Assessing Landscape Resilience

BEST PRACTICES AND LESSONS LEARNED FROM THE COMDEKS PROGRAMME

SATOYAMA INITIATIVE

Japan Biodiversity Fund

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ACKNOWLEDGEMENTS
This publication and the examples and images profiled in it would not have been possible without the invaluable contributions and support of the GEF SGP Country Programme staff: Tshering Phuntsho, and Tara Monger (Bhutan), Isabel Figueiredo and Carol Lobo (Brazil), Ngin Navirak and Socheata Kim (Cambodia), Marie-Laure Mpeck Nyemeck and Aime Kamga (Cameroon), Charles Dixon and Paula Zúñiga Díaz (Costa Rica), Ana Maria Varea and Johana Jacome (Ecuador), Juan René Guzman (El Salvador), Zeleke Tesfaye and Feleke Bebzha (Ethiopia), Katarina Atalifo and Losana Mualaulau (Fiji), George Ortsin (Ghana), Sodhi Prabhjot and Jaison Varghese (India), Catharina Dwihastarini and Hery Budiarto (Indonesia), Evgeniia Postnova (Kyrgyzstan), Alex Damaliphetsa and Nyembezi Jenda (Malawi), Ganbaatar Bandi and Narangarav Gankhuyag (Mongolia), Nickey Gaseb and Rauna Nghatanga (Namibia), Gopal Sherchan and Vivek Dhar Sharma (Nepal), Boucar Nanatao Ismail and Bassirou Dans Magaria (Niger), and Gökmen Argun and Basak Okay (Turkey); the GEF SGP Central Programme Management Team (CPMT), which provided oversight and supervision to country programme staff and supported programme synergy; and finally, COMDEKS grantees and partners. Many thanks to Yoko Watanabe and Stephen Gold for their leadership, guidance, and support in making this publication possible.

UNDP would like to thank the Japanese Ministry of the Environment, the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) and the Secretariat of the United Nations Convention on Biological Diversity for their continuous support of COMDEKS, and the Global Environment Facility for the parallel co-financing provided to support COMDEKS through its Small Grants Programme.

CITATION
United Nations Development Programme. 2018. Assessing Landscape Resilience: Best Practices and Lessons Learned from the COMDEKS Programme".
UNDP, New York.

COVER PHOTO
SGP/COMDEKS Cameroon

DESIGN
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PUBLISHED BY
United Nations Development Programme
Bureau for Policy and Programme Support
304 East 45th Street, New York, NY 10017
April 2018

For more information, visit www.comdeksproject.com

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Convention on Biological Diversity

Ministry of the Environment
Government of Japan

UNITED NATIONS UNIVERSITY
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Institute for the Advanced Study of Sustainability

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SGP/COMDEKS ECUADOR

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Preface

Landscape resilience and management approaches have been gaining increasing attention among the international community, as landscapes and seascapes that incorporate human production activities are crucial to local livelihoods and biodiversity conservation, as well as a touchstone for local identity and culture. Tools to help communities retain and build the resilience of these essential systems contribute directly to local well-being and sustainable rural development. One of these tools are the indicators to assess and measure landscape resilience, highlighted in this report.

The United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS), Bioversity International, the Institute for Global Environmental Strategies (IGES) and the United Nations Development Programme (UNDP), with support from the Ministry of the Environment of Japan (MOEJ), have developed resilience indicators, working together as partners under the International Partnership for the Satoyama Initiative (IPSI). IPSI is a global platform of over 200 member organizations with the vision of realizing "societies in harmony with nature". From the beginnings of this partnership, it was recognized that tools were needed for the communities that live in and rely on so-called "socio-ecological production landscapes and seascapes" (SEPLS) to understand and assess their resilience.

Interest in developing resilience indicators for community use stems from the recognition that communities and smallholders are the primary agents of landscape change. In 2011, UNU-IAS and Bioversity International developed an initial set of 20 "Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes" as part of collaborative activities under the IPSI partnership, with the intent to provide local communities with a framework for discussion and analysis of social and ecological processes essential for landscape and seascape resilience. The insights, observations, and data generated through this initial set of indicators were intended to be used as part of a community consultation process to determine what actions communities can take to make their local landscapes and seascapes more resilient and capable of providing sustainable human livelihoods.

With this in mind, the resilience indicators were adopted by the Community Development and Knowledge Management for the Satoyama Initiative (COMDEKS) Programme in 2012 as a central feature of its community consultation process. COMDEKS is a flagship effort of IPSI framed around community efforts to build landscape resilience. It is implemented by UNDP, in partnership with MOEJ, the Secretariat of the Convention on Biological Diversity (SCBD), and UNU-IAS, and is delivered through the Global Environment Facility's Small Grants Programme (SGP). It provides small-scale finance to local community organizations in developing countries to support sound biodiversity and ecosystem management as well as to develop sustainable livelihood activities.

Field-testing through the COMDEKS Programme has been essential in demonstrating the effectiveness of the indicators as a tool, and in identifying best practices for applying the indicators in a variety of different physical, cultural and geographic settings. An updated set of indicators and a "toolkit" publication for their practical application in the field were produced by UNU-IAS, Bioversity International, IGES and UNDP in 2014. Best practices and lessons learned from these processes form the basis of the current report.

With this background, the "Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes", and the landscape assessment methodology of which they are a key part, are poised for wider application within SGP and UNDP, among members of IPSI and beyond. In fact, demand for the resilience indicators and guidance in applying them is growing, as more countries embrace the value of assessing landscape resilience and adopting a landscape-wide perspective to land use management and rural development. Increased use of the indicators will, in turn, lead to continued refinements of the assessment process and the indicators themselves.

Ultimately, it is our hope that the lessons learned and best practices presented in this report will be able to contribute to achieving the Sustainable Development Goals (SDGs) and the goals of the Convention on Biological Diversity, including the Strategic Plan for Biodiversity 2011-2020 with its Aichi Biodiversity Targets, and any future plans beyond the UN Decade on Biodiversity.

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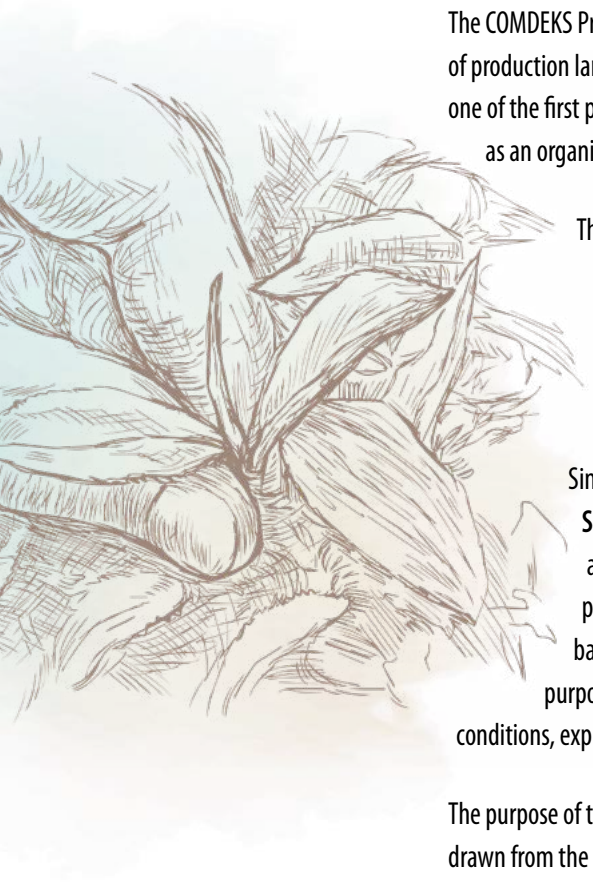
SGP/COMDEKS EL SALVADOR

CHAPTER 1

Introduction

CHAPTER 1

Introduction to the SEPLS Resilience Indicators



The COMDEKS Programme is built around the idea of communities restoring and maintaining the resilience of production landscapes and seascapes. Because of this focus on landscape resilience, COMDEKS became one of the first programs of its kind to deploy resilience indicators as an integral part of its design and as an organizing principle for community participation.

The strategic use of resilience indicators can inform and empower local communities to sustainably manage local production landscapes and seascapes. When deployed during public consultations, such indicators can help local stakeholders understand the various aspects of landscape resilience and apply this understanding to the local landscape and to their own landscape management practices.

Since 2011, COMDEKS country programmes have applied a set of **Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes** in 20 different target landscapes, accumulating a wealth of practical experience with this indicator set. During both the participatory baseline assessment that initiates COMDEKS landscape work and the ex-post baseline assessment that evaluates this work at the end of the grant cycle, the use of this purpose-designed set of resilience indicators has acted as a key tool to elicit information on landscape conditions, explore the concept of landscape resilience, and inspire a vision for a more resilient local landscape.

The purpose of the current publication is to summarize the key lessons learned and illustrate the best practices drawn from the practical applications of resilience indicators and other allied tools for community consultation during more than five years of field experience in the COMDEKS Programme. This report is the conclusion of a desk review and a stock taking exercise of all documents—qualitative and quantitative—produced by COMDEKS country programmes about their indicator-related experiences. These documents include quarterly and annual programme reports, questionnaires on lessons learned during community consultations, descriptions of community landscape strategies, case studies of COMDEKS processes and results produced by each participating country, and summaries of the ex-post baseline assessment conducted in each country. The report intends to contribute to the growing body of evidence-based literature describing the practice of participatory monitoring using indicators and related tools, and documenting its importance in community consultation, education, and mobilization.

WHY RESILIENCE INDICATORS?

An ability to assess resilience underpins the goal of managing for resilience. The concept of resilience is central to modern ideas about sustainable development. Indeed, the maintenance and enhancement of landscape resilience is one of the defining characteristics of the sustainable management of **Socio-Ecological Production Landscapes and Seascape**, or **SEPLS.** It is also the explicit goal of the community-based landscape management approach used in the COMDEKS Programme.

SGP/COMDEKS COSTA RICA

COMDEKS focuses on four interrelated landscape outcomes that contribute to landscape resilience:

- Enhancing ecosystem services and maintaining biodiversity that underlie landscape health;
- Strengthening the sustainability of production systems;
- Developing and diversifying the livelihoods and incomes of landscape communities;
- Strengthening landscape institutions and governance systems to encourage community participation in sustainable landscape management.

To achieve these landscape resilience outcomes, COMDEKS funds a portfolio of community-led projects in each target landscape. But to design these projects properly and to determine to what extent they have achieved their goals requires information on the state of landscape resilience before and after the community takes action. It also requires that communities are conversant with the dimensions and importance of landscape resilience. That is where resilience indicators come in. Resilience indicators are a set of structured questions communities can use to understand key conditions and trends affecting the environmental, social, and economic resilience of local landscapes and seascapes.

The set of resilience indicators is one of the principal tools employed in the COMDEKS process to elicit information on current landscape conditions and trends in the different dimensions of resilience, to link them to landscape management practices past and present, and to deepen the understanding of community members of what these observations mean in relation to landscape resilience.

The use of resilience indicators is integral to COMDEKS' community-driven landscape management approach as a tool to engage communities and assess landscape resilience before and after community-led landscape projects

WHAT IS LANDSCAPE RESILIENCE?

Resilience is the ability of a system to absorb disturbances while retaining its basic structure and functioning. Landscapes are composite systems that include ecosystems, as well as the social/cultural and economic systems that support communities within the landscape. To be a resilient landscape means that these integrated systems—ecological, economic, and social—continue to function in the face of physical and socioeconomic challenges. They continue to deliver ecosystem services such as water, soil fertility and biological productivity in the face of human pressure from agriculture, forestry, fishing, and other land and water uses. They continue to provide the basis for sustainable livelihoods in the face of the limited market access and infrastructure that plague rural economies. And they continue to provide opportunities for social mobility, education, cultural expression, and the maintenance of cultural identity in the face of political marginalization, poverty, and rapid demographic changes. Building landscape resilience requires actions to address the challenges in each of these systems in an integrated fashion. That is why COMDEKS landscape projects include a mix of community actions to improve the productivity of local ecosystems, provide sources of sustainable employment, and empower local community organizations to participate in landscape governance and revitalize local culture.[1]

[1] To learn more about the COMDEKS approach to building landscape resilience, see the publications Communities in Action for Landscape Resilience and Sustainability: The COMDEKS Programme, and A Community-based Approach to Resilient and Sustainable Landscapes: Lessons from Phase II of the COMDEKS Programme.

HOW DO THE RESILIENCE INDICATORS WORK?

Landscape resilience is multidimensional, requiring an integrated set of resilience indicators to probe and relate these dimensions. Landscapes are complex constructs consisting of ecosystems, social/cultural systems, and economic systems that are linked and interactive at multiple levels. Assessing the resilience of this complex system requires a set of nested questions that probe not only the current conditions of each of these systems, but their interrelations, as well as their trends over time.

