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Agenda Item 9

**STRATEGIC COUNTRY CLUSTER EVALUATION:  
GEF SUPPORT TO DRYLANDS COUNTRIES  
VOLUME 1: MAIN REPORT**

(Prepared by the Independent Evaluation Office of the GEF)

## Table of Abbreviations

|        |                                                          |
|--------|----------------------------------------------------------|
| CAP    | Community Action Projects/Programs (Niger)               |
| CPP    | Country Pilot Partnership                                |
| DLDD   | Desertification, Land Degradation and Drought            |
| DSL    | Dryland Sustainable Landscapes Impact Program            |
| FOLUR  | Food Systems, Land Use, and Restoration Impact Program   |
| GCF    | Green Climate Fund                                       |
| GEF    | Global Environment Facility                              |
| GGWI   | Great Green Wall Initiative                              |
| IAP    | Integrated Approach Pilot                                |
| IDA    | International Development Association                    |
| IEG    | Independent Evaluation Group (World Bank)                |
| IEO    | Independent Evaluation Office (GEF)                      |
| IUCN   | International Union for Conservation of Nature           |
| LDCF   | Least Developed Countries Fund                           |
| LDFA   | Land Degradation Focal Area                              |
| LDN    | Land Degradation Neutrality                              |
| M&E    | Monitoring and evaluation                                |
| MFA    | Multifocal area                                          |
| MTF    | Multi Trust Fund                                         |
| NDVI   | Normalized difference vegetation index                   |
| NRM    | Natural resource management                              |
| PES    | Payments for ecosystem services                          |
| RFS    | Resilient Food Systems Integrated Approach Pilot         |
| SCCF   | Special Climate Change Fund                              |
| SFM    | Sustainable forest management                            |
| SGP    | Small Grants Programme                                   |
| SLMP   | Sustainable Land Management Program (Ethiopia)           |
| STAR   | System for Transparent Allocation of Resources           |
| UNCCD  | United Nations Convention to Combat Desertification      |
| UNDESA | United Nations Department of Economic and Social Affairs |
| UNDP   | United Nations Development Programme                     |
| UNEP   | United Nations Environment Programme                     |
| UNFCCC | United Nations Framework Convention on Climate Change    |
| WFP    | World Food Programme                                     |

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## EXECUTIVE SUMMARY

1. **Covering over 40 percent of the Earth's land surface and serving as home to more than two 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.

2. **With its specific focus on drylands, this strategic country cluster evaluation (SCCE) examines responses of the Global Environmental Facility (GEF) to environmental challenges under acute circumstances—**complementing and building 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 geographies. The evaluation used a mixed-methods approach, including a portfolio review of 195 completed and ongoing GEF projects in drylands countries; geospatial analysis at national and local levels; 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, GEF Agencies, the GEF Secretariat, and the GEF Scientific and Technical Assessment Panel (STAP).

3. **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. Drylands received increased attention starting 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, in GEF-6 with drylands included in the objective statement, and in GEF-7 with the approval of the Dryland Sustainable Landscapes Impact Program and introduction of the land degradation neutrality (LDN) concept. GEF-8 saw an explicit objective on 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, reaching 11 percent of the 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 peri-urban 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 GEF Agencies.

## Conclusions

4. **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 have been gaps relative to other environmental challenges in drylands, these issues are starting to be identified and addressed through 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 drylands contexts, and the GEF's focal area structure and siloed climate change 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 area drylands projects. The work of the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) work on climate change adaptation is closely aligned with water management and security, and multi-trust fund projects that link with these funds have been valuable for pursuing highly intertwined environmental and climate change adaptation objectives in tandem in drylands.

5. **GEF drylands 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.** Drylands 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 addressing policy coherence 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 level 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 policymaking.

**6. The GEF drylands interventions 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 drylands countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio across all aridity sub-habitats and completed drylands 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 increased in key landscapes and ecosystems. Furthermore, GEF drylands 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 increased 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.

**7. 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 drylands 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—which usually needs to be immediate or short-term for dryland smallholders—was also particularly important for adoption and maintenance of sustainable resource use practices. However, drylands 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 drylands projects, as exemplified by projects on pasturelands, where the struggle between socioeconomic and environmental goals hindered outcomes and could even have had 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.

8. **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 and is also related to how indicators of global environmental benefits are defined and interpreted, where the number of hectares under improved management reported 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 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 contributions of GEF projects to environmental changes.

9. **Considering natural resource governance in the design of GEF drylands 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 (2017). GEF projects developed capacity at local levels for decentralized and inclusive decision making and planning, though projects often put in place multistakeholder governance platforms that were not self-sustaining after project closure. GEF drylands 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 build up 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 drylands projects have addressed conflict or land tenure. Land tenure is highlighted in the GEF programming directions and plays an important role in the framework of the United Nations Convention to Combat Desertification (UNCCD); the recent [Decision 26/COP.14](#) puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

10. **Sustainability is less assured in drylands 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 drylands 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 drylands projects, especially given a history of underinvestment in drylands 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—multi-phase 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 (SLM) and land restoration.

**11. Efforts to involve the private sector, key to reducing reliance on donor funding and achieving greater scale of outcomes, have been more limited but are improving.** Private sector engagement in GEF drylands projects has more than doubled between earlier and newer drylands projects and is expanding beyond value-chain development for individuals and cooperatives. More recent projects have engaged private businesses in land restoration and mobilization of private sector finance to support environmental services, for example through 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 drylands contexts given issues with aggregation and connectivity to broader markets, lack of incentives for re-investing in drylands and the resulting capital leakage from common enterprises such as mining, and misperceptions of drylands as nonproductive or vacant despite them being actively used. The country case studies offered scant evidence of GEF projects addressing entrenched drivers of unsustainable private sector engagement in drylands.

## **Recommendations**

**12.** 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:

**13. RECOMMENDATION 1: As the GEF prepares to design and implement an official policy coherence framework for GEF-8, the 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 in length in a STAP brief on the topic ([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 drylands contexts, a greater reliance on phased, longer-term, and integrated approaches will also support effectiveness in enhancing policy coherence.

**14. RECOMMENDATION 2: The GEF Secretariat and GEF Agencies should ensure that increased attention is devoted to the inclusion of land tenure security and conflict resolution for resource management within program and project 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 UNCCD.

**15. RECOMMENDATION 3: The GEF Secretariat and Agencies should ensure that equal consideration is given in project and program design to both fostering synergies and mitigating trade-offs between 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 drylands projects, and project design should also carefully consider who will benefit depending on the solutions adopted.

**16. RECOMMENDATION 4: The GEF Secretariat should encourage 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 (M&E) systems was noted. When taken alongside geospatial analysis and field-level biophysical data observations that suggested more localized sustainable results than those indicated by results reported simply on the basis of hectareage, 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.

## INTRODUCTION

17. Covering over 40 percent of the earth's land surface and serving as home to more than two billion people, 90 percent of whom reside in developing countries, 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 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, 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, reaching 11 percent of the total GEF-4 to GEF-7 financing.

18. Featuring in successive land degradation strategies over GEF replenishment periods, drylands received increased attention in GEF-5 when the Land Degradation Global Benefits Index in 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.<sup>1</sup> GEF-8 saw an explicit objective on 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 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 at the same time aligning environmental and development priorities and offering set-aside incentive funding through integrated programs, in a context where drylands are often marginalized.

19. 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 Drylands Strategic Country Cluster Evaluation (SCCE) provides country-level evidence on the performance of GEF interventions focused on environmental issues related to drylands in countries with a large drylands' extent. With its specific focus on dryland countries, this SCCE complements previous GEF Independent Evaluation Office (IEO) evaluations covering broader land degradation, sustainable land and forest management, and biodiversity

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<sup>1</sup> The United Nations Convention to Combat Desertification 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” ([UNCCD website](#)).

restoration issues, with the specific aim of informing future drylands-oriented GEF programming.

## BACKGROUND AND CONTEXT

### Drylands: At a crossroads between environment and development

20. **Drylands extend over more than 40 percent of the Earth's land area and are home to more than two 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. They are shaped by water security, rich with biodiversity, and highly vulnerable to land degradation and climate change. People in drylands 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.

21. Defined as land areas with an aridity Index of less than 0.65 (see box 2.1), drylands are classified into four types of sub-habitat: dry sub-humid, semi-arid, arid, and hyper-arid (table 2.1). The proportion of global land area classified as drylands is increasing, and the proportion of land in the driest sub-habitats (arid and hyper-arid) is growing, as shown by comparing datasets between tables 2.1 and 2.2.

22. Accounting for 15 percent of all the drylands, dry sub-humid lands are often naturally dominated by broad-leaved savannah woodlands, dense tree canopies, and perennial grasses. Semi-arid lands account for 34 percent of all drylands. These lands are often dominated by thorny savannahs with a great diversity of grass species. Arid lands account for 30 percent of all drylands and often comprise annual grasslands. Hyper-arid lands cover 21 percent of the world's drylands. 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](#)).

#### *Box 2.1. Definition of drylands*

This evaluation uses the United Nations Convention to Combat Desertification's (UNCCD) 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. 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 2019](#)). 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. This definition was used by the evaluation to identify projects in dryland geographies, as discussed in the methods section.

Table 2.1. Global figures for the four types of dryland sub-habitats

| Dryland sub-habitat | Aridity index | % global land area | % global population | % rangeland | % cultivated | % other   |
|---------------------|---------------|--------------------|---------------------|-------------|--------------|-----------|
| Dry Sub-humid       | 0.50-0.65     | 8.7                | 15.3                | 34          | 47           | 20        |
| Semi-arid           | 0.20-0.50     | 15.2               | 14.4                | 54          | 35           | 10        |
| Arid                | 0.05-0.20     | 10.6               | 4.1                 | 87          | 7            | 6         |
| Hyper-arid          | <0.05         | 6.6                | 1.7                 | 97          | 0.6          | 3         |
| <b>Total</b>        |               | <b>41.3</b>        | <b>35.5</b>         | <b>65</b>   | <b>25</b>    | <b>10</b> |

Source: Safriel et al. 2005.

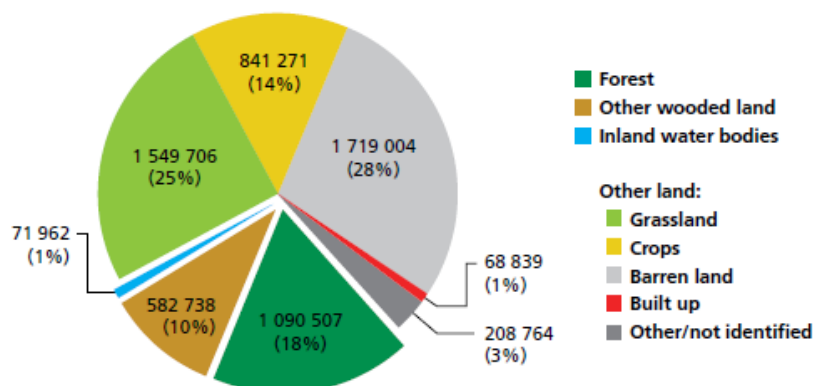
Table 2.2. Updated global figures for dryland sub-habitats

| Terraclim 2001–2020                |                    | ESA 2018             |              |
|------------------------------------|--------------------|----------------------|--------------|
| Dryland sub-habitat                | % global land area | Cultivated ha        | % cultivated |
| Dry sub-humid                      | 6.1                | 333,003,696          | 14.9         |
| Semi-arid                          | 14.4               | 578,761,224          | 25.9         |
| Arid                               | 12.8               | 108,091,640          | 4.8          |
| Hyper-arid                         | 8.9                | 12,819,534           | 0.6          |
| <b>Total dryland sub-habitats</b>  | <b>42.2</b>        | <b>1,032,676,093</b> | <b>46.2</b>  |
| <b>World total cultivated land</b> |                    | <b>2,234,721,332</b> |              |

Source: Data provided through personal communication with FAO (September 2022), based on the Global Land Assessment for Restoration

23. Drylands support important ecosystems from grasslands to forests to semi-desert, 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 semi-arid and dry sub-humid areas, and barren land more common in hyper-arid areas ([FAO 2019](#)).

Figure 2.1. Distribution of land uses in drylands ('000 ha)



Source: FAO 2019.

24. 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. Yet, food production represents only a fraction of the value 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.<sup>2</sup> 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 ([Millennium Ecosystem Assessment 2005](#)).

25. **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, contributing to land degradation, due to 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 due to the relative scarcity of water. Estimates of the extent of land degradation in drylands are between 25 and 30 percent of global land area.<sup>3</sup> Desertification, commonly defined as land degradation in arid, semi-arid, and dry sub-humid 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 ([Carbon Brief 2019](#)). Risks from desertification are projected to increase due to climate change. Under shared socioeconomic pathway SSP2 (“Middle of the Road”) at 1.5°C, 2°C, and 3°C of global warming, between 951 million and 1,285 million people are projected to be exposed and 178 million to 277 million to be vulnerable to impacts related to the water, energy, and land sectors (e.g., water stress, drought intensity, habitat degradation) in drylands ([IPCC 2019](#)). A growing number of countries, particularly in the developing world, are voicing concerns about the closely related challenges of desertification, land degradation, and drought (DLDD).

26. **Poor populations in drylands rely largely on rural livelihoods, directly or indirectly managing land.** Poverty levels in the drylands, measured in terms of literacy rates and health indices, are above global averages in most dryland countries. Adult female literacy rates in the humid lands of West Africa, for example, are around 50 percent, but they drop to 5–10 percent

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<sup>2</sup> Over a third of the world’s major river basins, as mapped by the World Resources Institute (WRI), fall at least 50 percent within drylands.

<sup>3</sup> 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 et al. 2014](#)).

in the drylands. In the drylands of Asia, infant mortality rates are around 50 percent above the global mean ([Middleton et al. 2011](#)). Drylands are also home to many of the world's most populated cities. The way the 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.

**27. Poverty and desertification are closely related.** Dryland populations are finding it increasingly difficult to continue practicing traditional sustainable land and water management due to rural population growth and a breakdown in local resource governance<sup>4</sup> that results in weak land tenure and conflicts between herders and farmers over the use of land and groundwater ([Nelson et al. 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 the 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.<sup>5</sup> 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](#)).

## **GEF engagement in drylands countries**

### *Drylands in GEF programming strategies*

**28. 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.** 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. Drylands-related objectives of GEF-6 LDFA strategy target sustainable land management, climate-smart agriculture, and ecosystem services from forests. In GEF-5, the Land Degradation

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<sup>4</sup> 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.

<sup>5</sup> 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](#)).



Global Benefits Index (LD GBI) of the System for Transparent Allocation of Resources (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 includes a 0.6 weight for proportion of dryland area (i.e., the higher the proportion of drylands in a country, the higher the STAR allocation).

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

*Box 2.2. TerrAfrica and GGWI*

Launched in 2008, the 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 (IDA) of the World Bank Group, to invest in 36 projects across 27 countries. The SIP/TerrAfrica portfolio included nine countries in the Sahel region and eventually became the catalyst for the next generation of integrated landscape management investments in the GGWI. 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. The Sahel and West Africa Program in Support of the GGWI (SAWAP), a \$1.1 billion multi-trust fund programmatic approach to implement SLM in targeted landscapes and climate vulnerable areas in 12 countries, is financed by the GEF, the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF), the International Development Association (IDA), and country contributions. Engaging a wide range of stakeholders promoted by GGWI, including national governments, international organizations, private sector and civil society, all of which working together under pan-African coordination has been instrumental to help halt land degradation ([GEF IEO 2022d](#)).

30. **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 introduction of the UNCCD's LDN concept, with high relevance for drylands. The LDFA 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 LDFA strategy aligns with GEF's vision to achieve healthy and resilient ecosystems

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<sup>6</sup> With an envelope of \$116 million GEF grant and \$805 million co-financing, 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.

<sup>7</sup> With a \$95.8 million GEF grant and \$809 million co-financing, 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.

by promoting sustainable land management (SLM) and supporting the achievement of LDN.<sup>8</sup> 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 the 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. As for the LDFA-specific support modalities, joint programming with other GEF focal areas is planned 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 the natural resource management sectors.

### *GEF support to drylands*

31. As further detailed in the approach paper (annex I), a stepwise approach was taken to identify the GEF's portfolio of drylands-related interventions to be covered by this evaluation. First, a text search<sup>9</sup> on the GEF Portal identified 378 projects focusing on drylands all over the world from GEF-4 to GEF-7, across all focal areas and trust funds and inclusive of all full and medium-size projects.<sup>10</sup> This initial list of projects was refined by limiting it to projects that deal specifically with drylands-related environmental challenges (i.e., 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, defined as lands with an aridity index of less than 0.65, as noted earlier. 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.

32. An initial list of 220 projects resulted from the application of the scoping criteria described above. 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 with feedback received from Agencies. The outcomes of this process yielded a final selection of 195 projects covering 53 countries.

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<sup>8</sup> 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](#)).

<sup>9</sup> Drylands-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" or "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 drylands landscapes.

<sup>10</sup> The Small Grants Programme (SGP) 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 (UNDP) IEOs.

33. **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 described in the previous section.** The 195 projects with a focus on drylands (i.e., the evaluation portfolio, referred to hereafter as “GEF drylands 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 co-financing of \$8.1 billion.<sup>11</sup> For these 195 projects, 81 percent of the funding was part of the GEF Trust Fund (figure 2.4). GEF support to drylands increased substantially in GEF-7 (figure 2.2), with the approval of the DSL IP that focuses squarely on dryland forests.

34. **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 (MFA) projects is large and increasing among GEF drylands projects (figures 2.3 and 2.5) and more than half of these projects are in Africa (figure 2.6). A significant increase in the share of funding for MFA 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) projects, with a relevant decrease in LDFA from 41 percent (\$122 million) to 11 percent (\$83 million). This trend aligns with the shift in the GEF toward more integrated programming to tackle the drivers of environmental degradation since GEF-6 (tables 2.3 and 2.4). No major differences are noted in terms of the distribution of project size and geographic regions across earlier and newer drylands projects.

Figure 2.2. GEF drylands related funding by replenishment period, in \$ million

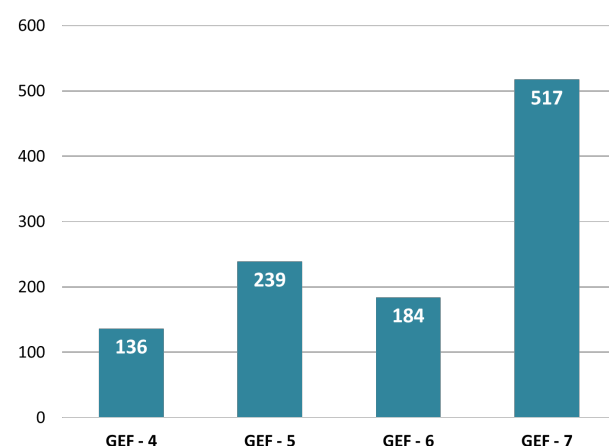
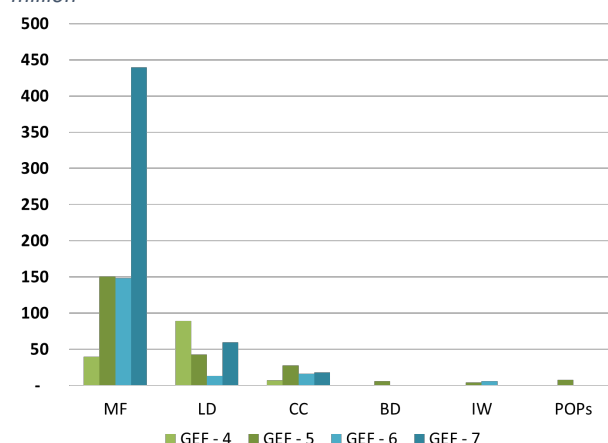


Figure 2.3. Focal area funding by replenishment period, in \$ million



Source: GEF/IEO elaboration based on the GEF Portal database.

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

<sup>11</sup> 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 is May 15, 2023.

the more specialized Agencies, the Food and Agriculture Organization of the United Nations (FAO) and United Nations Environment Programme (UNEP), now account for 19 percent and 11 percent of the total funding dedicated to drylands-related projects, after UNDP (26 percent) and the World Bank (25 percent).

