



Food and Agriculture
Organization of the
United Nations

Terminal evaluation
of the project
“Contributing to Land
Degradation Neutrality
Target Setting by
Demonstrating the Land
Degradation Neutrality
Approach”



**Terminal evaluation of the project
“Contributing to Land Degradation
Neutrality Target Setting by
Demonstrating the Land Degradation
Neutrality Approach”**

Project code: GCP/TUR/065/GFF
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Abstract

This report presents the findings, conclusions and recommendations of the terminal evaluation of the project “Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach” (GCP/TUR/065/GFF) from the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF). The project was implemented in Türkiye between 2019 and 2024. It aimed to strengthen Türkiye’s enabling environment in order to achieve land degradation neutrality (LDN) through capacity building and the development of a decision support system (DSS) for evidence-based land use planning and monitoring. This involved pilot demonstrations of sustainable land management (SLM) practices in the Upper Sakarya Basin.

The evaluation, conducted from September 2024 to March 2025, assessed performance against the following evaluation criteria: relevance; coherence; efficiency; effectiveness; sustainability; and the application of the GEF policies and guidelines. Methods included a desk review, a field mission, stakeholder interviews, focus group discussions (FGDs) and direct observation. The evaluation involved national institutions, local authorities, farmer groups and international partners to ensure triangulation and the validation of evidence.

Findings confirm the project’s high relevance to Türkiye’s 12th National Development Plan (2024–2028), the United Nations Convention to Combat Desertification (UNCCD) LDN goals and FAO’s Strategic Framework (2022–2031). The DSS, which was developed under the project, proved to be a cost-effective, scalable tool that integrates the geographic information system (GIS) and remote sensing. In fact, it has already been adopted by 18 other countries and recognized by the UNCCD as a global model. Coherence was achieved through adaptive management that kept the project aligned with evolving technologies and policy contexts. Despite the COVID-19 pandemic and the 2023 earthquake in the southeast, efficiency was rated high with timely and flexible implementation. Strong national ownership and co-financing supported this.

The project was highly effective in strengthening institutions, fostering participatory approaches such as the Farmer Field School (FFS) and improving community livelihoods, particularly for women. The SLM activities demonstrated measurable environmental and economic gains, including reduced degradation, increased productivity and enhanced social capital. Sustainability prospects are likely due to Türkiye’s political commitment, LDN integration into national plans and continued international support. However, risks remain due to rural depopulation and staff turnover.

The report concludes that the project successfully established a replicable model linking science-based land planning tools with participatory land management. It recommends: (i) continued investment in DSS capacity building and governance; (ii) scaling up SLM delivery through the FFS and non-state actors; and (iii) integrating gender empowerment frameworks and indicators in future FAO-GEF projects.

Main audience: FAO; the GEF; UNCCD; government agencies, and practitioners engaged in land management, agricultural extension and environmental policy

Contents

Abstract	iii
Contents.....	v
Acknowledgements.....	vii
Abbreviations	viii
Map of project sites.....	ix
Executive summary.....	x
1. Introduction	1
1.1 Evaluation purpose and intended users	1
1.2 Project context and background.....	2
1.3 Project description.....	4
1.4 Theory of change.....	5
2. Methodology	9
2.1 Scope of the evaluation	9
2.2 Evaluation objective and evaluation questions.....	9
2.3 Methodological design.....	12
2.4 Limitations	15
3. Project performance.....	17
3.1 Relevance.....	17
3.2 Coherence	18
3.3 Efficiency	19
3.4 Effectiveness	26
3.5 Additionality	34
4. Monitoring and evaluation design and implementation	35
4.1 Monitoring and evaluation design.....	35
4.2 Monitoring and evaluation implementation.....	35
5. Sustainability	37
5.1 Sociopolitical sustainability	37
5.2 Financial sustainability.....	38
5.3 Institutional and governance sustainability.....	39
5.4 Environmental sustainability	40
6. Application of the Global Environment Facility policies and guidelines.....	43
6.1 Environmental and social safeguards	43
6.2 Gender	43
6.3 Project partnerships and stakeholder engagement.....	45
6.4 Communications, knowledge management and knowledge products	47
7. Conclusions, recommendations and lessons learned.....	49
7.1 Conclusions.....	49
7.2 Recommendations	50
7.3 Lessons learned.....	51
References.....	53
Appendix 1. People interviewed	56
Appendix 2. Revised theory of change with spheres of project control, influence and interest.....	59
Appendix 3. The Global Environment Facility evaluation criteria rating table	60
Appendix 4. The Global Environment Facility rating scheme and descriptors	65
Appendix 5. United Nations Evaluation Group's ethical guidelines and principles	69
Appendix 6. Enabling environment and policy	70

Appendix 7. Project objective, outcome, outputs and indicators (from project document)	72
Appendix 8. Project indicator analysis from the mid-term review	74
Appendix 9. Evaluation matrix	78
Appendix 10. Project implementation arrangements	86
Appendix 11. Project achievement assessment.....	87
Appendix 12. Sustainable land management interventions and practices.....	101
Appendix 13. The Global Environment Facility-7 core indicators.....	104

Box, figures and tables

Box 1. Leonardite and chickpeas.....	39
Figure 1. Biomass difference of leonardite application in Sivrihisar.....	32
Figure 2. Institutional stakeholders	46
Executive summary table 1. The GEF evaluation criteria rating table	xiii
Table 1. Basic project information	3
Table 2. Evaluation questions by the GEF criteria	10
Appendix table 1. GEF rating table.....	60
Appendix table 2. Outcome ratings.....	65
Appendix table 3. Sustainability ratings.....	66
Appendix table 4. Implementation and execution ratings	66
Appendix table 5. Monitoring and evaluation ratings	68

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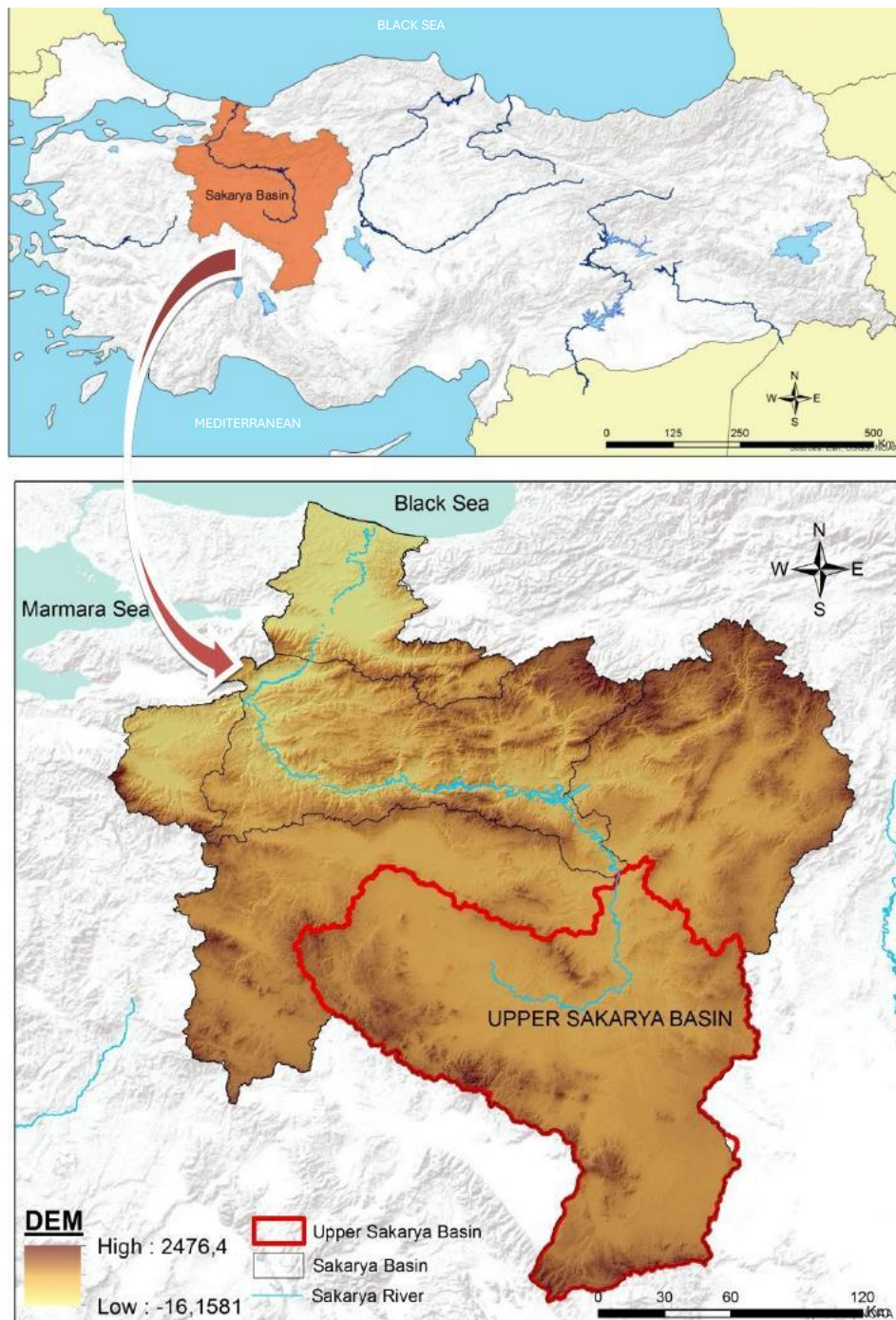
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The evaluation also benefited from the inputs of many other stakeholders, including government staff, farmers' organizations, and staff from other United Nations agencies and international organizations, civil society organizations, research centres and the private sector. Their contributions were instrumental in the team's work and are deeply appreciated.

Abbreviations

ÇEM	General Directorate of Combating Desertification and Erosion, by its Turkish acronym
COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
DSS	decision support system
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer Field School
FGD	focus group discussion
GEF	Global Environment Facility
GIS	geographic information system
KII	key informant interview
LDN	land degradation neutrality
M&E	monitoring and evaluation
MTR	mid-term review
OGM	General Directorate of Forestry, by its Turkish acronym
OPIM	Operational Partners Implementation Modality
PIR	Programme Implementation Report
PIU	Project Implementation Unit
SDG	Sustainable Development Goal
SFM	sustainable forest management
SLM	sustainable land management
SOC	soil organic carbon
TAGEM	General Directorate of Agricultural Research and Policies, by its Turkish acronym
TÇM	Türkiye Desertification Model, by its Turkish acronym
TOC	theory of change
TRGM	General Directorate of Agrarian Reform, by its Turkish acronym
UNCCD	United Nations Convention to Combat Desertification
WOCAT	World Overview of Conservation Approaches and Technologies

Map of project sites



Note: Refer to the disclaimer on page ii for the names and boundaries used in this map.

Source: FAO and GEF. 2019. *Project document of "Contributing to Land Degradation Neutrality (LDN) Target Setting by Demonstrating the LDN Approach"*. <https://www.thegef.org/projects-operations/projects/9586>

Executive summary

Introduction

1. This report represents the findings, conclusions and recommendations of the terminal evaluation of the project “Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach” (GCP/TUR/065/GFF) from the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF). The project, hereinafter referred to as the land degradation neutrality (LDN) project, started on 15 August 2019 and closed on 31 December 2024.
2. The evaluation was conducted between September 2024 and March 2025. It aimed to assess the progress towards impact and sustainability of the project’s outcomes as measured against the following evaluation criteria: relevance; coherence; efficiency; effectiveness; sustainability; and application of the GEF policies and guidelines. The evaluation also examined factors affecting performance, environmental and social safeguards, gender mainstreaming, and knowledge management.
3. The evaluation methodology applied various data collection techniques to include all relevant stakeholders and validate the data gathered. These techniques encompassed online and in-person interviews with key informants, focus group discussions (FGDs), direct site observations and a desk review of project documents.
4. The LDN project was implemented by FAO in Türkiye’s Upper Sakarya Basin across the provinces of Ankara, Eskişehir and Kütahya using microbasins as pilot sites. Its main objective was to develop a model for setting, planning and decision-making for LDN targets at the national level, while demonstrating its application in the Upper Sakarya Basin. The project was organized into four key components: (i) strengthen the enabling environment; (ii) establish a decision support system (DSS) for LDN; (iii) demonstrate the LDN approach in the Upper Sakarya Basin; and (iv) scale up LDN experiences and monitoring and evaluation (M&E).

Main findings and conclusions

5. **Overall conclusion:** the project’s demonstration activities in the Upper Sakarya Basin successfully advanced sustainable agriculture and economic opportunities, but the scale of the LDN challenges remains urgent. Achieving wider impact will require multidisciplinary support and stronger engagement of non-governmental actors to expand technical expertise and resources, particularly for approaches like the Farmer Field School (FFS). The project has shown that collaboration between state and non-state actors can deliver significant results, while investments in communications, knowledge management and the DSS have fostered broad participation. These partnerships, local, national and international involvement, and technical advancements position the DSS for continued evolution and relevance in tackling land degradation.
6. **Relevance and coherence:** the project proved highly relevant and aligned well with the United Nations Convention to Combat Desertification (UNCCD) LDN priorities and Türkiye’s national policies. Its participatory approach, the DSS and capacity building tools formed a coherent package that met the LDN needs at multiple scales. Despite early design challenges, adaptive management produced a versatile, widely used system that is now adopted beyond Türkiye. Innovative sustainable land management (SLM) practices, with a

strong focus on supporting women, provide a workable and scalable strategy for addressing SLM challenges locally, nationally and internationally.

7. **Efficiency, implementation and execution:** the LDN project achieved a high level of efficiency and effective execution. Despite major external challenges such as the COVID-19 pandemic and the 2023 earthquake in the southeast, it delivered outputs on time. Strong financial management, realistic budgeting and the direct implementation modality enabled flexibility. Multistakeholder participation, co-financing, adaptive development of the DSS, and the technical strengths of FAO, partners and experts significantly enhanced the project's impact. Türkiye's strong commitment and improved institutional collaboration created an enabling environment for the DSS and suggest that there is a positive shift towards more participatory and coordinated approaches to address the LDN challenges.
8. **Effectiveness:** the project significantly strengthened Türkiye's enabling environment for achieving LDN. It did so by aligning policy frameworks with LDN concepts, building institutional capacity and introducing new, participatory approaches such as the FFS, online information sharing fora and the use of non-state service providers. It significantly operationalized already existing complex policies through governance support, high-quality technical training and innovative extension services. The project was both effective and transformative, with the DSS proving a versatile and widely accepted tool for improving national land use planning and LDN priority setting. The SLM interventions across cultivated, rangeland and forest areas promoted climate-smart agriculture, water conservation and climate-resilient livelihoods. This reduced production costs, diversified incomes and empowered women. These actions delivered tangible benefits in reducing land degradation, improving soil health and biodiversity, and strengthening the long-term resilience of the targeted rural communities while contributing to climate change mitigation and sustainable development.
9. **Sustainability:** the project shows strong prospects for sustainability. Türkiye's leadership and international partnerships with FAO, the UNCCD and the GEF suggest continued investment in the DSS. Its proven utility and economic benefits from the SLM interventions and integration into national land management strategies provide a governance and financial foundation for long-term adoption. However, high staff turnover highlights the need for ongoing training and stronger capacity building at both the institutional and local levels to sustain and replicate results. The DSS adaptability and broad international support suggest that it will continue to evolve and be applied widely in Türkiye. Pilot SLM interventions in the Upper Sakarya Basin have shown a strong potential to reduce land degradation, lower chemical fertilizer use and increase water infiltration. However, given the scale and urgency of land degradation and climate change impacts in Türkiye, these promising results will need rapid and large-scale replication to secure long-term environmental gains.
10. **Application of the GEF policies:** the project has effectively applied the GEF policies by prioritizing environmental and social safeguards, gender inclusivity, stakeholder engagement and knowledge transfer. Its focus on empowering women in agriculture has strengthened social capital and national ownership. However, persistent structural and sociocultural barriers continue to limit the full transformative potential of these efforts, particularly for marginalized women. Addressing these barriers through a stronger, data-driven approach with broad and transparent participation will be key to achieve lasting gender equality and enhance the sustainability of land management initiatives.

Recommendations

Recommendation 1. To the General Directorate of Combating Desertification and Erosion (ÇEM, by its Turkish acronym), supported by FAO: both the socioecosystem and technology for the DSS are dynamic, but there is high staff turnover at the institutional level. Keep investing in longer-term technical training of potential DSS users and encourage further collaborative development of the DSS.

Suggested actions:

- i. Future similar FAO projects can include a dedicated governance support component to accompany the drafting of a financial plan for the DSS.

Recommendation 2. To the General Directorate of Forestry (OGM, by its Turkish acronym), the General Directorate of Agrarian Reform (TRGM, by its Turkish acronym) and the General Directorate of Agricultural Research and Policies (TAGEM, by its Turkish acronym), supported by FAO: utilize the FFS and non-governmental or other service providers to urgently scale up the delivery of SLM and LDN support to farming communities and, where possible, the private sector.

