

# COMMUNITY ACTION TO ACHIEVE THE AICHI BIODIVERSITY TARGETS THE COMDEKS PROGRAMME



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Resilient nations.



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# PREFACE



There is an inherent link between the sustainable management of biodiversity and the well-being of local communities: biodiversity is key to ecosystem functioning and the sustainability of ecosystem services that are essential for local livelihoods and human well-being. At the same time, communities around the world are vital to conservation of the biodiversity contained in rural landscapes, acting as custodians of biodiversity through their locally adapted knowledge, practices, and customs. As shown in this publication, these communities are important contributors to the achievement of the Aichi Biodiversity Targets as enunciated in the Strategic Plan for Biodiversity 2011-2020.

The Strategic Plan for Biodiversity, adopted during the 10th meeting of the Conference of the Parties of the Convention on Biological Diversity (CBD) in 2010, represents an ambitious global framework for action to conserve biodiversity and improve the ecosystem-based livelihoods of rural communities. This plan includes 20 targets, known as the Aichi Biodiversity Targets, and the vision that “by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.” It serves as a framework to establish national and regional targets, and to promote the implementation of the three objectives of the Convention: 1) conservation of biological diversity, 2) sustainable use of the components of biological diversity, and 3) fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Together with the adoption of the Sustainable Development Goals (SDGs), interest in integrated landscape management approaches to rural development and biodiversity conservation—approaches based on a holistic view of rural landscapes, with the ability to address the environmental and social challenges that confront the ecosystems and local communities within the landscape—has become stronger than ever. The landscape approach supported by the Community Development and Knowledge Management for the Satoyama Initiative (COMDEKS) Programme promotes such integrated solutions. Funded by the Japan Biodiversity Fund, COMDEKS is implemented by the United Nations Development Programme in partnership with the Ministry of the Environment of Japan, the CBD Secretariat, and the United Nations University Institute for the Advanced Study of Sustainability, and delivered through the Global Environment Facility Small Grants Programme.



The COMDEKS Programme builds on UNDP's experience in local environment and development interventions from the past three decades. Recognizing the critical role local initiatives play in biodiversity conservation and ecosystem protection, COMDEKS has been implemented since 2011 in 20 target landscapes and seascapes around the world as a community-based model of landscape management to enhance the resilience of local ecosystems, protect biodiversity, and support sustainable livelihoods of rural communities. As a flagship effort of the International Partnership for the Satoyama Initiative (IPSI), a global platform aiming to facilitate and accelerate the implementation of activities under the Satoyama Initiative, COMDEKS initiatives have generated key lessons on community-based best practices to maintain and rebuild multipurpose landscapes and seascapes. Such community-based action is vital to achieve "societies in harmony with nature," the vision of the Satoyama Initiative and a principal theme of the Strategic Plan for Biodiversity 2011-2020.

This booklet highlights the many ways in which community-driven initiatives have conserved biodiversity and improved rural livelihoods through an integrated landscape management approach. Disseminating and applying these best practices more widely in rural communities will make tangible contributions to achieving the goals of the Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, as well as the SDGs.



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# WHERE COMDEKS WORKS

Since 2011, COMDEKS has supported the development of Landscape Strategies in a wide variety of selected landscapes and seascapes in 20 countries, with more than 200 projects contributing to improvement of biodiversity and ecosystem services, agricultural production and food security, economic livelihoods, and participatory decision making and institutional capacity.



**INLAND WATER SYSTEMS**



**COASTAL SEASCAPES**



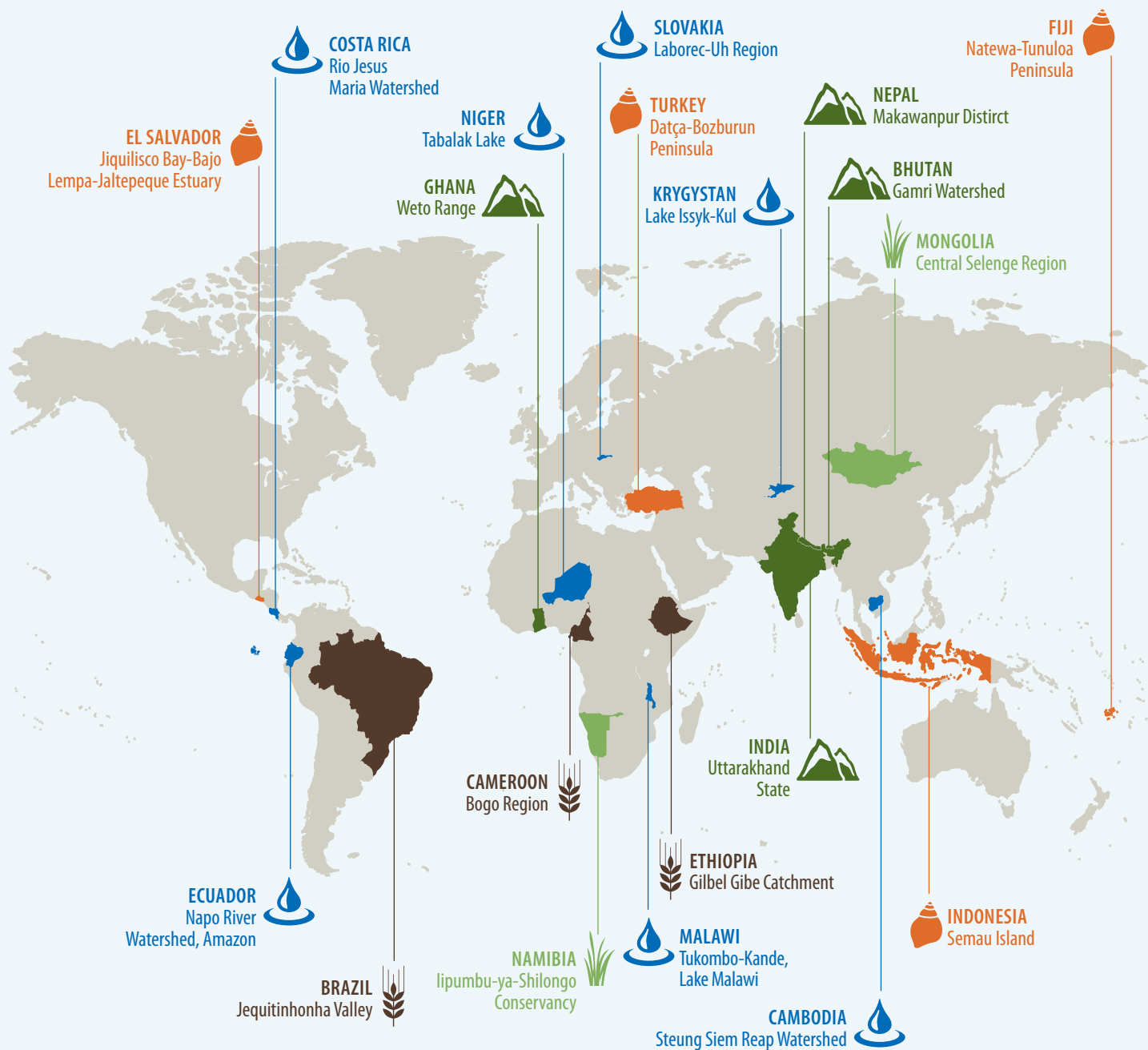
**MOUNTAIN ECOSYSTEMS**



**AGRO-PASTORAL SYSTEMS**

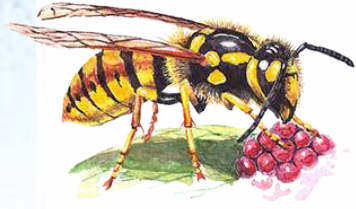


**GRASSLANDS**



# THE COMDEKS PROGRAMME

A COMMUNITY-BASED LANDSCAPE APPROACH FOR CONSERVING ECOSYSTEMS AND BIODIVERSITY AND PROMOTING SUSTAINABLE LIVELIHOODS.