The resilience indicators used in COMDEKS rely on community perceptions of the principal domains of landscape resilience. The indicator set used in COMDEKS is not simply a set of quantitative measures of the biological, social, and economic status of ecosystems and people in the landscape. While such measures are very useful to assay landscape conditions and the state of local biodiversity, or probe local employment, income, or demographic trends, they often miss the social dimensions of landscape interactions—dimensions that are critical to the land uses and management practices affecting landscapes. Rather, the resilience indicators consist of a mix of 20 quantitative and qualitative measures. These take the form of questions addressed to community members on the conditions, practices, and institutions occurring within the target landscape. Thus, they rely on **community perceptions** to assess landscape resilience. They reflect the knowledge, experiences, and concerns of local stakeholders, but do not purport to be an absolute measure of landscape resilience.

The resilience indicator set addresses thematic areas that are key to landscape resilience. The resilience indicator set was designed jointly by Bioversity International and the United Nations University-Institute for the Advanced Study of Sustainability (UNU-IAS) in 2011 and adopted by the COMDEKS Programme in 2012. The original resilience indicator set deployed in the 20 COMDEKS pilot countries organized its indicator questions into four thematic areas designed to capture conditions, trends and institutions at work in the landscape. These themes were:

- Ecosystem protection and maintenance of biodiversity;
- Agricultural biodiversity;
- Knowledge, learning, and innovation; and
- Social equity and infrastructure.

SGP/COMDEKS NEPAL

As the COMDEKS pilot programmes progressed, the indicator set was revised in 2014 in response to feedback from its use in COMDEKS countries as well as other countries outside the COMDEKS Programme. The revised indicator set regrouped the indicators somewhat, adding a fifth theme that addressed questions on livelihoods and well-being. The current version of the resilience indicator set, along with guidance material for community application, is available in the *Toolkit for the Indicators of Resilience in SEPLS*.

The indicator set is unique in its combination of measures to assess not just the ecological status of the landscape, but the social, cultural and economic factors at work there. The intent is to measure a community's capacity to build resilience and harness ecosystem services through innovation, adaptation, and the sustainable use of biodiversity. Thus, the indicator set contains questions about traditional knowledge, local agricultural innovations, land rights, local landscape governance institutions, and other questions related to governance capacity and social capital, in addition to questions about ecological conditions, local livelihoods, and social and economic infrastructure. This is consistent with the aim of the COMDEKS Programme to increase the resilience-building capacity and the determination and vision to use this capacity to sustain SEPLS.

The resilience indicators are meant to be used in conjunction with other landscape assessment tools and information sources. The resilience indicators were never intended to be a stand-alone tool, but one of several mutually supportive instruments that elicit different kinds of information and together allow a clearer picture of landscape conditions, management practices, and trends over time. These complementary tools include community mapping exercises, community consultations and focus groups, as well as the use of existing scientific analyses of biodiversity and climate change effects in the landscape; economic and social studies of the region; and government planning documents that shed light on local and regional development goals and plans for managing local protected areas and natural resource concessions.

The resilience indicators are intended to support the larger process of participatory landscape planning and adaptive management that lies behind the COMDEKS methodology.

HOW ARE THE INDICATORS USED IN THE COMDEKS PROGRAMME?

The resilience indicator set is a centerpiece of the community consultation process. The COMDEKS methodology relies on community consultation to drive a process of **participatory landscape planning**. As part of this process, community members and other stakeholders come together to conduct a **baseline assessment** of landscape resilience, forge a **Landscape Strategy** on the basis of this assessment, and identify potential **community actions** to carry out the Strategy. The resilience indicators figure prominently in all three of these steps. As a focus of discussion, analysis, and negotiation, they are integral to the community process of generating baseline information, reaching consensus on the primary challenges to local resilience, and developing a plan of action to address these challenges. Because of their central role enabling group discussion and interaction, they are also critical to the process of generating the social capital necessary to undertake community-driven landscape projects.

Discussions focused on the indicators are key in shaping community views on landscape resilience. Applying the resilience indicators in COMDEKS involves discussing and scoring each indicator during a workshop organized as part of the baseline assessment of the landscape. This process of digesting and scoring the indicator set has a valuable educational role that is just as important as its role in generating information on baseline conditions in the landscape. Experience has shown that the indicator scoring exercise and accompanying discussions act as an effective introduction to the principles of landscape resilience. The group discussion before the indicator scoring exercise is an opportunity to talk about resilience with some specificity and local nuance.

The scoring exercise itself grounds this more general discussion in local experience, acting as a platform to discuss landscape conditions and trends and how they reflect resilience—or lack of resilience. Gaining an appreciation for resilience and how it manifests locally is one of the most important tasks before the community in the early stages of community-driven landscape work.

Indicator scores and group analysis shape the Landscape Strategies adopted by communities. The indicator scores generated by the group of stakeholders during the baseline assessment workshop provide essential inputs as the community develops its Landscape Strategy—the most critical part of the landscape planning process, where landscape communities generate a vision of what a more resilient local landscape would look like and determine what actions would be required to realize this vision. Although the resilience indicator scores are not quantitative measures of resilience, they do help identify resilience deficits in the landscape that the Landscape Strategy can address through COMDEKS projects.

The ex-post baseline assessment at the completion of COMDEKS projects also relies on the resilience indicators to identify resilience changes. The usefulness of the resilience indicator set is not restricted to the initial baseline assessment and the early stages of participatory landscape planning. It is also critical at the end of the COMDEKS grant cycle. As part of the ex-post baseline assessment after the first round of COMDEKS projects has been completed, a community consultation similar to that undertaken at the start of COMDEKS takes place

SGP/COMDEKS INDIA

THE COMDEKS PROGRAMME

COMDEKS is the "Community Development and Knowledge Management for the Satoyama Initiative" Programme. Since 2011, the COMDEKS Programme has piloted a community-based model of landscape management to restore the resilience of local ecosystems in the face of a changing climate and socio-economic challenges, protect biodiversity, and sustain the working landscapes and seascapes that rural communities depend upon. These landscapes and seascapes are known as socio-ecological production landscapes and seascapes (SEPLS).

Funded by the Japan Biodiversity Fund, the COMDEKS Programme is a unique global programme implemented by the United Nations Development Programme (UNDP) in partnership with the Ministry of the Environment of Japan (MOEJ), the Secretariat to the Convention on Biological Diversity (SCBD), and the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) as a flagship effort of the International Partnership for the Satoyama Initiative (IPSI). The Global Environment Facility Small Grants Programme (SGP) provides co-financing and technical and human resources to oversee the implementation of COMDEKS and its grant portfolio. In addition, SGP's National Coordinators guide and oversee COMDEKS' implementation in COMDEKS pilot countries. COMDEKS provides small grants to local community organizations to develop sound biodiversity management and sustainable livelihood activities in order to maintain, rebuild, and revitalize socio-ecological production landscapes and seascapes.

at which the indicators are again scored by the community. These scores are compared with earlier scores from the initial baseline assessment. Although comparing indicator scores from the baseline assessment to indicator scores from the ex-post assessment cannot be used as a quantitative measure of landscape resilience change, it can be used to highlight changes in local perceptions due to the completed COMDEKS projects and to determine progress toward the landscape goals enunciated in the Landscape Strategy. Thus, the resilience indicators are a prominent feature of COMDEKS implementation from beginning to end. They are also a key feature of the **adaptive management cycle** that COMDEKS relies on, in which project results are used as a source of learning and innovation for future community efforts. The resilience scores, in addition to other progress indicators, are essential elements of the Monitoring and Evaluation (M&E) process, in which project results are documented and critically evaluated.

The resilience indicators are a tool that is still evolving with feedback from COMDEKS and SGP pilot countries. Lessons from application of the resilience indicator set during the baseline assessment in 20 COMDEKS countries and other countries outside the COMDEKS Programme have already been used to modify the original set of indicators, reorganizing, editing, and augmenting them to better address livelihoods and social/cultural effects. This revised indicator set in now being used in a number of countries in the GEF Small Grants Programme, which have embraced a landscape approach similar to that used in the COMDEKS Programme, and these experiences will provide a basis for the continued evolution of the resilience indicator set in the future.

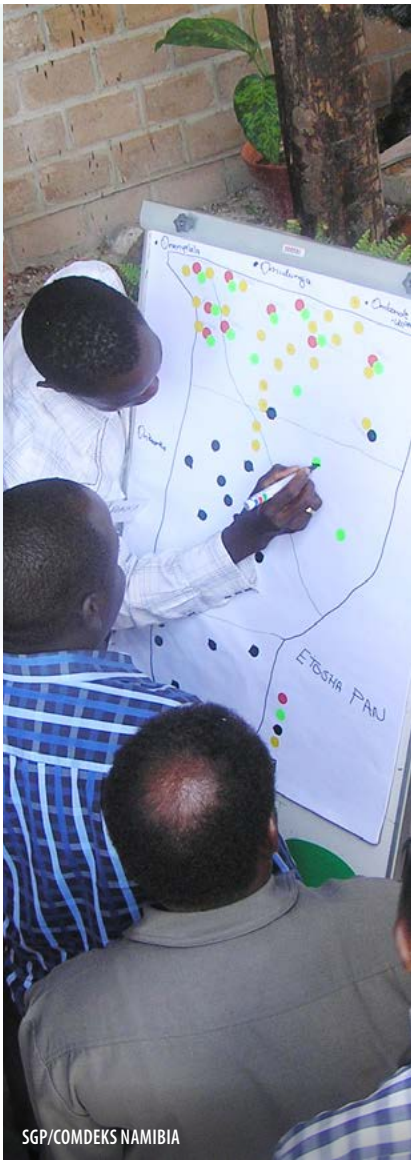
THE SATOYAMA INITIATIVE

The Satoyama Initiative is a global effort "to realize societies in harmony with nature" by promoting the sustainable use of natural resources in landscapes and seascapes that incorporate human production activities. The Initiative seeks to build on mutually beneficial human-nature relationships, where socio-economic activities such as agriculture, fishing, and forestry align with natural processes. This is achieved through the revitalization and sustainable management of socio-ecological production landscapes and seascapes (SEPLS) around the world, with benefits to sustainable development and biodiversity conservation.

Six perspectives guide the Satoyama Initiative's approach:

- Resource use within the carrying capacity and resilience of the environment
- Cyclic use of natural resources
- Recognition of the value and importance of local traditions and cultures
- Multistakeholder participation and collaboration in sustainable landscape management
- Contributions to sustainable socio-economies, including poverty reduction, food security, sustainable livelihoods, and local community empowerment
- Improved community resilience to achieve greater ecological, social, cultural, spiritual and economic benefits.

As a flagship effort of the International Partnership for the Satoyama Initiative (IPSI), the COMDEKS Programme incorporates Satoyama Initiative principles in the design of its community-based landscape approach. The value of these principles was officially recognized by the international community in 2010 at the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP 10), held in Nagoya, Japan.



SGP/COMDEKS NAMIBIA

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CHAPTER 2

Best Practices

CHAPTER 2

Best Practices in Indicator Use and Community Consultation

As part of the COMDEKS community-based landscape management approach, community consultations about local landscape resilience have been carried out in target landscapes in 20 countries since 2011. The landscapes have varied widely in terms of size, geography, climate, ecosystem type, land uses, economy, demography, and socio-cultural features. This has yielded a broad range of experiences with the resilience indicators and other aspects of the consultation process, such as landscape mapping, participatory resource appraisals, and other participatory practices. These experiences, which have been documented in a variety of case studies, surveys, questionnaires, programme reports, and ex-post reports, form the basis of the best practices detailed here.

SELECTING AND MAPPING THE TARGET LANDSCAPE

LANDSCAPE SELECTION

The physical, geographic, and governance aspects of the target landscape are important factors contributing to how successful community-based landscape management will be, how rapidly it will proceed, and what kinds of interventions are possible. That said, no single formula was used to select target landscapes in COMDEKS pilot countries. Rather, the selection criteria—and how heavily each one was weighted—varied by country. In all cases, landscapes were rural, with more than one community contained within the target area, and in most cases contained a mosaic of different land uses.

- **Basic selection parameters** included:
  - **Physical and human geography**, including the size of the area; its physical attributes, such as elevation, rainfall, and other climate factors; and its population and demographic profiles, including the level of cultural diversity and the presence of indigenous peoples. Also important is whether the area has locally recognized boundaries or identity that distinguish it.
  - **Natural and cultural assets**, including notable biodiversity, parks and tourist attractions, and distinct cultural identity.
  - **Predominant economic activities and natural resource-based livelihoods**, including local agriculture and the state of local food security.
  - **Current threats and opportunities**, such as deforestation and unsustainable resource use on the one hand, or ecotourism or the potential for expanded organic agriculture, on the other.
  - **Landscape governance situation**, including the security of local land tenure, and the presence of protected areas, natural resource concessions, and co-management arrangements.
- **Two critical socio-political factors** identified by COMDEKS as important selection criteria are, first, the willingness of the local communities to adopt a landscape approach and undertake community landscape projects; and, second, the support of local, provincial, and national governments for these community interventions. Community demand for improved landscape conditions and enthusiasm for taking collective

SGP/COMDEKS MONGOLIA

action to achieve it is the best basis from which to assemble a successful portfolio of landscape projects. Likewise, active support from all levels of government and their willingness to partner with communities and provide technical and logistical support creates the conditions for community success.

