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Strategic Country Cluster Evaluation: GEF Support to Drylands Countries

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Foreword

Drylands cover over 40 percent of the Earth's land surface and are home to more than 2 billion people, 90 percent of whom reside in developing countries. Countries with a high share of drylands face comparable land-based environmental challenges including water scarcity, high climate variability, desertification, land degradation, and drought. These countries also face challenges to human well-being in terms of health, food security, nutrition, livelihoods, social relations, and security—all of which are at risk from dryland degradation. The Global Environment Facility (GEF) has invested a substantial share of its funding in the sustainable management of drylands, reaching 11 percent of total GEF-4 to GEF-7 financing.

This strategic country cluster evaluation provides country-level evidence on the performance of GEF interventions focused on environmental issues related to drylands in countries with a large extent of drylands. It assesses the relevance and coherence of GEF investments in dryland countries, as well as GEF results and sustainability in terms of environmental benefits and associated socioeconomic co-benefits. Gender, resilience, and private sector are assessed as cross-cutting issues.

The analyses for this evaluation will contribute to the findings of the GEF Independent Evaluation Office's Eighth Comprehensive Evaluation of the GEF (OPS8), currently ongoing. The drylands evaluation was presented to the GEF Council in February 2024. The Council took note of its conclusions and endorsed its recommendations. Through this report, the Office intends to share the lessons from the evaluation with a wider audience.

Geeta Batra
Director, GEF Independent Evaluation Office

Acknowledgments

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Marie-Constance Manuella Koukoui, Senior Executive Assistant, supported the evaluation team; Juan Jose Portillo, Senior Operations Officer, provided operations/administrative oversight. Karen Holmes edited the report, and Nita Congress designed the publication.

The GEF Secretariat, as well as many of the GEF Agencies, provided information, data, and insights during interviews and meetings. Critical information was provided during the country case study work by the GEF focal points, national and local government staff, GEF Agencies, and civil society organizations in the six case study countries.

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Abbreviations

CACILM	Central Asian Initiative for Land Management
CAP	community action project/program
DSL IP	Dryland Sustainable Landscapes Impact Program
GEF	Global Environment Facility
GIS	geographic information system
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
ha	hectare
IEO	Independent Evaluation Office
IFAD	International Fund for Agricultural Development
LDCF	Least Developed Countries Fund
LDFA	land degradation focal area
LDN	land degradation neutrality
NDVI	normalized difference vegetation index
NRM	natural resource management
RFS IAP	Resilient Food Systems Integrated Approach Pilot
SCCE	strategic country cluster evaluation
SCCF	Special Climate Change Fund
SLM	sustainable land management
STAP	Scientific and Technical Advisory Panel
STAR	System for Transparent Allocation of Resources
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

Executive summary

Covering over 40 percent of the Earth's land surface and serving as home to more than 2 billion people, drylands are areas where environmental and social trade-offs can be quite consequential. Countries must decide how to balance development and environmental priorities, with serious implications for the resilience and livelihoods of the people who live in drylands. Countries with high proportions of dryland areas face shared land-based environmental challenges including water scarcity, high climate variability, land degradation, desertification, and drought. These countries also face heightened challenges to human well-being in terms of poverty, food security and nutrition, rural livelihoods, and conflicts.

With its specific focus on drylands, this strategic country cluster evaluation examines responses of the Global Environmental Facility (GEF) to environmental challenges under acute circumstances. This evaluation complements and builds on previous evaluations by the GEF Independent Evaluation Office (IEO) on land degradation, sustainable land and forest management, and biodiversity issues. By looking at GEF relevance and coherence as well as results and sustainability, this evaluation provides country-level evidence on the performance of GEF interventions in drylands. The evaluation used a mixed-methods approach, including a portfolio review of 195 completed and ongoing GEF projects in dryland countries; geospatial analysis at national and local levels; a literature review; six country case studies; an online survey targeting GEF operational and political focal points and country focal points for the multilateral environmental conventions; and interviews with a range of stakeholders from local communities, governments, the GEF Agencies, the GEF Secretariat, and the GEF Scientific and Technical Advisory Panel.

Over time, the GEF has paid increasing attention in its strategies and programming to drylands, where some of the most pressing environmental challenges of our time are particularly critical. Drylands have been part of successive land degradation strategies since the beginning of the GEF. They received increased attention starting in GEF-5 when the land degradation global benefits index in the System for Transparent Allocation of Resources was revised to account for the challenge of combating desertification in drylands. In GEF-6, drylands were included in the objective statement, and in GEF-7, the Dryland Sustainable Landscapes Impact Program was approved and land degradation neutrality (LDN) concept was introduced. GEF-8 saw an explicit objective for drylands, including a focus on drought. Reflecting these programmatic directions, the GEF has invested a substantial and increasing share of its funding in the sustainable management of drylands, accounting for 11 percent of total GEF-4 to GEF-7 financing, and progressively moving from single to multifocal projects and from a project-based to an integrated, programmatic support modality. The evolution in the GEF toward more systems-based approaches and integrated programming is highly relevant for drylands, where a wider landscape approach—considering interactions, for instance, with uplands or periurban areas—has been shown to be effective. Aligning environmental and

development priorities and offering set-aside incentive funding through integrated programs have also helped countries embrace GEF drylands' programming, in a context where drylands are often marginalized by governments and even sometimes by GEF Agencies.

Conclusions

GEF support has been highly relevant to key environmental challenges in drylands—apart from water scarcity and, to some degree, drought—and has largely embedded resilience as an essential co-benefit. GEF projects have targeted countries and areas that are highly relevant for specific environmental challenges in dryland geographies, most notably land degradation and desertification, climate change, and deforestation, with increasing attention to biodiversity over time. While attention to water scarcity and drought has been lacking relative to other environmental challenges in drylands, these issues are starting to be identified and addressed through the GEF-8 Programming Directions' focus on drought issues, including in drylands. Taking ecosystem-oriented approaches that fully integrate water and land management and strengthen resilience is especially relevant in dryland contexts; the GEF's focal area structure and siloed climate mitigation and adaptation windows have sometimes been restrictive in this regard. The land degradation focal area—the most common entry point for drylands' programming—can be restrictive when trying to plan a project around water resource management and shows less integration of resilience considerations compared to multifocal dryland projects. The work of the Least Developed Countries Fund and the Special Climate Change Fund on climate change adaptation is closely aligned with water management and security, and multitrust fund projects that link with these funds have been valuable for pursuing highly intertwined environmental and climate change adaptation objectives in tandem in drylands.

GEF dryland projects often identified policy misalignments at design but had limited success in addressing them or mitigating their impact on project effectiveness and sustainability; national policy coherence at design has not automatically translated into local policy coherence during implementation. Dryland projects assessed policy context in design and identified activities to address policy distortions and leakage effects or to foster synergies, even in earlier projects. But despite the prevalence of policy coherence considerations in project design, the evaluative evidence collected on this subject offered limited examples of success in strengthening policy coherence. This experience helps to confirm the importance of the GEF's heightened attention to policy coherence to ensure achievement and sustainability of benefits, including in drylands. Lack of success has been due in part to policy timelines exceeding project timelines and to a lack of institutional ownership and positioning—especially when relevant responsibilities were divided among government bodies and in cases of high government turnover. Attention to policy coherence at the jurisdictional and local levels was especially important for strengthening natural resource governance; when this was lacking, it led to confusion among communities and disincentives for beneficiary ownership. Especially in countries where decentralization efforts are advanced, coherence at the subnational level was mixed, and coherence depended on the extent of local support for decentralized governance by the GEF project. More recent GEF projects in drylands show evidence of evolving approaches to target policy coherence, including LDN methods, programmatic and phased approaches, and strategies that seek to tangibly demonstrate the value of policy coherence at local or jurisdictional levels as a pathway to influence national policy making.

The GEF performed well overall and delivered global environmental benefits and associated socioeconomic co-benefits across dryland areas, although less so in pastoral lands. GEF projects in dryland countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio across all aridity subhabitats, and completed dryland projects reported positive environmental and

socioeconomic benefits. Case study countries reported large areas under improved sustainable land use practices as a result of field-level interventions using a mix of economic models on working lands to enhance productivity and ecological models to increase vegetation cover and restore ecosystem functions. While environmental protection is a smaller part of GEF programming in drylands, expanded areas were put under protection, and management effectiveness was strengthened in key landscapes and ecosystems. Furthermore, GEF dryland projects restored large areas of degraded lands through afforestation, reforestation, and area closures, among other techniques. For projects working on multiple dryland landscapes or landscapes shared for multiple uses, environmental outcomes were often weaker in pastoral areas. Socioeconomic benefits frequently included income generation and/or diversification at the household level, as well as civil society engagement and development, access to communal services, job creation, and food security. GEF projects in drylands delivered some benefits for women's participation and income generation, but deeply entrenched gender discrimination was difficult to overcome. Insufficient attention was also paid to the needs of the most vulnerable in some cases, pointing to an opportunity for deeper consideration of social distributional issues in project design and implementation.

Working at the nexus of environment and socioeconomic development is even more crucial in drylands than in many other developing regions; the GEF has succeeded in fostering synergies but has not yet paid enough attention to mitigating trade-offs. Synergies between socioeconomic and global environmental benefits have been widely referenced in dryland projects, and reinforcing linkages between these benefits has been effective for delivering impact and strengthening resilience. When interventions were responsive to local socioeconomic priorities—often linked with addressing water scarcity—community buy-in and adoption of environmental practices in drylands was stronger. The timing of socioeconomic benefit flows—that is, ensuring immediate or short-term benefits for dryland smallholders—was usually of particular importance for adoption and maintenance of sustainable resource use practices. However, dryland projects missed opportunities for delivering global environmental benefits when assumptions about synergies were not sufficiently supported by a strong causal link ensuring that livelihoods-oriented activities effectively addressed drivers of environmental degradation. Trade-offs between socioeconomic and environmental benefits have also been underconsidered in GEF dryland projects; this is exemplified by projects on pasturelands, where the struggle between socioeconomic and environmental goals reduced outcomes and could even have potential unintended negative impacts on natural resources. In some cases, projects had insufficient mechanisms to ensure that livelihoods-oriented activities would not intensify pressure on natural resources, with low awareness among beneficiaries of the projects' environmental objectives.

The GEF's reliance on area-based indicators limits its ability to fully track changes in environmental status. Environmental outcomes in GEF dryland projects are mostly reported in hectare terms, with fewer cases of robustly measured improvements in biophysical indicators that would verify relevant changes in environmental status, such as analysis of vegetation cover or soil organic carbon. The gap is partly due to the dynamic nature of landscapes and the time scale for registering improvements. It is also related to how global environmental benefit indicators are defined and interpreted, where the reported number of hectares under improved management does not always specify the type or quality of change. Monitoring, quantifying, and evaluating benefits and trade-offs is an ongoing challenge for the GEF, as well as for other development agencies. The integration of LDN indicators into national land use monitoring is a promising development that could be leveraged to better measure the environmental changes to which GEF projects are contributing.

Considering natural resource governance in the design of GEF dryland projects has not fully translated into results; similarly, attention to conflict and land tenure in GEF programming directions has not sufficiently conveyed to project design. This conclusion confirms and reiterates similar findings from the GEF IEO Land Degradation Focal Area Study. GEF projects developed capacity at local levels for decentralized and inclusive decision-making and planning, although projects often established multistakeholder governance platforms that were not self-sustaining after project closure. GEF dryland projects have also made some headway toward stronger resource governance through supporting the establishment of local bylaws, but weak enforcement by national and local authorities is a common challenge, especially if incentives for compliance are insufficient. Improvements in data and information systems, as well as advancements in management planning, have helped strengthen the foundation for more effective governance of sustainable land and forest use. Land and resource use rights are especially weak in communally managed drylands, and strengthening them is a critical component of ensuring both environmental and socioeconomic benefits, including for the most vulnerable. Yet less than a third of GEF dryland projects have addressed conflict or land tenure. Land tenure is highlighted in GEF programming directions and plays an important role in the framework of the United Nations Convention to Combat Desertification, whose Decision 26/COP.14 puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

Sustainability is less assured in dryland contexts, where the most prevalent way to sustain outcomes observed by the evaluation was through further donor financing. Compared to the overall GEF portfolio, a lower proportion of dryland projects are rated likely to sustain outcomes, and sustainability appears to be even more difficult in acute dryland settings. Identifying pathways for sustainable financial or technical support is a major challenge among GEF dryland projects, especially given a history of underinvestment in dryland regions, which often led to a dependence on follow-on project financing to address risks to sustainability. For many interventions—such as those focused on the watershed scale or on setting up sustainable environmental governance systems—multiphase programs have been more successful at consolidating benefits. Post-completion, sustained environmental benefits were observed primarily at localized scales. When there was lack of ownership, especially by local officials, or unclear institutional responsibilities, sustainability was not secure. Conversely, benefits were more sustainable when projects were closely aligned and engaged with local governance structures, authorities, and other stakeholders. Demonstrating immediate benefits to smallholders also helped them sustain behavioral change in terms of adoption of sustainable land management and land restoration.

Efforts to involve the private sector, key to reducing reliance on donor funding and achieving greater scale of outcomes, have been limited but are improving. Private sector engagement has more than doubled between earlier and newer dryland projects. Private sector engagement in GEF dryland projects is increasing and expanding beyond value chain development for individuals and cooperatives. More recent projects have engaged private businesses in land restoration and mobilized private sector finance to support environmental services—for example, through the issuance of green bonds for sustainable land use and conservation. That said, ensuring the sustainability of private sector engagement continues to pose unique challenges in dryland contexts given issues with aggregation and connectivity to broader markets, lack of incentives for reinvesting in drylands and the resulting capital leakage from common enterprises such as mining, and misperceptions of drylands as nonproductive or vacant despite their being actively used. The country case studies offered scant evidence of GEF projects addressing entrenched drivers of unsustainable private sector engagement in drylands.

Recommendations

While drylands do not represent the whole of environmental challenges and contexts that the GEF addresses, they offer a lens for examining responses to relevant challenges under acute circumstances. Drylands are areas where environmental and social trade-offs can be quite consequential, and countries must decide how to balance priorities with serious implications for the resilience and livelihoods of the people who live in these areas. This evaluation identified areas where GEF outcomes improved both environmental and socioeconomic welfare, as well as areas where more attention is needed to ensure sustainable and equitable outcomes. Based on the findings and conclusions, this evaluation makes the following recommendations.

Recommendation 1: As the GEF prepares to design and implement an official policy coherence framework for GEF-8, the GEF Secretariat should ensure that guidance to enhance policy coherence through GEF operations includes a focus on subnational and local levels. The most recent policy coherence documentation from the GEF Secretariat does not refer to these levels, although they are addressed at length in a brief by the GEF's Scientific and Technical Advisory Panel. This evaluation has demonstrated that even in contexts of decentralization, policy coherence at lower levels of governance remains elusive. As the GEF Secretariat develops guidance for and assesses policy coherence in GEF projects, it should give sufficient emphasis to supporting institutional coordination mechanisms and coherent implementation of policies at subnational and local levels. Improving resource use norms, sanctions, and bylaws at local levels can be an effective and realistically ambitious strategy to enhance policy coherence. Especially in dryland contexts, a greater reliance on phased, longer-term, and integrated approaches will also support effectiveness in enhancing policy coherence.

Recommendation 2: The GEF Secretariat and its partner Agencies should ensure that increased attention is devoted to the inclusion of land tenure security and conflict resolution for resource management within project and program designs and the underlying theories of change. Land tenure is especially weak in communally managed drylands, characterized by a relatively limited natural resource endowment. Yet local communities need tenure security to invest in the sustainable management of the ecosystems on which they depend. Tenure security can reduce resource conflicts, and also help address sustainability. Agencies should adequately describe the status of land tenure security and resource conflicts in assessing project and program context and include relevant elements in their theories of change (e.g., as assumptions or risks, and/or activities, outputs, or outcomes). Doing so would also help countries in responding to the United Nations Convention to Combat Desertification.

Recommendation 3: The GEF Secretariat and GEF Agencies should ensure that equal consideration is given in project and program design to both fostering synergies and mitigating trade-offs between the environment and socioeconomic development, with due attention to distributional impacts. GEF projects in drylands have not adequately considered trade-offs between environmental outcomes and socioeconomic development, despite the real potential for unmitigated trade-offs to result in reduced environmental outcomes and unintended negative consequences, including leakage. Trade-offs in pastoral areas should be given concerted attention, given poorer performance in these landscapes in past GEF dryland projects; project design should also carefully consider who will benefit depending on the solutions adopted.

Recommendation 4: The GEF Secretariat should encourage the GEF Agencies to provide project-level monitoring data showing associated biophysical changes for relevant area-based core indicators. The relative lack of demonstrated changes in environmental status through monitoring and evaluation systems was noted. When taken alongside the geospatial analysis and field-level data observations that suggested more localized sustainable results than that indicated by reported hectarage, these findings raise questions about the adequacy of area-based

global environmental benefits in drylands. In its results framework guidelines, the GEF Secretariat should encourage Agencies to provide available biophysical monitoring data (alongside already requested GIS files) to better substantiate the environmental benefits of improved management practices and restoration. The newly launched GEF Geospatial Platform as well as the LDN indicators that countries are adopting and sometimes integrating into their GEF project reporting provide a good basis for this effort.

1 Introduction

Covering over 40 percent of the Earth's land surface and serving as home to more than 2 billion people—90 percent of whom reside in developing countries (UN EMG 2011)—drylands are areas where environmental and social trade-offs can be quite consequential. Countries must decide how to balance priorities, with serious implications for the resilience and livelihoods of the people who live in these areas. Countries with a high share of drylands face land-based environmental challenges including water scarcity, high climate variability, desertification, land degradation, and drought. These countries also face challenges to human well-being in terms of health, food security, nutrition, livelihoods, and security, all of which are at risk from dryland degradation. While drylands do not represent the whole of environmental challenges and contexts that the Global Environment Facility (GEF) addresses, they offer a lens for examining responses to relevant challenges under acute circumstances. The GEF has invested a substantial share of its total funding in the sustainable management of drylands, accounting for 11 percent of total GEF-4 to GEF-7 financing.

Featured in successive land degradation strategies over the GEF replenishment periods, drylands received increased attention in GEF-5 when the land degradation global benefits index in the System for Transparent Allocation of Resources (STAR) was revised to account for the challenge of combating desertification in drylands, and in GEF-7 with the approval of the Dryland Sustainable Landscapes Impact Program and alignment with the land degradation neutrality (LDN) concept.[1] GEF-8 saw an explicit objective for drylands, including a focus on drought. Aligning with these strategic developments, GEF interventions in dryland countries focus on the sustainable management of drylands, progressively moving from single to multifocal

[1] The United Nations Convention to Combat Desertification Land Degradation Neutrality webpage defines LDN as "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services to enhance food security remain stable, or increase, within specified temporal and spatial scales and ecosystems."

projects, and from a project-based to an integrated, programmatic support modality. GEF operations in dryland countries are moving toward a wider landscape approach while aligning environmental and development priorities and offering set-aside incentive funding through integrated programs in a context where drylands are often marginalized.

This evaluation identifies areas where GEF outcomes improved both environmental and socioeconomic welfare, as well as areas where more attention is needed to ensure sustainable and equitable outcomes. By looking at GEF relevance and coherence as well as results and sustainability, this strategic country cluster evaluation (SCCE) provides country-level evidence on the performance of GEF interventions focused on dryland-related environmental issues in countries with a large extent of drylands. This SCCE complements previous GEF Independent Evaluation Office (IEO) evaluations covering broader land degradation, sustainable land and forest management, and biodiversity restoration issues, with the specific aim of informing future dryland-oriented GEF programming.

2

Background and context

2.1 Drylands: at a crossroads between environment and development

Drylands extend over more than 40 percent of the Earth's land area and are home to more than 2 billion people. Drylands play an important role in global food security, producing more than 40 percent of crops and half of the world's livestock (UN EMG 2011). They are shaped by water security, rich with biodiversity, and highly vulnerable to land degradation and climate change. People in drylands face challenges to human well-being in terms of health, food security, nutrition, livelihoods, social relations, and security—all of which are at risk from dryland degradation.

Defined as land areas with an aridity index of less than 0.65 (box 2.1), drylands are classified into four types of subhabitat: dry subhumid, semiarid, arid, and hyperarid (table 2.1). The proportion of global land area classified as drylands is increasing, and the proportion of land in the driest subhabitats (arid and hyperarid) is growing, as comparison of the data in table 2.1 and table 2.2 shows.

Box 2.1 Definition of drylands

This evaluation uses the United Nations Convention to Combat Desertification's definition of drylands as "arid, semi-arid, and dry, sub-humid areas that receive less precipitation than the evaporative demand, and plant production is thus water limited for at least a substantial part of the year" (UNCCD 2017, 247). Drylands are defined using an aridity index, which is the ratio between average annual precipitation and total annual potential evapotranspiration (Joint Research Center of the European Commission World Atlas of Desertification). Drylands are land areas with an aridity index of 0.65 or less, indicating that potential evapotranspiration is at least 50 percent greater than actual mean precipitation. The evaluation used this definition to identify projects in dryland geographies, as discussed under in the methods subsection.

Table 2.1 Statistical profile and land use shares (%) of drylands by subhabitat, 2005

Dryland subhabitat	Aridity index	Share of global land area	Share of global population	Share of land use		
				Rangeland	Cultivated	Other[a]
Dry subhumid	0.50–0.65	8.7	15.3	34	47	20
Semiarid	0.20–0.50	15.2	14.4	54	35	10
Arid	0.05–0.20	10.6	4.1	87	7	6
Hyperarid	< 0.05	6.6	1.7	97	0.6	3
Total		41.3	35.5	65	25	10

Source: Safriel et al. 2005.

a. Includes urban (2%), inland water systems in drylands (3%), and other areas unaccounted for by assessed land uses (5%).

Table 2.2 Land area and cultivation of drylands by subhabitat, 2018

Terraclim 2001–20		ESA 2018: Cultivation	
Dryland subhabitat	Share of global land area	Ha	%
Dry subhumid	6.1	333,003,696	14.9
Semiarid	14.4	578,761,224	25.9
Arid	12.8	108,091,640	4.8
Hyperarid	8.9	12,819,534	0.6
Total dryland subhabitats	42.2	1,032,676,093	46.2
World total		2,234,721,332	

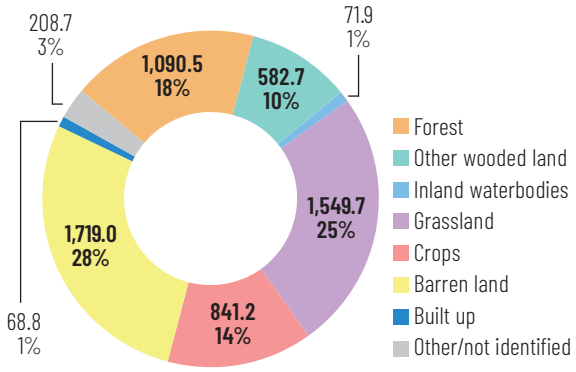
Source: FAO (September 2022), based on the Global Land Assessment for Restoration.

Accounting for 22 percent of all drylands, dry subhumid lands are often naturally dominated by broad-leaved savannah woodlands, dense tree canopies, and perennial grasses. Semiarid lands account for 37 percent of all drylands. These lands are often dominated by thorny savannahs with a great diversity of grass species. Arid lands account for 25 percent of all drylands and often comprise annual grasslands. Hyperarid lands cover 16 percent of the world's drylands (UNEP-WCMC 2007). These lands are largely unvegetated, with most cultivation and plant growth concentrated in oases and croplands where plants are irrigated by local groundwater sources. Aridity of drylands can fluctuate with changes in climate, land use, and/or population density (FAO 2019).

Drylands support important ecosystems from grasslands to forests to semidesert, all of which play a vital role in the livelihoods of dryland communities. Grasslands cover a quarter of the world's drylands, 14 percent of drylands are used for rainfed and irrigated farming, and 18 percent are forest lands, as shown in figure 2.1. The distribution of land uses depends significantly on aridity, with forest and other wooded land more prominent in semiarid and dry subhumid areas, and barren land more common in hyperarid areas (FAO 2019).

Drylands play a key role in global food security, with an estimated 44 percent of croplands and 50 percent of livestock worldwide found in drylands (IUCN 2017). Yet, food production represents only a fraction of the value

Figure 2.1 Distribution of land uses in drylands (million hectares)



Source: FAO 2019.

to society that drylands provide. Dryland forests contribute to national economies directly through provision of fuel, timber, and nontimber forest products; and indirectly through protection of watersheds, soil stabilization, and other ecosystem services.[1] Drylands contain a wide variety of biodiversity and support one-third of the area within global conservation hotspots—places that are both biologically diverse and seriously threatened (Davies et al. 2012). Dryland biodiversity also regulates climate locally, through provision of shade and shelter, and globally, through capture and storage of carbon. Despite having relatively low plant biomass, and hence relatively low organic carbon per hectare (in vegetation and soil), dryland soils contain 27 percent of the global soil organic carbon pool, while accounting for 97 percent of inorganic carbon reserves, due to the increasing accumulation of inorganic soil carbon as aridity increases (Safriel et al. 2005).