Figure 1.4. Share of evaluation portfolio's GEF funding by funding source

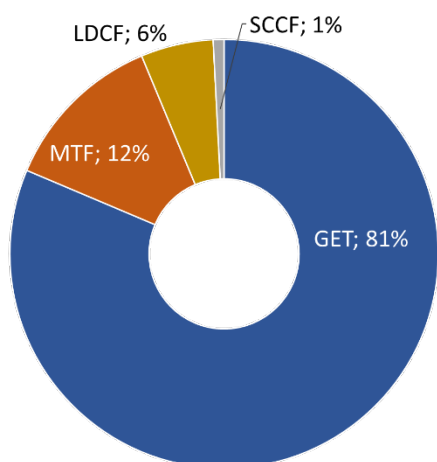
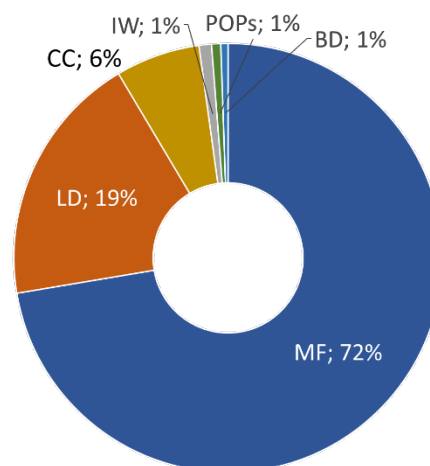


Figure 2.5. Share of evaluation portfolio's GEF funding by focal area



Source: GEF/IEO elaboration based on the GEF Portal database.

Note: GET = GEF Trust Fund; MTF = Multi Trust Fund; LDCF = Least Developed Countries Fund; SCCF = Special Climate Change Fund; MF = Multifocal Area; LD = Land Degradation; CC = Climate Change; IW = International Waters; POPs = Persistent Organic Pollutants; BD = Biodiversity.

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

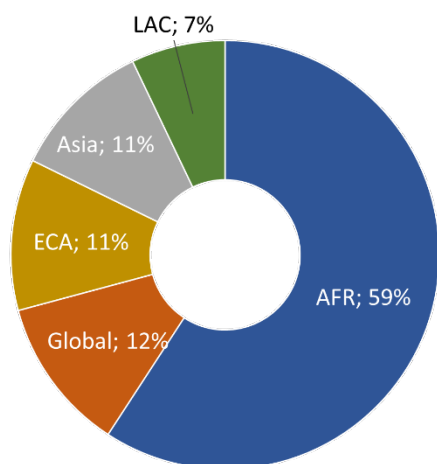
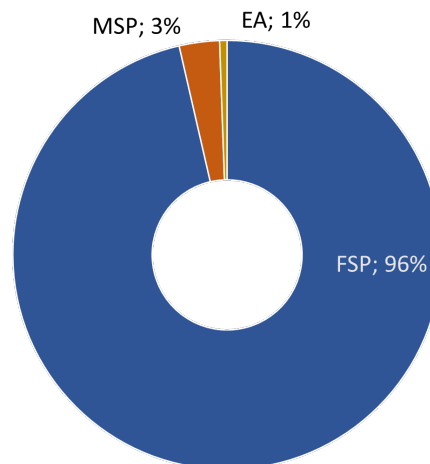


Figure 2.7. Share of evaluation portfolio's GEF funding by project type



Source: GEF/IEO elaboration based on the GEF Portal database.

Note: AFR = Africa; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; FSP = Full Size Project; MSP = Medium Size Project; EA = Enabling Activity.

Table 2.3. Distribution of earlier (GEF-4 and GEF-5), newer (GEF-6 and GEF-7), and total projects in the evaluation portfolio by project type, focal area, region, and funding source (by number of projects)

|                | Project type |     |    | Focal area |    |    |     |      |    | Region |      |     |     |        | Funding source |      |      |     | Total      |
|----------------|--------------|-----|----|------------|----|----|-----|------|----|--------|------|-----|-----|--------|----------------|------|------|-----|------------|
|                | MSP          | FSP | EA | BD         | LD | CC | MF  | POPs | IW | AFR    | Asia | LAC | ECA | Global | GET            | SCCF | LDCF | MTF |            |
| <b>Earlier</b> | 10           | 58  | 0  | 0          | 36 | 7  | 24  | 0    | 1  | 40     | 11   | 3   | 9   | 5      | 59             | 3    | 3    | 3   | <b>68</b>  |
| <b>Newer</b>   | 14           | 110 | 3  | 1          | 30 | 7  | 87  | 1    | 1  | 72     | 12   | 9   | 20  | 14     | 111            | 0    | 7    | 9   | <b>127</b> |
| <b>Total</b>   | 24           | 168 | 3  | 1          | 66 | 14 | 111 | 1    | 2  | 112    | 23   | 12  | 29  | 19     | 170            | 3    | 10   | 12  | <b>195</b> |

Source: GEF/IEO based on the GEF Portal database.

Table 2.4. Distribution of GEF funding for earlier (GEF-4 and GEF-5), newer (GEF-6 and GEF-7), and total projects in the evaluation portfolio by project type, focal area, region, and funding source (\$ million)

|                | Project type |              |          | Focal area |            |           |            |          |           | Region     |            |           |            |            | Funding source |          |           |            | Total        |
|----------------|--------------|--------------|----------|------------|------------|-----------|------------|----------|-----------|------------|------------|-----------|------------|------------|----------------|----------|-----------|------------|--------------|
|                | MSP          | FSP          | EA       | BD         | LD         | CC        | MF         | POPs     | IW        | AFR        | Asia       | LAC       | ECA        | Global     | GET            | SCCF     | LDCF      | MTF        |              |
| <b>Earlier</b> | 12           | 284          | -        | 0          | 122        | 27        | 142        | 0        | 4         | 186        | 35         | 18        | 38         | 19         | 239            | 9        | 18        | 31         | <b>296</b>   |
| <b>Newer</b>   | 21           | 754          | 6        | 6          | 83         | 41        | 637        | 7        | 6         | 451        | 86         | 59        | 85         | 100        | 637            | 0        | 41        | 102        | <b>780</b>   |
| <b>Total</b>   | <b>33</b>    | <b>1,038</b> | <b>6</b> | <b>6</b>   | <b>206</b> | <b>69</b> | <b>779</b> | <b>7</b> | <b>10</b> | <b>637</b> | <b>121</b> | <b>76</b> | <b>123</b> | <b>118</b> | <b>876</b>     | <b>9</b> | <b>59</b> | <b>133</b> | <b>1,077</b> |

Source: GEF/IEO based on the GEF Portal database.

## **Previous evaluation findings relevant to drylands**

36. Evidence from evaluations conducted by the GEF IEO and GEF Agencies' evaluation units was reviewed to provide a foundation of what is known already about 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 (annex I).

37. The Sixth Comprehensive Evaluation of the GEF (OPS6) ([GEF IEO 2018](#)) and one of its component studies, the Land Degradation Focal Area Study ([GEF IEO 2017](#)) note that the GEF LDFA Strategy on combating desertification in Africa with emphasis on drylands is aligned with UNCCD global priorities. While the LD study noted an increased focus on responding to LDN targets through both SLM and restoration activities, OPS6 reported 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.

38. The Strategic Country Cluster Evaluation (SCCE): 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 semi-arid climates with strong climatic variation and irregular rainfall. The SCCE notes that climate can severely impact 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 which may be even more important in vulnerable drylands 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 due 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 the dryland forests through the GEF-7 DSL Impact Program.

## **Design, approach, methods, and limitations**

39. This GEF Support to Drylands Countries Strategic Country Cluster Evaluation (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 extreme 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. Selection of drylands as the focus of this SCCE is 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*

40. The purpose of this Drylands 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. This SCCE 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, sustainable land management (SLM), and resilience to both climate and non-climate-related shocks and stresses. Based on the purpose and objectives, the Drylands SCCE seeks to answer to five key evaluation questions:

- KQ1) To what extent has GEF support been relevant to the specific environmental challenges in dryland countries, and are there any gaps?
- KQ2) 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?
- KQ3) To what extent have GEF interventions in dryland countries produced their targeted environmental outcomes and associated socioeconomic co-benefits?
- KQ4) Have natural resource governance and other socioeconomic factors been considered in the design and implementation of GEF drylands interventions, and if yes, with what results and sustainability?
- KQ5) 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?

41. The remainder of this report broadly aligns with and follows the order of these evaluation questions, and the cross-cutting issues (KQ5), are mainstreamed throughout the report.

### *Methods*

42. **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** (annex 1, approach paper). As described above, the evaluation portfolio is composed of 195 projects, spanning 53 countries, and includes 63 projects (from GEF-4 and GEF-5) with available terminal evaluations from the GEF IEO terminal evaluations database. From these 53 countries, 6 were purposely selected for in-depth case studies 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 (Volume 2, selection note of case study countries and projects). These six countries covered 41 projects in total and nearly 20 project sites were visited by the SCCE team.

43. 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 (Volume 2, case study reports). The aggregate analyses helped identify hotspots of environmental change to which the GEF contributed. Seven project post-completion field verifications have been conducted as part of case studies.

44. **A mixed-methods approach was applied using both quantitative and qualitative data gathering tools.** Desk review techniques (through targeted document review protocols) have been used for answering 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<sup>12</sup> were reviewed, focused on the differences between earlier GEF projects (those approved in GEF-4 and GEF-5) and more recent GEF projects (those approved in GEF-6 and GEF-7). In the remainder of the report, these two groups are referred to as “earlier”/ “completed” and “newer” GEF drylands projects.

45. 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 was conducted to verify the spatial relevance of geographic targeting of GEF drylands-related interventions within the countries with a majority of their area covered by drylands included in the evaluation’s portfolio (Volume 2, geospatial analysis). Geospatial analysis was also conducted before and after the case studies, to assess the environmental and socioeconomic change before, during, and after GEF interventions in the case study areas. The findings of such analyses helped case study teams select locations to prioritize during field visits and informed conversations with stakeholders.

46. A comprehensive set of central-level interviews was conducted with representatives of the GEF partnership, including from the GEF Secretariat, GEF Agencies, Scientific and Technical Advisory Panel (STAP), and multilateral environmental conventions (annex 3, interviewees list). 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

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<sup>12</sup> Global projects (19 projects) were not reviewed; one newer project (GEF ID 5479) was excluded from the analysis due to a lack of basic documentation.



country focal points for the multilateral environmental conventions.<sup>13</sup> (Volume 2, survey results).

### *Limitations and quality assurance*

47. This evaluation encountered two limitations: 1) the lack of clear identification of dryland projects in the portfolio (as not specifically mandated in the GEF, dryland interventions are not tagged in the GEF Portal); and 2) limited ability for full case-study teams (both international and national consultants) to conduct field visits, due in part to World Bank-imposed, COVID-19 related travel restrictions. The first limitation has been 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 has been 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 addition, in Niger, the national and international consultants participated in project site visits.

48. Two quality assurance measures were applied to the Drylands SCCE. A reference group composed of representatives from the GEF Secretariat, GEF Agencies, the STAP, and 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, 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, Dr. Annette Cowie, an ex-STAP member for land degradation. Dr. Cowie advised the evaluation team on the soundness of evaluation design, scope, questions, methods, and process described in the approach paper, on the implementation of the methodology and the implications of methodological limitations in the formulation of the conclusions, and recommendations in the draft and final reports.

## **KEY FINDINGS**

### **Relevance: Addressing environmental challenges and priorities in drylands**

#### *Relevance to specific environmental challenges in drylands*

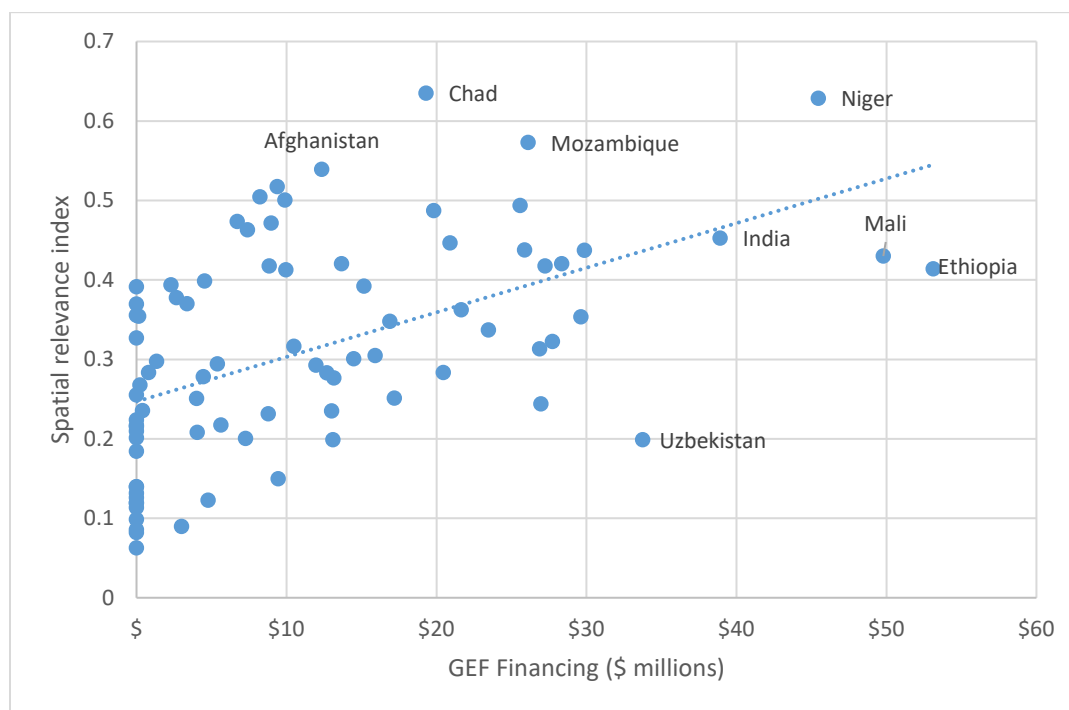
49. **GEF projects have targeted countries and areas that are highly relevant for specific environmental challenges in dryland geographies.** National-level geospatial analysis demonstrated that GEF drylands projects have concentrated in countries with high spatial

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<sup>13</sup> The survey response rate was 25 percent.

relevance<sup>14</sup> for dryland environmental challenges, including land degradation, climate change, water scarcity, drylands forest loss, biodiversity threats, and air pollution. As shown in figure 3.1, higher spatial relevance for drylands environmental challenges is correlated with higher GEF financing. Countries with high spatial relevance and higher levels of GEF financing for drylands 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 25<sup>th</sup> most water-stressed country in the world ([WRI 2023](#)), the GEF has provided substantial dedicated support to the drylands-specific issue of water scarcity, drought, and desertification, among others, and targeted project sites in those areas of the country with the highest number of days with atmospheric drought.

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



Source: GEF IEO geospatial analysis.

Note: The figure shows countries with zero GEF financing because the analysis included all countries with half of their land area classified as dryland ( $AI > 0.65$ ), not only GEF-funded countries (see Volume 2, TD4 Geospatial Analysis).

<sup>14</sup> Spatial relevance indices were created for each country based on indicators of each major environmental challenge in drylands. Environmental challenges were given equal weight in the indices. See Volume 2 for further description of the geospatial analysis methodology.

50. 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 is 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 drylands environmental challenges.

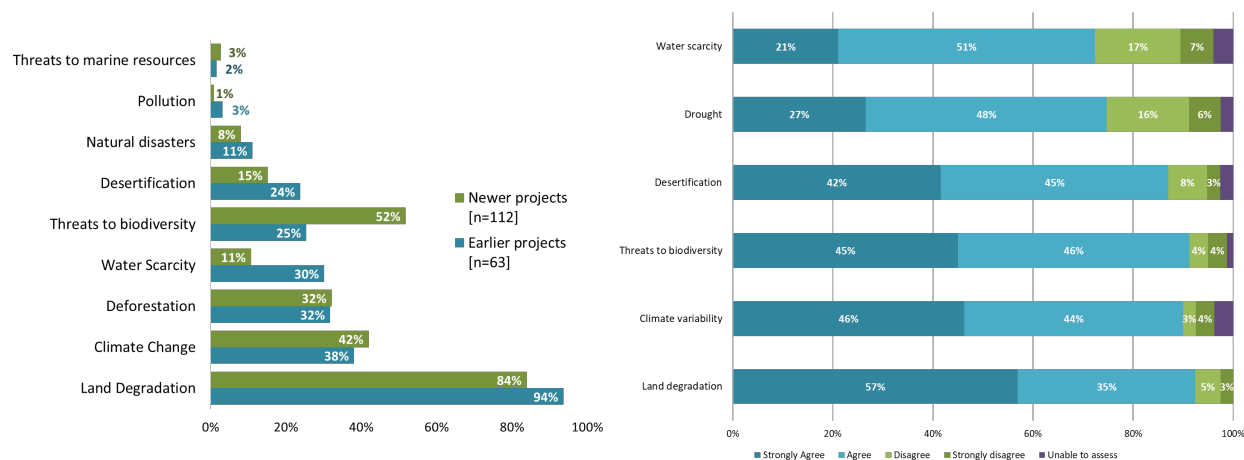
51. In the six countries where case studies were conducted, the GEF performed well in targeting particularly spatially relevant subnational areas. In Niger, as noted, multiple GEF project sites are located in four of the top five most relevant areas. In Malawi, most GEF project sites (seven) are in the 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 Valparaíso)—in the more arid north—while 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 drylands 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.

52. **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 and country stakeholder survey indicated substantial attention to land degradation, desertification, and climate change in GEF drylands projects, as shown in figure 3.2. The focus on land degradation and desertification is consistent with the high prevalence of LDFA funding in GEF drylands 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, land degradation has been the most common entry point for drylands programming, although interviewees emphasize the importance of MFA 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 area projects received funding for land degradation objectives.

53. While stakeholders believe that climate variability and risks have been adequately considered in drylands programming, Agency and Secretariat interviewees noted that the sometimes more limited carbon stocks in drylands areas have made it challenging to justify the

use of resources from the climate change focal area, which seeks to maximize carbon benefits. Few projects have been approved in drylands countries with only climate change focal area funding (14 in total over GEF-4 through GEF-7). In addition, the proportion of MFA drylands projects with climate change focal area funding has decreased significantly from 70 percent in GEF-4 and GEF-5 to just 33 percent in GEF-6 and GEF-7, reflecting also the reduced funding allocations for the climate change focal area in the GEF-6 and GEF-7 replenishments, compared to GEF-4 and GEF-5.<sup>15</sup> GEF drylands projects have also struggled to demonstrate their climate change mitigation benefits, as discussed later in this report in the section on results. Despite the widely recognized importance of climate resilience in drylands ([Global Center on Adaptation 2021](#); [Stringer et al. 2022](#)), only 7 percent of drylands projects have received climate change adaptation funding through the Least Developed Countries Fund (LDCF) or Special Climate Change Fund (SCCF),<sup>16</sup> slightly less than in the overall GEF portfolio (9 percent; see also discussion on resilience below).

Figure 3.2. Key drylands environmental challenges targeted by GEF drylands projects



Source: GEF IEO project document review.

Source: Country stakeholder survey.

54. Threats to biodiversity are being 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 areas. At the same time, Agencies and Secretariat interviewees reported that they have struggled to secure biodiversity focal area funding in MFA drylands 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 drylands countries have relatively high

<sup>15</sup> Although integrated programs have substantially increased to 24 percent of projects, some of which may include funding targeted at climate objectives.

<sup>16</sup> Inclusive of all LDCF and SCCF funding (i.e., through stand-alone LDCF/SCCF projects and multi-trust fund projects).

biodiversity threats and relatively low proportions of GEF projects addressing biodiversity, notably several countries in Africa such as Botswana, Mozambique, and Namibia.