- **The extent of the GEF Small Grants Programme presence** in the target country was also a critical factor in landscape selection. The SGP National Coordinators in each of the COMDEKS pilot countries were essential in coordinating and overseeing COMDEKS activities in the target landscapes, including catalyzing the community consultation process and the application of the resilience indicator set. SGP presence was also critical because SGP co-financing was needed to help fund the COMDEKS project portfolio in each country.
- **CBO Capacity:** The presence or absence of community-based organizations that can take the lead in planning and directing landscape projects is a key consideration. Many SGP National Coordinators—those responsible for directing COMDEKS pilot programmes in participating countries—have noted a lack of adequate CBO capacity in the target landscape and the time required to build this capacity so that it is sufficient to carry out the portfolio of projects under the Landscape Strategy.
- **Logistical considerations** should not be ignored. The distances involved in large geographic areas or remote areas with difficult topography can lead to travel difficulties, which make community consultations and project coordination challenging both for participants and for organizers.

BEST PRACTICE

Balance geographic, biological, and political factors. Landscape selection requires balancing the geographic and biological assets of the location with the political considerations of government support, community demand, and local NGO capacity.

SELECTING LANDSCAPES: DIFFERENT APPROACHES


SGP/COMDEKS TURKEY

Turkey: Datça-Bozburun Peninsula. This area offered a chance to protect marine biodiversity through better fisheries management, support traditional agricultural products, and encourage the collaboration of three government ministries with local NGOs. The peninsula represents one of the more pristine lowland forest and coastal landscapes in the Mediterranean, but in spite of the presence of parks, wildlife reserves, and no-fishing zones, is still under threat from increased tourism, coastal development, and illegal fishing. At the same time, traditional farming and fishing cultures are also losing ground. The strong local culture of NGOs provided a reliable route to community involvement, which dovetailed with the opportunity to participate in local conservation planning and policy.


SGP/COMDEKS ETHIOPIA

Ethiopia: Gilgel Gibe Catchment. This area represents the entire catchment of the Gilgel Gibe 1 reservoir—the first of three hydroelectric facilities along the Gilgel Gibe river that are critical to Ethiopia's electric power supply. The area was chosen in consultation with government representatives, civil society groups, and academic institutions because its extensive land degradation and subsequent soil erosion threatened both the dam's lifespan (through siltation) and local agriculture—the heart of the local economy. Landscape level interventions to revegetate the catchment and establish sustainable grazing and soil conservation practices would thus serve both local and national needs and would have the support of government and local people.


SGP/COMDEKS COSTA RICA

Costa Rica: Jesus Maria River Basin. This river basin was selected in consultation with government ministries based on scientific data pinpointing the most degraded basins in the country, as well as those with the most potential for restoration. Environmental threats in the basin included soil degradation, loss of forest cover, forest fires, declining biodiversity, depletion of water sources, and loss of traditional agrobiodiversity. But the basin also offered a variety of production landscapes—including coffee plantations, livestock pastures, and orchards—that were ripe for community-based projects. The area is also characterized by an array of local NGOs, community groups, and cooperatives through which community work could be coordinated.


SGP/COMDEKS MALAWI

Malawi: Tukombo-Kande Region. This region, which borders Lake Malawi, was chosen for its variety of landscape mosaics, its current ecological threats, and its need and potential for integrated development projects. The area has diverse terrestrial and aquatic environments including forests (including protected forests), large agricultural areas, wetlands, and open water, providing the kind of production landscapes and aquatic zones that COMDEKS typically targets. But recent migration to the area has increased slash-and-burn agriculture and accompanying forest loss, and led to overfishing in the lake. Poverty is high and investments in local agriculture and fishing have been low, creating significant demand for development alternatives and receptivity by government.

LANDSCAPE MAPPING

Mapping the target landscape or seascape is among the first tasks of the initial baseline assessment at the commencement of the community-based landscape management process. Community participation in mapping the landscape and identifying key resources, cultural assets and threats is often one of the first opportunities that community members have to come together to consider the features and conditions of the landscape or seascape where community projects will take place, and to grapple with the task of assessing the landscape from the point of view of resilience.

At a minimum, landscape mapping is a chance for communities to confirm the target landscape boundaries, and to agree on a set of facts that provide a basis for later discussion about the landscape and ultimately for negotiating a Landscape Strategy. The map itself provides a visual frame for discussions and an important prop for group interactions as a neutral receiving ground for community knowledge. But the mapping process itself is also an important opportunity for social learning in the group and a source of group empowerment—a chance to begin to own the baseline assessment and the landscape planning process by taking control of the basic facts.

BEST PRACTICE

Encourage community input to landscape maps for buy-in. Maps of the area that were previously generated by the government, universities, NGOs, or other expert groups are often used as a basis for the landscape mapping exercise. But community input in assigning resource boundaries, production and extraction areas, degraded areas, hazard sites, and other features of common interest is essential for the landscape communities to own the map and accept it as a reliable basis for discussion. In most cases, using an existing, reputable base map with commonly accepted administrative boundaries, which is then augmented with local knowledge by the community, results in a credible and useful map for discussion purposes during the baseline assessment. It can then be further adjusted and augmented as landscape projects proceed and thus become the reference map for the ex-post assessment at the end of the community project cycle.

AUGMENTING LANDSCAPE MAPS WITH LOCAL KNOWLEDGE

In most landscapes, one or more existing maps are used as a starting point for a community mapping exercise. These maps are then augmented in community workshops, or through individual consultations, so that they incorporate the community's intimate understanding of the land. In **Bhutan**, a GIS map of the target watershed was brought into the public workshop, where participants in the landscape assessment used sticky notes to indicate the location of key assets, threats, and resource conflicts—information that helped frame the discussion of problem areas, opportunities, and landscape threats. In **Indonesia**, an existing map taken from published literature showed administrative boundaries and some ecological information, such as the location of seagrass beds, coral reefs, and mangroves. Individual interviews and group discussion were then used to add village-level information on resources and local boundaries. In **Cameroon**, only a broadscale map of the region was available as a base map, so local input was crucial to develop a working map of the landscape and its resources and threats.

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SGP/COMDEKS INDIA

COMMUNITY MAPPING FOR VILLAGE EMPOWERMENT IN INDIA

In **India**, the target landscape in the State of Uttarakhand was spread over six noncontiguous locations. Community mapping exercises were conducted in villages in each of these locations as the first step in the baseline assessment. These exercises created a base of understanding among community members about the extent, location, status, and usage of local natural resources. They also gave villagers insights into the social structures existing in the village—such as the role of kinship and the local power structure—and how they affect access to resources. The map-making process was particularly empowering for the poor, giving a range of local men and women of different backgrounds, education, and castes an opportunity to come together and agree on facts on the ground. For this reason, the mapping was found to be a key step in building social capital around shared landscape analysis and goal setting. Although time-consuming to produce, the maps were highly valued as a community resource and were often kept in a common place in the village and displayed prominently as a reference document. In addition, the act of mapping was the beginning of a regular regimen of resource and project monitoring conducted by community members to assess progress against commitments and goals.

LAND USE AND OWNERSHIP MAPS IN FIJI

Sometimes, additional maps beyond community-generated maps can provide crucial information to community consultations and landscape planning. On Fiji's Natewa-Tunuloa peninsula, knowledge of forest boundaries and the use of forest tracts was deemed of considerable importance to community decision-making, so a special project was devised for an extensive mapping exercise in conjunction with the state. The maps generated by this effort included data on the types of leased forest land in the area. They gave communities and forest owners access to information on forest boundaries and the geographic characteristics of the forest (such as slope, altitude and area covered by different forest types). Providing this kind of landscape-wide land use maps and information on land tenure to all communities gave them insights on forest conditions and viable options for forest regeneration. It also gave individual communities a better feeling for conditions in the landscape as a whole, beyond their local conditions, reinforcing a landscape ethic. The communities then brought these considerations into their Landscape Strategy and their choice of landscape projects.


SGP/COMDEKS FIJI

BEST PRACTICE

Augment maps with land ownership and land use data. Socio-economic and governance data indicating who owns and controls land use in the landscape can add a useful dimension to landscape maps and thus an entry point to discuss power relations in the landscape.

CARRYING OUT COMMUNITY CONSULTATIONS AND BASELINE ASSESSMENT WORKSHOPS

The logistics of carrying out community consultations and baseline assessment workshops so that they are both accessible and engaging to the spectrum of stakeholders are not trivial. One challenge is how to arrange consultations in large landscapes where travel is difficult. Consultations should seek input from a wide selection of stakeholders representing communities throughout the target landscape, yet travel logistics can be daunting in large landscapes, making centralized consultations difficult. A second challenge involves arranging appropriate facilitation of community meetings and workshops. Community consultations and baseline assessment workshops often include participants who do not know each other and are unfamiliar with some of the concepts behind the COMDEKS landscape planning process, so the facilitation of these meetings is critical in eliciting useful discussion and interaction.

CENTRALIZE OR SUBDIVIDE?

In large or inaccessible landscapes, or landscapes where different communities have sharp cultural and social differences, several COMDEKS countries have divided the target landscape into subregions that, for the purpose of community consultations, can act somewhat independently and convene separately. The advantage is that within each subregion, participants do not have to travel as far to meet, and have greater immediate familiarity with the landscape, making their observations more pertinent and grounded in experience. Also, significant social capital may already exist within the group because of local proximity and familiarity. This may lead to greater willingness to participate and more willingness to engage substantively in the group exercises and discussion. The disadvantage is that it does not reach far beyond a single-community approach, and therefore does not help to develop an appreciation for the landscape as a whole or engage participants as much in thinking beyond their community concerns or developing landscape-wide strategies to restore resilience.

SGP/COMDEKS NEPAL

BEST PRACTICE

Conduct local consultations first to inform the baseline assessment workshop. Many countries distinguished between local consultations prior to the official baseline assessment workshop, and the baseline workshop itself, where landscape-wide data on conditions and threats are considered. In these cases, local consultations were often carried out in several locations with participation of stakeholders in the immediate area. The findings of these local consultations—which took a variety of forms including workshops, discussions, interviews, and surveys—were then used to inform the baseline workshop at which the resilience indicators were scored. Thus, the need to seek local input in a more convenient and intimate setting was met, while the need to hold a larger landscape-wide workshop was still accommodated.

SGP/COMDEKS BHUTAN

MULTIPLE CONSULTATIONS IN LARGE OR DIFFICULT LANDSCAPES

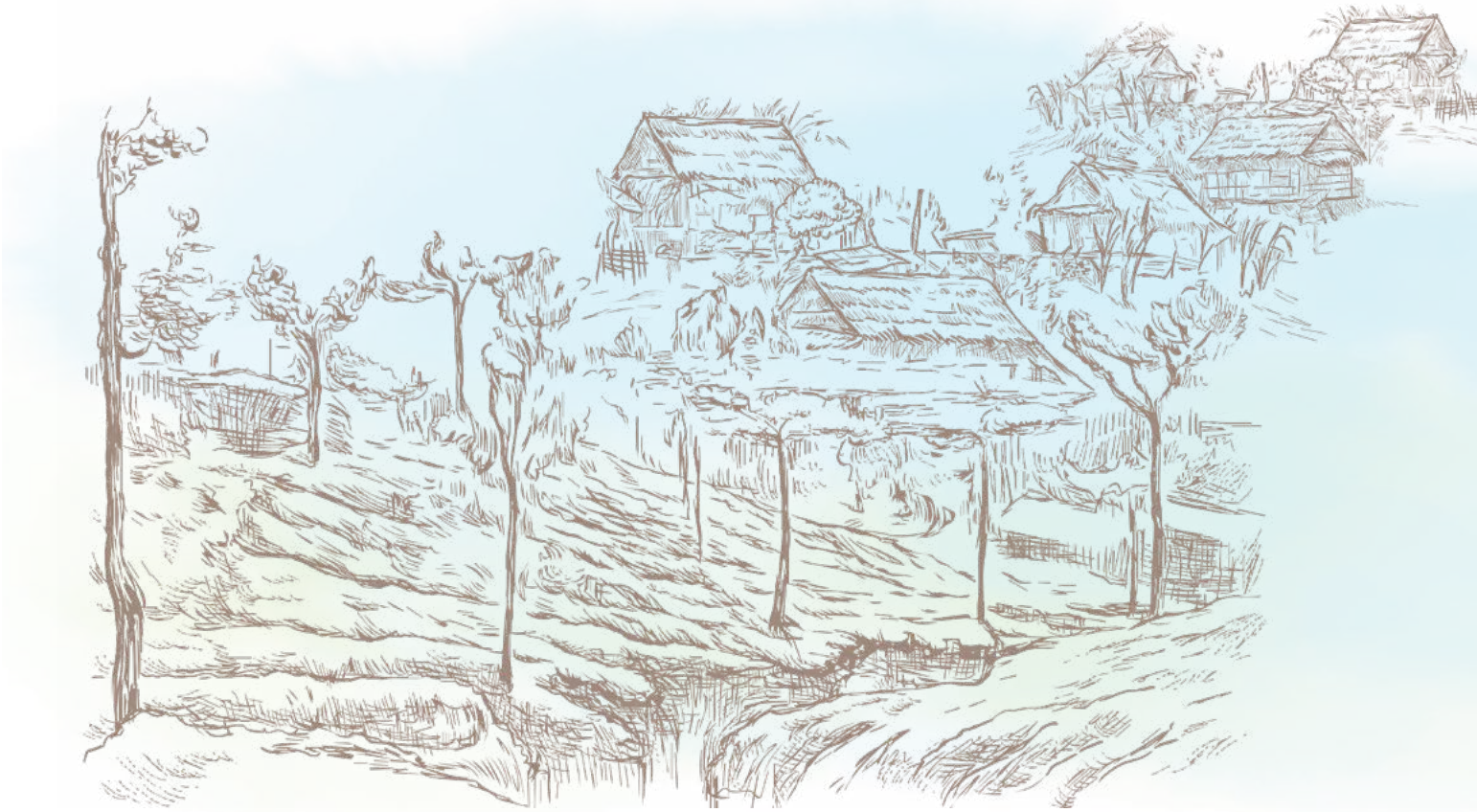
Although some countries convened a single, centralized workshop to consider community input on the landscape and to score the reliance indicators, other countries successfully employed a strategy of holding consultations in many different subregions and eventually combining the results to gain a complete picture of the target landscape. In **Bhutan**, for example, community workshops were held in six locations—one in each gewog (local administrative unit)—because of the distinct ecosystems in each site and their isolated locations. The meetings, which together involved some 285 people, combined group discussions and scoring of the Resilience Indicator set. In **El Salvador**, five consultation workshops were convened in different locations throughout the landscape. Each consultation had 25 participants, consisting of local leaders and civil society groups, and involved indicator scoring and facilitated discussion. In **Nepal**, community consultations and resilience scoring took place in each of the 10 different administrative units (called Village Development Committees) in the 79,000 ha target landscape.