## Why are Communities Important for Biodiversity Conservation?



SGP/COMDEKS BHUTAN

**Rural landscapes hold a wealth of biodiversity.** While significant progress has been made in the last few decades expanding Protected Areas (PAs) as refuges for threatened plant and animal species and vital ecosystems, these sanctuaries alone are not enough to reverse biodiversity loss. Most of the world's biodiversity remains in rural production landscapes and seascapes outside of formal PAs. Dynamic mosaics of land and water uses and natural habitats, forming so-called “*socio-ecological production landscapes and seascapes*” (SEPLS), can support a variety of human livelihoods, including farming, grazing, fishing, and forestry.



SGP/COMDEKS BHUTAN MONGOLIA

**Communities are the stewards of rural landscapes.** Local communities are essential agents in biodiversity conservation as the principal users and managers of rural landscapes. They are the day-to-day custodians of the diverse landscapes in which most biodiversity is found. For example, traditional indigenous territories overlap with areas that maintain 80 percent of the world's biodiversity. Because of the dependence of indigenous and other local communities on their surrounding ecosystems for their well-being, no one has greater incentive to restore and maintain productivity and biodiversity in the landscape and seascape.



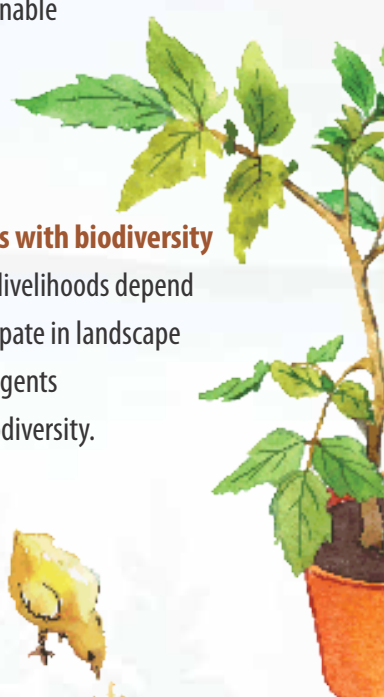
SGP/COMDEKS ETHIOPIA

**Community action brings tangible results.** Experience shows that community involvement and investment is key to making rural land uses sustainable, and to keeping rural landscapes and seascapes resilient and productive. Communities are storehouses of knowledge about local biodiversity and are on the front lines of adaptation and innovation toward sustainable landscape management. Indeed, traditional knowledge and customary sustainable resource use by indigenous peoples and local communities are critical to all Aichi Biodiversity Targets. For this reason, working directly with communities is among the most effective ways to see tangible results on the ground.



SGP/COMDEKS TURKEY

**Engaging communities in landscape governance links local livelihoods with biodiversity conservation.** Local communities understand better than anyone how their livelihoods depend on the surrounding ecosystems. When communities are empowered to participate in landscape planning and take the lead in landscape management, they can be effective agents in conserving these ecosystems that support their livelihoods and nurture biodiversity.





# WHAT IS COMDEKS?

**COMDEKS is the “Community Development and Knowledge Management for the Satoyama Initiative” Programme.** One of the concepts of the Satoyama Initiative is to integrate traditional ecological knowledge with modern science to produce land use systems that enrich livelihoods while safeguarding ecosystem services and biodiversity. 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.

**COMDEKS builds on previous SGP work.** Initiatives supported through the COMDEKS Programme build on and are integrated with past and current work by the Global Environment Facility Small Grants Programme (SGP), a corporate programme of the Global Environment Facility implemented by UNDP. SGP has served as a grantmaking programme for 25 years, with experience providing technical support and delivering small grants to community organizations for environment and development projects at the local level. It has contributed lessons from implementation of landscape-level approaches since 2000, with the Community Management of Protected Areas Conservation (COMPACT), funded by the UN Foundation, serving as an innovative model for engaging communities in landscape-level conservation activities in and around World Heritage Sites. SGP is also currently implementing the Global Support Initiative for Indigenous and Community Conserved Areas and Territories (ICCA-GSI). COMDEKS results are providing lessons and best practices to these and other rural development initiatives within and beyond PAs.

**COMDEKS supports a community-based landscape approach to achieve the Aichi Biodiversity Targets.** COMDEKS projects have demonstrated a variety of best practices that allow communities themselves to maintain and revitalize their landscapes and seascapes. The success of this integrated landscape approach in fostering sustainable, community-based landscape management has made it an effective tool for meeting the goals of the *Strategic Plan for Biodiversity 2011-2020*, including many of the *Aichi Biodiversity Targets*.



SGP/COMDEKS NAMIBIA

## THE COMDEKS PROGRAMME

Funded by the Japan Biodiversity Fund, the Community Development and Knowledge Management for the Satoyama Initiative (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. 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 (SEPLS).



## 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 10<sup>th</sup> meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP 10), held in Nagoya, Japan, where the Satoyama Initiative was recognized as “a potentially useful tool to better understand and support human-influenced natural environments for the benefit of biodiversity and human well-being.”





# WHAT MAKES THE COMDEKS PROGRAMME UNIQUE?

**A participatory landscape approach.** Programme activities adopt a landscape approach, which sees the ecosystems, land uses, and communities in the landscape as a single interactive and integrated system. In this approach, community-led projects are the focus of attention, with the goal of strengthening landscape resilience to support sustainable local livelihoods, ecosystem health, and biodiversity conservation. Although community action is the focus, this landscape approach goes beyond the single-community scale to consider the needs of all communities in the landscape, and creates a common vision among the stakeholders of such multipurpose landscapes.

**Collective action led by community organizations.** The COMDEKS landscape approach is rooted in the understanding that, if communities are to embrace the idea of sustainably managing their landscapes, they must own the process of landscape planning, and take responsibility for executing and evaluating community projects. This local ownership is expressed through the leadership

of community groups such as local NGOs, cooperatives, advocacy groups, and other community-based organizations. Using this approach, more than 200 community landscape projects led by local CBOs and NGOs have been carried out across the 20 COMDEKS pilot countries. These projects have yielded landscape-level results that have improved local ecosystem health, made local agriculture and fisheries more productive and sustainable, enhanced local green economies, and strengthened participatory decision-making and landscape governance.

**Integrated and multi-sectoral projects.** In each landscape, the portfolio of COMDEKS and SGP projects includes a combination of efforts that address the environmental, livelihood, and governance challenges identified by local stakeholders. These comprise an integrated approach, with simultaneous attention paid to issues of livelihoods, food supply, ecosystem health, biodiversity conservation, and community empowerment.



# HOW DOES THE COMDEKS LANDSCAPE APPROACH WORK?

The landscape approach that frames COMDEKS work involves a step-wise process in which the target landscape is first identified and assessed, followed by *participatory landscape planning*.

**Baseline assessment.** The landscape planning process begins with a participatory baseline assessment of ecological, social, and economic conditions in the landscape. The baseline assessment initiates a phase of community consultation, education and mobilization. From this, a consensus emerges about the state of the landscape and the actions needed to increase its resilience and meet local development needs. Other stakeholders such as government agencies also contribute to this assessment.

**Landscape Strategy.** The consensus reached by local stakeholders takes the tangible form of a Landscape Strategy with clear

objectives, targets and indicators. The power of the strategy is that it originates from local communities, using goals and measures selected by them.

**Community-led projects.** From the Landscape Strategy emerges a slate of community-level projects to achieve the identified landscape goals—local initiatives managed by community groups and achieved through collective action. Interaction and synergies among the different projects and communities are expected. Regular monitoring and evaluation of results, followed by analysis, documentation, and communication to stakeholders and other interested communities are included in project implementation to promote empowerment and replication.