Suggested actions:

- i. Identify organizations that can work with district authorities to deliver technical and capacity building services to rural communities.
- ii. Design LDN support through the FFS for communities with multidisciplinary, trained facilitators. In addition to agrotechnical expertise, incorporate attention to community-level social capital into the FFS approach.

Recommendation 3. To the GEF technical officers and FAO Türkiye: the gender strategies in future similar FAO-GEF projects in Türkiye should integrate gender empowerment alongside women's inclusion and gender transformation indicators. This should also respect local sociocultural norms and traditions.

Suggested actions:

- i. To enhance women's empowerment, future similar projects should include initiatives that promote women's leadership within community governance structures.
- ii. Future similar projects should include gender-disaggregated M&E, gender-responsive baseline assessments, gender-sensitive indicators and a results-based framework that explicitly tracks gender equality outcomes.

Lessons learned

The report offers four key lessons for implementing complex, multistakeholder projects. **Lesson 1** highlights the value of collaborative implementation between FAO and the national partners. This created a results-oriented and collaborative approach between FAO and the executing partner. **Lesson 2** underscored the importance of government commitment and policy alignment, as Türkiye's dedication to the LDN ensured resource mobilization and institutional engagement. **Lesson 3** emphasized the critical role of the Project Implementation Unit (PIU) in managing complexity. Its adaptive, problem-solving approach enabled coordination, risk mitigation and continuous learning as it strengthened national capacity for future initiatives. **Lesson 4** focused on ensuring social inclusion and community engagement as drivers of sustainability. By involving local communities, integrating gender-responsive strategies, and building livelihoods, the project fostered equitable participation and ownership. Although building genuine social capital is

complex and hard to formalize, when achieved, it creates the foundation for innovation, collaboration and a shared vision. These are essential elements for long-term success in LDN projects.

Executive summary table 1. The GEF evaluation criteria rating table

The GEF criteria/dimensions	Rating	Summary comments
A. OUTCOMES (relevance, coherence, effectiveness and progress towards impact, efficiency)	HS	From Subsection 3.1 to Subsection 3.4
A1. Relevance	HS	Subsection 3.1
A2. Coherence	HS	Subsection 3.2
A3. Effectiveness	HS	Subsection 3.4
A4. Efficiency	HS	Subsection 3.3
B. SUSTAINABILITY (financial, sociopolitical, institutional and governance, environmental dimensions including risks to sustainability)	L	Section 5
C. IMPLEMENTATION	HS	Subsection 3.3.2
D. EXECUTION	S	Subsection 3.3.3
M&E plan	MS	Subsection 4.1
M&E implementation	S	Subsection 4.2
Overall project rating	S	

Note: HS= Highly Satisfactory; S= Satisfactory; MS = Moderately Satisfactory; MU= Moderately Unsatisfactory; U= Unsatisfactory; HU= Highly Unsatisfactory. A more detailed rating table is in Appendix 3.

1. Introduction

1. This report represents the findings, conclusions and recommendations of the terminal evaluation of the project “Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach” (GCP/TUR/065/GFF) from the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF), hereinafter referred to as the land degradation neutrality (LDN) project. It started on 15 August 2019 and closed on 31 December 2024.

1.1 Evaluation purpose and intended users

2. As defined in the terminal evaluation’s terms of reference (FAO, 2024a), the terminal evaluation aims to support learning, accountability, transparency, decision-making and knowledge sharing across the GEF partnership. It has the dual and mutually reinforcing objective of:
 - i. **accountability** – to assess the degree to which the project contributed to the development of a model for LDN target setting, planning and decision-making at the national level for demonstration in the Upper Sakarya basin; and
 - ii. **learning** – to assess the results of the project, their value in relation to the target beneficiaries, and the information needs and interests of policymakers such as the Ministry of Agriculture and Forestry and other actors with decision-making power, for example, FAO management and the FAO-GEF Coordination Unit. This also draws lessons from project implementation to inform the design and implementation of similar projects in the future. The learning objective is emphasized.
3. The terminal evaluation report is intended to inform three main audiences:
 - i. FAO-GEF stakeholders such as the Budget Holder, the Project Implementation Unit (PIU), the FAO-GEF Coordination Unit, project steering committee members, FAO country-level technical specialists and the country’s GEF operational focal point;
 - ii. national stakeholders such as the Ministry of Agriculture and Forestry, the General Directorate of Combating Desertification and Erosion (ÇEM, by its Turkish acronym), the General Directorate of Forestry (OGM, by its Turkish acronym), the General Directorate of Agrarian Reform (TRGM, by its Turkish acronym), and the General Directorate of Agricultural Research and Policies (TAGEM, by its Turkish acronym), as well as the provincial-level OGM and TRGM stakeholders; and
 - iii. local stakeholders such as farmers’ and women’s groups, technical consultants, and service providers like the Tekirdağ Lead Farmers’ Association.

1.1.1 Structure of the terminal evaluation report

4. This report is structured in line with the guidance on conducting terminal evaluations of FAO-GEF projects and in accordance with the terminal evaluation’s terms of reference (FAO, 2024a):
 - i. The **executive summary** provides basic project information and a brief description. This details its progress to date and provides a summary of the key findings, conclusions and recommendations. It includes the evaluation ratings and achievement table.

- ii. **Section 1** describes the background and context of the LDN project, outlines its components and implementation arrangements, and presents the theory of change (TOC).
- iii. **Section 2** provides a description of the evaluation scope, objectives, methodology and limitations.
- iv. **Section 3** presents findings on project performance against the FAO-GEF evaluation criteria: relevance; coherence; efficiency; co-financing; implementation and execution; effectiveness; and the GEF additionality.
- v. **Section 4** presents findings on all aspects of the project's monitoring and evaluation (M&E), including design and implementation.
- vi. **Section 5** presents findings on the sustainability of outcomes according to sociopolitical, financial, institutional, governance and environmental dimensions.
- vii. **Section 6** presents findings on applying the GEF's environmental and social policies and guidelines relating to environmental and social safeguards, gender, project partnerships and stakeholders, and communications and knowledge management.
- viii. **Section 7** provides conclusions, recommendations and lessons learned.

1.2 Project context and background

- 5. Türkiye's unique geographic, climatic and soil conditions, combined with rapid socioeconomic development, make the country highly vulnerable to desertification and drought. Although agriculture is the main source of income, only 17.5 percent of the total land surface consists of prime soils with high productivity and organic carbon content. Topographical, chemical and physical attributes limit the productivity of the remaining soils. Erosion is a severe environmental problem that affects 81 percent of the total land surface, with stream bank erosion impacting 57.1 million ha and wind erosion degrading another 466 000 ha. This results in an annual loss of 168 million t of soil to the sea (FAO and GEF, 2019).
- 6. Türkiye has implemented a series of efforts to mitigate the risks and alleviate the damages of land degradation and drought, including erosion control, afforestation and pasture rehabilitation. The country has developed several monitoring systems and national products related to erosion and land degradation that are useful to effectively mainstream LDN into monitoring and planning processes. In 2015, Türkiye hosted the 12th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP). Here, the Ankara Initiative was launched to leverage national expertise in combating land degradation. This aims to provide practical LDN support to other countries in the region.
- 7. In this context, the project "Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach" (GCP/TUR/065/GFF) was designed for the Upper Sakarya Basin. It aimed to test and further develop an approach to achieve LDN targets and promote implementation at the landscape and national scale. The conceptual basis of this project aimed to generate new and innovative approaches to national LDN target setting, planning and decision-making, and to demonstrate this in the Upper Sakarya Basin.
- 8. The project's outputs were designed to fill gaps in mainstreaming LDN into national policies. It was necessary to establish LDN monitoring capacity in line with the three United

Nations Convention to Combat Desertification (UNCCD) global LDN targets of monitoring trends in productivity, land cover and soil organic carbon (SOC).

9. This intervention contributed to the GEF Land Degradation 3 initiative on integrated landscapes and Programme 4 on scaling up sustainable land management (SLM) through a landscape approach. This was achieved by applying the LDN concept to improve intersectoral land use planning processes at subnational and national levels. It introduced best practices on the ground in the Upper Sakarya Basin. Project experiences aimed to inform scaling up to similar areas.
10. The project document was submitted to the GEF in November 2018. The project agreement was signed with the government on March 2019 and endorsed by the GEF Chief Executive Officer on 24 January 2019 (FAO and GEF, 2019). Although the project started its operation in August 2019, its activities did not begin until December 2019. These were expected to finish in August 2023. The project underwent a mid-term review (MTR) in December 2022. Following this, an extension was requested and granted until 31 December 2024 to mitigate two risks identified by the MTR: lack of close and collaborative cooperation between key institutional stakeholders from low to medium; and natural disasters from low to high. The latter was temporarily raised to this level due to the time remaining to complete field activities. However, the overall risk rating remained moderate. An overview of the basic project information is provided in Table 1.

Table 1. Basic project information

Project symbol: GCP/TUR/065/GFF	
Recipient country: Türkiye	Financing partner: the GEF
GEF project identification: 9586	
<u>Government/other counterpart(s)</u>	
Ministry of Environment, Urbanization and Climate Change	OGM
ÇEM	TRGM
Ministry of Agriculture and Forestry	TAGEM
Chief Executive Officer endorsement: 24 January 2019	
Expected entry-on-duty (EOD) (starting date): 15 August 2019	
Previous not-to-exceed (end date): 15 August 2023	
Actual end date: 31 December 2024	
The GEF focal areas: land degradation	GEF strategic objectives: Land Degradation 3 Programme 4 scaling up SLM through the landscape approach
Initial project risk certification (Environmental and Social Management [ESM] Unit): Low (23 June 2017)	
Reclassification (ESM Unit): Moderate (16 August 2018)	
Reclassification MTR: Moderate (December 2022)	
<u>Financing plan: the GEF allocation</u>	
The GEF financing (including project management costs USD 113 742):	USD 2 388 584
Co-financing Ministry of Agriculture and Forestry	USD 13 200 000*
Co-financing FAO	USD 400 000
Subtotal co-financing:	USD 13 600 000
Total budget:	USD 15 988 584
Total GEF grant disbursement as of December 2024	*USD 2 308 584 (97 percent)

Note: The USD 13 200 000 amount was confirmed upon Chief Executive Officer approval. The final one includes additional leveraged co-financing.

Source: FAO Türkiye Operations Department. December 2024.

1.3 Project description

11. The LDN project was implemented in the Upper Sakarya Basin, Türkiye. More specifically, the project was implemented in three provinces – Ankara, Eskişehir and Kütahya – using microbasins as pilot sites. The project's objective was to develop a model for LDN target setting, planning and decision-making at the national level, and to demonstrate it in the Upper Sakarya Basin. The project was structured around four distinct components.
- i. **Component 1. Strengthen the enabling environment for LDN** around the delivery of a capacity development programme on LDN target setting for local and central government staff. This component targeted all three levels of the FAO capacity development framework – individual, organizational and enabling environment – to both strengthen stakeholder engagement at all levels and identify needs for new legislation or the revision of existing legislation. A National Online Information Sharing Forum on LDN was to be created to support implementation of the LDN approach based on the project's experiences. The integration of LDN into strategic planning processes aimed to strengthen the enabling environment for LDN implementation.
 - ii. **Outcome 1.1. Enhanced enabling environment for LDN.**
 - iii. **Component 2. The decision support system (DSS) for LDN** aimed to develop a geographic information system (GIS) tool to prevent land degradation and ensure that the country achieves the LDN targets in the project. The following were expected to feed into the national system: Watershed M&E System; Dynamic Erosion Monitoring System; Land Information System; Identification of Potential Reforestation Area Model; Türkiye Desertification Model (TÇM, by its Turkish acronym); SOC Model; Collect Earth for Land Productivity; and National Land Use Land Cover Model.
 - iv. **Outcome 2.1. The DSS for LDN target setting and planning established.**
 - v. **Outcome 2.2. Monitoring system and related capacity for LDN in place.**
 - vi. **Component 3. Demonstration of the LDN approach in the Upper Sakarya Basin.** This focused on innovative approaches to multisectoral land use planning based on testing and implementation in the Sakarya Basin. The SLM and sustainable forest management (SFM) practices were to be carried out with intersectoral coordination and basin-based, integrated and participatory planning. In planning and implementation, there was a focus on new knowledge, findings and techniques, for example: innovations in agriculture; advanced livestock techniques; conservation tillage practices; and others that would help raise the income and welfare of the people in the basin and sustain a healthy environment. These were to be introduced and demonstrated. Basin-based mixed production systems would be used for preventing, balancing and improving land degradation.
 - vii. **Outcome 3.1. Improved land management, land cover and increased SOC in the Upper Sakarya Basin.**
 - viii. **Outcome 3.2. Land productivity increased by 10 percent, and livelihoods for local communities strengthened.**
 - ix. **Component 4. The scaling up of LDN experiences and M&E** were intended to reproduce and scale up the project's experience nationally and to support adaptive management during implementation. The LDN monitoring system, developed and

calibrated based on experiences from the Upper Sakarya Basin, was to be scaled up nationally. This would be facilitated by existing land degradation monitoring systems in Türkiye. In addition, this component would establish a project monitoring system on the monitoring of global environmental and socioeconomic benefits generated by SLM and SFM. Lessons and experiences would be drawn from this monitoring to identify priorities for investments and bankable projects that will ensure that land degradation losses are balanced with gains from SLM and SFM interventions in similar land cover classes.

- x. Outcome 4.1. Scaling up of the LDN DSS to the national level covering all of Türkiye (78.4 million ha).
 - xi. Outcome 4.2. Monitoring of project results, lessons learned and dissemination.
12. The project document described an Operational Partners Implementation Modality (OPIM), with the Ministry of Agriculture and Forestry acting as the executing agency. This was changed to a direct implementation modality with a PIU contracted by and located in the FAO Country Office during the project inception phase and reported in the inception report (FAO, 2019a), but no justification was provided. The switch in modality was at the request of the government. FAO had already carried out the necessary fiduciary assessment (FAO, 2019b) and submitted an operational partner agreement when the request was sent to FAO that the project should be implemented directly by the agency due to these reasons.
13. The MTR determined from senior key respondents interviewed that this change in implementation modality was due to institutional restructuring. This had taken place between the project preparation phase – the fact that ÇEM, as the project coordinator, did not have regional directorates – and concerns about familiarity with the GEF project implementation procedures and experience of key project partners to implement a GEF project, especially at the district level.

1.4 Theory of change

14. A revised TOC was prepared during the MTR and further refined during the terminal evaluation (see Appendix 2). There are limitations on retrofitting a TOC, not least because, if it is to have any utility to the project implementation, it must incorporate most of the elements of the original design and not necessarily represent an ideal solution. In this instance, the project's original TOC presented an arrangement of components, outcomes, outputs and indicators that was confusing at times and largely recreated the project's M&E framework. Furthermore, the incorporation of both global expectations regarding LDN target setting and local SLM interventions within one project resulted in weaker linkages between inputs and outcomes within the human, material, financial and time envelope of a single project.
15. In reconstructing the TOC, the 2023 MTR tried to closely mirror the strategic logical hierarchy (inputs, outputs, outcomes) from the project document. The revised TOC outline detailed the causal pathways.
- i. A broad two-fold problem statement:
 - Weaknesses in the enabling environment due to a mismatch between LDN needs and the policy, planning and institutional framework which, *inter alia*, result in weak prioritization of resilience (LDN) in land use policy and planning alongside weak institutional capacities to mainstream LDN and SLM into policy, planning and investment, including monitoring land degradation

- markers (targets). This mismatch resulted in land degradation and an inability to develop a coherent approach to combating land degradation, including a failure to quantify degradation and qualitatively assess interventions at different scales. The lack of agreed upon metrics for land degradation made it impossible to objectively evaluate the effectiveness of interventions.
- Weak interagency collaboration and broader cross-sectoral participation limited awareness and effective land use planning and approaches. This drove them towards measures that further degraded soils and contributed to land degradation.
- ii. Therefore, it was necessary to have an intervention that developed the technical tools and capacities to assess land degradation at scale and cost-effectively (including data collection). This would involve:
- developing the tools (DSS), methodologies and common metrics to effectively measure land degradation at scale;
 - building the technical capacities across institutions to use these tools to achieve LDN;
 - facilitating broader cross-sectoral participation (vertically and horizontally) to provide policy coherence and collective action; and
 - demonstrating SLM at the field level through the pilot projects.
- iii. These tools, methodologies and common metrics, technical capacities, cross-sectoral participation, and demonstrations of SLM were a prerequisite for:
- integrated and cross-sectoral planning underpinned by LDN;
 - evidence-based planning to develop more coherent plans and interventions;
 - agreed indicators of land degradation and LDN, and M&E to support adaptive management; and
 - reducing the causes of land degradation and improving land management towards a more positive situation, as measured by a range of indicators like trends in land cover, productivity and SOC.
- iv. Developing these tools and capacities would result in:
- continuous surveillance and sharing of agreed upon metrics of LDN at increasing scales;
 - capacities, collaboration and skills necessary for proactive collective action across all policy sectors developing LDN-coherent policies and plans;
 - resilient agroecological systems providing a greater range of ecosystem goods and services; and
 - resilient rural societies characterized by "the capacity to undergo disturbance while maintaining both [their] existing functions and controls and [their] capacity for future change" (Gunderson, 2000).
- v. The causal pathways were based on a number of assumptions that would be, arguably, external to the project's direct ability to exert significant influence due to their roots in external sociopolitical, cultural and broader economic cause and effect pathways. They were identified as:
- planning trade-offs (largely macroeconomic) weighted towards socioecosystem resilience;
 - equitable and transparent access to information, resources and services;

- land tenure reforms and changes weighted towards LDN and not efficiencies in agricultural production; and
 - gender equality in access to land, finance, education, training and the provision of services.¹
- vi. Four drivers were likely to have the strongest influence (positive or negative depending on the driver values and global and national priorities) but were largely outside the project's sphere of influence:²
- planning policy and frameworks moved to devolving (or decentralizing, which would have a lesser effect) authority and responsibility to land users within a planning framework (the corollary to this would be that a centralizing policy environment would be much less positive);
 - levels of investment in institutional technical capacities, including human resources;
 - markets and market distortions such as subsidies and other support mechanisms (CBD, 2025);³ and
 - UNCCD coordination of efforts to standardize LDN data and surveillance systems at the global level.
- vii. Depending on the relative strength of the drivers, the resulting outcomes would be:
- continuous surveillance of agreed upon LDN indicators and time-bound LDN targets with standardized and comparable metrics;
 - transparent data sharing that contributes to national, regional and global understanding of complex socioecosystems;
 - proactive and adaptive planning frameworks; and
 - resilient agroecosystems and rural societies characterized not just by their "ability to buffer or absorb shocks, but also by [their] capacity for learning and self-organisation to adapt to change" (Gunderson and Holling, 2002).
16. Over time, these outcomes would result in a number of LDN-positive impacts. These would broadly equate to the LDN objective, the GEF land degradation global benefits, the GEF-7 programmatic goals and two of the Sustainable Development Goals (SDGs), summarized here as:
- i. resilient agroecosystems and rural livelihoods, including food security;
 - ii. climate change mitigation and adaptation;
 - iii. greater spatial area under SLM showing positive signs of LDN or recovery;
 - iv. improvements in socioecosystems to provide ecosystem goods, services and functions;
 - v. an increase in the sequestration of carbon dioxide from emissions; and

¹ This was identified as a driver in the MTR TOC but should be retrospectively elevated as an assumption.