COMBINING LOCAL AND LANDSCAPE-WIDE CONSULTATIONS

Cambodia's COMDEKS Programme held local consultations in 13 villages within its target landscape (the Steung Siem Reap watershed) in order to take into account the diversity of social and ecological conditions and to collect and analyze local input more accurately. A mapping exercise, a survey, and a scoring exercise using the resilience indicator set were carried out at each of the local workshops, which included representatives from CBOs, farmers associations, and local authorities. These local results provided background for a separate landscape-wide baseline assessment workshop, which included additional discussions and resilience indicator scoring. Participants at the landscape-wide workshop included representatives from the 13 villages, as well as representatives from other stakeholders such as NGOs, commune councils, and government ministries.

Similarly, in **Cameroon**, local consultations, including group discussions and indicator scoring, were carried out in 8 of the 12 cantons within the large (92,000 ha) target landscape (the Bogo Landscape). In addition, focus group meetings were held with each Lawan (traditional authority in charge of a community) and Djaouros (neighborhood leader) to discuss the problems specific to the township, and to determine any need to adjust the SEPLS indicator scores based on observations and experiences of the community leaders. Finally, participatory mapping sessions were held with community members. The findings of the local consultation process were then validated during a landscape-wide community hearing attended by more than 200 participants, involving all 12 canton representatives, including local authorities (Lamido, or chiefs), as well as local government authorities (the mayor and the subdivisional officer for Bogo).

SGP/COMDEKS CAMBODIA



WORKSHOP FACILITATION

The quality of the facilitation of both smaller local consultations and larger baseline workshops is a key factor in the success of these meetings. The facilitator can have many duties, depending on the group and the activities involved. These duties include introducing topics for discussion; directing the nature and manner of discussion to create an open and welcoming environment; encouraging participation from all parties; interpreting key concepts such as resilience and translating them into local parlance; and taking notes on the discussion and the questions, conflicts, and concordance that arise. Once it is time to tackle the resilience indicators, the facilitator is responsible for briefing the group on each indicator and helping the group to understand the indicators in local terms; directing the process of scoring the resilience indicators; digesting, interpreting, and reporting back to the group its aggregated scores; and leading a discussion on what these scores mean. Competency directing other activities such as mapping and other participatory resource appraisal techniques that accompany community consultations is also necessary.

BEST PRACTICE

Choose an experienced and familiar facilitator. Choosing an organization or individual to facilitate who has a previously established and positive relationship with the participating communities, such as a local NGO, can be advantageous, since a reservoir of trust and rapport is already present that can make group interactions easier and more in-depth. Prior training in facilitation is enormously helpful as well. An alternative approach that has also worked well involves choosing an organization with well-known expertise or recognized leadership in environmental work or assessment, such as a national environmental NGO or university department, bringing credibility and experience to the work. In this case, the facilitating group would ideally allot time to familiarize itself and gain a rapport with the landscape communities before the consultative baseline work begins.

SGP/COMDEKS BRAZIL

FACILITATION BY A LOCAL PARTNER IN BRAZIL AND INDONESIA

Centro de Agricultura Alternativa Vicente Nica (CAV) is one of three Brazilian NGOs that partnered to carry out COMDEKS **Brazil's** baseline assessment. CAV's long history of interacting with communities in the target landscape through development projects gave them a solid reputation as a familiar and trusted partner. Thus, their networking and communication about the COMDEKS program was instrumental in generating initial interest in these communities in COMDEKS, and their involvement in the consultation workshops and resilience indicator scoring was welcomed. Combined with the work of trained facilitators, this resulted in a high level of trust in the facilitated discussions and indicator scoring, allowing them to be productive exchanges.

In **Indonesia**, where the target landscape (Semau Island) was quite isolated and the local culture quite distinctive, the fact that the facilitators were from a nearby island and therefore familiar with the island culture and landscape was cited as key factor in the success of the consultations, enhancing their ability to elicit baseline information, create small breakout groups for more personal discussions, and guide the scoring of the indicators.

TOOLS AND APPROACHES TO AUGMENT THE RESILIENCE INDICATORS

The resilience indicators are only one of several tools used during the baseline assessment. In addition to facilitated discussion of resilience concepts, a variety of participatory exercises and exposure to other information sources are used to engage community members in structured thinking about the resources and relationships in the landscape.

BEST PRACTICE

To provide context, use other participatory tools and bring in additional sources of information. Making the most of the group discussion of the landscape and the scoring of the resilience indicators depends first on creating a context for these exercises through use of additional participatory tools that build the confidence and knowledge base of the group; and second, providing information such as outside analyses that can be used to amplify and augment the resilience indicator scores and put them in perspective.

Participatory Resource Appraisal (PRA): A variety of PRA tools have been employed during COMDEKS baseline consultations and workshops in many countries. These include participatory landscape mapping (discussed earlier), as well as various diagramming techniques such as flow mapping to visualize how resources were used in the landscape, and Venn diagramming to identify and examine the overlapping roles of different stakeholders in the landscape. To reduce reliance on words and specialized vocabulary, it was also common to use panels, flipcharts, posters, calendars, and other visual tools to graphically portray discussion topics. Problem trees, in which conditions on the landscape were charted alongside their causes and effects, were also found to be useful in clarifying landscape problems that required community action.

SGP/COMDEKS TURKEY


SGP/COMDEKS MONGOLIA

USING PRA TOOLS TO ENCOURAGE GROUP COHESION AND CLARITY

In **Cambodia**, facilitators used a suite of participatory tools at the community consultation workshops to establish a context for discussion on land use and landscape conditions. Resource use in the watershed was mapped using a participatory mapping exercise, with additional data listed on an accompanying flip chart. Information on how local people manage these resources—both technically and socially—was also collected from group discussions. To convey a sense of the seasonality of resource use and production activities, a seasonal calendar was also assembled. These were used as props for an exercise to identify and rank resource management problems experienced by local people and their proposed solutions. Finally, the SEPLS resilience indicators were scored by the group.

In **Turkey**, a mapping exercise in which workshop participants were asked to plot landscape assets, threats, and opportunities, preceded the resilience indicator scoring exercise. Both were then used to support a problem tree analysis of the region that sharpened the focus on the landscape's most pressing threats and possible community responses.

In **Mongolia**, a mix of participatory approaches were used in the 14 workshops and community consultations conducted throughout the landscape. These included flow diagrams to identify and analyze what community members thought were appropriate management methods to meet their food production and economic goals; Venn diagrams to determine who the stakeholders in the landscape were and to define what kinds of management were needed for improved resilience and sustainability; matrix scoring, in which case studies were compared in order to examine the importance of innovation in local resource management, knowledge management, and in the preservation of local agricultural biodiversity; and informal interviews with open questions in order to provide an opportunity for participants to express themselves more freely.

Focus Groups: Convening smaller focus groups—either by breaking up a larger workshop group or convening separate small groups in different locations—was a frequently used strategy to facilitate greater exchange, probe different topics in greater depth, or solicit expert opinion.

FOCUS GROUPS FOR FREER EXCHANGE

In **Brazil**, focus groups formed from people from the same community were used to score the resilience indicators. Discussion in these groups, where participants were all familiar with the portion of the landscape under discussion, was found to be very effective in drawing out qualitative data that was important to the indicator scoring exercise by helping to identify factors driving landscape changes over time. In **Ghana**, after village-level discussions were held, additional focus group discussions in six communities were convened in which key opinion leaders, chiefs, and youth representatives added detail to the general comments elicited from community members. In **Ethiopia**, a series of focus groups in which neighborhood groups and expert groups met separately with facilitators was used to insure open input from a variety of community sources. The resilience indicators were scored separately at a different workshop.


SGP/COMDEKS GHANA

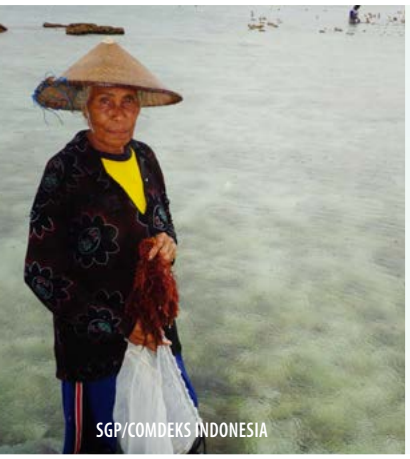
Presentation of other studies: There are often many existing sources of data and analysis on the resources and conditions in a given landscape that can be called on to give context to group discussions during the baseline assessment. These include previous landscape assessments, scientific studies of the area's biodiversity, vegetation and land use maps, government planning documents and socio-economic analyses, poverty assessments, and other scientific materials. In some landscapes, project work done prior to the COMDEKS Programme has created a knowledge base that is immediately applicable to the COMDEKS effort. These additional information sources provide a sense of what others beyond the immediate stakeholders have found and add to the data and observations that the group can draw on in addition to their own perceptions.

BENEFITTING FROM PREVIOUS STUDIES AND PROJECT WORK

In **Ecuador,** the COMDEKS effort built upon the foundation of work that had taken place earlier through the SGP grants in support of Ecuador's "Biocorridors for Living Well" program. This included maps and ecological analyses, as well as the project experience gained by many communities. Similarly, in **Slovakia**, the consultative process and baseline assessment used as its starting point a previous UNDP-GEF assessment of the Laborec-Uh region carried out a few years before COMDEKS. The project also called on the government's Integrated Local Development Strategy for the region, in hopes that COMDEKS activities would garner government support if aligned with this local planning blueprint. In **Brazil**, a desk study identified prior studies on the region that were then brought forward to enrich the community consultation, and satellite images were used to prepare land use maps of the target landscape for use by the baseline workshop participants. In **Mongolia**, the additional information source presented to the community was not a published study, but an experience. In order to give community members an idea of the new landscape management model that COMDEKS projects would follow, organizers of the baseline assessment arranged a field trip to a well-known local community garden that had been designed with the Satoyama principles of sustainable landscapes in mind.


SGP/COMDEKS ECUADOR

Field visits to complement indicator scores: In a few countries, field visits and other direct observations of field conditions were used to augment the indicator scoring exercise. This was especially helpful in the case of the ex-post baseline assessment, where reporting and recording of landscape changes over the COMDEKS project cycle were used to evaluate project accomplishments and progress toward landscape goals.



SGP/COMDEKS INDONESIA

DOCUMENTING THE "MOST SIGNIFICANT CHANGE" IN INDONESIA

In **Indonesia**, the NGO conducting the ex-post baseline assessment at the end of the COMDEKS project cycle used a technique called the Most Significant Change technique to collect stories from stakeholders throughout the target landscape documenting what they saw as the most significant change—in terms of resilience improvements—due to COMDEKS project activities. Field observations, interviews, focus group discussions, photographs, and video recordings were used to capture and record these stories, which were then used as part of the overall participatory evaluation procedure to assess COMDEKS accomplishments, alongside indicator scoring.

ADAPTING THE RESILIENCE INDICATORS AND INDICATOR SCORING

The resilience indicator set is designed to be applicable in many different geographic and cultural settings, but its designers also realized it would benefit from modifications to adapt it to the local setting in different landscapes. In fact, local organizers of the baseline and ex-post assessments are encouraged to examine the resilience indicators from a local perspective and adjust them as needed, while still maintaining the basic structure and content coverage. Translation into the local language is the most obvious and necessary adaptation, but editing and modifying both the indicator questions themselves and the scoring regimen are also common adaptations.