# CONTRIBUTIONS OF COMDEKS TO THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020, INCLUDING THE AICHI BIODIVERSITY TARGETS

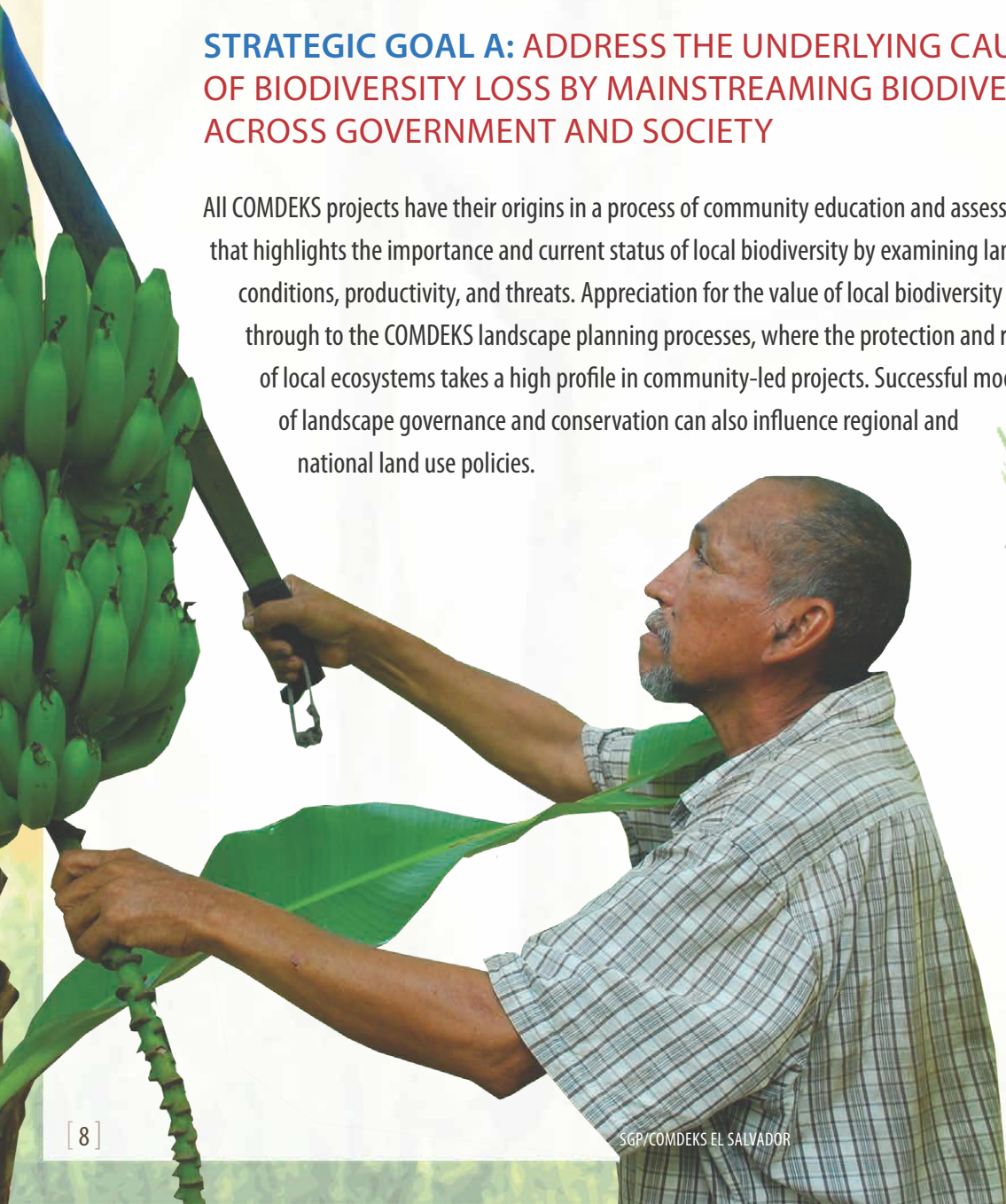


With their strong emphasis on sustainable agriculture, fishing, grazing, and forest practices, the landscape management projects funded under the COMDEKS Programme have contributed to achieving all five of the Strategic Goals of the Strategic Plan for Biodiversity 2011-2020 and many of the individual Aichi Biodiversity Targets. Some of these contributions are highlighted below. Due to the interlinking nature of the Aichi Targets, many of these examples contribute to more than one or two of the targets.<sup>1</sup>



## STRATEGIC GOAL A: ADDRESS THE UNDERLYING CAUSES OF BIODIVERSITY LOSS BY MAINSTREAMING BIODIVERSITY ACROSS GOVERNMENT AND SOCIETY

All COMDEKS projects have their origins in a process of community education and assessment that highlights the importance and current status of local biodiversity by examining landscape conditions, productivity, and threats. Appreciation for the value of local biodiversity carries through to the COMDEKS landscape planning processes, where the protection and restoration of local ecosystems takes a high profile in community-led projects. Successful models of landscape governance and conservation can also influence regional and national land use policies.



<sup>1</sup> For more details on COMDEKS projects and the lessons and best practices gleaned from the COMDEKS Programme, see *Communities in Action for Landscape Resilience and Sustainability: The COMDEKS Programme* (United Nations Development Programme, 2014), and *A Community-Based Approach to Resilient and Sustainable Landscapes: Lessons from Phase II of the COMDEKS Programme* (United Nations Development Programme, 2016).



# TARGET 1

PEOPLE ARE AWARE OF THE VALUES OF BIODIVERSITY AND THE STEPS THEY CAN TAKE TO CONSERVE AND USE IT SUSTAINABLY.



**COMMUNITY LEARNING IS AT THE HEART OF COMDEKS.** The landscape approach employed by COMDEKS is founded on a process of community learning about the landscape—both its productive capacity and threats to its health. This learning takes the form of a participatory assessment of the current conditions and trends in the landscape, using group discussions, participatory mapping, and other group practices. The net effect is a heightened awareness of the contribution of local biodiversity to landscape resilience and livelihoods, and an appreciation for the specific biodiversity threats at play in the landscape. This awareness is used to assemble a list of management goals for the landscape, and community projects to attain these goals.

Ongoing educational activities in landscape communities are also typically a part of the projects supported by COMDEKS and SGP, having reached over 70,000 community members across the 20 target landscapes. In **Cameroon**, for example, special community workshops were held on climate change, soil and water conservation techniques, use of drought-tolerant species, and organic agriculture. In **Costa Rica**, a toolkit for Agricultural Extension agents was assembled listing 44 sustainable practices suitable for local farmers. Activities in schools are also emphasized in order to train a new generation of environmentally responsible

residents. In **Ghana**, more than 50 environmental clubs have been formed in schools in the target landscape. In **Kyrgyzstan**, a student manual called “Learning from Nature” was distributed to area schools.

## DISSEMINATING KNOWLEDGE AND EXPERIENCES FROM ON-THE-GROUND INITIATIVES AT THE GLOBAL LEVEL IS A CORE COMDEKS ACTIVITY.

Collecting, analyzing, and managing information from the implementation of community projects, as well as from other sources, is essential to identify best practices and lessons for dissemination to other communities, other programmes and other organizations and institutions. COMDEKS has produced a variety of knowledge products, including guidance tools, brochures, case studies, and newsletters. Outputs are widely shared online as well as through peer-to-peer active learning, training courses, and exchange seminars between practitioners and policy makers from a variety of sectors. This exchange of information and knowledge is key to increasing awareness among the various stakeholders of the importance of biodiversity conservation and promotion of sustainable local livelihoods, and is an invaluable input to policymaking processes at national, sub-national, and local levels.