² Three stochastic drivers were provided in the MTR but not included here: climate change; plant and animal diseases; and global and regional security.

³ "Identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least 500 billion United States dollars per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity" (CBD, 2025).

- vi. responsible food production providing additional social and ecosystem benefits.
17. The 2022 MTR critically identified that the project document included an unstated assumption. This was repeated in the revised (MTR) TOC on the basis that it was not possible to identify any project activities, outputs or outcomes that would justify the assumption that the project would produce the behavioural changes within a sufficient time frame. This is the single, critical intermediary state necessary to achieve the longer-term impacts. These are the soft or informal aspects of the enabling environment to drive or mainstream LDN objectives, policy and operational cultures among a diverse group of stakeholders.
 18. The MTR stated that this adaptive change was taking place, to some extent, with the project acting as a catalyst. This would produce the collaborative governance approach necessary to address a collective action challenge. However, much of this was due to the project creating a present focus, and the fact that it was important to embed this focus within the key players before the end of the project.
 19. To some extent, this was identified in the project's risk identification and rating (see Appendix 3) in terms of a lack of close and collaborative cooperation between key institutional stakeholders, and unclear responsibilities of institutions at the national and local levels. These two risks, both rated as low, relate more closely to the project's implementation and not the impact pathway (see Section 5).

2. Methodology

2.1 Scope of the evaluation

20. The evaluation covers all project activities in the Upper Sakarya Basin in Türkiye, beginning with the Project Identification Form dated April 2017 to the current final period of implementation evaluation in late 2024.
21. The evaluation assesses the performance and results of the project in:
 - i. capacity building to support SLM and LDN activities and sustainable livelihoods in the Upper Sakarya Basin;
 - ii. institutional capacity building to enable national LDN and SLM initiatives;
 - iii. effective LDN monitoring and target setting through the DSS in Türkiye; and
 - iv. scaling up the DSS as an effective LDN monitoring and target setting tool to support the UNCCD.

2.2 Evaluation objective and evaluation questions

22. The terminal evaluation provides a comprehensive and systematic assessment of the project execution, performance, and factors that affect execution and performance. It provides accountability and learning to inform the formulation and implementation of future projects.
23. The evaluation uses the GEF evaluation criteria of relevance, coherence, efficiency, effectiveness and sustainability, implementation and execution, M&E, co-financing, and the application of the GEF policies and guidelines. Evaluation questions were developed for each criterion (see Table 2).

Table 2. Evaluation questions by the GEF criteria

Criteria	Dimensions	Evaluation questions
Outcome (to be rated)	<i>Relevance (to be rated)</i>	- To what extent are the project (the three project components) scope and objectives aligned with current country environmental and development priorities, the GEF focal areas/operational programme strategies, the FAO Country Programming Framework, the national policy framework, the mandates of executing partners, and the needs and priorities of targeted beneficiaries? - How is the project responding to the national needs on land degradation, programmes and priorities set by the Government of Türkiye on LDN? - How is the project clearly contributing to the achievement of FAO's commitments to SDG 15 and other related SDGs? - To what extent does the project support the process initiated by the 12th COP, which was hosted by Türkiye? - How relevant is the project strategy to the project's area/national context and circumstances? - How did the project determine the interventions and intervention sites? - How have stakeholders benefited from the project's approach and use for new projects funded by other donors? - Do stakeholders continue to have an active role in project and outcome decision-making that supports efficient and effective project implementation? If so, how is this achieved?
	<i>Coherence (to be rated)</i>	- To what extent is the project coherent with other development interventions in the same context, adding value and avoiding duplication? - What is different between this project and other LDN projects that have been initiated in the region? - Does the project design (internal coherence of the project components) provide a comprehensive approach to address desertification and land degradation? - How did this project contribute to achieving Türkiye's goals and commitments to combat land degradation and desertification?
	<i>Efficiency (to be rated)</i> - <i>Materialization of co-financing (NOT to be rated)</i> - <i>Implementation (to be rated)</i> - <i>Execution (to be rated)</i>	<u>Implementation</u> - Was the project cost-effective in converting inputs to results in a timely and economical manner, and how did the FAO/executing partners partnership influence project efficiency? - To what extent did FAO and the executing agencies fulfil their roles and responsibilities across project phases, and how effectively did the agencies identify, manage, and respond to internal and external changes that impact project implementation? - How is FAO monitoring progress and technical quality of the work of the executing partners? Is the Budget Holder/project team appropriately equipped to monitor and oversee the executing partners? Does it get support if needed? Does monitoring lead to the

Criteria	Dimensions	Evaluation questions
		implementation of corrective actions and the improvement of identified weaknesses? <u>Execution</u> - To what extent have the executing agencies, including the selected executing partners, effectively fulfilled their roles and responsibilities in the management and administration of the project? - What impact has the change in implementation modality had compared with the planned (project document) execution? - Has this affected compliance with the social and environmental screening process safeguard requirements? <u>Additionality</u> - What is the incremental value that the GEF grant has brought about to results achieved (in terms of innovative approaches, technologies, etc.)? <u>Co-financing</u> - To what extent did the planned co-financing materialize, and how did the shortfall in co-financing, or the realization of greater than expected co-financing, affect project results?
	<i>Effectiveness</i> <i>- Additionality (NOT to be rated)</i> <i>- Contribution of co-financing to results achievement (NOT to be rated)</i> <i>- Progress towards impact (IF feasible and NOT to be rated)</i>	- To what extent did the project contribute to its intended outcomes? - Have there been any local initiatives to continue to build capacity? - How effectively did the FAO/executing partners partnership, including changes in implementation modality, support capacity building and project outcome achievement? - Was the project strategy and means of implementation the most effective means to achieve the objective (did all the results contribute directly to the outcomes)? - What factors have contributed to achieving or not achieving intended outcomes and outputs? Could the project include alternative strategies? - To what extent has the project demonstrated: a) scaling up; b) replication; c) demonstration; and/or d) production of public good?
Sustainability (to be rated)	/	- What is the degree of ownership of project achievements among institutional, regional and local actors, and to what extent has the project anticipated and planned for key risks to ensure the sustainability of benefits? - What advantages and disadvantages for the achievement, ownership and sustainability of results did the project obtain because of the delegation of selected project results implementation to the operational partner(s)?
M&E design (to be rated)	/	- To what extent did the M&E system meet the GEF requirements, with well-defined indicators and systematic data collection to inform project progress and decision-making? - To what extent did the M&E plan sufficiently identify resources and budget for the M&E activities, and

Criteria	Dimensions	Evaluation questions
		align with the project's theory of change and M&E requirements?
M&E implementation (to be rated)		Was information gathered systematically, in a timely manner and according to a robust methodology? How could the process be improved?
Application of the GEF policies and guidelines (NOT to be rated)	<i>Environmental and social safeguards (including human rights and Indigenous Peoples as relevant)</i>	To what extent were environmental, social and human rights concerns – including gender equality, empowerment and equity – integrated into the project's design and implementation, with specific consideration of analysis, implementation plan, indicators, targets, budget, time frame and responsible parties?
	<i>Gender</i>	- Did the project design include gender considerations and the inclusion of targeted beneficiaries according to FAO and the GEF policies? - Were any potential negative impacts identified on gender equality, women's empowerment or marginalized groups? If so, what mitigation measures were put into place?
	<i>Project partnership and stakeholder engagement</i>	How effectively were local communities, including women, Indigenous Peoples, people with disabilities, and other disadvantaged or marginalized groups, informed, consulted and involved in decision-making, and to what extent did they participate and benefit from the project?
	<i>Communications, knowledge management and knowledge products</i>	How effective has the communication of project lessons been? What knowledge products did the project develop? Was project experience communicated at the appropriate level?
Lessons learned (NOT to be rated)		What knowledge, lessons or best practices have been generated from the project's results and experiences that are applicable for broader use, replication or scaling?

Source: FAO Office of Evaluation. 2024. *Terms of reference for the terminal evaluation of the project "Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach" from 2019 to 2024*. Project code: GCP /TUR/065/GFF, GEF ID: 9586. Rome. 28–34.

2.3 Methodological design

25. The evaluation adheres to the United Nations Evaluation Group's Norms and Standards (UNEG, 2017). It aligns with the FAO Office of Evaluation and the GEF manual and methodological guidelines and practices. The assessment was carried out by an international and a national consultant who followed a consultative and transparent approach with internal and external stakeholders throughout the evaluation process.
26. The methodology involved analysing the project's M&E framework⁴ of intervention and assessing whether the expected outputs and outcomes are being achieved based on the values of the indicators against the end-of-project targets. The TOC (both from the project document and the revised TOC developed during the MTR) were used to identify the causal

⁴ The primary M&E tool is also referred to as the log framework, logframe or Strategic Results Framework.

- mechanisms and contextual factors that have, and may continue to, influence these outcomes.
27. The evaluation was guided by the evaluation matrix (see Appendix 9). The matrix was made up of and expanded on the evaluation questions provided in the terms of reference. The final evaluation questions were developed through a constructive dialogue with the FAO Office of Evaluation and the PIU, and then guided by the GEF evaluation criteria. Rated criteria are assessed using the rating scheme (see Appendix 3). For each evaluation question, the evaluation matrix develops corresponding indicators, relevant sources of evidence and type of analysis.
 28. This evaluation relies on descriptive analyses of qualitative data from primary and secondary data sources.
 29. **Desk review:** the reviewed documentation included project design, implementation progress reports, project reports, monitoring and review studies, local and national development plans, and policies and regulatory instruments.
 30. **Interviews:** additional information was collected and validated through 38 remote⁵ (where necessary) and face-to-face⁶ (where possible) interviews with a range of stakeholders. These were conducted with personnel from: the FAO-GEF Coordination Unit; FAO at regional and country levels; members of the project steering committee; and the other national project partners. Interviews were also conducted with regional and local stakeholders involved in the Farmer Field School (FFS) or pilots and the service provider.⁷ Stakeholders were selected by the Evaluation Team and project team together, based on their role in the project (design, implementation, technical, beneficiary) and their vertical involvement in the project (regional, national central, provincial, district and local community, including service providers). This provided a broad cross-section of perspectives and experiences. The GEF implementing agency, the Government of Türkiye, technocratic stakeholders, provincial and district agencies, and local community beneficiaries were also included.
 31. The Evaluation Team developed semi-structured interview protocols for each group of stakeholders, namely the management team, experts from the scientific community, partner organizations, donors, government officials and external (to the project) stakeholders (see Appendix 1).
 32. **Field mission:** after meetings in Ankara, the Evaluation Team undertook a four-day field mission to the project area from 10 to 13 December 2024 to hold meetings with the Kütahya Provincial Directorate of Agriculture and Forestry, the Kütahya Regional Forestry Directorate, the Eskişehir Provincial Directorate of Agriculture and Forestry, and the Eskişehir Regional Forestry Directorate. The Evaluation Team also visited three villages – Yaylababa, (Kütahya), Sivrihisar and Kureyşler (Eskişehir) – to meet with the local government and agencies, community representatives, project partners, service providers and field activity participants. This was done mainly through the focus group discussions (FGDs) and informal meetings, and to inspect on-the-ground activities under Component 3. These villages were selected based on current weather conditions and available SLM practices in the field. In fact, field activities in other project areas had largely

⁵ Remote interviews were carried out using appropriate platforms such as Zoom or Microsoft Teams. Wherever possible, interviews were held face-to-face, with some in the capital.

⁶ All district-level interviews with beneficiaries were to be carried out through face-to-face interviews or as FGDs.

⁷ This would be the Tekirdağ Lead Farmers' Association.

ceased due to winter. The purpose of these site visits was to make direct observations of the field activities and to speak directly with beneficiaries, including women's groups and cooperatives, to obtain beneficiary feedback and a better understanding of the project results at this level. The evaluation could then validate compliance with FAO and the GEF environmental and social safeguards and to directly quantify and qualify the benefits and their relevance to the project objective. In particular, the evaluation sought to understand linkages between the DSS, beneficiaries, and changes in land use and land users' behaviour and approaches to agricultural production and their livelihoods. Approximately 30 project beneficiaries, mostly women (35 in total), were reached through FGDs selected from the field intervention areas (organizational, capacity building and agricultural activities). Following the field mission, the Evaluation Team also attended (remotely) a DSS workshop in Jordan from 26 to 28 December 2024.

33. **Gender equality and women's empowerment:** the evaluation tried to collect data on gender-disaggregated results arising from project activities, inclusion, and participation of women through their involvement in interviews and the FGDs. The interview protocols included specific questions regarding the extent to which women were included in project implementation and the extent to which the project empowered them. The collected data were assessed against five criteria.
 - i. **Gender-negative results:** results had a negative outcome that aggravated or reinforced existing gender inequalities and norms.
 - ii. **Gender-blind results:** results placed no attention on gender, and failed to acknowledge the different needs of men, women, girls and boys or marginalized populations.
 - iii. **Gender-targeted results:** results addressed differential needs of men and women and the equitable distribution of benefits, resources, status and rights, but not the root causes of inequalities in their lives.
 - iv. **Gender-responsive results:** results addressed differential needs of men and women with an equitable distribution of benefits, resources and rights. The outcomes worked towards reducing gender disparities by tackling the underlying causes of inequalities.
 - v. **Gender-transformative results:** results contributed to changes in norms, cultural values, power structures, and the roots of gender inequalities and discrimination.
34. Gender and other cross-cutting issues were examined through the project's social and environmental screening process and the environmental and social safeguards assessment that accompanied the project document (Project Risk Certification, 23 June 2017). This included an assessment of any grievances or safeguarding measures, as well as the Gender Action Plan to determine compliance with the FAO policy on gender equality 2020–2030 (FAO, 2020).
35. The two-person (one male and one female) Evaluation Team included a native Turkish speaker to ensure that the evaluation reached out to female stakeholders. The Evaluation Team was assisted by an independent interpreter (Turkish-English), plus simultaneous interpretation during online interviews.
36. **Analysis:** following the data collection phase, the Evaluation Team analysed information according to the FAO terminal evaluation guidelines (FAO, 2019b) and the terms of reference to draw conclusions and propose recommendations. The Evaluation Team triangulated multiple sources to determine if results converge or are supportive of one

another through feedback from key informant interviews (KIIs), the FGDs, direct observations during missions and documents to assess the project's results, their sustainability, and plausible future results and implications. Any remaining barriers to their achievement were also identified. Based on this analysis, the evaluation formulated findings, conclusions and recommendations for the future direction of programming and to enhance the likelihood of sustainability for the project outcomes.

37. The Evaluation Team further confirmed, analysed and debated the emerging understanding and conclusions through an iterative process. This included, where necessary, follow up with project stakeholders to ensure that there is a logical and evidence-based progression from findings and conclusions to recommendations.
38. Following the field mission, there was a debriefing to cross-check and validate the preliminary findings and conclusions, and to discuss practicable recommendations. The preliminary findings were presented in a PowerPoint presentation.

