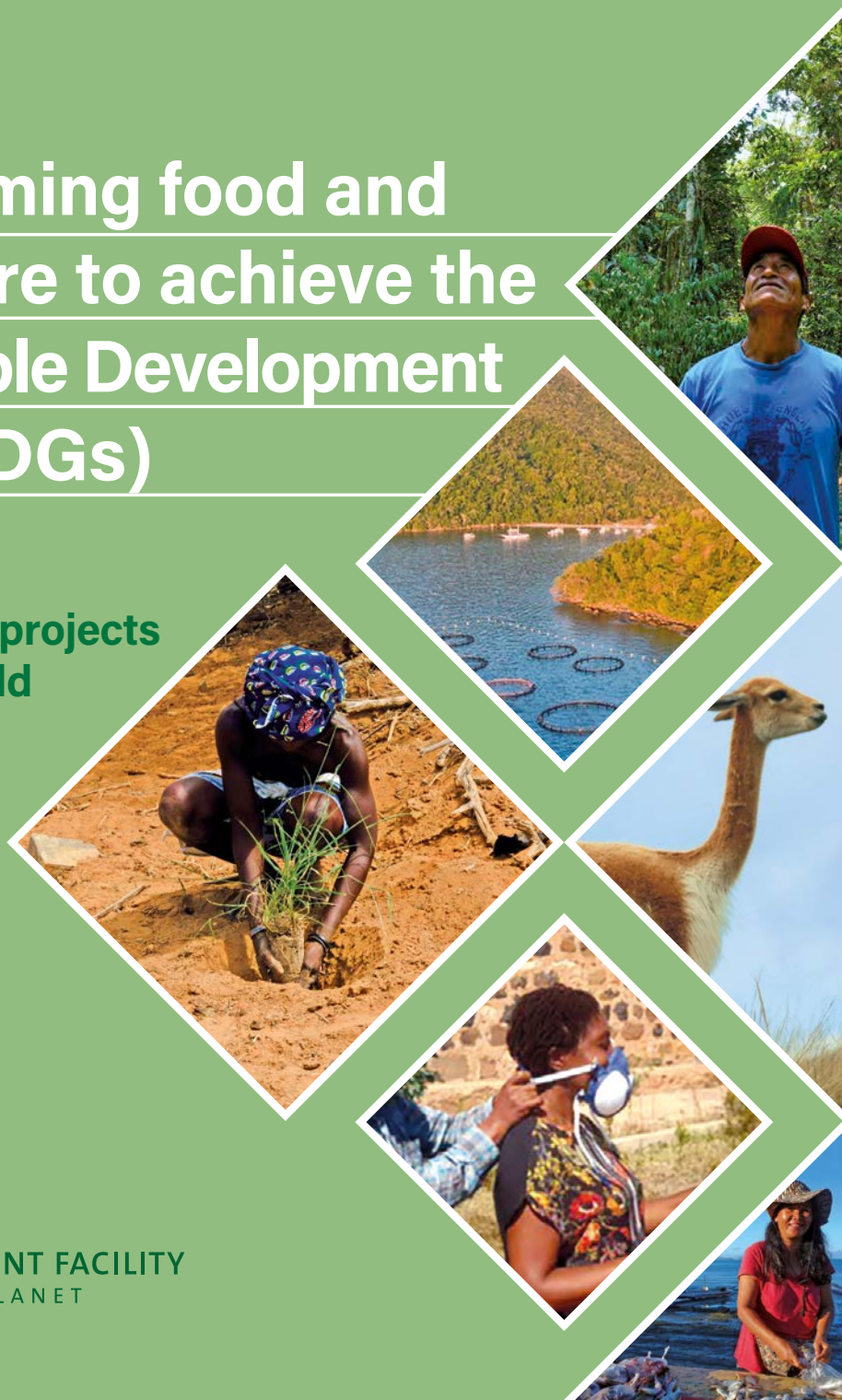
Food and Agriculture Organization of the United Nations

Transforming food and agriculture to achieve the Sustainable Development Goals (SDGs)

Good practices from FAO-GEF projects around the world



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Transforming food and agriculture to achieve the Sustainable Development Goals (SDGs)

Good practices from FAO–GEF projects around the world

By

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and

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Food and Agriculture Organization of the United Nations
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This publication is based on the various FAO–GEF projects executed between 2011–2019.

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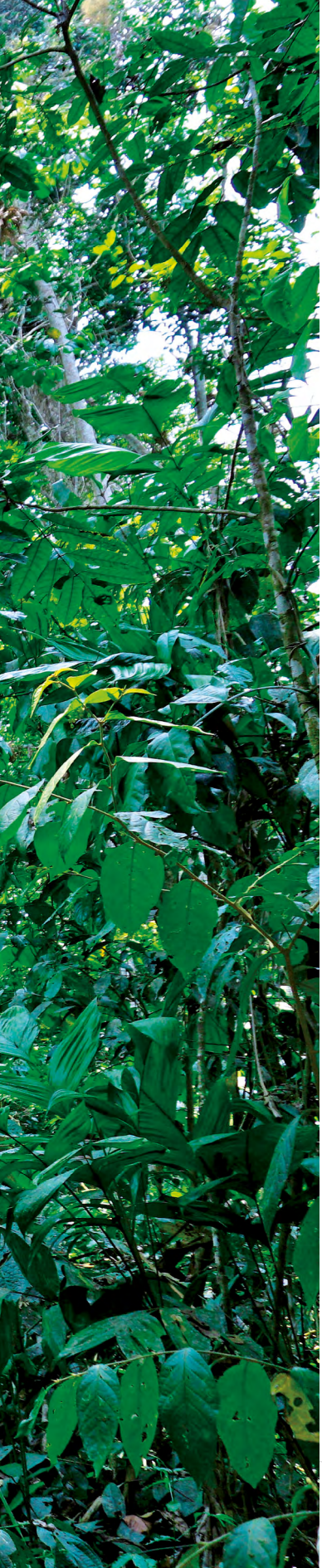
A particular mention to Matthew Stevens for his assistance in developing the publication and to Anuradha Bhandari and Lucia Moro for their excellent support in design and layout of the publication.

Abbreviations and acronyms

CIFOR	Center for International Forest Research
DLDD	Desertification, land degradation and drought
DS-SLM	Decision support for sustainable land management
EAFM	Ecosystem approach to fisheries management
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer field school
FMWMP	Management plans for fragile micro-watersheds
GCS-Tenure	Global comparative study on tenure
GDP	Gross domestic product
GEF	Global Environment Facility
GIS	Geographic information system
GreeNTD	Green negotiated territorial development framework
IPM	Integrated pest management
Kagera TAMP	Transboundary agro-ecosystem management programme for the Kagera River Basin
MINEPDED	Ministry of the Environment, Nature Protection and Sustainable Development of Cameroon
MINFOF	Ministry of Forests and Wildlife of Cameroon
NGO	Non-governmental organization
POPs	Persistent organic pollutants
PPA	Participative prospective analysis
PROMAREN	Proyecto manejo de los recursos naturales de Chimborazo (Ecuador)
REBYC-II-CTI	Strategies for fisheries bycatch management project in the Coral Triangle
RETESA	Land rehabilitation and rangelands management in smallholders agro-pastoral production systems in South Western Angola
SDGs	Sustainable Development Goals
SFA	Sustainable food and agriculture
SLaM	Sustainable land and agro-ecosystem management
SLM	Sustainable land management
WOCAT	World Overview of Conservation Approaches and Technologies



Executive summary

Sustainable agriculture and food systems have a central role in achieving the 2030 Agenda and the Sustainable Development Goals (SDGs). Important progress has been made in this aspect, but the negative impacts of degradation of natural resources, loss of biodiversity, climate change, and the rise of poverty and hunger are posing existential threats to people and the planet. A fundamental, knowledge-intensive, transformational change is required in order to develop an integrated approach to productivity and sustainability and drive positive change through effective policies and initiatives.

Good practices that have been tested in the field and proven to facilitate the transition to more productive and sustainable agriculture, forestry and fisheries can make strong practical contributions to overcoming the challenges the global community is facing today. In this regard, FAO has been partnering with the Global Environment Facility (GEF), national governments and a range of local stakeholders at the international, national and local level to drive sustainable development by safeguarding biodiversity and natural resources and by reducing the negative impact of food production on the environment. This knowledge product is a compilation of good practices identified from the ex-post analysis of eleven FAO–GEF partnership projects. The projects were implemented across the world from 2011 to 2019 and are representative of the first generation of FAO–GEF projects. The broad objective of the FAO–GEF partnership is to help countries transform their food systems to improve land conditions, conserve biodiversity, and build their resilience to impacts of climate change while providing a healthy and nutritious diet for everyone. This partnership addresses a diverse range of topics, such as land, watershed and ecosystem management, biodiversity conservation, climate change mitigation and adaptation, disposal of agrochemicals, and marine and fisheries resource management.

These good practices are in line with several actions detailed in ***Transforming food and agriculture to achieve the SDGs: 20 interconnected actions to guide decision-makers (20 Actions Guidelines)***. Like the *20 Actions Guidelines*, these good practices aim to support decision-makers and stakeholders in their efforts to mainstream sustainable food and agriculture to drive progress towards the SDGs. Their application across these projects also demonstrates that the guidelines can be successfully translated on the ground.

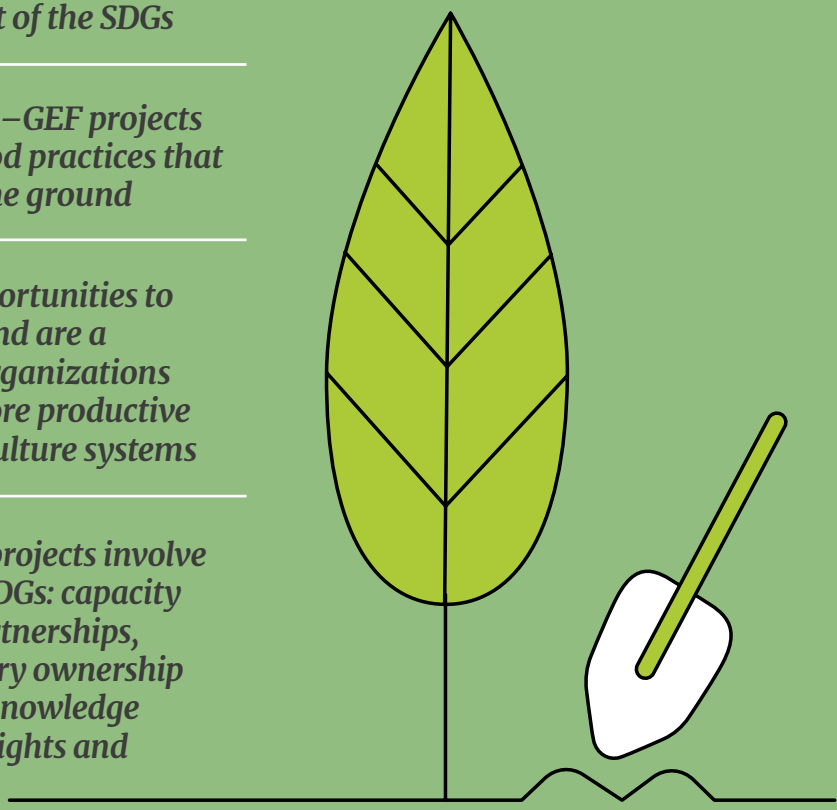
Good practices from FAO-GEF projects are important for achieving the Sustainable Development Goals (SDGs)

- *With the 2030 Agenda deadline looming, adopting proven good practices can improve project outcomes, spur sustainable progress, and accelerate the achievement of the SDGs*

- *The variety and breadth of FAO–GEF projects make them ideal sources of good practices that have been proven to work on the ground*

- *Good practices offer crucial opportunities to replicate successful outcomes and are a key tool for practitioners and organizations to facilitate the transition to more productive and sustainable food and agriculture systems*

- *Good practices from FAO–GEF projects involve key elements in achieving the SDGs: capacity building, multi-stakeholder partnerships, community engagement, country ownership of projects and initiatives, and knowledge -sharing supported by data, insights and real-world experiences*



Introduction

The FAO–GEF partnership is widely recognized as a leader in addressing the critical nexus between environment and agriculture. The partnership and its projects have been instrumental in supporting countries in their efforts to achieve their national development objectives and the Sustainable Development Goals (SDGs).

This publication presents a set of case studies from eleven completed GEF-funded projects implemented by FAO and governments that aimed to conserve and enhance natural resources and ecosystems to drive the sustainability of food systems around the world. These projects were selected to be representative of the five GEF focal areas (biodiversity, land degradation, chemicals, climate change and international waters) and the five geographical regions. They addressed a range of issues in the agriculture, forestry and fisheries sectors and delivered positive results in the multiple areas that are essential in food production systems, such as biodiversity conservation, land and watershed management, adaptation to climate change, disposal of obsolete pesticides, management of bycatch and marine ecosystems, and improvement of livelihoods. Taken together, they strengthened FAO efforts towards building a common vision for sustainable agriculture by increasing productivity while protecting natural resources, enhancing the resilience of communities, and fostering inclusive growth.