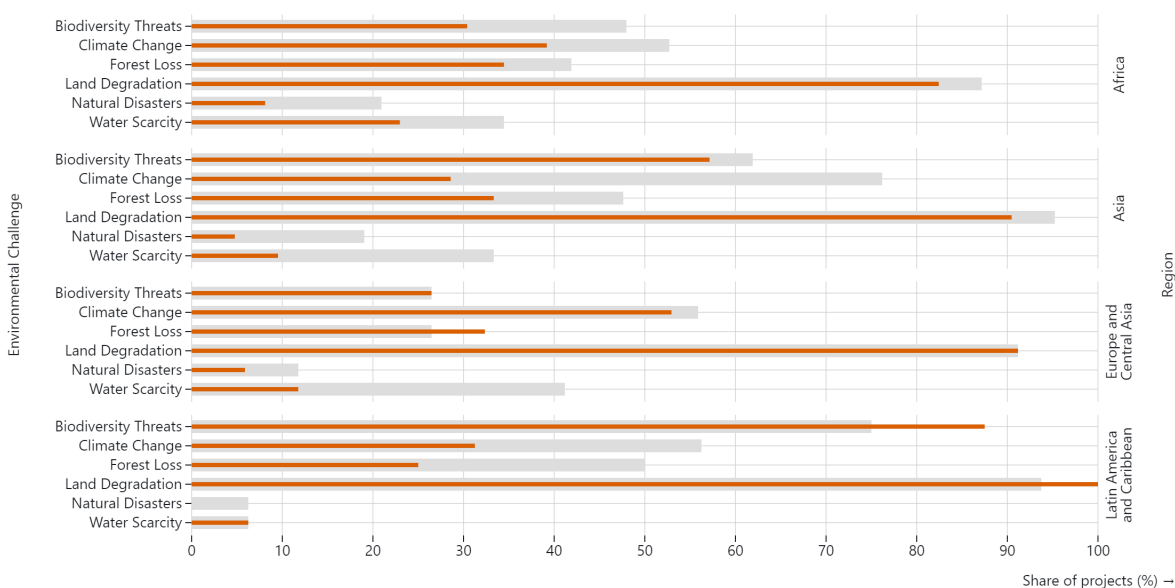
55. The case studies suggested more attention to biodiversity in protected and adjacent areas and uneven attention to biodiversity in productive lands. Those MFA projects with biodiversity funding tended to focus more on addressing illegal encroachment and poaching in protected and conservation areas, wildlife corridors, and buffer zones (such as the Lengwe and Liwonde National Parks in Malawi, mountain corridors in Chile’s Mediterranean ecosystem, and 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) applied biodiversity conservation principles and promoted genetic diversity through focus on local and indigenous varieties to support ecosystem services and linkages to increased food security. This child project is part of the RFS IAP that includes a program-wide focus on promoting agrobiodiversity, including using the Diversity Assessment Tool for Agrobiodiversity and Resilience (DATAR). In contrast, in Uzbekistan, biodiversity did not factor well into working land approaches for tree plantations, with limited evidence of biodiversity considerations in decisions to use exotic fodder species, convert natural steppe ecosystems to fodder plots, and establish monoculture plantations (GEF IDs 2600 and 9190). In Niger, GEF ID 9405 acknowledges that the country does not have “operational,” “on-the-ground” examples of “integrated sustainable land management and biodiversity conservation in production landscapes” and seeks to develop an integrated land management approach that considers biodiversity conservation and ecosystem services, among other objectives ([GEF 2023](#)).

56. Among the variety of dryland landscapes, the GEF has given special attention to drylands forests through its Drylands Sustainable Landscapes Impact Program (DSL IP), including through afforestation/reforestation and conservation activities in many projects, as illustrated through the case studies. The DSL IP 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, by nearly half ([GEF IEO 2022a](#)). Overall, deforestation threats have been targeted in about a third of GEF drylands projects.

57. **Attention to water scarcity and drought have been gaps relative to other environmental challenges, although the GEF-8 programming directions now embody a focus on drought issues, particularly in drylands,** responding to United Nations Convention to Combat Desertification (UNCCD) COP-14 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,

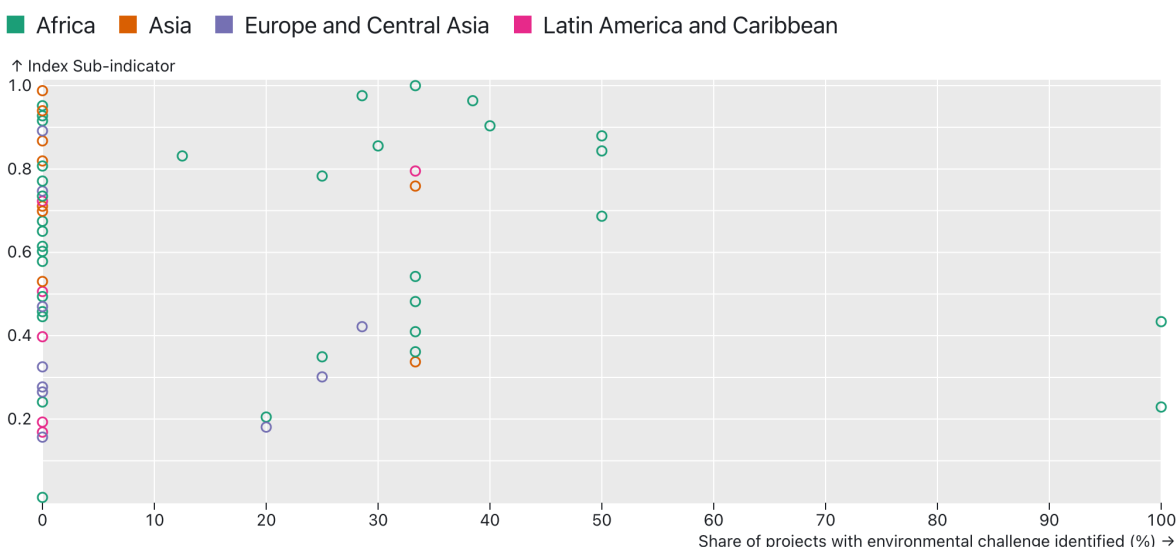
such as flood and drought. The portfolio review analysis showed that fewer dryland countries identified water scarcity as an environmental challenge in the contextual description of the project, compared to most other challenges, and that even fewer described project objectives, components, and/or activities to address water scarcity (figure 3.3). 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, as shown by the clustering in the upper left quadrant of figure 3.4, and also confirmed by the recent GEF IEO evaluation on water security ([GEF IEO 2023](#)). Fewer newer GEF drylands projects explicitly seek to address water scarcity, 11 percent versus 30 percent of earlier projects, which may reflect a shift toward addressing temporary and more significant shortages in water availability through drought mitigation. Approximately 30 percent of newer drylands projects address drought ([GEF 2022b](#)).

Figure 3.3. Comparison of environmental challenges in drylands projects' contextual descriptions versus objectives, components, and/or activities



Source: GEF IEO portfolio review analysis.

Figure 3.4. Relationship between proportion of GEF drylands projects that seek to address water scarcity in their objectives, components, and/or activities, and the relative extent of the water scarcity challenge, by country



Source: GEF IEO geospatial analysis.

58. Interview and survey feedback, along with other GEF IEO evaluations, further point to the need for more attention to water-related issues in GEF drylands projects. Compared to other environmental challenges, a greater proportion of country GEF and Convention focal points—approximately a quarter—disagree 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 geographies. Country stakeholders view GEF support for sustainable water management practices as nearly as important as sustainable land management and ecosystem restoration to achieve environmental goals in dryland areas (91 percent and 95 percent agree, 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](#)).

59. One challenge has been that 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. Projects must have a strong drought or land degradation component to fit under the land degradation focal area ([GEF IEO 2023](#)). 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. While adaptation in the context of drought is being addressed through the LDCF and SCCF, and several multi-trust fund (MTF) projects combine GEF Trust Fund and LDCF/SCCF to address these issues in an integrated way, some challenges for integrated work on drought in drylands still remain. In particular, the way the GEF approach to climate change is structured, with

mitigation the mandate of the climate change focal area, is further seen as hampering integrated work on drought in drylands. There is also scope for more MTF collaboration on drylands environmental challenges.

60. The country case studies offered examples where water issues were reasonably well integrated into drylands projects, as well as examples where they were neglected. These examples provide lessons around 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 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 are not. Their sustainable exploitation is important for the livelihoods of pastoralists and agriculturalists, such 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 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 the preparation of the national drought plan submitted to UNCCD. While earlier projects did not sufficiently consider or address water issues (e.g., GEF IDs 4261, 4332), water scarcity is planned to be explicitly addressed through a new project focused on LDN (GEF ID 10708), alongside innovative SLM practices that holistically address land and water issues on the Absheron Peninsula.

61. Integrated ecosystem management at the watershed level is a promising approach that 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 sub-basins, in support of the government's focus on small-scale irrigation and integrated natural resource management. 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 Sahel Integrated Lowland Ecosystem Management project focused on micro-watersheds 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.



62. **An essential benefit of GEF programming in drylands, resilience<sup>17</sup> has been widely embedded in MFA drylands projects but is less prevalent in LDFA drylands projects.** Key interviewees emphasized the central importance 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 MFA drylands projects included in their design activities or strategies to build or enhance resilience of the system to expected and/or possible shocks or stresses, only slightly more than half of LDFA projects did so, a contrast that holds across GEF-4 through GEF-7 projects. Multi-trust fund projects have also provided important opportunities to deliver climate change adaptation and resilience benefits, such as a recent project in Mali (see box 3.1) and the Sustainable Land Management Program 2 in Ethiopia, which combine GEF Trust Fund land degradation and LDCF resources.

63. A higher proportion of GEF-6 and GEF-7 projects, compared to 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 RFS IAP, are using FAO'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 resilience of farmers to climate change.

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

65. **Recently approved projects in dryland areas demonstrate a growing focus on incorporating various aspects of resilience development, encompassing social, financial, and ecological dimensions.** 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

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<sup>17</sup> 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 also maintaining the capacity for adaptation, learning, and transformation (Béné et al. 2012).

account were primarily aimed at enhancing the health and productivity of ecosystems. This, in turn, indirectly reduced vulnerabilities and bolstered resilience in livelihoods. For example, this was achieved through positive effects on agricultural productivity, food security, and income generation/diversification. The consideration of climate resilience remains a significant feature in newer drylands projects. However, there is a growing trend towards 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.

*Box 3.1. Project examples of increasing attention to dimensions of resilience*

The 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. Combined with a community-based saving and loan system or guarantee schemes (financial component), the additional income enables to increase the available capital and to improve the reimbursement of loans.

In Niger, the Family Farming Development Programme project (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 the climatic level (management and monitoring of natural resources, implementation of agricultural practices that reduce the impact of climate change on the production system, infrastructures to secure household access to agricultural water, and infrastructure designed or located by taking account of climate risks).

*Relevance to environmental policies and priorities in drylands*

**66. 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 drylands projects described alignment with national environmental priorities and policies, and 76 percent of country survey respondents agreed that GEF interventions in drylands 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 partners' programs, the Family Farming Development Programme (GEF ID 9138) uses the national initiative Nigériens Feed the Nigériens (*Nigériens nourrissent les Nigériens - 3N*) as its entry point and driver for promoting resilient and sustainable land management 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 drylands projects. For example, in Ethiopia, the national focal points for UNCCD, United

Nations Convention on Biological Diversity (CBD), and United Nations Framework Convention on Climate Change (UNFCCC) are actively engaged as members of the national steering committees of multiple GEF projects targeting drylands. In Uzbekistan, UNCCD, CBD, and UNFCCC focal points have been involved in the design of GEF projects and are included in project advisory structures.

**67. 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 et al. 2015](#)). Agency, Secretariat, Convention, and STAP interviewees expressed the view that drylands are often neglected by governments due to multiple factors, including remoteness from seats of governance, low productivity, 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 to use GEF resources. There are also intra-national 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. Among the case studies, in Chile, for example, few projects have been implemented in the more hyper-arid and arid northern areas, for several reasons. These obstacles encompass a range of factors. 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 GDP 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.

**68. Strategies that have facilitated countries' engagement with GEF drylands 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 natural resource management 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 (CPPs) operating in drylands, such as the PRC–GEF Partnership for Capacity and Management Support in Combating Land Degradation in Dryland Ecosystems and Burkina Faso's Sahel Integrated Lowland Ecosystem Management (SILEM) in its initial phase.

69. 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 semi-desert lowland areas. This was a shift from earlier projects, which concentrated on more variable highland regions, spanning semi-arid to dry sub-humid to humid environments.

70. 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*

72. Women are critical for sustainable natural resource management 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 UNDESA 2023](#)). Dryland women have worse outcomes on core development indicators, compared to national averages ([Nelson et al. 2015](#)).

73. **The inclusion of gender considerations in drylands projects has seen significant progress over time, aligning with the broader trends within the GEF portfolio.** In response to the introduction of the GEF Gender Policy, approximately 80 percent of newer drylands projects under GEF 6–7 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 drylands areas within their respective countries. Notably, drylands 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).

74. Fewer projects have directly aimed at closing gender gaps in access to and control over natural resources (37 percent newer and 25 percent earlier). This may be partly because gender inequality is deeply entrenched in some dryland contexts and difficult to address through shorter-term projects. For example, livestock and rangeland management and forestry have historically been and remain male domains in many countries, such as Uzbekistan and Azerbaijan. Projects made limited attempts to increase women's participation in these areas, tending to engage women instead through alternative livelihoods in sectors where women traditionally have greater presence. Women's key role in agriculture in many drylands countries is an important entry point that can be leveraged to promote equality and empowerment, as

illustrated through the design of the Sustainable Land Management to Strengthen Social Cohesion in the Drylands of Burkina Faso project (box 3.2).

*Box 3.2. Embedding gender approaches in drylands project design in Burkina Faso*

As a promising example among recent GEF projects of embedding gender approaches through design, interviewees pointed to Sustainable Land Management to Strengthen Social Cohesion in the Drylands of Burkina Faso project (GEF ID 11003), 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” ([STAP 2023a](#)).

**75. Private sector involvement in GEF drylands 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. Private sector actors most commonly engaged in drylands projects are smallholders, cooperatives, and small and medium-sized 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.

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

77. 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, a new LDN project (GEF ID 10708) 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 restoring 3,400 ha of saline land. In Peru and Ecuador, the Green Finance & Sustainable Agriculture in the Dry Forest Ecoregion of Ecuador and Peru project (GEF ID 10852) is seen as highly innovative by seeking to mobilize private sector resources through the issuance of two green bonds for sustainable land use and conservation in the capital markets of Peru and Ecuador, with the GEF and CAF (the Development Bank of Latin America) providing guarantees.

#### *Relevance of GEF approaches and role in drylands*

78. **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 drylands interventions.** The GEF has also helped countries by providing tools for LDN target setting and monitoring the progress toward LDN. The GEF is a significant player in drylands geographies given its role with UNCCD and its potential to work in an integrated way across multiple environmental challenges. In Malawi, for example, the GEF was seen as “changing the conversation” around environmental protection and biodiversity conservation in ministries that were traditionally less inclined to consider such issues.

79. 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, co-financed projects ([GEF 2014](#)). The International Union for Conservation of Nature (IUCN) evaluated dryland projects for their impact and recognized a similar necessity for an ecosystem-wide integrated approach ([Davies et al. 2016](#)). The case studies offered 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.

80. As the LDFA portfolio has shifted toward LDN implementation, and with MFA 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](#)). Among the case study countries, in Azerbaijan and Uzbekistan, LDN has provided a guiding framework in more recent GEF drylands projects. Projects such as the Sustainable Forest and Rangeland Management project (GEF ID 10367) and Aral Sea project (GEF ID 10356) in Uzbekistan are more explicit than earlier GEF projects about advancing toward LDN through integrated management of land, lake, wetland, and riparian ecosystems, incorporating engagement of the private sector and local communities.

81. **Programmatic support has been highly relevant in drylands 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, Central Asian Initiative for Land Management (CACILM), SAWAP/GGWI, RFS IAP, and the most recent 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, while challenging to coordinate, have been relevant for 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-1 and -2 (box 3.3) and SAWAP/GGWI. 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 drylands areas.

*Box 3.3. Lessons from transboundary approaches in Central Asia*

The GEF has supported two phases of the Central Asian Initiative for Land Management (CACILM), which coordinates efforts by six countries to scale up integrated NRM, targeting representative agro-ecosystems and landscapes where climate change impacts have led to greater droughts and soil salinity. The design of CACILM-2 (GEF ID 9094) improved upon its predecessor, the CACILM-1 partnership, in seeking to address bureaucratic governance, reliance on international funding, limited country buy-in, absence of strategy to scale integrated NRM, weak integration of resilience into policy and decision making, poor technical capacities of institutions and agricultural extension services, and inadequate knowledge sharing. CACILM-2 was designed as a lighter partnership with a focus on knowledge management, intended to secure more sustained support from participating countries, relying more on in-country co-financing through links with ongoing national programs, nongovernmental organizations (NGOs), 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, the CACILM-2 project has featured more collaboration between countries to address transboundary issues.



82. The case studies also offered examples of the effectiveness of long-term, phased approaches in drylands contexts. In Ethiopia, for example, sequential GEF 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.”

## **Coherence of GEF programming**

### *Coherence of GEF support with other initiatives*

83. **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 agree 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, in Niger, GEF programming has used a national program as its entry point. In Ethiopia, the Sustainable Land Management Program (SLMP) was designed and implemented as a multi-donor and multi-phase program, anchoring investments and policy work under the Government’s SLM investment framework. This programmatic approach facilitated synergies among participating donors (including World Bank, UNDP, the GEF, Norway, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the European Union). The three GEF Agencies involved in SLM in Ethiopia—UNDP, the International Fund for Agricultural Development (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 the Enhancing the Resilience of Agro-Ecological Systems project (GEF ID 9138, 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 capacity of local institutions.

84. **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 Reducing Pressures project (GEF ID 4600) had already been tested and demonstrated as useful in other GEF, GIZ, World Bank, and other efforts, and yet few resources were devoted to replication and scaling up beyond demonstration. In the Niger Oasis Sand Invasion Control project (PLECO, GEF ID 3381), support in communities by different organizations and service providers, including the GEF project, was often dominated by competition and different approaches, leading 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, in Ethiopia and Malawi, GEF projects fully embedded their activities into district and village-level government institutions and arrangements, and this supported coherence. 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*

85. While policy coherence is not a new concept for the GEF, the GEF-8 programming strategy has integrated 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” ([GEF 2022a](#)). 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 in the drylands portfolio.

86. **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 more sustainable land management, including in drylands 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 down to local. In Malawi, all GEF projects in drylands areas analyzed policy context at design. In Uzbekistan, the Reducing Pressures project (GEF ID 4600) worked to advance norms and regulations on resource use, considering needs of different stakeholders in the target landscapes, while the more recent Sustainable Forest and Rangeland Management project (GEF ID 10367) builds on those efforts to align the Law on Pastures with LDN priorities to ensure policy coherence.

87. **Despite the prevalence of policy coherence considerations in project design, the country case studies offered limited examples of success in strengthening policy coherence. This is 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.** 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, in both Uzbekistan and Azerbaijan, unclear responsibilities for pasturelands and/or rangelands across multiple ministries and levels of government 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 drylands 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](#)).

88. 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 project (GEF ID 4332). Earlier GEF projects were seen as having underestimated the time needed for fundamental review and adjustment of the legal and institutional frameworks. And without policy or legislative change, many of the piloted activities did not have a basis for sustainability. Like earlier projects, the new GEF-7 project in Azerbaijan (GEF ID 10708) 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.

89. On a positive note, Uzbekistan and Chile (box 3.4) offered 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 (GEF ID 10367) builds on the Reducing Pressures project (GEF ID 4600) in aligning the Law on Pastures with LDN priorities to ensure policy coherence. While it did not intend so at design, the SFM project (GEF ID 9190) also adapted and participated in all stages of the 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, National Strategy for Climate Change and Vegetation Resources (ENCCRV), National Landscape Restoration Plan 2021–2030, National Rural Development Policy, National Action Programme to Combat Desertification, Land Degradation and Drought: PANCD-Chile 2016–2030, and the Biodiversity and Protected Areas Service (SBAP). 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 SBAP, 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.

90. **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.** Secretariat and Agency interviewees pointed to some modest progress in GEF-6 and GEF-7 in terms of increasingly involving other 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 the countries that demonstrate an appetite to tackle policy challenges.

91. 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, the DSL IP child project is piloting the use of encroaching bush for sustainable Forest Stewardship Council (FSC) charcoal production, to help demonstrate the policy misalignment associated with a government ban on using biomass for charcoal production. In Malawi, GEF projects also 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.

92. As the Azerbaijan and Uzbekistan cases illustrated, more recent projects in drylands are also using LDN as the driver for cross-sectoral coordination of policy, regulatory, and multistakeholder decision making to promote integrated, sustainable management of landscapes. LDN is considered by STAP as an example of 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 ([STAP 2022](#)).

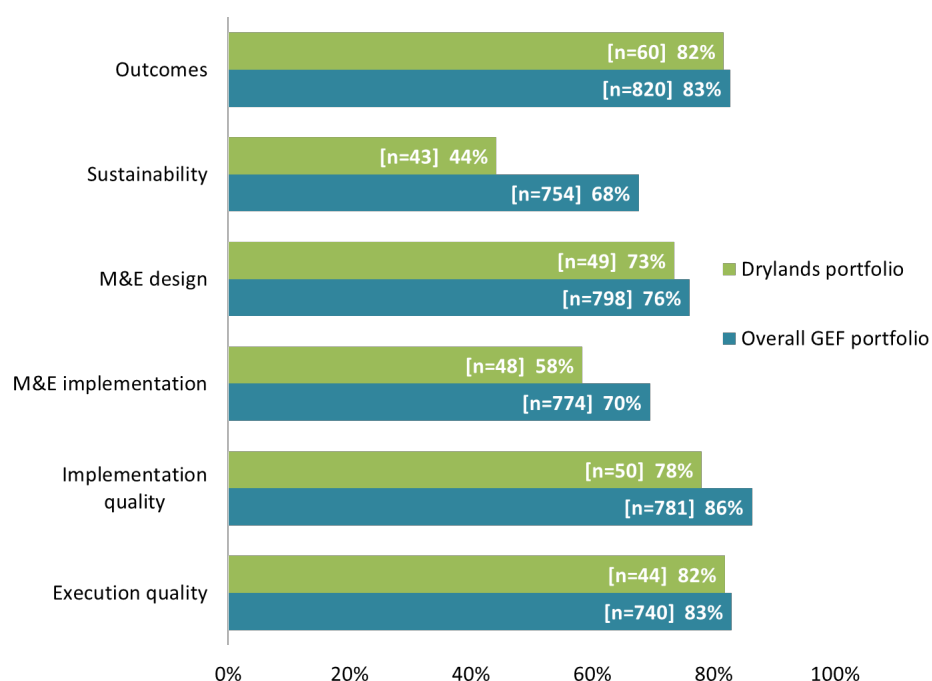
93. More than 90 percent of country focal points who responded to the survey agreed that to achieve environmental goals in dryland areas of their countries, the GEF should provide more support for interventions that ensure that policies in different sectors are mutually supportive and do not work against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

## Results: Environmental and socioeconomic benefits of GEF interventions in drylands

### Global environmental benefits

94. **GEF projects in drylands countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio, and most completed drylands projects reported positive environmental benefits.** There is no statistically significant difference between drylands projects and the rest of the GEF portfolio in terms of generating satisfactory outcomes (figure 3.5). 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.

