Local Action on Sustainable Land Management

AUTHOR
Marie-Laure Mpeck Nyemeck, Ana Paula Canestrelli and Rissa Edoo

COPY EDITOR
Chris Dickson

ACKNOWLEDGMENTS
Special thanks and appreciation for the valuable contributions provided by SGP Country Programmes and grantee partners.

PUBLICATION COORDINATOR
Yoko Watanabe

CITATION
United Nations Development Programme. 2022. Local Action on Sustainable Land Management: An Overview of SGP's Portfolio. UNDP, New York

COVER PHOTO
Mrs Tsvakai Moyo, a farmer who produces sorghum in Zimbabwe using climate-smart agriculture. Credit: Pascal Manyakaidze.

DESIGN
Camilo Salomon @ www.cjsalomon.com

PUBLISHED
Small Grants Programme
Local Action – Nature, Climate, and
Energy, Bureau for Policy and Programme Support
United Nations Development Programme
304 East 45th Street, 9th Floor,
New York, NY 10017
www.sgp.undp.org

Contents

Community planting.
Credit: SGP Seychelles

Foreword

Land is being degraded rapidly worldwide, largely due to climate change, unsustainable agriculture practices, and deforestation. Our current agricultural practices are causing soils to erode up to 100 times faster than natural processes can replenish them. Land degradation also leads to biodiversity and ecosystem services loss, and ultimately to decreased agriculture production and food insecurity. It affects the livelihoods of up to 3.2 billion people around the planet, particularly vulnerable populations in developing countries.

Using locally adapted solutions, local communities – including Indigenous Peoples, women, and youth – play a pivotal role in reversing this trend through sustainable land management, agroecology, sustainable agriculture and sustainable forest management practices, which provide both environmental and socio-economic benefits.

The Small Grants Programme (SGP), a corporate programme of the Global Environment Facility (GEF) that is implemented by the United Nations Development Programme (UNDP), has been supporting community-led sustainable land management initiatives that promote climate resilient agriculture and food practices that improve productivity and increase ecological services. As of 2021, SGP has awarded over 3,800 small grants to sustainable land management projects in over 125 countries. SGP's portfolio in this area has shown multiple benefits on the ground, not only on sustainable land management, but also on improved biodiversity, climate change mitigation and adaptation, and hazardous chemical management. In many instances, these good practices have been scaled up and replicated nationally and globally with partners.

This publication offers an overview of SGP's sustainable land management portfolio, highlighting local actions to achieve the goals of Land Degradation Neutrality at the national and global levels, as agreed under the United Nations Convention to Combat Desertification. The case studies that are highlighted here also demonstrate how local action can be scaled up for global impact. Moreover, it sheds a spotlight on the importance of partnerships to achieve larger impacts by highlighting SGP's partnership with SOS Sahel to promote sustainable land management and strengthen value chains for agriculture products in the Sahel region of Africa, with involvement of women and youth.

We hope the examples included in this publication provide inspiration to further invest in and upscale innovative sustainable land management practices. Together with partners, and in line with GEF and UNDP strategies, SGP is committed to further its support to community-led sustainable land management initiatives, contribute to the achievement of related Sustainable Development Goals and secure Land Degradation Neutrality across the globe.

1 Introduction

Launched in 1992, the Small Grants Programme (SGP) is a corporate programme of the Global Environment Facility (GEF), which is implemented by the United Nations Development Programme (UNDP). SGP has expanded operations to 128 countries, supporting bottom-up actions for global environmental issues by empowering local civil society and community-based organizations (CSOs and CBOs). SGP is implemented through a decentralized governance and delivery mechanism at the country level with GEF resources, along with co-finance from communities, governments, and other donors. In partnership with governments, the private sector and other stakeholders, SGP facilitates upscaling and replication of successful initiatives. SGP also promotes civil society's participation in national and global policy dialogues and its decision making on environmental and sustainable development issues.

With 30 years of experience in working with local communities, SGP plays a unique role in meeting the objectives of multilateral environmental agreements and contributing to the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development. SGP specifically contributes to the SDGs on climate action, life below water, and life on land, respectively. It also contributes to the achievement of other goals, such as no poverty, no hunger, access to energy, and sustainable production and consumption.

Women participating in food production in Fombe, Mudzi District, Zimbabwe. Credit: Pascal Manyakaidze.