This publication identifies and describes good practices applied by the projects, which contributed to positive outcomes. These practices were a combination of contemporary approaches and time-tested methods adapted to tackle the challenges at hand. Some projects adapted local ancestral practices to safeguard natural resources, while others pioneered innovative techniques that leveraged newer methodologies or technologies. The good practices detailed in this publication represent an array of approaches, methods and innovations that delivered successful outcomes and can be replicated in future interventions.

The adoption of good practices for policy development, governance and technical advances can accelerate the transition to sustainable food and agriculture systems.

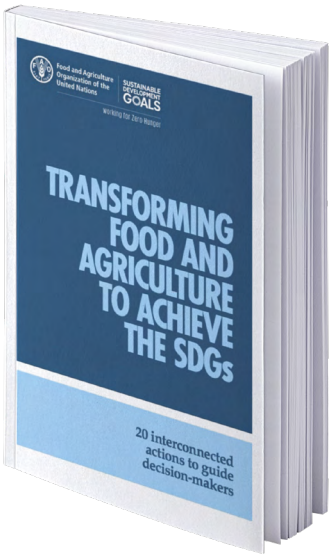
With the 2030 Agenda deadline only a decade away, it is imperative to step-up efforts towards the achievement of the SDGs.

The knowledge gained is beneficial for all the stakeholders involved in shaping agriculture and food systems, including the national and local governments, academia and research institutions, civil society and community-level and indigenous stakeholders, such as pastoralists, foresters, fisher-folk.

The FAO–GEF projects and the good practices they adopted exemplify the actions detailed in the publication *Transforming food and agriculture to achieve the SDGs: 20 interconnected actions to guide decision-makers*, also known as the 20 Actions Guidelines. These guidelines are a set of result-oriented, interconnected, practical actions that can support national governments on the ground.

Together with associated tools, they provide decision-makers and stakeholders an integrated pathway to balance the social, economic and environmental dimensions of food and agriculture. All projects seeking to drive progress in these areas can benefit from the guidelines and accelerate the achievement of the SDGs.

Furthermore, the case studies emphasise the strategic importance of the FAO's partnership with GEF in view of meeting the FAO Strategic Objective 2: 'Making Agriculture, Forestry and Fisheries More Productive and Sustainable'. They also highlight the ongoing efforts of governments and stakeholders in dealing with complex, interlinked development challenges.



FAO and the GEF: partnering for sustainable agriculture and the environment

FAO helps countries to access GEF financing to address critical challenges at the nexus between agriculture and the environment, including: mainstreaming biodiversity into agriculture, forestry, and fisheries; improving land management and reducing land degradation; mitigating and adapting to climate change; managing transboundary water resources and eliminating the use of harmful chemicals.

Increasingly countries are looking to FAO for support for food system transformation and landscape restoration. As of April 2020, there are 190 active FAO-GEF projects in 101 countries. The cumulative portfolio to date is valued at USD 853 million. More than 26 percent of the portfolio (USD 225 million) is invested in biodiversity, while 22 percent of the portfolio (USD 186 million) focuses on climate change adaptation.

Established in 1991, the GEF works to address the world's most challenging environmental issues related to biodiversity, climate change, land degradation, chemicals and international waters.

The GEF partnership currently consists of 18 agencies and 183 countries, and it has provided over USD 18.1 billion in grants and mobilized an additional USD 94.2 billion in co-financing for more than 4 500 projects in 170 countries.

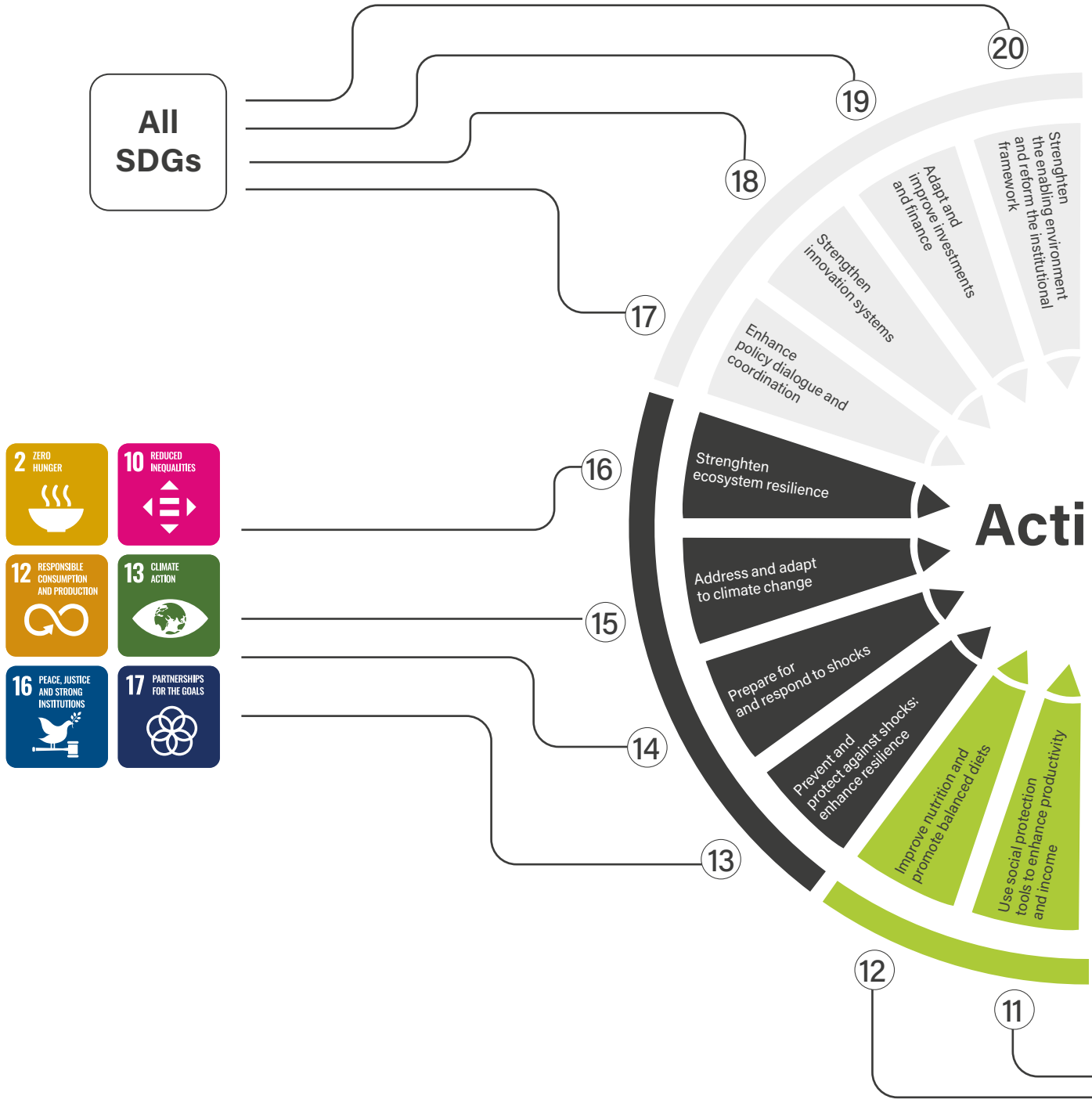
190 PROJECTS
ACTIVELY ENGAGED

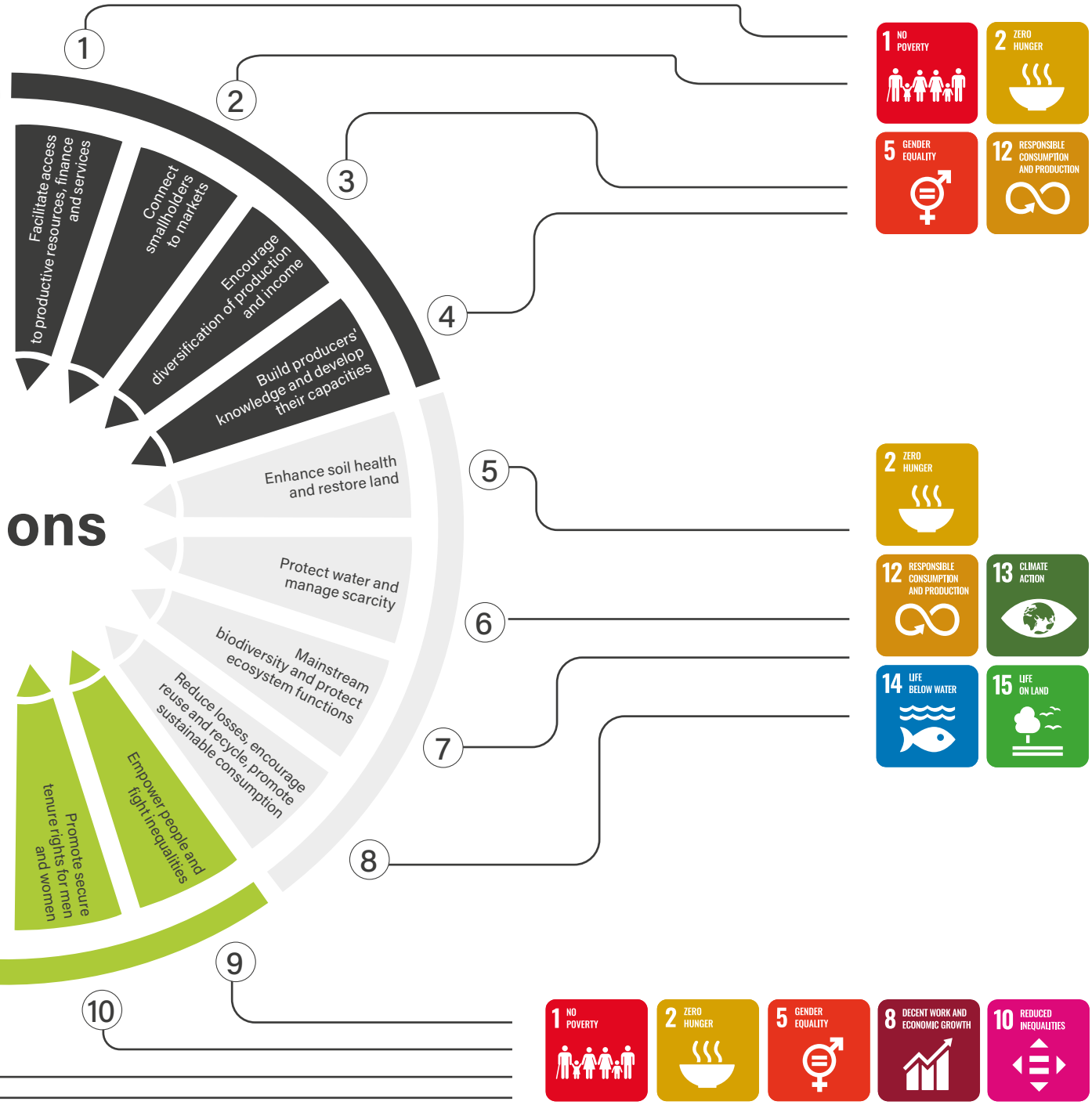
101 COUNTRIES

853 MILLION USD
CUMULATIVE PORTFOLIO

- Sustainable forest management **6%**
- Impact programs **5%**
- Chemicals and persistent organic pollutants **5%**
- Biodiversity **26%**
- Climate change adaption **22%**
- Land degradation **18%**
- Climate change mitigation **9%**
- International waters **9%**

Twenty interconnected actions for transforming food and agriculture to achieve the Sustainable Development Goals (SDGs)

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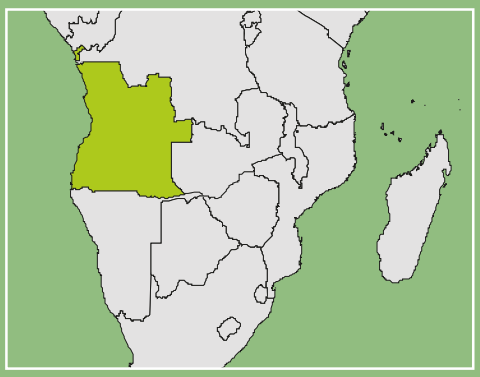
Facilitate access to productive resources, finance and services
Connect smallholders to markets
Encourage diversification of production and income
Build producers' knowledge and develop their capacities
Enhance soil health and restore land
Protect water and manage scarcity
Mainstream biodiversity and protect ecosystem functions
Reduce losses, encourage reuse and recycle, promote sustainable consumption
Empower people and fight inequalities
Promote secure tenure rights for men and women
1 NO POVERTY
2 ZERO HUNGER
5 GENDER EQUALITY
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
2 ZERO HUNGER
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
1 NO POVERTY
2 ZERO HUNGER
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES

Land rehabilitation and rangelands management in Southwestern Angola



Source: Adapted from United Nations World map, 2020.

In the semi-arid regions of southwestern Angola, the capacity of ecosystems to provide valuable services is under pressure due to changes in the pasture and water management practices, climate change and land degradation. The poor conditions of the land and the loss of traditional pasture management practices have led to conflicts between farmers and herders.

The Land Rehabilitation and Rangelands Management in Small Holders Agropastoral Production Systems in Soutwestern Angola project (RETESA) sought to address these issues through a participatory and integrated approach. The goal was to reverse unsustainable practices, including overgrazing in rangeland areas that was leading to the disappearance of grasses and fodder shrubs and competition over limited suitable grazing lands. The project adopted and developed agro-pastoral field schools, the Green Negotiated Territorial Development framework (GreeNTD) and a combination of time-tested traditional approaches and modern sustainable land management systems. The key stakeholders and beneficiaries who joined the participatory process included the indigenous Herero, Khoisan and Muimba groups, who supported the adaption of traditional decision-making and conflict resolution practices.