Figure 3.5. Percentage of GEF-4, GEF-5, and GEF-6 projects with performance ratings in the satisfactory/likely range



Source: GEF IEO analysis, based on GEF IEO APR 2021 database.

Note: The "n" count excludes projects with no rating available in APR 2021 dataset.

95. Projects spanning hyper-arid to arid climates had slightly higher average effectiveness than those spanning arid, semi-arid to dry sub-humid 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, where the effectiveness of interventions (GEF IDs 2794 and 5220) in reducing land degradation and improving land productivity was higher in the drier areas, where moisture stress is a critical constraint.

96. **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 hectareage:

- In Malawi, World Bank and UNDP sustainable landscape management projects (GEF IDs 3376 and 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 co-financed World Bank Community Action Projects/Programs (CAPs, including GEF IDs 3382 and 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, GEF ID 3382 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, agro-pastoral 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 (GEF IDs 2794 and 5220) together treated more than 860,000 ha of degraded landscapes in 1,820 micro-watersheds (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.

97. More modest results were reported from individual projects in Chile, Azerbaijan, and Uzbekistan that were not part of broader co-financed programs. For example, in Azerbaijan, GEF ID 4332 developed pasture mapping, inventories, and management plans for about 9,100 ha of summer and winter pastures in the Ismayilli rayon (dry sub-humid zone). In Chile, GEF-4104 SLM targets were revised downward from 100,000 ha to 30,000 ha, and GEF ID 5135 introduced new grazing practices based on ancient community knowledge by defining exclusion areas and rotation for grazing in 9,000 ha in San José de Maipo.

98. **While protection is less prevalent among the objectives of GEF drylands 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 include:

- 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, GEF ID 4625 contributed to reductions in illegal encroachment, poaching, and deforestation in protected areas (Lengwe and Liwonde National Parks) that cover a large portion of the Shire River Basin landscape. The project also helped communities co-manage two forest reserves in Neno district, adjacent to the national parks, forming important wildlife corridors. The management effectiveness tracking tool (METT) 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 around protected areas and biodiversity had stronger localized environmental outcomes compared to activities involving working lands (pastureland and cropland). The Ustyurt Steppe project (GEF ID 3950) successfully contributed to the establishment of the Saigachy Reserve, supporting capacity building efforts and provision of 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.

**99. GEF drylands projects restored a large area of degraded lands through afforestation, reforestation, and area closures, among other techniques.** Notable examples include:

- In Ethiopia, SLMP I and II restored about 154,000 ha of degraded farmland and communal land through gully treatment, area closures, reforestation, and afforestation, results that were further verified through field-based case studies and analysis of remote-sensed geospatial data with control locations ([World Bank IEG 2020a](#)), as well as this SCCE. Agroforestry and area closures to limit free grazing led to a 5 percent increase in vegetation cover.
- In Niger, CAP-2 (GEF ID 5252) has supported large-scale land and resource restoration, including 32,200 ha of land reclaimed and protected, and 118 communes (72 per cent of all targeted communes) protected and reclaimed at least 200 ha of additional land. Also in Niger, GEF ID 3381 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 micro-basins in the long term.
- In Arica-Parinacota in Chile (arid and steppe zones), GEF ID 4104 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, forest restoration activities were largely successful at the pilot level due to 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 (GEF IDs 4332 and 9795).

100. 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 resource use in the short-term and when resource needs were sufficiently met or decreased through other means (see discussion on socioeconomic synergies and trade-offs below).

101. **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 (GEF ID 4600), 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, despite the fact that reducing pressure was the main intended impact of the project. In Niger, projects (GEF IDs 3382 and 5252) 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 three percent of projects. Pastoral corridors are now narrowing due to encroachment, and pastoral infrastructure is deteriorating ([World Bank IEG 2020b](#)).

102. **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 strongest improvements in normalized difference vegetation index (NDVI) and vegetation cover were identified in Ethiopia, where an independent GIS remote sensing study on the impact of SLMP I (GEF ID 2794) 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 SLMP I. In Chile, the terminal evaluation for GEF ID 4104 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 GEF IDs 4625 and 9842) in the Shire Valley 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.

103. 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 well as 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 or not, 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 the rainfall effects ([World Bank IEG 2020b](#)).

104. Although this evaluation did not set out to specifically examine monitoring and evaluation (M&E) systems, the relative lack of demonstrated changes in environmental status through M&E systems raised questions about the reliability of hectareage 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 on sustainability). In Azerbaijan, the terminal evaluation for GEF ID 9795 concluded that the estimated climate change mitigation benefits could not be attributed to the project, and for GEF ID 4332, the emission 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 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*

105. **Nearly all drylands projects in the case study countries delivered socioeconomic benefits—with varying success—and portfolio-wide, most completed drylands 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 drylands interventions, 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:



- In Azerbaijan, GEF ID 4332 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 SFM project (GEF ID 9190), 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, GEF ID 3381 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 out-migration from villages. GEF ID 3382 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 went up by 80 percent and net forest losses such as through charcoal use decreased, based on an end-of-project impact survey.
- In Ethiopia, GEF drylands-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 (GEF ID 2791) and alternative livelihood activities (GEF ID 9135).
- In the Ethiopia SLM program (GEF IDs 2791 and 5220), 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.
- In Kenya, 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 and 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 sub-counties.

**106. 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 drylands 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 trainings 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, a large proportion of women benefited from higher production in home vegetable gardens (GEF IDs 3381 and 5252). Also, in Ethiopia and Niger, efforts were made to integrate women into decision-making bodies, although percentages remained relatively low, between 15 and 32 percent (GEF IDs 3382, 5252, 5220). In Senegal, 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 (GEF IDs 3381 and 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).

*Box 3.5. Lessons on overcoming gender discrimination in Niger*

Gender and women's equal participation in projects have been an important aspect in GEF projects in Niger. Most projects 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 PASADEM (GEF ID 3383) project, women were the majority of beneficiaries of cash and food-for-work and performed a large part of land restoration activities. Women were strongly involved in managing plant and tree seedling nurseries in PASADEM as well as PLECO (GEF ID 3381), which were 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 (PLECO and ProDAF; GEF ID 9136). Training and capacity development of women were important in all projects.

Under the World Bank Community Action Program (Niger CAP, GEF ID 3382 and 5252), women benefited less from the cash-for-work programs because social and cultural participation barriers were not sufficiently addressed. Barriers included lack of alternate 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, due to 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](#)).

**107. Synergies between socioeconomic and global environmental benefits have been widely referenced in drylands 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 actions towards 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 drylands projects refer to success in fostering these synergies. The country case studies provided numerous examples of and lessons from these linkages, incorporated in the following discussion.

**108. 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).

*Box 3.6. SLM interventions for drought-prone areas in Ethiopia*

In Ethiopia, under the World Bank SLM program (GEF IDs 2794 and 5220), incentives for farmers to adopt sustainable land management worked mainly because of the project was 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 program sites visited by the World Bank’s Independent Evaluation Group (IEG) showed only modest improvements in vulnerability to climate change shocks, with the best results achieved when SLM practices were combined with income-generating activities ([World Bank IEG 2020a](#)).

**109.** In Chile, GEF interventions (GEF IDs 4104 and 5135) 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.

**110.** 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—ideally locally based—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 key for building trust between implementing staff and community members.

**111. Drylands 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.** In other words, projects with livelihoods and income-generation activities often exhibited strong local ownership but without sufficient links to ensuring sustainability of environmental outcomes. The country case studies offered numerous examples where insufficient attention had been given to whether income-generating activities can replace unsustainable 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. In Azerbaijan and Uzbekistan, for example, projects’ (GEF ID 4332, GEF 4600)) income-generation activities 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.

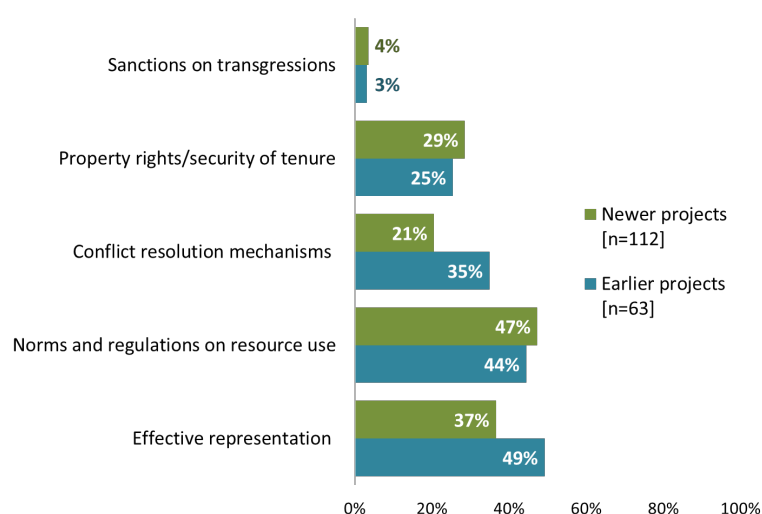
**112. Trade-offs between socioeconomic and environmental benefits have been underconsidered in GEF drylands projects.** While mention of synergies features prominently in GEF drylands projects, only one earlier project referred to analyzing trade-offs and 15 percent of newer projects mention in their design the need to identify and address trade-offs. GEF drylands projects on pasturelands have exemplified the risks when potential trade-offs between socioeconomic goals 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. An earlier project in Uzbekistan (GEF ID 4600) featured no explicit arrangements with local beneficiaries nor 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 Zapovednik project (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.

113. 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—suggesting more attention is needed on the linkages and theory of behavioral change to achieve global environmental benefits. As the STAP noted in drylands 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 drylands 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

114. **Both the portfolio review and the in-depth country case studies pointed to substantial consideration of natural resource governance in GEF drylands 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. Portfolio-wide, 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 3.6).

Figure 3.6. Aspects of natural resource governance that drylands projects sought to influence at design



Source: GEF IEO, based on review of project documents.

115. Compared to the proportion of drylands projects reporting positive environmental and socioeconomic benefits, fewer projects achieved outcomes related to natural resource governance. Only 30 percent of earlier drylands projects reported linkages between activities that were directed towards 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).

116. Echoing the broader drylands portfolio, the country case studies identified substantial consideration to natural resource governance in GEF drylands 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 & Metternicht 2021](#); [Stringer et al. 2022](#)), and this was often beyond the reach of GEF projects, as discussed in more detail below.

117. **Conflict resolution and land tenure matters have not been adequately addressed in drylands projects, and this has consequences for both achieving and maintaining project outcomes.** Less than a third of GEF drylands projects have addressed these issues, as referenced earlier in figure 3.4. Forty-two percent of country focal points surveyed disagreed that GEF drylands programming in their country has 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 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, among other foci. Land tenure also plays an important role in the framework of the UNCCD, and the recent [Decision 26/COP.14](#) puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

118. Land tenure is especially weak in communally managed drylands, such as grasslands and dry forests, where traditional governance and customary authority is 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 illustrated 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.

- In Uzbekistan, the SFM project (GEF ID 9190) supported the Government of Uzbekistan in preparing the presidential decree that enables people to rent or lease forest fund lands not covered by forest for up to 49 years, 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 (GEF IDs 2794 and 5220) focused strongly on strengthening rural land registration and land administration. Under the earlier project (GEF ID 2794), 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 ([World Bank IEG 2020a](#)). By completion of the second project (GEF ID 5220), 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 CAP (GEF ID 3382)—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 laid individualized claims, limiting the ability of more vulnerable resource users to continue to access communal lands ([World Bank IEG 2020b](#)).

**119. GEF-supported projects built and supported capacity at local levels for decentralized and inclusive decision making and planning, though projects often established multistakeholder governance platforms that were not self-sustaining after project closure.**

Supporting a governance framework that ensure 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 & Metternicht 2021](#)). In Niger, the World Bank's Community Action Programs (GEF ID 3382) 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 (COGERNATs) and land tenure (COFOB), 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, GEF cooperation with departmental and local institutions.

120. Similarly in Uzbekistan, some social capital was retained at the local level through pasture management committees, though there was limited evidence of major changes in pasture management (GEF ID 4600). In Azerbaijan, a GEF project piloted cooperative resource governance structures for pasture and forest management at 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 post-Soviet Union countries generally grappled with a legacy of top-down approaches to governance and capacity building still 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 in Ethiopia.

**121. GEF drylands 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 (GEF ID 4600) worked to advance norms and regulations on resource use, considering needs of different stakeholders in the target landscapes, but more work is needed to update and operationalize the Law on Pastures to become an effective instrument for sustainable livestock and pasture management. In Malawi, GEF IDs 3376 and 9138 supported compliance with regulations and reduced encroachment and deforestation by developing community NRM management plans and by-laws 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.

**122. 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 lack of data systems to support evidence-based planning. Notable examples include:

- In Niger, cooperation through a GEF-4 UNDP project (GEF ID 3381) with the University of Niamey and the CNSEE (*Centre National du Suivi Ecologique et Environnementale*) helped generate new data management systems of a more technical nature (meteorological, rainfall, and 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 (GEF ID 9795) supported establishment of an SFM general coordinating committee and forest information center (GIS laboratory) and developed a GIS database for the national forest inventory, which provided the home for additional information on different forest areas spanning 86,600 ha at project completion and collected data through forest inventories for 20,000 ha in dry sub-humid and semi-arid 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 inventorying 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 Food Systems, Land Use and Restoration Impact Program project (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.

**123. 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 and Uzbekistan (SLFM; GEF IDs 4600 and 3556) supported the view that project designs had underestimated the time needed for the 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 Zapovednik project (GEF ID 3556) and Ustyurt Steppe project (GEF ID 3950) lamented 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 for development of the necessary capacity to make the change sustainable and operational. Without continued engagement, implementation of supported policy changes often faltered.

**124.** In contrast, in China, the long-term (10-year) cooperation between the government of China, the GEF, and other donors through the PRC-GEF Partnership 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**

**125. Sustainability is less assured in drylands contexts.** A lower proportion of drylands 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 the project life also appear to be somewhat more difficult in acute dryland settings, where 47 percent of projects spanning arid, semi-arid, and dry sub-humid climates were rated as likely sustainable, compared to 35 percent of projects spanning hyper-arid to arid. 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 highlighted the importance of addressing environment and sustainable development priorities for sustainability.

**126. Demonstrating immediate socioeconomic benefit flows and 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 forego 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:

- In Niger (GEF ID 3381), improved natural resource management techniques that yielded short-term results were continued beyond the project period, such as assisted natural regeneration approaches and selective conservation agriculture practices such as *tessa/zaï* (planting in pods in small earth basins in the ground).
- In Ethiopia, the SLM program, through multiple phases (GEF IDs 2794 and 5220), 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. This 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.

**127. 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 include:

- In Malawi, for example, most project interventions were implemented through village structures and traditional authorities, which increased ownership of the project, a key factor for sustainability. One project (GEF ID 3376) 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 officials and local officials in agreeing on sustainable wood sources. Post completion, the charcoal associations formed by the project are no longer operational.

- In Azerbaijan and Uzbekistan, lack of clarity for responsibility regarding the use of pasturelands between ministries of environment and agriculture were structural challenges for sustainability. For instance, in some projects in Azerbaijan, there was 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 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), was seen as a risk to sustainability.
- In the regional Africa project GEF ID 2184, a strong engagement with stakeholders at all levels (local communities, academic research institutions, government ministries and departments, and NGOs) not only increased awareness and capacity for replication, but also promoted community and political buy-in of the project.

**128. In the case study countries, sustained environmental benefits were observed primarily at localized scales, with some exceptions.** Post-completion 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 GEF ID 4600 reported exceeding its hectare targets for improved pastures, post-completion assessment provided weak evidence of sustained behavioral change or reduced degradation on 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 over 320,000 ha of desert and semi-desert pastures, and the state of the pasture has continued to deteriorate due to overgrazing and industrial activities.

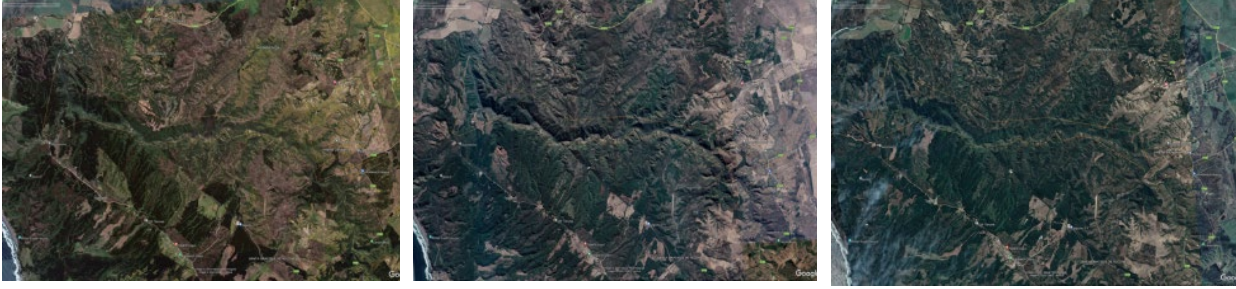
**129.** Afforestation efforts in Azerbaijan, Uzbekistan, and Chile have been somewhat sustained in pilot areas and reportedly scaled up, although some improvements were hard to discern from geospatial analysis. In Uzbekistan, afforestation with endemic plant species of

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. GEF ID 4600 afforestation efforts in the Zaamin district of Uzbekistan were directly observed to have been sustained and even expanded by the local state forestry unit, as indicated by recent positive trends in 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 nation-wide afforestation campaign.

130. In Tanumé in the O’Higgins region of Chile, the 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 3.7). The analysis for the biodiversity corridor in Tanumé noted a forest loss of 55 percent for the period 2001–2021, 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 2018–2021, thus indicating some positive effect from the GEF intervention.

Figure 3.7. Local environmental outcomes in Tanumé in the O’Higgins Region of Chile over time, associated with GEF ID 4104





Source: GEF IEO geospatial analysis.

131. 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, and in Uzbekistan, the lowering groundwater table and increasing drought threatened plantings. In the Coquimbo region of Chile, project interventions (GEF ID 4104) focused on small works to capture and infiltrate rainwater, afforestation, and growth of passive vegetation, and the SCCE team found evidence that the bees have since returned and that the opening of a new water source had enabled irrigation to a greenhouse.

132. 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 are now used for production of crops as well as forest trees. Water availability has also improved. In Malawi, post-completion assessment of the SLM project (GEF ID 3376) 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, on whether farmers have continued reforestation and natural regeneration activities.

133. **Identifying pathways for sustainable financial or technical support is a major challenge among GEF drylands 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 that 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 it had limited success. For example, in Malawi, the project attempted to establish a payment for ecosystem services (PES) approach around the Thumoro Forest Reserve, with communities selling green water credits and private sector entities buying them, but no concrete results were achieved due in part to implementation issues with the executing NGO. In Azerbaijan, a PES 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 post project. In Niger, CAP (GEF ID 3382) 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 ([World Bank IEG 2020b](#)). Under the third phase of CAP (GEF ID 5252), 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 ([World Bank IEG 2021](#)).

134. While follow-on investments have been successful in generating sustainable outcomes in countries like 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. For example, in Malawi, the activities in the areas of crop insurance were not operationalized before the project's closure, but the Adaptation Fund and the World Food Programme (WFP) have taken up the concept of crop insurance in Balaka district and other districts since the project ended, working with NGOs and other actors to implement a crop insurance scheme. The GEF project's crop insurance component was also catalytic for another UNDP project funded by the Green Climate Fund (GCF) on improved early warning systems and better farmer decision-making on climate change adaptation that is now completed. In Ethiopia, the SLMP program investments and practices are currently being scaled up to all remaining watersheds in the *woreda*, through a follow-up program to the SLMP, 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 SLMP watershed approach to other areas of Ethiopia.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

135. **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 STAR was revised to account for the challenge of combating desertification in drylands, in GEF-6 with drylands included in the objective statement, and in GEF-7 with the approval of the Dryland Sustainable Landscapes Impact Program and introduction of the LDN concept. GEF-8 saw an explicit objective on 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, 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 peri-urban 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 GEF Agencies.