2.4 Limitations

39. The Evaluation Team faced the following limitations.
 - i. The lack of outcome-level indicators was a significant gap. In some instances, the evaluation had to infer progress and results using proxy measures and triangulating perspectives from interviews. This has some inherent subjectivity compared to measurable indicator targets. The evaluation provides, as much as possible, credible narrative descriptions to justify any findings and conclusions.
 - ii. Measuring long-term results and sustainability was a challenge, especially for field-level activities that were delayed due to the COVID-19 pandemic. Many Component 3 community-based interventions needed more time to demonstrate results and be fully embedded vis-à-vis agricultural cycles.
 - iii. There were limitations to the field visits. Due to the approaching winter, many of the field activities had ceased by the time of the field mission. In fact, the beneficiaries had dispersed. To overcome this, the Evaluation Team met with women's cooperatives that had been established by the project. The team also visited some of the greenhouses.
 - iv. As noted in the MTR, the LDN project included both technical (geospatial information systems) and adaptive interventions (SLM practices with practical agricultural techniques, social and organizational aspects, behavioural changes, and finance, among others). Evaluating such a diverse range of project issues would necessitate a much larger and multidisciplinary team than the evaluation budget would support. Therefore, there were inevitable limitations for the two-person Evaluation Team, particularly on the highly technical and specialist aspects of the geospatial data systems, that is, the DSS.
 - v. The evaluation identified that gender-disaggregated data were not systematically collected across all project activities due to weaknesses in the M&E framework indicators. This limitation restricted the ability to quantitatively assess gender-differentiated impacts and fully understand how the project had influenced women's empowerment. Consequently, the project's contribution to sustained gender equality remains partially evidenced by qualitative feedback rather than robust, measurable outcomes.

3. Project performance

3.1 Relevance

Rating: Highly Satisfactory

Finding 1. The project's objectives and outcomes were relevant at the time of design. They remain relevant to Türkiye's policy and regulatory framework and objectives, for instance, the 12th national development plan budget commitments to LDN (2024–2028) (Presidency of the Republic of Türkiye, 2023). The project also aligned well with the FAO Strategic Framework 2022–2031 (FAO, 2021), and supported the GEF Land Degradation 3 focal area and the UNCCD LDN goals.

40. The project aligned with the national policy framework and objectives. The project document listed 35 normative documents and programmes relating to land degradation and SLM. This demonstrated consistency with the various strategies, programmes and action plans promulgated by the government's commitments under the relevant international environmental conventions and the adopted national development plans.
41. The project aligned with the relevant Rio Conventions, the UNCCD and the United Nations Framework Convention on Climate Change. Indeed, it contributed significantly to the implementation of the 2006 national action programme on combating desertification (UNCCD, 2006), including:
 - i. mismanagement of agricultural lands and inappropriate agricultural practices, such as unplanned, uncontrolled overgrazing of rangeland and pastures;
 - ii. lack of due regard for botanical, cultural and physical soil conservation measures; and
 - iii. soil degradation from wind and water erosion, which are being addressed under the 2015–2023 National Action Plan (ÇEM, 2015). This coordinates all relevant organizations' approaches and plans regarding desertification with a key emphasis on biodiversity and climate change mainstreaming.
42. The project was relevant to the GEF Land Degradation 3 focal area to reduce pressures on natural resources by managing competing land uses in broader landscapes, and Programme 4 to scale up SLM through the landscape approach. The DSS is demonstrating significant contributions to other countries' ability for LDN target setting and monitoring, especially the versatility of the Google Earth Extension application (Google Earth Engine application) (FAO, 2025) through its use in 18 countries (WOCAT, 2025).
43. At the time of development, the project was consistent with the FAO policy framework, specifically:
 - i. FAO's 2018 Strategic Objective 2, which aims to increase and improve the provision of goods and services from agriculture, forestry and fisheries in a sustainable manner, and Strategic Objective 5, which aims to increase the resilience of livelihoods to threats and crises;
 - ii. FAO's Regional Initiative 3, which focuses on the sustainable use of natural resources, adaptation to climate change and disaster risk management; and
 - iii. FAO's 2016–2020 Country Programming Framework for Türkiye (FAO, 2016), which contributes to Outcome 1 on food nutrition security and food safety, Outcome 2 on sustainable forest and natural resources management, and Outcome 3 on institutional capacity enhancement and public and private sectors.

44. The project results remain consistent with FAO's Strategic Framework 2022–2031 (FAO, 2021) in the following Programme Priority Areas: better production, specifically innovation for sustainable agriculture production, small-scale producers' equitable access to resources and digital agriculture; better environment, specifically climate change mitigation, adapted agrifood systems, bioeconomy for sustainable food and agriculture, and biodiversity and ecosystem services for food and agriculture; and better life, specifically gender equality and rural women's empowerment, and inclusive rural transformation. At the same time, this added to the four cross-cutting sectional accelerators identified as innovation, technology, data and complementary accelerators (governance, human capital and institutions). The project also remains consistent with the new FAO 2021–2025 Country Programming Framework for Türkiye (FAO, 2016).

Finding 2. The project outcomes address the needs of national stakeholders across a broad range of institutions and those of the community of farmers. At the institutional level, the project addressed the need for a versatile planning and monitoring tool through the DSS, and increased capacities and skills to implement the LDN policies through ad hoc capacity building activities. The SLM activities introduced new, collaborative approaches between extension services and farmers.

45. Institutionally, the DSS addressed the need for a planning tool that can contribute to an evidence-based approach to policymaking. Its utility was demonstrated in updating national reports and formulating the National Development Plan. For example, the DSS provides important processed data for other aspects of land management such as prioritizing the implementation sites under the National Watershed Management Strategy (Republic of Türkiye Ministry of Forestry and Water Affairs, 2014).⁸ The capacity building effects of the project appear to have been an important aspect of this by making the DSS accessible to a broad range of institutional stakeholders.
46. In principle, the SLM approaches of Component 3 were also relevant to the TRGM and TAGEM by introducing new and multifaceted approaches to interactions with farmers and collaborative approaches to problem solving. This may be more effective in scaling down the delivery of agricultural extension services than traditional top-down approaches.

3.2 Coherence

Rating: Highly Satisfactory

Finding 3. The DSS and its associated capacity building and tools are coherent with both the direction and needs of the UNCCD LDN approach at the national and local scales.

47. External coherence can be seen in the comprehensive national policy and regulatory framework related to land management, as evidenced by the 33 sector policies and other normative documents cited in the project document (see Appendix 5). The DSS was adopted. It is used in a range of national land use planning processes, such as national microbasin planning, and in prioritizing implementation sites in the National Watershed Management Strategy. For instance, in determining priorities in the National Watershed Management Strategy, the DSS contributed to developing a response hierarchy and actions for Şanlıurfa Province in southeast Türkiye. Furthermore, LDN resource allocation in the 11th and 12th National Development Plans was prioritized based on the data analysis presented in the DSS.

⁸ The versatility and utility of the DSS, as well as interest in its application to LDN, was demonstrated during a DSS workshop in Jordan from 26 to 28 November 2024 and remotely attended by the Evaluation Team.

Finding 4. Internal coherence was maintained by following an adaptive management approach during implementation.

48. Internal coherence,⁹ combining the DSS and the pilot projects, was high. The former is a highly technocratic intervention, and the latter is a more nuanced and adaptive intervention. However, this needed to be considered against the original project document. While providing a reasonable strategic approach – that is, policy, capacity, technical tools, pilot and knowledge management – the project document was unnecessarily prescriptive in that it was a mixture of technical and capacity outputs and technical specifications. Also, given the technical advances in the field of GIS and remote sensing, as well as the dynamic nature of farming and complex cause and effect interactions between internal and external drivers (technological, markets, political), the very specific outputs of both project components could easily have become irrelevant or obsolete. The evaluation argues that had it been implemented verbatim,¹⁰ there would have been reduced coherence between the project context, implementation approach and objectives. It would not have been as successful. Nevertheless, the project remained adaptive to changing circumstances and constant evolutions in the sector. This ensured that the DSS and pilot interventions remained logically connected and part of a coherent project approach.

Finding 5. The DSS had a profound effect on the work programmes of FAO, the GEF Secretariat and the UNCCD.

49. Desk research provided evidence that there has been rapid adoption of the DSS across a significant number of countries. It is being used in the development of new FAO-GEF projects in South America, Africa, the Middle East, Central Asia, Southeast Asia and the Caribbean (FAO and GEF, 2022; GEF, 2024; FAO, 2024c; González, 2025). It is supported by the World Overview of Conservation Approaches and Technologies (WOCAT) and the United Nations Development Programme in determining and developing new LDN projects with corresponding integration into national monitoring systems (Tekin, n.d.). The utility and versatility of the DSS has also been recognized by the UNCCD.

3.3 Efficiency

Rating: Satisfactory

Finding 6. Overall, the project was delivered in a timely manner.

50. Reporting, monitoring and other project events such as project steering committee meetings, budgeting and work planning were carried out conscientiously and in a timely manner. There were some bureaucratic delays, for instance in travel approvals and security clearances, among other normal bureaucratic procedures, and a four to five month delay in setting up a PIU. However, overall, the project appears to have had a “can do” attitude. Furthermore, there is consensus across the board among stakeholders that the professionalism and energy of the PIU, in particular the project coordinator, was a significant factor in making this happen.

Finding 7. Despite delays during the early years and the effects of the COVID-19 pandemic restrictions, the direct implementation modality was an efficient way to implement a complex proposal that had inherently complex procurement challenges – especially in relation to the sourcing and engagement of high quality international, regional and national technical assistance.

⁹ The GEF internal coherence requires the evaluation to consider whether the project design provided a practical approach for addressing the targeted environmental concern(s).

¹⁰ This means implemented according to exactly the same words as originally used.

51. The very technical nature of the DSS and the innovative nature of the SLM approaches introduced by the project created significant procurement challenges. This involved sourcing specific technical expertise and experience, contracting consultants, and being flexible in reimbursement without having to apply normal civil service and government rates or constraints. This allowed the project to engage very high quality and experienced technical support. Furthermore, FAO procurement was responsive to the changing, that is, adaptive, needs of the project.
52. The COVID-19 pandemic impacted the project and caused some delays. This mostly affected Component 3 activities because of the nature of the fieldwork. Delays to other components, in particular the DSS of Component 2, were minimized by an efficient move to remote work for activities. This was better for the DSS development as considerable planning was done during this period. Further, this allowed for Component 3 fieldwork to commence as soon as restrictions were lifted.

Finding 8. Despite the early change in implementation modality and significant and disruptive extremes like the COVID-19 pandemic and the 2023 earthquake in the southeast, budget expenditure was good.

53. Budget delivery in 2021 was low at USD 154 252. Nevertheless, in 2022 it rose to USD 659 758, including USD 402 152 in Component 3 due to efforts made in bringing the project back on track. The project tackled challenges posed by the COVID-19 pandemic. Later in 2023, when the delivery was USD 360 034, the earthquake responses in the southeast caused the rate to dip again.
54. Budget execution (see Table 4) reflected the challenges of starting up a project and the difficulties in translating the project document into a functioning project. In fact, 2020 and 2021 (see Table 4) illustrate the impact of the COVID-19 pandemic on project activities. Notwithstanding, the PIU was efficient in work planning and showed a high level of organizational skills across the diverse range of project partners and stakeholders. This included: regular contact with executing partners at the district level; liaison with local communities, with contact expanded through service providers; following up on enquiries; distributing reports and information; and organizing national and international events.¹¹
55. The budget execution was efficient despite setbacks such as the COVID-19 pandemic and the 2023 earthquake, which understandably took attention away from the project (see Table 2). There were good financial controls and reporting, as highlighted in the 2021, 2022, 2023 and 2024 Programme Implementation Reports (PIRs). There were no budget revisions (see Table 2).

¹¹ This includes a study tour to Portugal in 2024.

Table 4. Project budget execution

Component	Actual year	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Total	Total budget (project document)	% execution (terminal evaluation)
Component 1										
Strengthen the enabling environment for LDN (USD)	Actual	16 467	7 804	14 760	52 576	68 152	251 300	411 060	411 061	100%
Component 2										
DSS for LDN (USD)	Actual	0	42 350	47 921	82 562	81 099	96 056	349 990	350 000	100%
Component 3										
Demonstration of the LDN approach in the Upper Sakarya Basin (USD)	Actual	0	20 897	36 393	402 152	135 045	590 334	1 184 823	1 184 800	100%
Component 4										
Scaling up of LDN experiences and M&E (USD)	Actual	0	12 913	33 416	87 734	75 736	115 307	325 109	325 123	100%
Project management										
(USD)	Actual	1 404	59 733	21 760	34 701	0	0	117 599	117 600	100%
Totals (USD)		17 871	143 699	154 252	659 728	360 034	1 052 998	2 388 584	2 388 584	100%

Source: FAO Türkiye Operations Department.

3.3.1 Co-financing

Finding 9. Actual co-financing exceeded the original commitments by a magnitude of approximately three times the original figure. This was used to establish data sets and national support systems as a multiplier for the activities under Component 3. Co-financing had a significant effect on the success of the project and represents a proxy of national ownership and institutional sustainability.

56. Co-financing reported¹² in the 2024 PIR was USD 38 038 491,¹³ which exceeded the original project document commitments (USD 13 600 000, including the USD 400 000 contribution from FAO). This gave a ratio of 1:16 GEF funding to the government – well above the expected GEF-6 1:6 ratio – and an increase on the initial commitment of 1:5.7. Co-financing was accurately recorded and attributable to specific LDN activities, but the evaluation could not disaggregate this by component.
57. The co-financing, including the additional leveraged co-financing, was very effective and demonstrated the Government of Türkiye's commitment to the project's achievements – especially the DSS.
58. Co-financing was reported as cash co-financing. This is incorrect and should be viewed as public investment (contributions from the recipient country government) or a grant (resources provided without expectation of repayment) because it did not pass directly through the project's bank account. This was reported during the MTR. The subsequent management response elected to keep reporting the same to avoid confusion. This was a reasonable and pragmatic response. However, to avoid doubt, the correct category is either public investment or grant (see Table 5).

¹² The MTR noted that "co-financing is being reported as 'in-kind' and 'cash' both in the project document and project reporting ... the MTR understands that 'cash' co-financing should be taken to mean non-GEF monies that are included in the total budget and workplan in the project document and are accounted for by the PIU. Therefore, the MTR has reported the co-financing as aggregated (Government of Türkiye) and disaggregated (FAO) but notes that the cash component of the FAO co-financing did not pass through the GEF-fund total budget in the project document and therefore, may not necessarily be recorded as 'cash' despite the monies being spent on actual activities directly related to the project implementation" (FAO, 2023).

¹³ This excludes some contributions in 2024, which were not processed at the time of evaluation.

Table 5. Co-financing

Name of co-financer	Co-financer type ⁱ	Type of co-financing ⁱⁱ	Co-financing at project start (Amount confirmed at the GEF Chief Executive Officer endorsement/approval by the project design team) (in USD)			Materialized co-financing at the project's final evaluation (in USD)		
			In-kind	Cash	Total	In-kind	Cash	Total
Ministry of Agriculture and Forestry (ÇEM)	National government	Cash		6 800 000	6 800 000			5 632 317
Ministry of Agriculture and Forestry (OGM)		In-kind	6 400 000		6 400 000			27 867 890
Ministry of Agriculture and Forestry (TRGM)								2 967 753
Ministry of Agriculture and Forestry (TAGEM)								1 710 530
FAO	GEF agency	In-kind	150 000		150 000			150 000
FAO	GEF agency	Cash		250 000	250 000			250 000
Grand total (in USD)			6 550 000	7 050 000	13 600 000			38 038 491

Notes: ⁱ Examples of categories include: local; provincial or national government; semi-government autonomous institutions; private sector; multilateral or bilateral organizations; educational and research institutions; non-profit organizations; civil society organizations; foundations; beneficiaries; the GEF agencies; and others.

ⁱⁱ This involves grants, loans, equity participation by beneficiaries (individuals) in the form of cash, guarantees, in-kind or material contributions, and others.

The evaluation was unable to disaggregate co-financing by component.

3.3.2 Implementation

Rating: Satisfactory

Finding 10. Overall, the project was efficiently implemented thanks to adaptive management to maintain both strategic direction and focus. Financial management was good with realistic budgeting and work planning.

60. There were delays in putting in place a PIU at the start of the project. In the evaluators' experience, these delays are not uncommon in the GEF projects. Nonetheless, according to the 2020 PIR, the project coordinator and the PIU were only appointed after the inception workshop. The inception phase is arguably one of the most adaptive phases in any project. This is because it provides a window of opportunity to compare the project's design with the real-time situation and circumstances, and to immediately address any changes that may have taken place between design and start-up. The evaluation argues that an

opportunity was missed to address some of the weaknesses in the project document (see Subsection 3.2). This might have included a clearer delineation of implementation and execution responsibilities, which would have provided greater operational clarity in the early stages of the project.

