fiji (3)

	Group	Discussion points	Proposed activities
1	Landscape/seascape diversity and ecosystem protection (3 ↑)	<ul style="list-style-type: none"> <li>• After establishment of Marine Protected Area in the village fishing grounds, there are more benefits to the village.</li> <li>• The Marine Protected Area as a part of the seascape is protected, but none of the landscape is protected besides the Nature Reserve, where access to natural forest is restricted in the northern part of the village.</li> <li>• The importance of connectivity is understood, but villagers are still poaching and using herbicides and pesticides for agriculture.</li> <li>• After a hurricane, landscapes/seascapes will recover. However, it will take some time.</li> </ul>	Reviving traditional collective work ( <i>balebale</i> ) in the village to reduce use of chemicals in agricultural activities

# 5. Assessment of resilience in SEPLS in Fiji (4)

	Group	Discussion points	Proposed activities
2	Biodiversity including agricultural biodiversity (3.6 ↑ )	<p>There is a high diversity of local foods. However, villagers' diets and preferences have been changing and villagers have started buying food in stores, such as canned fish, flour, noodles etc.</p> <p>Local varieties still exist, but these are slowly being replaced by commercial ones (e.g. taro), and villagers are not interested in maintaining local varieties.</p> <p>Fishing practices are improving, but are still not sustainable.</p>	Organizing village meetings where the village chief and elders can tell the community about the importance of reforestation in areas with heavy clearing for agroforestry

# 5. Assessment of resilience in SEPLS in Fiji (5)

	Group	Discussion points	Proposed activities
3	Knowledge and innovation (3.2 ↑ )	<ul style="list-style-type: none"> <li>• Agroforestry practices, such as avoiding clear-cutting, help resilience in the face of hurricanes. However, these practices are not enough.</li> <li>• Some knowledge is passed down through collective work on farms.</li> <li>• Drinking <i>Kava</i> among villagers are occasions to share knowledge.</li> <li>• Agricultural biodiversity and knowledge is accessed and exchanged among villagers, but no documentation exists.</li> <li>• Documentation has been done by the government, but no access by villagers.</li> <li>• Understanding of social/gender equality between men and women is different.</li> </ul>	<ul style="list-style-type: none"> <li>• Revitalization of traditional knowledge including farming practices.</li> <li>• More dialogue between elders and youth to share knowledge.</li> <li>• Documentation of traditional knowledge.</li> <li>• Traditional farming: planting not only taro and cava, but also other products; planting taro every 4 months to harvest every 4 months; practice agroforestry to protect marine resources</li> </ul>

# 5. Assessment of resilience in SEPLS in Fiji (6)

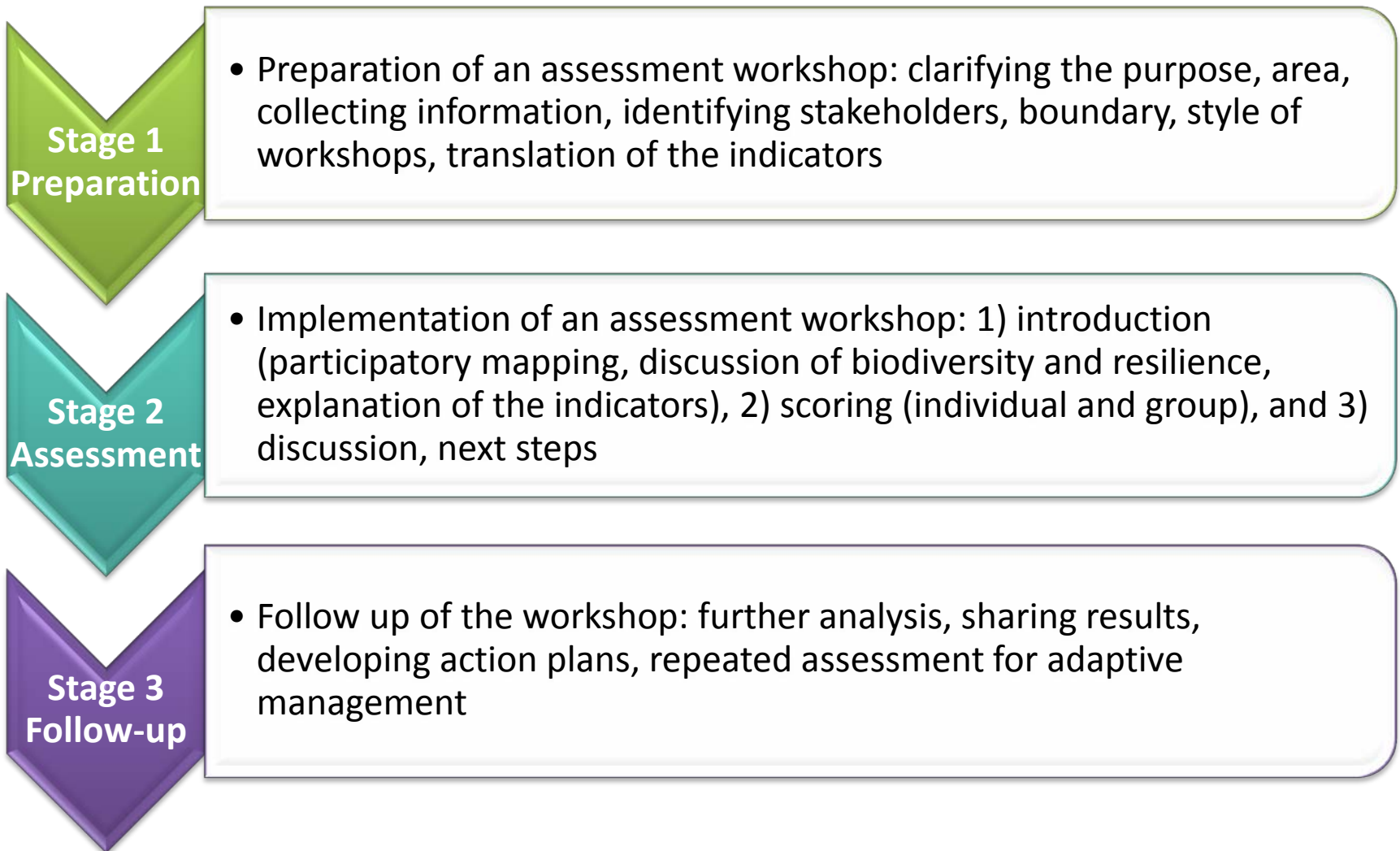
	Group	Discussion points	Proposed activities
4	Governance and social equity (4.2 ↑ )	<ul style="list-style-type: none"> <li>• Villagers feel that they have a certain freedom over land and water resources, although the system in place limits the allocation of farm land for each family.</li> <li>• The fishing ground is common property among two other communities.</li> <li>• There is a committee that looks after natural resources. The committee is supported by the national government and fisheries department.</li> <li>• Cohesion within the community is good, but not between communities.</li> <li>• Inequalities are only seen in decision-making processes in clan meetings. Women’s position in decision-making is weak.</li> <li>• Each clan has an equal share of resources. However, depends on their population, some have more resources per person.</li> </ul>	n/a