2 SGP approach for sustainable land management and sustainable agriculture

The SGP portfolio on land degradation supports community-based initiatives that are focused on land restoration and prevention of land degradation as well as promotion of sustainable land and forest management. Under the SGP's 7th Operational Phase (2020-2024), four specific areas of work are being supported, namely:

- Increased efficiency and effectiveness of overall environmentally sound food production and value chain, including certification schemes of organic agriculture, fair trade, and others
- Agrobiodiversity conservation, including extending support to producer networks, movements and value chains among small-holder farmers
- Promotion of agro-ecological production methods, including diversification and improved livelihoods
- Implement community-based actions to remove deforestation from supply chain and expand restoration of degraded lands

Soil and water conservation activities in Zimbabwe. Credit: Pascal Manyakaidze.

Support is provided for integrated projects that aim at restoring ecosystem services or reducing negative environmental trends such as land degradation and deforestation, biodiversity loss and emissions of greenhouse gasses. SGP supports community-based sustainable land management actions that integrate climate-resilient sustainable practices and standards (e.g. secure land tenure and community participation), while also promoting diversification and improved livelihoods. These actions include water harvesting, post-harvest management, and business skills development to empower communities to better manage their natural resources, which all also lead to global environment benefits. SGP supports national and local efforts to address the challenge by supporting work towards land degradation neutrality (LDN), applying the LDN framework of the United Nations Convention to Combat Desertification (UNCCD).

3 Updated overview of SGP sustainable land management and agriculture portfolio

3.1 OVERVIEW SUMMARY

A review of the SGP's sustainable land management portfolio shows a constant increase in the number of community-based projects, which is correlated to the level of investment. Between 1995 and 2021, SGP supported the implementation of more than 3,860 community-based projects related to sustainable land management. Total funding of more than US$140 million was allocated as grants to these projects, generating about $145 million in co-financing.

During the last five years of that period (2016 to 2021), the SGP sustainable land management portfolio saw an increase in the area of land conserved and brought under improved management systems. During this period, 962 projects were completed in the sustainable land management focal area, resulting in more than 1,297,495 hectares of land brought under improved management practices (Figure 2).

The portfolio also saw a consistent number of community members involved in the related projects, as illustrated in Figure 1.

FIGURE 1: Trends in surface area of land improved and number of communities involved in sustainable land management practices