61. A high level of efficiency was seen in adapting the project document during the first year, for instance, in developing the DSS. This also involved sourcing and deploying very high-quality technical assistance, the use of third-party service providers, the FFS, transitioning to remote work on the DSS during the COVID-19 pandemic, and implementing the M&E and adaptive management. The strong internal capacities of the PIU and the ÇEM, following an adaptive approach to implementation, ensured that the DSS remained relevant within a highly dynamic information technology field and amid DSS specification challenges at the time of design.

Finding 11. The direct implementation modality, which promoted an impartial facilitation role, appears to have been well suited for the complex and multifaceted nature of the LDN project. This added to the catalytic effect.

62. The institutional arrangements outlined in the project document (pp. 54–61) were complex. This reflects the multiplicity of institutional players involved in land management. The project document detailed that the project would be implemented and managed by the Ministry of Agriculture and Forestry, that is, the executing partner, in cooperation with three other ministries: the Ministry of Environment, Urbanization and Climate Change; the Ministry of Interior; and the Ministry of Development. This would be stepped down to the district-level General Directorates in coordination with regional and relevant universities, the private sector and non-governmental organizations (chambers of agriculture, irrigation associations, farmers' organizations, national foundations, provincial representatives of associations, village development cooperatives). The FAO Country Office would be the implementing agency. However, during the first project steering committee meeting, its members suggested changing the implementation modality under direct execution by FAO (project steering committee meeting minutes from 10 December 2019). The implementation responsibility was subsequently transferred to the FAO Country Office, direct implementation modality, with a PIU contracted by FAO.
63. The originally proposed OPIM may have been unlikely to develop the multi-institutional connections, which the project undoubtedly created, especially between executing partners and facilitating communications and interdepartmental coordination. This was reflected during interviews with high-level stakeholders, in particular by the executing partners. In fact, this impartial facilitation role increased the catalytic effect across the range of project partners, horizontally and vertically, and increased the efficacy with which participatory approaches were embedded with stakeholders. This contributed to the collaborative and cross-sectoral nature of the project's activities and outcomes.
64. This analysis was supported by feedback from the PIU, ÇEM and technical key informants. They explained that, during the early part of the project, there was also very little understanding of what the DSS should be and how it would work – even though there were very specific instructions in the project document. The DSS was developed through an early determination of its nature – from not just a technical perspective but also for its utility for end users who may not have a geospatial information background. The adaptive approach was a decision made by FAO, the PIU and the technical consultant before the MTR. It suggested that there had been considerable confidence and commitment to get things

right because, according to the MTR, the project had been experiencing implementation delays.

65. An inflexible implementation approach that rigidly adhered to the prescribed approach of the project document might have reduced the dynamic and multidisciplinary approach taken by the DSS developers. This allowed the DSS to be a pragmatic, cost-effective and accessible tool according to technical key informants who now use the system.

Finding 12. The use of service providers in the delivery of project aspects was a very efficient means of delivering complex technical service and activity packages.

66. The delivery of technical advice and extension services through a service contract to the Tekirdağ Lead Farmers' Association provided an "off-the-shelf" package of expertise, experience, organizational and operational procedures, and working practices (stakeholder and beneficiary engagement, women's participation). This reduced procurement complexity and allowed for rapid deployment of the Component 3 SLM activities as soon as the COVID-19 pandemic restrictions had been lifted.

Finding 13. The project had considerable internal technical capacities and was well supported by each member of the project taskforce.

67. There was a high level of efficiency in translating the project document into an operational project, as demonstrated by initial confusion surrounding the nature and purpose of the DSS (see Finding 11) and an effective tool for identifying target areas for landscape interventions to achieve neutrality, integrating information using the Google Earth Engine application, and providing evidence on land degradation causes, impacts and status, while supporting strategic planning and the prioritization of SLM efforts. Arguably, the technically well-qualified and experienced project coordinator facilitated this process by shaping and communicating complex technical arguments and solutions to a broad range of stakeholders.
68. FAO's own internal technical capacities and the engagement of specific, international technical expertise and experience were important factors in bringing about the successful collaboration of international and national GIS experts and non-technical end users of the system. According to high-level technical key informant feedback, this reflected the multiple levels and disciplines needed to develop the DSS. Indeed, this was further demonstrated by FAO's involvement in promoting the DSS globally. In the experience of the Evaluation Team, this suggests that FAO brought a comparative advantage to the project due to its readiness to invest its own resources in DSS development and promotion, as well as engage with other partners.
69. This was demonstrated by a number of additional trainings, awareness raising, and other events to introduce and promote the DSS internationally (FAO, 2020; Tekin, n.d.). Furthermore, it was an important factor in adapting the DSS to the specific needs of other countries to meet LDN needs and commitments.

3.3.3 Execution

Rating: Satisfactory

Finding 14. The executing partner played an active and important role in coordinating the complex horizontal partnerships (Ministry of Environment, Urbanization and Climate Change, ÇEM, Ministry of Agriculture and Forestry), as well as the vertical relationships (district OGM, TRGM and TAGEM). This also provided high-level political support to drive the DSS at the regional level.

70. Regardless of the change in implementation modality, the intended executing partner filled a critical and active role in ensuring coordination across the wide range of institutional stakeholders. The ÇEM played this role at the central institutional level, with the Ministry of Agriculture and Forestry being most active at the district level.
71. Procurement was carried out through the FAO PIU direct execution modality, but there was clear agreement that the annual work planning and budgeting had been a collaborative process with the executing partner. This was also reflected in the high levels of co-financing provided to the project (see Subsection 3.3.1). Under these arrangements, the executing partner's engagement with the project took place through the project steering committee and day-to-day communication with the PIU and the FAO Country Office.
72. There was broad agreement by executing partners that the direct execution modality approach was the optimum means of implementing and executing the project, especially with regard to the procurement of technical services. This may have been constrained by government procurement procedures, for instance, in cost ceilings on individual expert contracts, as well as sourcing and contracting the very specific technical expertise necessary for project areas like the DSS. Their involvement in developing the DSS was a driving force in having this internationally recognized tool support the implementation of the UNCCD (see Finding 4). For instance, representatives from Türkiye were very active in promoting the DSS at the regional and global levels. Additional co-financing achieved a 1:16 ratio (see Subsection 3.4.2), participation from academia, and data collection, and Türkiye has acted as a "test bed" for the DSS in terms of developing and demonstrating it.

3.4 Effectiveness

Rating: Satisfactory

Finding 15. The project made an effective contribution to the enabling environment for LDN, particularly in building capacity to implement the existing LDN policy frameworks.

73. This was achieved at different levels: i) contributing to the policy frameworks; ii) building capacity (training and mentoring) of institutional stakeholders to effectively develop and implement policy; iii) introducing new ways of working¹⁴ (FFS, service providers for extension work, participatory planning); iv) increasing institutional collaboration and cooperation (National Online Information Sharing Forum); and v) providing an effective policy support tool with the DSS.
74. Prior to the project, Türkiye already had a comprehensive policy and regulatory framework related to land management. This is evidenced by the 33 sector policies and other normative documents cited in the project document (see Appendix 5). However, the concept of LDN and the means to put it into practice were not well understood. Similarly, the DSS was perceived as a good idea in theory, but what it meant in practice needed to be worked out. The project provided the vehicle and focus to operationalize this policy framework through governance support.
75. The project undertook a gap analysis to align the considerable existing policy framework with the concept of LDN. This resulted in a revision of the National Strategy and Action Plan to Combat Desertification (ÇEM, 2015) to address LDN, and a National Online

¹⁴ These new approaches, which were predominant at the district and project site level, were in progress due to the late start-up of the project's activities (see Finding 27). There was not enough time to replicate them, but key informant feedback indicated a desire to continue with these approaches.

- Information Sharing Forum on LDN. This forum is of particular importance, especially from a research perspective. However, sharing information, especially data, may be slow at times.
76. Technical training was carried out. In fact, 194 trainees from project partners received technical training on LDN and the DSS. This aimed to support the enabling environment. For instance, it not only created the conditions for technicians to produce, present and communicate data sets but also facilitated an understanding of the need to request georeferenced data prior to planning processes. This occurred nationally with participants from other countries. There were 144 experts from the southern Africa region who joined the training. Indeed, the training was of good quality, with respect to both technical content and innovative training methods. The training was not just the delivery of technical know-how. The recipients were able to shape the content and delivery according to their needs. The project was very quick to adapt to the constraints of the COVID-19 pandemic through online training and remote work to develop the DSS.
77. The project also introduced a new approach to LDN governance and provided technical extension services. For instance, this involved the establishment of the National Online Information Sharing Forum and the FFS, including online training and participatory curriculum development. It also involved utilizing non-state actors as service providers to deliver technical extension services and capacity building. Four FFS initiatives were established, and 97 local people were trained in the first round – 47 of whom were women. Due to high demand, an additional 80 farmers (40 women) were trained in the second round. Particularly effective was the completeness of the support: technical; agricultural; processing; business development; and organizational. According to key informants, this “wrap around” and participatory approach was new, innovative and very effective.
78. Awareness of LDN effectively increased in terms of understanding the driving forces, the inherent dangers of ignoring land degradation, and the necessary interventions to reverse land degradation and achieve LDN. This was most evident in the inclusion of LDN in the 12th National Development Plan. This included budgetary allocations to LDN and the revision of targets in the National Action Plan, which will also have budgetary implications across a broad range of sectors. To this end, FAO and the Government of Türkiye played a significant and proactive role in promoting LDN nationally, regionally and globally (see Finding 7). Nationally, this was achieved through high-level staff. The operational partners presented LDN on television programmes, provided interviews and published LDN-related information on official social media accounts. There were also three public service announcements on LDN and numerous statements released in the national press (see Appendix 10). This reflects a range of appropriate media towards the target audiences. An important aspect of this messaging involved establishing the linkages between land degradation and LDN and other pressing socioeconomic issues such as water provisioning, food security and rural livelihoods. This created the connections between LDN (environmental) and development (socioeconomic).

Finding 16. The project produced a cost-effective, versatile, user-friendly and adaptable tool to support both LDN monitoring and national and global target setting.

79. The DSS is versatile, accessible and cost-effective. This is evidenced by its adoption in 30 countries in considerably different sociopolitical, agricultural and environmental settings. It has numerous design features that lend its application to different circumstances, including variation between the quality of datasets available, alongside adaptability and versatility to individual user needs. The LDN DSS can integrate existing models, systems and their datasets, which are produced with national data, and any

- nationally produced systems. Therefore, it accommodates to national capacities. It provides LDN geospatial data at appropriate scales.
80. The DSS is currently being utilized across a range of organizations in different sectors, as well as different levels of government (central, provincial, district) – albeit with different interactive or informational capacities to utilize it and for different decision-making purposes like policy formulation, monitoring or activity planning. There was evidence that it feeds back into policy formulation, for instance, in the 12th National Development Plan, which involved budgetary allocations to LDN or the revision of targets in the National Action Plan.
 81. The DSS is also being used to develop the FAO-GEF work programme in project identification and resource allocation (GEF, 2024). It is also important to recognize the diversity of uses of the DSS that go beyond its intended LDN use in target setting and monitoring. The DSS is applied to WOCAT projects (see Finding 7) and United Nations Development Programme-GEF project development and implementation based on feedback from FAO.
 82. The DSS and the process followed in developing it have influenced the GEF Secretariat's understanding of the LDN programme according to FAO feedback (GEF, 2024). It has provided a deeper understanding of the conceptual complexity of LDN, the need for flexible and diverse means for countries to operationalize LDN, and the challenges faced by many countries to set targets. Furthermore, it has demonstrated the essential need of geospatial data for good land use planning and LDN.
 83. Its demonstrated utility allows countries (Tekin, n.d.) with modest investment to:
 - i. set voluntary LDN targets and priorities;
 - ii. utilize existing finance (including projects) and datasets to improve land use planning and prioritize interventions;
 - iii. operationalize the concept of LDN within their material, human and financial capacity resources; and
 - iv. reduce the burden of four-year reporting to the UNCCD through the national Performance Review and Implementation System.
 84. The UNCCD recognizes and supports the DSS, especially by integrating national data and knowledge into the UNCCD process and combining technology with participation terms: "High Tech, High Touch". This was also confirmed during KIIs with non-technical informants who appreciated this inclusive aspect of the DSS approach.
 85. Under this component, a very large volume of work was carried out within Türkiye to develop and test the DSS in the Upper Sakarya Basin. This proved the integration of existing models, systems and databases. New datasets were obtained where necessary, such as soil carbon, which was carried out by ÇEM when the project was still being developed (FAO and GEF, 2021). The inclusive and participatory process of developing the DSS was an important facet in its utility – a point raised repeatedly across a broad range of (GIS) technical and non-technical interviews. During the project, 254 technicians received training (FAO, 2024a).
 86. The Google Earth Engine application was demonstrated to the evaluation during the FAO-GEF Jordan LDN workshop (FAO, 2024b). This allows countries to integrate and combine nationally developed GIS tools within the DSS, which has numerous benefits like

utilizing and comparing existing datasets, and validating existing models, among other functions (FAO, n.d.a) (see Appendix 10).

Finding 17. The DSS was successfully and effectively scaled up at the national level. It was also adopted by other countries, which is a positive, unintended outcome.

87. The DSS is supported by national datasets and models. The system can be used at scale for local planning (watershed) or at larger national scales. It is being used to determine and formulate national voluntary targets within the National Action Plan. It has already been used for determining national land use and LDN priorities, including resource allocation to SLM and LDN in national development planning.
88. The DSS now has the capacity to incorporate additional models and datasets using the Google Earth Engine application with the:
 - i. Watershed M&E System;
 - ii. Dynamic Erosion Monitoring System;
 - iii. Desertification Model of Türkiye;
 - iv. SOC Model;
 - v. FAO-WOCAT Model for Land Productivity Dynamics; and
 - vi. National Land Use Land Cover Model.

Finding 18. The project increased institutional communication and collaboration, as well as introducing new and participatory approaches to interacting with stakeholders.

89. The delivery of past technical extension services followed a traditional, centralized and top-down approach. Instead, through this project, the willingness to embrace multiagency (Ministry of Environment, Urbanization and Climate Change, ÇEM, Ministry of Agriculture and Forestry, OGM, TRGM, TAGEM) and vertical (central, provincial, district) approaches in tackling complex and unpredictable LDN challenges was clear.
90. The women-centred approach in delivering technical and organizational capacity building at the community level was seen as a new and important development by institutional stakeholders. The project facilitated communication between different agencies. There was a more collaborative approach to LDN. While there was a general agreement that the PIU had been the main driver of this, some expressed concerns that this might not continue at the same level after project closure.

Finding 19. The project provided substantial benefits to farmer communities in the villages of two districts visited by the Evaluation Team in the Upper Sakarya Basin.

91. Project activities provided livelihood improvements and economic benefits, increased community resilience and internal organization, and strengthened relationships between community and district support institutions. This success is partly due to participatory approaches, the inclusion of women and the FFS initiatives, followed by the implementation of farmer support packages.
92. Participatory approaches and the FFS, alongside working directly with women's groups and building capacity with agricultural officers to interact with farmers and communities on

complex rural and land use challenges, established considerable social capital.¹⁵ According to both community and district informants, the focus on project activities, the FFS facilitation of the Tekirdağ Lead Farmers' Association and the participatory approach, which included district officials, strengthened relations and established good communication between the community and the district authorities. While the economic benefits have not been quantified, all community key informants stated that the various interventions – hot composting, raised beds, diversification of vegetable growing, crop rotation, water conservation measures, direct seeding or no tillage, leonardite, manure application and polytunnels (see Appendix 11) – had extended the growing season in terms of soil moisture and temperature, reduced expenditure on artificial fertilizers, and diversified and extended the range of crops. Assistance with processing, transport and marketing reduced post-harvest losses and transport costs, as well as providing direct sale opportunities through kiosks. These benefits have not been quantified by the project, but the respondents indicated very clearly that they translated into economic benefits. This was due to water conservation measures, less exposure to input costs, and reduced risk in growing seasons and post-harvest losses. Furthermore, these activities provided an impetus within the community for internal organization and problem solving.

93. In Yaylababa of Kütahya, these internal community arrangements centred on a milk refrigeration unit. This was purchased through the project but operated through a loose association within the community. This allowed villagers to store milk and reduce transport costs, among other benefits. In Sivrihisar of Eskişehir, a women's cooperative was established to grow vegetables (predominantly tomatoes). Here, the most remarkable aspect was a women's cooperative, which had diversified its product to reduce post-harvest losses. It did so by processing and marketing, which demonstrated entrepreneurship. These two sites had considerable diversity in their approaches, which reflected the social, agricultural and ecological circumstances.
94. The Evaluation Team visited two communities that had significantly different internal social arrangements, agroecological conditions and land tenure issues. Sivrihisar has irrigated crop land, a large quantity of privately owned fields and good communications. Yaylababa is in a Forest Village. A Forest Village is a specific legal structure that provides certain collective usufruct rights to the community within a reserved forest area. This presented two different circumstances that demonstrate the project's approach under very different situations. Sivrihisar developed a single-focus cooperative to grow vegetables in polytunnels. The cooperative had a large membership at first but was reduced to include only those committed to the work. It started with production, then successfully diversified to include processing, product development and marketing. In contrast, Yaylababa diversified across the community. It did not establish a cooperative, but the community exhibited considerable cohesiveness as a relatively isolated village. The project had intended to establish a cooperative to sell milk products. However, according to the stakeholder FGDs, they preferred to make these arrangements internally and independently of a cooperative. The focus was mainly on production and crop diversification (vegetables, fruit, and flowers). Female farmers were involved in microbasin planning studies carried out in Kütahya.