PROJECT CODE

FAO Project symbol - GCP/ANG/048/GFF
GEF ID - 4720

COUNTRY

Angola

GEF FOCAL AREA

Land degradation

PROJECT DURATION

2014–2018

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Environment, Ministry of Agriculture, Ministry of Commerce, Provincial governments of Namibe, Huila and Benguela, Municipal Integrated Programme of Rural Development and Fight against Poverty, Ministry of Family and Women Promotion

GEF GRANT

USD 3 013 636

TOTAL BUDGET

USD 20 304 636

A pastoralist part of the Farmer Field School in Angola

The project helped increase vegetation cover in over 13 500 hectares, established 32 658 hectares of reserve areas, and rehabilitated 750 hectares of rangeland and 28 water points in the area.

Good practices

The RETESA project successfully employed good practices in traditional approach adaption, capacity building, and stakeholder engagement and coordination.

- **Integrate traditional practices with modern methodologies to promote sustainability and foster dialogue**

Under the project, a traditional management system was reinstated that allowed for rangeland recovery and rest. Animals were kept in more remote, mountainous areas during the rainy season and gradually returned to the river plains during the dry season. Through this simple approach, farmers and herders could alternate their use of the more fertile plains, giving time for more palatable grasses and forage plants to grow and produce seed. In order to address the rising conflicts among communities, RETESA combined the GreeNTD approach, which brings parties together to agree on the development of a shared territory, with the Jango Pastoril, a traditional decision-making and conflict resolution forum. The combination of Jangos and the GreeNTD approaches allowed communities to overcome conflicts between agropastoral communities, thereby enabling joint landscape-level planning.

- **Establish farmer field schools to enhance knowledge exchange and build capacities locally**

The application of Farmer field schools (FFS) played a key role in working with communities and introducing new production, management, planning and rehabilitation practices. FFS brings together groups of farmers and pastoralists to learn skills, technologies or approaches related to a common area of interest, incorporating and expanding upon local knowledge. The field school approach proved to be an efficient, highly replicable and cost-effective way of building capacity and sharing knowledge on the ground.

- **Promote sustainable approaches that safeguard rangelands and protect livelihoods**

The project sought to increase ground cover to reduce sediment loads entering waterways, provide shade for livestock, increase forage production and introduce legumes and multipurpose forage trees in areas of high animal traffic. Approximately 750 hectares were successfully rehabilitated through the participatory selection and planting of open areas within the rehabilitation zone. Concentrated

plantings of the selected species in strategic locations within the landscape was also introduced for the rehabilitation of riparian banks and reducing sediment loads in waterways.

Translating the 20 actions guidelines on the ground

The RETESA project exemplified several of the actions from the 20 Actions guidelines, contributing to **SDG 2** and **SDG 15**. These include:

- **ACTION: Enhance soil health and restore land**

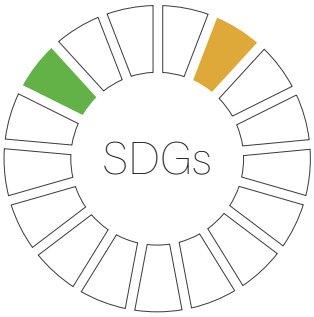
By reintroducing a traditional land management system that was compatible with modern sustainable practices, RETESA ensured that land and soil were given the time needed to grow and recover from grazing.

- **ACTION: Mainstream biodiversity conservation and protect ecosystem functions**

RETESA's land rehabilitation and conservation efforts through participatory and people-centred approaches contribute positively towards safeguarding ecosystem health and biodiversity in Angola. By conserving and using a wide range of domestic plant and animal diversity, the country is better equipped to face the challenges of climate change and ecosystem services in the future.

- **ACTION: Promote secure tenure rights**

RETESA adopted and adapted traditional Jango Pastoril as a decision-making and conflict-resolution tool that helped to address the tensions between farmers and herders by establishing a community-level tenure arrangement for the sustainable use of, and access to, land by different stakeholders. Promoting secure tenure rights and access to land is one of the most effective ways to reduce vulnerability in farming communities, support better use of their land, conserve natural resources, and generally promote more productive and sustainable practices.



Key outcomes

One hundred twenty farmer field school master trainers and facilitators and 2 800 herders benefitted from 35 agro-pastoral field schools

- Helped increase over 13 500 hectares of vegetation cover
- Established 32 658 hectares of reserve areas
- Rehabilitated 750 hectares of rangeland areas
- Rehabilitated 28 water points

Integrated management of the Ilha Grande Bay Ecosystem in Brazil

Source: Adapted from United Nations World map, 2020.

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The Ilha Grande Bay in Brazil

Brazil's Ilha Grande Bay hosts one of the world's most unique and biodiverse marine and terrestrial ecosystems. Home to 243 000 people, it covers an area of 1 120 square kilometres, a 365 kilometre coastline, the island of Ilha Grande, and 189 smaller islands.

The recent growth of tourism and population in the bay have exerted great pressure on local ecosystems, threatening natural resources and livelihoods. Sedimentation associated with poorly planned coastal development; mangrove deforestation; decline in water quality driven by non-treated urban or industrial wastewaters and oil spilling; unsustainable fishing practices; lack of tourism planning and other factors were putting the bay's ecosystem at risk. The Integrated Management of the Ilha Grande Bay Ecosystem project (BIG) was implemented to address these issues. It established the BIG Initiative and a comprehensive information sharing service for promoting sustainable management of the Ilha Grande Bay, balancing industrial and economic growth with the imperatives of safeguarding natural resources and ecosystem services for the future.

PROJECT CODE

FAO Project Symbol - GCP/BRA/078/GFF
GEF ID - 3848

COUNTRY

Brazil

GEF FOCAL AREA

Biodiversity

PROJECT DURATION

2011–2019

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

State Environmental Institute of the Rio de Janeiro State Environment Secretariat, Rio de Janeiro State University, Protected Area administrations

GEF GRANT

USD 2 300 000

TOTAL BUDGET

USD 27 350 700

"The Initiative's monitoring system, known as Radar BIG, identifies pressure points for the environment and proposes solutions. In 2018, the system found that the ecosystem is increasingly unable to dilute pollutants, like sewage water."

Good practices

The project successfully developed and employed good practices in the areas of innovation, stakeholder ownership and engagement, knowledge-sharing and promotion of partnerships.

Decentralise decision-making processes to empower local communities

The BIG project facilitated the establishment of a Watershed Committee comprised of numerous stakeholders from across the Ilha Grande Bay. The committee brings together representatives of local communities, public officials, NGOs, businesses, academia, and provides them with a decision-making and conflict-resolution forum aimed at ensuring the sustainable management of the bay's watersheds and ecosystems.
Empowering stakeholders at local and community levels helped ensure that their concerns were adequately and fairly addressed, while leveraging their specific understanding and expertise of the social, economic and environmental issues affecting an area. It supported building people's capacity through evidence-based knowledge sharing and allowing them to have a say in how the natural resources upon which they depend are managed, helping to drive the sustainable use of those resources and bolster livelihoods.


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Adapt project goals to drive successful outcomes

In 2016, a series of significant challenges led the Programme Management Unit to reassess its goals and priorities under a component of the project, which had to be abandoned. Rather than simply truncating a series of actions and initiatives in the bay, the project steered its efforts in a different direction, designing an alternative, yet relevant, output. This resulted in one of the most successful outcomes of the project: the BIG 2050 Initiative, comprising the RADAR monitoring system and the BIG 2050 Challenge. Therefore, adopting a flexible, result-oriented approach can help overcome hurdles, provided it is absolutely necessary for the project delivery and has full participation of the concerned stakeholders.

Leverage GIS and related technologies to strengthen resilience and foster knowledge-sharing

Information collected under the RADAR platform was made open and accessible to the public online, providing a data-driven basis for the BIG 2050 Challenge component. The Challenge was designed to crowdsource solutions and approaches to ensure the sustainable management of the bay's natural environment and resources. By tapping into the knowledge potential of an entire population through an open, science-backed tool, the project uncovered innovative solutions and approaches while significantly enhancing ownership and project sustainability.
The BIG 2050 Challenge was also an effective means of raising awareness about sustainability in the region, attracting the interest and attention of the media and population alike. The integrated relationship between the RADAR monitoring system and the BIG 2050 Challenge enabled the monitoring of results to feed directly into the definition of policies and the prioritization of environmental issues to be addressed.

Translating the 20 actions guidelines on the ground

The BIG project succeeded in promoting the sustainable management of the Ilha Grande Bay, balancing industrial and economic growth with the imperatives of safeguarding natural resources and ecosystem services. The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 6**, **SDG 11**, **SDG 14**, and **SDG 15**. These include:

- **ACTION: Protect water and manage scarcity**

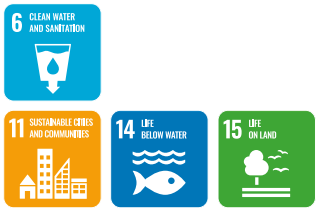
Water quality in the Ilha Grande Bay was threatened by multiple factors, including oil spillages, lacking sewage water treatment, industrial waste and more. The RADAR monitoring system was designed to track a large number of indicators related to the environmental health of the bay's water and other ecosystems. It provided data that can inform policy and decision-making processes for promoting the sustainable management of water resources.

- **ACTION: Empower people and fight inequalities**

The BIG project engaged with a wide range of stakeholders and beneficiaries, including indigenous, Caiçara and Quilombolas/Maroons communities, local authorities, businesses and NGOs, building their knowledge and empowering vulnerable segments of the population. By establishing the bay's Watershed Committee, the project promoted a bottom-up approach to the sustainable management of the bay's ecosystems.

- **ACTION: Strengthen innovation systems**

By championing new methods of addressing the challenges countries face in their transition to more productive and sustainable food and agriculture systems, decision-makers can accelerate that transition. While the project's BIG 2050 Challenge crowdsourcing approach was innovative in itself, it also tapped into the public's knowledge and expertise to identify and develop new solutions to the issues threatening the environmental health of the Ilha Grande Bay.

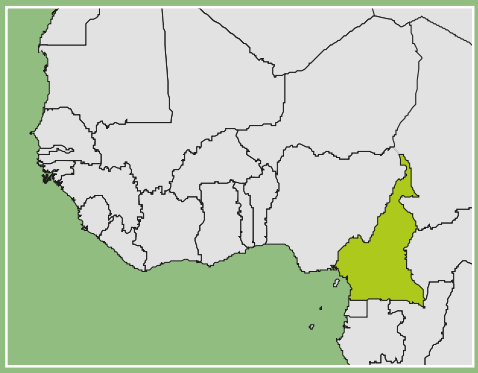


Key outcomes

- Developed an innovative, open and accessible tool to identify and implement effective, evidence-based actions in support of the bay's ecosystems and ecosystem services. It is driven by RADAR, a newly developed environmental health monitoring system that gathers information from multiple institutions and provides real-time data through 40 environmental indicators
- Helped establish a watershed committee with decision-making authority related to managing water resources in the bay
- Facilitated the development of a watershed plan that will be integrated with the Coastal Economic Ecological Zoning and will support the municipal Geographic information systems (GIS)
- Trained municipal staff, watershed committee members, teachers, environmental managers and other stakeholders in a wide range of topics, including GIS, management of spatial planning databases, and integrated ecosystem management

Proved to be a powerful driver of the sustainable management of the Ilha Grande Bay

Sustainable community-based management and conservation of mangrove ecosystems in Cameroon



Source: Adapted from United Nations World map, 2020.

In Cameroon, mangrove ecosystems provide a wide range of resources and ecosystem services that greatly contribute to people's livelihoods, including fisheries production, construction wood and firewood production, coastal protection, pollution reduction and carbon sequestration.

Yet, as a result of demographic pressure, mangroves are threatened by urban expansion, the development of agro-industrial and port activities, and the exploitation of hydrocarbons.

The Sustainable Community-based Management and Conservation of Mangrove Ecosystems in Cameroon project sought to address these challenges through the adoption and adaption of good practices in the area of sustainable food and agriculture.

PROJECT CODE

FAO Project Symbol - GCP/CMR/030/GFF
GEF ID - 3821

COUNTRY

Cameroon

GEF FOCAL AREA

Biodiversity

PROJECT DURATION

2012–2017

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED), Ministry of Forestry and Wildlife (MINFOF) Cameroon Wildlife Conservation Society and International Union for Conservation of Nature Cameroon Office

GEF GRANT

USD 1 733 180

TOTAL BUDGET

USD 6 389 180

A local beneficiary involved in reforestation efforts to protect the mangroves

The project contributed to the creation of Cameroon's first marine and terrestrial national park, Douala-Edea National Park, spread across over 260 000 hectares, that includes mangrove forests, rivers, wetlands and marine habitats.

Good practices

The project successfully employed a number of good practices for the sustainable management of natural resources, gender equality, and in fostering the transition to more productive and sustainable food and agriculture systems.

- **Mainstream sustainable food and agriculture approaches into national action plans**

The project succeeded in creating a national framework and enhancing an enabling environment for sustainable mangrove management through the development of strategic documents, such as the five-year national strategy on sustainable management of mangrove and coastal ecosystems and the master plan for research and monitoring of mangrove and coastal ecosystems of Cameroon. These documents, as well as the training for government officials and NGO staff on environmental and social impact assessments, established project ownership and sustainability over time.