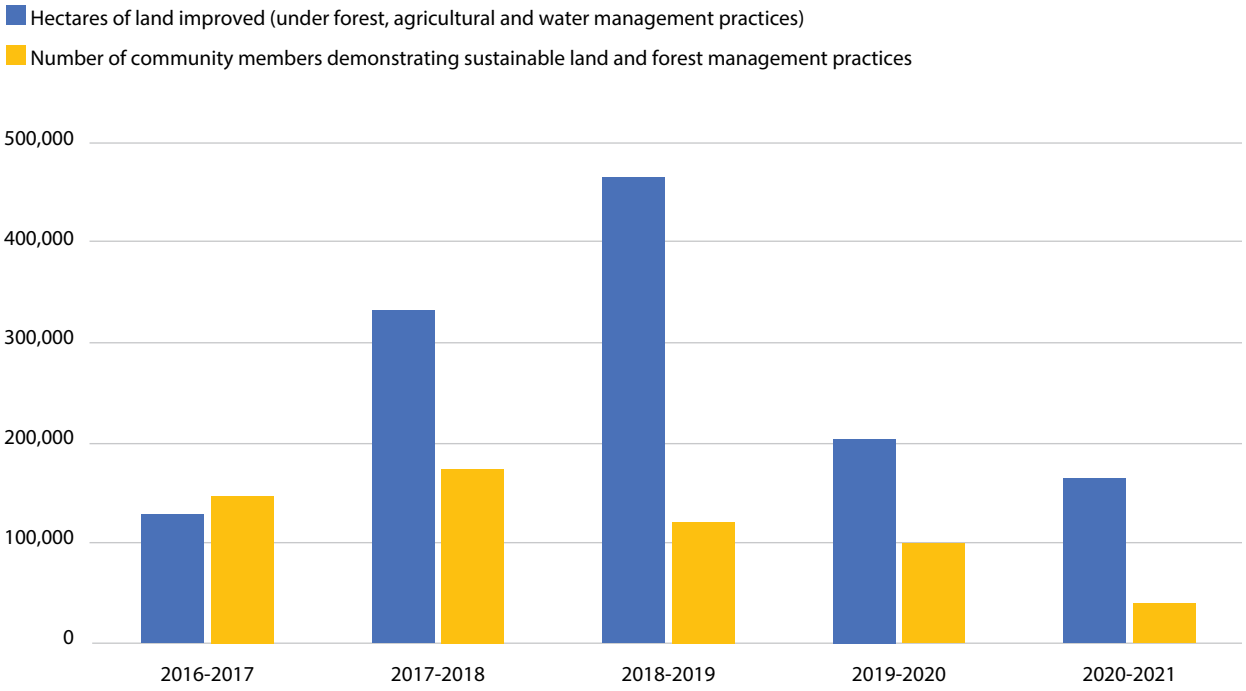


FIGURE 2: Key facts on the SGP sustainable land management portfolio 2016 – 2021

962
Projects completed on **sustainable land management**

119
Projects completed on **sustainable forest management**

>583,000
Community members demonstrating sustainable land and forest management practices

>572,000
Hectares of land brought under improved management practices

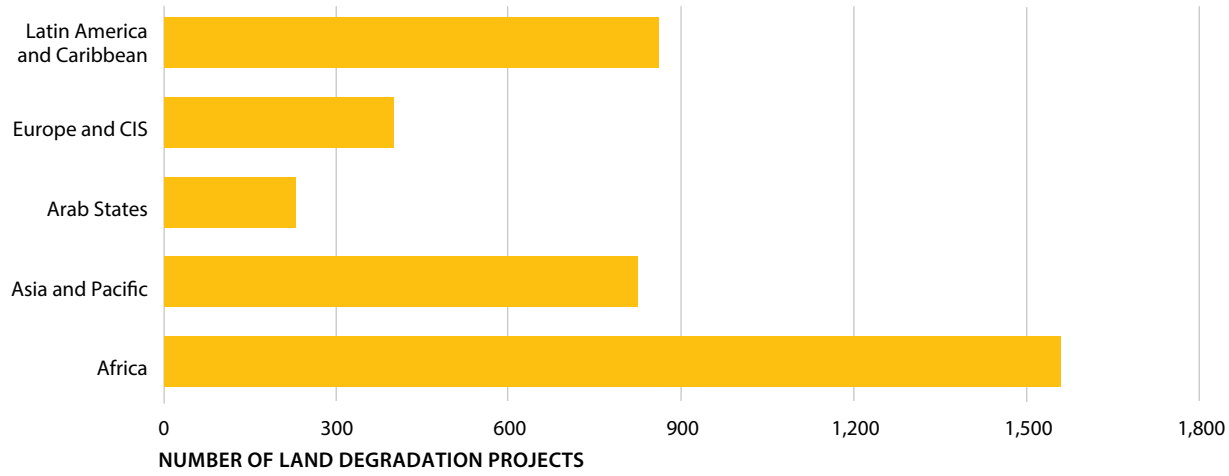
>724,000
Hectares restored through improved forest management practicess

Sustainable forest management by communities continues to be a key focus of SGP's sustainable land management focal area portfolio, as well as a focus of the portfolios on the focal areas of biodiversity, and of climate-change mitigation. This approach to land degradation across several focal areas has helped to increase the number of SGP projects related to sustainable forest management.

For instance, from 2016 to 2021, a total of 119 sustainable forest management projects were completed, contributing to the restoration of more than 724,000 ha of land through improved forest management practices.

In terms of regional distribution, Africa had the most sustainable land management projects implemented (Figure 3).

FIGURE 3: Regional distribution of projects in the sustainable land management portfolio



A review of the SGP sustainable land management portfolio from 2011 to 2021 shows that projects have mainly focused on the following four practices:

a. Agroecology and agribusiness

b. Sustainable forest management

c. Technologies for water and energy use; efficiency in production systems and farms

d. Pasture rehabilitation and rangeland management

3.2 WOMEN IN SUSTAINABLE LAND MANAGEMENT

Unsustainable land use is contributing to unprecedented levels of global land degradation. Nearly half of the world's degraded land is in areas with a high incidence of poverty, and degradation affects the livelihoods of an estimated 1.5 billion people.

However, within productive landscapes, women are often given the most marginal lands with the least secure tenure rights. There is a need to strengthen women's access to the resources required for productive agriculture and reduce the time and energy burdens of household work, including food processing and preparation.

SGP works with women entrepreneurs and women-led organizations as well as farmers, focusing on agricultural production through improved yields, value addition processes and helping farmers (both men and women) to better market their farm products at the right time and at market prices.