## TARGET 2

**BIODIVERSITY VALUES HAVE BEEN INTEGRATED INTO NATIONAL AND LOCAL DEVELOPMENT AND POVERTY REDUCTION STRATEGIES AND PLANNING PROCESSES AND ARE BEING INCORPORATED INTO NATIONAL ACCOUNTING AND REPORTING SYSTEMS.**



### LOCAL PROJECTS CAN INFLUENCE POLICIES AT THE NATIONAL AND REGIONAL SCALE.

While landscape projects supported through COMDEKS are chiefly designed to yield local benefits, they also frequently have broader impacts, influencing national and regional policies through their demonstration of successful models of landscape governance, conservation, and entrepreneurship. In **Kyrgyzstan**, a successful campaign to preserve local agrobiodiversity, promote organic agriculture, and publicize the risks of GMOs in Issyk-Kul Province also had a direct effect on national agricultural policy, helping to strengthen the national law on biosafety and the regulation of GMOs. In **Niger**, the emergence of strong local CBOs has demonstrated the potential for CBOs to carry out local development projects. This has encouraged the national government to establish a National Directorate of Support for Cooperative Action to provide local CBOs throughout the country with technical and mentoring support. In **Fiji**, supported projects acted as a platform to allow local customary leaders to interface with provincial government planners. This led to meaningful realignment of village, district, and provincial development plans and objectives on the basis of local input and demonstrated local governance capacity.

### BIODIVERSITY VALUES ARE EMBEDDED IN LOCAL LANDSCAPE PLANNING.

In each target landscape, communities and other stakeholders, including government officials, come together to create a Landscape Strategy that expresses their goals for the landscape and provides direction to guide the selection of projects. Because government representatives participate in the planning process alongside communities, the resulting Landscape Strategy can inform and influence official planning processes at local, regional, and national levels, as well as shape local land use decisions.

Typically, these Landscape Strategies explicitly prioritize the need to manage the landscape to conserve biodiversity. For example, the first goal in the Landscape Strategy crafted by communities in **Ecuador's** Napo River watershed is "greater ecological connectivity and improved biodiversity through reforestation activities and protection of watersheds." In **Namibia's** Iipumbu-Ya-Tshilongo Conservancy, the Landscape Strategy's first goal is "enhanced provision of ecosystem services within the landscape through conservation activities, sustainable use of natural resources, and the protection of ecosystems and biodiversity." Similarly, in **Cambodia's** Steung Siem Reap watershed, communities declared the first goal for the landscape to be "degraded biodiversity and ecosystem services are restored through multi-functional land use systems."





## INDICATORS OF RESILIENCE IN SOCIO-ECOLOGICAL PRODUCTION LANDSCAPES AND SEASCAPES

Since 2011, UNDP has been working together with Bioversity International, the Institute for Global Environmental Studies, and the United Nations University Institute for Advanced Study of Sustainability on a collaborative activity under the International Partnership for the Satoyama Initiative, to develop and field-test a set of “Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes.”



The indicators are designed to help communities assess and build strategies for resilience in five broad areas: 1. Landscape/seascape diversity and ecosystem protection; 2. Biodiversity (including agricultural biodiversity); 3. Knowledge and innovation; 4. Governance and social equity; and 5. Livelihoods and well-being.

In each case, these goals are paired with performance indicators, such as “number of forest species recovered,” “number of watersheds protected,” or “hectares of degraded ecosystems restored,” so that communities can check their progress. In addition, accompanying the slate of broad landscape goals is a list of activities that could be undertaken to achieve them. In this way, the landscape strategy seeks to translate its focus on biodiversity conservation into concrete action.

### RESILIENCE INDICATORS HELP COMMUNITIES PLAN THEIR LANDSCAPE STRATEGIES.

A critical component of the community-based landscape planning process is evaluating the resilience of the local landscape through a participatory baseline assessment. Only on this basis can communities realize what

actions will be required in their communities to promote a resilient landscape. To facilitate this process, the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) and Bioversity International developed a set of 20 “*Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes (SEPLS)*” designed to help communities understand ecological, social, and economic conditions and trends in their landscape. COMDEKS is one of the first programmes of its kind to deploy this set of indicators as an integral part of its design and as an organizing principle for community participation. These indicators show potential for wider application in local and national development plans to assess landscape resilience, thus contributing to the achievement of the Aichi Biodiversity Targets and the Sustainable Development Goals (SDGs).

## INFLUENCING LANDSCAPE GOVERNANCE POLICIES IN GHANA

In Ghana’s Weto Range, two local landscape projects have shown how effective new landscape governance models that empower local communities can be. As part of these projects, two communities have begun the process of establishing Community Resource Management Areas (CREMAs) to conserve some of the most sensitive and valuable areas on the mountain ridge. CREMAs represent a new governance model established by the government in 2000 to address the challenges of wildlife management, in which communities, land owners and land users are given the right to govern and manage forest and wildlife resources within the boundaries of the CREMA, and to benefit financially or in-kind.



As part of this effort, multistakeholder management boards have been established and eight community land use plans have been put into place. Constitutions have been developed by the stakeholders to regulate resource use within the CREMAs, including by-laws on extraction of timber, wildlife and non-timber forest products (NTFPs), as well as on tourism activities. Local chiefs enforce these laws, and noncompliance can carry heavy fines. Benefits from tourism revenues and alternative livelihood activities around the area will be shared with the landowners according to their share of land inside the CREMA. These innovative CREMA pilots in the project landscape will likely play a significant role in informing national policy on CREMAs by showing the strength of multistakeholder management platforms and their potential to produce both local and national benefits.



## STRATEGIC GOAL B: REDUCE THE DIRECT PRESSURES ON BIODIVERSITY AND PROMOTE SUSTAINABLE USE

Changing land use practices so that they enhance local ecosystem productivity and reduce land degradation and forest loss is a primary goal of many COMDEKS projects. This is accomplished through a combination of more sustainable farm and forest practices, promotion of alternative— less destructive—livelihoods, and better governance and enforcement of common forest, grassland, and fishery resources. Overall, supported initiatives have brought over 150,000 hectares of landscapes and seascapes under sustainable management.



### TARGET 5

THE RATE OF LOSS OF ALL NATURAL HABITATS, INCLUDING FORESTS, IS AT LEAST HALVED AND WHERE FEASIBLE BROUGHT CLOSE TO ZERO, AND DEGRADATION AND FRAGMENTATION IS SIGNIFICANTLY REDUCED.

Many COMDEKS projects have been successful at curbing unsustainable practices that drive deforestation, degrade land, and fragment critical habitats—practices that threaten both biodiversity and the livelihoods of local communities. One important aspect of this success has been an emphasis on creating sustainable alternatives to these destructive practices. Supporting alternative livelihoods that protect the environment is critical to ensuring rural development in harmony with nature.

In the Jequitinhonha Valley in **Brazil**, large Eucalyptus plantations had reduced water availability to local farmers and pushed

them to pursue their activities in gullies and on slopes, which led to increased soil erosion, land degradation and trampling around springs. Supported projects focused on improved water management, reforestation around springs and water courses, and adoption of agroecology measures to improve access to water and address soil degradation and loss of natural habitats. In **India**, projects supported alternative livelihood opportunities combined with reviving cultivation of traditional food crops and creating access to sustainable energy solutions to reduce the communities' dependence on forest and ecosystem products.







## INTEGRATING PROTECTION OF NATURAL HABITATS WITH PROMOTION OF ALTERNATIVE LIVELIHOODS IN CAMBODIA

In the Steung Siem Reap Watershed in Cambodia, recent estimates of upstream forest loss were at 75 percent, and downstream areas have been affected by the resulting change in water flows. Forests in the upper watershed area have been degraded by hunting, conversion to agriculture, and other sources of fragmentation. This is compounded by little or ineffective patrolling and enforcement in the watershed, and overlapping authorities in charge. COMDEKS projects in this landscape have, therefore, focused on: 1) rehabilitating flooded forests; 2) promoting agroforestry and reforestation; 3) establishing 15-year management plans for forests, protected areas, and fisheries; and 4) enhancing environmental governance by strengthening community organizations for environmental conservation and livelihood improvement, so that they can help reduce illegal logging, hunting, and slash-and-burn agriculture.