Water scarcity drives the main environmental challenges in drylands. Extreme unpredictability in rainfall occurs because, as climates get drier, rain events tend to become more erratic, with high variability from one year to the next; this contributes to land degradation because of a loss of groundcover during drought, which leaves land susceptible to wind erosion. In turn, degraded land stores less water, leading to more severe effects of both drought and flood. Such consequences are more acutely felt in drylands because of the relative scarcity of water. Estimates of the extent of land degradation in drylands are between 25 and 30 percent of global land area.[2] Desertification—commonly defined as land degradation in arid, semiarid, and dry subhumid areas resulting from various factors including climatic variations and human activities—has been described as the greatest environmental challenge of our time, and climate change is making it worse (McSweeney 2019). Risks from desertification are projected to increase because of climate change. The Intergovernmental Panel on Climate Change projects that between 951 million and 1.285 billion people will be exposed to—and between 178 million and 277 million will be vulnerable to—impacts related to water, energy, and land sectors (such as water stress, drought intensity, and habitat degradation) in drylands (IPCC 2019).[3] A growing number of countries, particularly in the developing world, are voicing concerns about the closely related challenges of desertification, land degradation, and drought.

Poor populations in drylands rely largely on rural livelihoods directly or indirectly managing land. As measured in terms of literacy rates and health indexes, poverty levels in drylands exceed global averages in most dryland countries. Adult female literacy rates in the humid lands of

[1] As mapped by the World Resources Institute, at least 50 percent of more than a third of the world's major river basins lie within drylands.

[2] An analysis of long-term trends (25-year span) using remote sensing to measure interannual vegetation found land degradation hotspots covering about 29 percent of global land area, but with dryland-dominated biomes affected to an above-average extent (Le, Nkonya, and Mirzabaev 2014).

[3] These projections are based on a "middle of the road" shared socioeconomic pathway (SSP2) at 1.5°C, 2°C, and 3°C of global warming; see IPCC (2019) for a fuller explanation.

West Africa, for example, are around 50 percent, but drop to 5-10 percent in the drylands. (Middleton et al. 2011). In the drylands of Asia, infant mortality rates are around 50 percent above the global mean. Drylands are also home to many of the world's most populated cities. The way drylands are managed directly affects life in such urban settings. Desertification can compromise the safe and regular supply of water, clean air, food, and fuel, as well as opportunities for recreation. Population growth is placing ever greater demands on the drylands, increasing pressure on dryland biodiversity, and causing competition and conflicts among people.

Poverty and desertification are closely related. Dryland populations are finding it increasingly difficult to continue practicing traditional sustainable land and water management as a result of rural population growth and a breakdown in local resource governance that results in weak land tenure and conflicts between herders and farmers over the use of land and groundwater[4] (Nelson, Forsythe, and Morton 2015). Such conflicts occur as already fragile ecosystems and local communities are pushed beyond coping capacity by the combined effects of climate change and population growth. Importantly, poverty in the drylands is rooted in historical neglect of these so-called "low potential" areas. Several countries have legally classified drylands as wastelands. Resources have been channeled into humid lands, leaving drylands starved of investment, security, and basic services. Research in India and China, however, has shown that drylands can generate higher returns on investment than reportedly high-potential lands.[5] More recent research conducted in the Sahel shows that every $1 invested into dryland restoration yields on average $1.2 returns, and that at most, 10 years are needed for restoration activities to break even from the social perspective, accounting for both market-priced and nonmarket ecosystem benefits (Mirzabaev et al. 2022).

2.2 GEF engagement in dryland countries

Drylands in GEF programming strategies

Drylands have been part of successive programming strategies since GEF-1 through Operational Program 12, and featured starting in GEF-4, when land degradation was established as a separate GEF focal area. The GEF-4 and GEF-5 land degradation focal area (LDFA) strategies specifically mention drylands in the description of sustainable agriculture and rangeland management, forest landscapes, and integrated landscapes strategy objectives. Dryland-related objectives of the GEF-6 LDFA strategy target sustainable land management, climate-smart agriculture, and ecosystem services from forests. In GEF-5, the land degradation global benefits index of the STAR was revised to account for the challenge of combating desertification in drylands, including the need for adaptation to drought risks (GEF 2018). Since then, the land degradation STAR allocation for all countries assigns a 60 percent weighting for proportion of dryland area—that is, the higher the proportion of drylands in a country, the higher its STAR allocation.

[4] The effectiveness of governance structures in drylands' common-access resources is often limited by a combination of weak capacities of state entities in their oversight, enforcement, and facilitation roles; failure to value and support traditional governance mechanisms; and the inability of such mechanisms to adapt to changes in the nature and magnitude of threats to natural resources or to changes in demographic and cultural conditions.

[5] In China, a combination of agricultural reform and investment in agricultural research and development, education, roads, and electricity stimulated growth in the nonfarm rural sector, supporting development of agriculture as well as providing job creation for urban migrants (Fan 2008). A similar pattern was observed in India, where rural nonfarm employment grew and poverty declined in response to infrastructure investment, particularly in places where literacy rates were raised (Ravallion and Datt 1999).

Initially largely project based, LDFA strategies in drylands have been, from GEF-4 onwards, increasingly being implemented through a programmatic approach. Large programs like TerrAfrica in GEF-4 and the Great Green Wall Initiative in GEF-5 (box 2.2) were followed in GEF-6 by the Resilient Food Systems Integrated Approach Pilot (RFS IAP),[6] and the Dryland Sustainable Landscapes Impact Program (DSL IP) in GEF-7.[7]

Drylands received increased attention in GEF-7 and continue to feature prominently in GEF-8 programming with an emphasis on addressing desertification, land degradation, and drought. As noted, GEF-7 saw the approval of the DSL IP and the United Nations Convention to Combat Desertification's (UNCCD's) LDN concept, with high relevance for drylands. The land degradation strategy described in the GEF-8 Programming Directions broadly focuses on addressing the drivers of land degradation in production landscapes where agricultural, forestry, and rangeland management practices underpin the livelihoods of rural communities, smallholder farmers, and pastoralists (GEF 2022a). The strategy aligns with the GEF's vision to achieve healthy and resilient ecosystems by promoting sustainable land management (SLM) and supporting the achievement of LDN.[8] Within this broad focus, the LDFA places a specific emphasis on SLM-related approaches in drylands addressing, among other issues, drought-prone ecosystems and populations. GEF investments include planned support to implementation of relevant aspects of national drought plans, LDN target setting, and other drought-related activities falling within the GEF's mandate to generate global environmental benefits. Joint programming with other GEF focal areas is planned

Box 2.2 TerrAfrica and the Great Green Wall Initiative

"Launched in 2008, the SIP [Strategic Investment Program]/TerrAfrica program provided $1 billion of development financing, including $150 million in GEF resources and $580 million from the International Development Association of the World Bank Group (IDA), to invest in 36 projects across 27 countries. The SIP/TerrAfrica portfolio included 9 countries 1 in the Sahel region and eventually became the catalyst for the next generation of integrated landscape management investments in the GGWI [Great Green Wall Initiative].

"…In 2011, the GEF and World Bank deepened their engagement to support the ambitious GGWI…to transform the Sahel into a stable, sustainable, resilient region through improved management of natural resources, land, water, and climate risks. SAWAP [Sahel and West Africa Program in Support of the GGWI] is a $1.1 billion multi-trust fund programmatic approach to implement SLM in targeted landscapes and climate vulnerable areas, mainly financed by the GEF, the Least Developed Countries Fund (LDCF), the IDA, and country contributions."

Engaging a wide range of stakeholders promoted by the GGWI—including national governments, international organizations, the private sector, and civil society, all working together under pan-African coordination—has been instrumental in helping halt land degradation (GEF IEO 2022d).

Source: GEF and World Bank 2019, 2.

[6] With a $116 million GEF grant and $805 million in cofinancing, the RFS IAP promotes sustainability and resilience through management of the natural resources—land, water, soils, trees, and genetic resources—that underpin food security in 12 Sub-Saharan Africa countries. Of the 12 RFS child projects, 8 are drylands related.

[7] With a $95.8 million GEF grant and $809 million in cofinancing, the DSL IP aims at avoiding, reducing, and reversing further degradation, desertification, and deforestation of land and ecosystems in drylands through the sustainable management of production landscapes in 11 countries in Central Asia and Sub-Saharan Africa.

[8] "LDN aims to balance anticipated losses in land-based natural capital and associated ecosystem functions and services with measures that produce alternative gains through approaches such as land restoration or rehabilitation, and SLM" (UNCCD 2016, 2).

to be actively pursued in GEF-8, especially in integrated programs and multifocal projects. This effort will consider opportunities to develop dedicated LDFA programmatic initiatives where they are likely to trigger transformational changes in natural resource management (NRM) sectors.

GEF support to drylands

As detailed in the approach paper, a stepwise approach was taken to identify the GEF's portfolio of dryland-related interventions to be covered by this evaluation. First, a text search on the GEF Portal identified 378 projects focusing on drylands all over the world from GEF-4 to GEF-7,[9] across all focal areas and trust funds and inclusive of all full- and medium-size projects.[10] This initial list was refined by limiting it to projects that deal specifically with dryland-related environmental challenges (water scarcity, climate variability, land degradation, desertification, and drought, among others) and are located within GEF recipient countries with at least 50 percent or more of their total land area characterized as drylands (i.e., with an aridity index of less than 0.65). The evaluation considers this 50 percent threshold to be large enough as a proxy indicator of the importance of drylands in the countries' environment and sustainable development agendas, needs, and priorities.

An initial list of 220 projects resulted from application of these scoping criteria. This list was further refined by geolocating project sites and examining the aridity index at those project sites. Projects where more than half of sites were located in humid areas or wetlands were excluded. The portfolio was also shaped by feedback received from the GEF Agencies. The process yielded a final selection of 195 projects covering 53 countries.

Over the years, the GEF has invested a substantial and increased share of its funding in the sustainable management of drylands, reflecting the programmatic directions as described above. The 195 projects with a focus on drylands (i.e., the evaluation portfolio, referred to hereafter as GEF dryland projects) amounts to approximately $1.1 billion of GEF funding since the start of GEF-4, representing 5.2 percent of total GEF funding during that period, with cofinancing of $8.1 billion.[11] For these 195 projects, 81 percent of the funding came from the GEF Trust Fund (figure 2.2). GEF support to drylands increased substantially in GEF-7 (figure 2.3), with the approval of the DSL IP which focuses squarely on dryland forests.

GEF support in drylands has progressively moved from single to multifocal in nature, and from a project-based to an integrated, programmatic modality. The share of multifocal area projects is large and increasing among GEF dryland projects (figure 2.4 and figure 2.5), and more than half of these projects are in Africa (figure 2.6). A significant increase in the share of funding for multifocal area projects is noted, from 48 percent ($142 million) among earlier (GEF-4 and GEF-5) projects to 82 percent ($637 million) among newer (GEF-6 and GEF-7)

[9] Dryland-related projects were identified by a text search for the terms "dryland,*" "dry land," "arid," "semi-arid," "semiarid," "sub-humid," "subhumid," "desertification," "degradation," "drought," "flood," "sustainable land management," "sustainable land and ecosystem management," "sustainable land and forest management," "sustainable land and water management," "sustainable integrated landscape management," and "sustainable land and agroecosystem management" in three fields: project title, project components, and project objective. After reviewing the text that came up in the field, a judgment was made about whether to include or exclude the project based on its emphasis on dryland landscapes.

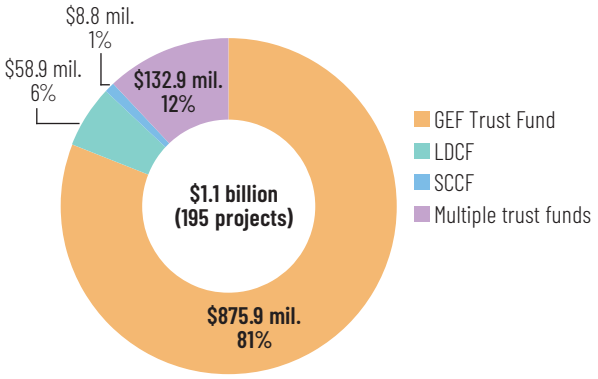
[10] The Small Grants Programme was excluded from the scope as it has recently been the subject of a major joint evaluation by the GEF and the United Nations Development Programme IEOs.

[11] The GEF projects were selected for inclusion in the evaluation portfolio during the approach paper phase in September 2022. The cutoff date for inclusion and review of terminal evaluations related to the evaluation portfolio was May 15, 2023.

projects, with a relevant decrease in land degradation from 41 percent ($122 million) to 11 percent ($83 million). This trend aligns with the shift since GEF-6 toward more integrated programming to tackle the drivers of environmental degradation (table 2.3). No major differences are noted in terms of the distribution of project size and geographic regions across earlier and newer dryland projects.

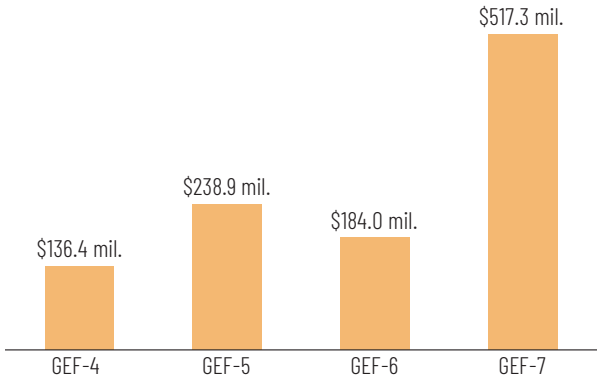
The number of GEF Agencies involved in dryland interventions has increased across the GEF replenishment periods, typically involving greater focal area coverage and often spanning multiple GEF geographic regions. Agency technical specialization has become more

Figure 2.2 Share of portfolio's GEF funding by funding source



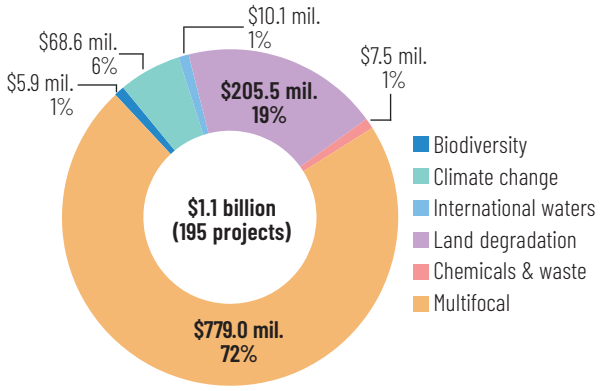
Source: GEF Portal.

Figure 2.3 Portfolio funding by replenishment period



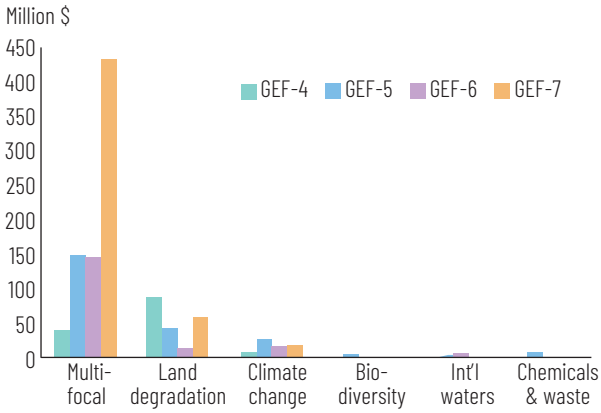
Source: GEF Portal.

Figure 2.4 Share of portfolio's GEF funding by focal area



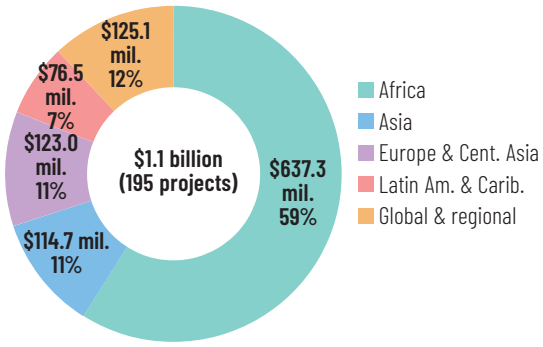
Source: GEF Portal.

Figure 2.5 Portfolio funding by focal area and replenishment period



Source: GEF Portal.

Figure 2.6 Share of portfolio's GEF funding by geographic region



Source: GEF Portal.

Table 2.3 Number of projects and amount of GEF funding in the evaluation portfolio by project type, focal area, region, and funding source

Category		Earlier projects (GEF-4 and GEF-5)		Newer projects (GEF-6 and GEF-7)		Total projects	
		Number	Million $	Number	Million $	Number	Million $
Project type	Enabling activity	0	0	3	6	3	6
	Medium-size project	10	12	14	21	24	33
	Full-size project	58	284	110	754	168	1,038
Focal area	Biodiversity	0	0	1	6	1	6
	Climate change	7	27	7	41	14	69
	International waters	1	4	1	6	2	10
	Land degradation	36	122	30	83	66	206
	Chemicals and waste	0	0	1	7	1	7
	Multifocal	24	142	87	637	111	779
Region	Africa	40	186	72	451	112	637
	Asia	11	35	12	86	23	121
	Latin America and the Caribbean	3	18	9	59	12	76
	Europe and Central Asia	9	38	20	85	29	123
	Global	5	19	14	100	19	118
Funding source	GEF Trust Fund	59	239	111	637	170	876
	LDCF	3	18	7	41	10	59
	SCCF	3	9	0	0	3	9
	Multiple trust funds	3	31	9	102	12	133
Total		68	296	127	780	195	1,077

Source: GEF Portal.

important, as is notably evidenced by the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) now accounting for 19 percent and 11 percent of the total funding dedicated to dryland-related projects, after the United Nations Development Programme (UNDP; 26 percent) and the World Bank (25 percent).

2.3 Previous evaluation findings relevant to drylands

Evidence from evaluations conducted by the GEF IEO and GEF Agency' evaluation units was reviewed to provide a foundation of existing knowledge as to what works, how, and why in dryland settings, and to identify specific issues to be covered by this evaluation. This evidence is briefly shared here and described more comprehensively in the approach paper.

The Sixth Comprehensive Evaluation of the GEF (OPS6) (GEF IEO 2018a) and one of its component studies, the Land Degradation Focal Area Study (GEF IEO 2018b), note that the GEF LDFA Strategy on combating desertification in Africa with an emphasis on drylands is aligned with UNCCD global priorities. While the land degradation study notes an increased focus on responding to LDN targets through both SLM and restoration activities, OPS6 reports that about three-quarters of these did not include a restoration component—suggesting some scope to assess the balance and results of SLM and restoration in GEF dryland interventions.

The Strategic Country Cluster Evaluation of Sahel and Sudan-Guinea Savanna Biomes (GEF IEO 2022c) is the most geographically relevant GEF IEO evaluation, as both biomes are characterized by arid and semiarid climates with strong climatic variation and irregular rainfall. The SCCE notes that climate can severely affect household livelihoods in many parts of these two biomes' drylands, especially in the Sahel. Evidence indicates that in these countries, sustainability is enhanced in interventions operating locally at the nexus between environment and development objectives—a dynamic that may be even more important in vulnerable dryland contexts. The evaluation of GEF Support to Sustainable Forest Management (GEF IEO 2022b) notes that most GEF forest work has focused on tropical forests and that SLM practices have often been preferred over more expensive restoration activities because of to their direct linkages with food security and livelihoods benefits. Findings from this evaluation indicate that forests of high environmental value and high levels of needs have benefited from comparatively few GEF interventions. It is only recently that the GEF started focusing on dryland forests through the GEF-7 DSL IP.

2.4 Design, approach, and methods

This SCCE focuses on countries with a high share of drylands in their total land area, where the synergies and trade-offs between socioeconomic and environmental issues are particularly acute and consequential. By providing an opportunity to observe the tensions between these two priorities, the evaluation offers important lessons for the GEF overall, going beyond previous assessments of land degradation or sustainable forest management. Drylands were chosen as the focus of this SCCE based on dryland countries' comparable land-based environmental challenges, including water scarcity, high climate variability, desertification, land degradation, and drought.

Purpose, objectives, and key questions

The purpose of this SCCE is to provide country-level evaluative evidence on the performance of GEF interventions focused on environmental issues related to drylands in countries with a large drylands extent. It has two overarching objectives: to assess the relevance and coherence of GEF investments in dryland countries, and to evaluate GEF results and sustainability in terms of environmental benefits and associated socioeconomic co-benefits in dryland countries. Gender is assessed as a cross-cutting issue, in consideration of the widely recognized importance of supporting women's empowerment in dryland regions. Other cross-cutting issues include the private sector role in dryland restoration, rehabilitation, SLM, and resilience to both climate and nonclimate-related shocks and stresses. Based on the purpose and objectives, the SCCE seeks to answer five key evaluation questions:

- To what extent has GEF support been relevant to the specific environmental challenges in dryland countries, and are there any gaps?

- How have GEF interventions interacted thus far with similar government- and/or donor-funded activities in terms of either contributing to or hindering policy coherence in dryland countries?
- To what extent have GEF interventions in dryland countries produced their targeted environmental outcomes and associated socioeconomic co-benefits?
- Have natural resource governance and other socioeconomic factors been considered in the design and implementation of GEF dryland interventions, and if yes, with what results and sustainability?
- To what extent have the cross-cutting issues of gender, resilience, and the private sector been taken into consideration in GEF programming and implementation in dryland countries?

The remainder of this report broadly aligns with and follows the order of these evaluation questions; the cross-cutting issues are mainstreamed throughout the report.

Methods

A zoom-in, sequential approach has been applied to this SCCE, with deep dives on selected themes in specific countries, projects, and sites, starting from aggregate portfolio and geospatial analyses of the GEF interventions covered in this evaluation. As described above, the evaluation portfolio is composed of 195 projects spanning 53 countries; it includes 63 projects from GEF-4 and GEF-5 with available terminal evaluations from the GEF IEO terminal evaluation database. From these 53 countries, 6 were purposely selected for in-depth case studies (as described in technical document 5 in volume 2 based on representation across aridity clusters, environmental challenges addressed, project performance, and GEF world regions, with preference given to countries with higher numbers of completed projects. These six countries covered 41 projects in total; nearly 20 project sites were visited by the SCCE team.

Case study reports have been prepared and shared for factual checking and due diligence with country counterparts in **Azerbaijan**, **Chile**, **Ethiopia**, **Malawi**, **Niger**, and **Uzbekistan** (technical documents 6–11 in volume 2). The aggregate analyses helped identify hotspots of environmental change to which the GEF contributed. Seven project postcompletion field verifications have been conducted as part of case studies.

A mixed-methods approach was applied using both quantitative and qualitative data gathering tools. Desk review techniques (through targeted document review protocols) were used to answer the relevance, policy coherence, effectiveness, and sustainability questions as well as the cross-cutting question on gender, resilience, and the private sector. Of the 195 projects in the drylands' portfolio, 175 were reviewed,[12] with a focus on the differences between those approved in GEF-4 and GEF-5 (i.e., earlier/completed projects) and those approved in GEF-6 and GEF-7 (i.e., newer projects).

The **policy coherence analysis** used existing evaluative evidence and collected new data in-country in the form of official documents (policies, laws, and other) as well as through interviews with government representatives from various ministries, including those not directly involved with GEF projects. **Effectiveness and sustainability analyses** were based on information and ratings extracted from terminal evaluations of completed projects as well as from case study deep dives. A **geospatial analysis** (described in technical document 4 in volume 2) was conducted to verify the spatial relevance of geographic targeting of GEF dryland-related interventions within the countries with a majority of their area covered by drylands included in the evaluation's portfolio. Geospatial analysis was also conducted before and after the case studies to assess environmental and

[12] The 19 global projects were not reviewed; and one GEF-5 project implemented by the World Bank, Integrated SLEM Approaches for Reducing Land Degradation and Desertification (GEF ID 5479), was excluded from the analysis because of a lack of basic documentation.

socioeconomic change before, during, and after GEF interventions in the case study areas. The findings of these analyses helped case study teams select locations to prioritize during field visits and informed conversations with stakeholders.