**136. 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 have been gaps relative to other environmental challenges in drylands, these issues are starting to be identified and addressed through 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 drylands contexts, and 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 MFA drylands projects. LDCF and SCCF work on climate change adaptation is closely aligned with water management and security, and multi-trust fund projects that link with these funds have been valuable for pursuing highly intertwined environmental and climate change adaptation objectives in tandem in drylands.

**137. GEF drylands 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.** Drylands 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.

**138. 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 drylands countries have delivered satisfactory outcomes at a comparable rate to the overall GEF portfolio across all aridity sub-habitats and completed drylands 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 drylands 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.

**139. Working at the nexus between 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 drylands 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, drylands 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 drylands projects, as 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.



140. **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 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.

141. **Considering natural resource governance in the design of GEF drylands 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 evaluation. GEF projects developed capacity at local levels for decentralized and inclusive decision making and planning, though projects often established multistakeholder governance platforms that were not self-sustaining after project closure. GEF drylands 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 drylands projects have addressed conflict or land tenure. Land tenure is highlighted in the GEF programming directions and plays an important role in the framework of the UNCCD; the recent [Decision 26/COP.14](#) puts additional emphasis on this issue, providing a basis for deeper consideration in future GEF projects.

142. **Sustainability is less assured in drylands 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 drylands 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 drylands projects, especially given a history of underinvestment in drylands 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 SLM adoption and land restoration.

**143. Efforts to involve the private sector, key to reducing reliance on donor funding and achieving greater scale of outcomes, have been more limited but are improving.** Private sector engagement has more than doubled between earlier and newer drylands projects. Private sector engagement in GEF drylands 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 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 drylands contexts given issues with aggregation and connectivity to broader markets, lack of incentives for re-investing in drylands and the resulting capital leakage from common enterprises such as mining, and misperceptions of drylands as nonproductive or vacant despite them being actively used. The country case studies offered scant evidence of GEF projects addressing entrenched drivers of unsustainable private sector engagement in drylands.

## **Recommendations**

**144.** 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:

**145. RECOMMENDATION 1: As the GEF prepares to design and implement an official policy coherence framework for GEF-8, the 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 in length in a STAP brief on the topic ([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 drylands contexts, a greater reliance on phased, longer-term, and integrated approaches will also support effectiveness in enhancing policy coherence.

146. **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](#).

147. **RECOMMENDATION 3: The GEF Secretariat and Agencies should ensure that equal consideration is given in project and program design to both fostering synergies and mitigating trade-offs between 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 drylands projects, and project design should also carefully consider who will benefit depending on the solutions adopted.

148. **RECOMMENDATION 4: The GEF Secretariat should encourage 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 M&E systems was noted. When taken alongside the geospatial analysis and field-level data observation that suggested more localized sustainable results than that indicated by reported hectareage, 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.

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## **ANNEX I: APPROACH PAPER**

### **BACKGROUND**

1. The Global Environment Facility (GEF) was established in 1991 to serve as financial mechanism supporting countries in meeting their commitments to multilateral environmental conventions related to the achievement of global environmental benefits. From its 4<sup>th</sup> replenishment phase (GEF-4) onwards the GEF has been moving from a focal area siloed approach in which projects each address one environmental issue at a time toward more integrated programming. In GEF-6, integrated programming became a specific strategy to tackle the main drivers of environmental degradation and to achieve impact at scale. Tackling the main drivers of environmental degradation through integrated programming has been justified by the fact that many of these drivers overlap geographically and interact with each other, often extending their influence beyond national boundaries. This has implications on how GEF support is used in recipient countries. To participate in integrated multiple country initiatives, governments need to find a balance between their national sustainable development priorities and their commitments to contribute to the global goals of the multilateral environmental conventions they participate in. In this context, performance of GEF support in countries has been an increasing focus of attention for donors and recipient countries alike across GEF replenishment periods.
2. Starting in GEF-4, the Independent Evaluation Office (IEO) of the GEF responded to the demand for country level evidence by conducting Country Portfolio Evaluations (CPEs).<sup>18</sup> While comprehensive and appreciated especially by recipient countries, these evaluations focused each on only one country. As such, CPEs could not provide a representative, generalizable picture of what works and why in specific regional contexts or thematic portfolios. To address this shortcoming, in 2017 the IEO introduced the concept of Strategic Country Cluster Evaluations (SCCEs). SCCEs focus on a limited set of common themes across clusters of countries and/or portfolios involving a critical mass of GEF investments towards comparable or shared environmental challenges and have gained over the years a substantial experience with GEF programming.
3. This SCCE covers countries with a high share of drylands in their total land area. Drylands cover over 40 percent of the earth's land surface and are home to more than two billion people. Selection of drylands as the focus of this SCCE is based on dryland countries' 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

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<sup>18</sup> From 2006 to 2016 the IEO has conducted 26 CPEs using the country as the unit of analysis to examine the totality of GEF support across all GEF Agencies and programs.



security, all of which is at risk from dryland degradation. After a concise introduction underscoring the main drylands-related environmental and socioeconomic challenges and their importance in GEF programming strategies and interventions, this Approach Paper describes the rationale, objectives, key questions and design of the Drylands SCCE.

#### DRYLANDS: AT A CROSSROAD BETWEEN ENVIRONMENT AND DEVELOPMENT

4. Identified as land areas with an Aridity Index (AI) of less than 0.65,<sup>19</sup> drylands extend over more than 40 percent of the earth's land area. Drylands are classified in four types of sub-habitat (Table 1). Accounting for 21 percent of all the drylands, 'dry sub-humid' lands are often naturally dominated by broad-leaved savannah woodlands, fairly dense tree canopies, and perennial grasses. 'Semi-arid' 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 26 percent of all drylands and are often comprised by annual grasslands. 'Hyper-arid' lands cover 16 percent of the world's drylands. These lands are largely unvegetated, with most cultivation and plant growth concentrated in oases and croplands where plants are irrigated by local groundwater sources.

**Table 1:** Global figures for the four types of drylands

| Dryland sub-habitat | Aridity index | % global land area | % global population | % rangeland | % cultivated | % other   |
|---------------------|---------------|--------------------|---------------------|-------------|--------------|-----------|
| Dry Sub-humid       | 0.50–0.65     | 8.7                | 15.3                | 34          | 47           | 20        |
| Semi-arid           | 0.20–0.50     | 15.2               | 14.4                | 54          | 35           | 10        |
| Arid                | 0.05–0.20     | 10.6               | 4.1                 | 87          | 7            | 6         |
| Hyper-arid          | <0.05         | 6.6                | 1.7                 | 97          | 0.6          | 3         |
| <b>Total</b>        |               | <b>41.3</b>        | <b>35.5</b>         | <b>65</b>   | <b>25</b>    | <b>10</b> |

Source: Safriel *et al.*, 2005

5. In terms of land use, rangelands cover two thirds of the world drylands, a quarter of drylands are used for rainfed and irrigated farming, and around 10 percent are either forest lands or are occupied by towns and cities. While an estimated 44 percent of croplands and 50

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<sup>19</sup> The United Nations Convention to Combat Desertification (UNCCD) defines 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. The Aridity Index is a measure of the ratio between average annual precipitation and total annual potential evapotranspiration ([Joint Research Center, European Commission, 2019](#)). A land area with an AI of 0.65 or less indicates that potential evapotranspiration is at least 50 percent greater than actual mean precipitation.

percent of livestock worldwide are found in the drylands, food production represents only a fraction of the value 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 and other ecosystem services.<sup>20</sup> Overall, drylands 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 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, whilst accounting for 97 per cent of inorganic carbon reserves, due to the increasing accumulation of inorganic soil carbon as aridity increases ([Millennium Ecosystem Assessment, 2005](#)).

6. Water scarcity is the driver of the main environmental concerns 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, contributing to land degradation, due to 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. In the drylands such consequences are more acutely felt due to the relative scarcity of water. Estimates of the extent of land degradation in the drylands are between 25 and 30 percent of global land area.<sup>21</sup> Desertification, commonly defined as land degradation in arid, semi-arid and dry sub-humid 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 ([Carbon Brief, 2019](#)). Risks from desertification are projected to increase due to climate change. Under shared socioeconomic pathway SSP2 ('Middle of the Road') at 1.5°C, 2°C and 3°C of global warming, the number of dryland population exposed (vulnerable) to various impacts related to water, energy and land sectors (e.g. water stress, drought intensity, habitat degradation) is projected to reach 951 (178) million, 1152 (220) million and 1285 (277) million, respectively ([IPCC, 2019](#)). A growing number of countries, particularly in the developing world, are voicing concerns about the closely related challenges of Desertification, Land Degradation and Drought (DLDD).

7. Drylands populations rely largely on rural livelihoods, directly or indirectly managing land. Poverty levels in the drylands, measured in terms of literacy rates and health indices, are above average in most dryland countries. Adult female literacy rates in the humid lands of West

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<sup>20</sup> Over a third of the world's major river basins, as mapped by the World Resources Institute (WRI), fall at least 50 percent within the drylands.

<sup>21</sup> 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 et al., 2014](#)).

Africa, for example, are around 50 percent, but they drop to between 5 and 10 percent in the drylands. In the drylands of Asia, infant mortality rates are around 50 percent above the global mean ([Middleton et al., 2011](#)). Drylands are also home to many of the world's most populated cities. The way the 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 and increasing pressure on dryland biodiversity.

8. Poverty and desertification are closely related. Dryland populations are finding it increasingly difficult to continue practicing traditional sustainable land management due to rural population growth and a breakdown in local resource governance<sup>22</sup> that results in weak land tenure and conflicts between herders and farmers over the use of land. 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 the 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 give higher returns on investment than so-called high-potential lands.<sup>23</sup> More recent research conducted in the Sahel shows that every US dollar invested into dryland restoration yields on average US\$1.2 returns, and that at most, ten years are needed for restoration activities to break even from the social perspective, accounting for both market-priced and nonmarket ecosystem benefits ([Mirzabaev, A., Sacande, M., Motlagh, F. et al. 2021](#)).

#### **DRYLANDS IN GEF PROGRAMMING STRATEGIES**

9. Drylands have been part of successive Land Degradation Focal Area (LDFA) strategies since GEF-1 and GEF-2 through Operational Program 12, and featured also in GEF-3, when Land Degradation was established as a separate GEF focal area. GEF-4 and GEF-5 LDFA strategies specifically mention drylands in the description of sustainable agriculture and rangeland management, forest landscapes and integrated landscapes strategy objectives. Drylands-

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<sup>22</sup> 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.

<sup>23</sup> 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 \(ed\), 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](#)).

related objectives of GEF-6 LDFA strategy target sustainable land management, climate-smart agriculture and ecosystem services from forests.

10. Initially largely project-based, from GEF-4 onwards LDFA strategies in drylands are being increasingly implemented through a programmatic approach. Large programs like the Strategic Investment Program (SIP)/TerrAfrica in GEF-4 and the Great Green Wall Initiative (GGWI) in GEF-5 (Box 1) were followed in GEF-6 by the Resilient Food Systems Integrated Approach Pilot (RFS IAP),<sup>24</sup> and the Dryland Sustainable Landscapes (DSL) Impact Program in GEF-7.<sup>25</sup> Another major GEF-7 program, the Food Systems, Land Use, and Restoration Impact Program (FOLUR) provides countries with support aligned with the drylands-related objectives of the GGWI.<sup>26</sup>

#### **Box 1: TerrAfrica and GGWI**

Launched in 2008, the SIP/TerrAfrica program provided \$1 billion of development financing, including \$150 million in GEF resources and \$580 million from the International Development Association (IDA) of the World Bank Group, to invest in 36 projects across 27 countries. The SIP/TerrAfrica portfolio included 9 countries in the Sahel region and eventually became the catalyst for the next generation of integrated landscape management investments in the GGWI. 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. The Sahel and West Africa Program in Support of the GGWI (SAWAP), a \$1.1 billion multi-trust fund programmatic approach to implement SLM in targeted landscapes and climate vulnerable areas in 12 countries, is financed by the GEF, the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF), the IDA, and country contributions.

11. Drylands received increased attention in GEF-7. The Land Degradation Global Benefits Index (LD GBI) of the System for Transparent Allocation of Resources (STAR) was revised to account for the challenge of combating desertification in drylands, including the need for

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<sup>24</sup> With an envelope of US\$116 million GEF grant and US\$805 million co-financing, 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. Eight out of 12 RFS child projects are drylands related.

<sup>25</sup> With a US\$95.8 million GEF grant and US\$809 million co-financing the DSL program 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.

<sup>26</sup> At the time of this writing, 28 child projects out of 31 are identified under FOLUR as drylands-related, totaling US\$286.67 million grant funding and US\$2,578.56 million cofinancing.

adaptation to drought risks ([GEF, 2018](#)). Since then, the land degradation STAR allocation for all countries includes a 0.6 weight for proportion of dryland area (i.e., the higher the proportion of drylands in a country, the higher is the STAR allocation).

12. Drylands continue to feature prominently in GEF programming in GEF-8. The LDFA 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, 2022](#)). The LDFA strategy aligns with GEF’s vision to achieve healthy and resilient ecosystems by promoting Sustainable Land Management (SLM) and supporting the achievement of Land Degradation Neutrality (LDN).<sup>27</sup> 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 the implementation of relevant aspects of national drought plans, LDN target setting, and other drought-related activities falling within GEF’s mandate to generate global environmental benefits. As for the LDFA-specific support modalities, joint programming with other GEF focal areas is planned 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 the natural resource management sectors.

#### **GEF SUPPORT TO DRYLANDS**

13. Over the years, the GEF has invested a substantial share of its funding in the sustainable management of drylands, reflecting the programmatic directions described in the previous section. A simple text search on the GEF Portal identified 379 projects focusing on drylands all over the world since GEF-4 to GEF-7, totaling US\$2,39 billion in grants, equivalent to 11 percent of the total GEF-4 to GEF-7 financing.<sup>28</sup> With the launch of two large impact programs having a substantial share of their financing dedicated to dryland interventions, namely the DSL and the FOLUR, GEF support to drylands increased substantially in GEF-7, reaching over US\$996.29 million in grants and US\$7,46 billion in co-financing (Figure 1).

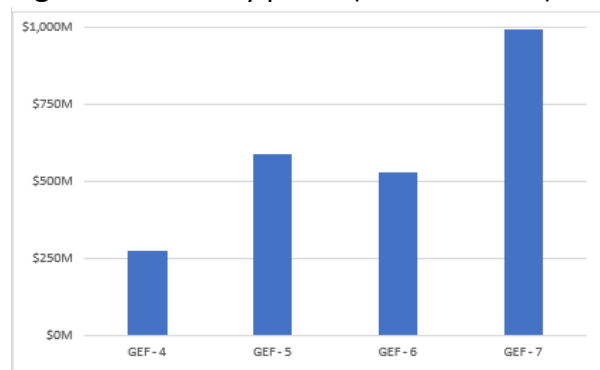
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<sup>27</sup> LDN aims to balance anticipated losses in land-based natural capital and associated ecosystem functions and services with measures that produce alternative gains through approaches such as land restoration or rehabilitation, and SLM ([UNCCD, 2016](#)).

<sup>28</sup> Drylands-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’ or ‘sustainable land and agroecosystem management’ in three fields: 1) Project Title, 2) Project Components, and 3) Project Objective. After reviewing the text that came up in the field, a judgement was made about whether to include or exclude the project based on its emphasis on drylands or semi-arid landscapes.

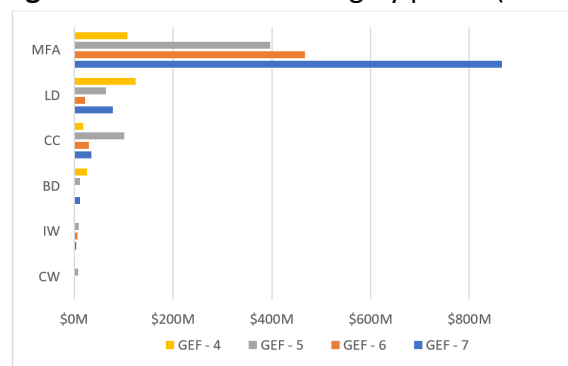
14. Eighty four percent of GEF-4 to GEF-7 drylands-related financing comes from the GEF Trust Fund. The balance is funded through the Least Developed Countries Fund (LDCF) with six percent, the Special Climate Change Fund (SCCF) with one percent, and nine percent is invested in Multi Trust Fund (MTF) projects. Multifocal support, accounting for US\$1,83 billion grant funding and including both the DSL and the FOLUR GEF-7 Impact Programs, constitutes the large majority of the GEF-4 to GEF-7 drylands-related investment, followed by land degradation, accounting for US\$289 million (Figure 2).

**Figure 1:** Grants by phase (GEF-4 – GEF-7)



Source: GEF Portal

**Figure 2:** Focal area funding by phase (GEF-4 – GEF-7)

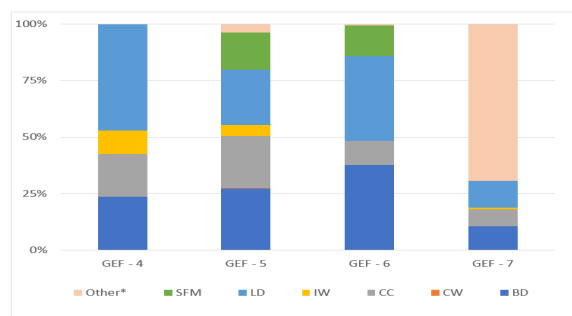


Source: GEF Portal

15. The main share of funding for multifocal interventions originates from funds earmarked to biodiversity, climate change and land degradation. The land degradation and biodiversity shares in multifocal funding maintained comparable levels from GEF-5 to GEF-7. These two funding shares declined in GEF-7 due to their inclusion in impact programs together with Sustainable Forest Management (SFM) and climate change funding (Figure 3).

16. The number of GEF Agencies involved in drylands interventions has increased across the GEF replenishment periods mainly due to the shift in GEF programming towards integrated interventions, typically involving greater focal area coverage and often spanning across multiple GEF geographic regions. Agency technical specialization has become more important: with 18 percent of the total funding dedicated to drylands-related projects, FAO, a specialized UN Agency, is the third largest implementer after the World Bank and UNDP (Figure 4).

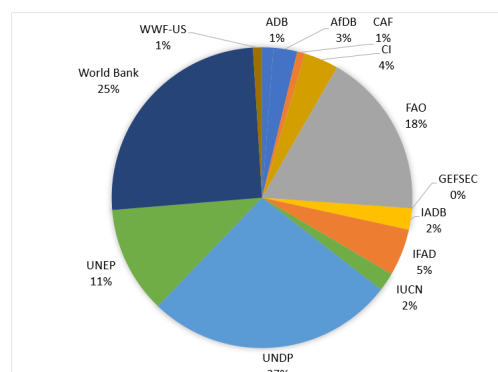
**Figure 3:** Multifocal support by funding component (GEF-4 – GEF-7)



Source: GEF Portal

Note: Other\* includes funding for multifocal projects not disaggregated by focal area, IAPs and Impact Programs.

**Figure 4:** Grants share by Agency (GEF-4 – GEF-7)



Source: GEF Portal

17. Thirty six percent of GEF drylands-related support is constituted by projects under implementation, the majority of which are GEF-6 interventions. (Table 2).

**Table 2:** Project status by GEF phase (GEF-4 – GEF-7)

| Project Status             | GEF - 4   |                 | GEF - 5    |                 | GEF - 6   |                 | GEF - 7    |                   | Totals     |                   |
|----------------------------|-----------|-----------------|------------|-----------------|-----------|-----------------|------------|-------------------|------------|-------------------|
|                            | #         | US\$M           | #          | US\$M           | #         | US\$M           | #          | US\$M             | #          | US\$M             |
| Pending Approval           |           |                 |            |                 | 3         | \$16.10         | 30         | \$201.92          | 33         | \$218.02          |
| PIF/PPG Approval/clearance |           |                 |            |                 |           |                 | 12         | \$5.15            | 12         | \$5.15            |
| Council Approved           |           |                 |            |                 |           |                 | 37         | \$272.19          | 37         | \$272.19          |
| CEO Approved / Endorsed    |           |                 |            |                 | 12        | \$52.38         | 48         | \$368.76          | 60         | \$421.14          |
| Under Implementation       |           |                 | 40         | \$275.10        | 54        | \$434.70        | 14         | \$148.28          | 108        | \$858.07          |
| Completed / Closed         | 64        | \$276.06        | 62         | \$315.90        | 3         | \$24.90         |            |                   | 129        | \$496.93          |
| <b>Totals</b>              | <b>64</b> | <b>\$276.06</b> | <b>102</b> | <b>\$591.00</b> | <b>72</b> | <b>\$528.09</b> | <b>141</b> | <b>\$1,403.40</b> | <b>379</b> | <b>\$2,391.44</b> |

Source: GEF Portal

18. Forty seven percent of GEF financing support to drylands from GEF-4 to GEF-7 has been provided through programmatic child projects. Funding for child projects decreased to 11 percent in GEF-5 but rose again to 24 percent with the IAPs in GEF-6 and 44 percent in GEF-7 with the Impact Programs (Table 3).