In Nigeria, SGP supported a project with the Katsina Ala and Buruku communities on the banks of the Katsina Ala River, aiming at improving the resilience of the community, especially women. Unsustainable farming practices and reduced rainfall had led to land degradation and the drying-up of the river, which in turn resulted in the community becoming heavily dependent on forest products, especially non-timber forest products (NTFPs) and wood, to support their livelihoods. While women were involved in producing NTFPs, they were often excluded from interventions that could empower them and build their capacity. Part of the project strategy was to increase women's participation in its management and implementation; the management team was composed of equal numbers of men and women (six of each). This approach enabled equal and active participation of women, while overcoming the restriction caused by cultural norms.

As a result, the voice of women is now consciously recognized in decision-making processes in the community. Seventy women were trained in soap making (liquid and bar), as well as bead making. They produced and sold more than 20 litres of liquid soap. Additionally, both women and men were trained in producing and applying compost manure and sustainable agriculture practices, and 1,200 fuelwood-efficient stoves were produced and installed.

3.3 PROMOTING PARTNERSHIP FOR SCALED-UP ACTION: SGP AND SOS SAHEL INNOVATIVE PARTNERSHIP

The partnership initiative between SGP and SOS SAHEL International (SOS SAHEL), launched during the 23rd Conference of the Parties (COP23) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2017, supports sustainable agriculture in the countries in the Sahel, a region that is home to 300 million people. It aims to achieve better synergy and efficiency in scaling up community-driven and innovative initiatives that focus on improving agro-ecology, and enhancing capacity and knowledge on best practices. It does this in part through

policy development and support for scaling up and strengthen sustainability of successful initiatives through joint and collaborative advocacy activities.

Thirty community-based projects were supported in seven participating countries (Burkina Faso, Cameroon, Djibouti, Ethiopia, Mali, Niger and Senegal). Supported projects have enabled community organizations and CSOs in the Sahel to develop and implement adaptive landscape and seascape management strategies that build social, economic and ecological resilience, based on local sustainable-development benefits (Table 1).

In Ethiopia, a local civil society organization called Sustainable Environment and Development Action (SEDA) implemented a project titled ''Promoting sustainable NRM [national resource management] for climate resilient livelihoods and biodiversity conservation in Aricha-Suro-Chabbi Watersheds". The project aims at promoting sustainable natural resource management and climate-smart agricultural practices through: integrated watershed development activities; capacity building of communities on resource management and utilization; improving agricultural systems; and provision of sustainable renewable energy technologies.

The project directly reached more than 2,660 individuals, who gained awareness about environmental degradation, climate change, and eco-friendly business management. This awareness was raised through trainings, school club outreaches, etc. Around 200 ha of land were rehabilitated and effectively protected from further degradation. Some 30 households were recognized and awarded for their championship in the protection of trees planted on household land. Moreover, about 30,000 seedlings were planted and five community ponds rehabilitated. Each of the ponds holds 7,500 cubic metres of flood water, which provided for 15,000 heads of livestock and 12,300 people for five dry months after the rainy season.

Overall, 239 individuals organized in eight community-led enterprises engaged in income-generating activities that accumulated more than 500,000 Birr ($9,800) as capital and provided loans to members for petty trade and farming. Most of these members covered their family food and social costs. Above all, the entrepreneurial skill, assertiveness and empowerment shown by the women in the groups were effective and encouraging. The project also distributed fuelwood-saving Mirt Stoves, cutting about 70.2 tonnes of potential carbon dioxide emissions. The reduced firewood consumption also eased the work burden on girls and women.

TABLE 1: Key results on the SOS SAHEL – GEF SGP innovative partnership

	RAISING AWARENESS ON LAND DEGRADATION (COMMUNITY MEMBERS)	RAISING AWARENESS ON COVID=19	HECTARES OF RESTORED LAND	HECTARES OF REFORESTED LAND	CAPACITY BUILDING ON SUSTAINABLE LAND MANAGEMENT	COMPOST PRODUCED (TONNES)	HECTARES OF FOREST AREA PROTECTED	FOOD CROPS PRODUCTION (TONNES)	TREES AND SHRUBS PLANTED
Burkina Faso	11,910	5,000	160	82	241	30	82	64	6,200
Cameroon	755	50	3	11	613	0	17	0	18,852
Djibouti	350	1,000	0	0	83	30	0	0.45	85
Ethiopia	2,707	250	200	0	221	0	0	24	10,500
Mali	1,375	165	150	56	385	450		56	4,200
Niger	2,502	2,502	171	131	487	0	284	22	66,810
Senegal	3,006	800	172	0	240	0	120,780	0	11,000
Total	**22,605**	**9,767**	**857**	**281**	**2,270**	**510**	**121,164**	**166**	**117,647**