A comprehensive set of central-level interviews was conducted with representatives of the GEF partnership, including from the GEF Secretariat, GEF Agencies, GEF Scientific and Technical Advisory Panel (STAP), and multilateral environmental conventions (annex B). Country-level interviews were conducted in the six case study countries in addition to an online survey in the other countries, targeting both GEF operational and political focal points as well as country focal points for the conventions.[13]

Limitations and quality assurance

This evaluation encountered two limitations: (1) the lack of clear identification of dryland projects in the portfolio (because not specifically mandated in the GEF, dryland interventions are not tagged in the GEF Portal); and (2) limited ability for full case study teams (comprised of both international and national consultants) to conduct field visits, due in part to World Bank–imposed COVID-19-related travel restrictions. The first limitation was addressed by cross-checking the portfolio information downloaded from the GEF Portal with the management information systems of GEF Agencies before undertaking any analysis. The second limitation was mitigated by selecting countries where COVID rates at the time of the mission were such that travel was permitted under World Bank and host country rules, and by hiring national consultants to carry out data gathering for country field missions. In Niger, both national and international consultants participated in project site visits.

Two quality assurance measures were applied. A reference group composed of representatives from the GEF Secretariat, GEF Agencies, the STAP, and the GEF–Civil Society Organizations Network provided feedback and comments on the approach paper, the preliminary findings, and the evaluation report. This helped ensure that the evaluation is relevant to ongoing and future GEF operations, as well as in identifying and establishing contact with the appropriate individuals for interviews/focus groups, and facilitating access to data and information. The second quality assurance measure included the appointment of an external peer reviewer, who advised the evaluation team on the soundness of evaluation design, scope, questions, methods, and processes described in the approach paper; and on implementation of the methodology and the implications of methodological limitations on the formulation of the conclusions and recommendations in the draft and final reports.

[13] The survey response rate was 25 percent. Full survey results are in technical document 2 in volume 2.

3 Findings

3.1 Relevance: addressing environmental challenges and priorities in drylands

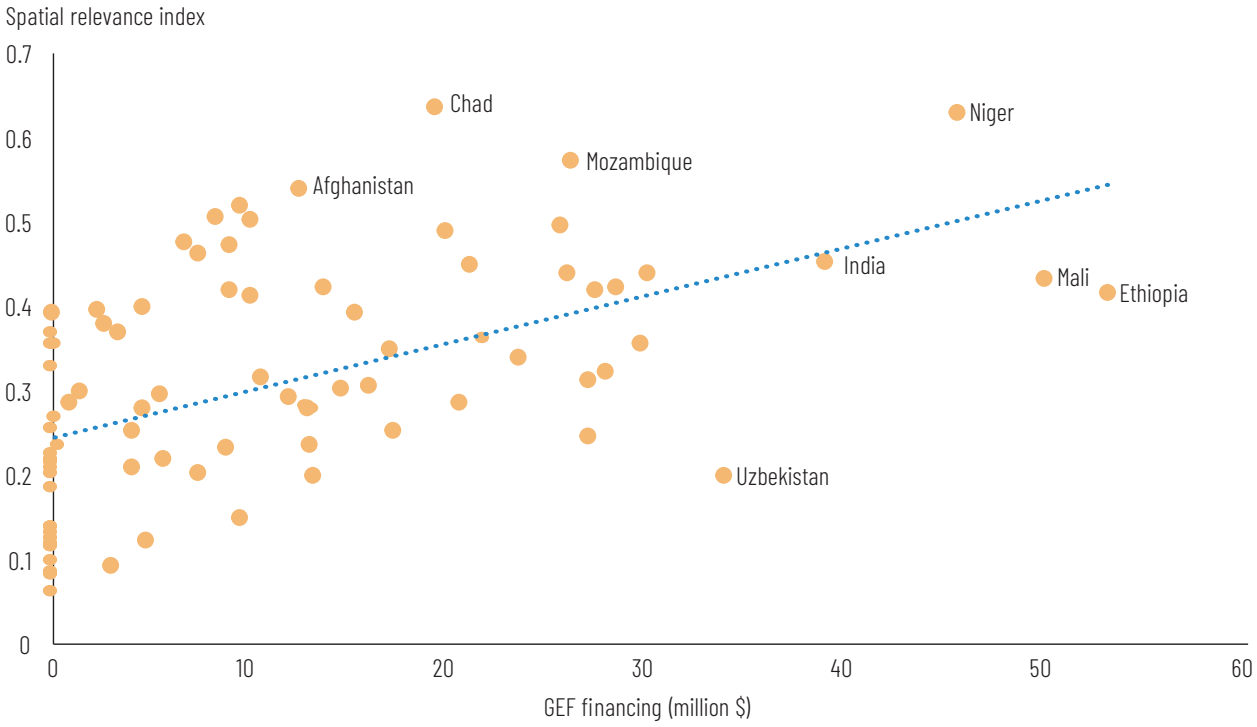
Relevance to specific environmental challenges in drylands

GEF projects have targeted countries and areas that are highly relevant for specific environmental challenges in dryland geographies. National-level geospatial analysis demonstrated that GEF dryland projects have concentrated in countries with high spatial relevance for dryland environmental challenges,[1] including land degradation, climate change, water scarcity, forest loss, biodiversity threats, and air pollution. As shown in figure 3.1, higher spatial relevance for dryland environmental challenges is correlated with higher GEF financing. Countries with high spatial relevance and higher levels of GEF financing for dryland issues include Sahel countries, such as Niger and Mali, along with Ethiopia. Highly relevant countries with relatively less GEF financing for drylands include Mozambique, Chad, and Afghanistan, although it is recognized that GEF funding is allocated based on multiple factors, including national priorities. Uzbekistan is notable as a country with lower indexed spatial relevance but higher levels of GEF financing in drylands. Because the index addresses multiple environmental challenges, some nuances of challenge-specific support are muted. For example, in Uzbekistan, the 25th most water-stressed country in the world,[2] the GEF has provided substantial dedicated support to the dryland-specific issues of water scarcity, drought, and desertification, among others; and targeted project sites in those areas of the country with the greatest number of days with atmospheric drought.

[1] Spatial relevance indexes were created for each country based on indicators of each major environmental challenge in drylands. Environmental challenges were given equal weight in the indexes. See technical document 4 in volume 2 for further description of the geospatial analysis methodology.

[2] Source: World Resources Institute, Aqueduct Country Rankings.

Figure 3.1 **Absolute spatial relevance vs. GEF financing at the country level**



Source: GEF IEO geospatial analysis.

Note: Countries with no GEF financing are shown because the analysis included all countries with half of their land area classified as drylands (aridity index > 0.65), not only GEF-funded countries. For more information, see technical document 4 in volume 2.

At the subnational level, the geospatial evidence is more mixed but still indicates a strong relationship between higher GEF funding and environmental challenges in drylands. Findings from the geospatial analysis at the subnational level showed that the most relevant subnational areas are in Niger, Chad, and Afghanistan; GEF project sites cover all relevant areas in Niger, although none are located in relevant areas in Chad and Afghanistan, most probably because of fragility. Three-quarters of country survey respondents agreed that GEF programming has focused on areas in their country that face the most severe dryland environmental challenges.

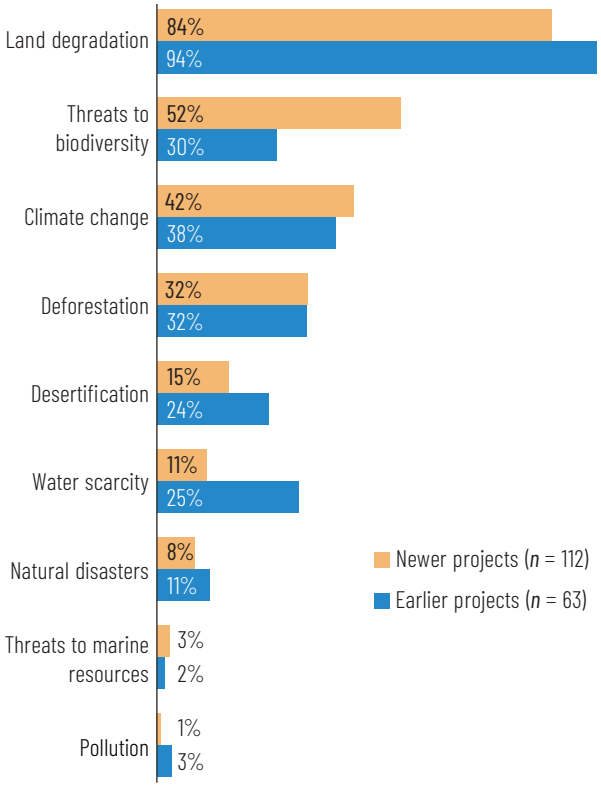
In the six countries where case studies were conducted, the GEF performed well in targeting particularly spatially relevant subnational areas. In Niger, multiple GEF project sites are located in four of the top five most-relevant areas. In Malawi, most GEF project sites (seven) are in the highly relevant areas in the southern region of the country, where water scarcity is most pronounced. In Azerbaijan, the most recently approved project focuses on the Absheron peninsula—the most spatially relevant area in the country, which also includes more arid lands than previous projects. In Uzbekistan, GEF projects have covered many of the hotspots of land degradation and areas in need of protection, as identified through national assessments such as the country's LDN target-setting report, draft second National Action Programme to Combat Desertification, and Fifth National Report on Conservation of Biodiversity. In Chile, the GEF has multiple project sites in two of the four most relevant subnational areas (Coquimbo and Valparaiso) in the more arid north, although there are no sites in the other two areas (Atacama and Antofagasta). In Ethiopia, GEF work has focused mostly on the country's northern

and central (nonpastoral) highlands with high dryland relevance, but there has been limited coverage of the country's drylands in the lowlands (largely in the regions of Afar, Somali, and parts of Oromia) that are currently mainly used for pastoral agriculture.

GEF programming has addressed priority environmental challenges in drylands, most notably land degradation and desertification, climate change, and deforestation, with increasing attention to biodiversity over time. Attention to water scarcity has been mixed. The portfolio review analysis (figure 3.2) and country stakeholder survey (figure 3.3) indicated substantial attention to land degradation, desertification, and climate change in GEF dryland projects. The focus on land degradation and desertification is consistent with the high prevalence of land degradation funding in GEF dryland projects and with the specific emphasis placed on sustainable management of drylands in the GEF-7 and GEF-8 programming directions. In fact, confirming findings from the recent GEF IEO evaluation on water security (GEF IEO 2024), land degradation has been the most common entry point for drylands' programming, although interviewees emphasized the importance of multifocal and integrated approaches in these landscapes. Seventy-nine percent of single focal area projects in drylands have been land degradation projects, and 79 percent of multifocal projects received funding for land degradation objectives.

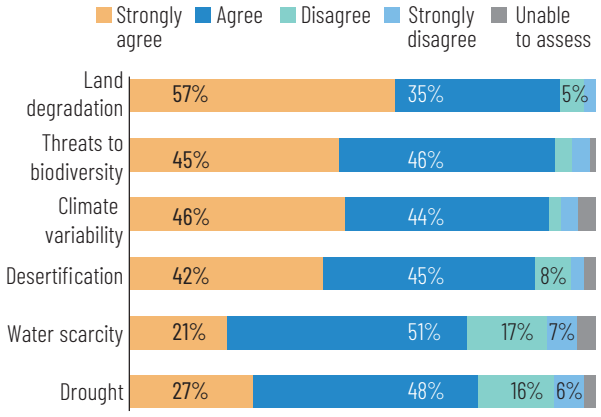
Although stakeholders believe **climate variability and risks** have been adequately considered in dryland programming, GEF Agency and GEF Secretariat interviewees noted that the sometimes more limited carbon stocks in drylands have made it challenging to justify using resources from the climate change focal area, which seeks to maximize carbon benefits. Few projects have been approved in dryland countries with only climate change focal area funding (14 in total over GEF-4 through GEF-7). In addition, the proportion of multifocal dryland projects with climate change focal area funding has decreased significantly from 70 percent in GEF-4

Figure 3.2 Key dryland environmental challenges targeted by GEF dryland projects as identified by project documents



Source: Project documents.

Figure 3.3 Key dryland environmental challenges targeted by GEF dryland projects as identified by country stakeholders



Source: Country stakeholder survey.

Note: Unlabeled segments = ≤ 4%.

and GEF-5 to just 33 percent in GEF-6 and GEF-7—which also reflects the reduced funding allocations for climate change in the GEF-6 and GEF-7 replenishments, compared to GEF-4 and GEF-5.[3] GEF dryland projects have also struggled to demonstrate their climate change mitigation benefits, as discussed in section 3.3. Despite the widely recognized importance of climate resilience in drylands (Global Center on Adaptation 2021; Stringer et al. 2022), only 7 percent of dryland projects have received climate change adaptation funding through the Least Developed Countries Fund (LDCF) or the Special Climate Change Fund (SCCF);[4] this is slightly less than in the overall GEF portfolio (9 percent; see also the discussion on resilience below).

Threats to biodiversity are considered in a larger proportion of GEF-6/GEF-7 projects compared to earlier ones, and 90 percent of country stakeholders perceive that threats to biodiversity have been adequately considered in GEF programming in drylands. At the same time, GEF Agency and GEF Secretariat interviewees reported that they have struggled to secure biodiversity focal area funding in multifocal area dryland projects, given perceptions of drylands' hosting less globally significant biodiversity to protect. Geospatial analysis conducted by the SCCE team suggested that about a quarter of GEF dryland countries have relatively high biodiversity threats and relatively low proportions of GEF projects addressing biodiversity; this is particularly true for several countries in Africa including Botswana, Mozambique, and Namibia.

The case studies suggested more attention to biodiversity in protected and adjacent areas and uneven attention to biodiversity in productive lands. Multifocal projects with biodiversity funding tended to focus more on addressing illegal encroachment and poaching in protected and conservation areas, wildlife corridors, and buffer zones (such as the Lengwe and Liwonde National Parks in Malawi, mountain corridors in Chile's Mediterranean ecosystem, and the Ugam-Chatkal National Park in Uzbekistan). There was uneven attention to conserving and restoring biodiversity in production landscapes, such as through silvopasture, agroforestry, agrobiodiversity, and planting with native species. Such biodiversity is important to maintain the ecosystem services that support sustainable and resilient production of food and nonfood products—and is particularly important in drylands where vulnerabilities can be high, and diverse species (with high rates of endemism) have adapted to water scarcity (Kremen and Merenlender 2018). In Malawi, for example, the Enhancing the Resilience of Agro-Ecological Systems project (GEF ID 9138), implemented by the International Fund for Agricultural Development (IFAD), applied biodiversity conservation principles and promoted genetic diversity through a focus on local and indigenous varieties to support ecosystem services and linkages to increased food security. This child project of the RFS IAP reflects a programwide focus on promoting agrobiodiversity, including through using the Diversity Assessment Tool for Agrobiodiversity and Resilience. In contrast, in Uzbekistan, biodiversity did not factor well into working land approaches for tree plantations. There was limited evidence of biodiversity being considered in decisions to use exotic fodder species, convert natural steppe ecosystems to fodder plots, and establish monoculture plantations—as was demonstrated by the FAO-implemented Sustainable Management of Forests in Mountain and Valley Areas (GEF ID 9190) and the Strategic Partnership for the Mediterranean Large Marine Ecosystem-Regional Component (GEF ID 2600). In Niger, project documentation for the Integrated Management of Oasis Ecosystems of Northern Niger project implemented by UNEP (GEF ID 9405) acknowledges that the country does not have "operational," "on-the-ground" examples of "integrated sustainable land management and biodiversity conservation

[3] Note, however, that integrated programs have substantially increased to account for 24 percent of dryland projects, some of which may include funding targeted at climate objectives.

[4] Inclusive of all LDCF and SCCF funding (i.e., through stand-alone LDCF/SCCF projects and multitrust fund projects).

in production landscapes" and seeks to develop an integrated land management approach that considers biodiversity conservation and ecosystem services, among other objectives.

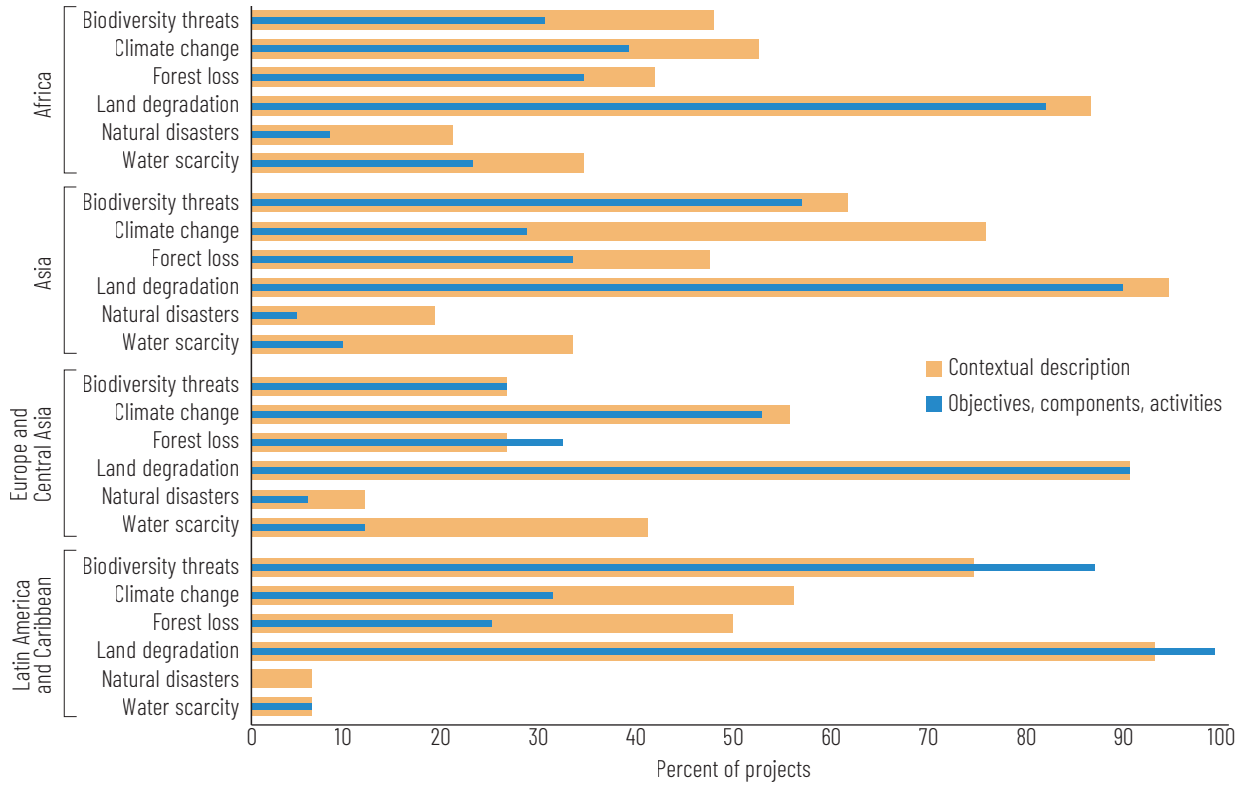
Among the variety of dryland landscapes, the GEF has given special attention to **dryland forests** through its DSL IP, including through afforestation/reforestation and conservation activities, as was observed in many case study projects. The program addresses forests of high environmental value and need in drylands that had been relatively neglected through past programming favoring tropical forests. Demand for participation in this program far exceeded funding (GEF IEO 2022a). Overall, deforestation threats have been targeted in about a third of GEF dryland projects.

Attention to **water scarcity and drought** has constituted a gap relative to other environmental challenges, although the GEF-8 Programming Directions do focus on drought issues, particularly in drylands, in response to UNCCD COP14 decisions as well as to the UNCCD Strategic Framework (2018-2030). The GEF-8 international waters focal area strategy also refers to water scarcity as a global challenge and offers support for addressing severe water fluctuations, such as flood and drought. The portfolio review analysis found that fewer dryland countries identified water scarcity as an environmental challenge in the contextual description of the project compared to most other challenges; and that even fewer described project objectives, components, and/or activities to address water scarcity (figure 3.4). Geospatial analysis conducted for the SCCE also confirmed that a substantial proportion of countries have a high relative index value for water scarcity but few GEF projects that explicitly seek to address water scarcity concerns; this is shown by the clustering in the upper-left quadrant of figure 3.5 and confirmed by the recent GEF IEO evaluation on water security (GEF IEO 2024). A smaller percentage of newer GEF dryland projects explicitly seek to address water scarcity, 11 percent versus 30 percent of earlier projects; this may reflect a shift toward addressing temporary and more significant shortages in water availability through drought mitigation. Approximately 30 percent of newer dryland projects address drought (GEF 2022b).

Interview and survey feedback, along with other GEF IEO evaluations, further point to the need for more attention to water-related issues in GEF dryland projects. Compared to other environmental challenges, a greater proportion of country GEF and convention focal points—approximately a quarter—disagreed that water scarcity and drought challenges are being adequately considered in GEF programming in drylands. Convention and Secretariat interviewees emphasized the importance of considering water and land in an integrated way in drylands. Country stakeholders viewed GEF support for sustainable water management practices as nearly as important as SLM and ecosystem restoration to achieve environmental goals in dryland areas, with 91 percent and 95 percent agreeing, respectively. Fully integrating land and water management, or taking an ecosystem-oriented approach, is even more important in dryland geographies, where systems are highly dynamic and environmental challenges are exacerbated by climate variability. Given this, water management approaches that strengthen resilience are also essential (Davies et al. 2016).

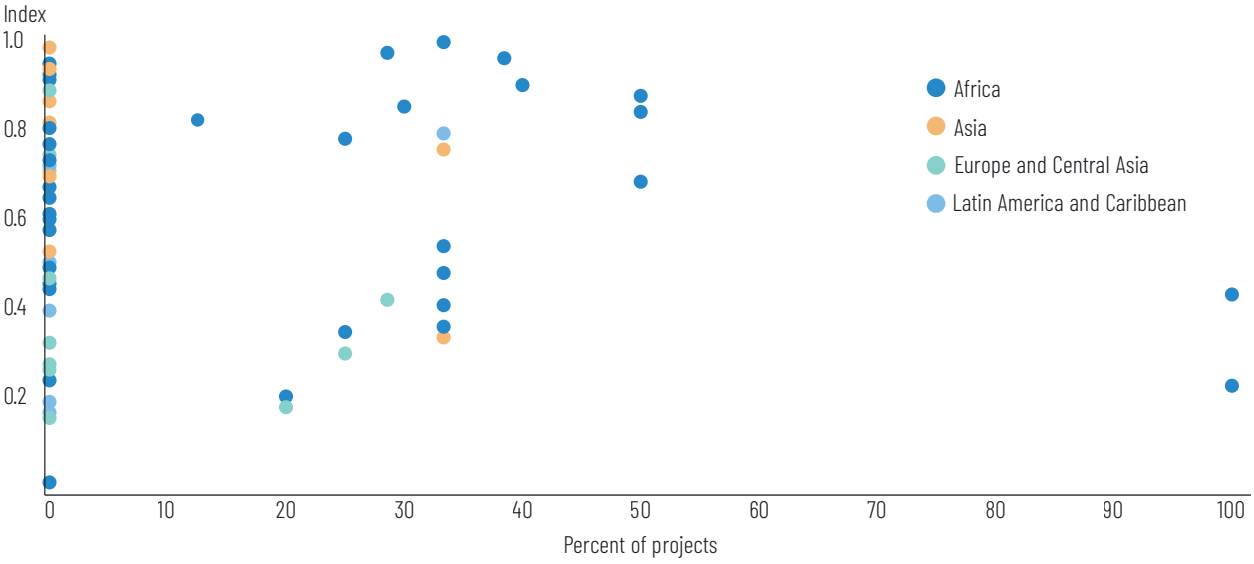
One challenge has been that the LDFA—the most common entry point for drylands' programming—can be restrictive when trying to plan a project around water resource management. Projects must have a strong drought or land degradation component to fit under the LDFA (GEF IEO 2024). Interviewees similarly noted that the GEF has struggled somewhat to focus on drought, in line with its mandate to achieve global environmental benefits and its stronger linkages to climate change adaptation than mitigation. Although adaptation in the context of drought is being addressed through the LDCF and the SCCF, and several multitrust fund projects combine GEF Trust Fund and the LDCF/SCCF to address these issues in an integrated way, some challenges for

Figure 3.4 Environmental challenges in dryland projects' as identified in contextual descriptions compared to objectives, components, and/or activities



Source: Project documents.

Figure 3.5 Share of GEF dryland projects that seek to address water scarcity in their objectives, components, and/or activities compared to relative extent of water scarcity challenge, by region



Source: Project documents.

integrated work on drought in drylands remain. In particular, the way the GEF approach to climate change is structured—with mitigation the mandate of the climate change focal area—is seen as hampering integrated work on drought in drylands. There is also scope for more multitrust fund collaboration on dryland environmental challenges.