**Table 3:** Programmatic versus nonprogrammatic support by GEF phase (GEF-4 – GEF-7)

| Replenishment Phase | Programmatic support<br>(Child Projects) |          | Nonprogrammatic support<br>(Standalone Full- and Medium-sized Projects, and Enabling Activities) |          | Totals |          |
|---------------------|------------------------------------------|----------|--------------------------------------------------------------------------------------------------|----------|--------|----------|
|                     | #                                        | US\$M    | #                                                                                                | US\$M    | #      | US\$M    |
| GEF – 4             | 53                                       | \$222.68 | 11                                                                                               | \$52.38  | 64     | \$276.06 |
| GEF – 5             | 21                                       | \$133.95 | 81                                                                                               | \$457.06 | 102    | \$591.00 |
| GEF – 6             | 27                                       | \$271.95 | 45                                                                                               | \$256.13 | 72     | \$528.09 |
| GEF – 7             | 50                                       | \$494.91 | 91                                                                                               | \$501.37 | 141    | \$996.29 |

Source: GEF Portal

#### AVAILABLE EVALUATIVE EVIDENCE

19. Evidence from evaluations conducted by the GEF IEO and GEF Agencies' evaluation units provides an informative picture of what is known already about what works, how and why in dryland settings. It also helps identify a few specific issues to be covered by this evaluation. For example, the issue of over-targeting. The latest Annual Performance Report (APR) indicates that the GEF is unlikely to meet five of the GEF-5 targets for 13 of the corporate environmental results indicators. Although not drylands-specific, two of these indicators can be related to drylands: (i) "agricultural/rangeland systems under sustainable land management", and (ii) "wider landscapes under sustainable management". As the corporate targets for these two indicators were higher than the aggregate targets of approved GEF-5 projects, the APR concludes that target setting for GEF-5 period related to sustainable land management seemed to be too aspirational and unrealistic ([GEF IEO, 2021](#)).

20. GEF-6 evaluative evidence consistently indicates that the GEF focal area strategies have been responsive to the guidance from the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). Both the Sixth Comprehensive Evaluation of the GEF (OPS6) ([GEF IEO, 2018](#)) and one of its component studies, the Land Degradation Focal Area Study ([GEF IEO, 2017](#)) note that the GEF LDFA Strategy on combating desertification in Africa with emphasis on drylands is aligned with UNCCD global priorities. The land degradation study reports that as UNCCD expanded the scope of the LDN framework from drylands to include global lands ([Safriel, 2017](#)), new projects in the GEF-6 pipeline had increased their focus on responding to LDN targets through both SLM and restoration activities. However, OPS6 reports that about three-quarters of these did not include a restoration component. The balance between SLM, restoration and rehabilitation in GEF interventions in dryland settings may be different today. To note, GEF support earmarked to the land degradation focal area addresses



unsustainable land management practices and degradation issues beyond arid, semi-arid, and dry sub-humid areas as driven by country priorities and needs.

21. The Strategic Country Cluster Evaluation (SCCE): Sahel and Sudan-Guinea Savanna Biomes ([GEF IEO, 2022a](#)) is the most geographically relevant GEF IEO evaluation, as both biomes are characterized by arid and semi-arid climates with strong climatic variation and irregular rainfall. The SCCE notes that climate can severely impact household livelihoods in many parts of these two biomes' drylands, especially in the Sahel. Evidence indicates that in these countries, sustainability of project outcomes takes time to materialize, with financial sustainability being the biggest challenge. Sustainability is enhanced in interventions operating locally at the nexus between environment and development objectives. In its recommendations, the SCCE underlines the importance of planning at the design stage for setting up viable financial mechanisms and measures to continue delivering benefits after project completion.

22. The Evaluation of GEF Support to Sustainable Forest Management (SFM) notes that most GEF forest work has focused on tropical forests and that SLM practices have often been preferred over more expensive restoration activities due to their direct linkages with food security and livelihoods benefits ([GEF IEO, 2022b](#)). Findings from this evaluation indicate that forests of high environmental value and high levels of needs are relatively neglected in drylands. Forests such as Miombo, Mopane, tropical dry forests and central Asian forests have benefited from comparatively few GEF interventions. Some dryland countries were underfunded given the levels of deforestation threat as well as forests' intimate connections with livelihoods and local economies.<sup>29</sup> While dryland forests have been part of the GEF LDFA strategies of earlier GEF replenishment periods, these forests have only been explicitly mentioned since GEF 5 through GEF 7. It is only recently that the GEF started focusing on the drylands through the GEF-7 DSL Impact Program. However, funding for this program was limited thus allowing only half of the countries that applied to be included in the program.

23. Project level evaluative evidence on what works, how and why in dryland areas is included as case studies in several GEF IEO evaluations. In the Syria CPE, the regional project *Conservation and Sustainable Use of Dryland Agrobiodiversity* (GEF ID 400) disseminated over 16 target varieties of wild relatives of fruit trees and native species while promoting alternative land-use practices through collaboration with farmers. This approach was replicated to other agricultural lands across the country ([GEF IEO, 2009](#)). The Nicaragua CPE assessed the *Conservation of Dry Forest and Coastal Biodiversity of the Pacific Coast of Southern Nicaragua: Building Private-Public Partnerships* project (GEF ID 1735) as being overly ambitious and weak in design in terms of what can be achieved during the lifetime of a project given the scale of the

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<sup>29</sup> Underfunding is to be read with the understanding that the GEF provides opportunities, entry points and/or incentives. The priorities that countries chose to invest in are decided by the countries themselves.

challenges ([GEF IEO, 2012](#)). In the Country Cluster Portfolio Evaluation: GEF Beneficiary Countries of the Organisation of Eastern Caribbean States (OECS), the *Dry Forest Biodiversity Conservation* project (GEF ID 815) in Grenada was not making significant progress toward impact level results because it didn't have strong stakeholder ownership from national institutions during design and implementation ([GEF IEO, 2012a](#)).

24. More recent examples are reported in the Seventh Comprehensive Evaluation of the GEF (OPS7). Among these is the Great Green Wall Initiative cited in the previous section, implemented through an integrated ecosystem management approach. This approach includes integrating sustainable dryland management and restoration, regeneration of natural vegetation, and water retention and conservation measures. Engaging a wide range of stakeholders promoted by GGWI, including national governments, international organizations, private sector and civil society, all of which working together under pan-African coordination has been instrumental to help halt land degradation ([GEF IEO, 2022](#)).

25. Both the Evaluation of Multiple Benefits of GEF's Support through its Multifocal Area Portfolio ([GEF IEO, 2018a](#)) and the Evaluation of Programmatic Approaches in the GEF ([GEF IEO, 2018b](#)) highlight the case of the project *An Integrated Ecosystem Management (IEM) Approach to the Conservation of Biodiversity in Dryland Ecosystems* (GEF ID 2369), implemented under a partnership between the People's Republic of China and the GEF. The GEF-PRC partnership aimed to address desertification, deforestation, and biodiversity loss resulting from land degradation in three of China's western dryland provinces. Under IEM, a set of principles was developed to involve local stakeholders (i.e., local governments, local research institution, and universities) to build capacity to combat land degradation through a bottom-up approach, which was a new approach for China.

26. The Evaluation of the Role of Medium-Sized Projects (MSP) reported on the impact of the *Enabling Sustainable Dryland Management through Mobile Pastoral Custodianship: World Initiative on Sustainable Pastoralism* project (GEF ID 3660), which started out as a policy-oriented initiative to help institutionalize sustainable development in rangelands and pastoral systems into a larger regional program. The project was leveraged and became catalytic in upgrading IUCN's Eastern Africa Drylands program for sustainable land management within pastoral systems and contributed to the Global Environment Benefit 2, which relates to sustainable land management ([GEF IEO, 2020](#)).

27. GEF Agency evaluation offices have looked at aspects of drylands mostly in relation to either natural resources management or agriculture. An evaluation on natural resources degradation and vulnerability by the Independent Evaluation Group (IEG) found that the World Bank has not adequately addressed the vulnerability of resource dependent people where resource degradation threats are prominent ([World Bank, 2021](#)). A joint IFAD/FAO evaluation on engagement in pastoral development highlighted that the facts that pastoral systems in dryland economies continues to produce substantial economic value despite the lack of

infrastructures and an often unhelpful policy environment, suggests high potential returns to investment under conditions of structural variability in these contexts ([FAO OED/IFAD IOE, 2016](#)). Both the Evaluation on the Role and Contribution of UNDP in Environment and Energy ([UNDP, 2008](#)) and the Evaluation of UNDP Contribution to South-South and Triangular Cooperation ([UNDP, 2013](#)) discuss how the Drylands Development Centre (DDC) supported by UNDP has contributed to the development of strategies tied to drought.

#### **PURPOSE, OBJECTIVES AND APPROACH**

28. The purpose of the Drylands 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. This evaluation is designed to feed into the 8<sup>th</sup> Comprehensive Evaluation of the GEF (OPS-8).

29. The Drylands SCCE has two overarching objectives:

- a) assessing the relevance and coherence of GEF investments in dryland countries, and
- b) assessing GEF results and sustainability in terms of environmental benefits and associated socioeconomic co-benefits in dryland countries.

30. Gender will be assessed as cross-cutting issue, in consideration of the widely recognized importance of supporting women's empowerment in dryland regions ([NRI, 2015](#)). Other cross-cutting issues include the private sector role in dryland restoration, rehabilitation and SLM, and resilience to both climate and non-climate related shocks and stresses.

#### **KEY EVALUATION QUESTIONS**

31. Based on the above evaluation purpose and objectives, the Drylands SCCE will seek to answer the following questions:

*KQ1) To what extent has GEF support been relevant to the specific environmental challenges in dryland countries, and are there any gaps?*

32. Land degradation and desertification are more pronounced in drylands and lead faster to environmental decline than in other world ecoregions. The impacts of climate-related events such as drought and floods in drylands are likely to exceed tipping points where total crop failure and significant biodiversity loss are possible. Population growth combined with the effects of high climate variability weakens local natural resource governance with increasingly frequent conflicts between herders and farmers over the use of land. Drylands host several fragile states and are subject to conflict-related out-migrations. There's more poverty in drylands than elsewhere. The specificities of drylands environmental and related socioeconomic challenges will be considered in a relevance gap analysis.

33. The available evaluative evidence indicates that the GEF is in line with UNCCD on incorporating more programs and projects in dryland areas, but recent findings point at unaddressed critical dryland forest ecosystems. While the current GEF LDFA Strategy is aligned with UNCCD priorities on combating desertification in Africa with emphasis on drylands, other important dryland world regions may be neglected. This analysis will be cognizant of the fact that the GEF land degradation focal area support addresses unsustainable land management practices and degradation issues that go beyond arid, semi-arid, and dry sub-humid areas as driven by country priorities and needs.

*KQ2) 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?*

34. This question intends to be forward looking as it relates to the GEF-8 focus on supporting enhancement of country policy coherence and tackling disincentives to nature protection and climate mitigation. The analysis will take an in-depth look at GEF's long and diverse support to countries' environmental policies and laws over the last four replenishment periods to see if and how it has influenced environmental policy coherence. Policy coherence will be predominantly assessed in case studies, given that it affects different ministries/sectors.

*KQ3) To what extent have GEF interventions in dryland countries produced their targeted environmental outcomes and associated socioeconomic co-benefits?*

35. Both literature and project level evidence clearly show that environmental considerations are deeply intertwined with socioeconomic needs in developing countries, where 90 percent of drylands population lives. The effectiveness analysis will aim at producing a balanced assessment of GEF performance with respect to main environmental and socioeconomic outcomes of its drylands-related support. Factors highlighted by existing evaluative evidence such as the appropriateness of drylands-specific metrics related to land degradation and SLM, and how realistic has GEF corporate target setting been post GEF-5, will be looked at as part of both aggregate analyses and case study deep dives.

*KQ4) Have natural resource governance and other socioeconomic factors been considered in the design and implementation of GEF drylands interventions, and if yes, with what results and sustainability?*

36. Dryland populations have thus far been unable to adapt to changes in the nature and magnitude of threats to the resources they need for their livelihoods. The traditional mechanisms governing resource use are breaking up. Often, this results in social conflicts of different nature over equitable and sustainable resource use. At the same time, the integration of socioeconomic development with environment conservation/sustainable use both at national and local levels are particularly important for the sustainability of GEF interventions,

especially in dryland areas. While generally supported by GEF decision makers, the type and intensity of efforts and resources deployed to support such integration often depend on the interest of country governments. Many among them believe it is difficult to achieve both objectives at the same time, considering that rather than a nexus, major trade-offs exist between environment and socioeconomic/livelihoods objectives. An example of trade-off is when SLM is prioritized over natural landscape restoration because of livelihood needs, as highlighted by the land degradation focal area study and the SFM evaluation.

37. Members of the GEF-8 Replenishment Group reiterated their continued interest in having a deeper understanding of the factors contributing or hindering the sustainability of outcomes. OPS7 highlighted the importance of engaging a wide range of stakeholder for ownership, a contributing factor mentioned in several of the evaluations discussed in the previous section. Sustainability of outcomes will be assessed in depth, with the aim of understanding what are the most important hindering as well as the main contributing socioeconomic factors at play in dryland countries, with a focus on local resource governance. Information on resource governance extracted from project documents and collected during country case studies will be used to assess how GEF interventions plan to influence and/or have influenced local resource governance mechanisms and structures, including through capacity building activities targeting effective and equitable stakeholder participation in sustainable resource management.

*KQ5) 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?*

38. The importance of supporting and empowering women living in drylands is widely recognized. After five years since its introduction, it will be possible to critically assess the effectiveness of the GEF policy on gender equality ([GEF, 2017](#)) in terms of performance on gender and women's empowerment in dryland settings. Case study deep dives will review if gender performance on paper translates into real women's empowerment on the ground. As for resilience, a key aspect in the geographic regions covered by this evaluation, the analysis will look at how resilience is considered in project design and implementation.

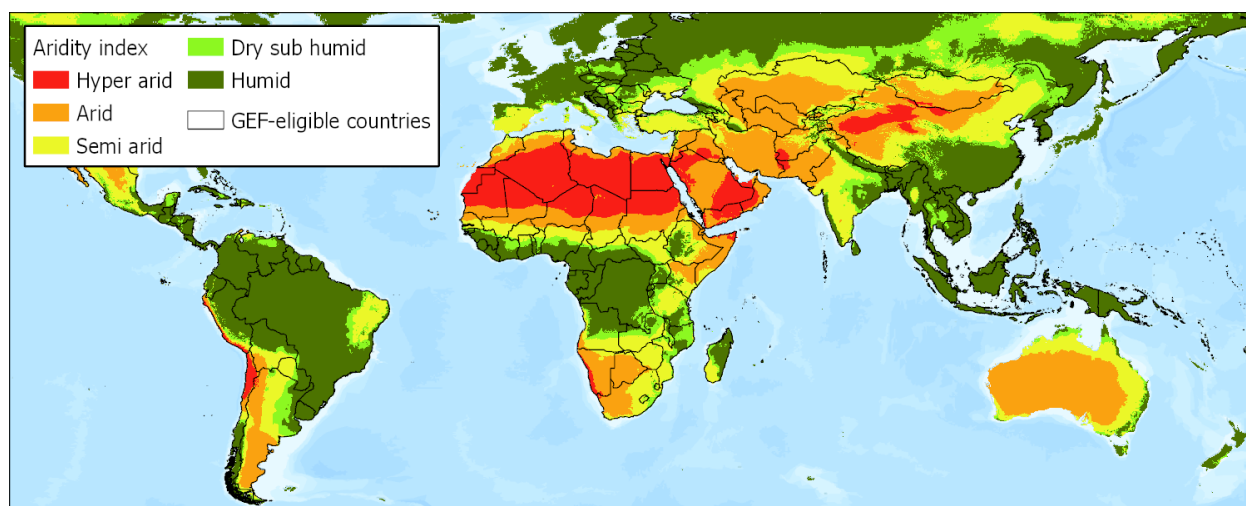
39. The role of the private sector in drylands is underestimated and will be assessed as a cross-cutting issue. As seen, drylands have often been neglected in terms of investment, security and basic services. The literature reviewed, however, provides examples showing that drylands can give higher returns on investment than so-called high-potential lands. Research conducted in the Sahel found that every US dollar invested into dryland restoration yields higher returns than \$1. A joint IFAD/FAO evaluation on engagement in pastoral development highlighted that the fact that pastoral systems in dryland economies continue to produce substantial economic value despite the lack of infrastructures and an often unhelpful policy environment, suggests high potential returns to investment in these contexts. The potential and

actual role for the private sector in dryland settings will be looked at for restoration, rehabilitation as well as sustainable land management activities, among others.

## SCOPE

40. The portfolio of drylands-related interventions covered in this evaluation includes projects that deal specifically with drylands-related environmental issues (i.e., 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, defined as lands with an aridity index of less than 0.65.<sup>30</sup> 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. A global aridity index map was used to calculate the percent of drylands for each GEF eligible country (Figure 2).

**Figure 2: Global Aridity Index Map**



Source: Trabucco, A., and Zomer, R.J., 2018

41. The Drylands SCCE will selectively focus on GEF interventions from GEF-4 to date, irrespective of under which GEF focal areas these were categorized. All drylands-related full- and medium-sized projects within this period are included in the scope, regardless of whether these are part of a program (i.e., as child projects) or not. Enabling activities will be reviewed as part of the relevance and policy coherence analysis. The Small Grants Programme (SGP) is excluded from the scope as it has just been subject of a major joint evaluation by the GEF and the UNDP IEOs. Geographically, the evaluation will focus on drylands related GEF interventions

<sup>30</sup> Global Aridity Index and Potential Evapotranspiration (ET<sub>0</sub>) Climate Database v2. CGIAR Consortium for Spatial Information (CGIAR-CSI). Published online, available from the CGIAR-CSI GeoPortal at <https://cgiarcsi.community>

in Central Asia, in Middle East and North Africa (MENA), in the Latin America and Caribbean (LAC) and in the Southern Africa regions. GEF-7 SCCEs' evaluative evidence will be used for West, East and Central Africa drylands.

42. The application of the scoping criteria described in the previous paragraphs resulted in the initial selection of 220 projects. This selection has been refined by screening for reference of humid areas based on easily identifiable language from relevant sections of the project documents. Those projects that work only in humid areas or wetlands have been excluded. Later on, during the portfolio and document reviews in the evaluation phase, if it clearly emerges that a project primarily focuses on humid areas it will be excluded at that point.

#### **EVALUATION DESIGN AND APPROACH**

43. The SCCEs conducted in GEF-7 have demonstrated the effectiveness of applying a contained focus on selected themes coupled with a zoom-in approach that starts from aggregate analyses providing main trends as well as cases of positive, absent or negative change, to deep dive in those themes and unpack them through purposive evaluative inquiry ([Carugi C., Viggh A., 2021](#)). As was the case with GEF-7 SCCEs, a zoom-in, sequential approach will be applied to this SCCE, with deep dives on selected themes in specific countries, projects and sites, starting from aggregate analysis of the GEF portfolio covered in this evaluation, available terminal evaluations from the GEF IEO Terminal Evaluations database and geospatial data at multiple scales. An evaluation matrix composed of the five key questions, relevant indicators, sources of information and methods has been prepared separately to guide the evaluation data gathering and analysis.

44. Clustering by dryland ecoregion/biome grouping (i.e., West Africa savannas; Miombo and Mopane ecosystems in Southern Africa; Central Asia grasslands, savannas and shrublands; among others) and aridity typology (arid, semi-arid, dry sub-humid) will be done prior to aggregate analyses and selection of countries and projects for case studies. Desk review techniques (through targeted document review protocols) will be used for answering the relevance, policy coherence, effectiveness, and sustainability questions as well as the cross-cutting question on gender, resilience, and private sector. The policy coherence analysis will use existing evaluative evidence and collect new data in-country in the form of official documents (policies, laws, other) as well as in-country perception gathering activities such as interviews with government representatives from various ministries. Effectiveness and sustainability analyses will be based on information and ratings extracted from terminal evaluations of completed projects as well as from case study deep dives. Gender will be analyzed through document review, portfolio analysis and case studies. The resilience analysis will use an adapted version of the Resilience, Adaptation and Transformation Analysis Framework (RAPTA) ([CSIRO, 2019](#)). Both the actual and potential roles of the private sector in dryland settings will be analyzed through aggregate analyses and case study deep dives.