- **Foster gender equality and women's empowerment to drive inclusivity and participation**

All projects seeking to deliver positive change must champion women's contribution and role in society, and ensure their voices are heard in decision-making fora. The project trained women's groups in four areas of income-generating activities related to mangrove ecosystem services: fish farmers and women fish smokers in Kribi, oyster growers in Mouanko and community forest product farmers in Bakoko-Douala. Some 14 farmer groups were involved, and the trainings led to the elaboration of practical business plans

- **Promote sustainable approaches that safeguard natural resources and protect livelihoods**

The preservation of mangroves was the aim of the Manoka Community Forest, the first of its kind in Cameroon, in which the community-based management approach strived to conserve resources and unite local communities around a shared project. Ensuring the protection and enhancement of natural resources was an essential step for the transition to more productive and more sustainable food and agriculture systems. The two national parks and the designation of a new Ramsar site secured the long-term conservation of natural resources and associated ecosystem services. The project also helped in carrying out reforestation activities across three sites, extending the surface area of mangroves and, crucially, engaging local communities in both the reforestation efforts and the protection of these sites in the future. This allowed a continued flow of ecosystem services, which are often of vital importance to vulnerable communities. It also safeguarded biodiversity conservation and reduced ecosystem degradation.

- **Drive participatory stakeholder engagement to leverage local know-how and bolster project sustainability over time**

Multi-stakeholder platforms create a shared space to voice solutions towards common objectives, share knowledge and experiences, mobilize capacities and technologies, and facilitate access to productive resources. The project contributed to the creation of three multi-stakeholder platforms for promoting inter-sectoral and inter-institutional dialogue, as well as the integration of mangrove ecosystem issues into the national and local development agenda. The project engaged several local communities, including the Bagyélis community and other indigenous peoples, civil society organisations, academics, the Cameroon Mangrove Network, wood users, fishermen, women fish smokers, traditional chiefs, the Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED) and the Ministry of Forests and Wildlife (MINFOF). Conceiving them as partners and more than beneficiaries, these platforms help projects establish ownership among stakeholders on the ground and drive continued commitment.

Translating the 20 actions guidelines on the ground

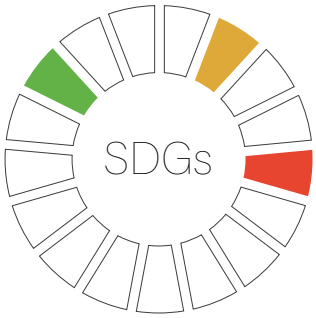
The project supported Cameroon in its transition to more productive and sustainable management of fragile mangrove and connected ecosystems.
It also succeeded in enhancing the resilience of the communities who depend on them, and established a viable framework for institutional action.
The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 2**, **SDG 5** and **SDG 15**. These include:

- **ACTION: Mainstream biodiversity conservation and protect ecosystem functions**

Biodiversity is the source of vital ecosystem services and functions, including soil conservation, water cycling, pollination, pest and disease regulation, carbon sequestration and nitrogen fixation.
Biodiversity and the ecosystem services it supports are thus key to nutritional diversity, agricultural productivity and resilience. Under the project, a number of actions, including reforestation initiatives, the establishment of parcel plots, and the creation of the Manoka Community Forest successfully strengthened the biodiversity of the mangrove ecosystems in the intervention area.

- **ACTION: Enhance policy dialogue and coordination**

The transformative nature of the 2030 Agenda requires new and radical policies and approaches to drive positive change. Given food and agriculture's key role in achieving the SDGs, projects must support governments in taking an integrated approach to sustainability in this sector. By facilitating the creation of national strategies, action plans and protocols adopted by Cameroon, the project succeeded in establishing inter-institutional, multi-level frameworks capable of accelerating progress towards achieving the 2030 Agenda.



Key outcomes

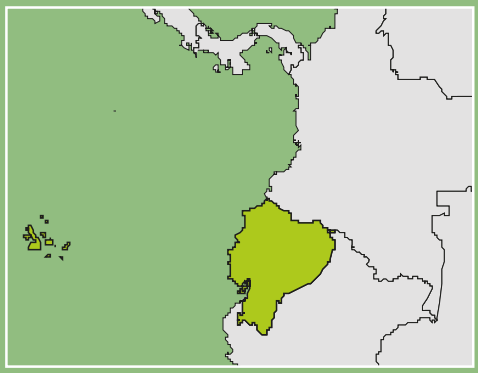
- Established the first community-managed mangrove forest in Cameroon
- Developed a protocol for environmental and social impact assessments
- Produced strategic documents on mangroves
- Strengthened mangrove conservation through the establishment of protected areas

Trained 14 women's groups in income-generating activities related to mangrove ecosystem services

- Created three multi-stakeholder platforms for inter-sectoral and inter-institutional dialogue
- Established permanent plots
- Established national parks (Douala-Edea, Ndongoré)
- Designated a new Ramsar site[1] (Rio Ntem)

[1] The Ramsar Convention on Wetlands is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.

Sustainable management of natural resources in Ecuador



Source: Adapted from United Nations World map, 2020.

Ecuador is one of the 17 most megadiverse countries in the world. The project Management of Chimborazo's Natural Resources (PROMAREN) was carried out to ensure the sustainable management of páramos, a high Andean mountain ecosystem underpinning key ecosystem services. Páramos supply water, act as carbon sinks, and provide habitats for endemic species, many of which carry high economic value. They also play an important role in the tourism and recreation sectors.

However, páramos are threatened by climate change and the expansion of cropping and grazing areas, as well as unsustainable management of natural resources in general. In the Chimborazo province, this has resulted in a marked decrease in water quantity and quality entering the province's river basins, as well as an increase in negative social and economic impacts on local communities.

The PROMAREN project that was executed by the Decentralised Autonomous Government of the Province of Chimborazo through an operational execution agreement, sought to strengthen the local capacity for the sustainable management of natural resources and improve livelihoods. Stakeholders and beneficiaries of the project included the Quimiag, Candelaria and other communities in the Chimborazo province, as well as local and provincial authorities.

PROJECT CODE

FAO Project Symbol - GCP/ECU/080/GFF
GEF ID - 3266

COUNTRY

Ecuador

GEF FOCAL AREA

Biodiversity

PROJECT DURATION

2011–2017

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of the Environment
Decentralized Autonomous Government of the Province of Chimborazo

GEF GRANT

USD 3 870 000

TOTAL BUDGET

USD 10 311 600

A pastoralist with her herd of camelids in Ecuador

"FAO expertise was influential in developing local capacities for the capture and shearing of vicuña. The vicuña, a wild camelid native to South America and a relative of the Llama, is highly valued due to its fine wool, which is knitted into garments and fetches high prices on the market."

Good practices

The PROMAREN project successfully employed a number of good practices in the areas of stakeholder engagement, community and ecosystem resilience, and gender equity.

- **Drive participatory stakeholder engagement to leverage local know-how and bolster project sustainability**

PROMAREN succeeded in actively involving a high number of stakeholders and local communities. For example, 111 communities participated in the management and co-management of five micro -watersheds through a participatory approach favouring dialogue and mutual agreement between the Decentralised Autonomous Government of the Province of Chimborazo and the communities themselves. This result greatly surpassed the initial target of involving 30 communities. Any project aimed at enhancing the livelihoods of vulnerable communities should view them as more than mere beneficiaries. Stakeholders feel empowered ensuring that their knowledge and understanding contributes to project's goals, approaches and expected outcomes. Participatory approaches are an invaluable 'bottom-up' tool which can greatly contribute to securing the long-term sustainability of a project's outcomes.

- **Foster gender equality and women's empowerment to drive inclusive change**

It succeeded in safeguarding the páramos' natural resources, ensuring the gender equality is both an essential element in the progress towards the SDGs and a basic human right. In order to be sustainable, our agriculture and natural resource management systems must ensure equality of voice, agency and access to resources and services between women and men. PROMAREN adopted this approach by ensuring female stakeholders were empowered and involved in the decision-making processes. Women interviewed during the evaluation said they believed they had been able to significantly contribute to the positive outcomes of the project. The evaluation also found that PROMAREN facilitated a high level of training of female leaders in the communities involved.

- **Establish compensation mechanisms for environmental services to improve livelihoods**

Under the PROMAREN project, a compensation mechanism for environmental services was piloted in the micro-basin of the Blanco River. This contributed to reaching a multi-stakeholder agreement between local communities, institutions and private companies, which ensures the gathering of compensation funding for the realization of environmental initiatives in the micro-basin. 79 other compensation agreements for páramos conservation with landowners were also signed. By establishing fair and effective compensation mechanisms, projects can ensure the continued and sustainable flow of ecosystem services, benefitting land and resource owners and the environment.

Translating the 20 actions guidelines on the ground

The PROMAREN project addressed a variety of social, economic and environmental issues affecting continued flow of ecosystem services and bolstering the resilience of communities that depend upon them. The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 2**, **SDG 6** and **SDG 15**. These include:

ACTION: Connect smallholders to markets

Building the entrepreneurial skills and capacities of rural communities is fundamental to their full market participation and to delivering inclusive and sustainable change. The PROMAREN project fostered engagement with the private sector through the establishment of a Vicuña fibre management group, as well as through initiatives aimed at enhancing sustainable tourism, milk production, and more, contributing towards the enhancement of local livelihoods.

ACTION: Protect water and manage scarcity

Healthy agriculture and nutritious food depend on clean and fresh water. As the lifeline of ecosystems, water is essential to all aspects of social, economic and environmental development. It is crucial for poverty eradication, food security and resilience to natural and human-induced disasters, while playing a key role in climate change adaptation. The páramos are of critical importance to the Chimborazo communities, providing water for irrigation, human consumption, and hydropower. By championing the sustainable management of the páramos, PROMAREN contributed towards the sustained flow of these key ecosystem services.

ACTION: Mainstream biodiversity conservation and protect ecosystem functions

Biodiversity is integral to ecosystem health, key in increasing food production and necessary to sustain livelihoods. The conservation and sustainable use of domestic flora and fauna provide enhanced adaptability and resilience in the face of climate change, emerging diseases, pressures on feed and water supplies, and shifting market demands. PROMAREN's wide range of initiatives, including the use of native plant species for land restoration purposes, the promotion of regulations and planning for sustainable management of Vicuñas, the endorsement of alternative and more sustainable livelihood options, all greatly contributed towards the conservation and protection of biodiversity and ecosystem functions in the páramos.

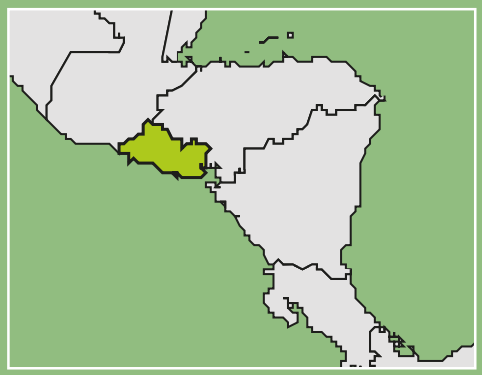
Key outcomes

- Ensured bolstered conservation and sustainable use of water resources in five micro-watersheds
- Activated forest conservation and restoration initiatives
- Created community-led micro-watershed management committees
- Diversified farmer crops to drive the sustainable use of páramos and water resources
- Implemented payment mechanisms for ecosystem services

Approved a legislation in support of the conservation and sustainable use of páramos and other fragile ecosystems in Chimborazo

- Engaged the private sector in the areas of vicuña fibre and milk production
- Developed the National plan for vicuña
- Promoted sustainable tourism

Climate change adaptation to reduce land degradation in fragile micro-watersheds in El Salvador



Source: Adapted from United Nations World map, 2020.

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El Salvador, with its tropical climate and varied topography and geography, features a rich diversity of natural ecosystems, which is exposed to a range of natural hazards, including extreme weather events related to climate change.

Land degradation and soil erosion, aggravated by recurring floods and droughts, have a negative impact on agricultural production and are threatening the livelihoods of vulnerable rural communities.

The Climate Change Adaptation to Reduce Land Degradation in Fragile Micro-Watersheds Located in the Municipalities of Texistepeque and Candelaria de la Frontera project sought to address these threats.

PROJECT CODE

FAO Project Symbol - GCP/ELS/012/GFF & GCP/ELS/013/SCF; GEF-ID 4616

COUNTRY

El Salvador

GEF FOCAL AREA

Land degradation; Climate change adaptation

PROJECT DURATION

2014–2018

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Agriculture and Livestock; Special Climate Change Fund; Ministry of Environment and Natural Resources; Ministry of Health; General Directorate for Civil Protection; National Centre of Agriculture, Livestock and Forestry Technology; local governments

GEF GRANT

USD 1 521 370

TOTAL BUDGET

USD 7 959 370

Planting vegetable gardens to diversify diets and improve nutrition

The project resulted in a 15 percent increase in food production in the targeted areas and increased vegetation cover on 1 757 hectares of land.

Good practices

The project successfully employed a number of good practices in the areas of sustainable natural resource management, community and ecosystem resilience, and climate change adaptation.