In this context, supported initiatives strengthened the capacities of key community-based organizations, including 13 saving groups, 14 self-help groups, 6 water user groups, 5 rice banks, 1 cow bank, 11 community forestry organizations, 2 community fisheries organizations, as well as the 5 community protected area organizations that are responsible for management decisions in these community assets. Patrolling and forest demarcation have allowed communities to decrease the level of illegal logging. Water access was improved through canal, piping, and reservoir systems, with impacts including higher water supplies to gardens (allowing vegetable crops), decreased time collecting water, and more water available for livestock. As part of a larger initiative to protect flooded forest and fish habitats, three villages were supported to conserve 5,480 ha of flooded forest, reduce vulnerability to storms by introducing ecosystem-based management, and promote sustainable livelihoods. Through project support, more than 700 women now generate additional income through paddler boat services to tourists visiting Angkor Wat. This has also benefitted local communities by raising their incomes through restaurant services and trips to fish conservation areas, achieving higher prices by direct sale to tourists.

Partnering and sharing knowledge and best practices with other communities through the landscape approach has resulted in collective community action for forest conservation and tangible livelihood and biodiversity impacts, as have complementing activities of income generation and biodiversity conservation. An appropriate mix of landscape management techniques and livelihood-related activities were key to protecting local forests and natural habitats.





# TARGETS 6 AND 7

ALL AQUATIC RESOURCES ARE MANAGED AND HARVESTED SUSTAINABLY WITH NO SIGNIFICANT ADVERSE IMPACTS, AND AREAS UNDER AGRICULTURE, AQUACULTURE, AND FORESTRY ARE MANAGED SUSTAINABLY.



COMDEKS focuses on the sustainable management of production landscapes and seascapes. Target landscapes are working landscapes, and many COMDEKS projects are thus focused on reforming or creating sustainable alternatives to existing farming, fishing, grazing, and forest practices. Examples include:

**MORE ORGANIC AGRICULTURE AND AGROFORESTRY.** In **Ghana**, more than 200 farmers were trained in organic vegetable cultivation and the use of drip irrigation. In addition, a farmer field training school was established to provide demonstration sites and introduce new technology and practices. In **Ecuador**, a programme was established to cultivate a locally adapted organic cacao variety and to establish a producers cooperative to provide technical and marketing assistance to cacao growers. On the **Indonesian** island of Semaui, organic demonstration plots have been established for a variety of crops including bananas, eggplants, tomatoes, watermelons, sorghum, and red onions. In **Nepal**, hillsides formerly used for slash-and-burn agriculture have been converted to agroforestry with the planting of broomgrass, bananas, and lemons, and the application of erosion control measures.



**BETTER GRAZING PRACTICES.** In **Costa Rica**, soil degradation problems associated with cattle grazing have been addressed by introducing zero-grazing systems using paddocks, dedicated fodder fields, and fodder banks to provide high-quality feed during the dry season. Similarly, pasture conditions in **Ethiopia's** Gilgel Gibe Catchment area have improved through better cattle management, including keeping animals in enclosures and introducing the cut-and-carry feeding scheme, which has enabled women to engage in cattle fattening and allowed vegetation to recuperate. In **Kyrgyzstan**, some farmers are producing spirulina in a special solar-powered bioreactor for use as a high-calorie cattle food to relieve grazing pressure on overstocked pastures.

**SUSTAINABLE FISHERIES MANAGEMENT.** In **El Salvador**, a combination of training in sustainable fishing practices, creation of management plans for local fisheries, and establishment of shellfish farming, has greatly improved fisheries management in Jiquilisco Bay and increased production, even while reducing impacts. In **Ecuador**, small aquaculture ponds stocked with indigenous fish species have replaced the former fish pens in the Napo River stocked with exotic species that frequently escaped and endangered native river species. Likewise, in **Malawi**, new aquaculture ponds have helped relieve fishing pressure in Lake **Malawi**, while a new design for fish drying racks uses concrete instead of wood, reducing pressure to cut trees near the lake. In **Niger's** Lake Tabalak, locally appropriate training and equipment have already allowed 35 percent of active fishers to adopt sustainable fishing practices that reduce the harvesting of juvenile fish, allowing fish populations to rebound.







## STRATEGIC GOAL C: IMPROVE THE STATUS OF BIODIVERSITY BY SAFEGUARDING ECOSYSTEMS, SPECIES AND GENETIC DIVERSITY

Through the establishment of indigenous and community conserved areas (ICCAs), participation in co-management of state protected areas or buffer zones, and the restoration of wildlife habitat, communities involved in COMDEKS directly contribute to the preservation of local biodiversity. In addition, traditional or heritage crop varieties and livestock breeds still play a vital part in local agriculture in most target landscapes. Efforts to safeguard these local varieties and breeds, revitalize their local economic contribution, and document the traditional knowledge associated with their culture is a frequent focus of COMDEKS projects. Across all target landscapes, COMDEKS contributed to the restoration and protection of over 450 plant species and crop varieties, as well as over 150 animal species.

# TARGET 11

TERRESTRIAL AND INLAND WATERS, AND COASTAL AND MARINE AREAS ARE CONSERVED THROUGH PROTECTED AREAS AND INTEGRATED INTO THE WIDER LANDSCAPES AND SEASCAPES.



**MARINE PROTECTED AREAS, RESTORED MANGROVE FORESTS, AND PROTECTED WATERSHEDS ARE IMPORTANT ELEMENTS OF RESILIENT SEASCAPES AND LANDSCAPES.** While significant progress has been made in expanding the national networks of Protected Areas in the last few decades, most biodiversity remains outside of formal PA systems in production landscapes involving agriculture, forestry, and other land and water uses. The fate of this biodiversity, and of the vital ecosystem services it sustains, will depend on the sound management of these landscapes and seascapes. In most COMDEKS target landscapes, communities have specifically incorporated the conservation of terrestrial and inland waters, or coastal and marine areas into the core objectives of their participatory landscape strategies, including **Ecuador, El Salvador, Fiji, Indonesia, Kyrgyzstan, Malawi, Niger, and Turkey.**

restoration. In Batuinan village, for example, community members have declared a 3-ha water catchment area as a conservation zone to raise the local water table.

In **Fiji**, marine protected areas have been established and mangrove species were replanted at the foreshore, protecting the shoreline from coastal erosion while providing nursery grounds for fish and invertebrates, replenishing their populations. In **Malawi**, about 80 ha of indigenous forests have been protected through community-level by-laws and twelve Village Forest Areas have been created to strengthen local governance over forest resources and conserve local biodiversity.



In the Napo River watershed in **Ecuador**, the supported landscape approach aims to reestablish ecological connectivity of ecosystems by promoting sustainable production activities and fostering community partnerships, based on the concept of *Biocorridors for Living Well*. In Semau Island, **Indonesia**, environmental forums and other community institutions have been formed to establish and enforce environmental agreements by local clan leaders, village governments, and community members. These agreements cover activities such as watershed protection, seaweed farming and mangrove



## PROTECTING COASTAL PARKS AND RESERVES THROUGH COMMUNITY ACTION ON TURKEY'S DATÇA-BOZBURUN PENINSULA

Recognized as a Key Biodiversity Area representing one of the most pristine Mediterranean lowland forest and coastal landscapes, the Datça-Bozburun peninsula located in Mugla Province was selected as a target landscape for community projects in Turkey. Although 90 percent of the peninsula is protected under natural parks, wildlife reserves, and no-fishing zones, increasing tourism and residential development has resulted in significant habitat destruction in local land and marine ecosystems. A number of COMDEKS-supported projects have put great effort into protecting marine biodiversity by tackling negative impacts from various angles. Activities included promoting a land-based control mechanism to reduce illegal fishing, including positive economic incentives for responsible fishing, creating awareness among local fishing communities about unsustainable fishing practices, and empowering fisherwomen and their daughters to improve their livelihoods using traditional knowledge.