¹⁵ This involves networks of people who live and work in a particular society, which enables that society to function effectively. In this instance, it is used to describe the mutual and collaborative interactions between different individuals and groups (including statutory agencies) to collaboratively analyse and resolve complex challenges in a rural setting and with an LDN objective.

95. Remarkably, the project was able to adapt the approaches between the considerably different social, environmental and agricultural circumstances between the project areas. In total, 12 climate-smart measures and approaches and 11 SLM-related practices (see Appendix 12) were introduced through the project, and 177 people received training through the FFS – 97 of whom were women.

Finding 20. The SLM interventions resulted in community capacity building and support for product diversification, processing and marketing to improve land management, land cover and productivity. This involved a range of proxy indicators such as: crop diversification; agroecological farming techniques; greater use of farm waste and crop residue as organic manures; increased crop yields due to leonardite; and reduced input costs from crop rotations with legumes. Greater SOC is expected in the Upper Sakarya Basin (see Table 6).

96. The project delivered activities to improve land management in terms of: climate-smart agriculture; agricultural and other land management activities for greater SOC based on calculated values for different land use and cover (see Table 6); conservation; pasture regeneration; regenerative agriculture; water conservation measures; direct agricultural benefits like reduced production costs and crop and market diversification; climate-resilient livelihoods; and improved household nutrition. These gains were harder for the evaluation to quantify in terms of global environmental benefits, but it is reasonable to extrapolate that leonardite use, crop rotation and animal manure reduced the farmers' input costs. This was confirmed by beneficiary feedback and technical experts. In addition, organic manure was used in the polytunnels. New and diverse crops were introduced for extended growing seasons. This was done through water conservation and the retention of soil moisture, which reduced chemical input costs and provided products and access to larger urban markets. This, according to beneficiary feedback, increased household incomes – especially among female-headed households and women in the household. The project further supported capacity building in cooperatives, processing and marketing, and interactions with statutory agencies. This improved the position of women in agricultural production across:

- i. 20 675 ha of cultivated land
- ii. 2 975 ha of rangeland
- iii. 33 708 ha of forest land (FAO, 2024a)

97. Despite delays caused by the COVID-19 pandemic, the project had significant success in introducing practical SLM approaches (see Finding 22 and Appendix 11) to agriculture and other land management activities. These interventions targeted female farmers, particularly through on-farm and field demonstrations of SLM approaches and techniques. The FFS approach, namely curriculum development, on-farm demonstrations, participatory problem solving and multidisciplinary technical support (agricultural, organizational, processing, marketing, enterprise development, technical content) was well received – especially with follow-up practical support. Similarly, interviews with district officers from the OGM and TRGM indicated that the FFS and non-governmental service provider partnerships to deliver the FFS training were well received and considered a good practice.
98. The demonstrative approaches, which compared different treatments, appear to have had considerable impact on both farmers and district field technicians (see Figure 1). For instance, animal manure and chemical fertilizers were used on different maize and sunflower plots. This showed that the use of chemical fertilizers could be limited with no yield loss when animal manure was applied to the fields. During the evaluation's inspection

of the polytunnels in Yaylababa, female farmers described small experimental adjustments made to raised beds like mixed planting, compost application and drip irrigation. Women also shared their plans for various adjustments in the next growing season. This suggests that the training had encouraged an innovative and adaptive approach.

99. The project's introduction of SLM techniques, particularly those that increased soil carbon, appear to have been very effective. Indeed, they reduced farmers' input costs and increased productivity. This extended the growing season through increased and prolonged soil moisture, and diversified crop production.

Figure 1. Biomass difference of leonardite application in Sivrihisar



100. The delivery of technical services, that is, through the FFS, and the process of delivery through an existing civil society service provider was an important, efficient and transformative approach. Indeed, it increased effectiveness in terms of the range of LDN values. FAO had used the FFS approach in Türkiye during a project in Konya (see Finding 25). During this project, government institutions were able to see the effectiveness and versatility of the approach – especially when implemented through an experienced and multidisciplinary non-state actor like the Tekirdağ Lead Farmers' Association as a means of supporting farmers.

Table 6. SOC values in the Upper Sakarya Basin and different land use (first field sampling)

Sample	Land use	SOC (%)	SOC (t.C.ha ⁻¹)	Notes	Wet digestion SOC (%)
LDN Sample 1	Rainfed agriculture	0.05	1.95	This organic carbon sample has the lowest percentage of all samples taken from the basin because the parent material was ploughed.	-
LDN Sample 2	Grazeland	0.23	8.97	Excess grazing	
LDN Sample 3	Grazeland	0.68	26.52	Relatively low grazing pressure	
LDN Sample 4	Agriculture	0.34	13.26	Land use change: transition from grazeland to rainfed agriculture	0.30
LDN Sample 5	Agriculture	0.48	18.72	Vetch-barley cultivation	0.43
LDN Sample 6	Agriculture	0.37	14.43	Rainfed, cereals	
LDN Sample 7	Agriculture	0.18	7.02	Land use change: from oak forest to agriculture and parent material ploughed	0.21
LDN Sample 8	Forest	0.84	32.76	More than 40 years of oak trees, no protection	
LDN Sample 9	Grazeland	0.33	12.87	Grazing pressure	0.52
LDN Sample 10	Forest	1.32	51.48	<i>Pinus nigra</i> , 100 years old	
LDN Sample 11	Forest	1.26	49.14	Oak, 50 years old and partly protected	1.29
LDN Sample 12	Forest	1.19	46.41	More than 40 years of oak trees, no protection	
LDN Sample 13	Agriculture	0.42	16.38	From oak forest to rainfed agriculture	
LDN Sample 14	Forest	1.17	45.63	Pine forest over 30 years of age, no conservation	
LDN Sample 15	Agriculture	0.39	15.21	Wheat, rainfed	0.37
LDN Sample 16	Agriculture	0.42	16.38	Wheat, rainfed	
LDN Sample 17	Forest	1.77	69.03	Pines more than 100 years old, under protection	
LDN Sample 18	Grazeland	1.92	74.88	Wetland under protection	

Source: FAO. 2022. *Upper Sakarya Basin Soil Organic Carbon Measurement and Monitoring Study*, 12 September 2022. Rome.

101. Overall, the project achieved its targets (see Appendix 10) to a satisfactory level (18 out of 35 indicators). In a number of instances, it exceeded (highly satisfactory) the end-of-project target (12 out of 35 indicators). In only one instance, Indicator 4.1.2, it was moderately satisfactory.¹⁶

3.5 Additionality

Finding 21. The vertical and horizontal integration and participation of stakeholder interests, expertise, institutions and resources coalescing around the development of the DSS within the envelope of the project were identified by the evaluation as additional benefits.¹⁷

102. The evaluation considers that the project created a coalition of interests among the GEF, the UNCCD, the Government of Türkiye, FAO, others such as WOCAT (see Finding 7; FAO, n.d.b; GEF, 2024) and other countries (see Finding 20). These entities worked on the DSS. This was demonstrated by the considerable leveraging of co-financing contributions (see Subsection 3.4.2) and integrating global environmental benefits (land cover, productivity and SOC) into local contexts through Component 3 activities. The collaborative and broad participation of different interests in developing the DSS, as widely reported by technical key informants and described to the evaluation by the technical consultants, resulted in a broad coalition of interests to address a collective action challenge.¹⁸

Finding 22. The GEF support facilitated the DSS adoption across a significant number of countries. It also facilitated its proposed use in the development of new FAO-GEF projects and LDN initiatives with WOCAT, the United Nations Development Programme and the UNCCD.

103. The DSS was developed with an open access, cost-effective and inclusive ethos. This appears to have developed a coalition of interests from, *inter alia*, the UNCCD, the GEF, the GEF agencies and national governments. There was also rapid adoption of the DSS across a significant number of countries (at least 18 countries according to FAO). It is being used in the development of new FAO-GEF projects¹⁹ in South America, Africa, the Middle East, Central Asia, Southeast Asia and the Caribbean (FAO and GEF, 2022; GEF, 2024; FAO, 2024c; González, 2025). It is supported by WOCAT and the United Nations Development Programme in determining and developing new LDN projects with corresponding integration into national systems for monitoring LDN (Tekin, n.d.). The utility and versatility of the DSS have been recognized by the UNCCD. Furthermore, the UNCCD's LDN Target Setting Programme 2.0 to support countries in moving from LDN commitments to action, strengthening land governance and implementing LDN at scale also recognizes the importance of the DSS (see Finding 20).

Finding 23. The combination of technical interventions, capacity support and emphasis on women's participation built social capital within communities. This involved a focus on women's benefits.

104. The traditional delivery of agricultural extension and technical services had occurred through a centralized, top-down and male farmer-oriented approach. Stakeholders at all

¹⁶ Four M&E framework indicators were not assessed (see Appendix 10).

¹⁷ The project document did not provide an account of the anticipated GEF additionality. However, the evaluation determined the GEF additionality according to the GEF criteria and guidelines.

¹⁸ This involved a situation in which all individuals would be better off cooperating but failed to do so because of conflicting interests between the individuals and the institutions. This discouraged joint action.

¹⁹ An example is the project "Achieving land degradation neutrality targets through restoration and sustainable management of degraded land in Northern Jordan". This four-year, GEF-financed project was supervised under FAO and implemented by the Royal Scientific Society through an OPIM agreement.

levels broadly agreed that the project's participatory approach and its inclusive use of technical expertise and farmers, especially female farmers, through the FFS combined with regular and egalitarian communication, and contact with the project changed the status quo in the target communities. It was widely agreed that women's participation in conservative rural communities was challenging. However, the LDN project appeared to have broken down some of these barriers. Critically, many of the women expressed the feeling that they were being listened to by both the project and the district agencies.

4. Monitoring and evaluation design and implementation

4.1 Monitoring and evaluation design

Rating: Moderately Satisfactory

Finding 24. The original project monitoring system presented weaknesses. The M&E system was complicated and cumbersome due to the presence of too many output-level indicators and their formulation (reading as targets rather than indicators). Furthermore, the M&E system did not have enough outcome indicators and no objective-level ones. Nevertheless, the revision of the monitoring framework after the MTR generated significant improvements.

105. Appendix 7 provides the 2023 MTR assessment of the project indicators with which this final evaluation concurs. Many of the original (project document) indicators were in fact targets, and some indicators were re-stated as targets. This might be due to the very technical nature and prescriptive presentation of the proposed DSS in the project document. The inclusion of so many output indicators was unnecessary and confusing. Many of the output indicators should have been milestones in the annual workplans. The weaknesses in the M&E framework posed an unnecessarily heavy M&E burden on the PIU.
106. The M&E framework included a number of indicators targeting gender but did not provide any qualitative (transformational metric) indicators relating to women's participation and benefits. This undermined the possibility to measure and address gender-related impacts and outcomes, which effectively resulted in under-reporting the real impact of the project on the lives of rural women.
107. The MTR made a recommendation to revise the project's indicators in the M&E framework in order to simplify the reporting burden and better reflect the progress towards achievements. Mostly, this involved raising the output indicators. This recommendation was accepted and implemented, which resulted in an improvement in the M&E system.

4.2 Monitoring and evaluation implementation

Rating: Satisfactory

Finding 25. Despite shortcomings in the project's M&E, the project was able to use it to measure progress and performance. The main limitations remain at the outcome and impact level. There was timely reporting by the project with accurate and realistic assessments of progress and performance.

108. According to feedback from the PIU, the project's management response to the 2023 MTR appears to have increased the efficiency of the M&E framework. A number of outcome indicators were removed, and the output indicators were raised to outcome indicators (see Appendix 7 and Appendix 10). This appears to have increased the efficiency in reporting, or reduced the burden on the PIU, but it still did not overcome the fundamental weaknesses in the M&E framework. For the avoidance of doubt, the evaluation reiterates that this was

- the most effective adaptation under the circumstances, and any attempt to fundamentally revise the M&E framework would have led to considerable delays and disruptions to project implementation.
109. There was good risk monitoring and corresponding management responses, which were coherently communicated across the project partnership. For instance, this allowed the project to respond rapidly and effectively to risk events such as the COVID-19 pandemic. Activities were moved online, and planning for Component 3 activities allowing for rapid mobilization the moment restrictions were lifted.
 110. The PIU and Budget Holder made frequent monitoring visits to the pilot sites to meet with operational partners and other stakeholders. This is reflected in the appreciation of the project's presence at the provincial, district and community levels, as stated by key informants in these groups. Field visits were well documented in 31 back-to-office reports, including two reports detailing international trips to Portugal (demonstration visit) and Ecuador (workshop), and 29 reports detailing supervision and consultation visits. Travel was highly restricted in 2020 due to the COVID-19 pandemic, so there were considerable PIU monitoring efforts that included technical and managerial inputs by senior FAO personnel, as well as the project coordinator.
 111. Internal progress and performance assessments were diligent and realistic, as reported in the PIRs from 2020 to 2024. Moreover, the FAO Country Office Monitoring Department made an important contribution to both the project and a mentoring process to transfer the importance of monitoring to the project partners. The FAO Monitoring Department, whose personnel members accompanied the Evaluation Team during the field mission, involved a good practice and grew an M&E culture.
 112. Gender-disaggregated data collection was not systematically applied. This made it difficult to quantify gender-differentiated outcomes or assess the project's contribution to women's empowerment. The project achieved notable levels of engagement with women at the community level. Women's groups and female beneficiaries participated actively in training sessions and the FGDs. This contributed to more inclusive dialogue on sustainable practices. These engagements fostered immediate participation, but the indicators and data did not fully capture the long-term transformation of women's roles in local decision-making.

5. Sustainability

5.1 Sociopolitical sustainability

Rating: Likely

Finding 26. There was considerable commitment to the DSS from the Government of Türkiye in meeting the national LDN needs. This was also determined to drive the Ankara Initiative, which resulted from the 2015 COP 12.

113. The DSS concept to support LDN target setting and monitoring was first tabled during the 2015 COP 12 meeting in Ankara (UNCCD, 2015; FAO and GEF, 2019). Despite the delayed project start, ÇEM went ahead and invested in acquiring field data and developing a national model for erosion (FAO, 2023). During the project, this investment through co-financing continued to reach a co-financing ratio of 1:16 – far surpassing the original government commitments (see Subsection 3.4.2). Alongside this financial support, there was considerable high-level support to promote the DSS. This is regarded by stakeholders as a prestigious project and a leading example of LDN in the region. For instance, this was evidenced by the organization of two conferences, data collection and the interaction of national specialists in using Türkiye as a “test bed” for the DSS. The DSS is likely to see continued support by the coalition of partners who were involved in developing the system.

Finding 27. The project’s inclusive and participatory process in developing and implementing SLM field interventions fostered the interest of stakeholders and growth in social capital with respect to the delivery of agricultural extension services.

114. This bottom-up approach represents a change in the way communities and statutory agencies interact. In fact, it varies from the previous centralized, top-down interventions in delivering agricultural support almost exclusively through the provision of technical advice. This is why the more interactive and inclusive FFS approach (FAO, 2018) appeared so innovative to stakeholders. Indeed, it included the participatory development of an FFS curriculum (FAO, 2018) through the FAO-GEF project “Sustainable Land Management and Climate-friendly Agriculture” in the Konya Closed Basin. This included inputs on LDN from this project (see Appendix 10). Community respondents were particularly appreciative of the support provided in problem solving, and the depth of support to beneficiaries like advice on organization, enterprises, establishing cooperatives and marketing. There was considerable investment in items such as polytunnels, planting materials and machinery, but community-level respondents indicated that the participatory field training and interactions had strengthened relations between district agricultural extension staff and the community, as well as internal community cohesion.

Finding 28. A potential risk to social sustainability is represented by rural depopulation and the migration of young people to larger urban areas.

115. Since the mid-20th century, Türkiye’s rural population has dropped from around three-quarters of the national total to less than a quarter (Öztürk *et al.*, 2018). The reasons for urban migration are complex, but it is safe to assume that land degradation (see Finding 36) and the lack of opportunities are contributing factors. About a third of Türkiye’s total land area is devoted to agriculture, and there are approximately 3 million agricultural

farms in Türkiye – most of which are family farms that employ family labour. Nearly two-thirds of Turkish farms are less than 5 ha (Giray, 2012).²⁰

116. The activities under Component 3 reduced this risk by creating sustainable agriculture and economic opportunities within the participating communities. However, they were hardly enough at the national scale and would need to be scaled up in geographic coverage. The FFS has been in operation in Türkiye (see Finding 18, Finding 23 and Finding 30). In this project, with a wider LDN remit, there appears to have been very successful partnering with the non-governmental organization, Tekirdağ Lead Farmers' Association, which was the service provider for the FFS delivery programme. However, it is reasonable to question how this scaling up could be achieved without the multidisciplinary resources of the non-governmental organization sector.