- **Promote sustainable approaches that safeguard natural resources and protect livelihoods**

Developing evidence-based frameworks for the protection of water resources enabled stakeholders and decision-makers at all levels to employ and promote sound practices to manage water scarcity. A key strategic instrument created under the project was a Methodological Guide for the Preparation of Management Plans for Fragile Micro-Watersheds (FMWMP), endorsed by partner institutions and used as a basis for four FMWMPs, which were developed and approved in a participatory manner and implemented in the target area, supporting the municipalities involved in the project. These municipalities are particularly affected by reduced rainfall and by increase in drought due to climate variability, threatening the livelihoods of local agriculture -dependent communities.

- **Establish farmer field schools to enhance knowledge and build capacities locally**

The project conducted six farmer field schools (FFS) that delivered trainings on soil conservation and Integrated Natural Resource Management, which is a sustainable approach that balances the needs of farmers and producers, local communities, and the environment. A review found that all farmer field school participants believed they had enhanced their capacities and considered FFSs to be of great practical use. Furthermore, participants became reference points in their community, sharing knowledge and information acquired during FFS trainings with other farmers seeking to adopt more sustainable agriculture practices. The field school approach is a proven, cost-effective, and highly replicable capacity-building and knowledge-sharing tool for enhancing farmer resilience, know-how, and productivity.

- **Promote sustainable farming to build resilience**

Vegetable gardens established during the project, with significant participation of female household members, contributed to an overall 15 percent increase in food produced per household, with 99 percent of families involved stating that the use of vegetable gardens had enabled them to diversify their diet, thus improving nutrition. Vegetable gardens represented viable, low-cost means of year-round food production. Some 982 families benefitted from learning how to use organic fertilisers, drip irrigation, harvesting of rainwater, and application of mycorrhiza (beneficial fungi) to improve root water consumption. The project promoted the planting of fruit trees, forest trees, grass and seeds for the expansion of vegetation cover across 1 757 hectares in four micro-watersheds. The promotion of sustainable approaches can help projects bolster vulnerable communities' resilience, thus ensuring positive impacts beyond the end of the project.

- **Raise awareness to drive effective climate change adaptation**

The project raised awareness among communities and related institutions. A review found that 83 percent of participating families had only been made aware of climate change through the project itself. To strengthen knowledge and capacities against the threats of climate change, the project coordinated with seven institutions and local governments in improving their capacities to integrate climate change adaptation into their planning and management processes related to the four fragile micro-watersheds.

Translating the 20 actions guidelines on the ground

Under the project, technical capacities were strengthened at the institutional level; planning instruments based on micro-watershed approaches were created; awareness and knowledge of the effects of climate change were enhanced; and more sustainable and productive approaches were promoted

in the project areas. The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG1**, **SDG 2**, **SDG 6**, and **SDG 15**. These include:

- **ACTION: Protect water and manage scarcity**

Water is essential to all aspects of social, economic and environmental development. The project bolstered the protection of water resources and assisted local communities in dealing with the impacts of water scarcity by establishing of reservoirs, rainwater collectors, community water harvesting and distribution systems, as well as developing methodological guides aimed at establishing effective and sustainable management plans for fragile watersheds. Over 400 families were trained in the construction, management and maintenance of rainwater harvesting systems for multiple uses, as well as the protection of water sources and the safe use of water for human consumption. Approaches such as these can help ensure water availability during periods of drought.

- **ACTION: Prevent and protect against shocks: enhance resilience**

Communities adopted and implemented sustainable agriculture systems, such as the use of vegetable gardens, organic fertilizers and drip irrigation, which resulted in increased yields and higher household incomes. The use of productive and sustainable food and agriculture systems strengthened the resilience of communities while safeguarding natural resources and the flow of ecosystem services.

- **ACTION: Address and adapt to climate change**

The project successfully contributed to the establishment of inter-institutional coordination mechanisms, facilitating the inclusion of climate change adaptation systems in national action plans. This allowed stakeholders to address the intertwined challenges of climate change, food security and sustainable agriculture in a coordinated manner. Furthermore, the project's climate change awareness-raising initiatives greatly enhanced vulnerable communities' understanding of this threat, ensuring they are better equipped to deal with its impacts.

Key outcomes

- Created a methodological guide for the preparation of management plans for fragile micro-watersheds, adopted at institutional level
- Increased food production by 15 percent in the targeted areas
- Established six farmer field schools that benefitted 190 heads of household
- One thousand two hundred forty-nine heads of household adopted resilient production systems
- Nine hundred eighty-two maize-producing families benefitted from sustainable agricultural practices
- Increased vegetation in an area of 1 757 hectares
- One thousand seven hundred sixty-four hectares under integrated natural resource management practices

Established 40 rainwater collectors, five community water harvesting and distribution systems for human consumption and food production and 16 reservoirs that benefitted 535 families

Strategies for trawl fisheries bycatch management in Southeast Asia

Source: Adapted from United Nations World map, 2020.

© FAO/Petri Suuronen

The Coral Triangle in Southeast Asia is one of the world's most biologically diverse, economically productive, and vulnerable marine zones. Fisheries in the region are key to food security, coastal livelihoods, and the economies of the countries whose waters comprise the Triangle itself. Population growth and accelerating economic development are driving the demand for fish for human consumption, export and aquaculture feed. This, in turn, puts greater pressure on marine ecosystems.

Bycatch and discards across the region's trawl fisheries are an increasing concern. Bycatch is the untargeted catch of fish, turtles, marine mammals, corals and other seabed fauna and flora. Bycatch tends to be poorly monitored and inadequately managed, negatively impacting fishery resources, habitats and ecosystems.

The Strategies for Fisheries Bycatch Management project in the Coral Triangle (REBYC-II CTI) sought to reduce the impact of bycatch, discards and fishing on biodiversity and the environment, while facilitating effective public and private sector partnerships for improved trawl and bycatch management. The project promoted practices that support fishery-dependent incomes and sustainable livelihoods across the intervention areas.

PROJECT CODE

FAO Project Symbol - GCP/RAS/269/GFF
GEF ID - 3619

COUNTRIES

Indonesia, Papua New Guinea, Philippines, Thailand and Viet Nam

GEF FOCAL AREA

International waters

PROJECT DURATION

2012–2018

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

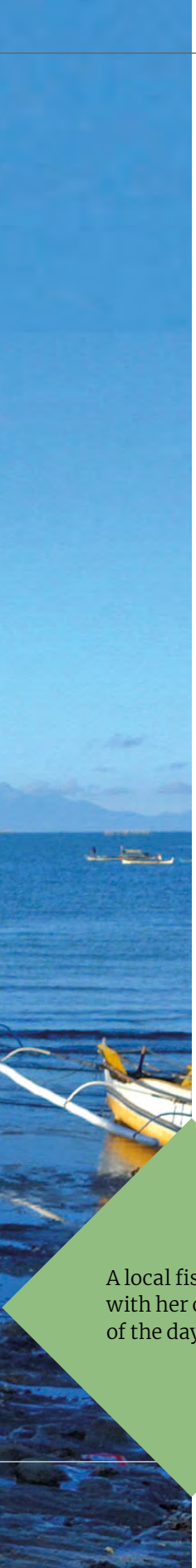
National fisheries authorities, Southeast Asian Fisheries Development Center, NGOs, local governments

GEF GRANT

USD 3 million

TOTAL BUDGET

USD 11 413 600



A local fisherwoman with her catch of the day

"The project developed the international guidelines on bycatch management and reduction of discards, plans and councils for national trawl fisheries bycatch management, introduced more selective trawl gear and promoted alternative fishing practices."

Good practices

The project successfully adopted several good practices in the areas of sustainable fisheries' management, country ownership and stakeholder engagement, project sustainability and replicability.

- **Promote sustainable approaches that safeguard natural resources and protect livelihoods**

One key outcome of the project was the promotion and widespread adoption of the ecosystem approach to fisheries management (EAFM) among stakeholders at national and local levels. This methodology champions a holistic approach based on understanding the links between ecosystems and stakeholders that are directly or indirectly linked to fisheries for their livelihoods, balancing priorities and trade-offs. The impact of EAFM training across the intervention area was transformational, as demonstrated by the institutionalization of EAFM as a fisheries management tool by the Philippines and its increasing adoption by the other countries. In addition, EAFM was introduced as a mandatory course in undergraduate and graduate fisheries programmes at a state university.

- **Ensure country ownership and stakeholder participation to maximise positive outcomes**

Creating opportunities to engage directly with stakeholders and beneficiaries can help raise awareness and increase buy-in and ownership. The REBYC-II CTI project secured a high level of ownership among project participants and partners at national and local levels in the five participating countries. Stakeholders and beneficiaries, including fisher-folk and fishing communities, institutions, private sector organisations and academia, were directly involved in project activities. As a result, sustainable approaches such as EAFM were mainstreamed into local and national policy; the International Guidelines on Bycatch Management and Reduction of Discards were officially recognized in all project countries; and public-private partnerships were established, driving the adoption of socially, economically and environmentally sustainable fishing practices.

- **Extend positive impacts through scalability and replicability**

In order to sustain the continued benefits of EAFM, the project established an effective institutional framework and created prospects for long-term impacts from governments through planned bilateral initiatives in the region. The project generated valuable lessons and experiences from the pilot sites, particularly the Philippines' Samar Sea site, which has become a model for trawl fisheries management, EAFM adoption and public-private partnerships. Sharing these lessons and experiences can strengthen the scalability of a project's activities and establish a strong basis for replicating the process.

Translating the 20 actions guidelines on the ground

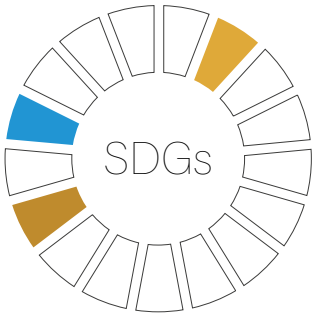
The REBYC-II CTI project succeeded in addressing issues connected to unsustainable trawl fisheries management across the countries involved in the project. It promoted EAFM and the adoption of relevant international frameworks in order to mainstream sustainable approaches. The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 2**, **SDG 12** and **SDG 14**. These include:

- **ACTION: Encourage diversification of production and income**

By providing training in alternative livelihoods and more sustainable fishing practices and approaches, the project balanced the needs of the environment across the trawl fisheries with those of communities who benefit economically from bycatch. In doing so, the project facilitated progress towards social, environmental and economic sustainability in the target area. It also helped in diversifying production, safeguarding biodiversity, bolstering the provision of ecosystem services, and facilitating job creation and income generation.

- **ACTION: Mainstream biodiversity conservation and protect ecosystem functions**

Conserving biodiversity and ecosystem functions in fisheries is essential for the sustainable provision of ecosystem services. Through its initiatives, the project succeeded in mainstreaming sustainable approaches and securing the recognition of frameworks in all countries involved in the project, thus spurring progress towards more sustainable fishing practices. Actions such as these are essential for reducing unsustainable fishing practices and their negative impact on natural resources, food security and national revenue.

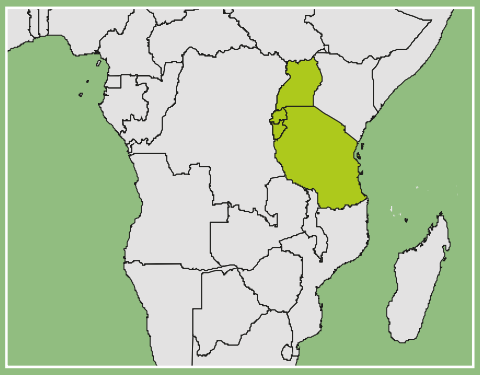


Key outcomes

Developed the International Guidelines on Bycatch Management and Reduction of Discards

- All five countries recognize the Guidelines
- National trawl fisheries bycatch management plans adopted by relevant authorities
- Established councils for collaborative bycatch management in three countries
- More selective trawl gear or alternative fishing practices adopted in two countries
- Identified selection criteria and recommendations for demarcating fishing zones and areas for spatial-temporal closures
- Published relevant data and data collection methods
- Raised awareness among fisher-folk and other stakeholders across all project countries
- Promoted responsible trawl fisheries management among policy-makers, private sector organisations, and technical offices
- Trained extension workers in the use of bycatch reduction devices
- Trained national and local stakeholders in the Ecosystem Approach to Fishery Management (EAFM)

Transboundary agro-ecosystem management programme for the Kagera River Basin



Source: Adapted from United Nations World map, 2020.

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The Kagera River Basin, shared by Burundi, Rwanda, Tanzania and Uganda, supports the livelihoods of 16.5 million people.

The conservation of the flow regime is essential for maintaining the water levels of Lake Victoria and outflow to the Nile, while the wetland areas are vital to sustain water quality. However, the basin's land and freshwater resource base are threatened by land degradation, declining productive capacity of croplands and rangelands, deforestation, and encroachment into wetlands. These factors represent major challenges to smallholder farmers in the region and across sub-Saharan Africa, who rely on the basin's ecosystem services to grow crops, tend to their livestock, and supplement their diet through fishing. These challenges are driving migration, which can fuel tensions and threaten the wider peace and stability in the region.

The Transboundary Agro-ecosystem Management Project for the Kagera River Basin (Kagera TAMP) sought to curb land degradation and its negative impacts by supporting the adoption of an integrated ecosystems approach for the management of land resources to generate local, national and global benefits.