The country case studies offered examples where water issues were reasonably well integrated into dryland projects, as well as examples where they were neglected. Both sets of examples provide lessons on the value and challenges of considering water and land management issues in concert, and of considering drylands within a broader ecosystem rather than as a siloed geographical area. In Niger, for example, water management has been increasingly integrated in the GEF portfolio over time, but has still received less attention and effective implementation than efforts focused on land degradation and desertification. Drylands also often have significant groundwater (aquifer) reservoirs, some of which are replenishable and some not. Their sustainable exploitation is important for the livelihoods of pastoralists and agriculturalists, as in the Sahel or in Ethiopia's drylands. Groundwater is also critically important for oases, including their flora and fauna diversity, and for livestock watering points in arid areas (Koch and Missimer 2016). The role of groundwater, and the conjunctive management of surface and groundwater resources, has been increasingly highlighted in the GEF international waters focal area strategy since GEF-6. In Azerbaijan, water scarcity and management are now among the highest priorities of the government, as evidenced by interviews and preparation of the national drought plan submitted to the UNCCD. While earlier projects did not sufficiently consider or address water issues—such as Integrating Climate Change Risks into Water and Flood Management by Vulnerable Mountainous Communities in the Greater Caucasus Region of Azerbaijan (GEF ID 4261) in GEF-4 or Sustainable Land and Forest Management in the Greater Caucasus Landscape (GEF ID 4332) in GEF-5, both implemented by UNDP—water scarcity is planned to be explicitly addressed through a new FAO-implemented project focused on LDN, Towards a Land Degradation-Neutral Azerbaijan (GEF ID 10708), alongside innovative SLM practices that holistically address land and water issues on the Absheron peninsula.

Integrated ecosystem management at the watershed level is a promising approach some GEF projects have adopted in dryland geographies (Brooks and Tayaa 2002; Davies et al. 2016). In Ethiopia, for example, GEF support that includes drylands has shifted from a narrower SLM and land degradation focus to an integrated watershed approach that seeks to address fundamental drivers holistically. Similarly, in Malawi, GEF activities in drylands have increasingly broadened from SLM and conservation agriculture to landscape approaches of watershed basins and subbasins, in support of the government's focus on small-scale irrigation and integrated NRM. This evolution is highly relevant, given the environmental and socioeconomic interactions between the drier lowlands and the more humid uplands in southern Malawi's Shire River valley. In Burkina Faso, the GEF-3 Sahel Integrated Lowland Ecosystem Management (GEF ID 1178) project focused on microwatersheds within the larger lake and river basins, with GEF financing used to pilot integrated ecosystem management as a relatively new and untested approach to combating land degradation in the country (GEF 2014). Consideration of how interventions at upstream locations may affect water flows downstream has been a good practice in several GEF projects as well.

An essential benefit of GEF programming in drylands, resilience has been widely embedded in multifocal dryland projects but is less prevalent in land degradation dryland projects.[5] Key interviewees emphasized the central importance

[5] Absent an official GEF definition of resilience, this evaluation takes resilience to be the capacity of social, economic, and environmental systems to cope with a hazardous event, responding or reorganizing in ways that maintain their essential function, identity, and structure, while maintaining the

of resilience in drylands, and the GEF portfolio largely reflects that emphasis. Projects have focused on resilience of ecosystems and livelihoods, including resilient food systems, given the focus of recent impact programs. The GEF-8 strategy for LDFA also specifically references building resilience to mitigate the effects of drought and to prevent the aggravating effects of land degradation. While about three-quarters of multifocal dryland projects included in their design activities or strategies building or enhancing system resilience to expected and/or possible shocks or stresses, only slightly more than half of land degradation projects did so—a contrast that holds across GEF-4 through GEF-7. Multitrust fund projects have also provided important opportunities to deliver climate change adaptation and resilience benefits, such as a recent project in Mali (box 3.1) and the World Bank–implemented Sustainable Land Management Project 2 (GEF ID 5220) in Ethiopia, which combine GEF Trust Fund land degradation and LDCF resources.

A larger percentage of projects in GEF-6 and GEF-7 than in GEF-4 and GEF-5 include tools for measuring changes associated with resilience (e.g., assessments, monitoring tools or frameworks)—46 percent versus 30 percent—or a role for learning in guiding implementation—58 percent versus 38 percent. Many FAO projects, including those in the DSL IP and the RFS IAP, use the Agency's Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP) tool, linked to the LDN conceptual framework, for measuring changes associated with farmers' resilience to climate change.

All the case studies showed evidence of resilience thinking in projects in dryland areas. Projects in Africa focused most directly on addressing the underlying causes for vulnerability to climate and other shocks and improving multiple dimensions of resilience. In Niger, for example, resilience in terms of food security and reduced exposure to climate shocks has been an essential, basic objective of all national development strategies and GEF projects in the country, supported through many different context-specific interventions, from environmental awareness to income diversification to cereal banks. In southern African countries, GEF projects have sought to integrate drought-resistant

Box 3.1 Project examples of increasing attention to dimensions of resilience

The FAO-implemented Resilient, Productive and Sustainable Landscapes in Mali's Kayes Region project (GEF ID 10362) has designed an integrated approach that combines the productive and social components of resilience building with a financial component. By combining climate-resilient practices, disaster risk management measures, and income-generating activities, the project expects to help increase the productivity of poor agricultural or agropastoral households. The increased levels of production obtained can thus improve incomes. Alongside a community-based savings and loan system or guarantee schemes (financial component), the additional income enables an increase in available capital and improves loan reimbursement.

In Niger, IFAD's Family Farming Development Programme (GEF ID 9136), part of the RFS IAP, focused resilience investments at the economic level (profitability of systems, access to capital), the social level (all local stakeholders become active in decision-making processes to integrate climate change dimensions into communal and regional development plans), and the environmental and climatic level (management and monitoring of natural resources, implementation of agricultural practices that reduce the impact of climate change on the production system, infrastructure to secure household access to agricultural water, and infrastructure designed or located taking climate risk into account).

capacity for adaptation, learning, and transformation (Béné et al. 2012).

crops through community seed banks to support resilience to the significant decline in maize production.

Recently approved projects in dryland areas demonstrate a growing focus on incorporating the social, financial, and ecological dimensions of resilience development. In contrast, earlier projects funded by the GEF in drylands primarily addressed resilience in relation to the impacts of climate variability and change on natural resources and ecosystem integrity. To put it differently, earlier projects that took resilience into account were primarily aimed at enhancing the health and productivity of ecosystems—which in turn indirectly reduced vulnerabilities and bolstered resilience in livelihoods through, for example, positive effects on agricultural productivity, food security, and income generation/diversification. Although consideration of climate resilience remains a significant feature in newer dryland projects, there is a growing trend toward unpacking or providing further detail on the concept of resilience. This may involve evaluating different dimensions of resilience (such as social, ecological, and financial elements), as exemplified in box 3.1.

Relevance to environmental policies and priorities in drylands

GEF programming in dryland areas has aligned with national environmental priorities and policies and often with socioeconomic and/or sustainable development priorities as well. All GEF dryland projects described alignment with national environmental priorities and policies, and 76 percent of country survey respondents agreed that GEF interventions in dryland areas of their countries have been well aligned with government programs. The country case studies also consistently demonstrated alignment with government environment, development, and sector-specific strategies, such as those for forests and agriculture. In Niger, for example, where a coherent set of national policies, strategies, and action plans guide government and development partner programs, the IFAD-implemented Family Farming Development Programme (GEF ID 9136) uses the national initiative Nigeriens Nourishing Nigeriens as an entry point and driver for promoting resilient and SLM practices. All the country case studies also found evidence of GEF projects aligning with national strategies and plans associated with the conventions; and in most countries, the national convention focal points were involved in the design and oversight of dryland projects. For example, in Ethiopia, the national focal points for the UNCCD, the Convention on Biological Diversity, and the United Nations Framework Convention on Climate Change are actively engaged as members of the national steering committees of multiple GEF projects targeting drylands. In Uzbekistan, the three Rio convention focal points have been involved in the design of GEF projects and are included in project advisory structures.

Relative marginalization of dryland areas, including by governments and even sometimes GEF Agencies, has posed a challenge for targeting drylands in GEF projects. Marginalization of drylands has a long history stemming from misconceptions and inappropriate policies that have exacerbated poverty, social exclusion, and environmental degradation (Nelson, Forsythe, and Morton 2015). GEF Agency, GEF Secretariat, convention, and GEF STAP interviewees expressed the view that drylands are often neglected by governments on the basis of multiple factors, including remoteness from seats of governance, low productivity, and the prevalence of often marginalized communities (e.g., nomads) and conflicts that arise as a result. The country case studies painted a more nuanced picture, whereby many global drylands are marginalized, while others—especially certain areas in Africa that are relatively highly populated and frequently experiencing food insecurity—have been the focus of significant international and domestic attention, including parts of the Sahel and Ethiopia. About three-quarters of country focal points surveyed agreed that drylands are a priority geography for their government to use public domestic resources and GEF resources. There are also intranational nuances based on dryland characteristics such as aridity and extent of

pastoralism. Multiple country focal points noted that public resources are weakly oriented to arid zones by the government. GEF Agency interviewees explained that an Agency operational focus on more productive landscapes can make it challenging to develop GEF projects in more arid areas. In the Chilean case study, for example, few projects have been implemented in the more hyperarid and arid northern areas, for several reasons. First, there is a deficiency in recognizing and comprehending the significance of biodiversity and its contribution to ecosystem services in arid regions. Second, economic considerations come into play, as a substantial portion of major mining companies that significantly contribute to the national gross domestic product are situated in these arid zones. Last, there are operational challenges, stemming from the complexity of executing projects in harsh and remote terrains characterized by limited connectivity and accessibility.

Strategies that have facilitated countries' engagement with GEF dryland programs include the alignment of environmental and developmental priorities and the provision of incentive funding through comprehensive programs. Aligning environmental and developmental objectives, particularly harmonizing productive sectors such as agriculture and NRM with rural development and poverty reduction, has played a crucial role in encouraging countries to adopt policy reforms. This approach was evident in the country pilot partnerships operating in drylands, such as the Capacity and Management Support for Combating Land Degradation in Dryland Ecosystems (GEF ID 3484) implemented by the Asian Development Bank with China and the initial phase of Burkina Faso's Sahel Integrated Lowland Ecosystem Management implemented by the World Bank.

In the case study in Azerbaijan, for instance, aligning the GEF's global environmental goals with the government's priorities related to water scarcity, security concerns, and pollution stemming from oil and gas production redirected the GEF's focus toward semidesert lowland areas. This represented a shift from earlier projects, which concentrated on more variable highland regions, spanning semiarid to dry subhumid to humid environments.

The formative evaluation conducted by the IEO for the GEF's integrated approach programs revealed that integrated methods and incentive funding served as compelling incentives for countries to participate in impactful programs such as the DSL IP. It is noteworthy that, due to program funding constraints, only half of the expressions of interest submitted could be accommodated, underscoring the high demand for such initiatives (GEF IEO 2022a).

Relevance to stakeholder groups

Women are critical for sustainable NRM in drylands, but are doubly marginalized by living in a dryland area and facing gender discrimination that limits their participation in decision-making in land and water governance and their access to and control of natural resource assets (UN Women and UN DESA 2023). Dryland women have worse outcomes on core development indicators, compared to national averages (Nelson, Forsythe, and Morton 2015).

The inclusion of gender considerations in dryland projects has seen significant progress over time, aligning with broader trends within the GEF portfolio. In response to the introduction of the GEF gender policy, approximately 80 percent of newer dryland projects under GEF-6 and GEF-7 have conducted gender analyses, established gender action plans, and integrated sex-disaggregated targets and gender-sensitive indicators into their results frameworks. This marks a substantial increase compared to earlier projects, where only about a third followed these practices. An impressive 90 percent of country focal points, as per the survey, expressed satisfaction with the level of gender consideration in GEF programming for dryland areas within their respective countries. Notably, dryland projects most commonly aim to contribute to enhancing women's participation, capacities,

and decision-making (85 percent in newer projects and 62 percent in earlier ones) and to generate socioeconomic benefits or services for women (75 percent in newer projects and 45 percent in earlier ones).

Fewer projects have directly aimed at closing gender gaps in access to and control over natural resources (37 percent of newer projects and 25 percent of earlier). This may in part reflect the deep entrenchment of gender inequality in some dryland contexts and the difficulty of addressing it through shorter-term projects. For example, livestock and rangeland management and forestry have historically been and remain male domains in many countries, as in Azerbaijan and Uzbekistan. Projects made limited attempts to increase women's participation in these areas, tending to engage women instead through alternative livelihoods in sectors where they traditionally have a greater presence. Women's key role in agriculture in many dryland countries is an important entry point that can be leveraged to promote equality and empowerment, as illustrated in the design of the Sustainable Land Management to Strengthen Social Cohesion in the Drylands of Burkina Faso (GEF ID 11003) project (box 3.2).

Private sector involvement in GEF dryland projects has historically been limited, but there is a noticeable upward trend, expanding beyond the development of value chains for individuals and cooperatives. Relatively few (64 percent) country focal points agreed that private sector engagement has been adequately considered within GEF drylands' programming. Still, the inclusion of private sector engagement in project designs has more than doubled, increasing from 35 percent in earlier projects to 77 percent in newer ones. Importantly, there has been an enhancement in the level of detail in describing private sector involvement during project design. The private sector actors most commonly engaged in dryland projects are smallholders, cooperatives, and small and medium-size enterprises (SMEs) at 42 percent, followed by financial institutions or intermediaries at 29 percent, and privately owned companies at 22 percent. Interviewees highlighted that engaging the private sector sustainably in drylands can be more challenging than in more-productive regions. This is due to issues related to aggregation, connectivity to broader markets, the absence of incentives for investment in drylands, and the consequent capital outflow from common enterprises such as mining. It is worth noting that private sector investment in African drylands has a history of land appropriation from vulnerable populations, partly driven by misconceptions of drylands as unproductive or even vacant (Future Agricultures 2014; Galaty 2013). The country case studies provided minimal evidence of GEF projects addressing the deep-rooted underlying causes of unsustainable private sector engagement in drylands.

In the case study countries, earlier projects predominantly centered on private sector involvement by means of developing value chains for individuals,

Box 3.2 Embedding gender approaches in dryland project design in Burkina Faso

As a promising example among recent GEF projects of embedding gender approaches through design, interviewees pointed to the UNDP Sustainable Land Management to Strengthen Social Cohesion in the Drylands of Burkina Faso project, which aims at a transformational shift to sustainable management of landscapes in the country following LDN principles. The project design recognizes that the roles, attitudes, and behaviors of men and women must be well understood to develop context-appropriate responses to land degradation and ultimately achieve global environmental benefits. A STAP report concluded that "Embedding these social processes throughout the interventions is expected to help generate co-benefits (e.g. a reduction in land-based conflicts through enhanced participation of women in decision-making and conflict resolution mechanisms) to ensure ongoing support for the changed practices, and hence enduring benefits" (GEF STAP 2023a, 21).

specifically targeting smallholders and cooperatives. To illustrate, in Uzbekistan, GEF projects implementing working land approaches on croplands and pasturelands collaborated with *dekhan* (smallholder) farms and pastoral collectives, such as Karakul LLC, by offering income-generating opportunities and other alternative livelihood activities, such as sewing workshops. In Azerbaijan, a GEF-5 project focused on creating alternative livelihoods for beneficiary families and succeeded in linking them to the national ABAD (family business support facility) program. ABAD assessed the families' products and production methods for compliance with its standards, provided certification, and integrated these products into its larger market chain.

While smallholder value chain work still features prominently in more recent projects, some projects also aim to engage private businesses in land restoration and to mobilize finance from the private sector to support environmental services. In Azerbaijan, the new LDN project aims to demonstrate the business case for restoring agricultural lands to increase productivity—including through assessing the economic costs of action versus inaction and engaging with a private company to restore further degraded lands, building on the company's prior experience in restoring 3,400 ha of saline land. The Green Finance & Sustainable Agriculture in the Dry Forest Ecoregion of Ecuador and Peru project (GEF ID 10852), implemented by the Development Bank of Latin America and the Caribbean (CAF) is seen as highly innovative in seeking to mobilize private sector resources. It is issuing two green bonds for sustainable land use and conservation in Ecuador's and Peru's capital markets, with the GEF and CAF providing guarantees.

Relevance of GEF approaches and role in drylands

The GEF is seen as playing an important role in drylands by integrating multiple environmental objectives to deliver global environmental benefits. Over time, GEF approaches in drylands have notably shifted toward more integrated and landscape approaches, and toward LDN strategies and implementation, given the prominence of land degradation in dryland interventions. The GEF has also helped countries by providing tools for LDN target setting and monitoring progress toward LDN. The GEF is a significant player in drylands given its role with the UNCCD and its potential to work in an integrated way across multiple environmental challenges. In Malawi, for example, the GEF was seen, as noted by an interviewee, as "changing the conversation" around environmental protection and biodiversity conservation in ministries that were traditionally less inclined to consider such issues.

Key interviewees agreed that GEF drylands' programming must address the special challenges of drylands, such as drought occurrence, but through the lens of the wider landscape, to ensure that interrelated issues are considered holistically. GEF country partnership programs in drylands were successful where GEF financing mainstreamed integrated approaches through larger, cofinanced projects (GEF 2014). The International Union for Conservation of Nature (IUCN) evaluated dryland projects for their impact and recognized a similar necessity for an ecosystemwide integrated approach (Davies et al. 2016). The case studies offer examples of GEF programming shifting in this direction, including shifts toward watershed approaches in Ethiopia, Malawi, and Burkina Faso as described earlier. While recognizing the importance of integrated approaches, projects have also found it challenging to address multiple objectives across sectors, resources, landscapes, and users. In Uzbekistan, for example, the concept of integrated pasture and forest land management, while featuring heavily in project design, was not well translated into implementation at the district level.

As the GEF land degradation portfolio has shifted toward LDN implementation, and with multifocal projects increasingly aligned with the LDN concept (GEF 2022b), GEF drylands' programming has demonstrated

similar trends. The DSL IP is strongly aligned with helping countries achieve LDN targets and commitments under the UNCCD (GEF IEO 2022a). In the case study countries of Azerbaijan and Uzbekistan, LDN has provided a guiding framework in more recent GEF dryland projects. In Uzbekistan, projects such as the FAO-implemented Sustainable Forest and Rangelands Management in the Dryland Ecosystems of Uzbekistan (GEF ID 10367) and the UNDP-implemented Conservation and Sustainable Management of Lakes, Wetlands, and Riparian Corridors as Pillars of a Resilient and Land Degradation-Neutral Aral Basin Landscape Supporting Sustainable Livelihoods (GEF ID 10356) are more explicit than earlier GEF projects about advancing toward LDN through integrated management of land, lake, wetland, and riparian ecosystems, incorporating private sector and local community engagement.

Programmatic support has been highly relevant in dryland geographies, including transnational support and phased support. There are multiple examples of programmatic support relevant to drylands in the GEF portfolio over time, including TerrAfrica, the Central Asian Initiative for Land Management (CACILM), the Sahel and West Africa Program in Support of the Great Green Wall Initiative, the RFS IAP, and—most recently—the DSL IP. Programmatic approaches are seen by interviewees as important for drylands to help countries break down ministerial silos, identify region-specific challenges and support learning, provide clustered support (e.g., on value chains), address transboundary issues, and as noted above, incentivize governments to direct funding to marginalized drylands. Transboundary approaches, although challenging to coordinate, have been relevant in addressing issues such as water scarcity and drought, soil salinity, habitat loss, and transhumant grazing shared by neighboring countries. These have been adopted in some GEF interventions, both within and outside of program approaches, such as through CACILM (box 3.3) and the Sahel and West Africa Program in Support of the Great Green Wall Initiative. Fifty-four percent of country focal point survey respondents strongly agreed, and another 42 percent agreed, that the GEF should provide more support for interventions that are part of larger programmatic approaches, such as impact programs, to achieve environmental goals in dryland areas.

Box 3.3 Lessons from transboundary approaches in Central Asia

The GEF has supported two phases of the CACILM, which coordinates efforts by six countries to scale up integrated natural resource management, targeting representative agro-ecosystems and landscapes where climate change impacts have led to greater droughts and soil salinity. The design of the FAO-implemented CACILM2 (GEF ID 9094) improved on its predecessor, the CACILM1 partnership, in seeking to address bureaucratic governance, reliance on international funding, limited country buy-in, absence of strategy to scale integrated natural resource management, weak integration of resilience into policy and decision-making, poor technical capacities of institutions and agricultural extension services, and inadequate knowledge sharing. CACILM2 was designed with a focus on knowledge management, intended to secure more sustained support from participating countries, relying more on in-country cofinancing through links with ongoing national programs, nongovernmental organizations, and land and water user associations. The partnership still grappled with a complex and cumbersome chain of command, though helped by good interactions among project staff and FAO staff. While GEF-supported regional projects sometimes serve as clusters of largely nationally designed and implemented national subprojects, CACILM2 has featured more collaboration between countries to address transboundary issues.

The case studies offered examples of the effectiveness of long-term, phased approaches in dryland contexts. In Ethiopia, sequential projects in GEF-4 and GEF-5 were followed by large World Bank investment operations and a program for results, scaling up impact. In

the words of one GEF interviewee, "[Partners] need to stay engaged at least 10 years. It's not a fast process. If I look at engagement in many of these countries, it's been sequential projects, and when you finally came to scale, it took 15 years."

3.2 Coherence of GEF programming

Coherence with other initiatives

GEF interventions in dryland countries have been well aligned with related donor- and government-funded initiatives at the national level. Nearly three-quarters of country focal points agreed that GEF interventions have been well aligned with other donor-funded activities. Eighty-four percent of earlier projects, and 74 percent of newer ones, discussed interactions with other donor-funded projects. The country case studies found evidence of highly coherent support in almost all countries—in some cases, through programmatic approaches. As noted above, GEF programming in Niger has used a national program as its entry point. In Ethiopia, an SLM program was designed and implemented as a multidonor, multiphase initiative—the GEF-4 SLM Program and SLM Project 2—anchoring investments and policy work under the government's SLM investment framework. This programmatic approach facilitated synergies among participating donors, including the World Bank, UNDP, the GEF, Norway, GIZ, and the European Union. The three GEF Agencies involved in SLM in Ethiopia—UNDP, IFAD, and the World Bank—adopted a harmonized and coordinated approach, based on each Agency's comparative advantages. GEF projects in Malawi also worked coherently with other domestic and international development partners, generating synergies and scaling effects. The IFAD-implemented Enhancing the Resilience of Agro-Ecological Systems project, part of the RFS program, has been working with the World Bank's watershed development programs and with UNDP's TRANSFORM project, which are implementing similar catchment management interventions, to build the capacity of local institutions.

Across many contexts, coherence at the local implementation level is mixed, but especially in countries where decentralization efforts are advanced. Coherence at the national level does not necessarily translate into coherent operationalization and implementation of policies and strategic priorities on the ground. In Uzbekistan, all good NRM practices applied in project target districts under the UNDP-implemented Reducing Pressures on Natural Resources from Competing Land Use in Non-Irrigated Arid Mountain, Semi-Desert and Desert Landscapes project (GEF ID 4600) had previously been tested and demonstrated in GEF, GIZ, World Bank, and other efforts—yet few resources were devoted to replication and scaling up beyond demonstration. In the UNDP-implemented Oasis Micro-Basin Sand Invasion Control in the Goure and Maine Regions of Niger project (GEF ID 3381), support in communities by different organizations and service providers—including the GEF project—was often dominated by competition and different approaches. This led to confusion among beneficiaries and communities and disincentives for beneficiary ownership. This GEF project has relatively low engagement with local governments and councils to facilitate more coherent approaches in their jurisdictions. In contrast, GEF projects in Ethiopia and Malawi fully embedded their activities into district- and village-level government institutions and arrangements, which supported coherence. Specifically, establishing steering committees and supporting NRM awareness and technical capacity building led to more coherent approaches. In Ethiopia, multiple stakeholder engagement and synergistic partnerships were established across sectors in the districts under the leadership of the district chief administrator. They were key to coherent and successful natural resource governance, especially through mainstreaming the programs in regular rural development and extension systems.

GEF contributions to policy coherence

While policy coherence is not a new concept for the GEF, the GEF-8 Programming Directions integrate it as a cross-cutting principle, critical for fostering systems-level transformation. Policy coherence is defined as "the systematic promotion of mutually reinforcing policy actions across government departments and agencies, creating synergies towards achieving the agreed objectives" (Breuer, Janetschek, and Malerba 2019). In the overall GEF portfolio, the share of projects with a policy coherence dimension has increased over time, with the highest proportion approved in GEF-7 and among multifocal area projects, which dominate the dryland portfolio.