5.2 Financial sustainability

Rating: Likely

Finding 29. The DSS will likely continue to be financed through a mix of national investment, from all countries using the DSS, and global financing. Proxies of this are, for the former, aspects such as the utility of the DSS in national reporting and the cost-effectiveness of the Google Earth Engine application. For the latter, this involves the convergence of LDN and other emerging issues such as drought resilience and proactive drought management and synergies with other GEF conventions like the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change.

117. At the national level, the Government of Türkiye will likely continue to finance the development of the DSS given the priority level assigned to the LDN planning and monitoring tool and its usefulness in this respect. The inclusion of LDN in the 12th National Development Plan (see Finding 1, Finding 15 and Finding 18) indicates a budgetary commitment to LDN and the DSS, which is now an integral part of the LDN programme under the development plan. In the short to medium term, the UNCCD's LDN Target Setting Programme 2.0 to support countries in moving from LDN commitments to action, strengthening land governance and implementing LDN at scale is likely to provide a degree of national and international financing for LDN in general. This would likely include the DSS. Globally, FAO's support to LDN, including the DSS and interest in it (see Finding 24), involved the development of new projects in this field. For instance, the second phase of the UNCCD's LDN Target Setting Programme 2.0, launched in 2023, has been supported by the GEF. The programme involves 18 countries in reviewing, evaluating and refining their voluntary national LDN targets and suggests a level of GEF commitment in advancing the UNCCD LDN initiatives, especially in relation to the DSS (GEF, 2024). Therefore, it is a reasonable indication that there may likely be a continued flow of financial resources to LDN in Türkiye and the DSS more broadly.

Finding 30. The SLM field interventions demonstrated real and potential financial benefits to farmers through increased yields, reduced input costs, crop diversification and new markets.

118. Feedback from participating farmers was predominantly positive regarding profitability of the SLM approaches. This indicates that they are financially sustainable. In some instances, like leonardite use, crop rotation and animal manure additions, there were significant cost savings and increased profitability (see Box 1). It is likely that there will be increased adoption of these approaches as the entry costs are not high. The women's cooperative in

²⁰ It is underscored that these issues were not clearly articulated in the project document.

Sivrihisar has already expanded its activities from just vegetable production to processing, product diversification and marketing of higher-value products like preserves in Ankara. In Yaylababa, crop diversification and increased yields with lower input costs (FAO, 2022; FAO, n.d.b) indicated that these are profitable. However, isolation, especially in forest villages similar to Yaylababa, and entry costs (polytunnels, milk chillers, planting materials) may limit replication opportunities without external investment in the start-up costs.

Box 1. Leonardite and chickpeas

The application of leonardite should not be judged solely on yield. As a result of the nitrogen linked to soil during chickpea production, less synthetic fertilizers will be used to produce the following crop, which will result in a decrease in carbon emissions (yields between treated [*legume + leonardite*] and untreated fields varied from approximately 32 percent to 94 percent increases in yields). Chickpea cultivation saved 70.2 t of carbon in the 30 ha application area. Since 3.67 t of CO₂ are emitted for every t of carbon, the applications reduce 257 t of CO₂ equivalent emission. The yield increase in leonardite applied was an average of 0.53 t·ha⁻¹, which totals 15.9 t in 30 ha. Furthermore, calculated chickpea nitrogen fixation in soil as 1.5 t grain yield provided 72 kg·ha⁻¹ nitrogen (Herridge, Manning and McCaffery, 2015). Thus, a total of 2.16 t of nitrogen was fixed, which is equal to 4.7 t of 46 percent nitrogen containing urea fertilizer. The monetary equivalent of this amount of urea is TRY 59 165 as a t of urea was TRY 12 600 in April 2023. The total direct and indirect return of the applications is calculated at TRY 389 090 (approximately USD 20 162). In other words, for each hectare, the generated direct income from yield was TRY 10 997 and indirect income from urea saving was TRY 1 972, both summing up to TRY 12 969. When the cost of leonardite implementation, TRY 2 000, is deducted from the total direct and indirect income of TRY 12 969, a net profit of TRY 10 967 remains per hectare for the producer.

Moreover, the fixed carbon dioxide emission, which is soon to be taxed in Europe in accordance with the European Green Deal (European Commission, 2019), in 30 ha via sequestering 8.58 t·ha⁻¹ was equal to 257.6 t. The carbon price of this amount is TRY 524 988 (as of April 2023, 1 t of CO₂ equivalent emission cost was TRY 2 038). Therefore, it might be suggested that, upon deducting the expenditures relating to leonardite, the revenue with carbon tax savings could amount to as much as TRY 26 469.

Source: FAO. n.d. *Farmer Field School Progress Report of the project "Contributing to Land Degradation Neutrality Target Setting by Demonstrating the Land Degradation Neutrality Approach in the Upper Sakarya Basin for Scaling up at the National Level"*. Ankara.

119. According to the project experts (FAO SEC, n.d.), approaches such as leonardite application, the use of legumes, pasture management, minimum till agriculture and manure application are profitable. They also have the potential to utilize environmental policy instruments like carbon payments. However, accessing carbon payments should not, at this point in time, be considered a measure of financial sustainability and should be considered a longer-term goal.

5.3 Institutional and governance sustainability

Rating: Likely

Finding 31. There is strong national, institutional ownership of the DSS.

120. The LDN was mainstreamed into national planning processes, for instance, in the 12th National Development Plan. Further, the DSS has been utilized in revising targets in the National Action Plan (see Finding 19) and prioritizing implementation sites in the National Watershed Management Strategy (see Finding 3). The high turnover of institutional staff,

especially in the government, meant that regular training was an important factor in ensuring a link between the DSS and decision makers. As noted, Türkiye already has a comprehensive land use policy framework, and the LDN was mainstreamed into the National Action Plan and the 12th National Development Plan. It will also be mainstreamed during the upcoming UNCCD LDN Target Setting Programme 2.0 process.

Finding 32. The Government of Türkiye's commitment to the development of the DSS was a critical factor in the project's success.

121. Although the project was directly implemented, it is important to recognize the ownership and national contribution to developing the DSS. This has its basis in the 12th COP held in Türkiye in 2015. Here, the Government of Türkiye launched the Ankara Initiative. This gave rise to the present DSS as a tool for measuring and monitoring the "gains" (improvements) and "losses" (degradation) in land quality, as measured by a range of indicators like cover, productivity and SOC. The commitment of the Government of Türkiye and the executing partners involved in developing the DSS was a driving force in developing this internationally recognized tool to support the implementation of the UNCCD (see Finding 3). For instance, representatives from Türkiye were very active in promoting the DSS at regional and global levels.²¹ The levels of additional co-financing achieved a 1:16 ratio (see Subsection 3.4.2), and the participation of academia and data collection. Türkiye acted as a "test bed" for developing and demonstrating the DSS.

5.4 Environmental sustainability

Rating: Likely

Finding 33. The DSS is already being used in a range of LDN-related processes to reduce land degradation and implement the aims and objectives of the UNCCD. This strengthens national and global enabling environments and mechanisms.

122. Türkiye is one of the 18 "champion countries" selected to participate in the UNCCD LDN Target Setting Programme 2.0. This will support LDN actions on the ground through existing resources and by strengthening existing interventions. An example of this can be seen in the use of the DSS in identifying priorities and interventions in the National Watershed Management Strategy. The DSS provides data and identifies trends. It also enables the effective presentation of data to allow for a broad cross-section of technical and non-technical stakeholders. This is to implement SLM and integrated land use planning across a broad range of sectors. In fact, this cross-sectoral use of LDN data is an important factor in communicating the importance of LDN and SLM to decision makers in other sectors. This is particularly important in the water sector, where Türkiye's yearly per capita water consumption is 1 350 m³ – which is expected to decline to 1 000 m³ by 2030 with a population of 100 million (Government of Türkiye, 2022). The DSS is an effective means to support LDN and SLM, especially in the agricultural sector for managing watersheds. This point was repeatedly raised by technical interviewees and supported by its use in the National Watershed Management Strategy.

²¹ For instance, this involves: the Workshop on the Development of the Project for Combating Land Degradation and Desertification in the ECO Region in Türkiye from 14 to 16 December 2021; Capacity Building on the Implementation of the Convention to Combat Desertification joint workshop organized by ÇEM with the UNCCD and the participation of 40 experts; ministry partner participation in the online First G20 Environment and Climate Sustainability Working Group Meeting on "Arresting Land Degradation, Accelerating Ecosystem Restoration and Enriching Biodiversity"; and regular participation in webinars and other forums related to LDN.

123. Importantly, it enhances the efficiency and effectiveness of reporting to the UNCCD Performance Review and Assessment of Implementation System (FAO, 2024a). This is the online reporting platform used by parties to the UNCCD to submit their national reports and monitor progress towards implementing the convention. Ultimately, this improves the reporting on LDN.

Finding 34. The SLM approaches piloted by the project have demonstrated the potential to reduce land degradation in the Upper Sakarya Basin. These, however, will need to be scaled up rapidly.

124. Besides the attribution problem in evaluation (see Subsection 2.4), the activities under Component 3 were not implemented with enough time for the evaluation to assess the LDN benefits. However, it is reasonable to argue that the introduction of farming approaches and other measures that support agroecological approaches – that is, techniques that increase structural and biological diversity and stored SOC like the food forest in Yaylababa or strip ploughing in Eskişehir – have been demonstrated to reduce soil erosion, increase water infiltration and increase SOC (*inter alia*, WOCAT, 2019; Liniger *et al.*, 2011). Additionally, approaches such as leonardite application, crop rotation and manure additions to soil reduce the need to apply inorganic fertilizers. These increase SOC and improve soils across a range of measures like microbial activity and water infiltration (Dunn *et al.*, 2025; Lowenfels and Lewis, 2016).
125. The motivation for environmental sustainability will likely increase over time. This is because of the economic and financial benefits to farmers. In fact, key informants said that there were considerable cost savings from leonardite use (see Finding 23) (FAO, 2022). This involved reduced input costs and extended growing seasons. Indeed, the impacts of land degradation were felt and properly assessed across a broader range of sectors. District officials were concerned about the occurrence of sinkholes in neighbouring districts due to the fall in the water table.²² Anecdotally, the Evaluation Team was told that, in parts of Eskişehir, wells and boreholes had provided water at 40 m below the surface but people were drilling boreholes to 250 m.²³ This led to the financial impetus for SLM.

Finding 35. Although the LDN project made significant advances in combatting LDN, these positive impacts remain environmentally vulnerable.

126. The LDN project made significant progress and impact, but the urgency and scale of land degradation (Orhan *et al.*, 2024; UNCCD, 2016) and the effects of climate change may reduce its effectiveness. According to the UNCCD 2016 LDN National Report (UNCCD, 2016), anthropogenic erosion affects 59 percent of the agricultural land – which is the biggest share of land use – 64 percent of pastures and 54 percent of forest lands. Türkiye is one of the countries most heavily affected by global warming and climate change.
127. As noted, the project made remarkable progress with the DSS to address the critical issue of data and monitoring to support decision-making. The SLM activities (Component 3) show considerable promise in reducing and reversing the impacts of land degradation in terms of soil conservation, SOC, cover and productivity. However, it is reasonable to assume that these will need to be scaled up with urgency to mitigate the risks.

²² The Evaluation Team was shown pictures of these sinkholes that made it impossible to cultivate farmland.

²³ The Evaluation Team could not confirm this, but it was an issue that had been repeatedly mentioned by district and community key informants. The project also knew about this.

6. Application of the Global Environment Facility policies and guidelines

6.1 Environmental and social safeguards

Finding 36. The project had sufficient environmental and social safeguards in place. No significant risk issues or vulnerabilities were identified during the evaluation.

128. At the time of the project's design, there was less emphasis on the structured inclusion of social and environmental screening and environmental and social safeguard tools. Today, a similar project would likely require a more rigorous social and environmental screening process and a broader range of environmental and social management tools. Compliance with this was reflected in the PIR update from 2021 to 2024. The evaluation found that no significant safeguarding issues arose during implementation. The screening conducted at that time was both sufficient and compliant.

6.2 Gender

Finding 37. The project had a strong focus on supporting women in agriculture through Component 3 activities. It provided significant material, training and capacity building support to women in the target communities. The pilot projects generated significant benefits for women.

129. No gender marker was given in the project document. However, the project would likely have a GEN 1 Marker: promoting gender equality is relevant. Gender dimensions were systematically integrated into the project, even if the promotion of gender equality was not the main objective of the intervention.
130. The project intentionally focused on support to women farmers. The project document (FAO and GEF, 2019) stated that: "special attention will be paid to identifying and supporting the special needs of rural women to ensure that their important role in natural resource management and agriculture is recognized and that they reap the benefits of investments in LDN." It further set out three activities to achieve this with targets.
- i. Increase income: women will be encouraged to work in environmentally friendly activities that reduce the pressure on natural resources and increase household income. This includes medicinal aromatic plant breeding, which does not need intensive labour, and poultry farming. An overall increase in productivity of 10 percent will contribute to an equivalent increase in income.
 - ii. Make a profession: support is planned for female producer associations, which can either make new professions (mushroom production, nursery) or revive old, traditional professions (poultry, handicrafts). This aims to limit the degradation of natural resources and sell the products that they produce. Three hundred women will be targeted for this support.
 - iii. Train: training will be provided to reduce the degradation of natural resources and raise awareness. A special focus will be on training women entrepreneurs (300 women).
131. The MTR (FAO, 2023) noted that the PIU considered that 300 women was a challenging figure. This was due to the actual number of women in the target communities and those in a position to take on or increase their agricultural activities and enterprises. It suggested that the figure be lowered, especially due to delays caused by the COVID-19 pandemic.

Also, the original estimates in the project document were likely to be too high considering the innovative approach of the project and available time.

132. There was a strong focus on women in agriculture, mostly through Component 3 activities. This was successful. The project document emphasized the inclusion of women and provided gender targets. However, these were predominantly numerical and did not necessarily capture the qualitative aspects of the FFS impacts. These were carried through to the revised indicators following the MTR for both institutional (Indicator 1.1.1) and community beneficiary training, and as recipients of material support. It is hard to quantify, but the approach followed by the PIU and project partners – especially the focus on supporting women's groups and participatory activities – contributed to this. The evaluation notes that the project manager was a woman. According to key informants, particularly those from the local communities, she had established a very good relationship with the communities in general, and with female farmers in particular. This included regular contact with the communities. A broad range of key informants underscored this in fostering a sense of ownership and inclusion among the communities. In fact, this was an important factor in remote and socially conservative rural communities.
133. The project made notable efforts to promote gender equality and engage women in its implementation, particularly at the local and community level. Women's groups and individual female beneficiaries were included in field interventions. This involved organizational capacity development, training in SLM practices and agricultural activities. The FGDs conducted during the evaluation revealed that women actively participated in project activities and, in some cases, assumed leadership roles within community-based structures.
134. According to the project document, a gender expert supported the team from the FAO Country Office during project preparation. According to the PIU, this support was continued during implementation. While a gender report was prepared during the preparation phase, no specific gender strategy or action plan was developed at that time. However, a Gender Action Plan was developed in 2024 (GEF and FAO, 2024). There were delays caused by the COVID-19 pandemic and gaining access to the communities.
135. These interventions were, to some extent, gendered, with women being involved in new initiatives such as the polytunnel production of vegetables, flowers and fruit. Men were largely involved in the traditional production of field crops. Various reasons were advanced by key informants, for instance, traditional social and cultural roles, and access to land, among others. It is likely that a number of factors shaped women's involvement in the project, and that it was not a specific selection process in the FFS initiatives.
136. The field activities only began implementation in 2023. This was due to the COVID-19 pandemic restrictions on travel and gatherings. Therefore, the progress of Component 3 activities was considerable but of short duration. Despite this, a general comment by the women participating in the evaluation's FGDs was that the project and the technicians involved in implementing the FFS had been prepared to listen to them and jointly provide solutions to specific problems. This process was time consuming, according to the FGDs and feedback from the Tekirdağ Lead Farmers' Association, but it yielded more durable and transformational results than the simple delivery of technical agricultural expertise. In Sivrihisar, a women's cooperative proved very successful. It expanded its activities from just producing vegetables to include processing, new product development and marketing. In Kütahya, the women were interested in establishing a cooperative around milk storage and distribution. However, they said that they were still considering it as they addressed some

internal issues between three separate villages. The women appreciated that the issue had not been forced by the project, and that their opinions and views had been respected by the project and the district.

137. Issues such as establishing cooperatives at the village level reflected the challenges,²⁴ which were time consuming and sometimes needed to be addressed during implementation. The project's action of allowing the process was arguably a better way of dealing with the issue than trying to fast track a cooperative to meet a project target. It also served to illustrate the interconnectedness of LDN with wider sociocultural and political issues.