**Policy influence and enforcement.** By creating a network of 'no-take zones,' the Mediterranean Conservation Society (MCS), a COMDEKS and SGP grantee in Turkey, has enabled fishing communities from the southern Mediterranean coast of Turkey to become leaders in local marine biodiversity conservation. Another COMDEKS grantee, the Underwater Research Society (URS), has helped implement national regulations for both amateur and commercial fishing using a five-pronged approach that includes quotas and fishing seasons, and restrictions on fishing areas, technologies, and species. These activities have helped reduce the sale of illegally caught fish in local markets and have also resulted in concrete policy change in the form of a ban on fishing the locally endangered dusky grouper. To ensure the long-term viability of the local fishing industry, MCS is communicating the value of sustainable fishing techniques and has been cooperating with regional and national authorities and scientific studies to monitor ecosystem health. Recognizing the effectiveness of these efforts, MCS received the Equator Prize in 2014 and the Whitley Award in 2013.

**Women's empowerment and networking.** Increasing the visibility of local fisherwomen, who are vital to the local fish trade, and improving their livelihoods through capacity building and access to finance, has contributed to the successes in conserving fish biodiversity in the region. Networking within the local fishery cooperatives has also created a common vision and increased knowledge exchange with fisherwomen in other regions. In addition, local fisherwomen have begun to participate actively in meetings of marine experts, local cooperatives, and local governing bodies.





# TARGET 12

THE EXTINCTION OF KNOWN THREATENED SPECIES HAS BEEN PREVENTED AND THEIR CONSERVATION STATUS HAS BEEN IMPROVED AND SUSTAINED.



## HABITAT IMPROVEMENTS AND DIRECT CONSERVATION

**EFFORTS BENEFIT THREATENED SPECIES.** While conservation of threatened species is seldom the exclusive focus of landscape projects, it is often an important benefit through habitat restoration and reduced forest or fisheries pressure. In **Slovakia's** low-lying Laborec-Uh region, restoration of the natural water regime in area pastures led to a resumption of seasonal flooding in a region once characterized by extensive wetlands. This resulted in greatly improved waterfowl habitat, particularly in a 15-ha parcel used by thousands of water birds during spring and autumn migrations. This parcel is part of a Protected Bird Area designated under Natura 2000, a pan-European network of protected areas.

Around **Kyrgyzstan's** Lake Issyk-Kul, several projects had more direct impacts on species conservation. In the village of Kuturgu, a community wildlife reserve was created to preserve the habitat of the threatened Central Asian Frog (*Rana asiatica*), while near Balykchy Bay, bio-remediation of oil-contaminated soils was used to restore lakeside habitat of the whooper swan (*Cygnus cygnus*) and other shore birds. To help protect the Snow Leopard, an IUCN Red List species, one COMDEKS-supported project provided technical and expert support to establish a Snow Leopard Secretariat to ensure conservation cooperation among governments in 12 countries in the Snow Leopard's range.



# TARGET 13

THE GENETIC DIVERSITY OF CULTIVATED PLANTS AND FARMED AND DOMESTICATED ANIMALS AND OF WILD RELATIVES, INCLUDING OTHER SOCIO-ECONOMICALLY AS WELL AS CULTURALLY VALUABLE SPECIES, IS MAINTAINED, AND STRATEGIES HAVE BEEN DEVELOPED AND IMPLEMENTED FOR MINIMIZING GENETIC EROSION AND SAFEGUARDING THEIR GENETIC DIVERSITY.



## SAFEGUARDING LOCAL CROPS AND LIVESTOCK BREEDS

**IS A POTENT RURAL RESILIENCE STRATEGY.** Communities in rural production landscapes often draw from rich agricultural traditions using locally adapted crop varieties and livestock breeds. Maintaining these traditions is a source of cultural vitality and agricultural and economic resilience. Thus, efforts to preserve local varieties and breeds, and document the knowledge associated with their use, is incorporated into many

projects. In **El Salvador's** Bajo Lempa region, reviving

traditional crops such as creole corn and local

varieties of pineapple, pumpkin, and cacao is one way of diversifying

local farm production and reintroducing traditional organic

methods. In **Bhutan's** Gamri watershed, construction

of stone gabions and

causeways has helped

protect rice paddies planted with the valuable local varieties Sung Sung and Sobrang from flash floods and landslides. These local rice strains are prized for their aroma and taste and command a premium price.

On **Turkey's** Datça-Bozburun peninsula, the most economically and culturally important traditional crop is the distinctive Datça almond. Project work here has concentrated on increasing the economic viability of the traditional crop by adding value through organic certification, improving production efficiency with a shelling machine, and improving marketing and labeling to compete with cheaper imported almonds. In **Kyrgyzstan**, application of drip irrigation to endemic pears, cherries, apples, and apricots has been instrumental in efforts to preserve these examples of local agrobiodiversity and make them economically attractive again.



## STRATEGIC GOAL D: REDUCE THE DIRECT PRESSURES ON BIODIVERSITY AND PROMOTE SUSTAINABLE USE

Restoration of ecosystem services that have been degraded over time is of great interest to many local communities in production landscapes as a way to increase food and water security, enhance livelihoods, and decrease natural disaster risks. For this reason, ecosystem restoration—through reforestation, grassland and wetland rehabilitation, establishment of greenbelts, mangrove replanting, and other restoration work—is a prominent feature of all COMDEKS project portfolios.



### TARGET 14

ECOSYSTEMS THAT PROVIDE ESSENTIAL SERVICES, INCLUDING SERVICES RELATED TO WATER, AND CONTRIBUTE TO HEALTH, LIVELIHOODS AND WELL-BEING, ARE RESTORED AND SAFEGUARDED, TAKING INTO ACCOUNT THE NEEDS OF WOMEN, INDIGENOUS AND LOCAL COMMUNITIES, AND THE POOR AND VULNERABLE.

#### RESTORING VITAL ECOSYSTEM SERVICES IS A LOCAL PRIORITY.

Rural communities are often acutely aware of their dependence on local ecosystem services and anxious to join in efforts to rehabilitate and protect them. In the arid Bogo region of **Cameroon**, rehabilitation and improvement of scarce water sources vital to the agriculture and domestic water supply of five villages were the focus of several landscape projects. Projects typically involved cleaning local ponds and improving water access and distribution, coupled with water conservation measures and revegetation of areas surrounding water sources to improve recharge and restore wetlands. Women are prominent members of the water management committee formed to maintain the water system.

In the island communities of Semau, **Indonesia**, fresh water sources are similarly the focus of project activities. In one area, communities established a water conservation zone that integrates tree planting with increased water access and improved irrigation systems to reduce demand. In another village, residents conserved a 3-ha catchment area for water recharge. In this area, land owners agreed not to lease the land for other purposes and community members agreed to limit the number of wells in the surrounding

area to raise the water table. Village water committees have also been formed in participating villages to tackle ongoing water issues.

#### WOMEN PLAY A PROMINENT ROLE IN COMDEKS PROJECT DESIGN AND PROJECT ACTIVITIES.

One of COMDEKS' primary goals is to create equal opportunities for both genders to participate in the process of planning, implementing, and monitoring community landscape projects. For this reason, all COMDEKS landscape strategies include gender-sensitive criteria and indicators so that projects are designed with women's empowerment and participation in mind.

In **Niger's** arid Lake Tabalak region, COMDEKS restoration and livelihood projects elicited high participation from vulnerable groups such as women and youth. Women accounted for nearly 70 percent of the sand dune restoration work and nursery production of tree seedlings for land rehabilitation. They were also actively involved in community management committees and established a revolving fund used by women fishmongers to purchase fish-frying equipment—a complement to the enhanced fish catch resulting from newly instituted sustainable fishing practices in the lake.





A COMDEKS project in **Cameroon** enabled 120 women to build and run a facility to manufacture biofuels to reduce local wood fuel use. Local women also manufactured energy-efficient cook stoves to use the new biofuel supply. In **Ghana**, a farmer training school supported by COMDEKS introduced 800 small-scale women farmers to land reclamation techniques, which they then used to rehabilitate 220 ha of degraded land with indigenous plants, and then to establish a natural regeneration area of 1000 ha to restore local biodiversity.