SGP/COMDEKS BHUTAN

TRANSLATION INTO THE LOCAL LANGUAGE

Translation into local languages has been almost universally applied in COMDEKS applications as a basic mechanism to communicate the sometimes unfamiliar and challenging concepts embedded in the indicator questions. In socially diverse landscapes, more than one translation may be necessary. For example, in **Bhutan**, indicators and other materials had to be translated into Dzongka (the national language) and explained in Sharchop, the local dialect. Organizers also engaged local elders to explain to villagers in Sharchop the idea of ecosystem change over time, so that the villagers were prepared to evaluate and score local trends in landscape conditions.

Translation brings organizers of the baseline or ex-post assessments face to face with those concepts and vocabulary for which there is no easy local substitute or equivalent, so modifications in phrasing are common at this point. In **Turkey**, for example, the indicators were simplified and edited as they were translated into Turkish to make them suitable for the local audience. The act of translation also helps organizers to visualize areas where facilitators will be called upon to provide context, explanations, and examples to illustrate the ideas involved. Producing a careful and nuanced translation of the resilience indicator set may require considerable effort, but because of its importance, investment in high-quality translation has been found to be time and money well spent.

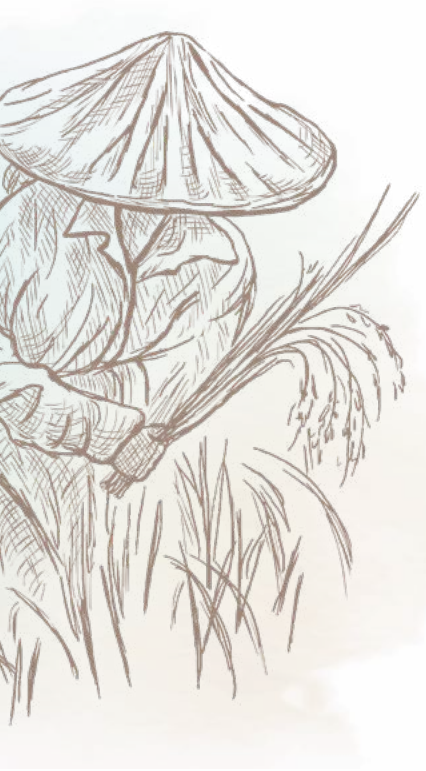
EDITING AND SUBSTITUTING INDICATORS

Several countries have gone beyond the modifications inherent in translation to the local language. In some instances, they have substituted new indictors and removed indicators they deemed unnecessary. Since the resilience indicators are a linked set of questions that together form a whole, substitutions must be done carefully so as not to omit key considerations necessary to get a clear picture of community perceptions across the range of social, ecological, and economic topics used to assess resilience.

MODIFYING THE RESILIENCE INDICATORS IN BRAZIL, INDONESIA, AND CAMEROON

Brazil offers one of the clearest examples among COMDEKS countries of modifying the resilience indicator set through substitution, deletion, and reconfiguration of indicator questions. The indicator language overall was adapted to make it simpler and more accessible to the small farmers who were the target audience. Terms such as "multi-functionality," "heterogeneity," and "landscape components" were rendered into more familiar terms. One indicator (on indigenous languages) was eliminated altogether because it was considered inapplicable, since no indigenous peoples resided in the target landscape. Three indicators were split into two parts each to allow fuller consideration of each indicator's subcomponents. Additionally, three new indicators were added on access to water, soil quality, and availability of social/political resources. The new indicators were added to reflect the importance of these three factors as vulnerabilities in this particular landscape. In **Indonesia**, where landscapes and seascapes mingle in the lives of community members, workshop facilitators found that they needed to clearly differentiate indicator scores that pertained to terrestrial conditions, and those that pertained to coastal/marine ecosystems, since conditions and trends varied in these two environments. In **Cameroon**, indicators that probed the level of documentation by communities of traditional knowledge about the landscape were modified to include the idea of oral documentation rather than purely written documentation, since oral tradition is important in this region.

SGP/COMDEKS CAMEROON



MODIFYING INDICATOR SCORING

Scoring is another area where local adjustments were made to accommodate the needs of the communities and the geography involved. Standard practice is to have each workshop participant individually score each indicator, and then aggregate the results later to come up with a group score describing conditions over the entire target landscape. However, several variations on this practice occurred, such as the use of focus groups or other regional subgroupings to allow a smaller group of participants to interact and come to consensus on each indicator as it was considered. In some instances, these small group scoring results were aggregated to give a single set of landscape scores, but in other cases, they were kept separate to preserve their specificity to a smaller geographic area. Generally speaking, the critical consideration was to create the best situation in which to elicit individual knowledge of the landscape while also helping participants to fully discuss and understand each indicator in context.

BEST PRACTICE

Expect to translate and carefully edit the indicator set, and modify it if necessary. Organizers of the baseline or ex-post baseline assessments can assume that some level of adaptation of the resilience indictors will be required. At a minimum, translation into the local language is necessary, but this can also be an opportunity to edit and modify indicator language to make it more appropriate for the local audience, or to undertake careful additions or replacements of some indicators, without disrupting the integrity or overall length of the indicator set. Even with appropriate translation and modification, thorough discussion of each indicator and the concepts behind it is a must.

SGP/COMDEKS INDIA

MULTIPLE SCORING WORKSHOPS IN CAMBODIA, INDIA, AND EL SALVADOR

In **Cambodia**, a resilience scoring exercise was carried out at each of the six regional workshops convened across the landscape, corresponding to the six distinct zones the target landscape had been divided into. Scores from the six regional groups were then evaluated separately. Scores were also adjusted after the scoring exercise to reflect and synthesize the points that arose during discussion. Similarly, in the large and geographically diverse target landscape in **India**, separate scoring exercises were conducted in the six locations in which project activities were to be implemented, and scores were not aggregated. In contrast, in **El Salvador**, indicators were scored in five separate workshops held throughout the landscape, but the group scores were then aggregated to give a single set of scores for the entire target area.

SGP/COMDEKS EL SALVADOR

INTERPRETING INDICATOR SCORES FOR LANDSCAPE PLANNING AND PROGRESS ASSESSMENT

Indicator scores derived in the baseline and ex-post assessments are essential to both the design of the local Landscape Strategy produced in each target landscape at the beginning of the COMDEKS project cycle and to the evaluation of landscape changes resulting from these projects. However, the indicator scores are not simple quantitative measures of landscape resilience, and their usefulness in landscape planning and progress assessment derives from the process of interpretation and analysis by the group of community participants who produced these scores.

DISCUSSION AND INTERPRETATION OF INDICATOR SCORES

As mentioned earlier, discussion of each indicator *before* the scoring exercise is an essential part of the educational process needed to understand landscape resilience and build a common understanding within the group taking part in the assessment workshop. However, discussion and interpretation *after* the scoring exercise marks a transition to the process of coming to consensus on landscape conditions and identifying and prioritizing resilience deficits that can be addressed by community action. With scores in hand, discussions can become more specific and based in the experience of the participants. In many instances, what results from these discussions is a priority list of landscape needs and potential actions that can feed directly into the formulation of the Landscape Strategy. Analyzing the standard deviation among indicator scores is commonly used to pinpoint areas of agreement and divergence within the group, and thus can be used as a point of departure for the subsequent group discussion. In areas where divergence is low, consensus on existing conditions and trends may be easier to reach and the discussion can advance to action items needed to act on these conditions. Where divergence of views is higher, more discussion may be needed to explore the difference in views and what it means.

INDICATOR SCORING AS THE FIRST STEP IN DEFINING A LANDSCAPE STRATEGY

In **Brazil**, the indicator scoring and subsequent discussion provided the main tool to catalogue the landscape's vulnerabilities—those indicator topics that scored lowest. The interventions proposed by the group were then directly linked to these vulnerabilities and the root causes identified during discussion. Facilitators reported that the discussions enabled the group to draw out qualitative information, such as the participants' thoughts about the factors driving landscape changes over time. This historical perspective, as well as other qualitative analysis in the discussion, was considered just as valuable as the quantitative indicators in helping the group to analyze landscape threats and propose—and prioritize—solutions. In addition, the post-scoring discussion was considered a crucial step in empowering the group to believe in its proposed solutions, and to appreciate its role both in exacerbating current landscape risks and in addressing these risks by embracing more sustainable practices. It was also the first time participants began to understand and embrace the idea of acting on the wider landscape beyond their own settlements and fields.

Likewise, in **India**, indicator scoring and the detailed post-scoring discussion provided an opportunity for the group to compare and visualize the interconnections between a number of environmental, social and economic issues in a way they had not previously experienced. Thus, it was the vehicle for the group to connect with the idea of the larger landscape and associate the Satoyama principles with actual landscape conditions and relationships. Another benefit was that it allowed the group to see the value and applicability of their traditional landscape knowledge, particularly in the area of climate change adaptation.

Similarly, in **Fiji**, the indicator scoring and discussion was a poignant reminder of previous less degraded landscape conditions, and the deterioration that has taken place through logging and other land uses to arrive at present conditions. With this context, the discussion of what actions the community could take together made more sense. As in India and Brazil, the scoring exercise prompted participants to begin to take a landscape perspective. Whereas during the earlier mapping exercise participants tended to focus only on their villages, they began to see the bigger landscape picture and the connectivity of the different elements of the landscape during the indicator scoring and discussion.

BEST PRACTICE

Use the discussion of indicator scores to explore root causes of landscape change and empower the group to create landscape goals. The scoring discussion can be one of the most fruitful and empowering elements of the assessment workshop if participants are encouraged to engage personally with the material and given a chance to reflect on how the different indicators work together to provide a picture of the whole landscape. A point by point analysis of indicator scores can be a good starting point for discussion, providing both a snapshot of current conditions and trends, and a glimpse at variety of different opinions in the group. But deeper, more qualitative discussion is usually required to probe the root causes of these conditions and trends and to allow group members to develop a sense of their agency in changing future conditions. That sense of agency can then drive the creation of a list of landscape goals and community actions to achieve those goals—possible community projects that the group sees as both realistic and desirable. This in turn can become the basis of the Landscape Strategy.

COMPARING BASELINE SCORES WITH EX-POST SCORES TO ASSESS PROGRESS

The principal task of the ex-post baseline assessment—the landscape assessment carried out at the end of the COMDEKS project cycle—is to evaluate and report on the effectiveness of COMDEKS interventions. One aspect of this involves comparing original baseline indicator scores with a second round of indicator scoring done during the ex-post assessment. The second indicator scoring exercise is done in the same participatory manner as the original scoring, although the workshop participants may be different from those who attend the baseline workshop. At the most basic level, the mean scores for the main indicator categories can be compared to see if stakeholder perceptions of resilience in the landscape have changed over the project cycle.

Typically, changes in perception are small due to the shortness of the 2-year project cycle, which leaves little time for project outcomes to translate into observable resilience effects, which can then be reflected in indicator scores. But when changes in indicator scores are observed, determining what these changes in perception mean in terms of progress toward landscape goals, and how they will figure into planning future projects or policies, requires analysis and group discussion. In any case, changes in indicator scores between baseline assessment and ex-post assessment cannot be regarded as quantitative measures of resilience change.

BEST PRACTICE

Use discussion rather than quantitative analysis to interpret and compare baseline and ex-post indicator scores. While considerable information can be extracted from a comparison of baseline and ex-post indicator scores, it requires careful analysis, complemented by post-scoring discussion. This allows the group to call on its knowledge of social, business, and demographic patterns in the area to interpret the story behind the scores, and determine what message they have for policy makers and project planners.

ANALYZING INDICATOR SCORES IN SLOVAKIA AND BHUTAN

In **Slovakia,** comparison of the mean scores from the baseline and ex-post assessments showed a small improvement in scores across all indicator categories. Subsequent discussion among the participants in the ex-post workshop revealed that scores fell roughly into two groups: one group felt that, overall, the resilience effect of the COMDEKS projects was minimal, because state policies still encouraged land uses that were contrary to what COMDEKS projects advocated. These policies created economic incentives for maintaining farming practices that were harmful to restoring natural wetland flow patterns and bird habitat—goals that the COMDEKS projects had embraced. The other group tended to concentrate on the positive outcomes of the COMDEKS project portfolio rather than the continued policy challenges. They appreciated the civic activism inspired by the projects as well as the actual changes in the landscape through restoration activities. They also appreciated the reintroduction of traditional farm practices and the support of heritage crafts and farm products. The discussion thus revealed important aspects of social resilience and landscape change, as well as the policy obstacles to sustainable landscape management—observations that would have remained hidden in the indicator scores without further discussion and analysis.

Similarly, in **Bhutan**, post-scoring discussion was important in tracing the reasons for lower scores (comparing baseline to ex-post scores) in the category of knowledge, learning, and innovation in one of the three main zones of the landscape. Lower scores were traced to rural-urban migration of youth in this area, and consequent loss of traditional knowledge because of diminished knowledge transfer from older to younger generations. Such analysis can be especially useful for targeting those areas where future community action is needed to address resilience deficits.