# 5. Assessment of resilience in SEPLS in Fiji (7)

	Group	Discussion points	Proposed activities
5	Livelihoods and well-being (4 ↑)	<ul style="list-style-type: none"> <li>Improving road is one of the priorities in the village.</li> <li>The village is kept clean and tidy.</li> <li>Waste is separated, and plastic is burned.</li> <li>Every Monday, those that are sick are taken to the nurse.</li> <li>Bio-filters have been installed in two community water tanks for drinking water.</li> <li>Flush toilets are installed in every household.</li> <li>Reliance on agriculture (taro and cassava) is too high (60-70%).</li> <li>Tourism in the Marine Park and handicrafts (mats, fans, virgin coconuts oil) are potential other sources of income.</li> <li>The Marine Park is attempting not only to improve the conservation of the coral reef, but also as a main tourist attraction.</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of more income-generation activities.</li> <li>Plant taro in the off-season.</li> <li>Find good markets for local handicrafts (sewing, <i>tapa</i> cloth, mats and others), for example in a visitor centre or resort hotels.</li> <li>Plant more “<i>pandanus</i>” to produce more mats.</li> </ul>

# 6. Toolkit: practical guidance for using the indicators



## 7. How to utilize the result of the resilience assessment

For local communities and NGOs:

- *Have a common vision among communities, and between communities and policy makers*
- *Enhance communication among stakeholders*
- *Strengthen partnership among various actors*
- Develop *resilience strengthening strategies*

For policy makers:

- Promote *participatory landscape/seascape management*
- *Identify intervention priorities* and develop strategies at the local and national level

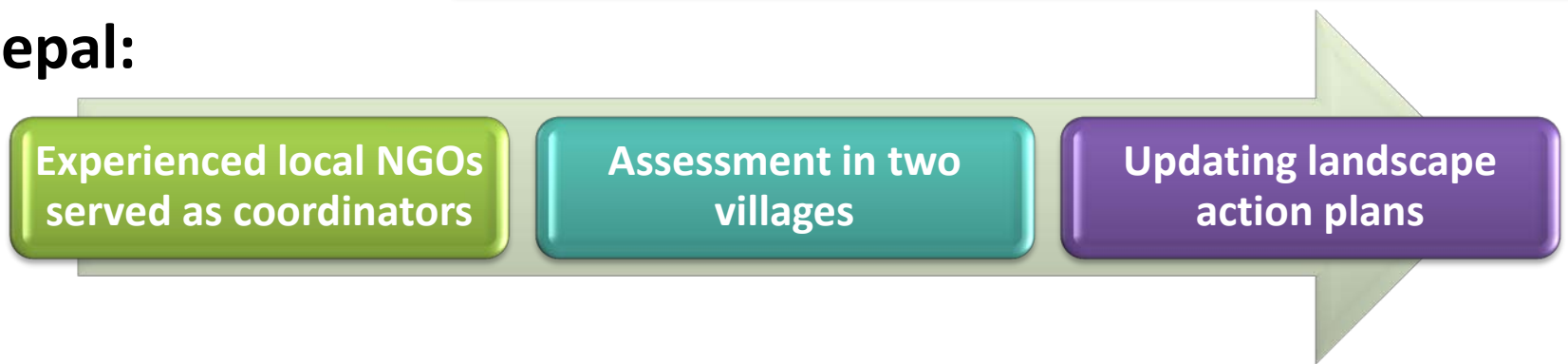


## 8. Outcomes from resilience assessment

### Turkey:



### Nepal:





**Thank you !!**

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