PROJECT CODE

FAO Project Symbol - GCP/RAF/424/GFF
GEF ID - 2139

COUNTRIES

Burundi, Rwanda, United Republic of Tanzania, Uganda

GEF FOCAL AREA

Land degradation

PROJECT DURATION

2009–2015

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Agriculture and Animal Resources in Rwanda; Ministry of Agriculture, Animal Industry and Fisheries in Uganda; Division of Environment, Vice Presidents' Office in Tanzania; Ministry of Agriculture and Livestock in Burundi

GEF GRANT

USD 6 363 700

TOTAL BUDGET

USD 31 597 910

Water quality measurements. Farmer Field School, Burundi

The project established 139 farmer field schools that benefitted 23 649 farm households and improved pasture lands over 49 161 hectares.

Good practices

The project successfully employed good practices in the areas of participatory learning, adoption of efficient Sustainable Land Management (SLM) technologies, and gender equity. It also documented these good practices and lessons learned in the book *Sustainable land management (SLM) in practice in the Kagera Basin - Lessons learned for scaling up at landscape level*, (FAO 2017) for wider knowledge dissemination.

- **Establish farmer field schools (FFS) to enhance knowledge and build capacity**

FFSs were a cornerstone of the project and a key element behind its success. Under Kagera TAMP, FFSs were adopted as the primary vehicle for Sustainable Land and Agro-ecosystem Management (SLaM) training and knowledge-sharing among the basin's farming and herding communities. SLaM is the adoption of management practices and technologies that enable land users to maximize economic and social benefits deriving from land use, while maintaining or enhancing the natural resource base. In the United Republic of Tanzania, for example, the FFSs focused on the benefits of crop-livestock integration, which increases the overall productivity of ecosystems, while ensuring the sustainable use of resources, by capitalizing on the symbiotic relationship between animals and crops. Scalable and cost-effective, FFS are an invaluable tool for projects that seek to spread know-how and innovation amongst farming communities. By employing a horizontal, rather than vertical, farmer-to-farmer approach to SLM, FFSs can empower stakeholders, enhance ownership and extend positive outcomes and impacts beyond a project's end.

- **Implement efficient, multi-impact solutions to drive sustainable progress**

The SLM practices promoted and implemented under Kagera TAMP often succeeded in delivering effective, efficient and sustainable solutions to land degradation issues. An example among many is an initiative in the Kayokwe-Waga-Ruvyironza watershed complex in Burundi. The watershed was facing a variety of challenges, including soil erosion, land conflicts caused by demographic pressure and scarcity of viable agricultural land, overgrazing, and poor agricultural practices, leading to accelerated degradation of natural resources. The action adopted by the project was to plant bamboo to stabilize the banks of the three rivers. This single action had a multi-impact effect, delivering truly sustainable progress in social, environmental and economic terms. The bamboo reduced soil erosion, while creating a buffer zone, effectively filtering and trapping sediment and dissolved pollutants transported by those sediments. The bamboo also provides habitat for riparian-specific plant and animal species and is a source of revenue for local communities, which learnt to adopt a shared management approach to the banks, thus mitigating land conflicts

- **Foster gender equality and women's empowerment to drive inclusive change**

Kagera TAMP conducted a comprehensive and detailed gender assessment on how gender roles and relations were affected by project activities. The project adopted a quota-based approach, trying to ensure at least 50 percent of participants in FFS trainings, committee meetings and other initiatives were women. The project sought to promote SLM approaches or technologies that included the added benefit of assisting women or simplifying their daily tasks. For example, across three target areas in Rwanda, women expended significant amounts of time on the strenuous activity of firewood collection. Through Kagera TAMP, improved and more efficient cooking stoves were introduced among the local communities. The stoves required smaller amounts of wood to cook food and directly contributed to a 55 percent reduction in local deforestation. This translated into less time spent by women collecting wood, allowing them to dedicate themselves to less tiring and more productive tasks.

Translating the 20 actions guidelines on the ground

The project succeeded in demonstrating how bottom-up approaches involving farming communities can restore degraded land and provide a basis for sustainable management across diverse agroecosystems. The project exemplified several actions from the 20 Actions

Guidelines, contributing towards **SDG 1**, **SDG 2** (target 2.4 in particular), **SDG 5**, **SDG 13**, and **SDG 14**. These include:

- **ACTION: Enhance soil health and restore land**

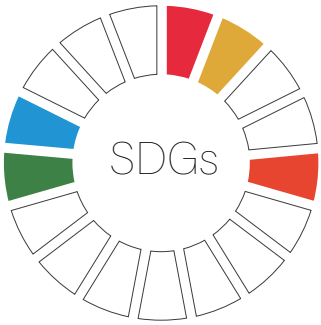
Healthy soil produces healthy food and allows for better nutrition. Hosting a quarter of the planet's biological diversity, soil provides nutrient cycling for plant and animal life, acting as a basis for feed, fuel, fibre and medical products, as well as many other ecosystem services. Kagera TAMP adopted a wide and comprehensive variety of SLM initiatives, approaches and methodologies to enhance soil health across Burundi, Rwanda, the United Republic of Tanzania and Uganda. Soil conservation and erosion control were secured through contour farming, vegetation strips, bench and progressive terraces, water retention ditches, and runoff ponds in sloping areas. Soil fertility and nutrients were enhanced by promoting crop/livestock integration, the use of organic manures, tree planting and agroforestry, while mulching was recommended to improve soil moisture.

- **ACTION: Empower people and fight inequalities**

Removing structural constraints and providing smallholder and family farmers with the tools and capacities to build resilient livelihoods is key to achieving the 2030 Agenda. It is crucial to address inequalities among genders and ensure that women have equal access to opportunities, benefits and decision-making bodies. By adopting a participatory quota -based approach in its activities across the four countries, the project allowed women and rural communities to benefit from SLM training and implementation outcomes. Data gathered from the project also suggests that participation from women was higher and more significant compared to men, further described by evaluators as enthusiastic.

- **ACTION: Address and adapt to climate change**

The capacity of the agriculture sectors to respond to climate change has far-reaching impacts on the livelihoods of the majority of people in many developing countries and on national economies. At the same time, agriculture is also a significant source of greenhouse gas emissions. By widely promoting sustainable land management and agriculture practices through FFS and other methodologies, the project has significantly enhanced the resilience of communities across the Kagera Basin countries, of their livelihoods, and of the environment to the threats posed by climate change and climate variability.



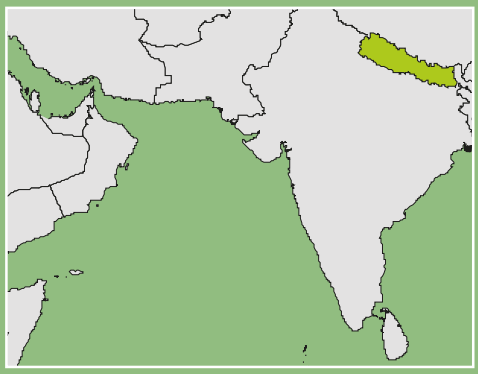
Key outcomes

- Supported the extensive and fruitful knowledge -sharing through farmer field schools, accelerating land protection processes, agricultural production growth, and innovation
- Enhanced the bio-productivity and ecological health of agroecosystems within the Basin, as well as the transboundary benefits through the reduction of water stress caused by sedimentation, by promoting sustainable land management (SLM) practices
- Demonstrated the importance of catchment planning for scaling out SLM practices and diversifying land use at farm and catchment level and enhancing the role of local governance over natural resources
- Bolstered the economic conditions and livelihoods of farmers in the target areas.

The good practices from this project were published in a the book Sustainable land management (SLM) in practice in the Kagera Basin - Lessons learned for scaling up at landscape level

The project also resulted in 139 farmer field schools benefitting 23 649 farm households; SLM interventions across 17 097 hectares; 49 161 hectares of pasture lands improved through closure to grazing, grass reseeding and removal of invasive species; over 10 percent average income increase among beneficiary communities through the introduction of high-yielding crops; and 3 966 goats, 50 cows and 121 pigs distributed.

Reducing vulnerability and increasing adaptive capacity to respond to the impacts of climate change in Nepal



Source: Adapted from United Nations World map, 2020.

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Group members preparing balanced goat feed in Nepal

Agriculture is the backbone of Nepal's economy, contributing to 27 percent of GDP and accounting for 66 percent of jobs. However, the sector is highly dependent on monsoon rains, and farmers have limited or no access to fertilizers, irrigation facilities or quality seeds. In recent years, climate change has had a significant impact on yields and livelihoods, fueled by an increase in climate-related hazards including floods, drought, hailstorms and temperature extremes, as well as pests and diseases, soil erosion, deforestation and desertification.

Climate data analysis points towards a consistent year-on-year temperature increase in Nepal of between 0.04 and 0.06°C since the 1960s. Monsoon precipitation shows overall declining trends, particularly in the mid-western and southern parts of western Nepal. Nepalese farmers often lack the knowledge and expertise required to adapt their farming techniques to new weather patterns and the effects of climate variability. Rural communities are increasingly exposed to risks, including livelihood losses, with inadequate capacities and abilities to respond to shocks. The project sought to address these issues by strengthening institutional and technical capacities for reducing vulnerability and promoting climate-resilient practices, strategies and plans for effectively responding to the impacts of climate change in the agriculture sector.

PROJECT CODE

FAO Project Symbol - GCP/NEP/070/LDF
GEF ID - 5111

COUNTRY

Nepal

GEF FOCAL AREA

Climate change adaptation

PROJECT DURATION

2015–2019

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Agriculture and Livestock Development, Department of Agriculture, Department of Livestock Services and Nepal Agricultural Research Council and Department of Hydrology and Meteorology

GEF GRANT

USD 2 689 498
(funds from the Least Developed Countries Fund)

TOTAL BUDGET

USD 15 729 498

"Three thousand four hundred eighty-four farmers trained in farmer field schools to reduce vulnerability and promote climate-resilient agriculture approaches and adaptation measures."

Good practices

The project successfully employed a number of good practices in the areas of climate change adaptation, innovation and capacity building.

- **Prioritise simple, effective solutions to accelerate climate change adaptation**

In order to drive time-efficient adaption to climate change impacts among farming and herding communities, the project's farmer field school strategy promoted a range of simple, easy-to-learn and cost-effective technologies and approaches. Leveraging climate-smart agriculture methodologies, such as the sowing of stress-tolerant crop and fodder varieties, riverbed vegetable farming, preparation and use of urea-molasses multinutrient blocks, cattle shed improvement, resulted in increased production of crops, vegetables and livestock outputs. Projects should prioritise the introduction of technologies and approaches that can be easily demonstrated within farmer field schools or similar settings, and which deliver swift, proven benefits, such as those adopted by the project.

- **Leverage technology to strengthen resilience and foster knowledge-sharing**

A key element threatening vulnerable communities was the lack of timely information allowing them to respond to climate variability and related shocks. The project addressed this issue by establishing an agro-meteorological early warning system. Each FFS group was provided with an Android cell phone and other meteorological devices through which alerts could be swiftly communicated. Beneficiaries began using these tools regularly and benefitted from a greater understanding of the impact climate variability can have on crops and livestock. The warning system would, for example, alert farmers of a likely temperature increase in the coming days, and provide suggestions about how to protect their livestock from heat stress by covering sheds with straw and ensuring the animals had sufficient amounts of water.

- **Build institutional capacity to mainstream climate change adaptation policies**

A core outcome of the project was the strengthening of technical and institutional capacities and the integration of climate change adaptation (CCA) into national food and agriculture policies, strategies and plans. With this aim, the project worked closely with relevant ministries and other stakeholders to carry out CCA-focused trainings at ministerial and district levels, produce CCA manuals, prepare and implement 120 Community-based Adaptation plans, and review relevant policy documents. Nepal revised and published its Climate Change Policy 2019, incorporating recommendations made by the project to promote the transition to sustainable, climate-resilient food and agriculture systems. Initiatives aimed at increasing the technical and institutional capacity of countries to drive sustainable progress underpin the global community's efforts to curb the impacts of climate change and achieve the SDGs.


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Translating the 20 actions guidelines on the ground

The project supported Nepal in addressing the critical threat climate change and climate variability pose to the country's agriculture sector. By working with stakeholders at all levels, the project bolstered vulnerable communities' resilience, supported livelihoods, promoted gender equality, and facilitated

the mainstreaming of climate-adaptive approaches into National Action Plans. The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 2**, **SDG 5** and **SDG 13**. These include:

- **ACTION: Empower people and fight inequalities**

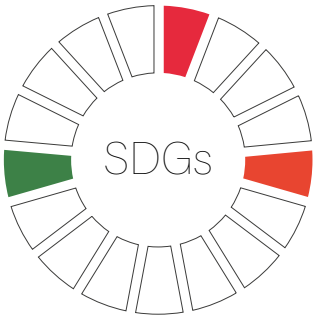
Sustainable progress requires a level playing field for all, regardless of gender. Women in rural populations are among the most marginalised and vulnerable groups today. Action is required to ensure their voices are heard and their rights upheld everywhere in the world. The project adopted gender-responsive approaches to ensure the active participation of women across all stages of implementation. FFS group members, for example, were carefully selected amongst disadvantaged households, especially single-woman farming households. The majority of attendees to FFS trainings were women, accounting for 74 percent of participants.