SGP/COMDEKS BHUTAN

ENGAGING WOMEN AND INDIGENOUS PEOPLES IN CONSULTATIONS AND WORKSHOPS

One of the primary considerations in carrying out community consultations and landscape assessment workshops is to engage a wide and representative spectrum of landscape stakeholders and local residents in a manner that empowers them to participate fully. This means providing an environment in which all participants feel comfortable to share their perspectives on landscape conditions and trends and to interact with other participants to analyze and interpret the information generated. This sometimes involves special considerations for women, local indigenous peoples or tribes, and other marginalized groups whose voices are sometimes underrepresented in participatory exercises.

SEPARATION INTO GENDER GROUPS

In most countries, special effort was made to solicit women's participation in the landscape consultation and assessment process, realizing that their active participation was necessary to achieve the development goals of the Programme and ensure basic equity, and also in acknowledgement of their high level of landscape knowledge. In many countries, those organizing community consultations—whether at the village level or at a more centralized location for the baseline or ex-post workshop—felt the best way to ensure women's participation and full consideration of women's input was to separate into men's and women's focus groups for the purposes of discussion and sometimes for indicator scoring. This helped to draw out women's knowledge about the importance of different resources and concerns about their management that may not have emerged otherwise.

SGP/COMDEKS NIGER

WOMEN'S FOCUS GROUPS TO ENCOURAGE PARTICIPATION

In **Niger**, cultural and religious barriers make it difficult for women to express themselves in public discussions. In addition, the times of the day when women are available to meet for a group discussion (from 3 pm to 6 pm) differ from those when men are generally available, due to the difference in the kinds of work they do. For these reasons, separate women's focus groups were organized, using women leaders and facilitators. The resulting discussions brought out a range of concerns that differed from those expressed in the men's focus groups. In **Ethiopia**, similar separate focus groups were held. Attending each of these groups was the women's representative from the local Child and Women's Affairs Office to encourage active participation of the women in the group.

However, gender separation was not always required to make sure women's voices were heard. In **Fiji**, separate women's groups were not organized, but an effort was made to specifically encourage women to speak in group sessions, and to choose women as group session leaders to model participation and make sure the discussion was welcoming to the input of the women participants. In **Ghana**, women's participation was particularly solicited at the focus-group level, where "Queen Mothers" (one from each settlement) participated. Queen mothers play a critical role in traditional governance of communities in Ghana.

In addition, the need for gender separation may change over time as women become more empowered and their leadership role more accepted. For example, in **Cameroon**, genders were separated for community consultations and resilience indicator scoring in 2013 at the time of the baseline assessment. But in the ex-post baseline assessment in 2016, they were not, due to an evolution in how women were perceived in the community and an acceptance of their role in local development—an evolution driven in part by the COMDEKS projects in which women played a critical role.

SEPARATION BY TRIBAL OR VILLAGE AFFILIATION

In several COMDEKS countries, more than one distinct tribal group inhabited the target landscape. In others, participating villages were geographically quite separate and culturally distinct. Thus, in a few instances, the separation of villages, combined with differences due to tribal affiliations, languages, or other cultural factors, resulted in holding separate community consultations as a way of assuring productive group sessions and recognition of this local diversity.

ACCOMMODATING CULTURAL DIVERSITY IN CONSULTATION WORKSHOPS

In **Malawi**, 12 different facilitated workshops were held due to the variety of tribes in the area and the differences in lands uses in different villages. In the lowlands by the lake, fishing was the predominant livelihood activity, while in the uplands, agriculture was more important. In each of the different workshops, the attendance of the village headperson lent legitimacy to the undertaking. In **Bhutan**, two ethnic groups resided in Zone 1 (of the three landscape zones), where yak herding was the predominant activity and village culture was significantly different from the farmers in Zones 2 and 3. To accommodate the participation of these groups in the Zone 1 consultation, translation was provided into their respective languages. On Semau Island in **Indonesia**, initial consultations were held in each separate village. Since the two major clans on the island reside in different villages, this resulted in separate consultations with each clan, and no mixing of the clans during the initial consultation stage. However, the different village groups were brought together later at a joint island-wide workshop at which the SEPLS resilience indicators were scored.


SGP/COMDEKS MALAWI

BEST PRACTICE

Separate consultation groups along gender or tribal lines if necessary to encourage participation, but create mechanisms for groups to meet and find common ground as well. At the beginning of the consultation process, organizers must make a careful determination whether separating groups by gender, clan, or other features is necessary or desirable. In many cases this may help create an environment conducive to inclusion, communication, and empowerment. However, mechanisms to bring the groups across the landscape together may also be necessary to foster development of a Landscape Strategy that recognizes all concerns. Also, the need to consult separately may change over time as group dynamics and attitudes change with shared experiences on landscape projects.

FOLLOW-UP STRATEGIES TO ENSURE SUSTAINED COMMUNITY INVOLVEMENT

The consensus forged among stakeholders in the target landscape through indicator scoring and the landscape assessment process culminates in a Landscape Strategy that in turn guides the selection of a portfolio of community-led landscape projects. But keeping this consensus strong and nurturing the commitment to collective action that successful community projects require takes work, particularly after the initial round of community projects is done. COMDEKS country programs have used several different approaches to sustain community momentum, maintain interest in continuing work on the goals of the Landscape Strategy, and keep alive the relationships formed in the initial landscape planning process.

CONTINUED COMMUNITY CONSULTATIONS

The shared vocabulary, landscape vision and social bonds created during the initial community consultation and baseline assessment help to motivate community members to initiate landscape work at the beginning of the COMDEKS cycle. But if continued throughout the cycle they can also act as powerful agents to sustain action beyond the end of the cycle, reminding communities of their original motivations and inspiring new plans as they digest the experiences of shared landscape projects. In addition, the ex-post assessment at the end of the COMDEKS cycle is another formal gathering point, involving a second round of consultations and indicator scoring. This can give renewed enthusiasm to landscape communities as they are called on to evaluate what they have done and to once again use the resilience indicators to probe their perceptions of change on the landscape.

SGP/COMDEKS CAMEROON

MAINTAINING ENTHUSIASM FOR LANDSCAPE WORK

In **India**, there was an attempt to keep the consultation process begun in the baseline assessment alive and make it an active part of project implementation through participatory rural appraisals and frequent meetings in all seven of the villages where projects occurred. In all, 134 village meetings—some 20-30 per village—occurred during the project cycle. This kept people engaged all the way through, and set the stage for continued interest in the future. These continued consultations were particularly empowering to women, who used them as an organizing platform to form 36 self-help groups involving nearly 750 members. These groups made their own decisions, documented them in village meetings, and were active in the COMDEKS projects at every level. They also opened bank accounts and mobilized a total of approximately US$3,600 to contribute to local project activities as community co-financing. Such community contributions, as well as the chance to share responsibilities for both planning and implementing projects, has resulted in a greater feeling of ownership at the community level for the project outcomes and is an important contributor to project sustainability.

In **Cameroon**, the ex-post assessment revealed a significant perception of resilience change on the part of community members over the COMDEKS project cycle. The indicator scoring during the ex-post assessment showed higher scores in many areas, such as governance of local resources, women's awareness of biodiversity and its utility, autonomy in relation to lands and resource management, and social infrastructure. These scores reflected high participation of the community in project implementation and overall satisfaction with project outcomes. The organizers of the ex-post scoring exercise reported a high level of enthusiasm among community members for what had been attained in COMDEKS projects and real interest in future community project work.

ESTABLISHING CBO AND NGO NETWORKS

A crucial factor in sustaining landscape work is building the capacity of local CBOs and NGOs to plan, mobilize funds for, carry out, and communicate about their own landscape projects. Much of this capacity building takes place during the COMDEKS project cycle itself. But providing continued learning and support to these local organizations is necessary after the COMDEKS projects end. In several of the COMDEKS landscapes, NGO/CBO networks have been established that provide a platform for continued growth and communication of the organizations that carried out the COMDEKS project portfolio. The continuity and continued solidarity that this provides is clearly a big factor in maintaining momentum for landscape projects. Such networks also offer a convenient interface for local organizations to interact with government agencies, donors, and other support organizations they will need to partner with to continue landscape progress.

CBO AND NGO NETWORKS BUILD ON COMDEKS LEARNING IN MONGOLIA AND TURKEY

In **Mongolia**, the 20 local CBOs that participated in COMDEKS in the target landscape have formed an association, called Mongol Satoyama Group, to unite and coordinate their future work. In 2015, they built a community development center in Tunkhel Village to convene community dialogues, meetings, special trainings and adaptive management seminars. Already, the group has participated in a landscape planning exercise as a follow-on to the COMDEKS projects, in which activities in four distinct places in the COMDEKS target area were identified to be carried out over the next few years to continue the work on biodiversity conservation, ecosystem resilience and sustainability begun under the COMDEKS Programme. The Mongol Satoyama Group thus has the potential to form the backbone of a true landscape community and, in the view of the SGP Mongolia National Coordinator, could even become a regional institution to raise awareness and lead landscape activities in the future, not only in the Central Selenge region (the COMDEKS target landscape), but in the whole country.

In **Turkey**, The CBOs that carried out COMDEKS projects formed a group called the Balikaşiran network, which has continued to evolve and expand into a multistakeholder partnership including many new organizations interested in landscape activities. The network and its members have gained significant credibility in the region and it is now well recognized and regularly consulted by local governments and central government organizations, which have tasked the network to coordinate the development process of a long-term sustainable development strategy for the Datça-Bozburun peninsula.

SGP/COMDEKS TURKEY

ESTABLISHING NEW GOVERNANCE PLATFORMS

Establishing new governance arrangements that include local voices and actively empower local community groups to undertake landscape interventions is often a crucial element in keeping community interest in collective landscape actions alive. Such novel governance platforms often take the form of multistakeholder groups that include community representatives, CBOs, and NGOs alongside government officials and technical staff from government ministries.

SGP/COMDEKS GHANA

MULTISTAKEHOLDER PLATFORMS EMPOWER LOCAL COMMUNITIES IN INDONESIA, GHANA, AND ECUADOR

On **Indonesia's** Semau Island, new *Environmental Forums* were established in 7 villages as part of the original COMDEKS portfolio of actions. These forums, which bring together customary authorities, community leaders, community groups, and government authorities, create on-going opportunities to identify and act on local environmental concerns.

In **Ghana**, the *Weto Platform* is a multistakeholder body that exercises authority over resource management policies and local landscape projects in the Weto Range. It links traditional authorities, civil society groups, local landowners, and government bodies in a single institution whose goal is to approach natural resource management from a landscape perspective. The Weto Platform, which is registered as an association and certified by the Government of Ghana, has brought local CSOs and NGOs into a peer relationship with government authorities and service providers—such as government extension services—rather than the usual client relationship.

In **Ecuador**, COMDEKS projects built on an existing national program focused on the creation of biological corridors, zones where ecological connectivity is reestablished, incorporating sustainable production activities into the landscape, and fostering community partnerships. In the Napo River area where COMDEKS projects focused, a *Biocorridor Roundtable* was formed, providing a forum for direct dialogue between community organizations, indigenous groups, and the technical staff of municipal and provincial authorities and government ministries. The Roundtable produced a Biocorridor Action Plan with specific guidelines developed in line with COMDEKS and SGP objectives, but also aligned with government development and resource management goals, allowing the Roundtable to position itself as a key government partner.

FORGING COMMUNITY ENVIRONMENTAL COMMITMENTS

An on-going commitment by a community to achieve an environmental goal is a good way to keep communities engaged in landscape work and maintain the mindset embodied in the Landscape Strategy. Such commitments were not usually an overt goal of COMDEKS projects, but evolved spontaneously in a few countries.

COMMUNITY ENVIRONMENTAL COMMITMENTS EXTEND COMDEKS BENEFITS INTO THE FUTURE

On Semau Island in **Indonesia**, a number of environmental commitments between clan leaders, village governments, and community members were negotiated through village Environmental Forums. These agreements cover a wide range of activities from watershed protection, to irrigation and agricultural production, to seaweed farming and mangrove restoration. For example, in Batuinan Village, community members have agreed to hold a 3-ha water catchment area as a conservation zone, with the land owners agreeing not to lease this land for other purposes and community members agreeing to limit the number of private wells in the surrounding area in order to raise the water table. In addition, village members have agreed to plant some 1,650 mahogany trees in their family gardens to regenerate local forest cover. Village churches in Batuinan have even agreed that couples getting married or baptized should each plant two trees in their home gardens. In Uitiuhana Village, villagers established a nursery to raise endemic tree seedlings to be planted on an 11-ha area donated by the clan leader. A draft agreement accompanying this tree-planting effort specifies nursery and forest management rules (trees cannot be cut for 20 years) and a monitoring system.