All country case studies found evidence that projects assessed national policy context in design and identified activities to address misalignments and leakage effects, or to foster synergies. For example, in Azerbaijan, multiple GEF-5 and GEF-6 projects identified policy misalignment (e.g., unclear institutional responsibilities for land and pasture management and misaligned incentives for overgrazing) as a key barrier to SLM, including in dryland areas. Project designs attempted to introduce changes in the policy landscape and included components meant to break down institutional silos at the central ministerial level and to support coordination across administrative levels from national to local. In Malawi, all GEF projects in dryland areas analyzed policy context at design. In Uzbekistan, the Reducing Pressures project worked to advance norms and regulations on resource use, considering the needs of different stakeholders in the target landscapes; the more recent Sustainable Forest and Rangelands Management project builds on those efforts to align the Law on Pastures with LDN priorities to ensure policy coherence.

Despite the prevalence of policy coherence considerations in project design, the country case studies offered limited examples of success in strengthening policy coherence. This lack is due in part to policy timelines exceeding project timelines and to an absence of institutional ownership and positioning, especially when relevant responsibilities were divided among government bodies. Several projects suffered from the mismatch between shorter project implementation periods and the longer time frames required to implement policy change; this was particularly true for ambitious efforts to address policy misalignments across sectors and institutions. For example, unclear responsibilities for pasturelands and/or rangelands across multiple ministries and levels of government in both Azerbaijan and Uzbekistan hindered institutional ownership of GEF projects and progress toward policy coherence. Similarly, in Ethiopia, the government's 2021 National Drylands Strategy attests to a "high degree of inconsistency and incoherence across programs and sectors" on dryland development, contributed to by frequent restructuring and splitting of relevant responsibilities among ministries and agencies in charge of environmental protection, natural resources, and climate change (Böttcher et al. 2023).

In Malawi, current public investment priorities and misaligned maize subsidies prevent many farmers from sufficiently investing in SLM. While GEF support helped increase maize yield through improved SLM, underlying policy misalignment means that adoption of SLM practices and technologies remains financially unattractive for many farmers. In Azerbaijan, very limited progress has been made in addressing the policy misalignment identified nearly a decade earlier in the design of the GEF-5 Sustainable Land and Forest Management project. Earlier GEF projects were seen as having underestimated the time needed for fundamental review and adjustment of legal and institutional frameworks. Without policy or legislative change, many of the piloted activities did not have a basis for sustainability. Like earlier projects, the new GEF-7 LDN project in Azerbaijan plans to assess the regulatory framework to identify possible gaps, inconsistencies, weaknesses, and opportunities—now through an LDN lens—and to support vertical and horizontal coordination mechanisms.

Chile (box 3.4) and Uzbekistan offer successful examples of GEF interventions contributing to the adoption of more coherent policies. In Uzbekistan, multiple GEF projects have coherently contributed to developments with the Law on Pastures. The Sustainable Forest and Rangeland Management project builds on the Reducing Pressures project in aligning the Law on Pastures with LDN priorities to ensure policy coherence. While it did not intend so at design, the Sustainable Forest and Rangeland Management project also adapted and participated in all stages of adoption of the Law on Pastures, including development of specific provisions.

Box 3.4 Contributions to policy coherence in Chile

The Chile case study offers a positive example of GEF interventions promoting consultation and collaboration processes, and providing inputs and pilot experiences to support the elaboration of informed development policies. GEF interventions are explicitly acknowledged by their inputs and facilitation roles to the formulation of strategies and policies, including the National Biodiversity Strategy 2017–2030; the National Strategy for Climate Change and Vegetation Resources; the National Landscape Restoration Plan 2021-2030; the National Rural Development Policy; the National Action Program to Combat Desertification, Land Degradation and Drought: PANCD-Chile 2016-2030; and the Biodiversity and Protected Areas Service. These strategies also set up national and regional steering boards and technical committees to ensure coordination, integration, and coherence in their implementation at both ministry and interministry levels. In June 2023, Chile's national congress approved a new law creating the Biodiversity and Protected Areas Service, which resolves the issue of several government agencies having responsibility for protection of biodiversity. This new service aims to provide policy coherence and enforcement in the protection of Chile's biodiversity, as well as coordination among government agencies to protect biodiversity and ecosystem services.

More recent GEF projects in drylands show evidence of evolving approaches to promote policy coherence, including LDN methods, programmatic approaches, and strategies that seek to tangibly demonstrate the value of policy coherence at local or jurisdictional levels as a pathway to influence national policy making. GEF Secretariat and GEF Agency interviewees pointed to some modest progress in GEF-6 and GEF-7 in terms of increasingly involving non-GEF ministries, agencies, and departments (e.g., agriculture, forestry) in project execution, a development that interviewees attributed in part to the advancement of integrated program approaches. A GEF Agency interviewee also explained the value that program approaches can offer in terms of enabling agencies to marshal their internal resources (e.g., policy and legal teams): having multiple child projects with similar aims enables GEF Agencies to take advantage of economies of scale on policy analysis and to direct resources toward countries that demonstrate an appetite to tackle policy challenges.

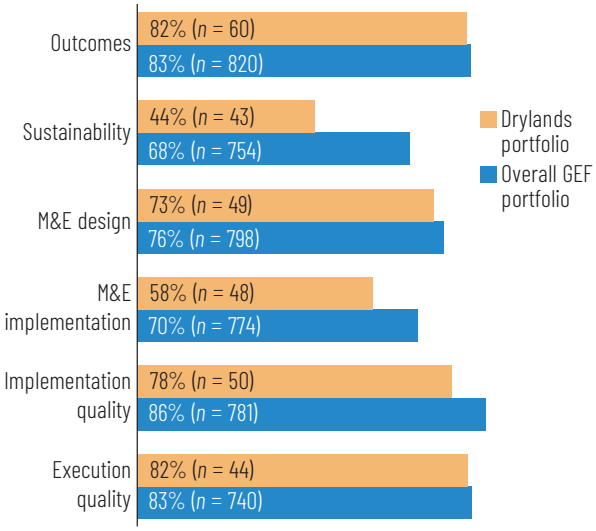
Agency and Secretariat interviewees also highlighted the value of working at landscape or jurisdictional levels—for instance, to focus on norms or bylaws that can be more realistically tackled in a four- to five-year project period—and use that experience to feed back to the national level. In Namibia, for example, a DSL IP child project is piloting the use of encroaching bush for Sustainable Forest Stewardship Council charcoal production to help demonstrate the policy misalignment associated with a government ban on using biomass for charcoal production. In Malawi, GEF projects have moved over time from policy reviews to generating lessons and testing methodologies for operationalizing existing and new legislation, such as in the context of large-scale, land-based investments, including land laws.

As the Azerbaijan and Uzbekistan cases illustrate, more recent projects in drylands are using LDN as the driver for cross-sectoral coordination of policy, regulatory, and multistakeholder decision-making to promote integrated, sustainable management of landscapes.

The GEF STAP cites LDN as a global instrument that can facilitate policy coherence, for example, by promoting review of economic development plans, infrastructure policies, agricultural subsidies, and land use planning policies to ensure coherence with LDN principles and avoid unintended impacts. LDN interventions can also help establish mechanisms, such as legal covenants, to ensure the long-term protection of land restored through counterbalancing (GEF STAP 2022).

More than 90 percent of country focal points who responded to the survey agreed that, to achieve environmental goals in dryland areas of their countries, the GEF should provide more support for interventions that ensure that policies in different sectors are mutually supportive and do not work against each other, for promoting coordination across different levels of government (e.g., local and national) and for promoting interministerial and cross-sectoral institutional coordination.

Figure 3.6 Percentage of GEF-4, GEF-5, and GEF-6 projects with performance ratings in the satisfactory/likely range



Source: GEF IEO terminal evaluation review data set, 2021.

Note: M&E = monitoring and evaluation. The *n* count excludes projects with no rating available in the data set.

3.3 Results: environmental and socioeconomic benefits of GEF dryland interventions

Global environmental benefits

GEF projects in dryland countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio, and most completed dryland projects reported positive environmental benefits. There is no statistically significant difference between dryland projects and the rest of the GEF portfolio in terms of generating satisfactory outcomes (figure 3.6). Global environmental benefits in dryland countries to which the GEF has contributed are primarily related to area of land restored, afforested, protected, or under improved sustainable land use practices, followed by benefits related to climate change mitigation.

Projects spanning hyperarid to arid climates had slightly higher average effectiveness than those spanning arid, semiarid, to dry subhumid climates, demonstrating that investments in more acute dryland settings can lead to comparably strong effectiveness of project implementation despite more challenging conditions for climate and water security. The Ethiopia case study illustrates this: the two-phase SLM intervention there was more effective in reducing land degradation and improving land productivity in drier areas, where moisture stress is a critical constraint.

Case study countries reported a large area under improved sustainable land use practices as a result of field-level interventions. These interventions encompassed a combination of economic models on working lands to enhance productivity, alongside ecological models focused on enhancing vegetation cover and restoring ecosystem function. Programmatic approaches and projects working synergistically over longer periods of time reportedly delivered impressive hectarage:

- In Malawi, UNDP and World Bank sustainable landscape management projects—Private Public Sector Partnership on Capacity Building for SLM in the Shire River Basin (GEF ID 3376) and Shire Natural Ecosystems Management Project (GEF ID 4625)—together improved SLM practices and agricultural productivity on 480,000 ha, more than 10 percent of the country's agricultural lands.
- In Niger, three successive GEF-cofinanced World Bank community action projects/programs (CAPs)—including Community Driven SLM for Environmental and Food Security (GEF ID 3382) and Third Phase of the Community Action Program (CAP3, GEF ID 5252)—delivered over 250,000 ha under improved soil and water management practices, with 700 local management committees established and land tenure commissions set up in 160 communities. In these areas, the Community-Driven SLM project reported substantially improved vegetation coverage and reduced erosion and soil salinity through a variety of SLM-related activities and micro-investments, including assisted natural regeneration, agropastoral land restoration, conservation agriculture practices, livestock corridors, and improved cookstoves.
- In Ethiopia, the first two phases of the World Bank SLM program, spanning 10 years, together treated more than 860,000 ha of degraded landscapes in 1,820 microwatersheds (of about 700 ha each), reaching more than 95 percent of its target. The projects also supported the issuance of about 60,000 landholding certificates, which benefited smallholder farmers and landless youth, who reportedly received holding rights in exchange for managing communal lands.

More modest results were reported from individual projects in Azerbaijan, Chile, and Uzbekistan that were not part of broader cofinanced programs. In Azerbaijan, the Sustainable Land and Forest Management project developed pasture mapping, inventories, and management plans for about 9,100 ha of summer and winter pastures in the Ismayilli rayon (dry subhumid zone). In Chile, SLM targets associated with the GEF-4 Sustainable Land Management project (GEF ID 4104) implemented by the World Bank were revised downward from 100,000 ha to 30,000 ha, and UNEP's Protecting Biodiversity and Multiple Ecosystem Services in Biological Mountain Corridors in Chile's Mediterranean Ecosystem (GEF ID 5135) in GEF-5 introduced new grazing practices based on ancient community knowledge by defining exclusion areas and rotations for grazing in 9,000 ha in San José de Maipo.

While protection is less prevalent among the objectives of GEF dryland projects, the case study countries also expanded areas under protection and improved management effectiveness in key landscapes and ecosystems. A few of the most notable examples follow.

- In Chile's Metropolitan Region, GEF interventions supported the declaration of three parks (Mawida Park, Quebrada de Macul Park, and El Trapiche Park) covering a total of 443 ha of new protected areas, and supported planning and management of these municipal protected areas.
- In Malawi, the Shire Natural Ecosystems Management Project contributed to reductions in illegal encroachment, poaching, and deforestation in protected areas (Lengwe and Liwonde National Parks) covering a large portion of the Shire River Basin landscape. The project also helped communities co-manage two forest reserves in the Neno district adjacent to the national parks, forming important wildlife corridors. Management Effectiveness Tracking Tool (METT) scores increased from 39 percent to 70 percent, suggesting that protected areas and forest reserves within the basin are now better managed.
- In Uzbekistan, project activities focused on protected areas and biodiversity had stronger localized environmental outcomes compared to activities involving working lands (pastureland and cropland). The Mainstreaming Biodiversity into Uzbekistan's Oil-and-Gas Sector Policies and Operations project

(GEF ID 3950) successfully contributed to the establishment of the Saigachy Reserve, supporting capacity-building efforts, providing equipment and infrastructure, and creating maps of a zone prohibiting oil and gas exploration and production. The project led to some replication of restoration on 626 ha, beyond the 50 ha of pilot restoration of damaged land by Uz-kor Gas Chemical.

GEF dryland projects restored a large area of degraded lands through afforestation, reforestation, and area closures, among other techniques. Notable examples follow.

- Ethiopia's two-phase SLM project restored about 154,000 ha of degraded farmland and communal land through gully treatment, area closures, reforestation, and afforestation—results that were verified through field-based case studies and analysis of remote-sensing geospatial data with control locations (IEG 2020a), as well as by this SCCE. Agroforestry and area closures to limit free grazing led to a 5 percent increase in vegetation cover.
- Niger's CAP3 has supported large-scale land and resource restoration, including 32,200 ha of land reclaimed and protected, 118 communes (72 percent of all targeted communes) protected, and at least 200 ha of additional land reclaimed. Also in Niger, the Oasis Microbasin project stabilized and restored 5,373 ha (exceeding targets by more than 20 percent) of degraded agro-sylvo-pastoral lands, improving pastures and vegetable production in the microbasins in the long term.
- In Chile's Arica-Parinacota (arid and steppe zones), the SLM project restored approximately 177 ha of high-Andean wetlands, which are very important to indigenous peoples for breeding llamas (camelids) and maintaining ecosystem services and biodiversity.
- In Azerbaijan's Sustainable Land and Forest Management project and the Forest Resources Assessment and Monitoring to Strengthen Forest Knowledge Framework in Azerbaijan project (GEF ID 9795), forest restoration activities were largely successful at the pilot level because of the productivity of new fruit plantations and recognition by local forestry units of the value of fencing forests along roads to avoid illegal grazing, with evidence of rapid natural forest rehabilitation.

National monitoring in project sites suggested improved forest density, indicating higher productivity. Investments in establishing and/or modernizing nurseries to support government afforestation/reforestation efforts were also successful in multiple countries (Azerbaijan, Uzbekistan). Restoration efforts were more successful when resource users were compensated for limiting their use in the short term and when resource needs were sufficiently met or decreased through other means (see discussion of socioeconomic synergies and trade-offs below).

For projects working on multiple dryland landscapes or landscapes shared for multiple uses, environmental outcomes were often weaker in pastoral areas. Projects in Azerbaijan and Uzbekistan, for instance, addressed proximate drivers, but were less successful in coherently addressing underlying drivers of degradation in rangelands, including demographic changes and overgrazing. In Uzbekistan, at the close of the Reducing Pressures project, problems related to land degradation continued to persist and seemed exacerbated. High population growth resulted in rapidly expanding cities and increased pressure on natural resources, even though reducing pressure was the main intended impact of the project. Niger's CAP projects did not give adequate attention to pastoral issues, in a context where indigenous transhumant pastoralists are about 18 percent of the population. Although communal land was a major focus of the projects' restoration efforts and is used by pastoralists, pastoral projects only accounted for 3 percent of projects. Pastoral corridors are now narrowing due to encroachment, and pastoral infrastructure is deteriorating (IEG 2020b).

Environmental outcomes in GEF dryland projects are mostly reported in hectare terms, with few cases of robustly measured improvements in biophysical indicators that would verify relevant changes in environmental status. The greatest improvements in normalized difference vegetation index (NDVI) and vegetation cover were identified in Ethiopia, where an independent geographic information system (GIS) remote-sensing study on the impact of the first phase of the SLM project found that, over a five-year period, gross primary production grew by 14 percent on average in project areas affected by severe droughts and by 3 percent in other project areas, suggesting important drought-buffering effects. Results showed a clear difference between treated and control locations, with an upward trend among treated areas during the last implementation years of the first phase. In Chile, the terminal evaluation for the SLM project estimated increases in water provision of 34 percent from restoration of wetlands in Putre-General Lagos, yielding an estimated incremental value of $1,409 per ha, of which GEF benefits accounted for about half. Benefits from erosion control and restoration for this project were estimated at $84 per ha, with 100 percent covered by GEF interventions. In Malawi, synergistic World Bank projects—including the Shire Natural Ecosystems Management Project and the Shire Valley Transformation Program - I (GEF ID 9842)—contributed to a 33 percent increase in the NDVI in targeted water catchment areas and a 20 percent increase in forest reserves between 2012 and 2018.

Most other projects in the case study countries, however, did not monitor or report biophysical data that would verify environmental changes—such as analysis of vegetation cover or soil organic carbon—in part due to the dynamic nature of landscapes and the time scale for registering improvements. Monitoring, quantifying, and evaluating benefits and trade-offs is an ongoing challenge for the GEF, as for other development agencies. In Ethiopia, for example, the results framework included indicators on NDVI and soil carbon content to measure land degradation, but there was no control group comparison. Similarly, in Niger, increasing rainfall has contributed to greening across the Sahel, regardless of whether those drylands are managed, and a lack of measurement at the project level and outside the intervention zone prevented a robust analysis of the contribution of dryland technologies versus rainfall effects (IEG 2020b).

Although this evaluation did not set out to specifically examine monitoring and evaluation systems, the relative lack of demonstrated changes in environmental status through such systems raised questions about the reliability of hectarage reporting. For example, in Uzbekistan, area targets on pastureland management were exceeded, but without evidence of sustained positive environmental outcomes—a major discrepancy between what was reported and seen on the ground (see also discussion below on sustainability). In Azerbaijan, the terminal evaluation for the Forest Resources project concluded that the estimated climate change mitigation benefits could not be attributed to the project; and for the Sustainable Land and Forest Management project, the emissions reductions appear to be calculated based on the original hectares targeted, rather than the lower actual achievement. Part of the challenge is related to the definition and interpretation of indicators of global environmental benefits, where the number of hectares under improved management reported does not always specify whether the improvement is a temporary or permanent change, the quality of the change, or what counts as improved management. Despite GEF and GEF Agency efforts to ensure that targets are feasible, achievable, and based on sound methodologies, a view persists among some interviewees that area-based estimates are overly optimistic in the GEF, reflecting more a transformational aspiration than the reality on the ground. Fieldwork and geospatial analysis also point to more localized and fragmented results than hectare reporting suggests. A highly promising development is the integration of LDN indicators into national land use monitoring and their

use to measure progress against GEF projects—as is planned, for instance, under the DSL IP.

Socioeconomic benefits

Nearly all dryland projects in the case study countries delivered socioeconomic benefits—with varying success—and portfoliowide, most completed dryland projects (83 percent) reported positive socioeconomic outcomes, changes, or trends. Socioeconomic benefits are critical for generating global environmental benefits in dryland geographies and are widely targeted and delivered in GEF dryland interventions; they are most notably related to income generation and/or diversification at the household level. Other prevalent socioeconomic outcomes relate to gender equality, civil society engagement and development, access to communal services, job creation, and food security. Examples include the following.

- Azerbaijan's Sustainable Land and Forest Management project provided support for alternative livelihoods for village pastoralists as an incentive to implement pasture management plans, and successfully connected several villages with broader markets.
- In Uzbekistan's sustainable forest management project, interviewees noted work provided through branches of the forestry ministry under the project was the sole source of income for people in remote areas.
- In Niger, the Oasis Microbasin project generated short-term employment and income through cash- and food-for-work for stabilizing the dunes. Additional income came from seedling sales, especially by women, which improved food security and reduced poverty and outmigration from villages. The Community-Driven SLM project saw 52 percent of project beneficiaries improve their incomes through doubling millet yields, cash-for-work (mainly land restoration activities), and NRM-related income-generation activities. Forest, pasture, and livestock productivity and incomes increased by 80 percent and net forest losses such as through charcoal use decreased, based on an end-of-project impact survey.
- In Ethiopia, GEF dryland-oriented projects delivered outcomes ranging from more diversified and high-value agricultural production to better market access and alternative livelihood options, which led to income gains and improved food and nutrition security and resilience. Socioeconomic benefits resulted from improved environmental infrastructure and practices, compensatory measures to facilitate NRM adoption, and complementary investments in basic socioeconomic infrastructure (Country Program for Sustainable Land Management [GEF ID 2794]) and alternative livelihood activities (Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience [GEF ID 9135]).
- In the Ethiopia SLM Project, water harvesting and small-scale irrigation enabled income and dietary diversification by allowing households to grow high-value fruits and vegetables year round. This led to further income and employment and reduced outmigration pressures, especially for youth.
- UNDP's Mainstreaming Sustainable Land Management in Agropastoral Production Systems of Kenya project (GEF ID 3370) enhanced agricultural productivity through the introduction of conservation agriculture strategies and drought-tolerant crops, which led to increased food availability in the pilot areas. Over 1,700 households adopted improved farming practices; those adopting drought-tolerant crops reported at least a 50 percent increase in agricultural production. In addition, dependence on food handouts decreased by 40 percent among households in the target subcounties.

GEF projects in drylands delivered some benefits for women's participation and income generation, but there is space for deeper consideration of social distributional issues more broadly in project design and implementation.

Thirty-seven percent of completed dryland projects referred to having achieved gender-specific results in the terminal evaluations. Results included strengthening women's participation in capacity-building activities and decision-making bodies, such as local committees; creating income opportunities for women and female-headed households; and raising gender equality awareness through the introduction of related training and campaigns targeting local communities as well as staff from public institutions. In Azerbaijan, Malawi, and Uzbekistan, for example, women benefited from new and diversified sources of income, such as beekeeping and handicrafts. In Ethiopia and Niger (the Oasis Microbasin project and CAP3), a large proportion of women benefited from higher production in home vegetable gardens. Also in Ethiopia and Niger (the Community-Driven SLM project, CAP3, and SLM Project 2), efforts were made to integrate women into decision-making bodies, although percentages remained relatively low, between 15 and 32 percent. In Senegal, the World Bank–implemented Sustainable and Inclusive Agribusiness Development Project (GEF ID 5449) ensured women's representation in management and technical committees related to land use and allocation, and increased women's access to developed land. In Niger, women were strongly involved in managing plant and tree seedling nurseries in multiple projects—notably the Oasis Microbasin project and the Agricultural and Rural Rehabilitation and Development Initiative (GEF ID 3383)—which enabled them to gain additional income for their children's education and the purchase of small ruminants. In some cases, insufficient attention was paid to the needs of the most vulnerable, and deeply entrenched gender discrimination was difficult to overcome (box 3.5).

Synergies between socioeconomic and global environmental benefits have been widely referenced in dryland projects, and reinforcing linkages between these benefits is effective for delivering impact and strengthening resilience. Across the GEF drylands' portfolio, 78 percent of earlier projects and 88 percent of newer projects mention supporting

Box 3.5 Lessons on overcoming gender discrimination in Niger

Gender and women's equal participation in projects have been an important aspect of GEF projects in Niger. Most have had gender-disaggregated and sensitive indicators and targets, and recent projects increasingly feature specific action plans for empowering women. Even earlier projects emphasized the equal participation of men and women in project activities and in reaping benefits from NRM-related and other income-generating activities and from increased production. For example, in the Agricultural and Rural Rehabilitation and Development Initiative, women were the majority of beneficiaries of cash- and food-for-work activities and performed a large part of land restoration activities. Women were strongly involved in managing plant and tree seedling nurseries in this project as well as the Oasis Microbasin project; this was a basis for empowerment and generated additional revenues for children's education and purchases of small ruminants. Women benefited strongly from the produce and sales of GEF-supported vegetable gardens that helped with improved food security and nutrition in both the Oasis Microbasin project and the Family Farming Development Programme. Training and capacity development of women were important in all projects.

Women benefited less from the cash-for-work programs under the World Bank CAP initiatives because social and cultural participation barriers were not sufficiently addressed. Barriers included lack of alternative options for childcare and other domestic work, and lack of female-only activities. In some project areas, village leaders excluded women—including widowed or abandoned women—from taking part in the cash-for-work program. Unintended distributional impacts were experienced, because of predation by elites and encroachment by outsiders on restored land, with negative implications for the most-vulnerable people. This trend has also been experienced more broadly in restoration initiatives in the Sahel (Turner et al. 2021).

actions toward synergies between environmental and socioeconomic outcomes. The large majority focus on synergies between investments in NRM and improving peoples' livelihoods and economic well-being (e.g., through income-generating activities), based on the notion that the latter contributes to reducing pressure on the former while fostering sustainable practices in the long run. About half of completed dryland projects refer to success in fostering these synergies. The country case studies provide numerous examples of and lessons from these linkages, incorporated in the following discussion.

Responsiveness of interventions to local socioeconomic priorities—often linked with addressing water scarcity in the short term—is critical to community buy-in and adoption of environmental management practices in drylands. Making these linkages promotes synergies between land restoration and resilience. For drought-prone productive areas in Malawi and Ethiopia, it was critical that projects address real issues faced by communities such as low agricultural yields, flooding, and inadequate water supply for irrigation, where water harvesting systems took on high relevance. Buy-in was enhanced in cases of familiar and easy-to-adopt SLM technologies and practices, building on past approaches, featuring demonstrations tailored to local conditions, combining modern innovations with traditional knowledge, and featuring a mix of biological and physical SLM interventions (see box 3.6 for examples from Ethiopia).