4 Illustrative sustainable land management case studies

4.1. THE IMPORTANCE OF LOCAL ACTION FOR SUSTAINABLE LAND MANAGEMENT: EXPERIENCES FROM SCOPE PROGRAMME, ZIMBABWE

Background

Supported by SGP Zimbabwe, Schools and Colleges Permaculture programme (SCOPE) is a practical education programme of the Zimbabwe Institute of Permaculture, working in partnership with the Ministry of Primary and Secondary Education, and the Environment Management Agency. It focuses on assisting schools to redesign their land uses for sustainable resource use and to protect children and youth from environmental hazards in their living and learning spaces. According to the 2019 UNCCD Performance Review and Assessment of Implementation, report of the of seventh reporting process, Zimbabwe ranks poorly on key indicators regarding land cover, land productivity, land degradation, soil organic carbon stocks, population living in poverty, access to safe drinking water, vulnerable populations, and protection of biodiversity.

SCOPE worked with three schools, Musavezi Primary School, Tumba Primary School and Nyamakari Secondary school, and their communities, under the project titled "Youth promoting agro- ecology through integrated land use management for nutrition enhancement and income diversity". The project directly targeted 865 school-going children aged 5-13, and 59 out-of-school youth aged 14-35. It used climate-friendly agriculture techniques, which form the base of sound land use practices and food production systems. The initiative targeted both urban and rural areas, and was based on the premise that children are capable, resourceful, and competent individuals who can be empowered to become active contributors and agents of change to face the social, environmental and economic challenges faced by the world today.

Seeds and food festival. Credit: SGP Zimbabwe.

Farmers working on a raised keyhole garden bed. Credit: SGP Zimbabwe.

Approach

With the introduction of the integrated land-use design, learners and the school community redesign their schoolyards based on permaculture principles to regenerate the soil, harvest rainwater and produce their own food; hence protecting children and youth from environmental hazards in their living and learning spaces. The whole school grounds are divided into various food production zones; the kitchen garden, food forest, and buffer zone, which serve different functions in accordance with the needs of the school.

Children learn how to practically nurture the soil and practice rainwater harvesting through engaging in earthworks such as ponds. They also adopt agro-ecology principles that include seed saving, crop diversification, mulching or groundcover in cropping areas, and infield rainwater harvesting. More than 100 multipurpose trees, mostly indigenous species, were planted in the food forest. This allows most of the schools to enjoy diverse fruits throughout the year. Small livestock such as chickens and rabbits were also included, and in some cases fish farming, with the waste from the livestock being used to feed the gardens. These systems require less water than other systems that irrigate crops with unused water, and also see higher food productivity relative to those systems.

Results and impacts

The initiative transformed previously bare school grounds into productive lands bearing fruit trees, vegetables and herbal medicines such as lemongrass and wild basil using permaculture. Soil bareness in the schools, estimated at 70-90 percent at the beginning of the project, was reduced to 10-30 percent. This process is coupled with converting the predominantly monoculture eucalyptus woodlots to food forest with fast growing fruit and medicinal trees such as moringa, neem, guava, loquats and bananas on all water-harvesting sites.

Installation of solar-powered boreholes helped the schools to have access to clean water for drinking and for use in the gardens. The initiative launched a campaign under the slogan "grow your own, cook your own and eat your own", which saw the schools marking significant increase

in food production, harvesting of leafy vegetables, onions and tomatoes and contributing to the school-based feeding programme. Twenty percent of the vegetables harvested were sold and the money used to buy other food items that cannot be produced at the school. Additional income was raised to finance other school projects.

Other results achieved include the following:

- Embracing sustainable agriculture and permaculture in the new education curriculum.
- Establishment of a 3.79-ha demonstration centre, which provides camping for children, youth and educators while providing hands-on practical training and experiences.
- Production of four manuals and guides for facilitators and learners aimed at bridging the gap during implementation of the programme.

Lessons learned

- The SCOPE approach is innovative as it helps schools to move from ornamental landscaping to functional landscaping, focusing on sustainable land use designs that diversity food crops production to help meet the food needs of the communities.
- There is an inclusive transgenerational process that enables parents, children, teachers and other stakeholders in the surrounding community to work together for the improvement of their school and its teaching and learning environment. The local people are brought back into their children's learning, which is an important part of sustainable local cultures.
- Children are offered the practical experience and opportunity to showcase what they have learned. The approach is also in line with the new curriculum of Continuous Assessment Learning Activities.