In **Ecuador**, COMDEKS projects have resulted in the negotiation of four community conservation agreements involving 7 different communities and some 96 families. These voluntary agreements, which commit communities to preserve the local forest in an undeveloped state, have resulted in the conservation of 577 ha of tropical rainforest. These agreements are particularly important because they insure that the land in the indigenous communities involved will remain as communal property, rather than be converted to private property. This ensures that important conservation areas are not fragmented in indigenous territories and encourages the traditional practice of preserving sacred sites and protecting lands for future generations, ensuring community participation to achieve a common goal.

SGP/COMDEKS INDONESIA

ENVIRONMENTAL EDUCATION AND YOUTH INVOLVEMENT

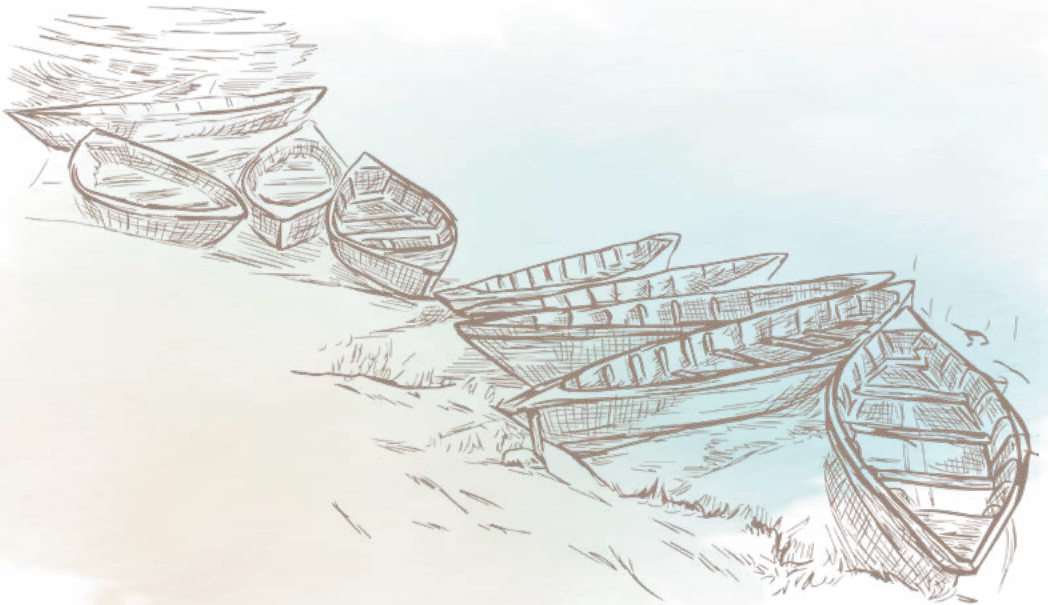
Understanding of the local environment and landscape resilience is the foundation for continuing community support of environmentally sustainable land use practices and landscape projects that build local resilience. Realizing this, many COMDEKS countries included environmental education components in their project portfolios, and many of these continue today. A particular emphasis was introducing environmental curricula in schools and creating opportunities for young people to participate in landscape projects, for example, by helping to raise and plant out tree seedlings.

SGP/COMDEKS KYRGYZSTAN

PUBLIC AND YOUTH EDUCATION REINFORCES THE RATIONALE FOR COMMUNITY LANDSCAPE PROJECTS

In **Kyrgyzstan**, an ambitious effort to educate tourists and the local public on the area's biodiversity and sustainable land use practices took the form of exhibits at the Issyl-Kul Natural History Museum. COMDEKS grantees collaborated to create these exhibits, which profile the best practices of all the local COMDEKS projects and are expected to be seen by some 80,000 visitors per year. A second more hands-on effort in Kyrgyzstan was the creation of an outdoor education zone near Irdyk Bay to demonstrate sustainable agricultural practices for local farmers. In **Costa Rica**, educational efforts included assembling a toolkit for Agricultural Extension agents that listed 44 sustainable practices suitable for local farmers, while in **Cameroon**, community workshops were held on climate change, soil and water conservation techniques, use of drought-tolerant species, and organic agriculture. In **Turkey**, COMDEKS grantees organized a 2-day festival with presentations on local environmental issues, followed by public discussion. The eight NGOs involved in COMDEKS projects in the area also collaborated on a 23-minute television documentary explaining the local COMDEKS projects and how they related to each other to create a landscape effect.

Educational efforts directed at youth sought to prepare them as the environmental leaders of the future. In **Ghana**, more than 50 environmental clubs were formed in schools in the target landscape. In **Kyrgyzstan**, a student manual called "Learning from Nature" was distributed in area schools. In **Namibia**, efforts focused on making local youths feel like direct beneficiaries of the COMDEKS sustainable development activities. Local traditional authorities and the leaders of the local Conservancy gave the local youth group a site in which it can carry out its own sustainable livelihood projects, such as raising guinea fowl and practicing aquaculture. The money generated from this will fund the construction and operation of a community youth center providing internet and other social services.



CHAPTER 3

Lessons Lerned

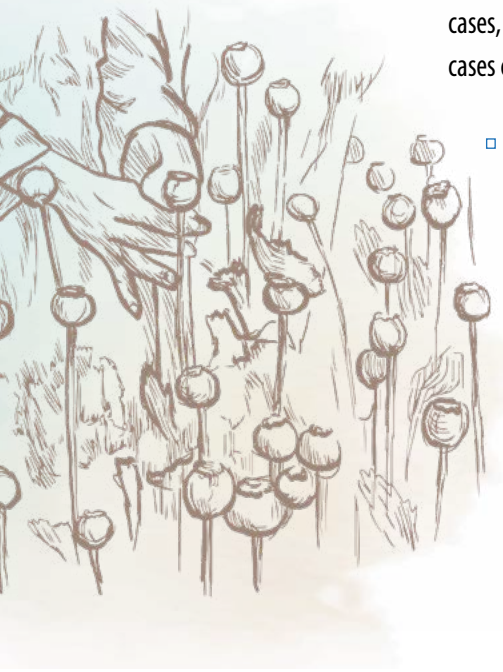
SGP/COMDEKS EL SALVADOR

CHAPTER 3

Lessons Learned Applying the Resilience Indicators

RESILIENCE INDICATOR STRENGTHS

The physical, geographic, and governance aspects of the target landscape are important factors contributing to how successful community-based landscape management will be, how rapidly it will proceed, and what kinds of interventions are possible. That said, no single formula was used to select target landscapes in COMDEKS pilot countries. Rather, the selection criteria—and how heavily each one was weighted—varied by country. In all cases, landscapes were rural, with more than one community contained within the target area, and in most cases contained a mosaic of different land uses.



- **The resilience indicators anchor the community education process throughout the project lifecycle and beyond.** The resilience indicators are at the heart of landscape communities' learning process about resilience, both in the beginning, during, and at the end of the COMDEKS project cycle. At the beginning, they provide a platform to enlarge on the concept of resilience introduced earlier in discussion by applying it systematically to each of five principle domains in the landscape. Later, as scores are dissected and digested by the group, they become a lens to examine resilience weaknesses and strengths, to look at differences in perceptions among the group, and finally to identify what landscape communities should focus on in the Landscape Strategy. During the ex-post baseline assessment, they provide another chance to ponder resilience in the context of what has been accomplished on the landscape. Ultimately, the exercise of scoring the indicator set in the ex-post assessment is more than just a way to assess resilience changes in the landscape. It is also an occasion to fully appreciate and celebrate the progress that has been achieved—a reminder of why the communities have made the effort to work together on landscape projects. Thus, the process of applying the indicators is an important contributor to sustainability as manifested in the continued interest in community resilience-building projects.

> "For the first time, I know how things have changed on this mountain without our knowledge."
>
> — *the Fiagre (chief) of Dayi, Weto Range, Ghana, after the resilience indicator scoring exercise*

- **The indicators are a conduit for information from local resource users and a window into landscape trends.** The indicator scoring exercise lets local informants speak in their own words and bring forward information that in many cases only they have access to, or have the required perspective to interpret. It may be particularly useful in pinpointing physical, social, and economic changes and trends over time within a landscape if applied at regular intervals, and with the participation of long-time local residents.

- **The Indicators are a flexible vehicle.** The resilience indicator set is a flexible piece in a flexible assessment process. The major axes of discussion—the main themes into which the indicators are grouped—provide ample topical territory to elicit the range of landscape perceptions present in landscape communities. They are meant to provide direction without being a straightjacket. Translation, pre-digestion, and adaptation of the indicators are expected before they are applied so that the indicator set is suited to the group. Yet the indicator set has a structure that assures coverage of core concepts and allows both qualitative and quantitative discussions. Most importantly, the indicators are designed to

SGP/COMDEKS BHUTAN

work in tandem with other tools and, to a certain extent, their performance is determined by the quality of these other tools and the facilitation techniques used to deploy them. Thus, attention to improving the quality of facilitation and the careful application of ancillary assessment tools is an important part of improving indicator performance and their contribution to educating and mobilizing stakeholders.

CHALLENGES IN APPLYING THE RESILIENCE INDICATORS

While the indicators and their application show many strengths, some persistent challenges remain that will continue to require attention.

- **Difficulty of language and concepts.** Even with translation into local languages and effort put into simplifying the indicator language, some difficulty was encountered by groups in fully understanding the indicator questions or contextualizing them in their current experience. While many indicators are straightforward, some are conceptually more nuanced. For example, for many local people the concept of "ecological interactions between different components of the landscape" is not necessarily a familiar way of conceptualizing their everyday experience in the environment, although in practice they may be very familiar with this. While the language in the resilience indicator set was revised and simplified in 2014, it is still true that communicating the essential concepts behind the indicator questions demands careful attention and may require extra time to discuss and process these concepts and link them with everyday examples.

- **Lengthy time requirements.** Fully exploiting the strengths of the community consultation and landscape assessment process, including the indicator scoring and its application to the Landscape Strategy and project planning, requires a good deal of time. The indicator scoring itself is not generally a time burden, but the quality of the information and perceptions it elicits, and their application to landscape planning, are directly correlated to the understanding developed within the group before the scoring exercise through local consultations and discussions, which can take many weeks, depending on how many and how often these consultations occur. Additional time is then needed after scoring to process the results and translate them into landscape needs and action items in a Landscape Strategy. This reliance on an often lengthy process can create problems both for organizers and participants. For organizers, the problem is finding enough time within a tight timeframe of the grant cycle. For participants, the length of participation, if too long, can become a household burden. Proper planning and preparation can mitigate

time constraints to a limited extent, and can help reduce conflicts with participants' family schedules. But, in some senses, the group learning process on which success of the endeavor rests cannot be compressed too much, and sufficient time must be found in the schedule.

- **High geographic and community diversity.** Landscapes with widely separated communities or different communities with widely divergent resource uses, cultures, or livelihoods can pose challenges. These challenges are both logistical, in terms of the physical difficulty of convening people for consultation, and process-related, in terms of the divergence in perceptions of the landscape among different groups. Capturing the variety of landscape experiences and creating a bridge of communication and understanding among different groups in the landscape so that consensus on a landscape strategy emerges can be difficult. Some degree of separation of different communities for the purpose of consultation and indicator scoring is often necessary, but mechanisms to create links and opportunities for exchange among these groups is essential if real whole-landscape governance is to be successful in the long run.

- **The limitations of perception-based indicators.** While the resilience indicator set is well built for eliciting information on hard-to-monitor aspects of landscape resilience such as local knowledge, education, attitudes, social conditions, and local governance institutions, it is limited in some respects by the subjective nature of perceptions, and the difficulty in comparing them over time or among different groups. For example, it is difficult to assess the accuracy or replicability of perception data, or what factors are responsible for changes in perceptions. It is also hard to determine how representative of the community as a whole the indicator scores may be, since the group involved in indicator scoring is usually small. These limitations do not diminish the usefulness of the indicator scoring exercise as part of the larger education and evaluation process, but they do point up the need for caution when using indicator scores as quantitative measures, as well as the benefit of triangulating indicator results with information from other sources of objective data and other participatory tools.

TACKLING INCLUSION

Making the community consultation and the indicator scoring exercise truly inclusive of women, indigenous peoples, youth, and other vulnerable groups whose input is sometimes minimized is essential to produce a Landscape Strategy that reflects all stakeholders and garners local buy-in.

- **Despite progress including women, special measures are still required.** The necessity of engaging women in development interventions is more widely accepted than ever, but the practical reality is that it still requires targeted effort to make this happen in many cases. This is true with landscape assessment as well. The designers of the resilience indicator set understood this and included language to mainstream gender into the indicator set. Women bring a wealth of experience in landscape mosaics and often possess detailed and exclusive knowledge of landscape conditions and trends linked with this experience. Tapping this knowledge is essential if a valid assessment is to be compiled. All the more so if this knowledge is to then be translated into resilience-enhancing interventions through the Landscape Strategy. But tapping women's knowledge and encouraging their participation in public consultations often requires setting up situations in which their input is prioritized. Often this means convening separate focus groups for women during pre-scoring consultations, and directing group facilitators to encourage women's contributions during mixed-group discussions and indicator scoring. Another way in which women's input can be facilitated and legitimized is inclusion of women-led CBOs, such as local users groups, as stakeholders in the assessment workshop.