In Chile, the SLM and Biological Mountain Corridors projects have mitigated trade-offs by offering alternative water sources, regularization of water rights, and improvement of land productivity to farmers. In Niger, cash-for-work programs for land restoration were found to be effective for short-term vulnerability-reducing socioeconomic outcomes (such as cash received enabling planting and meeting household needs, and increased garden outputs due to increased soil moisture content and reduced erosion), but these processes were not sufficiently institutionalized to support longer-term resilience.

Box 3.6 SLM interventions for drought-prone areas in Ethiopia

Under the World Bank SLM initiatives in Ethiopia, incentives for farmers to adopt SLM worked mainly because the projects were designed to provide upfront economic benefits and to sensitize and engage local communities. Small-scale irrigation and other water harvesting and management techniques were a game changer in incentivizing improved watershed management practices. In drought-prone areas, they were a key enabler for translating the benefits of land restoration into reduced household vulnerability to climate change shocks, such as through growing high-value fruits and vegetables throughout the year.

Also in Ethiopia, market-oriented agroforestry systems, such as acacia gum trees, were found to bring win-win benefits through nitrogen fixation while generating income and contributing to reductions in poverty and outmigration. Despite these successes, more than a third of the SLM project sites visited by the World Bank's Independent Evaluation Group showed only modest improvements in vulnerability to climate change shocks, with the best results achieved when SLM practices were combined with income-generating activities (IEG 2020a).

Successfully delivering socioeconomic outcomes has required hands-on support and sufficient investment in local capacity. In Azerbaijan and Burkina Faso, significant time spent by project staff in local communities to support alternative livelihoods was valuable in promoting community buy-in and ownership over integrated approaches, considering the remoteness of many dryland areas. In Malawi and Ethiopia, decentralization of decisions and funds using participatory approaches with sufficient investments in sensitization and capacity building, with strong participation and ownership by officials and

qualified technical experts from district government departments, was critical in building trust between implementing staff and community members.

Dryland projects missed opportunities for delivering global environmental benefits when assumptions about synergies were not sufficiently supported by a strong causal link ensuring that livelihoods-oriented activities effectively addressed drivers of environmental degradation. Projects with livelihoods and income-generation activities often exhibited strong local ownership but without sufficient links to ensure sustainability of environmental outcomes. The country case studies offered numerous examples where insufficient attention had been given to whether income-generating activities could replace nonsustainable activities or link to addressing environmental degradation, in part due to lack of linkage to larger markets, scale, economic viability of activities, as well as "mandate drift" at the field level where rural development activities are not conditional on addressing land degradation. For example, income-generation activities in Azerbaijan's Sustainable Land and Forest Management project and Uzbekistan's Reducing Pressures project were not effectively targeted at the same forest and/or pastoral users who engaged in the main drivers of forest and pasture degradation, such as illegal and overgrazing and logging.

Trade-offs between socioeconomic and environmental benefits have been underconsidered in GEF dryland projects. While synergies are mentioned prominently in GEF dryland projects, only one earlier project referred to analyzing trade-offs, and only 15 percent of newer projects mentioned in their design the need to identify and address trade-offs. GEF dryland projects on pasturelands have exemplified the risks when potential trade-offs between socioeconomic and environmental goals are insufficiently considered or managed. In some projects, certain measures supported could have an actual or potential unintended negative impact on natural resources. The Reducing Pressures project in Uzbekistan featured no explicit arrangements with local beneficiaries or safeguards that additional income generated by the project could not be used to increase the number of livestock. No evidence was found that indicated a decrease in livestock or corresponding pressure on pasture ecosystems. Livestock remains a major asset and investment for dryland rural communities. Measures such as rehabilitation for wells and improved veterinary services, infrastructure, and vegetation cover were expected to lead to more livestock. Similarly, the UNDP-implemented Strengthening Sustainability of the National Protected Area System by Focusing on Strictly Protected Areas project in Uzbekistan (GEF ID 3556) had no measured impact on diversifying livelihoods among local communities away from livestock production to include fruit trees. In Azerbaijan, project fencing restricted grazing in forested areas; but without addressing underlying socioeconomic drivers for overgrazing, such as population growth, the potential for these measures to increase degradation in other pasture lands remains. In Ethiopia, communities did not abide by area closures in communal pastures that restricted grazing when there was a fodder shortage.

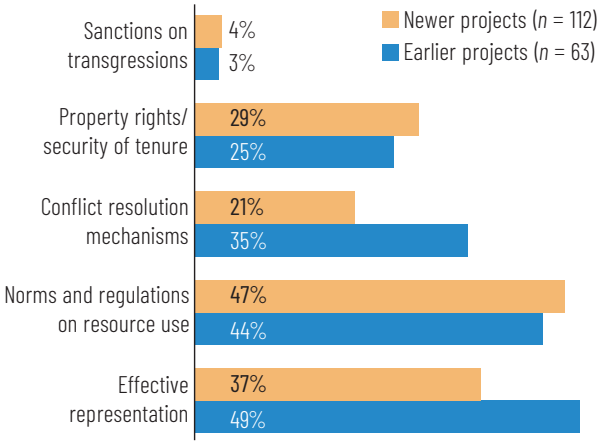
Country case studies also revealed a lack of attention to trade-offs at the policy level and in design, and outside the boundaries of GEF interventions. This finding suggests more attention is needed on the linkages and theory of behavioral change to achieve global environmental benefits. As the GEF STAP noted in dryland contexts, applying resilience thinking to analysis of trade-offs can be key to managing those trade-offs at the landscape level, assessing leakages, and allowing optimization or interventions that avoid or reverse land degradation and minimize unintended consequences. In many dryland projects, trade-offs are likely made with respect to maximizing ecosystem services in relation to human livelihood priorities in production systems, with an emphasis on supporting productive lands approaches (GEF 2014).

Natural resource governance

Both the portfolio review and the in-depth country case studies pointed to substantial consideration of natural resource governance in GEF dryland projects, although this consideration has not fully translated into results. In about three-quarters of the drylands' portfolio and in all case study countries, efforts were made to address natural resource governance. Portfoliowide, effective representation in decisions of the interests of different stakeholder groups and the existence and application of negotiated norms and regulations on resource use were the two aspects of natural resource governance that received the most attention (figure 3.7).

Compared to the proportion of dryland projects reporting positive environmental and socioeconomic benefits, fewer projects achieved outcomes related to natural resource governance. Only 30 percent of earlier dryland projects reported linkages between activities that were directed toward influencing natural resource governance arrangements and the achievement of positive environmental, socioeconomic, and/or institutional changes. Of these, 16 percent reported positive changes that were related to the effective representation in decisions of the interests of different stakeholder groups, 13 percent to the existence and application of negotiated norms and regulations on resource use, 10 percent to property rights or security of tenure, and 8 percent to existence of conflict resolution mechanisms (e.g., mediation, arbitration, litigation).

Figure 3.7 Aspects of natural resource governance dryland projects sought to influence at design



Source: Project documents.

Echoing the broader drylands' portfolio, the country case studies identified substantial consideration to natural resource governance in GEF dryland projects, but those projects often struggled to deliver change sustainably and at scale. Governance in drylands requires long-term, cross-sectoral, transboundary planning that ensures local benefits are delivered (Stafford-Smith and Metternicht 2021; Stringer et al. 2022); this was often beyond the reach of GEF projects, as discussed in more detail below.

Conflict resolution and land tenure matters have not been adequately addressed in dryland projects, which has consequences for both achieving and maintaining project outcomes. Less than a third of GEF dryland projects have addressed these issues, as referenced in figure 3.5. Forty-two percent of country focal point respondents disagreed that GEF drylands' programming in their country had adequately considered conflict, and 32 percent disagreed with respect to land tenure or security. While GEF strategy and convention guidelines provide increasing attention to these issues and adequate entry points to address them, this evaluation's portfolio review suggests that this attention is not yet adequately translating into project design. The GEF-7 LDFA strategy, for example, focuses GEF support on, among others, enhancing governance of natural resources including tenure and access rights, and on restoring governance and degraded lands and water sources in conflict-prone or conflict-affected areas. Land tenure also plays an important role in the framework of the UNCCD, and Decision 26/COP.14 puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

Land tenure is especially weak in communally managed drylands, such as grasslands and dry forests,

where traditional governance and customary authority are often being eroded through emerging state power (Davies 2017). Strengthening tenure is critical for sustainable management of drylands—a point emphasized by interviewees and illustrated by the country case studies. Projects in Uzbekistan, Niger, and Ethiopia illustrate the importance of ensuring that clear and enforceable land use agreements of sufficient length are in place prior to restoration, both to increase ownership over restoration measures and to ensure the land use rights of vulnerable users are protected.

- Uzbekistan's sustainable forest management project supported the government in preparing a presidential decree that enables people to rent or lease forest fund lands not covered by forest for up to 49 years; this is up from 10 years, to encourage greater state and private investment in sustainable forest management. This longer period accommodates longer rotations or horizons for harvesting that require more than 10 years to make economic sense.
- In Ethiopia, the land tenure regime was a barrier to investment in SLM practices, because smallholder farmers maintain usufruct rights to cultivation and cannot use the land as collateral. Two GEF-supported SLM projects focused on strengthening rural land registration and land administration. Under the earlier project, 60,000 households received land certificates, and the sense of ownership of soil and water conservation measures on farmland increased substantially. Tenure security catalyzed greater investment by farmers in SLM practices on individual and communal lands, especially on lands that were restored and where land tenure was initially not clear (IEG 2020a). By completion of SLM Project 2, farmers reported satisfaction with increased transparency of land adjudication procedures and participatory approaches used, and the number of land disputes decreased substantially.
- In Niger, a lack of attention to land governance in the Community-Driven SLM project—especially overlapping legal and traditional land and resource rights—undermined the outcomes envisioned for the most vulnerable. In areas where land governance was weak and communal degraded land was rehabilitated, the land was either sold to private buyers outside the community or farmers made individualized claims, limiting the ability of more-vulnerable resource users to continue to access communal lands (IEG 2020b).

GEF-supported projects built and supported capacity at local levels for decentralized and inclusive decision-making and planning, although projects often established multistakeholder governance platforms that were not self-sustaining after project closure. Supporting a governance framework that ensures that local actors have an equitable role in the system and that local benefits are delivered is a highly relevant approach in drylands (Stafford-Smith and Metternicht 2021). In Niger, the World Bank's CAP initiatives invested strongly in institutional strengthening for local government planning, including the adoption of local government planning tools. Yet continued institutional support and strengthening is needed for local community management committees covering NRM and land tenure, as their functioning was assessed as mediocre at project completion. The value of these committees was still felt, as they were able to manage conflicts arising from local land use and tenure issues more effectively.

Similarly, in Uzbekistan's Reducing Pressures project, some social capital was retained at the local level through pasture management committees, although there was limited evidence of major changes in pasture management. In Azerbaijan, a GEF project piloted cooperative resource governance structures for pasture and forest management at the district and community levels, but the district-level multistakeholder committees did not continue after project close, and limited information was available on their influence on resource governance effectiveness. Projects in former Soviet Union countries generally grappled with a legacy of top-down approaches to governance and capacity

building prevailing over bottom-up ones. The sustainability of multistakeholder environmental governance platforms was stronger in countries with a tradition of decentralized and institutionalized environmental governance, as in Malawi and—to some extent—Ethiopia.

GEF dryland projects have made some headway toward stronger resource governance through supporting the establishment of local bylaws, but weak enforcement is a common challenge, especially if incentives for compliance are insufficient. In Uzbekistan, for example, the lack of enforcement and penalties against unsustainable use has proven to be an area of weak governance, as evidenced by continued and widespread pasture degradation. The Reducing Pressures project worked to advance norms and regulations on resource use, considering the needs of different stakeholders in the target landscapes, but more work is needed to update and operationalize the Law on Pastures for it to become an effective instrument for sustainable livestock and pasture management. In Malawi, the Private-Public Partnership for SLM in the Shire River Basin project supported compliance with regulations and reduced encroachment and deforestation by developing community NRM management plans and bylaws that could be enforced by local communities and magistrates. Village NRM committees and local leaders are now working with the police to support enforcement. Still, compliance is mixed, with prohibited cultivation along the riverbanks driving threats of siltation, flooding, and/or changing the course of rivers altogether.

Improvements in data and information systems, as well as advancements in management planning, have helped strengthen the foundation for more effective governance of sustainable land and forest use. These developments in the GEF portfolio have been highly relevant in addressing weak technical knowledge in the forestry sector and a lack of data systems to support evidence-based planning. Notable examples follow.

- In Niger, cooperation through the GEF-4 Oasis Microbasin project with the University of Niamey and the National Center for Ecological and Environmental Monitoring helped generate new data management systems of a more technical nature (meteorological, rainfall, temperatures, etc.) and on environmental, socioeconomic, and biodiversity conditions and impact.
- In Azerbaijan, substantial results were achieved related to forest inventory and management planning. The Forest Resources project supported establishment of a sustainable forest management general coordinating committee and forest information center (GIS laboratory). It also developed a GIS database for the national forest inventory, which provided a home for information on forest areas spanning 86,600 ha at project completion and collected data through forest inventories for 20,000 ha in dry subhumid and semiarid rayons. The project also supported the development of guidelines on multifunctional forest management planning, using participatory approaches officially adopted by the environment ministry in 2020. The forest inventory and management planning approaches have been scaled up substantially since project close, inventory results have become the basis for updating regulations and guidelines, and a forest ecosystem management database is under development.
- In Uzbekistan, the FAO-implemented Food Systems, Land Use and Restoration Impact Program (GEF ID 10601) is developing a national system to monitor progress on LDN indicators, integrated into existing national land use monitoring systems, and an LDN decision support system for use at national and subnational levels.

For projects seeking to incubate policy and legislative change, longer project periods and/or follow-on projects that provide continuity have proven elusive. Evaluations and interviews for projects in Azerbaijan (the Sustainable Land and Forest Management project) and Uzbekistan (the Reducing Pressures project and the Protected Areas project) supported the view that project designs had underestimated the time needed

for review, adjustment, and operationalization of the legal and institutional frameworks pertaining to natural resource planning and management. Ambitious and prolific proposals in Azerbaijan and Uzbekistan to update legislation or sectoral roadmaps struggled with securing broader government buy-in and/or suffered from government turnover. Without major policy or legislative change, many of the piloted activities did not have a basis for sustainability. Project evaluations for the Protected Areas project and the Mainstreaming Biodiversity project noted how project efforts to amend legislation did not reflect lessons learned from previous UNDP-GEF projects—including that a project involving legislative or policy change should be no shorter than five years to allow development of the necessary capacity to make the change sustainable and operational. Without continued engagement, implementation of supported policy changes often faltered.

In contrast, the long-term (10-year) cooperation between the government of China, the GEF, and other donors through the Partnership on Land Degradation in Dryland Ecosystems Program (GEF ID 3482) produced impressive results in terms of strengthening legal and policy frameworks for controlling land degradation in dryland ecosystems and the capacity of decision-makers to implement them across national, provincial, and local levels.

Sustainability

Sustainability is less assured in dryland contexts. A smaller proportion of dryland projects are likely to sustain outcomes (44 percent) compared to the overall GEF portfolio (68 percent). This difference is statistically significant and holds across geographic regions. Many of the challenges faced in drylands are likely to negatively affect sustainability, such as acute environmental challenges, comparably weak governance structures and capacities, and historically lower government and private investments. Sustainability is also challenged by the higher prevalence of fragile and conflict-affected situations in the drylands' portfolio compared to the overall GEF portfolio. The share of national projects in fragile and conflict-affected states in drylands is more than double that in the overall GEF portfolio (57 percent versus 27 percent). The prospects for sustaining results beyond project life also appear to be somewhat more difficult in acute dryland settings, where 47 percent of projects spanning arid, semiarid, and dry subhumid climates were rated as likely to be sustainable, compared to 35 percent of projects spanning hyperarid to arid settings. This gap could be due to a variety of factors, including the need for measures to ensure longer-term climate change resilience and even greater challenges in terms of attracting sustainable investment to less-productive dryland zones. Previous GEF IEO SCCEs have highlighted the importance of addressing environment and sustainable development priorities for sustainability.

Demonstrating immediate socioeconomic benefit flows and the ability to cover upfront costs was especially important for dryland smallholders to maintain sustainable resource use practices. Higher poverty rates and vulnerability in drylands mean that people are unable to forgo immediate benefits for long-term gains. In Malawi and other countries, weak incentives were a major barrier to adopting and sustaining SLM, agroforestry, and afforestation practices by farmers, communities, and government officials, with poor coverage of upfront costs of sustainable technology uptake. Positive examples of practices that delivered benefits earlier on include the following.

- In Niger's Oasis Microbasin project, improved NRM techniques that yielded short-term results were continued beyond the project period, such as assisted natural regeneration approaches and selective conservation agricultural practices such as *tessa/zaï* (planting in pods in small earth basins in the ground).
- Ethiopia's multiphase SLM program was successful in delivering upfront benefits through improved access to small-scale irrigation (as discussed earlier), modern inputs that increased productivity,

and regulated access to biomass in areas closed for restoration to provide otherwise scarce fodder for livestock. These benefits helped beneficiaries sustain behavioral change in terms of SLM adoption and land restoration, with positive knock-on effects. For instance, in the Mirab Azernet Berbere *woreda*, better-off cooperative farmers who benefited from the program have started supporting poorer community members through hired labor and other services. Restored landscapes have also become a tourist attraction in the area, generating further momentum.

When there was lack of ownership—especially by local officials—or unclear institutional responsibilities, sustainability was not secure. Conversely, benefits were more sustainable when projects were closely aligned and engaged with local governance structures, authorities, and other stakeholders. Notable examples follow.

- In Malawi, most project interventions were implemented through village structures and traditional authorities, which increased project ownership—a key factor for sustainability. The Private-Public Partnership for SLM in the Shire River Basin project illustrated the detrimental effects of lack of local buy-in. The project planned to promote sustainable, certified charcoal production through community woodlots in partnership with licensed private sector companies for marketing the charcoal, an effort that was supported at the national level. Eleven charcoal producer associations were formed in major charcoal-producing areas, but the project did not garner support among district government and local officials in agreeing on sustainable wood sources. Postcompletion, the charcoal associations formed by the project are no longer operational.
- In Azerbaijan and Uzbekistan, a lack of clarity for responsibility regarding the use of pasturelands between the ministries of environment and agriculture were structural challenges for sustainability. In some projects in Azerbaijan, there was a lack of government buy-in at the local level due to interrelated responsibilities among entities: the district-level government was responsible for pastureland lease, the local representatives of the environment ministry were responsible for the number of sheep and monitoring biodiversity protection, and local agents of the agricultural ministry were responsible for animal productivity and health condition monitoring. In contrast, in other projects in Azerbaijan, strong ownership at the national and local levels led to sustainability and expansion of project interventions. Local forestry units recognized the value of fencing forests along the roads to avoid illegal grazing and have extended fencing with local resources.
- In Niger, long-standing governance issues—including overlapping authorities between commune and village-level governance mechanisms (elected officials and traditional rulers)—were seen as a risk to sustainability.
- In the UNEP-implemented regional Africa project Stimulating Community Initiatives in Sustainable Land Management (GEF ID 2184), strong engagement with stakeholders at all levels (local communities, academic research institutions, government ministries and departments, and nongovernmental organizations) not only increased awareness and capacity for replication, but also promoted community and political buy-in for the project.

In the case study countries, sustained environmental benefits were observed primarily at localized scales, with some exceptions. Postcompletion analysis through field visits and geospatial analysis suggested that on-the-ground environmental results were more localized than the number of hectares reported under the GEF's core indicators or suggested by project monitoring and reporting. For example, in Uzbekistan, although the Reducing Pressures project reported exceeding its hectare targets for improved pastures, postcompletion assessment provided weak evidence of sustained behavioral change or reduced degradation to pasturelands. During site visits

and interviews, evidence of sustainable pasture management was not provided or observed with regard to the Karakul LLC cooperative, which received the project's single largest investment and has oversight of 320,000 ha of desert and semidesert pastures; and the state of the pasture has continued to deteriorate due to overgrazing and industrial activities.

Afforestation efforts in Azerbaijan, Uzbekistan, and Chile have been somewhat sustained in pilot areas and reportedly scaled up, although some improvements were hard to discern from geospatial analysis. In Uzbekistan, afforestation with endemic plant species of degraded rangelands prone to desertification yielded sustainable results for natural regeneration and controlled mobile sands around road and railway infrastructure near the Lukoil Gas processing plant. The afforestation also supported an increase in local biodiversity; small desert animals, insects, and birds were observed in abundance during the SCCE mission. Afforestation efforts in the Zaamin district of Uzbekistan under the Reducing Pressures project were directly observed to have been sustained and even expanded by the local state forestry unit, as indicated by recent positive trends in the NDVI. This success was also enabled through a project-supported tree nursery that is still operating and has been supplying seedlings to the region as part of a nationwide afforestation campaign.

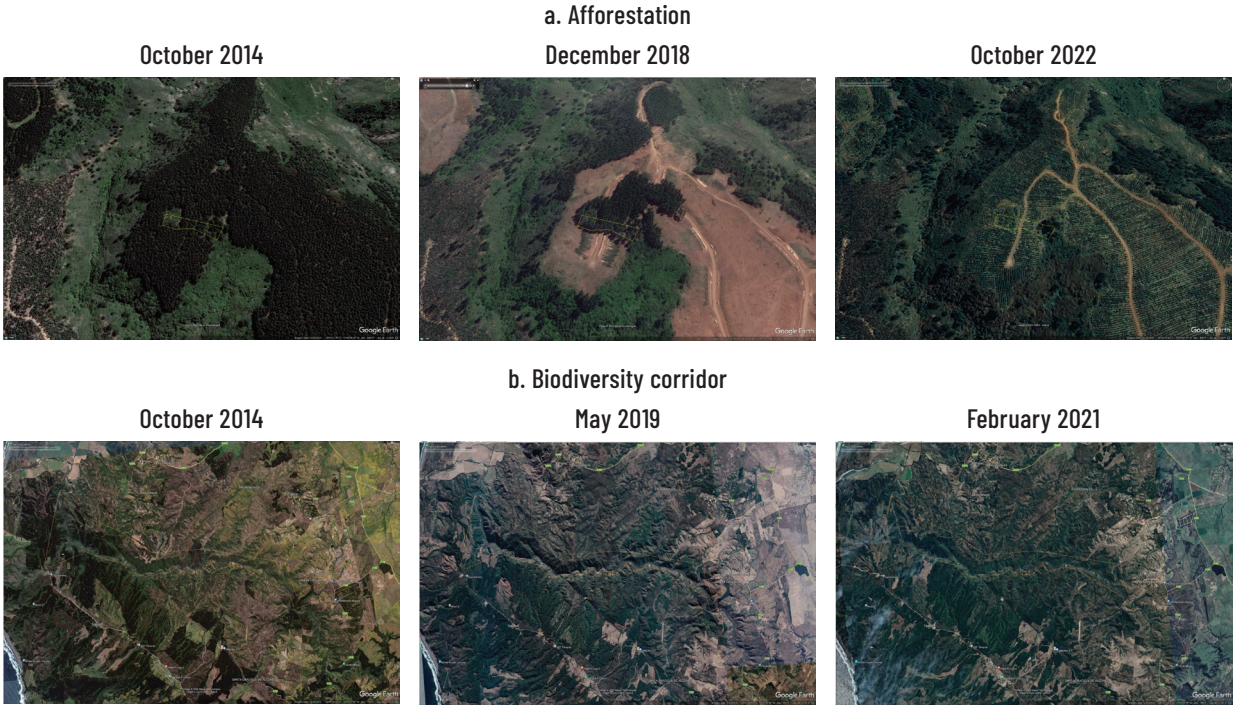
In Tanumé in the O'Higgins region of Chile, a GEF IEO geospatial analysis indicated some positive local environmental outcomes in GEF intervention areas, particularly improvements in forest cover in areas with new tree plantings and in the biodiversity corridor (figure 3.8). The analysis for the biodiversity corridor noted a forest loss of 55 percent for the period 2001-21, with peaks in 2012 (higher loss) and 2017 (moderated loss). The SLM project started working in the biodiversity corridor in 2018 and finished the official proposal for protecting this area in 2021, with some afforestation and improved land management plans during the period 2018-21—thus indicating some positive effect from the GEF intervention.

In both Azerbaijan and Uzbekistan, inattention to water scarcity was a threat to sustainability. The canal irrigation solution selected in Azerbaijan was ineffective when river levels were low; in Uzbekistan, the lowering groundwater table and increasing drought threatened plantings. In Chile's Coquimbo region, SLM project interventions focused on small works to capture and infiltrate rainwater, afforestation, and growth of passive vegetation; and the SCCE team found evidence that bees have since returned and that the opening of a new water source had enabled irrigation to a greenhouse.