Activities such as these, where women take the lead, have often resulted in profound changes in the perception of women and

their role in local environmental management in the participating communities over the COMDEKS grant cycle. In some instances, these changes in gender attitudes were reflected in local policies. In **Fiji**, a workshop on gender and climate change—the first of its kind in the area—was attended by men and women from the villages in the target landscape. The workshop raised awareness of women’s roles and contributions not just to natural resource management, but to community development initiatives in general. One of the outcomes of the workshop was the formulation of village-level action plans for gender inclusion in local development plans and projects.



## TARGET 15

ECOSYSTEM RESILIENCE AND THE CONTRIBUTION OF BIODIVERSITY TO CARBON STOCKS HAVE BEEN ENHANCED, THEREBY CONTRIBUTING TO CLIMATE CHANGE MITIGATION AND ADAPTATION AND TO COMBATING DESERTIFICATION.



**STRENGTHENING ECOSYSTEM RESILIENCE PROTECTS PLANT AND ANIMAL BIODIVERSITY.** Landscape Strategies in all participating countries have placed an emphasis on reforestation activities and restoring degraded land, including the establishment of tree nurseries, support of tree-planting initiatives and community gardens, and protection of wetlands and other ecosystems critical to carbon sequestration. These are also central aspects of strengthening ecosystem resilience and protecting plant and animal biodiversity. Supported projects target diverse landscapes that are the repository of much of the world’s crop genetic and biological diversity, emphasizing a combination of restoration work and land management practices designed to progressively rebuild landscape health. Since local land use plays a significant role in climate change mitigation through its effects on carbon storage in soils and biomass, COMDEKS projects have also accrued many climate benefits, and have fostered more climate-resilient farm and forest practices.

In **Ethiopia**, for example, community projects have planted about 250,000 multi-purpose tree and shrub seedlings. About 1.5 million seedlings were planted in **Ghana**. Similarly, almost 10,000 fruit and agroforestry tree seedlings were planted in **Malawi**, and over 22,000 trees, bamboo shoots, and Napier grass clumps were planted in **Bhutan**. Farmers, women, and youths were trained in

tree nursery management in numerous partner countries including **Indonesia, Ghana, Namibia, and Niger**, and a tree nursery for endemic tree species was established in **Kyrgyzstan**. In landscapes that are already experiencing lower agricultural yields due to increased climate variability, projects have introduced more climate-resistant crop varieties, such as beans, maize, okra, red onions, and sorghum in **Cameroon**.



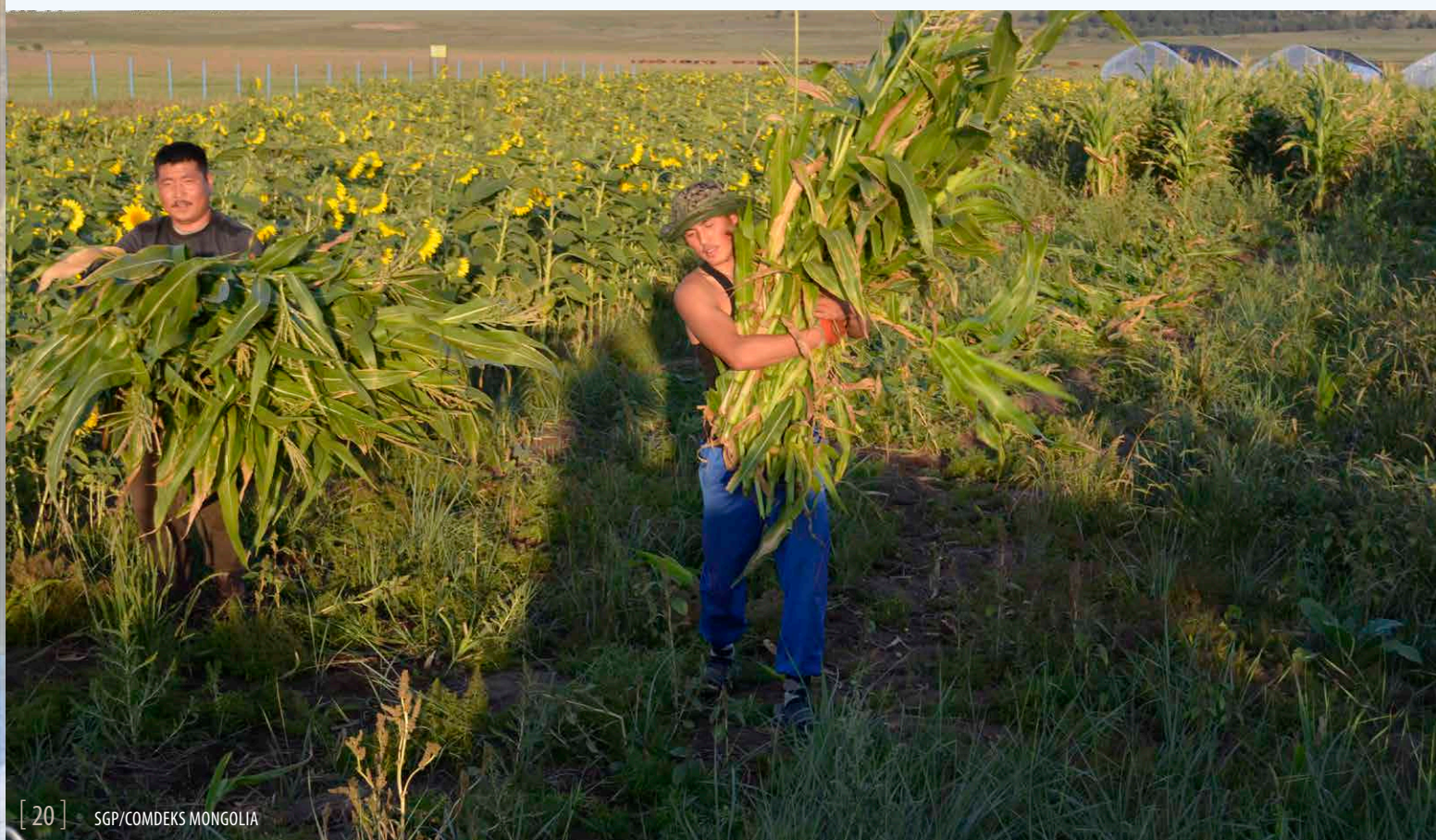


## REDUCING LAND DEGRADATION AND PROMOTING VEGETATION RECOVERY IN MONGOLIA

In the Central Selenge region in Mongolia, landscape activities have applied an integrated approach of developing production landscapes, green zones and community gardens to increase community resilience, reduce overgrazing and combat land degradation. Overall, about 173,000 ha of degraded land have been restored and protected, with as much as 86,500 ha now under sustainable management. About 10 km of the banks of the Kharaa River were rehabilitated in cooperation with local communities by establishing protection zones, restoring pasture land, and planting fast-growing trees. Moreover, communities are now protecting local pine forests from illegal logging in exchange for support of alternative livelihood opportunities, including fruit and vegetable cultivation in greenhouses. Local communities now produce more than 300,000 common sea buckthorn tree seedlings per year, which are worth about USD 300,000 and provide a vital source of nutrition, reducing communities' dependence on forest land.

In addition, pressure on grazing land has been reduced through better cattle management, including keeping animals in shelters and feeding them high-energy green fodders and silage during the cool season, sustaining milk production levels also during winter. At the same time, Selenge cattle farmers have begun composting their animal dung to produce nutrient-rich biofertilizers that can substitute for chemical fertilizers. Community seed-collection schemes have been implemented to stock community seed banks for the conservation of native plant species and diversification of farming practices. Project activities have helped to conserve and protect 64 local plant species and 13 animal species, and communities have continued to expand their efforts beyond the original project boundaries.