- **Involvement of traditional authorities lends legitimacy to assessment findings.** Active participation of traditional authorities as stakeholders in the assessment process both lends credence to the findings and makes the landscape strategy that eventually results much more likely to gain traction locally. At the same time, their involvement is important to safeguard local indigenous rights. As caretakers of traditional culture and arbiters of local tenure rights, traditional authorities are in a position to give important social support and legitimacy to the assessment process and eventually to those CBOs that lead landscape projects flowing from the Landscape Strategy.

CONNECTIONS TO THE LANDSCAPE STRATEGY AND POLICY-MAKING

- **Resilience indicator scores and discussion help determine the eventual structure of the Landscape Strategy**. While indicator scores do not directly lead to a list of priority landscape interventions, they do influence the discussion and analysis of all the landscape information generated by the assessment up to that time. The way this information is framed and filtered does much to determine the way resilience goals are worded in the Landscape Strategy and the emphasis placed on different interventions in the Strategy.

- **Indicator scores bring the idea of landscape resilience into the policy realm.** Resilience indicators can play an important part in giving community-level interventions legitimacy in the eyes of policy makers. By helping policy makers to understand the elements of landscape resilience, and by demonstrating that these elements can be approached and measured systematically, the application of the resilience indicators makes it more possible for policy makers to accept management actions designed to rebuild and sustain resilience. The embrace by local communities of the indicator methodology means that it can reasonably contribute to both the planning and assessment of local development programs. At one level, the credibility this confers manifests as an enhanced ability of successful interventions to influence local and national policies. This occurred, for example, in Turkey and Kyrgyzstan, where fisheries interventions, landscape restoration techniques, and agricultural advances demonstrated in COMDEKS projects were influential as national models because they aligned well with national goals to promote sustainable development. These interventions were initially identified with the help of the resilience indicator exercise and the ensuing discussion.

SGP/COMDEKS INDIA

SGP/COMDEKS TURKEY

CHAPTER 4

Way Forward

CHAPTER 4 The Way Forward

Experience with the SEPLS resilience indicators in COMDEKS countries shows that they are a well-engineered and flexible tool. The best practices detailed here demonstrate that they can be applied in very different landscapes and cultural settings and still be effective. They can be administered by a range of personnel in a variety of circumstances and, because of their educational and assessment value, they can undoubtedly complement a range of resource management approaches and development policies. Because of these strengths, the SEPLS resilience indicator set is now being used in several SGP country programmes beyond the COMDEKS pilot countries that have adopted a landscape approach to determine their project portfolios.

If effectively promoted and more widely applied, the SEPLS resilience indicators could become an important tool to support landscape governance and management approaches that build landscape resilience. Such resilience is an essential foundation for sustaining local ecosystems, maintaining biodiversity, and supporting local livelihoods, and, in turn, achieving the Sustainable Development Goals, and meeting the goals of the Convention of Biological Diversity, including the Aichi Biodiversity Targets.

REFINING THE INDICATOR SET

Even with their strengths, the resilience indicators are a relatively new tool and are still undergoing refinement. Indeed, the original indicator set was already substantially modified in 2014 with input from SGP National Coordinators and others responsible for applying the indicators in the first ten COMDEKS countries, as well as input from field work by Bioversity International in Cuba, Mongolia, and Fiji. On the basis of additional input, further refinements could be contemplated, including the following:

- **Education and sustainability.** An additional indicator has been suggested to evaluate how well formal education incorporates concepts of resilience and sustainability. This suggestion is spurred by the importance of education in fostering behaviors and land uses that are sustainable, and the potential for environmental curricula to contribute to a local culture of resilience building.
- **Resource conflicts.** Resource conflicts are not uncommon in rural landscapes, particularly where state-sanctioned formal tenure systems intersect with local customary tenure systems. An additional indicator on the extent and origin of resource conflicts in the target landscape could bring forward information highly relevant to how and why local groups use the landscape, what threats they face, and how this affects local resilience.
- **Trade-offs.** Trade-offs are inherent in the integrated approach to landscape interventions that COMDEKS employs, with its mix of project activities that address social, environmental, and economic aspects of landscape resilience and community well-being. During discussion after scoring the indicators, inclusion of a discussion question on possible trade-offs encountered when managing for different aspects of resilience could help the group identify what such trade-offs might be. This could, in turn, help the group strike the right balance among different kinds of projects as it solidifies its advice on the Landscape Strategy.

SGP/COMDEKS NEPAL

BETTER INTEGRATION OF INDICATORS WITH OTHER ASSESSMENT TOOLS

Two assessment tools developed in conjunction with the COMDEKS Programme—the Landscape Governance tool and the Agroecology tool—potentially offer a great deal of targeted information that can add to and enhance information gleaned in the baseline assessment, in which the resilience indicators are applied. The *Landscape Governance Self-Assessment Tool* helps communities understand the current governance situation in their landscape—who makes management decisions, what rules and laws guide these decisions, and how effective this governance is. This information is highly relevant to how much leeway communities have in improving landscape resilience through community projects, and what obstacles or allies they may encounter in implementing their Landscape Strategy. The *Agroecosystem Vulnerability Assessment Manual* helps community members evaluate how well agroecological principles are being applied in their farming systems, determine how vulnerable their fields and crop systems are to climate and other risks, and identify how they can improve their overall resilience.

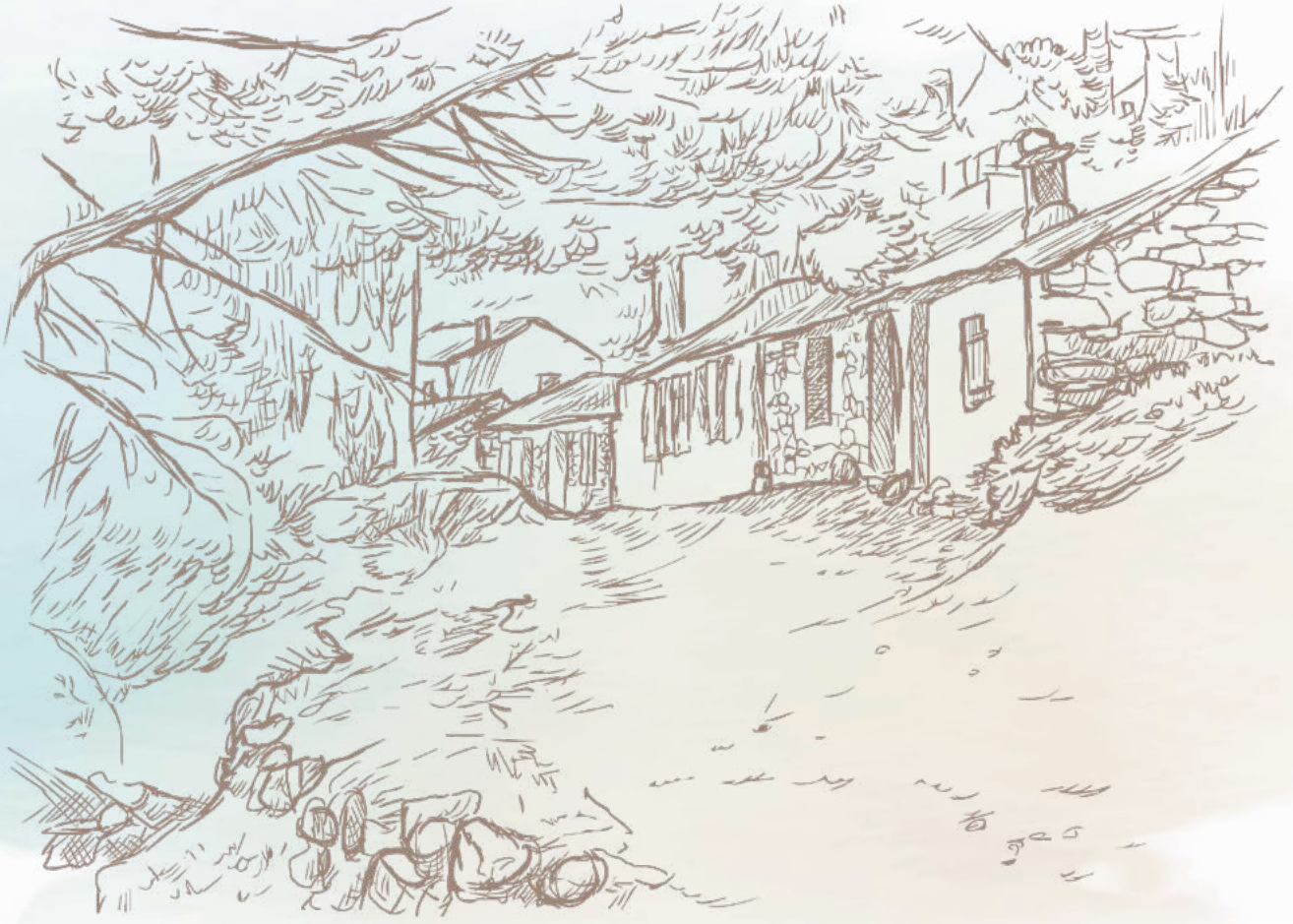
Clearly, both these tools can add useful perspective and specific and detailed information to the communities' understanding of the local landscape. However, the cumulative effort required to apply all these tools—the original resilience indicator set and the two newer assessment tools—is substantial and may act as a disincentive to use them in concert. It may be useful to conceive of these three tools as a single suite of indicators, but this will require guidance in how best to stage these exercises. In the alternative, recommendations for how these tools may be able to be combined, or how elements of the governance and agroecology tools could be incorporated into the current resilience indicator set, would be useful.

INTEGRATING INDICATORS INTO DECISION-MAKING AND POLICY-MAKING PROCESSES

Use of resilience indicators has the potential to greatly advance the concept and practice of resilience-focused landscape governance. They offer a convenient route to assessing landscape changes as perceived by local landscape users, and evaluating landscape interventions as part of an adaptive management process. As such, they represent a potentially powerful tool for use in government natural resource management plans and sustainability plans. Already, the resilience indicators have shown they are an essential tool in community-based landscape management. Such community-based management action has shown itself to be very effective in simultaneously protecting local biodiversity while enhancing rural livelihoods and revitalizing local cultures.

Greater exposure of the resilience indicator set to line agencies responsible for landscape governance, as well as local CBOs and NGOs involved in local resource management, is called for, and should be an explicit goal of SGP as it pursues community-based landscape management in the future. In this way, the resilience indicators can become a catalyst for adopting a landscape perspective that is both integrated with and informed by the knowledge and needs of landscape communities.

Beyond the local level, there is work to do to scale up and refine the resilience indicator set so that it becomes a suitable metric for use in reporting on national and international conservation and development targets, such as the Aichi Biodiversity Targets contained in the Convention on Biological Diversity, and the targets contained in the Sustainable Development Goals.



SGP/COMDEKS BHUTAN

The Satoyama Initiative is a global effort, first proposed jointly by the United Nations University and the Ministry of the Environment of Japan (MOEJ), to realize "societies in harmony with nature" and contribute to biodiversity conservation through the revitalization and sustainable management of "socio-ecological production landscapes and seascapes" (SEPLS). In October 2010, the International Partnership for the Satoyama Initiative (IPSI) was established to promote the activities identified by the Satoyama Initiative. IPSI is a global partnership of over 200 diverse member organizations, including national and local governments, NGOs, intergovernmental organizations, universities, and private sector organizations, aiming to facilitate and accelerate the implementation of activities under the Satoyama Initiative. With the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) serving as its Secretariat, IPSI coordinates and supports related activities, including on-the-ground activities, policy development, and knowledge sharing activities. www.satoyama-initiative.org

The Japan Biodiversity Fund (JBF) was established by the Presidency of the 10th Conference of the Parties of the Convention on Biological Diversity (CBD COP 10) in support of the implementation of the Nagoya Biodiversity Outcomes. One of its key objectives is to support, at regional and sub-regional levels, Parties for the translation of the new Strategic Plan for Biodiversity 2011-2020 into national priorities. The Convention on Biological Diversity was inspired by the world community's growing commitment to sustainable development and entered into force in 1993. Its three main objectives are to 1) conserve biological diversity, 2) promote sustainable use of the components of biological diversity, and 3) ensure fair and equitable sharing of the benefits arising out of the utilization of genetic resources. www.cbd.int

The Global Environment Facility (GEF), established on the eve of the 1992 Rio Earth Summit, is a catalyst for action on the environment — and much more. Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues. Our funding also helps reduce poverty, strengthen governance and achieve greater equality between women and men. As such, we occupy a unique space in the global partnership for a more sustainable planet. www.thegef.org

The Small Grants Programme (SGP) is a corporate programme of the GEF implemented by the UNDP since 1992. SGP grantmaking in over 125 countries promotes community-based innovation, capacity development, and empowerment through sustainable development projects of local civil society organizations with special consideration for indigenous peoples, women, and youth. SGP has supported over 20,000 community-based projects in biodiversity conservation, climate change mitigation and adaptation, prevention of land degradation, protection of international waters, and reduction of the impact of chemicals, while generating sustainable livelihoods. www.sgp.undp.org

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