Children working on their school's garden. Credit: SGP Zimbabwe.

Ms Khum Kumari Thapa with her goats in a newly constructed pen at Dhudhali Sindhuli. Credit: Vivek Sharma.

- The greening of the school initiative brings long-term environmental benefits, including: reduction of the ambient temperature in the changing climate; improvement of air and water quality by absorbing pollutants, intercepting particulates, and releasing oxygen; and reduction in the rate of soil erosion.
- School gardens saved significant money for the school-based food programme, as the school now produces most of the vegetables and cereals it consumes. This has also enhanced nutrition, and acted as another source of income for the schools by selling some of the surplus.

Scaling up and replicability

SCOPE Zimbabwe belongs to an international body, the Global Ecovillage Network, which works with communities across Africa to facilitate regeneration of degraded landscapes. The initiative currently covers four other countries, namely Kenya, Uganda, Malawi and Zambia, and includes several activities that can be replicated and scaled up. Through the network, teachers, students and community members can learn from schools in other places, and apply the lessons learned in their own community. The project has facilitated school communities to adopt farming methods that help in climate change adaptation and mitigation. Project beneficiaries have adopted the techniques of planting cover crops (leguminous crops), agroforestry, crop rotation, and organic farming methods.

4.2. SAFEGUARDING THE DEGRADED LAND ALONG THE KAMALA RIVER BASIN AND ENHANCING THE LIVELIHOOD INITIATIVES, NEPAL

Background

Nepal loses 24 million tonnes of fertile soil annually into the Bay of Bengal due to flooding and soil erosion. Regaining lost soil fertility is a complex and very long process. Furthermore, due to deforestation, 60,000 ha of land is converted into desert each year.

SGP supported a community-based organization called Human and National Development Society to address the severe deforestation issue in Dudhauli Municipality of Sindhuli District, in south-eastern Nepal. The Dudhauli valley is dominated by the Danuwar and Mushahar ethic groups, and formed by the Kamala River. The land in the valley is degraded by deforestation, landslides further upstream, heavy flooding followed by riverbank cutting (a continuous erosion of the river's outside bank), frequent changing of the river course, and rising of the riverbed due to siltation. It has been reported that the bed of the Kamala Rivers is rising by 0.2 metres per year.

Approach

The project addressed the issues of river cutting and flooding of the Kamala River in Dudhauli. Once the flood-control structure was in place, the project mobilized local people in initiating organic farming and promoting agroforestry and forage

management in the flood plains. To construct river-training structures (that hold, or "train", the river in a particular course), local resources such as bamboo, jute sacs and ropes were used to construct bamboo baskets, which were filled with rocks, and then joined together to form embankments.

Achievements

The project was successful in constructing a 600-m structure at the bank of the Kamala River, which was expected to save 1,800 ha of land from river cutting. This further helped to reclaim 150 ha of land that had been stripped by earlier flood.

After the river-training work, the project supported the initiation of both public and private agroforestry, yielding multiple livelihood and ecological benefits. With the coordination of the District Forest Office and six forest users' groups, nearly 26 ha of land was converted to public agroforestry, benefiting 590 households. Likewise, 30 ha land was brought under private agroforestry, benefitting 370 households. In both the public and the private agroforestry cases, fodder (especially Melia azedarach, or chinaberry trees), fruit trees and grasses were planted along with the agricultural crops. In the meantime, the project also supported goat-rearing practices, supporting locals to construct goat shelters and administer anti-worm medicine for their goats. This endeavour brought multifaceted benefits to local communities:

1. Support to 650 farmers in selling goats in local markets, fetching a total of $30,000

2. Milk production increased to 400 l per day from 300 l. A total of 44 families were able to earn $750 to $800 by selling milk and milk products.

3. Zero grazing initiated in both community forest and open land, thanks tofodder and grasses planted in the agroforestry plots along with agricultural crops, resulting in abundant pasture.

4. Workload of and time spent by women and girls collecting firewood and fodder reduced by 60 percent as wood and fodder are being collected from agroforestry farms planted with fruit trees and forage grasses.

The project supported the revival of a 55-year-old, 5.5-km irrigation canal by maintaining seepage-prone areas. The canal has an irrigation area of 37 ha, benefitting 158 families. Likewise, the project also supported the construction of four water-harvesting ponds irrigating 12 ha, further benefitting 28 households.

With the improved irrigation facilities, the project initiated organic farming in 6 ha of land benefitting 48 households. The project provided training on organic farming, and how to make organic manure and pesticide. Each benefitting family has earned an average of $600 per year from selling vegetables.