45. A geospatial analysis will be used for answering the relevance of geographic targeting of GEF drylands-related interventions within the countries with a majority of their area covered by drylands included in the evaluation's portfolio. The analysis will overlay geospatial datasets that represent key indicators for environmental and socioeconomic issues that are most critical in drylands such as water scarcity, land degradation and food security.<sup>31</sup> Areas with high occurrence and severity of these issues will be compared with where the GEF's projects are located at the country or subnational level. This analysis will benefit from the geocoding and related geospatial analysis conducted for previous IEO evaluations, which will provide an indication of the global distribution of the dryland portfolio. The focus will be on projects with outcomes that can be observed geospatially. These include projects in the following focal areas: land degradation, climate change adaptation, SFM and biodiversity. Multifocal projects and regional programs composed of two or more of these focal areas will also be included in this analysis. Additionally, as done in previous SCCEs, geospatial analysis will be used to understand environmental and socioeconomic change before, during and after GEF interventions in case study areas. Change of local environmental conditions will be measured using indicators such as (but not limited to): (i) forest loss as a proportion of the total land area ([Hansen et al., 2013](#) and [Curtis et al., 2018](#)); and (ii) Normalized Difference Vegetation Index (NDVI) ([Didan, 2021](#)) as a proxy indicator to examine, as feasible, the long-term spatial and temporal patterns of land productivity measured as vegetation density, among others. Limitations and sources of uncertainty in the datasets used will be acknowledged and considered. Results will help case study teams select locations to prioritize during field visits and help inform conversations with stakeholders.

46. The aggregate analyses—together with the geospatial analyses—will inform the selection and design of the case studies for this evaluation, in which the factors driving performance and sustainability of drylands-related interventions will be explored in depth. The plan is to conduct a limited - yet as representative as possible - number of case studies, identified based on the results of the portfolio and the geospatial analyses and given the need to cover project sites. To select them, the aggregate analyses will help identifying hotspots of sustained (or absent) environmental change to which the GEF contributed. Select project post-completion verifications will be conducted as part of case studies.

47. Triangulation of the information and qualitative as well as quantitative data collected will be conducted at completion of the data analysis and gathering phase to determine trends and identify the main findings, lessons and conclusions.

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<sup>31</sup> The most up to date datasets on land cover change and natural ecosystem fluxes such as (but not limited to) those collated by the [WRI Land and Carbon Lab](#) will be used for this analysis.



## **QUALITY ASSURANCE AND LIMITATIONS**

48. In line with IEO's quality assurance practice, two quality assurance measures will be set up for this evaluation. The first is a Reference Group, composed of representatives from the GEF Secretariat, GEF Agencies, STAP and CSO network. The Reference Group will: (i) provide feedback and comments on the approach paper, the preliminary findings and the evaluation report; (ii) help ensuring evaluation relevance to ongoing as well as future operations; 3) help identifying and establishing contact with the appropriate individuals for interviews/focus groups; and 4) facilitate access to data and information. The second quality assurance measure is an external peer reviewer, identified either from GEF Agency evaluation offices or from other recognized evaluation institutions, with experience in country-level and/or environmental evaluation. Her/his role is to advise throughout the evaluation process on: (i) the soundness of evaluation design, scope, questions, methods and process described in the approach paper; and (ii) implementation of the methodology and implications of methodological limitations in the formulation of the conclusions and recommendations in the draft and final reports.

49. Two limitations can be identified at this stage: (i) The availability and the quality of data in the portfolio (as not specifically mandated in the GEF, dryland interventions are not tagged in the GEF Portal); and (ii) Uncertainty about the conduct of field visits due to World Bank-imposed, Covid-related travel restrictions. The first limitation will be addressed by cross-checking the portfolio information downloaded from the GEF Portal with the management information systems of GEF Agencies as a priority before undertaking any analysis. The second limitation will be mitigated by selecting countries where Covid rates are such that travel is allowed by both Word Bank and host country rules, and/or by hiring national consultants for the data gathering activities to be conducted during field missions to countries. The team will report on how these as well as other emerging limitations will be dealt with during the evaluation data gathering and analysis phase.

## **AUDIENCE AND STAKEHOLDER ENGAGEMENT**

50. The primary audience of this SCCE is the GEF Council. In addition, the evaluation will provide evidence that could be used to inform the GEF Secretariat's appraisal of project proposals coming from dryland countries. It could also be of interest to the broader constituency of GEF Agencies, to GEF member countries and nongovernmental partners engaged in project design in dryland settings.

51. Regular stakeholder interaction will be sought with the GEF Secretariat, relevant GEF Agencies, STAP, and relevant country Operational Focal Points (OFPs) and other national stakeholders and key informants during country studies to enhance the evaluation process. This will include consultation and outreach while the evaluation is under way, and dissemination and outreach once the evaluation is complete. During evaluation preparation, the team will solicit feedback and comments from stakeholders to improve the evaluation's accuracy and

relevance. An added benefit to engaging stakeholders during the evaluation process is stimulating interest in the evaluation results. The principles of transparency and participation will guide this process. Stakeholder interaction will provide qualitative data to supplement quantitative data, case study analyses and other research.

## PROCESS, DELIVERABLES AND DISSEMINATION

52. The Drylands SCCE is being conducted between January 2022 and December 2023. The evaluation is conducted in two phases: I) aggregate analysis (portfolio, geospatial, terminal evaluations database, quality at entry, other); and II) field verifications (case studies). Geospatial analysis will be conducted in the second half of 2022, once the projects datasets geolocation task will be completed. Field verifications for case studies will start in the first half of 2023, once the results of the aggregate portfolio and geospatial analyses will be available. An initial work plan is presented here below. The work plan will be revised and fine-tuned as part of further preparations.

### Timetable

| Task                                              | Year  | 2022 |     |     |     |     |     |     |     |     |     |     |     | 2023 |     |     |     |     |     |     |     |     |     |     |     |
|---------------------------------------------------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                                                   | Month | Jan  | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan  | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| <b>Approach Paper</b>                             |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Background information & portfolio data gathering |       | x    | x   | x   | x   | x   |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Approach Paper discussed with the reference group |       |      |     |     |     |     | x   |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Finalizing the approach paper                     |       |      |     |     |     |     |     | x   | x   |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| <b>Data gathering and analysis</b>                |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Desk review/Portfolio analysis                    |       |      |     |     |     |     |     | x   | x   | x   | x   |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Geospatial analysis                               |       |      |     |     |     |     |     |     | x   | x   | x   | x   |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Quality at entry and other analyses               |       |      |     |     |     |     |     |     | x   | x   | x   | x   | x   |      |     |     |     |     |     |     |     |     |     |     |     |
| Country case studies                              |       |      |     |     |     |     |     |     |     |     |     |     | x   | x    | x   | x   | x   | x   |     |     |     |     |     |     |     |
| Triangulation brainstorming                       |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     | x   |     |     |     |     |     |     |     |
| Gap filling                                       |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     | x   | x   |     |     |     |     |     |     |
| <b>Report writing</b>                             |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| Draft report                                      |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     | x   | x   |     |     |     |     |
| Due diligence (addressing feedback and comments)  |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     | x   |     |     |     |     |     |
| Final report                                      |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     | x   |     |     |     |
| Presentation to Council                           |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     | x   | x   |     |
| Dissemination and outreach                        |       |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     | x   |     |

## RESOURCES

The Drylands SCCE is being conducted by a team led by a Senior Evaluation Officer from the IEO with oversight from the Chief Evaluation Officer and the Director of the IEO. The team will include one IEO Evaluation Officer for geospatial analysis related tasks and one IEO research assistant. The evaluation team will be supplemented by a team of evaluation analysts (STC) to help with desk reviews, portfolio analyses and with project site geocoding. National and/or international consultants with thematic and/or regional expertise will be selected for countries case studies and other related data gathering, analysis and reporting tasks. The evaluation will benefit from these consultants' extensive knowledge of context and issues at hand in the case study countries. The number and typology of consultants will depend on the projects and countries selected for the case studies. The required skills mix includes practical, policy, and/or academic expertise in key GEF focal areas of the projects and programs under analysis (SLM, land degradation, climate change adaptation, biodiversity, among others), evaluation experience and knowledge of external information sources that are relevant to GEF activities in the case study countries.

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**ANNEX II: LIST OF GEF DRYLANDS PROJECTS AND PROGRAMS**

| GEF ID | Title                                                                                           | GEF Phase | Lead Agency | Country    | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
|--------|-------------------------------------------------------------------------------------------------|-----------|-------------|------------|------------|----------------|---------------------------------------|---------------------|
| 2139   | SIP: Transboundary Agro-Ecosystem Management Programme for the Kagera River Basin (Kagera TAMP) | GEF - 4   | FAO         | Regional   | LD         | GET            | Financially Closed                    | Yes                 |
| 2184   | SIP: Stimulating Community Initiatives in Sustainable Land Management (SCI-SLM)                 | GEF - 4   | UNEP        | Regional   | LD         | GET            | Financially Closed                    | Yes                 |
| 2268   | SIP: Integrated Ecosystem Management in Four Representative Landscapes of Senegal, Phase 2      | GEF - 4   | UNDP        | Senegal    | LD         | GET            | Financially Closed                    | Yes                 |
| 2505   | SFM Sustainable Forest Management in the Transboundary Gran Chaco American Ecosystem            | GEF - 4   | UNEP        | Regional   | MF         | GET            | Project Implemented                   | Yes                 |
| 2794   | SIP: Country Program for Sustainable Land Management (ECPSLM)                                   | GEF - 4   | World Bank  | Ethiopia   | LD         | GET            | Financially Closed                    | Yes                 |
| 3028   | SFM Safeguarding and Restoring Lebanon's Woodland Resources                                     | GEF - 4   | UNDP        | Lebanon    | LD         | GET            | Financially Closed                    | Yes                 |
| 3362   | SIP: Catchments and Landscape Management                                                        | GEF - 4   | IFAD        | Eritrea    | LD         | GET            | Financially Closed                    | Yes                 |
| 3364   | SIP: Sustainable Land Management Pilot Project                                                  | GEF - 4   | UNDP        | Eritrea    | LD         | GET            | Financially Closed                    | Yes                 |
| 3368   | SIP: Participatory Integrated Watershed Management Project (PIWAMP)                             | GEF - 4   | AfDB        | Gambia     | LD         | GET            | Financially Closed                    | Yes                 |
| 3370   | SIP: Mainstreaming Sustainable Land Management in Agropastoral Production Systems of Kenya      | GEF - 4   | UNDP        | Kenya      | LD         | GET            | Financially Closed                    | Yes                 |
| 3372   | SIP: Capacity Building and Knowledge Management for Sustainable Land Management                 | GEF - 4   | UNDP        | Lesotho    | LD         | GET            | Financially Closed                    | Yes                 |
| 3375   | SIP: Agriculture Sector Development Programme -Support to SLM (ADP-SLM)                         | GEF - 4   | World Bank  | Malawi     | LD         | GET            | Project Implemented                   | Yes                 |
| 3376   | SIP: Private Public Sector Partnership on Capacity Building for SLM in the Shire River Basin    | GEF - 4   | UNDP        | Malawi     | LD         | GET            | Financially Closed                    | Yes                 |
| 3377   | SIP: Fostering Agricultural Productivity in Mali                                                | GEF - 4   | World Bank  | Mali       | LD         | GET            | Project Implemented                   | Yes                 |
| 3379   | SIP: Participatory Environmental Protection and Poverty Reduction in the Oases of Mauritania    | GEF - 4   | IFAD        | Mauritania | LD         | GET            | Financially Closed                    | Yes                 |
| 3381   | SIP: Oasis Micro-Basin Sand Invasion Control in the Goure and Maine Regions (PLECO)             | GEF - 4   | UNDP        | Niger      | LD         | GET            | Project Implemented                   | Yes                 |
| 3382   | SIP: Community Driven SLM for Environmental and Food Security                                   | GEF - 4   | World Bank  | Niger      | LD         | GET            | Financially Closed                    | Yes                 |
| 3383   | SIP: Agricultural and Rural Rehabilitation and Development Initiative (ARRDI)                   | GEF - 4   | IFAD        | Niger      | LD         | GET            | Project Implemented                   | Yes                 |
| 3384   | SIP: Scaling up SLM Practice, Knowledge, and Coordination in Key Nigerian States                | GEF - 4   | World Bank  | Nigeria    | LD         | GET            | Financially Closed                    | Yes                 |
| 3385   | SIP: Sustainable Land Management in Senegal                                                     | GEF - 4   | World Bank  | Senegal    | LD         | GET            | Financially Closed                    | Yes                 |
| 3386   | SIP: Innovations in Micro Irrigation for Dryland Farmers                                        | GEF - 4   | UNDP        | Senegal    | LD         | GET            | Financially Closed                    | Yes                 |
| 3390   | SIP: Lower Usuthu Smallholder Irrigation Project (LUSIP)                                        | GEF - 4   | IFAD        | Eswatini   | MF         | GET            | Financially Closed                    | Yes                 |

| GEF ID | Title                                                                                                                                                                                                            | GEF Phase | Lead Agency | Country    | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|------------|------------|----------------|---------------------------------------|---------------------|
| 3396   | SIP: Improving Policy and Practice Interaction through Civil Society Capacity Building                                                                                                                           | GEF - 4   | UNDP        | Regional   | LD         | GET            | Financially Closed                    | Yes                 |
| 3399   | SIP: Lake Victoria Environmental Management Project II                                                                                                                                                           | GEF - 4   | World Bank  | Regional   | MF         | GET            | Financially Closed                    | Yes                 |
| 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            | Project Implemented                   | Yes                 |
| 3449   | SFM: Carbon Benefits Project (CBP): Modeling, Measurement and Monitoring                                                                                                                                         | GEF - 4   | UNEP        | Global     | MF         | GET            | Financially Closed                    | Yes                 |
| 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            | Project Implemented                   | Yes                 |
| 3468   | SLEM/CPP: Institutional Coordination, Policy Outreach and M & E Project under Sustainable Land and Ecosystem Management Partnership Program                                                                      | GEF - 4   | World Bank  | India      | LD         | GET            | Financially Closed                    | Yes                 |
| 3472   | SLEM/CPP: Integrated Land Use Management to Combat Land Degradation in Madja Pradesh                                                                                                                             | GEF - 4   | UNDP        | India      | MF         | GET            | Financially Closed                    | Yes                 |
| 3484   | PRC-GEF Partnership: Capacity and Management Support for Combating Land Degradation in Dryland Ecosystems                                                                                                        | GEF - 4   | ADB         | China      | LD         | GET            | Financially Closed                    | Yes                 |
| 3529   | SIP: Harmonizing support: a national program integrating water harvesting schemes and sustainable land management                                                                                                | GEF - 4   | UNDP        | Djibouti   | LD         | GET            | Financially Closed                    | Yes                 |
| 3608   | PRC-GEF Partnership: Sustainable Development in Poor Rural Areas                                                                                                                                                 | GEF - 4   | World Bank  | China      | MF         | GET            | Financially Closed                    | Yes                 |
| 3872   | SIP: Monitoring Carbon and Environmental and Socioeconomic Co-Benefits of BioCF Projects in SSA                                                                                                                  | GEF - 4   | World Bank  | Regional   | LD         | GET            | Financially Closed                    | No                  |
| 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            | Financially Closed                    | Yes                 |
| 3893   | Support to the Adaptation of Vulnerable Agricultural Production Systems                                                                                                                                          | GEF - 4   | IFAD        | Mauritania | CC         | LDCF           | Project Implemented                   | No                  |
| 4104   | Sustainable Land Management                                                                                                                                                                                      | GEF - 4   | World Bank  | Chile      | MF         | GET            | Project Implemented                   | Yes                 |
| 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           | Financially Closed                    | Yes                 |
| 4332   | Sustainable Land and Forest Management in the Greater Caucasus Landscape                                                                                                                                         | GEF - 5   | UNDP        | Azerbaijan | MF         | GET            | Project Implemented                   | Yes                 |
| 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            | Project Implemented                   | Yes                 |
| 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            | Under Implementation                  | No                  |



| GEF ID | Title                                                                                                                                                                                | GEF Phase | Lead Agency | Country         | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|-----------------|------------|----------------|---------------------------------------|---------------------|
| 4583   | Sustainable Land Management and Climate-Friendly Agriculture                                                                                                                         | GEF - 5   | FAO         | Türkiye         | MF         | GET            | Under Implementation                  | No                  |
| 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            | Project Implemented                   | Yes                 |
| 4642   | Sustainable Agriculture and Climate Change Mitigation Project                                                                                                                        | GEF - 5   | World Bank  | Uzbekistan      | MF         | GET            | Project Implemented                   | Yes                 |
| 4720   | Land Rehabilitation and Rangelands Management in Small Holders Agropastoral Production Systems in Southwestern Angola                                                                | GEF - 5   | FAO         | Angola          | LD         | GET            | Project Implemented                   | Yes                 |
| 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        | POPs       | GET            | Under Implementation                  | No                  |
| 4744   | Mainstreaming Biodiversity Conservation, SFM and Carbon Sink Enhancement Into Mongolia's Productive Forest Landscapes                                                                | GEF - 5   | FAO         | Mongolia        | MF         | GET            | Project Implemented                   | Yes                 |
| 4750   | Multiplying Environmental and Carbon Benefits in High-Andean Ecosystems                                                                                                              | GEF - 5   | UNEP        | Regional        | MF         | GET            | Project Implemented                   | Yes                 |
| 4751   | Mainstreaming SLM in Rangeland Areas of Ngamiland District Productive Landscapes for Improved livelihoods                                                                            | GEF - 5   | UNDP        | Botswana        | LD         | GET            | Project Implemented                   | Yes                 |
| 4754   | Sustainable Land Management Programme to Combat Desertification                                                                                                                      | GEF - 5   | UNDP        | Pakistan        | LD         | GET            | Project Implemented                   | Yes                 |
| 4761   | Sustainable Management of Mountainous Forest and Land Resources under Climate Change Conditions                                                                                      | GEF - 5   | FAO         | Kyrgyz Republic | MF         | GET            | Project Implemented                   | Yes                 |
| 4806   | A Global Initiative on Landscapes for People, Food and Nature                                                                                                                        | GEF - 5   | UNEP        | Global          | LD         | GET            | Financially Closed                    | Yes                 |
| 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           | Project Implemented                   | Yes                 |
| 4839   | Establishing Integrated Models for Protected Areas and their Co-management                                                                                                           | GEF - 5   | UNDP        | Afghanistan     | MF         | GET            | Project Implemented                   | Yes                 |
| 4908   | GGW: Agriculture Production Support Project (with Sustainable Land and Water Management)                                                                                             | GEF - 5   | World Bank  | Chad            | MF         | MTF            | Project Implemented                   | Yes                 |
| 4922   | Decision Support for Mainstreaming and Scaling up of Sustainable Land Management                                                                                                     | GEF - 5   | FAO         | Global          | LD         | GET            | Project Implemented                   | Yes                 |
| 5044   | Sustainable Land Use Management in the Drylands of North-west Argentina                                                                                                              | GEF - 5   | UNDP        | Argentina       | LD         | GET            | Under Implementation                  | No                  |
| 5083   | Capacity, Policy and Financial Incentives for PFM in Kirisia Forest and integrated Rangelands Management                                                                             | GEF - 5   | FAO         | Kenya           | MF         | GET            | Under Implementation                  | No                  |
| 5135   | Protecting Biodiversity and Multiple Ecosystem Services in Biological Mountain Corridors in Chile's Mediterranean Ecosystem                                                          | GEF - 5   | UNEP        | Chile           | MF         | GET            | Project Implemented                   | No                  |
| 5187   | GGW: Community-based Rural Development Project 3rd Phase with Sustainable Land and Forestry Management                                                                               | GEF - 5   | World Bank  | Burkina Faso    | MF         | GET            | Financially Closed                    | Yes                 |
| 5215   | GGW: Forests and Adjacent Lands Management Project                                                                                                                                   | GEF - 5   | World Bank  | Benin           | MF         | GET            | Financially Closed                    | Yes                 |
| 5220   | PSG: Sustainable Land Management Project 2                                                                                                                                           | GEF - 5   | World Bank  | Ethiopia        | MF         | MTF            | Financially Closed                    | Yes                 |