In Ethiopia, the SCCE team found evidence that SLM practices have been sustained, and steep-slope land that was reclaimed through bench terraces and gully stabilization is now used for production of crops as well as forest trees. Water availability has also improved. In Malawi, postcompletion assessment of the Private-Public Partnership for SLM in the Shire River Basin project found that juvenile vegetative covers through reforestation or natural regeneration at the time of the terminal evaluation are now fully grown and deep green eight years later. The SCCE team found limited concrete evidence, however, as to whether farmers have continued reforestation and natural regeneration activities.

Identifying pathways for sustainable financial or technical support is a major challenge among GEF dryland projects, leading to a dependence on follow-on project financing to address risks to sustainability in many cases. Drylands have historically suffered from underinvestment, a contextual challenge many GEF projects struggled to overcome. Few examples of activities that improved access to finance or self-sustaining financial mechanisms were identified in the drylands' portfolio, and those projects that attempted this had limited success. For example, a Malawi project attempted to establish a payment for ecosystem services approach around the Thumoro Forest Reserve, with communities selling

Figure 3.8 Local environmental outcomes associated with the GEF SLM project in Tanumé in Chile's O'Higgins Region over time



Source: GEF IEO geospatial analysis.

green water credits and private sector entities buying them, but no concrete results were achieved due in part to implementation issues with the executing nongovernmental organization. In Azerbaijan, a payment for ecosystem services approach was successfully demonstrated—providing incentives to large-scale, mobile pastoralists in return for delaying their movement from winter to summer pastures—but lacked a sustainable financing source to continue postproject. Niger's Community-Driven SLM project has had some success in pursuing carbon credits associated with planting acacia gum trees as a means of reconciling short and long-term benefits, but those benefits were distributed very late to local resources users, causing significant consternation and undermining durable resource restoration (IEG 2020b). Under CAP3, the World Bank successfully facilitated another sale of carbon credits in the amount of $3.5 million up to the year 2035, which should result in communities continuing to receive payments (IEG 2021).

While follow-on investments have been successful in generating sustainable outcomes in Ethiopia and Niger, there is also a risk of developing dependency attitudes (as observed in Niger) and stranding project outcomes, if further projects do not materialize. Numerous instances were identified in the case study countries where interventions from GEF-funded projects were picked up and advanced further by other development agencies, supporting outcome achievement and sustainability. In Malawi, activities in the areas of crop insurance were not operationalized before the project's closure, but the Adaptation Fund and the World Food Programme have taken up the concept of crop insurance in the Balaka district and other districts since the project ended, working with nongovernmental

organizations and other actors to implement a crop insurance scheme. The GEF project's crop insurance component was also catalytic for a now-completed UNDP project funded by the Green Climate Fund on improved early warning systems and better farmer decision-making on climate change adaptation. In Ethiopia, SLM program investments and practices are currently being scaled up to all remaining watersheds in the *woreda*, through a follow-up program—the Resilient Landscapes and Livelihoods Program, funded by the World Bank, Norway, and other donors. The World Bank's Climate Actions through Landscape Management project also carries forward the SLM projects' watershed approach to other areas of Ethiopia.

4 Conclusions and recommendations

4.1 Conclusions

Over time, the GEF has paid increasing attention in its strategies and programming to drylands, where some of the most pressing environmental challenges of our time are particularly acute. Drylands have been part of successive land degradation strategies since the beginning of the GEF. Drylands received increased attention starting in GEF-5 when the land degradation global benefits index in the STAR was revised to account for the challenge of combating desertification in drylands; in GEF-6, drylands were included in the objective statement; and in GEF-7, the DSL IP was approved and the LDN concept was introduced. GEF-8 saw an explicit objective on drylands, including a focus on drought. Reflecting these programmatic directions, the GEF has invested a substantial and growing share of its funding in the sustainable management of drylands, progressively moving from single to multifocal projects, and from a project-based to an integrated, programmatic support modality. The evolution in the GEF toward more systems-based approaches and integrated programming is highly relevant for drylands, where a wider landscape approach—considering interactions for instance with uplands or periurban areas—has been shown to be effective. Aligning environmental and development priorities and offering set-aside incentive funding through integrated programs have also helped countries embrace GEF drylands' programming, in a context where drylands are often marginalized by governments—and sometimes even by GEF Agencies.

GEF support has been highly relevant to key environmental challenges in drylands—apart from water scarcity and, to some degree, drought—and has largely embedded resilience as an essential co-benefit. GEF projects have targeted countries and areas that are highly relevant for specific environmental challenges in dryland geographies, most notably land degradation and desertification, climate change, and deforestation, with increasing attention to biodiversity over time. While attention to water scarcity and drought has been lacking relative to other environmental challenges in drylands, these issues are starting to be

identified and addressed through the GEF-8 Programming Directions' focus on drought issues, including in drylands. Taking ecosystem-oriented approaches that fully integrate water and land management and strengthen resilience is especially relevant in dryland contexts; the GEF's focal area structure and siloed climate mitigation and adaptation windows have sometimes been restrictive in this regard. The LDFA—the most common entry point for drylands' programming—can be restrictive when trying to plan a project around water resource management and shows less integration of resilience considerations compared to multifocal dryland projects. LDCF and SCCF work on climate change adaptation is closely aligned with water management and security, and multitrust fund projects that link with these funds have been valuable for pursuing highly intertwined environmental and climate change adaptation objectives in tandem in drylands.

GEF dryland projects often identified policy misalignments at design but had limited success in addressing them or mitigating their impact on project effectiveness and sustainability; national policy coherence at design has not automatically translated into local policy coherence during implementation. Dryland projects assessed policy context in design and identified activities to address policy distortions and leakage effects or to foster synergies, even in earlier projects. But despite the prevalence of policy coherence considerations in project design, the evaluative evidence collected on this subject offered limited examples of success in strengthening policy coherence. This experience helps to confirm the importance of the GEF's heightened attention to policy coherence to ensure achievement and sustainability of benefits, including in drylands. Lack of success has been due in part to policy timelines exceeding project timelines and to a lack of institutional ownership and positioning—especially when relevant responsibilities were divided among government bodies and in cases of high government turnover. Attention to policy coherence at the jurisdictional and local levels was especially important for strengthening natural resource governance; when this was lacking, it led to confusion among communities and disincentives for beneficiary ownership. Especially in countries where decentralization efforts are advanced, coherence at the subnational level was mixed, and coherence depended on the extent of local support for decentralized governance by the GEF project. More recent GEF projects in drylands show evidence of evolving approaches to target policy coherence, including LDN methods, programmatic and phased approaches, and strategies that seek to tangibly demonstrate the value of policy coherence at local or jurisdictional levels as a pathway to influence national policy making.

The GEF performed well overall and delivered global environmental benefits and associated socioeconomic co-benefits across dryland areas, although less so in pastoral lands. GEF projects in dryland countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio across all aridity subhabitats, and completed dryland projects reported positive environmental and socioeconomic benefits. Case study countries reported large areas under improved sustainable land use practices as a result of field-level interventions using a mix of economic models on working lands to enhance productivity and ecological models to increase vegetation cover and restore ecosystem functions. While environmental protection is a smaller part of GEF programming in drylands, expanded areas were put under protection, and management effectiveness was strengthened in key landscapes and ecosystems. Furthermore, GEF dryland projects restored large areas of degraded lands through afforestation, reforestation, and area closures, among other techniques. For projects working on multiple dryland landscapes or landscapes shared for multiple uses, environmental outcomes were often weaker in pastoral areas. Socioeconomic benefits frequently included income generation and/or diversification at the household level, as well as civil society engagement and development, access to communal services, job creation, and food security. GEF projects in drylands delivered some benefits

for women's participation and income generation, but deeply entrenched gender discrimination was difficult to overcome. Insufficient attention was also paid to the needs of the most vulnerable in some cases, pointing to an opportunity for deeper consideration of social distributional issues in project design and implementation.

Working at the nexus of environment and socioeconomic development is even more crucial in drylands than in many other developing regions; the GEF has succeeded in fostering synergies but has not yet paid enough attention to mitigating trade-offs. Synergies between socioeconomic and global environmental benefits have been widely referenced in dryland projects, and reinforcing linkages between these benefits has been effective for delivering impact and strengthening resilience. When interventions were responsive to local socioeconomic priorities—often linked with addressing water scarcity—community buy-in and adoption of environmental practices in drylands was stronger. The timing of socioeconomic benefit flows—that is, ensuring immediate or short-term benefits for dryland smallholders—was usually of particular importance for adoption and maintenance of sustainable resource use practices. However, dryland projects missed opportunities for delivering global environmental benefits when assumptions about synergies were not sufficiently supported by a strong causal link ensuring that livelihoods-oriented activities effectively addressed drivers of environmental degradation. Trade-offs between socioeconomic and environmental benefits have also been underconsidered in GEF dryland projects; this is exemplified by projects on pasturelands, where the struggle between socioeconomic and environmental goals reduced outcomes and could even have potential unintended negative impacts on natural resources. In some cases, projects had insufficient mechanisms to ensure that livelihoods-oriented activities would not intensify pressure on natural resources, with low awareness among beneficiaries of the projects' environmental objectives.

The GEF's reliance on area-based indicators limits its ability to fully track changes in environmental status. Environmental outcomes in GEF dryland projects are mostly reported in hectare terms, with fewer cases of robustly measured improvements in biophysical indicators that would verify relevant changes in environmental status, such as analysis of vegetation cover or soil organic carbon. The gap is partly due to the dynamic nature of landscapes and the time scale for registering improvements. It is also related to how global environmental benefit indicators are defined and interpreted, where the reported number of hectares under improved management does not always specify the type or quality of change. Monitoring, quantifying, and evaluating benefits and trade-offs is an ongoing challenge for the GEF, as well as for other development agencies. The integration of LDN indicators into national land use monitoring is a promising development that could be leveraged to better measure the environmental changes to which GEF projects are contributing.

Considering natural resource governance in the design of GEF dryland projects has not fully translated into results; similarly, attention to conflict and land tenure in GEF programming directions has not sufficiently conveyed to project design. This conclusion confirms and reiterates similar findings from the GEF IEO Land Degradation Focal Area Study (GEF IEO 2018b). GEF projects developed capacity at local levels for decentralized and inclusive decision-making and planning, although projects often established multistakeholder governance platforms that were not self-sustaining after project closure. GEF dryland projects have also made some headway toward stronger resource governance through supporting the establishment of local bylaws, but weak enforcement by national and local authorities is a common challenge, especially if incentives for compliance are insufficient. Improvements in data and information systems, as well as advancements in management planning, have helped strengthen the foundation for more effective governance of sustainable land and forest use. Land and resource use rights are especially weak in

communally managed drylands, and strengthening them is a critical component of ensuring both environmental and socioeconomic benefits, including for the most vulnerable. Yet less than a third of GEF dryland projects have addressed conflict or land tenure. Land tenure is highlighted in GEF programming directions and plays an important role in the framework of the UNCCD; Decision 26/COP.14 puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

Sustainability is less assured in dryland contexts, where the most prevalent way to sustain outcomes observed by the evaluation was through further donor financing. Compared to the overall GEF portfolio, a smaller percentage of dryland projects is rated likely to sustain outcomes, and sustainability appears to be even more difficult in acute dryland settings. Identifying pathways for sustainable financial or technical support is a major challenge among GEF dryland projects, especially given a history of underinvestment in dryland regions, which often led to a dependence on follow-on project financing to address risks to sustainability. For many interventions—such as those focused on the watershed scale or on setting up sustainable environmental governance systems—multiphase programs have been more successful at consolidating benefits. Postcompletion, sustained environmental benefits were observed primarily at localized scales. When there was lack of ownership, especially by local officials, or unclear institutional responsibilities, sustainability was not secure. Conversely, benefits were more sustainable when projects were closely aligned and engaged with local governance structures, authorities, and other stakeholders. Demonstrating immediate benefits to smallholders also helped them sustain behavioral change in terms of SLM adoption and land restoration.

Efforts to involve the private sector, key to reducing reliance on donor funding and achieving greater scale of outcomes, have been limited but are improving. Private sector engagement has more than doubled between earlier and newer dryland projects. Private sector engagement in GEF dryland projects is increasing and expanding beyond value chain development for individuals and cooperatives. More recent projects have engaged private businesses in land restoration and mobilized private sector finance to support environmental services—for example, through the issuance of green bonds for sustainable land use and conservation. That said, ensuring the sustainability of private sector engagement continues to pose unique challenges in dryland contexts given issues with aggregation and connectivity to broader markets, lack of incentives for reinvesting in drylands and the resulting capital leakage from common enterprises such as mining, and misperceptions of drylands as nonproductive or vacant despite their being actively used. The country case studies offered scant evidence of GEF projects addressing entrenched drivers of unsustainable private sector engagement in drylands.

4.2 Recommendations

While drylands do not represent the whole of environmental challenges and contexts that the GEF addresses, they offer a lens for examining responses to relevant challenges under acute circumstances. Drylands are areas where environmental and social trade-offs can be quite consequential, and countries must decide how to balance priorities with serious implications for the resilience and livelihoods of the people who live in these areas. This evaluation identified areas where GEF outcomes improved both environmental and socioeconomic welfare, as well as areas where more attention is needed to ensure sustainable and equitable outcomes. Based on the findings and conclusions, this evaluation makes the following recommendations.

Recommendation 1: As the GEF prepares to design and implement an official policy coherence framework for GEF-8, the GEF Secretariat should ensure that guidance to enhance policy coherence through GEF operations includes a focus on subnational and local levels. The most recent policy coherence documentation from the GEF Secretariat does not

refer to these levels, although they are addressed at length in a STAP brief on the topic (GEF STAP 2023b). This evaluation has demonstrated that even in contexts of decentralization, policy coherence at lower levels of governance remains elusive. As the GEF Secretariat develops guidance for and assesses policy coherence in GEF projects, it should give sufficient emphasis to supporting institutional coordination mechanisms and coherent implementation of policies at subnational and local levels. Improving resource use norms, sanctions, and bylaws at local levels can be an effective and realistically ambitious strategy to enhance policy coherence. Especially in dryland contexts, a greater reliance on phased, longer-term, and integrated approaches will also support effectiveness in enhancing policy coherence.

Recommendation 2: The GEF Secretariat and its partner Agencies should ensure that increased attention is devoted to the inclusion of land tenure security and conflict resolution for resource management within project and program designs and the underlying theories of change. Land tenure is especially weak in communally managed drylands, characterized by a relatively limited natural resource endowment. Yet local communities need tenure security to invest in the sustainable management of the ecosystems on which they depend. Tenure security can reduce resource conflicts, and also help address sustainability. Agencies should adequately describe the status of land tenure security and resource conflicts in assessing project and program context and include relevant elements in their theories of change (e.g., as assumptions or risks, and/or activities, outputs, or outcomes). Doing so would also help countries in responding to UNCCD Decision 26/COP.14.

Recommendation 3: The GEF Secretariat and GEF Agencies should ensure that equal consideration is given in project and program design to both fostering synergies and mitigating trade-offs between the environment and socioeconomic development, with due attention to distributional impacts. GEF projects in drylands have not adequately considered trade-offs between environmental outcomes and socioeconomic development, despite the real potential for unmitigated trade-offs to result in reduced environmental outcomes and unintended negative consequences, including leakage. Trade-offs in pastoral areas should be given concerted attention, given poorer performance in these landscapes in past GEF dryland projects; project design should also carefully consider who will benefit depending on the solutions adopted.

Recommendation 4: The GEF Secretariat should encourage the GEF Agencies to provide project-level monitoring data showing associated biophysical changes for relevant area-based core indicators. The relative lack of demonstrated changes in environmental status through monitoring and evaluation systems was noted. When taken alongside the geospatial analysis and field-level data observations that suggested more localized sustainable results than that indicated by reported hectarage, these findings raise questions about the adequacy of area-based global environmental benefits in drylands. In its results framework guidelines, the GEF Secretariat should encourage Agencies to provide available biophysical monitoring data (alongside already requested GIS files) to better substantiate the environmental benefits of improved management practices and restoration. The newly launched GEF Geospatial Platform as well as the LDN indicators that countries are adopting and sometimes integrating into their GEF project reporting provide a good basis for this effort.

Annex A

Evaluation portfolio

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
2139	SIP: Transboundary Agro-Ecosystem Management Programme for the Kagera River Basin (Kagera TAMP)	GEF-4	FAO	Regional	LD	GET	C
2184	SIP: Stimulating Community Initiatives in Sustainable Land Management (SCI-SLM)	GEF-4	UNEP	Regional	LD	GET	C
2268	SIP: Integrated Ecosystem Management in Four Representative Landscapes of Senegal, Phase 2	GEF-4	UNDP	Senegal	LD	GET	C
2505	SFM Sustainable Forest Management in the Transboundary Gran Chaco American Ecosystem	GEF-4	UNEP	Regional	MF	GET	C
2794	SIP: Country Program for Sustainable Land Management (ECPSLM)	GEF-4	WB	Ethiopia	LD	GET	C
3028	SFM Safeguarding and Restoring Lebanon's Woodland Resources	GEF-4	UNDP	Lebanon	LD	GET	C
3362	SIP: Catchments and Landscape Management	GEF-4	IFAD	Eritrea	LD	GET	C
3364	SIP: Sustainable Land Management Pilot Project	GEF-4	UNDP	Eritrea	LD	GET	C
3368	SIP: Participatory Integrated Watershed Management Project (PIWAMP)	GEF-4	AfDB	Gambia, The	LD	GET	C
3370	SIP: Mainstreaming Sustainable Land Management in Agropastoral Production Systems of Kenya	GEF-4	UNDP	Kenya	LD	GET	C
3372	SIP: Capacity Building and Knowledge Management for Sustainable Land Management	GEF-4	UNDP	Lesotho	LD	GET	C
3375	SIP: Agriculture Sector Development Programme -Support to SLM (ADP-SLM)	GEF-4	WB	Malawi	LD	GET	C
3376	SIP: Private Public Sector Partnership on Capacity Building for SLM in the Shire River Basin	GEF-4	UNDP	Malawi	LD	GET	C
3377	SIP: Fostering Agricultural Productivity in Mali	GEF-4	WB	Mali	LD	GET	C
3379	SIP: Participatory Environmental Protection and Poverty Reduction in the Oases of Mauritania	GEF-4	IFAD	Mauritania	LD	GET	C
3381	SIP: Oasis Micro-Basin Sand Invasion Control in the Goure and Maine Regions (PLECO)	GEF-4	UNDP	Niger	LD	GET	C

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
3382	SIP: Community Driven SLM for Environmental and Food Security	GEF-4	WB	Niger	LD	GET	C
3383	SIP: Agricultural and Rural Rehabilitation and Development Initiative (ARRDI)	GEF-4	IFAD	Niger	LD	GET	C
3384	SIP: Scaling up SLM Practice, Knowledge, and Coordination in Key Nigerian States	GEF-4	WB	Nigeria	LD	GET	C
3385	SIP: Sustainable Land Management in Senegal	GEF-4	WB	Senegal	LD	GET	C
3386	SIP: Innovations in Micro Irrigation for Dryland Farmers	GEF-4	UNDP	Senegal	LD	GET	C
3390	SIP: Lower Usuthu Smallholder Irrigation Project (LUSIP)	GEF-4	IFAD	Eswatini	MF	GET	C
3396	SIP: Improving Policy and Practice Interaction through Civil Society Capacity Building	GEF-4	UNDP	Regional	LD	GET	C
3399	SIP: Lake Victoria Environmental Management Project II	GEF-4	WB	Regional	MF	GET	C
3403	SIP: Kalahari-Namib Project: Enhancing Decision-making through Interactive Environmental Learning and Action in Molopo-Nossob River Basin in Botswana, Namibia and South Africa	GEF-4	UNEP	Regional	LD	GET	C
3449	SFM: Carbon Benefits Project (CBP): Modeling, Measurement and Monitoring	GEF-4	UNEP	Global	MF	GET	C
3450	SFM Rehabilitation of Forest Landscapes and Degraded Land with Particular Attention to Saline Soils and Areas Prone to Wind Erosion	GEF-4	FAO	Iran	MF	GET	C
3468	SLEM/CPP: Institutional Coordination, Policy Outreach and M & E Project under Sustainable Land and Ecosystem Management Partnership Program	GEF-4	WB	India	LD	GET	C
3472	SLEM/CPP: Integrated Land Use Management to Combat Land Degradation in Madja Pradesh	GEF-4	UNDP	India	MF	GET	C
3484	PRC-GEF Partnership: Capacity and Management Support for Combating Land Degradation in Dryland Ecosystems	GEF-4	ADB	China	LD	GET	C
3529	SIP: Harmonizing support: a national program integrating water harvesting schemes and sustainable land management	GEF-4	UNDP	Djibouti	LD	GET	C
3608	PRC-GEF Partnership: Sustainable Development in Poor Rural Areas	GEF-4	WB	China	MF	GET	C
3872*	SIP: Monitoring Carbon and Environmental and Socioeconomic Co-Benefits of BioCF Projects in SSA	GEF-4	WB	Regional	LD	GET	C
3882	SLEM/CPP: Reversing Environmental Degradation and Rural Poverty through Adaptation to Climate Change in Drought Stricken Areas in Southern India: A Hydrological Unit Pilot Project Approach (under India: SLEM)	GEF-4	FAO	India	CC	GET	C
3893*	Support to the Adaptation of Vulnerable Agricultural Production Systems	GEF-4	IFAD	Mauritania	CC	LDCF	C

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
4104	Sustainable Land Management	GEF-4	WB	Chile	MF	GET	C
4261	Integrating climate change risks into water and flood management by vulnerable mountainous communities in the Greater Caucasus region of Azerbaijan	GEF-4	UNDP	Azerbaijan	CC	SCCF	C
4332	Sustainable Land and Forest Management in the Greater Caucasus Landscape	GEF-5	UNDP	Azerbaijan	MF	GET	C
4533	Development of Tools to Incorporate Impacts of Climatic Variability and Change in Particular Floods and Droughts into Basin Planning Processes	GEF-5	UNEP	Global	IW	GET	C
4559	Integrated Semenawi and Debubawi Bahri-Buri-Irrori-Hawakil Protected Area System for Conservation of Biodiversity and Mitigation of Land Degradation	GEF-5	UNDP	Eritrea	BD	GET	UI
4583	Sustainable Land Management and Climate-Friendly Agriculture	GEF-5	FAO	Türkiye	MF	GET	UI
4600	Reducing Pressures on Natural Resources from Competing Land Use in Non-irrigated Arid Mountain, Semi-desert and Desert Landscapes	GEF-5	UNDP	Uzbekistan	LD	GET	C
4642	Sustainable Agriculture and Climate Change Mitigation Project	GEF-5	WB	Uzbekistan	MF	GET	C
4720	Land Rehabilitation and Rangelands Management in Small Holders Agropastoral Production Systems in Southwestern Angola	GEF-5	FAO	Angola	LD	GET	C
4740	Disposal of Obsolete Pesticides including POPs and Strengthening Pesticide Management in the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) Member States	GEF-5	FAO	Regional	CW	GET	UI
4744	Mainstreaming Biodiversity Conservation, SFM and Carbon Sink Enhancement Into Mongolia's Productive Forest Landscapes	GEF-5	FAO	Mongolia	MF	GET	C
4750	Multiplying Environmental and Carbon Benefits in High-Andean Ecosystems	GEF-5	UNEP	Regional	MF	GET	C
4751	Mainstreaming SLM in Rangeland Areas of Ngamiland District Productive Landscapes for Improved livelihoods	GEF-5	UNDP	Botswana	LD	GET	C
4754	Sustainable Land Management Programme to Combat Desertification	GEF-5	UNDP	Pakistan	LD	GET	C
4761	Sustainable Management of Mountainous Forest and Land Resources under Climate Change Conditions	GEF-5	FAO	Kyrgyz Republic	MF	GET	C
4806	A Global Initiative on Landscapes for People, Food and Nature	GEF-5	UNEP	Global	LD	GET	C