Indigenous Chepang woman Kanchi Maya Praja in her organic farm in Nepal. Credit: SGP Nepal

A farmer harvesting fruits in Armenia. Credit SGP Armenia

As part of its initiative to support livelihoods and women's empowerment, the project also supported the training of 40 women in making high-quality quilts. With assistance from Japanese Volunteers these quilts are exported to Japan. With this marketing in place, these women earned $400 to $850 annually.

Lesson learned

The river-training structure is very complex and needs periodic maintenance. The 2021 floods damaged the bamboo structures, but fortunately the structure nonetheless prevented floodwaters from entering and damaging agriculture fields.

Pasture management and agroforestry were good practices in flooded land, which had provided income generating opportunities to the locals.

Replication

The success also led to replication of similar structures with the funding support from Dhudhauli municipality. A further 800-m structure was erected along the riverbank.

4.3. REUSING DISCHARGE WATERS FROM FISH FARMS FOR IRRIGATION AND RECLAMATION OF SALINE SOILS IN ARARAT VALLEY, ARMENIA

Background

Unsustainable water management practices in Ararat valley have caused serious environmental and social problems. Discharge from fish farms have overloaded the agricultural drainage network of the valley. This has led to increasing water levels in the drainage network, waterlogging of soil and settlements, and salinization and alkalization of the soil. On the other hand, uncontrolled withdrawal of water by fish farms has reduced water availability for household and irrigation uses. In 2014, irrigation of approximately 8,000 ha in 29 communities of Ararat valley was endangered because of falling levels in the Ararat aquifer. Yield from the Metsamor-Aknalich group of springs, which supplies water for the operation and cooling system of Metsamor Nuclear Power Plant, was also reduced.

As a result, Ararat valley, the main breadbasket of the country, was facing problems of water overuse, depletion of artesian aquifers, land degradation, etc.

SGP supported the project aimed at testing and verifying the technical and economic feasibility of using discharge waters from fish farms for irrigation. The solution was expected to have a dual effect: prevent uncontrolled discharge of highly polluted effluents into water bodies, and at the same time supply additional water for irrigation, preventing further degradation of soils. As a result of the studies conducted in several communities across the Ararat valley, Hayanist village was selected as a pilot site because of the large area of idle lands (350 ha) and the strong commitment of the village mayor and community members.

Approach

In 2015, the non-governmental organization (NGO) Environmental Research & GIS Centre, the SGP grantee, partnered with USAID-funded Advanced Science and Partnership for Integrated Resource Development (ASPIRED) project and the Coca-Cola Hellenic Bottling Company, Armenia, to apply an unconventional method of irrigation by reusing water from the nearby fish farms for irrigation needs. The technical part of the project included the design and installation of the pump and pipeline, and installation of valve-boxes, adaptors and an electric transformer at the outlets for the pumping system. A trial plot of about 0.8 ha was established to test the effect of irrigation water source on different crops. Chemical analysis of water was conducted to make sure it met irrigation requirements, and to estimate the volumes of fertilizers needed. Taste and odour characteristics of the grown vegetables were also analysed.

In parallel, trainings on sustainable agricultural practices in the Ararat valley were organized in the Hayanist community. Through coaching and ongoing consultancies, the knowledge of the local farmers about sustainable land management practices was improved, to ensure successful operation of the system. The project findings were analysed to develop a strategy for replication and dissemination, targeting communities where installation and operation of similar systems was technically and financially justified.

A farmer supported by SGP in Armenia. Credit SGP Armenia.

Results and impacts

While focusing on farmland degradation, the project supported irrigation of about 40 ha of previously idle lands by reusing fish-farm discharge waters, parallelly contributing to the reduction of nutrient-rich effluents to the watercourses of the Kur-Araks River basin. It is estimated that by operating the new irrigation system in Hayanist, at least 1,200,000 m3/year of fish-farm effluents are directed to irrigation, instead of being wasted through drainage and waterlogging. The beneficiaries are 84 water-users who can potentially generate more than $200,000 USD annually through farmland cultivation. Moreover, the project facilitated the establishment of a public-private partnership between the community of Hayanist and the fish farm, supporting a more responsible use of the groundwater in the Ararat Valley.