- **ACTION: Prevent and protect against shocks: enhance resilience**

The recurrence of crises and disasters undermines the efforts of nations to eradicate poverty, hunger and malnutrition and to achieve sustainable development. Agriculture is hit hard, taking about a quarter of all damage and losses caused by natural hazards and disasters in developing countries. By promoting the use of information-sharing systems and establishing an early warning mechanism, the project has enhanced communities' resilience to shocks.

- **ACTION: Address and adapt to climate change**

The capacity of the agricultural sectors to respond to climate change has far-reaching impacts on the livelihoods of people in developing countries and on national economies. Agriculture is both a driver of climate change and one of the sectors that is most affected by its consequences. The project succeeded in raising awareness among vulnerable communities, promoting climate-smart approaches, and building institutional capacities, thus bolstering the country's ability to adapt to the effects of climate change.



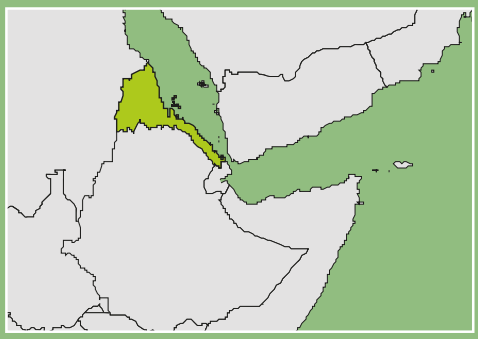
Key outcomes

- Three thousand four hundred eighty-four farmers trained in farmer field schools to reduce vulnerability and promote climate-resilient agriculture approaches and adaptation measures
- Thirty-six good practices in crop, livestock, poultry and fodder practices tested and documented
- Increased crop production and yields reported by farming communities following the adoption of SFA practices

Agro-advisory bulletins made available to communities, including via Android phones

- Two hundred eighty-seven ministerial and district-level staff members trained in climate change adaptation (CCA) approaches
- One hundred twenty community-based adaptation plans prepared
- National crop yield forecasting committee established
- One hundred twenty-seven farmer field schools facilitators and 24 social mobilisers trained
- Agro-meteorological forecasting capacity enhanced
- Climate Change Policy 2019 revised by the country

Prevention and disposal of persistent organic pollutants and obsolete pesticides in Eritrea



Source: Adapted from United Nations World map, 2020.

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Obsolete pesticides and persistent organic pollutants (POPs) represent a serious threat to human, environmental and animal health. Their use contributes to soil pollution, which can have significant economic costs due to the reduction of crop yields and quality, thus negatively affecting farmers' livelihoods. International concerns on the health threats and environmental hazards of certain pesticides have led to the establishment of the Stockholm Convention on POPs and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Both conventions aim to phase out several persistent pesticides and other chemicals.

Eritrea faces a number of threats related to the environmental degradation and public health impacts of pesticides, including POPs. Existing stocks were often badly deteriorated and stored in unsuitable conditions. Many stores were located close to inhabited areas and water sources. Some had been pilfered, and there had been reports of people being hospitalised and even dying as a result of pesticide exposure. The project sought to address risks arising from POPs and obsolete pesticides, dispose of existing stocks, and prevent further accumulation in Eritrea through the use of sound environmental management methods.

PROJECT CODE

FAO Project Symbol - GCP/ERI/014/GFF
GEF ID - 3987

COUNTRY

Eritrea

GEF FOCAL AREA

Chemicals (Persistent Organic Pesticides, POPs, and obsolete pesticides)

PROJECT DURATION

2013–2019

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Ministry of Agriculture; Ministry of Land, Water and Environment; Ministry of Health

GEF GRANT

USD 2 150 000

TOTAL BUDGET

USD 5 359 153

A special team takes care to dispose of obsolete pesticides

Total of 364 tons of obsolete pesticide stocks were disposed of and 720 metal containers, formerly containing obsolete pesticides, were cleaned, disposed of or safely stored.

Good practices

The project successfully employed a number of good practices in the areas of multi-stakeholder capacity and knowledge-building and promotion of sustainable food agriculture (SFA) methodologies.

- **Build capacity across all levels of society to foster positive change to management of pesticides**

The project organised a wide range of capacity -building initiatives, which were implemented through FFS, workshops and training courses. These were aimed at, and successfully engaged, farmers or people living in areas threatened by stocks of potentially hazardous pesticides at the local level and to private companies and ministerial staff and officials at the national level. The positive outcomes of the project could extend beyond Eritrea's borders with the National Safeguarding Team potentially providing training and capacity building in other countries. By broadening their reach to include farming communities and ministries alike, thus combining 'bottom-up' and 'top-down' approaches, the project secured national ownership and amplified positive outcomes.

- **Bolster national rules and regulations to reflect international standards and agreements**

Through a review of national legislation, the projects' efforts to drive a government-level strategic approach to the threat posed by POPs and obsolete pesticides resulted in increased capacity in the face of this threat. It also resulted in an ongoing alignment to the provisions of the Stockholm Convention on POPs and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

- **Address root causes to prevent unsustainable practices**

The project promoted integrated pest management (IPM) methodologies to address the root cause behind the use of pesticides and thus prevent it. IPM involves a range of sustainable strategies, each tailored to local environmental characteristics, including early pest recognition and protection of plants from infestation, which aim to address pesticide use and ultimately result in a reduction in the range and frequency of pesticide applications. Through this approach, the project achieved multiple long-term goals, such as safeguarding the health of local communities and the environment.


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Translating the 20 actions guidelines on the ground

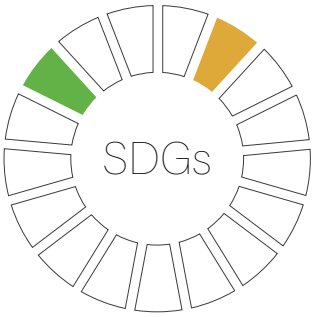
The project succeeded in addressing the multifaceted negative impacts of obsolete pesticides, and empowered farmers, communities and public institutions to help reduce the threats to their health, the environment and livelihoods.
The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 2**, in particular target 2.4, and **SDG 15**. These include:

- **ACTION: Enhance soil health and restore land**

Obsolete pesticides, POPs, heavy metals, and emerging pollutants like pharmaceutical and personal care products pose a serious threat as they alter soils' biodiversity, reduce organic matter within it, and introduce pollutants into the food chain.
By building Eritrea's capacity in pesticide management and by promoting IPM, the project contributed towards soil health and more sustainable agriculture systems.

- **ACTION: Enhance policy dialogue and coordination**

Fragmented actions, lack of coordination, and absence of a unifying vision can hinder progress towards a fairer future for people and the planet.
While bottom-up approaches are essential in securing sustainable progress, top-down government-level action is required to scale up efforts and amplify positive results. Securing commitment among ministries and public institutions can facilitate transformative action and drive concrete, country-wide change.
By bringing together public and private stakeholders to review national pesticide legislation and by promoting IPM methodologies, the project succeeded in driving institutional coordination and enhancing informed policy dialogue.



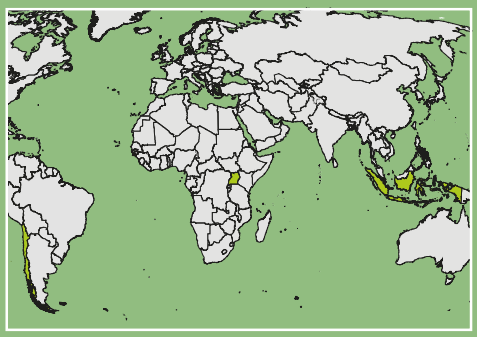
Key outcomes

Three hundred sixty-four tons of obsolete pesticide stocks burnt at high -temperature, of which 32 tons were POPs (DDT)

- Seven hundred twenty metal drums formerly containing obsolete pesticides cleaned, disposed of and safe stored
- Wide-ranging capacity built in procurement storage, and management of pesticide stock
- Trainers trained on Integrated pest management (IMP) to tackle the threat of the *Tuta absoluta* pest in tomatoes
- IPM manual published and pesticide legislation review supported

A National Safeguarding Team tasked with POPs and obsolete pesticide management created

Advancing tenure security for forest landscape -dependent communities in Indonesia, Peru and Uganda



Source: Adapted from United Nations World map, 2020.

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Silas Matoke, harvesting sago known as 'pangkur' on the banks of the Tuba river, Indonesia

Close to 240 million people across the globe live in forested regions, particularly in developing countries. Local communities manage a third of forests worldwide, and their livelihoods depend on forests for the provision of essential ecosystem services. Over the past two decades, many developing countries have revised land and forestry laws to provide greater recognition of local decision-making structures, indigenous territorial rights, and women's rights. While these reforms were intended to generate economic, social and environmental advances, outcomes have been uneven.

The Securing Tenure Rights for Forest Landscape-dependent Communities project (GCS Tenure), implemented by FAO and executed by the Center for International Forestry Research (CIFOR), had field activities in Indonesia, Peru and Uganda. The project sought to improve the way forest and land tenure reforms are understood, communicated and used, so that decision-makers, practitioners and forest-dependent people in developing countries are well-equipped to develop and implement policies and initiatives that support tenure security, livelihoods and sustainable forest management.

PROJECT CODE

FAO Project Symbol - GCP/GLO/806/GFF; GEF ID - 5797

COUNTRIES

Global, with focus on Indonesia, Peru and Uganda

GEF FOCAL AREA

Land degradation

PROJECT DURATION

2015–2019

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Center for International Forest Research (CIFOR) Forest Research and Development Agency, Indonesia; Servicio Nacional Forestal y de Fauna Silvestre, Peru; Forest Sector Support Division, Uganda; International Land Coalition, Rights and Resources Initiative; International Land Coalition; University of Lampung, the University of Pattimura, Pusat Kajian Wanita dan Gender Universitas in Indonesia; Universidad Agraria La Molina in Peru; Makerere University in Uganda; country officials, NGOs, and other partners

GEF GRANT

USD 2 million

TOTAL BUDGET

USD 6 545 852

"One hundred eighty-eight policy-makers at national and sub-national levels benefitted from improved awareness of barriers to, and impacts of, forest tenure reforms."

Good practices

The project successfully employed good practices in the areas of stakeholder ownership and engagement, knowledge-sharing, partnership promotion, and gender equity.

- **Drive participatory stakeholder engagement to leverage local know-how and bolster project sustainability over time**

The participatory prospective analysis (PPA) approach sourced direct input from stakeholders and beneficiaries and increased the general understanding of forest tenure issues. The approach included a workshop in which participants from local communities, public authorities, experts and other stakeholders identified the key factors undermining land tenure security. Those factors were assessed and used as a basis for participants to envision different scenarios for land tenure policy improvement. The process resulted in evidence-based, actionable information to direct policy and action plans. Projects adopting participatory approaches can benefit significantly from an increased understanding of the specific circumstances and context within their area of intervention, tapping into the knowledge of local institutions, experts and communities, and developing a sharper picture of the issues to be addressed.

- **Share knowledge to accelerate progress and empower stakeholders**

GCS-Tenure carried out knowledge-sharing and awareness-raising activities at the local, national and global levels. Communities and policy-makers received training on a wide variety of topics, including: procedures for formalizing collective tenure rights, legal literacy and tenure security, gender issues, climate change and forest management. The project also created a significant number of guides and manuals to build capacity in the area of skills in tenure reform. Pooling knowledge from across sectors and disciplines can ensure a holistic approach to problem-solving and a more detailed understanding of the challenges to come. Projects should contribute to that shared pool of knowledge by releasing data, research and results, whether satisfactory or otherwise. This good practice is highly replicable, can help provide valuable insight beyond the scope of any single initiative, and should be employed by all projects seeking to facilitate the achievement of the SDGs.

- **Establish partnerships, including with local academia, to accelerate progress and strengthen the enabling environment**

By establishing partnerships with universities across Indonesia, Peru and Uganda, the project was able to leverage considerable local knowledge on land tenure issues and tapped into established networks across the project's field sites. In each country, the project engaged a post-doctoral research fellow tasked to coordinate between partners and to provide research skills benefitting stakeholders and the project itself. The partnerships were mutually beneficial as the universities incorporated the experience gained into their curricula. In Peru, for example, the Universidad Agraria La Molina established a new course based on data-collection and analysis methodologies used by the project. The University of Pattimura in Indonesia leveraged the tools developed by GCS-Tenure for teaching and socio-economic research.

Translating the 20 actions guidelines on the ground

GCS-Tenure facilitated the establishment of participative, informed and evidence-based tenure policies that are necessary for reducing forest-dependent communities' vulnerability and for supporting better and long-term investments, all while providing a viable framework in the challenging area of fair and effective tenure reform.

The project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG 1**, **SDG 2**, **SDG 5** and **SDG 15**. These include:

- **ACTION: Empower people and fight inequalities**

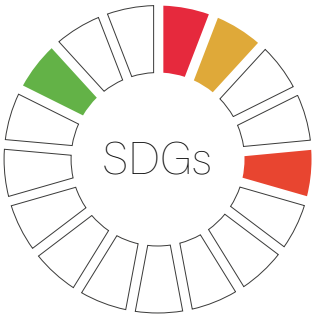
Rural and forest-dependent populations are among the world's most marginalized communities. By equipping these communities with increased awareness and understanding of their tenure rights, or by ensuring greater recognition of customary and indigenous territorial rights, GCS-Tenure has empowered them and bolstered their resilience while enhancing the sustainable use of natural resources. The project also sought to secure women's participation in workshops, trainings, and other activities, while ensuring their concerns related to tenure insecurity were raised and discussed in relevant public fora.