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
4822	Strengthening Resilience to Climate Change through Integrated Agricultural and Pastoral Management in the Sahelian zone in the Framework of the Sustainable Land Management Approach	GEF-5	FAO	Mali	CC	LDCF	C
4839	Establishing Integrated Models for Protected Areas and their Co-management	GEF-5	UNDP	Afghanistan	MF	GET	C
4908	GGW: Agriculture Production Support Project (with Sustainable Land and Water Management)	GEF-5	WB	Chad	MF	MTF	C
4922	Decision Support for Mainstreaming and Scaling up of Sustainable Land Management	GEF-5	FAO	Global	LD	GET	C
5044	Sustainable Land Use Management in the Drylands of North-west Argentina	GEF-5	UNDP	Argentina	LD	GET	UI
5083	Capacity, Policy and Financial Incentives for PFM in Kirisia Forest and integrated Rangelands Management	GEF-5	FAO	Kenya	MF	GET	UI
5135*	Protecting Biodiversity and Multiple Ecosystem Services in Biological Mountain Corridors in Chile's Mediterranean Ecosystem	GEF-5	UNEP	Chile	MF	GET	C
5187	GGW: Community-based Rural Development Project 3rd Phase with Sustainable Land and Forestry Management	GEF-5	WB	Burkina Faso	MF	GET	C
5215	GGW: Forests and Adjacent Lands Management Project	GEF-5	WB	Benin	MF	GET	C
5220	PSG: Sustainable Land Management Project 2	GEF-5	WB	Ethiopia	MF	MTF	C
5229	Sustainable Land Management in the Qaroun Catchment	GEF-5	UNDP	Lebanon	LD	GET	C
5252	GGW: Third Phase of the Community Action Program	GEF-5	WB	Niger	MF	GET	C
5270	GGW Natural Resources Management in a Changing Climate in Mali	GEF-5	WB	Mali	MF	MTF	C
5327	Securing Multiple Ecosystems Benefit Through SLM in the Productive But Degraded Landscapes of South Africa	GEF-5	UNDP	South Africa	LD	GET	C
5343	Scaling Up Community Resilience to Climate Variability and Climate Change in Northern Namibia, with a Special Focus on Women and Children	GEF-5	UNDP	Namibia	CC	SCCF	C
5347	Support to the Integrated Program for the Conservation and Sustainable Development of the Socotra Archipelago	GEF-5	UNEP	Yemen, Rep.	MF	GET	UI
5353	Mainstreaming Sustainable Land and Forest Management in Dry Mountain Landscapes	GEF-5	UNDP	Armenia	MF	GET	C
5406	Community-Based Sustainable Dryland Forest Management	GEF-5	FAO	Gambia, The	LD	GET	UI
5432	Integrating Climate Resilience into Agricultural and Agropastoral Production Systems through Soil Fertility Management in Key Productive and Vulnerable Areas Using the Farmers Field School Approach	GEF-5	FAO	Angola	CC	LDCF	UI
5436	Disaster Risk Management and Urban Development Project	GEF-5	WB	Niger	CC	LDCF	C

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
5449	PSG- Sustainable and Inclusive Agribusiness Development Project	GEF-5	WB	Senegal	MF	GET	C
5463	Securing Watershed Services through Sustainable Land Management in the Ruvu and Zigi Catchments, Eastern Arc Region, Tanzania	GEF-5	UNDP	Tanzania	LD	GET	C
5479	Integrated SLEM Approaches for Reducing Land Degradation and Desertification	GEF-5	WB	India	LD	GET	UI
5487	Integrated Development for Increased Rural Climate Resilience in the Niger Basin	GEF-5	AfDB	Regional	MF	GET	UI
5619	GGW Sudan Sustainable Natural Resources Management Project SSNRMP	GEF-5	WB	Sudan	MF	GET	UI
5699	Supporting Sustainable Land Management in Steppe and Semi-arid Zones through Integrated Territorial Planning and Agro-environmental Incentives	GEF-5	UNDP	Kazakhstan	LD	GET	C
5746	Scaling up and Replicating Successful Sustainable Land Management (SLM) and Agroforestry Practices in the Koulikoro Region of Mali	GEF-5	UNEP	Mali	MF	GET	UI
5792	PSG-Sustainable Landscape Management Project under SAWAP	GEF-5	WB	Mauritania	MF	GET	C
5855	Flood Hazard and Climate Risk Management to Secure Lives and Assets in Mali	GEF-5	UNDP	Mali	CC	LDCF	C
6960	Supporting Climate-Resilient Livelihoods in Agricultural Communities in Drought-prone Areas	GEF-6	UNDP	Turkmenistan	CC	SCCF	C
8005	Sustainable Land Management for Increased Productivity in Armenia (SLMIP)	GEF-6	IFAD	Armenia	LD	GET	UI
8028	Support for Integrated Water Resources Management to Ensure Water Access and Disaster Reduction for Somalia's Pastoralists	GEF-6	UNDP	Somalia	CC	LDCF	UI
9050	Building Resilience for Food Security and Nutrition in Chad's Rural Communities	GEF-6	AfDB	Chad	MF	GET	UI
9094	Integrated Natural Resources Management in Drought-prone and Salt-affected Agricultural Production Landscapes in Central Asia and Turkey (CACILM2)	GEF-6	FAO	Regional	MF	GET	UI
9132	Food-IAP: Reversing Land Degradation Trends and Increasing Food Security in Degraded Ecosystems of Semi-arid Areas of Central Tanzania	GEF-6	IFAD	Tanzania	MF	GET	UI
9133	Food-IAP: Climate-Smart Agriculture for Climate-Resilient Livelihoods (CSARL)	GEF-6	IFAD	Eswatini	MF	GET	UI
9134	Food-IAP: Agricultural Value Chains Resilience Support Project (PARFA)	GEF-6	IFAD	Senegal	MF	GET	UI
9135	Food-IAP: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience	GEF-6	UNDP	Ethiopia	MF	GET	UI

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
9136	Niger: Food-IAP: Family Farming Development Programme (ProDAF)	GEF-6	IFAD	Niger	MF	GET	UI
9138	Food-IAP: Enhancing the Resilience of Agro-Ecological Systems (ERASP)	GEF-6	IFAD	Malawi	MF	GET	UI
9141	GEF-IAP: Participatory Natural Resource Management and Rural Development Project in the North, Centre-North and East Regions (Neer Tamba project)	GEF-6	IFAD	Burkina Faso	MF	GET	UI
9143	Food-IAP: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Nigeria	GEF-6	UNDP	Nigeria	MF	GET	UI
9154	Managing the Human-wildlife Interface to Sustain the Flow of Agro-ecosystem Services and Prevent Illegal Wildlife Trafficking in the Kgalagadi and Ghanzi Drylands	GEF-6	UNDP	Botswana	MF	GET	UI
9161	LCB-NREE: Nigeria Child Project: Comprehensive and Integrated Management of Natural Resources in Borno State	GEF-5	AfDB	Nigeria	MF	GET	UI
9163	Enabling the use of Global Data Sources to assess and Monitor Land Degradation at Multiple Scales	GEF-6	CI	Global	LD	GET	C
9190	Sustainable Management of Forests in Mountain and Valley Areas	GEF-6	FAO	Uzbekistan	MF	GET	UI
9318	Climate Resilience in the Nakambe Basin	GEF-6	UNDP	Burkina Faso	CC	LDCF	CEO
9388	Land Degradation Neutrality of Mountain Landscapes in Lebanon	GEF-6	UNDP	Lebanon	LD	GET	UI
9389	Ensuring Sustainability and Resilience (ENSURE) of Green Landscapes in Mongolia	GEF-6	UNDP	Mongolia	MF	GET	UI
9405	Integrated Management of Oasis Ecosystems of Northern Niger (IMOE-NN)	GEF-6	UNEP	Niger	MF	GET	UI
9476*	LCB-NREE Chad Child Project: Integrated Management of Natural Resources in the Chadian part of the Lake Chad Basin	GEF-5	AfDB	Chad	MF	GET	C
9497	LCB-NREE Niger child project: Improving Sustainable Management of Natural Resources in Niger's Diffa Region	GEF-5	AfDB	Niger	MF	GET	UI
9516	Reversing Deforestation and Degradation in High Conservation Value Chilgoza Pine Forests in Pakistan	GEF-6	FAO	Pakistan	MF	GET	UI
9526	Enhancing Integrated Natural Resource Management to Arrest and Reverse Current Trends in Biodiversity Loss and Land Degradation for Increased Ecosystem Services in the Tana Delta, Kenya	GEF-6	UNEP	Kenya	MF	GET	UI
9556	Restoration of Arid and Semi-arid lands (ASAL) of Kenya through Bio-enterprise Development and other Incentives under The Restoration Initiative	GEF-6	FAO	Kenya	MF	GET	UI
9593	Management of Competing Water Uses and Associated Ecosystems in Pungwe, Busi and Save Basins	GEF-6	IUCN	Regional	IW	GET	UI

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
9659	Kenya- Combating Poaching and Illegal Wildlife Trafficking in Kenya through an Integrated Approach	GEF-6	UNDP	Kenya	MF	GET	UI
9660	Strengthening Biodiversity and Ecosystems Management and Climate-Smart Landscapes in the Mid to Lower Zambezi Region of Zimbabwe	GEF-6	UNDP	Zimbabwe	MF	GET	UI
9661	Mali- Community-based Natural Resource Management that Resolves Conflict, Improves Livelihoods and Restores Ecosystems throughout the Elephant Range	GEF-6	UNDP	Mali	MF	GET	UI
9795	Forest Resources Assessment and Monitoring to Strengthen Forest Knowledge Framework in Azerbaijan	GEF-6	FAO	Azerbaijan	MF	GET	C
9806	Rehabilitation and Integrated Sustainable Development of Algerian Cork Oak Forest Production Landscapes	GEF-6	FAO	Algeria	MF	GET	CEO
9825	Large-scale Assessment of Land Degradation to guide future investment in SLM in the Great Green Wall countries	GEF-6	UNEP	Regional	LD	GET	UI
9842	Shire Valley Transformation Program - I	GEF-6	WB	Malawi	MF	GET	UI
9900	Land Degradation Neutrality Fund Technical Assistance Facility	GEF-6	WWF-US	Global	LD	GET	UI
9914	CPIC Conservation Finance Initiative - Scaling up and Demonstrating the Value of Blended Finance in Conservation	GEF-6	IUCN	Global	MF	GET	UI
9993	AVACLIM : Agro-ecology, Ensuring Food Security and Sustainable Livelihoods while Mitigating Climate Change and Restoring Land in Dryland Regions	GEF-6	FAO	Global	MF	GET	UI
10083	Sustainable Natural Resources Management Project -AF	GEF-7	WB	Sudan	MF	MTF	UI
10103	Climate change adaptation and livelihoods in three arid regions of Mauritania	GEF-7	UNEP	Mauritania	CC	LDCF	UI
10169	Combating land degradation and biodiversity loss by promoting sustainable rangeland management and biodiversity conservation in Afghanistan	GEF-7	FAO	Afghanistan	MF	GET	UI
10170	Integrated forest and biodiversity management for sustainable development in the Biban mountain range	GEF-7	FAO	Algeria	MF	GET	CEO
10178	Watershed approaches for climate resilience in agro-pastoral landscapes	GEF-7	UNDP	South Sudan	MF	MTF	CEO
10179	Mainstreaming Sustainable Land Management (SLM) for Large-Scale Impact in the Grazing Lands of Limpopo and Northern Cape provinces in South Africa	GEF-7	IUCN	South Africa	LD	GET	CEO
10180	Planning and implementing Ecosystem based Adaptation (EbA) in Djibouti's Dikhil and Tadjourah regions	GEF-7	UNEP	Djibouti	CC	LDCF	CEO
10191	Moldova Agriculture Competitiveness Project GEF Additional Financing	GEF-7	WB	Moldova	LD	GET	UI
10192	Ecosystem conservation and community livelihood enhancement in North-Western Zambia	GEF-7	UNEP	Zambia	MF	GET	UI

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
10222	Enabling a policy environment for integrated natural resources management and implementation of an integrated approach to achieve land degradation neutrality in Moldova	GEF-7	FAO	Moldova	LD	GET	UI
10230	Strengthening Land Degradation Neutrality data and decision-making through free and open access platforms	GEF-7	CI	Global	LD	GET	UI
10243	Preventing forest loss, promoting restoration and integrating sustainability into Ethiopia's coffee supply chains and food systems	GEF-7	UNDP	Ethiopia	MF	GET	CEO
10249	Promoting Dryland Sustainable Landscapes and Biodiversity Conservation in the Eastern Steppe of Mongolia	GEF-7	FAO	Mongolia	MF	GET	UI
10250	Integrated Landscape Management in Dry Miombo Woodlands of Tanzania	GEF-7	FAO	Tanzania	MF	GET	CEO
10251	Integrated landscape management to reverse degradation and support the sustainable use of natural resources in the Mopane-Miombo belt of Northern Namibia	GEF-7	FAO	Namibia	MF	GET	UI
10253	Global coordination project for the SFM Drylands Impact Program	GEF-7	FAO	Global	MF	GET	UI
10254	Transforming landscapes and livelihoods: A cross-sector approach to accelerate restoration of Malawi's Miombo and Mopane woodlands for sustainable forest and biodiversity management	GEF-7	FAO	Malawi	MF	GET	UI
10255	Integrated sustainable and adaptive management of natural resources to support land degradation neutrality and livelihoods in the Miombo-Mopane landscapes of North-east Botswana	GEF-7	FAO	Botswana	MF	GET	CEO
10256	Land and natural resource degradation neutrality and community vulnerability reduction in selected Miombo and Mopane Ecoregions of Angola (Okavango and Cunene river basin)	GEF-7	FAO	Angola	MF	GET	CEO
10257	A cross-sector approach supporting the mainstreaming of sustainable forest and land management to enhance ecosystem resilience for improved livelihoods in the Save and Runde Catchments of Zimbabwe	GEF-7	FAO	Zimbabwe	MF	GET	UI
10265	Promotion of sustainable food systems and improved ecosystems services in Northern Kazakhstan Landscape	GEF-7	UNDP	Kazakhstan	MF	GET	CEO
10291	Sustainable management of dryland landscapes in Burkina Faso	GEF-7	IUCN	Burkina Faso	MF	GET	CEO
10292	Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya	GEF-7	IUCN	Kenya	MF	GET	CEO
10299	Kazakhstan Resilient Agroforestry and Rangeland Management Project	GEF-7	WB	Kazakhstan	MF	GET	UI

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
10306	FOLUR Global Knowledge to Action Platform to Support Transformational Shifts In Food and Land Use Systems	GEF-7	WB	Global	MF	GET	UI
10309	Staying within Sustainable Limits: Advancing leadership of the private sector and cities	GEF-7	CI	Global	MF	GET	UI
10322	The Food Securities Fund: A fund to finance sustainable supply chains at scale in Emerging Markets	GEF-7	CI	Global	MF	GET	UI
10352	Conservation and Sustainable Management of Land Resources and High Nature Value Ecosystems in the Aral Sea Basin for Multiple Benefits	GEF-7	UNDP	Turkmenistan	MF	GET	UI
10356	Conservation and sustainable management of lakes, wetlands, and riparian corridors as pillars of a resilient and land degradation-neutral Aral basin landscape supporting sustainable livelihoods	GEF-7	UNDP	Uzbekistan	MF	GET	UI
10362	Resilient, productive and sustainable landscapes in Mali's Kayes Region	GEF-7	FAO	Mali	MF	MTF	CEO
10364	Integrated Adaptation Program to enhance resilience of communities and ecosystems in the dry Miombo Woodlands of Tanzania Mainland and Dryland of Zanzibar	GEF-7	FAO	Tanzania	CC	LDCF	CEO
10365	Implementation of Armenia's LDN commitments through sustainable land management and restoration of degraded landscapes	GEF-7	FAO	Armenia	LD	GET	UI
10367	Sustainable Forest and Rangelands Management in the Dryland Ecosystems of Uzbekistan	GEF-7	FAO	Uzbekistan	LD	GET	CEO
10369	Strengthening the Conservation of Biodiversity and Sustainable Management of Forest Landscapes in Turkey's Kazdaglari Region	GEF-7	FAO	Türkiye	MF	GET	CEO
10384	Land Degradation Neutrality for biodiversity conservation, food security and resilient livelihoods in the Peanut Basin and Eastern Senegal (Dékil Souf)	GEF-7	FAO	Senegal	MF	GET	CEO
10412	Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management	GEF-7	WWF-US	Zambia	MF	GET	UI
10420	Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas (PROSAP/COKEBIOS)	GEF-7	IFAD	Niger	MF	GET	CEO
10439	Conservation and Sustainable Management of High-Value Arid Ecosystems in the Lower Amu Darya Basin	GEF-7	UNDP	Tajikistan	MF	GET	CEO
10444	Development of an integrated system to promote the natural capital in the drylands of Mauritania	GEF-7	IUCN	Mauritania	LD	GET	CEO
10464	Paraguay FOLUR	GEF-7	UNEP	Paraguay	MF	GET	UI

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
10480	Promotion of Sustainable Food Systems in India through Transforming Rice-Wheat Systems in Punjab, Haryana, Odisha and Chhattisgarh	GEF-7	FAO	India	MF	GET	CEO
10497	AGRI3 A Forest Conservation and Sustainable Agriculture Fund for Developing Countries	GEF-7	CI	Global	MF	GET	CEO
10500	Livelihoods Carbon Fund 3 (LCF3)	GEF-7	CI	Global	MF	GET	P
10505	Strengthen Management and Climate Change Resilience in Angola's Conservation Areas for Sustainable Development	GEF-7	CI	Angola	MF	MTF	CEO
10528	Achieving land degradation neutrality targets through restoration and sustainable management of degraded land in Northern Jordan	GEF-7	FAO	Jordan	LD	GET	CEO
10538	Oasis Landscape Sustainable Management project	GEF-7	WB	Tunisia	MF	GET	CEO
10562	Resilient and sustainable livelihoods for rural Yemen	GEF-7	FAO	Yemen, Rep.	MF	MTF	CEO
10572	Integrated Landscape Management Gambia (INLAMAG) Project	GEF-7	IFAD	Gambia, The	LD	GET	CEO
10574	Agriculture and Biodiversity in Mexico (AgribioMex): Mainstreaming biodiversity in the productive activities of rural landscapes	GEF-7	IFAD	Mexico	MF	GET	CEO
10583	Conservation Areas for Biodiversity Conservation and Development II-Additional Financing	GEF-7	WB	Mozambique	MF	GET	UI
10589	Lake Naivasha Basin Ecosystem Based Management	GEF-7	WWF-US	Kenya	MF	GET	CEO
10601	Food System, Land Use and Restoration Impact Program in Uzbekistan	GEF-7	FAO	Uzbekistan	MF	GET	CEO
10633	Green Finance for Sustainable Landscapes Joint Initiative of the CPF (GF4SL)	GEF-7	UNEP	Global	LD	GET	UI
10634	Harnessing the Great Green Wall Initiative (GGWI) for a Sustainable and Resilient Sahel	GEF-7	UNEP	Regional	LD	GET	UI
10637	Restoration Challenge Grant Platform for Smallholders and Communities, with Blockchain-Enabled Crowdfunding	GEF-7	IUCN	Regional	LD	GET	CEO
10671	Enabling Activities for Implementing UNCCD COP Drought Decisions	GEF-7	FAO	Global	LD	GET	UI
10672	Promotion of Integrated Biodiversity Conservation and Land Degradation Neutrality in Highly Degraded Landscapes of Iraq	GEF-7	UNEP	Iraq	MF	GET	CEO
10687	Climate security and sustainable management of natural resources in the central regions of Mali for peacebuilding	GEF-7	UNDP	Mali	MF	MTF	CEO
10688	Restoring and Enhancing the Value of Degraded Lands and Forest Ecosystems for Enhanced Climate Resilience in Benin (PIRVaTEFoD-Benin)	GEF-7	UNDP	Benin	MF	MTF	CEO

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
10693	Combating land degradation through integrated and sustainable range and livestock management to promote resilient livelihoods in Northern Punjab	GEF-7	FAO	Pakistan	LD	GET	CEO
10695	Restoration of ecosystems, integrated natural resource management and promotion of SLM in Mbuluzi River Basin of Eswatini	GEF-7	UNEP	Eswatini	MF	GET	CEO
10708	Towards a Land Degradation-Neutral Azerbaijan	GEF-7	FAO	Azerbaijan	LD	GET	CEO
10718	Restoration of biodiversity and ecosystem services at the landscape scale on productive agroforestry areas and their natural environment	GEF-7	FAO	Chile	MF	GET	CEO
10723	Regeneration of Livelihoods and Landscapes (ROLL) Project	GEF-7	IFAD	Lesotho	LD	GET	CEO
10732	Sustainable and Integrated Water Resource Management in Gediz River Basin in Turkey	GEF-7	FAO	Türkiye	MF	GET	UI
10735	Connecting Watershed Health with Sustainable Livestock and Agroforestry Production	GEF-7	WB	Mexico	MF	GET	UI
10789	Building Community-Based Integrated and Climate-Resilient Natural Resources Management and Enhancing Sustainable Livelihood in the South-Eastern Escarpments and Adjacent Coastal Areas of Eritrea	GEF-7	FAO	Eritrea	MF	MTF	CEO
10792	Adaptive Agriculture and Rangeland Rehabilitation Project (A2R2) - Somalia	GEF-7	IFAD	Somalia	MF	MTF	CEO
10806	Global Support Programme III: Strengthening Capacities of Country Parties for UNCCD Monitoring and Reporting	GEF-7	UNEP	Global	LD	GET	UI
10816	Sustainable investments for large-scale rangeland restoration (STELARR)	GEF-7	IUCN	Global	LD	GET	CEO
10819	Enhancement of agro-ecological management system through promoting ecosystem-oriented food production	GEF-7	FAO	Türkiye	LD	GET	CEO
10852	Green Finance & Sustainable Agriculture in the Dry Forest Ecoregion of Ecuador and Peru	GEF-7	CAF	Regional	MF	GET	CA
10854	Conservation and Sustainable Management of Land Resources and High-Value Ecosystems in Lake Sevan Basin for Multiple Benefits	GEF-7	UNDP	Armenia	MF	GET	CEO
10863	Towards Land Degradation Neutrality for Improved Equity, Sustainability, and Resilience	GEF-7	FAO	Cabo Verde	LD	GET	CEO
10866	Comprehensive land management in forestry and agri-food systems of three water basins in Argentina to contribute to Land Degradation Neutrality (LDN) and to mitigation and adaptation to climate change	GEF-7	CAF	Argentina	LD	GET	CA
10869	Promoting sustainability in the agave-mezcal value chain through restoration and integrated management of biocultural landscapes in Oaxaca	GEF-7	UNEP	Mexico	MF	GET	CEO

GEF ID	Title	GEF period	Lead Agency	Country	Focal area	Funding source	Status
10874	Conserving Biodiversity and Restoring Ecosystem Functions in the Day and Mabla Mountains	GEF-7	UNDP	Djibouti	MF	GET	CA
10876	Sustainable Management and Restoration of Degraded Landscapes for Achieving Land Degradation Neutrality (LDN) in India	GEF-7	UNDP	India	LD	GET	P

Source: GEF Portal.

Note: **Lead Agency:** ADB = Asian Development Bank, AfDB = African Development Bank, CAF = Development Bank of Latin America and the Caribbean, CI = Conservation International, FAO = Food and Agriculture Organization of the United Nations, IFAD = International Fund for Agricultural Development, IUCN = International Union for Conservation of Nature, UNDP = United Nations Development Programme, UNEP = United Nations Environment Programme, WB = World Bank, WWF-US = World Wildlife Fund–US; **focal area:** BD = biodiversity, CC = climate change, CW = chemicals and waste, IW = international waters, LD = land degradation, MF = multifocal; **funding source:** GET = GEF Trust Fund, LDCF = Least Developed Countries Fund, MTF = multiple trust funds, SCCF = Special Climate Change Fund; **status (as of May 15, 2023):** C = completed/closed, CA = Council approved, CEO = CEO endorsed, P = CEO endorsement pending, UI = under implementation. Completed projects indicated with an asterisk (*) did not have a terminal evaluation report available at the time of this evaluation.

Annex B

Interviewees

See volume 2 for list of stakeholders interviewed in the six case study countries.

Ulrich Apel, GEF Secretariat

Mohamed Bakarr, GEF Secretariat

Jean-Marc Sinnassamy, GEF Secretariat

Guadalupe Duron, GEF Scientific and Technical Advisory Panel

Graciela Metternicht, GEF Scientific and Technical Advisory Panel

Mark Stafford Smith, GEF Scientific and Technical Advisory Panel

Orissa Samaroo, Conservation International

Fritjof Boerstler, Food and Agriculture Organization of the United Nations

Hernan Gonzalez, Food and Agriculture Organization of the United Nations

Ingrid Teich, Food and Agriculture Organization of the United Nations

Christopher Brett, World Bank

Timothy Brown, World Bank

Paola Agostini, World Bank

Jonky Tenou, International Fund for Agricultural Development

Adriana Vidal, International Union for Conservation of Nature

Louise Baker, United Nations Convention to Combat Desertification Secretariat

Cathrine Mutambirwa, United Nations Convention to Combat Desertification Secretariat

Motsomi Maletjane, United Nations Framework Convention on Climate Change Secretariat

Jenny Wong, United Nations Framework Convention on Climate Change Secretariat

Hyunwoo Noah Kim, United Nations Framework Convention on Climate Change Secretariat

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