Lessons learned

Based on the success of the pilot supplying fish-farm discharge waters for irrigation in Hayanist, a case study with a set of policy recommendations was developed and presented to Armenia's Ministries of Environment, Agriculture, Territorial Administration and Development, and to the State Committee of Water Economy in June 2018. The policy advice section included the following key directions for scaling up the integration of fish farming into irrigation systems in Ararat valley:

- Financial incentive mechanisms for fish farms reusing effluents for different purposes, including irrigation (e.g., reduced water-use fee equivalent to the volume of reused water)
- Tax breaks for investors who finance construction of irrigation systems integrated with fish farming, including introduction of a quota approach to extend the incentives to those fish farmers, whose outlet waters cannot be reused for technical or economic reasons, but who are willing to invest in construction of integrated irrigation systems in other locations
- Regulation of the legal framework to ensure a formal basis for integration of fish farming into community irrigation systems; including introduction of a formula for estimating irrigation water tariffs
- Inventory of the fish farms in Ararat valley that have the technical feasibility of reusing their outlet waters and that are near lands that lack irrigation water, to ensure economic feasibility of the investments

Scaling up

The developed recommendations lay out the basis for encouraging widescale application of the project concept in Ararat valley. During the project, requests were received from six communities in Ararat valley (Darbnik, Nizami, Sayat Nova, Lusagiugh, Hovtashat and Aknashen) to implement similar projects.

In 2018, a project carried out by ASPIRED along with USAID's Partnership for Rural Prosperity, the Fund for Armenian Relief and the Sayat-Nova community, supported the replication and scale-up in Sayat-Nova community, which neighbours the site of the pilot, to irrigate 60 ha of farmland with the use of the outlet water of Masis-Dzuk fish farm. An additional 60 ha were put under irrigation in 2021 with funding from the Armenian Territorial Development Fund. The new irrigation system has a potential for expansion to cover up to 190 ha of the community's land.

5 Conclusion

This overview of SGP's portfolio of local actions implemented through community-based projects for sustainable land management shows that local actors (including women and youth) effectively participate in demonstrating and in the scaling up of a variety of practices on sustainable land and sustainable forest management. This participation was boosted by a range of incentives, such as higher crop yields and crop diversification, diversification of sources of income, rehabilitation of degraded lands, and the preservation of the livelihoods of the communities who depend on degraded lands. Moreover, sustainable land management practices developed or applied by communities in partnership with CSOs, NGOs, or research institutions can lead to scaling up practices at local, national and even regional levels.

Globally, it is estimated that more than 2 billion ha of land could be restored or rehabilitated through the application of sustainable land and water management techniques. As demonstrated through the case studies presented in this publication and through many other projects supported by SGP, local communities play a central role in implementing sustainable land management initiatives based on their knowledge and innovation. As noted by the GEF CEO Carlos Manuel Rodríguez, "system change starts from the community level." Under the UN Decade on Ecosystem Restoration (2021-2030), a rallying call for the protection and restoration of ecosystems all around the world for the benefit of people and nature, SGP is committed to continue supporting civil society and community-based organizations on their efforts to halt land and ecosystem degradation, and to restore them to achieve the global goals. Moreover, SGP will actively partner with others and promote integration of local actions in relevant national, regional and global initiatives to scale up related initiatives.

Women participants of the SGP partnership with SOS SAHEL. Credit: SGP Burkina Faso.

The Small Grants Programme (SGP) is a corporate programme of the Global Environment Facility (GEF) implemented by the United Nations Development Programme (UNDP). Established in 1992, SGP is currently active in 128 countries and promotes community-based innovation, capacity development, and empowerment through sustainable development projects of local civil society organizations with special consideration for indigenous peoples, women, and youth. SGP has supported over 26,000 community-based projects on biodiversity conservation and sustainable use, climate change mitigation and adaptation, sustainable land management, conservation of international waters, and chemicals and waste management, while generating sustainable livelihoods.

The Global Environment Facility was established on the eve of the Rio Earth Summit to tackle our planet's most pressing environmental problems. Since then, it has provided more than $21.7 billion in grants and mobilized an additional $119 billion in co-financing for more than 5,000 projects and programs. The GEF is the largest multilateral trust fund focused on enabling developing countries to invest in nature, and supports the implementation of major international environmental conventions including on biodiversity, climate change, chemicals, and desertification. It brings together 184 member governments in addition to civil society, international organizations, and private sector partners. Through its Small Grants Programme, the GEF has provided support to more than 26,000 civil society and community initiatives in 135 countries.

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations. www.undp.org

304 E 45th Street
UNDP, 9th Floor
New York, NY 10017
USA

Email: sgp.info@undp.org
Website: www.sgp.undp.org