To ensure the sustainability of COMDEKS-supported initiatives and facilitate replication and upscaling in other regions in Mongolia, the Green Wave Satoyama Initiative Promotion Centre was set up in Tunkhel to continue support for partner communities in Mongolia after the end of the COMDEKS Programme. The 20 implementing partner organizations also founded the Mongol Satoyama Group, which has the potential to develop into a powerful regional institution to further lead awareness campaigns and activities promoting Satoyama principles in the region and across the country.





## STRATEGIC GOAL E: ENHANCE IMPLEMENTATION THROUGH PARTICIPATORY PLANNING, KNOWLEDGE MANAGEMENT AND CAPACITY BUILDING

COMDEKS projects are built around a participatory process that empowers local communities not only to carry out landscape projects, but to assume a larger role in sustainable landscape governance. The participatory landscape planning process is also designed to elicit indigenous and local knowledge of biodiversity and traditional sustainable practices, and incorporate them into project design. Integrating traditional knowledge with innovative sustainable practices is used to improve livelihoods, revitalize local culture, and conserve biodiversity.



## TARGET 17

EACH PARTY HAS DEVELOPED AND IS IMPLEMENTING AN EFFECTIVE, PARTICIPATORY, AND UPDATED NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN.



### NEW LANDSCAPE GOVERNANCE MODELS EMPOWER COMMUNITIES TO PARTICIPATE IN SUSTAINABLE LANDSCAPE MANAGEMENT.

Improved landscape governance is an essential element of any strategy to manage and conserve biodiversity in rural landscapes. If communities are to contribute to and benefit from national biodiversity plans, they must be part of the landscape planning and decision making process. COMDEKS projects have encouraged the formation of multistakeholder groups that include community representatives, CBOs, and NGOs alongside local government officials and technical staff from government ministries. In many cases, these new groups are giving local people a greater voice in local land use decisions and building a corps of landscape champions that can advocate for better landscape governance.

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.

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.







# TARGET 18

TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES OF INDIGENOUS AND LOCAL COMMUNITIES RELEVANT FOR THE CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY, AND THEIR CUSTOMARY USE, ARE RESPECTED AND REFLECTED IN THE IMPLEMENTATION OF THE CBD.



**INTEGRATING TRADITIONAL KNOWLEDGE WITH INNOVATIVE SUSTAINABLE PRACTICES IMPROVES LIVELIHOODS WHILE PROTECTING BIODIVERSITY.** In many rural communities, traditional farming practices and resource management systems are often biodiversity-friendly—the result of hundreds, if not thousands, of years of production practice based on indigenous knowledge. Unfortunately, these traditional systems have often come under stress as communities are influenced by external pressures and opportunities and local economies evolve. The result has been an increase in the degradation of landscapes and ecosystem processes, exacerbated by a loss of biodiversity and increasing climate change. Integrating traditional knowledge of local and indigenous communities with innovative sustainable practices to improve livelihoods while protecting biodiversity is at the core of the COMDEKS approach, which seeks to reverse this trend by supporting community organizations to revitalize their landscapes through participatory land use planning that builds their capacities for governance and adaptive management.

**COMMUNITY GROUPS ARE VITAL SOURCES OF INNOVATION AND ADAPTATION.** They are encouraged to adjust project activities to accommodate local conditions and make use of indigenous knowledge. Innovation in rural landscapes often involves adapting outside technologies and resource management practices using traditional knowledge, or reconfiguring traditional practices to handle new challenges and serve new markets. The result is often a hybrid between traditional and modern practices. The COMDEKS approach is predicated on the belief that encouraging such local innovation is part of the empowerment process and central to resilience in the face of landscape change.

In the Natewa-Tunuloa peninsula in **Fiji**, for example, landscape activities have revived traditional taro cultivation to improve local nutrition, melding local indigenous knowledge with modern concepts and technology. In the Bogo landscape in **Cameroon**, inclusion of traditional cultural knowledge and experiences has been essential to create a sense of local ownership of projects for the preservation of biodiversity and the spread of sustainable production techniques. For example, soil and water conservation measures that incorporate traditional knowledge of community elders have been effective as a landscape restoration approach.







## REVIVING TRADITIONAL AGRICULTURE AND INDIGENOUS KNOWLEDGE OF BIODIVERSITY IN ECUADOR

The Napo River watershed, the COMDEKS target landscape in Ecuador, is a zone rich in biodiversity and ecosystem services. Its inhabitants retain many traditional methods for sustainable resource management and ancestral knowledge of biodiversity. One of the unique forms of agricultural production and subsistence economy that have arisen from indigenous knowledge of the Napo River watershed is known as the “Kichwa chakra system,” in which a biodiverse mixture of local crops are grown together in a single field.

This traditional planting system had been largely displaced in many communities by less sustainable single-crop systems. In the chakras, which are mainly the domain of indigenous women, short-cycle crops such as corn, peanuts, naranjilla, yucca and rice are grown together. Perennial crops such as coffee, cocoa and bananas are grown in terraces from 440-1,250 m elevation. These are the most important crops because they generate income for growers; these varieties are grown in all seasons and there are seasonal harvests, which are sold on the local market.

The landscape approach in Ecuador has made the revival and expansion of the use of the Kichwa chakra system a central theme in its work to encourage sustainable agriculture and improve local food security. Reviving and expanding this chakra system has resulted in restoration of indigenous knowledge, income generation, particularly for women and indigenous communities, and conservation of the tropical forest. Communities contribute to strengthening the sustainability of production systems through their agroecological and agroforestry practices in the chakras, farming of native fish, and development of products with a local identity such as cocoa and guayusa, which also generate family income.

Resilience in socio-ecological production landscapes in the Napo River watershed is evident when communities disseminate this ancestral knowledge and strengthen their capacities to implement sustainable activities through local associations and federations that link producers across the landscape. The COMDEKS projects supported under the landscape approach have expanded the area under the chakra system by 152 ha, involving 226 families from 26 communities.







# CONCLUSION

Local communities are the residents, custodians, and everyday users of socio-ecological production landscapes and seascapes. They are primary agents of landscape change, and can be prime movers in protecting local biodiversity, restoring natural habitats, and building landscape resilience. As COMDEKS projects show, combining community-based biodiversity conservation and sustainable landscape management practices with appropriate livelihood-improving activities is key to strengthening landscape resilience. It is a potent strategy to improve community wellbeing and to help achieve the Aichi Biodiversity Targets and “societies in harmony with nature,” the vision of the Satoyama Initiative. Indeed, the principles of the Satoyama Initiative have seen their full expression in the projects carried out under COMDEKS.

COMDEKS employs a community-led, participatory landscape approach that has helped to create a common vision and sense of ownership within local and indigenous communities and civil society organizations. Communities, policymakers, and other stakeholders have recognized the effectiveness of collective action towards a resilient landscape, and the value of exchanging knowledge and exploring synergies among different community efforts and stakeholders. Communities also have recognized their capacity and desire to take a more active role in landscape governance as a peer in multistakeholder governance partnerships and platforms.

At the same time, COMDEKS projects have earned the trust and support of government institutions and local authorities for community-led efforts to improve landscape resilience. Through its emphasis on community consultation and multistakeholder partnerships, COMDEKS has shown that its approach can reliably deliver local environment and development benefits. Such on-the-ground results showcase the important contribution of integrated landscape management approaches to subnational, national, and global biodiversity and development goals, including the Strategic Plan for Biodiversity 2011-20 with its Aichi Biodiversity Targets.

Beyond its applicability within UNDP, the COMDEKS experience can also serve as a model to other donors of the advantages of working at a landscape level. It offers a flexible mechanism to engage with communities and governments over an extended timeframe to affect landscape-level processes, improve governance and natural resource management, influence land use planning to protect ecosystems and natural habitats, and scale up development gains as called for in the Sustainable Development Goals—all while conserving biodiversity.







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](http://www.satoyama-initiative.org)



Japan Biodiversity Fund

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](http://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](http://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](http://www.sgp.undp.org)



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