- **ACTION: Promote secure tenure rights**

Governance of tenure of land, fisheries, forests and other natural resources is necessary to avoid overfishing, deforestation, forest degradation, depletion of aquifers, and loss of soil quality. The project made a substantial contribution to knowledge on global, national and sub-national levels about the barriers and opportunities to forest and tenure reform. The project also provided guidance and training related to FAO's Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. This awareness can contribute to establishing well-designed tenure systems that generate fairer access and help reduce conflicts, benefitting vulnerable and marginalised communities.

- **ACTION: Strengthen the enabling environment and reform the institutional framework**

GCS-Tenure's employment of the PPA methodology ensured that the voices of stakeholders at all levels were heard, and it was used as a concrete starting point for policy and tenure reform. It led to the recognition of key actors' interests and conflicts and helped to create mechanisms through which local communities can articulate their demands.



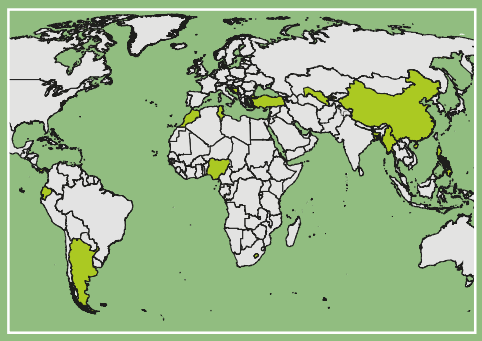
Key outcomes

The project delivered a number of positive outcomes at the international, national and local levels. It succeeded in raising awareness and building capacity among stakeholders, as well as mainstreaming sustainable land tenure approaches into countries' policies and action plans.

Participatory prospective analysis (PPA) implemented involving 883 people, including 130 policy-makers and 64 NGO practitioners

- Improved awareness of barriers to, and impacts of, forest tenure reforms among 188 policy-makers at national and sub-national levels
- International meetings and knowledge-sharing initiatives launched
- A number of guides and reports, including country-specific guides on laws, policies and processes for formalizing forest rights of communities, published
- An analysis of conflicts in rights formalization processes, and a guide on gender and interculturality in tenure reform processes and implementation developed.

Decision support for mainstreaming and scaling up of sustainable land management in fourteen countries (Global project)



Source: Adapted from United Nations World map, 2020.

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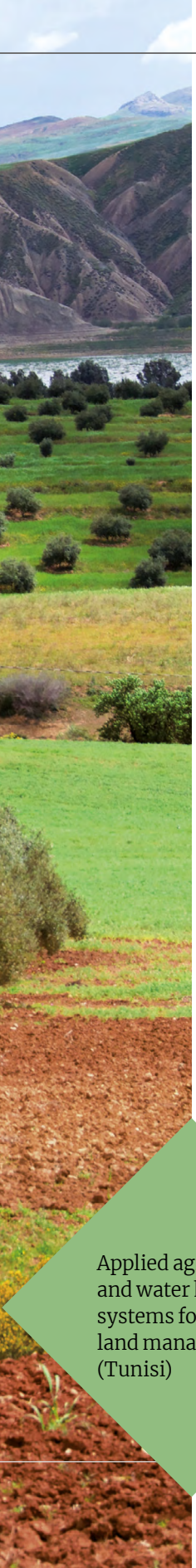


Desertification, land degradation and drought (DLDD) reduce productivity and food security, disrupt vital ecosystem functions, negatively affect biodiversity and water resources, and increase carbon emissions and vulnerability to climate change. More than half of agricultural land worldwide is affected by land degradation every year, and an estimated USD 1 trillion in soil services is lost from unstainable land management practices.

Despite the seriousness of the threat, policy-makers and land users have limited access to resources, tools and information about effective sustainable land management (SLM) approaches. Furthermore, there are challenges arising from lack of coordination between SLM platforms and databases, knowledge gaps in the area of SLM costs and benefits, and limited capacities and awareness among policy-makers about the importance of adopting SLM approaches. The Decision support for sustainable land management project (DS-SLM) sought to address these issues.

PROJECT CODE

FAO Project Symbol - GCP/GLO/337/GFF
GEF ID - 4922

COUNTRIES

Argentina, Bangladesh, Bosnia and Herzegovina, China, Colombia, Ecuador, Lesotho, Morocco, Nigeria, Panama, Philippines, Thailand, Tunisia, Turkey, and Uzbekistan

GEF FOCAL AREA

Land degradation

PROJECT DURATION

2015–2019

IMPLEMENTED BY

FAO

PARTNERS AND EXECUTING AGENCIES

Centre for Development and Environment / World Overview of Conservation Approaches and Technologies (WOCAT) and 15 country lead agencies

GEF GRANT

USD 6 116 730

TOTAL BUDGET

USD 44 214 077

Applied agroforestry and water harvesting systems for sustainable land management (Tunisi)

The project produced valuable methodological guidelines, tools and toolkits that are relevant to any country seeking to combat desertification, land degradation and drought.

Good practices

The project successfully employed good practices in the areas of SLM mainstreaming, partnership promotion, capacity building, knowledge-sharing, and innovative use of frameworks and digital tools.

- **Adopt flexible and scalable frameworks to mainstream sustainable approaches into national action plans**

Given the key role of food and agriculture in achieving the 2030 Agenda, countries must take an integrated approach to sustainable land management and the reversal of DLDD. The DS-SLM project employed an innovative modular methodological framework which was described as instrumental to the project's success. It established a Decision Support Framework enabling stakeholders to make informed decisions on mainstreaming and scaling up sustainable land management by providing in-depth knowledge, understanding, and analysis of the effects of land use change and management, the effectiveness of SLM responses, and on the reasons why it is crucial to invest in SLM. The project also highlighted the importance of employing flexible approach and scalable frameworks which can be replicated and adapted in different countries across a variety of contexts.

- **Promote sustainable approaches that safeguard natural resources and protect livelihoods**

Soil provides nutrient cycling for plant and animal life, hosts a quarter of the planet's biological diversity, and acts as a basis for feed, fuel, fibre and a variety of ecosystem services. All countries involved the in the project implemented SLM technologies and approaches in pilot plots and documented their progress and results to demonstrate their potential for implementation at scale. Project partners in Colombia, for example, quantified the benefits of SLM in degraded livestock land. Their milk production increased from 15 to 45 litres, and lower investment in agricultural inputs of fertilizers and labor led to a six percent increase in fodder production. Furthermore, soil health enhancement led to a 23 percent decrease in degraded land across the project's pilot plots.

- **Promote partnerships to accelerate progress and strengthen the enabling environment**

The project fostered cross-sectoral partnerships across countries and built cooperation experiences through training opportunities, capacity building and knowledge sharing. Partners from the Philippines, for example, leveraged expertise from Thailand in the effective use of vetiver grass in combatting soil erosion. Establishing multi-stakeholder, cross-sectoral partnerships is an effective way of building capacity, pooling resources, expanding expertise, broadening the scope and effectiveness of projects, and fostering an enabling environment. All projects aimed at delivering sustainable progress should facilitate the establishment of partnerships from the institutional and national level to those amongst local communities.

- **Leverage technology to strengthen resilience and foster knowledge-sharing**

Under the project, FAO collaborated with WOCAT to deliver an open-access online DLDD and SLM decision support platform and database, linking technical and scientific information networks, country partners and regional partners and programmes. Countries involved in the project tested and documented over 100 SLM technologies and approaches and made them freely accessible online. The database includes over 2 000 SLM practices shared by 132 countries worldwide, and it is an invaluable tool for evidence-based decision-making. FAO also developed the online Sustainable land management and land restoration e-learning course to assist policy-makers, practitioners and land users in the selection, planning, implementation and monitoring of SLM interventions.

Translating the 20 actions guidelines on the ground

The DS-SLM project succeeded in mainstreaming SLM and establishing multi-stakeholder partnerships within and across countries, which facilitated partnerships for the expansion of SLM at scale towards reducing biodiversity loss while supporting food and water security and climate change mitigation. The

project exemplified several actions from the 20 Actions Guidelines, contributing towards **SDG2**, **SDG 5** and **SDG 15** (in particular the target 15.3). These include:

- **ACTION: Mainstream biodiversity conservation and protect ecosystem functions**

Biodiversity is integral to ecosystem health, food production, resilient livelihoods, and safeguarding biodiversity and ecosystem functions. The DS-SLM project provided sound data on the concrete environmental, social and economic benefits of SLM while raising awareness of the consequences of inaction. Equipped with this knowledge, governments and other partners took informed decisions to support the transition to more productive and more sustainable agriculture systems within their National Action Plans.

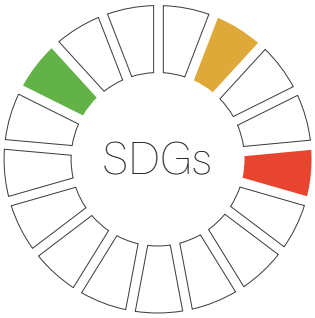
- **ACTION: Prevent and protect against shocks: enhance resilience**

Agriculture is hit hard by the recurrence of crises and losses caused by natural hazards and disasters, particularly in developing countries and among vulnerable communities. Through its pilot projects and training, DS-SLM provided smallholder farmers and communities with cost-effective and sustainable ways of increasing their resilience and incomes. Innovative SLM technologies in salt-affected and drought-prone landscapes in Uzbekistan, for example, bolstered livestock farmers' resilience and incomes through increased cotton yields.

- **ACTION: Strengthen innovation systems**

A key enabler across the SDGs, innovation is a main driver of agricultural and rural transformations. Innovation refers not only to technologies and practices, such as improved crop varieties, agroecological practices, biotechnologies and financial instruments, but also to organizational forms such as public-private partnerships and farmers' cooperatives. DS-SLM promoted innovation both through the introduction of 74 new or adapted, peer-reviewed SLM practices and technologies, implemented in pilot plots and landscapes across the 14 countries involved, and through the creation of open and accessible digital platforms, including the WOCAT SLM database and FAO's *Sustainable land management and land restoration*[2] e-learning course.

[2] Available at: https://elearning.fao.org/course/view.php?id=454



Key outcomes

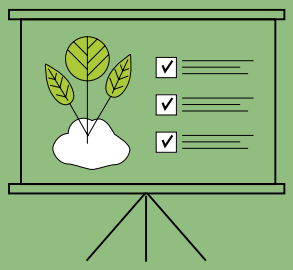
The 14 countries involved in the project benefitted from enhanced knowledge and understanding of SLM and its concrete advantages to stakeholders and the environment

- Increased production while maintaining ecosystem health
- Mainstreamed SLM in country policies and action plans
- implemented SLM in selected pilot landscapes and sites
- Facilitated country-to-country collaboration and partnerships
- Adoption or development of new approaches and technologies, as well as the exchange of these tools in an open, global database developed under DS-SLM

The project also produced methodological guidelines, tools and toolkits relevant to any country seeking to combat desertification, land degradation, drought

It supported the online WOCAT SLM platform and global database, hosting 69 technologies and approaches adopted and documented by the countries, as well as an online e-learning SLM course developed by FAO

Good practices identified from the eleven FAO-GEF projects



Increase knowledge-sharing and raise awareness of biodiversity and natural resources for sustainable food and agriculture

- Promote sustainable approaches that safeguard rangelands and protects livelihoods
- Prioritise simple solutions to accelerate effective adaptation to climate change
- Share knowledge to accelerate progress and empower stakeholders
- Address root causes to prevent unsustainable practices and build resilience
- Promote sustainable farming to build resilience

Build capacities across the society to bring about positive outcomes

- Establish Farmer Field Schools to enhance knowledge and capacity -building locally
- Build institutional capacity to mainstream climate change adaption policies
- Bolster national rules and regulations to reflect international standards and agreements
- Mainstream sustainable food and agriculture approaches into national action plans
- Establish compensation mechanisms for environmental services to improve livelihoods

Promote innovations consistently at institutional, technical and management level

- Implement efficient, multi-impact solutions to drive sustainable progress
- Integrate traditional practices with modern methodologies to promote sustainable practices and foster dialogue
- Leverage GIS and other technologies and promote knowledge-sharing
- Adopt flexible and scalable frameworks to mainstream sustainable approaches into national action plans
- Decentralise decision-making processes to empower local communities
- Adapt project goals to drive successful outcomes ensuring transparency and participative approach

Foster dialogue and participation for transition to sustainable approaches

- Integrate traditional practices with modern methodologies to promote sustainability and foster dialogue
- Drive participatory stakeholder engagement to leverage local know-how and bolster project sustainability over time
- Ensure country ownership and stakeholder participation to maximize positive outcomes

Nurture partnerships for sustainable project outcome and continuity

- Establish partnerships with local academia, to accelerate progress and strengthen the enabling environment
- Foster gender equality and women's empowerment to drive inclusive change
- Extend positive impacts through scalability and replicability

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The publication highlights replicable good practices employed during recent FAO–GEF projects that can accelerate progress towards the SDGs.

The projects delivered in partnership with member countries and stakeholders, addressed a range of issues in the agriculture, forestry and fisheries sectors with a focus on safeguarding biodiversity and natural resources for driving sustainable development.

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