| GEF ID | Title                                                                                                                                                                                                 | GEF Phase | Lead Agency | Country      | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|--------------|------------|----------------|---------------------------------------|---------------------|
| 5229   | Sustainable Land Management in the Qaroun Catchment                                                                                                                                                   | GEF - 5   | UNDP        | Lebanon      | LD         | GET            | Project Implemented                   | Yes                 |
| 5252   | GGW: Third Phase of the Community Action Program                                                                                                                                                      | GEF - 5   | World Bank  | Niger        | MF         | GET            | Project Implemented                   | Yes                 |
| 5270   | GGW Natural Resources Management in a Changing Climate in Mali                                                                                                                                        | GEF - 5   | World Bank  | Mali         | MF         | MTF            | Project Implemented                   | Yes                 |
| 5327   | Securing Multiple Ecosystems Benefit Through SLM in the Productive But Degraded Landscapes of South Africa                                                                                            | GEF - 5   | UNDP        | South Africa | LD         | GET            | Project Implemented                   | Yes                 |
| 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           | Project Implemented                   | Yes                 |
| 5347   | Support to the Integrated Program for the Conservation and Sustainable Development of the Socotra Archipelago                                                                                         | GEF - 5   | UNEP        | Yemen        | MF         | GET            | Under Implementation                  | No                  |
| 5353   | Mainstreaming Sustainable Land and Forest Management in Dry Mountain Landscapes                                                                                                                       | GEF - 5   | UNDP        | Armenia      | MF         | GET            | Project Implemented                   | Yes                 |
| 5406   | Community-Based Sustainable Dryland Forest Management                                                                                                                                                 | GEF - 5   | FAO         | Gambia       | LD         | GET            | Under Implementation                  | No                  |
| 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           | Under Implementation                  | No                  |
| 5436   | Disaster Risk Management and Urban Development Project                                                                                                                                                | GEF - 5   | World Bank  | Niger        | CC         | LDCF           | Project Implemented                   | Yes                 |
| 5449   | PSG- Sustainable and Inclusive Agribusiness Development Project                                                                                                                                       | GEF - 5   | World Bank  | Senegal      | MF         | GET            | Project Implemented                   | Yes                 |
| 5463   | Securing Watershed Services through Sustainable Land Management in the Ruvu and Zigi Catchments, Eastern Arc Region, Tanzania                                                                         | GEF - 5   | UNDP        | Tanzania     | LD         | GET            | Project Implemented                   | Yes                 |
| 5479   | Integrated SLEM Approaches for Reducing Land Degradation and Desertification                                                                                                                          | GEF - 5   | World Bank  | India        | LD         | GET            | Under Implementation                  | No                  |
| 5487   | Integrated Development for Increased Rural Climate Resilience in the Niger Basin                                                                                                                      | GEF - 5   | AfDB        | Regional     | MF         | GET            | Under Implementation                  | No                  |
| 5619   | GGW Sudan Sustainable Natural Resources Management Project SSNRMP                                                                                                                                     | GEF - 5   | World Bank  | Sudan        | MF         | GET            | Under Implementation                  | No                  |
| 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            | Project Implemented                   | Yes                 |
| 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            | Under Implementation                  | No                  |
| 5792   | PSG-Sustainable Landscape Management Project under SAWAP                                                                                                                                              | GEF - 5   | World Bank  | Mauritania   | MF         | GET            | Project Implemented                   | Yes                 |
| 5855   | Flood Hazard and Climate Risk Management to Secure Lives and Assets in Mali                                                                                                                           | GEF - 5   | UNDP        | Mali         | CC         | LDCF           | Project Implemented                   | Yes                 |
| 6960   | Supporting Climate-Resilient Livelihoods in Agricultural Communities in Drought-prone Areas                                                                                                           | GEF - 6   | UNDP        | Turkmenistan | CC         | SCCF           | Project Implemented                   | Yes                 |
| 8005   | Sustainable Land Management for Increased Productivity in Armenia(SLMIP)                                                                                                                              | GEF - 6   | IFAD        | Armenia      | LD         | GET            | Under Implementation                  | No                  |
| 8028   | Support for Integrated Water Resources Management to Ensure Water Access and Disaster Reduction for Somalia's Pastoralists                                                                            | GEF - 6   | UNDP        | Somalia      | CC         | LDCF           | Under Implementation                  | No                  |

| GEF ID | Title                                                                                                                                                              | GEF Phase | Lead Agency | Country      | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
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| 9050   | Building Resilience For Food Security and Nutrition in Chad's Rural Communities                                                                                    | GEF - 6   | AfDB        | Chad         | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 9133   | Food-IAP: Climate-Smart Agriculture for Climate-Resilient Livelihoods (CSARL)                                                                                      | GEF - 6   | IFAD        | Eswatini     | MF         | GET            | Under Implementation                  | No                  |
| 9134   | Food-IAP: Agricultural Value Chains Resilience Support Project (PARFA)                                                                                             | GEF - 6   | IFAD        | Senegal      | MF         | GET            | Under Implementation                  | No                  |
| 9135   | Food-IAP: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience                                                                        | GEF - 6   | UNDP        | Ethiopia     | MF         | GET            | Under Implementation                  | No                  |
| 9136   | Niger: Food-IAP: Family Farming Development Programme (ProDAF)                                                                                                     | GEF - 6   | IFAD        | Niger        | MF         | GET            | Under Implementation                  | No                  |
| 9138   | Food-IAP: Enhancing the Resilience of Agro-Ecological Systems (ERASP)                                                                                              | GEF - 6   | IFAD        | Malawi       | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 9143   | Food-IAP: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Nigeria                                                             | GEF - 6   | UNDP        | Nigeria      | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 9161   | LCB-NREE: Nigeria Child Project: Comprehensive and Integrated Management of Natural Resources in Borno State                                                       | GEF - 5   | AfDB        | Nigeria      | MF         | GET            | Under Implementation                  | No                  |
| 9163   | Enabling the use of Global Data Sources to assess and Monitor Land Degradation at Multiple Scales                                                                  | GEF - 6   | CI          | Global       | LD         | GET            | Financially Closed                    | Yes                 |
| 9190   | Sustainable Management of Forests in Mountain and Valley Areas                                                                                                     | GEF - 6   | FAO         | Uzbekistan   | MF         | GET            | Under Implementation                  | No                  |
| 9318   | Climate Resilience in the Nakambe Basin                                                                                                                            | GEF - 6   | UNDP        | Burkina Faso | CC         | LDCF           | CEO Endorsement Cleared               | No                  |
| 9388   | Land Degradation Neutrality of Mountain Landscapes in Lebanon                                                                                                      | GEF - 6   | UNDP        | Lebanon      | LD         | GET            | Under Implementation                  | No                  |
| 9389   | Ensuring Sustainability and Resilience (ENSURE) of Green Landscapes in Mongolia                                                                                    | GEF - 6   | UNDP        | Mongolia     | MF         | GET            | Under Implementation                  | No                  |
| 9405   | Integrated Management of Oasis Ecosystems of Northern Niger (IMOIE -NN)                                                                                            | GEF - 6   | UNEP        | Niger        | MF         | GET            | Under Implementation                  | No                  |
| 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            | Project Implemented                   | No                  |
| 9497   | LCB-NREE Niger child project: Improving Sustainable Management of Natural Resources in Niger's Diffa Region                                                        | GEF - 5   | AfDB        | Niger        | MF         | GET            | Under Implementation                  | No                  |

| GEF ID | Title                                                                                                                                                                                     | GEF Phase | Lead Agency | Country     | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
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| 9516   | Reversing Deforestation and Degradation in High Conservation Value Chilgoza Pine Forests in Pakistan                                                                                      | GEF - 6   | FAO         | Pakistan    | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 9593   | Management of Competing Water Uses and Associated Ecosystems in Pungwe, Busi and Save Basins                                                                                              | GEF - 6   | IUCN        | Regional    | IW         | GET            | Under Implementation                  | No                  |
| 9659   | Kenya- Combating Poaching and Illegal Wildlife Trafficking in Kenya through an Integrated Approach                                                                                        | GEF - 6   | UNDP        | Kenya       | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 9795   | Forest Resources Assessment and Monitoring to Strengthen Forest Knowledge Framework in Azerbaijan                                                                                         | GEF - 6   | FAO         | Azerbaijan  | MF         | GET            | Project Implemented                   | Yes                 |
| 9806   | Rehabilitation and Integrated Sustainable Development of Algerian Cork Oak Forest Production Landscapes                                                                                   | GEF - 6   | FAO         | Algeria     | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 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            | Under Implementation                  | No                  |
| 9842   | Shire Valley Transformation Program - I                                                                                                                                                   | GEF - 6   | World Bank  | Malawi      | MF         | GET            | Under Implementation                  | No                  |
| 9900   | Land Degradation Neutrality Fund Technical Assistance Facility                                                                                                                            | GEF - 6   | WWF-US      | Global      | LD         | GET            | Under Implementation                  | No                  |
| 9914   | CPIC Conservation Finance Initiative - Scaling up and Demonstrating the Value of Blended Finance in Conservation                                                                          | GEF - 6   | IUCN        | Global      | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 10083  | Sustainable Natural Resources Management Project -AF                                                                                                                                      | GEF - 7   | World Bank  | Sudan       | MF         | MTF            | Under Implementation                  | No                  |
| 10103  | Climate change adaptation and livelihoods in three arid regions of Mauritania                                                                                                             | GEF - 7   | UNEP        | Mauritania  | CC         | LDCF           | Under Implementation                  | No                  |
| 10169  | Combating land degradation and biodiversity loss by promoting sustainable rangeland management and biodiversity conservation in Afghanistan                                               | GEF - 7   | FAO         | Afghanistan | MF         | GET            | Under Implementation                  | No                  |
| 10170  | Integrated forest and biodiversity management for sustainable development in the Biban mountain range                                                                                     | GEF - 7   | FAO         | Algeria     | MF         | GET            | CEO Endorsement Cleared               | No                  |

| GEF ID | Title                                                                                                                                                                                                | GEF Phase | Lead Agency | Country      | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
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| 10178  | Watershed approaches for climate resilience in agro-pastoral landscapes                                                                                                                              | GEF - 7   | UNDP        | South Sudan  | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 10180  | Planning and implementing Ecosystem based Adaptation (EbA) in Djibouti's Dikhil and Tadjourah regions                                                                                                | GEF - 7   | UNEP        | Djibouti     | CC         | LDCF           | CEO Endorsement Cleared               | No                  |
| 10191  | Moldova Agriculture Competitiveness Project GEF Additional Financing                                                                                                                                 | GEF - 7   | World Bank  | Moldova      | LD         | GET            | Under Implementation                  | No                  |
| 10192  | Ecosystem conservation and community livelihood enhancement in North-Western Zambia                                                                                                                  | GEF - 7   | UNEP        | Zambia       | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 10230  | Strengthening Land Degradation Neutrality data and decision-making through free and open access platforms                                                                                            | GEF - 7   | CI          | Global       | LD         | GET            | Under Implementation                  | No                  |
| 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 Endorsement Cleared               | No                  |
| 10249  | Promoting Dryland Sustainable Landscapes and Biodiversity Conservation in the Eastern Steppe of Mongolia                                                                                             | GEF - 7   | FAO         | Mongolia     | MF         | GET            | Under Implementation                  | No                  |
| 10250  | Integrated Landscape Management in Dry Miombo Woodlands of Tanzania                                                                                                                                  | GEF - 7   | FAO         | Tanzania     | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 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            | Under Implementation                  | No                  |
| 10253  | Global coordination project for the SFM Drylands Impact Program                                                                                                                                      | GEF - 7   | FAO         | Global       | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 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 Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 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            | Under Implementation                  | No                  |

| GEF ID | Title                                                                                                                                                                                                           | GEF Phase | Lead Agency | Country      | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
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| 10265  | Promotion of sustainable food systems and improved ecosystems services in Northern Kazakhstan Landscape                                                                                                         | GEF - 7   | UNDP        | Kazakhstan   | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10291  | Sustainable management of dryland landscapes in Burkina Faso                                                                                                                                                    | GEF - 7   | IUCN        | Burkina Faso | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10292  | Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya                                                                               | GEF - 7   | IUCN        | Kenya        | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10299  | Kazakhstan Resilient Agroforestry and Rangeland Management Project                                                                                                                                              | GEF - 7   | World Bank  | Kazakhstan   | MF         | GET            | Under Implementation                  | No                  |
| 10306  | FOLUR Global Knowledge to Action Platform to Support Transformational Shifts In Food and Land Use Systems                                                                                                       | GEF - 7   | World Bank  | Global       | MF         | GET            | Under Implementation                  | No                  |
| 10309  | Staying within Sustainable Limits: Advancing leadership of the private sector and cities                                                                                                                        | GEF - 7   | CI          | Global       | MF         | GET            | Under Implementation                  | No                  |
| 10322  | The Food Securities Fund: A fund to finance sustainable supply chains at scale in Emerging Markets                                                                                                              | GEF - 7   | CI          | Global       | MF         | GET            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 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            | Under Implementation                  | No                  |
| 10362  | Resilient, productive and sustainable landscapes in Mali's Kayes Region                                                                                                                                         | GEF - 7   | FAO         | Mali         | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 10365  | Implementation of Armenia's LDN commitments through sustainable land management and restoration of degraded landscapes                                                                                          | GEF - 7   | FAO         | Armenia      | LD         | GET            | Under Implementation                  | No                  |
| 10367  | Sustainable Forest and Rangelands Management in the Dryland Ecosystems of Uzbekistan                                                                                                                            | GEF - 7   | FAO         | Uzbekistan   | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10369  | Strengthening the Conservation of Biodiversity and Sustainable Management of Forest Landscapes in Turkey's Kazdaglari Region                                                                                    | GEF - 7   | FAO         | Türkiye      | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 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            | Under Implementation                  | No                  |
| 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 Endorsement Cleared               | No                  |

| GEF ID | Title                                                                                                                                 | GEF Phase | Lead Agency | Country    | Focal Area | Funding Source | Project Status (as of May 15th, 2023) | Terminal Evaluation |
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| 10439  | Conservation and Sustainable Management of High-Value Arid Ecosystems in the Lower Amu Darya Basin                                    | GEF - 7   | UNDP        | Tajikistan | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10444  | Development of an integrated system to promote the natural capital in the drylands of Mauritania                                      | GEF - 7   | IUCN        | Mauritania | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10464  | Paraguay FOLUR                                                                                                                        | GEF - 7   | UNEP        | Paraguay   | MF         | GET            | Under Implementation                  | No                  |
| 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 Endorsement Cleared               | No                  |
| 10497  | AGRI3 A Forest Conservation and Sustainable Agriculture Fund for Developing Countries                                                 | GEF - 7   | CI          | Global     | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10500  | Livelihoods Carbon Fund 3 (LCF3)                                                                                                      | GEF - 7   | CI          | Global     | MF         | GET            | CEO Endorsement Pending               | No                  |
| 10505  | Strengthen Management and Climate Change Resilience in Angola's Conservation Areas for Sustainable Development                        | GEF - 7   | CI          | Angola     | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 10528  | Achieving land degradation neutrality targets through restoration and sustainable management of degraded land in Northern Jordan      | GEF - 7   | FAO         | Jordan     | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10538  | Oasis Landscape Sustainable Management project                                                                                        | GEF - 7   | World Bank  | Tunisia    | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10562  | Resilient and sustainable livelihoods for rural Yemen                                                                                 | GEF - 7   | FAO         | Yemen      | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 10572  | Integrated Landscape Management Gambia (INLAMAG) Project                                                                              | GEF - 7   | IFAD        | Gambia     | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10574  | Agriculture and Biodiversity in Mexico (AgribioMex): Mainstreaming biodiversity in the productive activities of rural landscapes      | GEF - 7   | IFAD        | Mexico     | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10583  | Conservation Areas for Biodiversity Conservation and Development II- Additional Financing                                             | GEF - 7   | World Bank  | Mozambique | MF         | GET            | Under Implementation                  | No                  |
| 10589  | Lake Naivasha Basin Ecosystem Based Management                                                                                        | GEF - 7   | WWF-US      | Kenya      | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10601  | Food System, Land Use and Restoration Impact Program in Uzbekistan                                                                    | GEF - 7   | FAO         | Uzbekistan | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10633  | Green Finance for Sustainable Landscapes Joint Initiative of the CPF (GF4SL)                                                          | GEF - 7   | UNEP        | Global     | LD         | GET            | Under Implementation                  | No                  |
| 10634  | Harnessing the Great Green Wall Initiative (GGWI) for a Sustainable and Resilient Sahel                                               | GEF - 7   | UNEP        | Regional   | LD         | GET            | Under Implementation                  | No                  |
| 10637  | Restoration Challenge Grant Platform for Smallholders and Communities, with Blockchain-Enabled Crowdfunding                           | GEF - 7   | IUCN        | Regional   | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10671  | Enabling Activities for Implementing UNCCD COP Drought Decisions                                                                      | GEF - 7   | FAO         | Global     | LD         | GET            | Under Implementation                  | No                  |
| 10672  | Promotion of Integrated Biodiversity Conservation and Land Degradation Neutrality in Highly Degraded Landscapes of Iraq               | GEF - 7   | UNEP        | Iraq       | MF         | GET            | CEO Endorsement Cleared               | No                  |
| 10687  | Climate security and sustainable management of natural resources in the central regions of Mali for peacebuilding                     | GEF - 7   | UNDP        | Mali       | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |



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| 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 Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 10708  | Towards a Land Degradation-Neutral Azerbaijan                                                                                                                                                            | GEF - 7   | FAO         | Azerbaijan | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 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 Endorsement Cleared               | No                  |
| 10723  | Regeneration of Livelihoods and Landscapes (ROLL) Project                                                                                                                                                | GEF - 7   | IFAD        | Lesotho    | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10732  | Sustainable and Integrated Water Resource Management in Gediz River Basin in Turkey                                                                                                                      | GEF - 7   | FAO         | Türkiye    | MF         | GET            | Under Implementation                  | No                  |
| 10735  | Connecting Watershed Health with Sustainable Livestock and Agroforestry Production                                                                                                                       | GEF - 7   | World Bank  | Mexico     | MF         | GET            | Under Implementation                  | No                  |
| 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 Endorsement Cleared               | No                  |
| 10792  | Adaptive Agriculture and Rangeland Rehabilitation Project (A2R2) - Somalia                                                                                                                               | GEF - 7   | IFAD        | Somalia    | MF         | MTF            | CEO Endorsement Cleared               | No                  |
| 10806  | Global Support Programme III: Strengthening Capacities of Country Parties for UNCCD Monitoring and Reporting                                                                                             | GEF - 7   | UNEP        | Global     | LD         | GET            | Under Implementation                  | No                  |
| 10816  | Sustainable investments for large-scale rangeland restoration (STELARR)                                                                                                                                  | GEF - 7   | IUCN        | Global     | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10819  | Enhancement of agro-ecological management system through promoting ecosystem-oriented food production                                                                                                    | GEF - 7   | FAO         | Türkiye    | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 10852  | Green Finance & Sustainable Agriculture in the Dry Forest Ecoregion of Ecuador and Peru                                                                                                                  | GEF - 7   | CAF         | Regional   | MF         | GET            | Council Approved                      | No                  |
| 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 Endorsement Cleared               | No                  |
| 10863  | Towards Land Degradation Neutrality for Improved Equity, Sustainability, and Resilience                                                                                                                  | GEF - 7   | FAO         | Cabo Verde | LD         | GET            | CEO Endorsement Cleared               | No                  |
| 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            | Council Approved                      | No                  |
| 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 Endorsement Cleared               | No                  |
| 10874  | Conserving Biodiversity and Restoring Ecosystem Functions in the Day and Mbla Mountains                                                                                                                  | GEF - 7   | UNDP        | Djibouti   | MF         | GET            | Council Approved                      | No                  |
| 10876  | Sustainable Management and Restoration of Degraded Landscapes for Achieving Land Degradation Neutrality (LDN) in India                                                                                   | GEF - 7   | UNDP        | India      | LD         | GET            | CEO Endorsement Pending               | No                  |



### ANNEX III: LIST OF INTERVIEWED STAKEHOLDERS AT CENTRAL LEVEL

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

| Name                 | Organization               |
|----------------------|----------------------------|
| Ulrich Apel          | GEF Secretariat            |
| Mohamed Bakarr       | GEF Secretariat            |
| Jean-Marc Sinnassamy | GEF Secretariat            |
| Guadalupe Duron      | STAP                       |
| Graciela Metternicht | STAP                       |
| Mark Stafford Smith  | STAP                       |
| Orissa Samaroo       | Conservation International |
| Fritjof Boerstler    | FAO                        |
| Hernan Gonzalez      | FAO                        |
| Ingrid Teich         | FAO                        |
| Christopher Brett    | World Bank                 |
| Timothy Brown        | World Bank                 |
| Paola Agostini       | World Bank                 |
| Jonky Tenou          | IFAD                       |
| Adriana Vidal        | IUCN                       |
| Louise Baker         | UNCCD Secretariat          |
| Cathrine Mutambirwa  | UNCCD Secretariat          |
| Motsomi Maletjane    | UNFCCC Secretariat         |
| Jenny Wong           | UNFCCC Secretariat         |
| Hyunwoo Noah Kim     | UNFCCC Secretariat         |