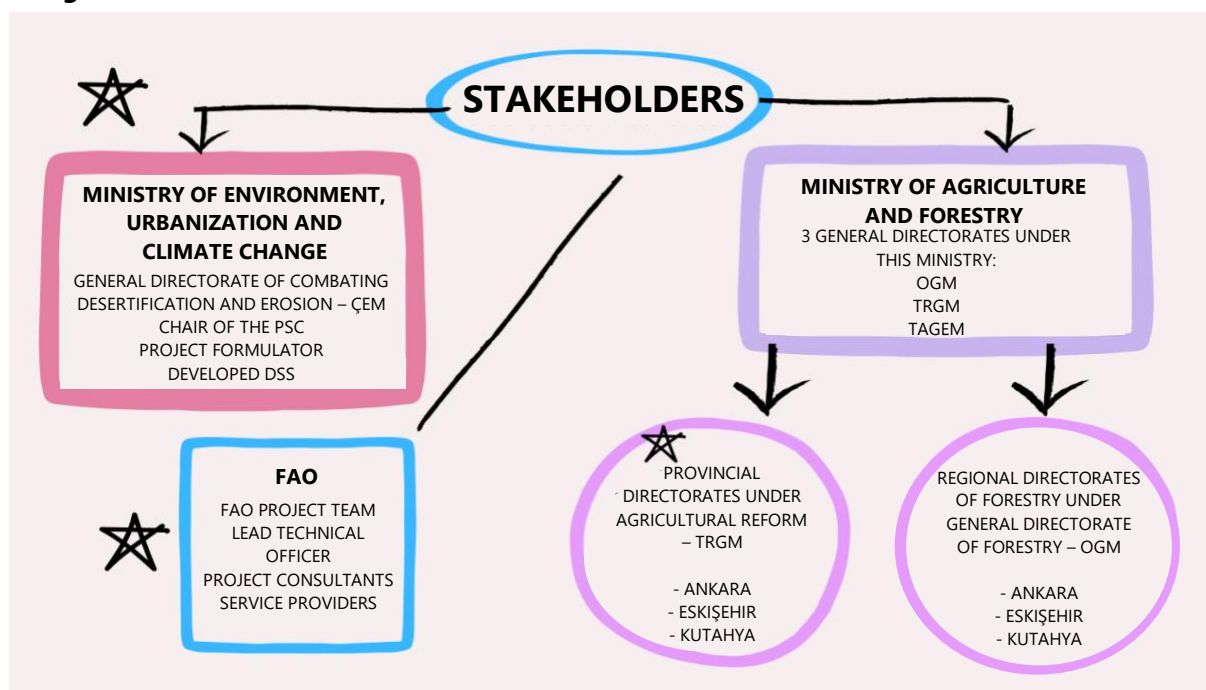
6.3 Project partnerships and stakeholder engagement

Finding 38. Institutional stakeholder arrangements were complex. However, these were managed well during project implementation. There was clearly significant national and institutional ownership of the project outcomes.

138. There was no defined stakeholder engagement plan in the project document. There were institutional changes in 2021 when the national coordinating institution and project steering committee member, ÇEM, moved under the Ministry of Environment, Urbanization and Climate Change. Project-related responsibilities of the ÇEM remained the same. It still placed an additional burden on project management, as mentioned by the PIU. This involved briefing and embedding the project and operational aspects within new institutional arrangements.
139. There were four significant institutions involved at a high level. These were represented by project focal points at the central and provincial level (ministry experts, directors, managers, engineers and researchers) to provide a link between the PIU and the project partners. This aimed to ensure communication and smooth implementation. Critically, the project focal points attended meetings and workshops, and were often involved in field visits where appropriate. This contributed to embedding the processes and approaches within the ministry organizations. High-level participation from the General Directorates of the Ministry of Environment, Urbanization and Climate Change took place through the project steering committee meeting annually. Figure 2 describes the project's core institutional arrangements.

²⁴ For instance, many women are only identified as a legal person through their husband's identity like a social security number. This made it hard to register a cooperative.

Figure 2. Institutional stakeholders



Source: PIU, personal communication

140. Project partnerships were very good with effective internal communications. This happened despite the fact that the project included two ministries – the Ministry of Environment, Urbanization and Climate Change, and the Ministry of Agriculture and Forestry – and four General Directorates, namely, ÇEM, OGM, TRGM and TAGEM. It also conducted activities at the central, provincial, district and community levels, and engaged in regional and wider international activities – especially in relation to the DSS. The diligence and energy of the PIU (see Finding 28) was a significant factor in achieving this. The institutional commitment (ÇEM) to the project and FAO support were contributing factors according to key informant feedback and interviews. The KIIs emphasized the PIU’s technical, organizational and facilitation skills, which strengthened communication among stakeholders. Moreover, key informants expressed gratitude towards the PIU for the organizational efforts that went into ensuring that the project activities took place.
141. Stakeholder engagement was noted at the district and community level. Key informants reported that there was significant district engagement with the FFS, field activities and community visits. This was also reflected in the PIU back-to-office reports.

Finding 39. The FFS and the participatory and inclusive approach to the delivery of agricultural technical extension services provided useful governance models. This facilitated a continuous working relationship between district-level officers from OGM and TAGEM and the local communities.

142. The FFS approach is a well-tested, effective approach to the delivery of extension services to rural communities. Through a participatory approach, it can strengthen the relationship between state agencies and local farming communities. The participatory development of an FFS curriculum (FAO, 2018) through the FAO-GEF project “Sustainable Land Management and Climate-friendly Agriculture” indicates that there is considerable interest in the FFS. Furthermore, the experience of the non-governmental sector as service provider

indicates that there is some capacity²⁵ to provide these services and scale up. However, this will take considerable investment and encouragement from the non-governmental sector. It is reasonable to believe that external project financing would be required in the near future.

6.4 Communications, knowledge management and knowledge products

Finding 40. The project effectively promoted the DSS and facilitated its adoption in different sociopolitical, environmental and agricultural settings. The project also produced a wealth of normative and knowledge products. These are available on the WOCAT website (WOCAT, 2015) and have been further promoted by effective partnering with other organizations, including the GEF Secretariat.

143. The project was very active in promoting the DSS at a high level by participating in and facilitating LDN workshops, as well as producing a range of normative and knowledge products.
144. The project generated considerable experience. This was captured as knowledge products such as workshop presentations, technical guidelines and other documents (see Appendix 10). These are available online and via the WOCAT website. They are also promoted at national, regional, and global workshops and forums.

²⁵ According to the 2024 PIR, the Tekirdağ Lead Farmers' Association is the first and only farmer association that provides professional consultancy services in Türkiye with regard to the FFS. The association functions with 395 farmer members and six agricultural engineer consultants who have expertise in plant production and irrigation on 420 000 da of land.

7. Conclusions, recommendations and lessons learned

7.1 Conclusions

Conclusion 1. Relevance and coherence: the project's participatory approach, the DSS, and the related capacity building tools and knowledge products demonstrated strong relevance and coherence with the needs of the UNCCD LDN approach at multiple scales. The project's alignment with national policies is evidenced by the Government of Türkiye's substantial investment and the integration of the DSS into various institutional frameworks. Despite initial challenges in the project design, the adaptive management approach adopted by the DSS developers ensured strategic coherence. This resulted in a dynamic, versatile and widely utilized system that has even been adopted outside of Türkiye. The project's innovative SLM practices, strongly geared towards supporting women, represent coherent strategies to address SLM challenges with the potential for broader application and scalability in Türkiye and beyond.

Conclusion 2. Efficiency, implementation and execution: the LDN project demonstrated a remarkable level of efficiency in its implementation and execution. Its adaptive capacities vis-à-vis the challenges posed by the COVID-19 pandemic and the 2023 earthquake in the southeast are commendable. The project benefited from robust financial management and realistic budgeting. The direct implementation modality proved effective. This resulted in the timely delivery of outputs without compromising ownership at the national level. The project's internal efficiency facilitated innovative approaches such as multistakeholder participation and adaptive development of the DSS. Strong technical capacities from FAO and the executing partner, alongside collaboration with international and national experts, were important facets in developing the DSS. This further enhanced the project's impact. The Government of Türkiye's commitment significantly contributed to the success of the DSS. This created a sense of ownership and national contribution, and provided an enabling environment for the development of the DSS. Increased institutional communication, collaboration and participatory stakeholder engagement were important in addressing the LDN challenges. This reflected a positive shift in working relationships and problem solving.

Conclusion 3. Effectiveness: the DSS proved to be an effective and versatile tool. Indeed, it enhanced national land use planning and decision-making processes in determining national land use and LDN priorities. Its broad acceptance and successful application in multiple contexts demonstrated its effectiveness in addressing the LDN challenges. The project successfully delivered SLM across a significant area, including 20 675 ha of cultivated land, 2 975 ha of rangeland and 33 708 ha of forest land. These efforts led to the adoption of climate-smart agriculture, pasture regeneration, water conservation and climate-resilient livelihood measures in the targeted communities. Ultimately, this reduced production costs and increased profit (see Box 1), diversified crop and market opportunities, which reduced risks, and empowered women in agricultural production. Overall, the project was transformative and contributed significantly to LDN and sustainable development. The project's SLM approaches demonstrated tangible benefits in reducing land degradation, improving soil health and enhancing biodiversity. These interventions contribute to not only climate change mitigation and adaptation but also the long-term resilience of rural communities.

Conclusion 4. Sustainability: Türkiye's leadership and commitment to the DSS, supported by international partnerships, suggest a possible future commitment to the DSS. Financial sustainability appears promising, with continued national and international investment in the DSS due to its proven utility. However, within government institutions in Türkiye, there is high turnover of technically qualified staff. Continuous training is required to ensure replenishment of the pool

of already qualified staff. The economic benefits of SLM interventions, including increased yields, crop diversification and reduced input costs, further support long-term adoption. Institutionally, strong ownership of the DSS within Türkiye and its integration into national land management strategies provide a robust governance framework. The system's adaptability and broad coalition of support from international organizations, including FAO, the UNCCD and the GEF, suggest its continued evolution and application in the country. However, further investment in capacity building, particularly at the local level, will be essential to maximize the sustainability and replicability of the project's results.

Conclusion 5. Application of the GEF policies: the project demonstrated a strong commitment to environmental and social safeguards, gender inclusivity, stakeholder engagement, and knowledge transfer. The project's gender-focused approach, particularly in supporting women in agriculture, led to significant empowerment and an increase in social capital. Stakeholder engagement was good, with strong national ownership and institutional collaboration that facilitated implementation. Although the project facilitated access to training and services, it did not explicitly address underlying structural barriers that women face, such as recognition as a legal person in their own right. This can limit access to financial and other support such as establishing a cooperative, and present other sociocultural constraints. These challenges continue to impede the transformative potential of project interventions for women, particularly those from marginalized backgrounds. An enhanced data-driven approach is necessary to achieve transformative gender equality and empowerment by fostering a more equitable distribution of benefits. This would enhance the overall sustainability of land management initiatives.

Conclusion 6. Component 3 activities, that is, demonstration of the LDN approach in the Upper Sakarya Basin, provided sustainable agriculture and economic opportunities. The LDN challenges are extensive and urgent. Significant scaling up requires multidisciplinary support and the involvement of the non-governmental sector, for instance, the Tekirdağ Lead Farmers' Association, which is active in delivering the FFS approach. This is needed to bring in multidisciplinary experience and technical expertise from the non-governmental sector as a means to meet the demand to scale up. Ensuring that initiatives like the FFS are scaled up and supported by diverse resources will be crucial in counteracting the challenges posed by land degradation and limited opportunities for rural communities. The project demonstrated that collaborative efforts between the state and non-state actors can generate significant results in LDN. Additionally, the project's investment in communications, knowledge management and DSS development increased broad participation. FAO's role in promoting the DSS and fostering partnerships was an important facet in this. These structures and relationships, and the technical advancements established during the project will likely continue to support the evolution and relevance of the DSS.

7.2 Recommendations

Recommendation 1. To ÇEM, supported by FAO: both the socioecosystem and the technology for the DSS are dynamic, but there is high staff turnover at the institutional level. Keep investing in longer-term technical training of potential DSS users. Encourage further collaborative development of the DSS.

Suggested actions:

- i. Future similar FAO projects can include a dedicated governance support component to accompany the drafting of a financial plan for the DSS.

Recommendation 2. To OGM, TRGM and TAGEM, supported by FAO: utilize the FFS and the non-governmental sector or other service providers to urgently scale up the delivery of SLM and LDN support to farming communities and, where possible, the private sector.

Suggested actions:

- i. Identify organizations that can work with district-level authorities to deliver technical and capacity building services to rural communities.
- ii. Design LDN support through the FFS for communities with multidisciplinary, trained facilitators. In addition to agrotechnical expertise, incorporate community-level social capital into the FFS approach.

Recommendation 3. To GEF technical officers and FAO Türkiye: the gender strategies included in future similar FAO-GEF projects in Türkiye should integrate gender empowerment alongside women's inclusion. Include gender transformational indicators, and respect local sociocultural norms and traditions.

Suggested actions:

- i. Include initiatives that promote women's leadership within community governance structures. This will enhance women's empowerment.
- ii. Future similar projects should include gender-disaggregated M&E, gender-responsive baseline assessments, gender-sensitive indicators and a results-based framework that explicitly tracks gender equality outcomes.

7.3 Lessons learned

145. The terminal evaluation of the FAO-GEF LDN project in Türkiye provides valuable insights into its implementation and results. The following lessons will guide future projects in similar contexts, particularly within complex multistakeholder environments.

Lesson 1. Importance of collaborative implementation: the project was originally designed as an OPIM project but later transitioned into a direct implementation approach. Creating a results-oriented and collaborative approach between FAO and the executing partner ensured that national ownership was not lost. At the same time, this streamlined the administration and governance of the project.

Lesson 2. Importance of government commitment and policy alignment: the ownership and success of the project were rooted in Türkiye's national commitment to LDN. This ensured effective mobilization of resources and sustained engagement from key institutions.

Lesson 3. The PIU's critical role in managing project complexity: by nature, GEF-funded projects entail multistakeholder and multisectoral frameworks. This complexity exposes the projects to changes in different national priorities that often require adaptive management approaches. The project highlighted several key considerations in managing this complexity.

- i. **Innovative problem solving:** solutions often require thinking beyond conventional approaches and adapting to unique project challenges, rather than relying solely on pre-defined procedures.
- ii. **Adaptive learning:** project teams must be willing to experiment with new approaches, and learn from trial and error to refine strategies effectively.
- iii. **Comfort with uncertainty:** managing non-rules-based problems requires flexibility and an openness to evolving solutions in response to emerging project dynamics.

146. In this context, the PIU played a crucial role in externalizing and mitigating risks across project partners. By facilitating open communication and joint problem solving, the PIU

ensured that risks were effectively managed while maintaining oversight through the project steering committee.

147. The PIU served as a temporary yet essential mechanism for project implementation. It was housed within the GEF agency but functioned independently to facilitate all project partners and stakeholders. Its role was instrumental in:
- i. coordinating administrative, planning, procurement, reporting and compliance requirements;
 - ii. acting as a central hub for knowledge sharing and decision-making; and
 - iii. ensuring that project outcomes were achieved efficiently before dissolving once objectives were met.
148. The PIU itself is a temporary entity, but its capacity building impact on national institutions and stakeholders ensures that the project's benefits extend beyond its operational timeline.

Lesson 4. Ensure social inclusion and community engagement: social inclusion was a crucial component of the LDN project to ensure that vulnerable and marginalized groups benefited equitably. Lessons learned in this area include the following.

- i. **Community-based approaches:** involving local communities in project planning and implementation enhanced ownership and long-term sustainability.
 - ii. **Gender-sensitive strategies:** the project integrated gender-responsive approaches to empower women in land restoration activities. This recognized their key role in SLM.
 - iii. **Capacity building and livelihood support:** training and financial support mechanisms were crucial in enabling local communities to adopt and maintain sustainable practices beyond the project's timeline.
149. Such approaches may appear intuitive. However, the means to building this social capital beyond simple statements in a project document are complex and nuanced. The technical aspects of sustainable agriculture and LDN may provide a focus, but the range of skillsets and support measures required is far more encompassing.
150. When this social capital, the sum of all relationships within communities and between communities and external agencies and organizations exists, it creates pathways for innovation, collective action and building a common vision. Describing this process in a project design is extremely difficult and requires considerable flexibility that conflicts with investors' need to achieve certainty.

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Appendix 1. People interviewed

Last name	First name	Position	Organization	Location
Acar	Ertan Pirdal Huseyin	Head of Department	OGM	Ankara
Akdamar	Mesut	Head of Department	TAGEM	Ankara
Aydin	Abdüssamet	Branch Manager	TRGM	Ankara
Basaran	Kaan Evren	GEF Funding Liaison Officer, GEF Technical Officer	FAO Regional Office for Europe and Central Asia	Budapest
Boz	İsmail	Regional Director	Eskişehir Regional Directorate of Forestry	Eskişehir
Buğday	Nurdan	Agricultural Engineer	TRGM	Ankara
Çetin	İsmail	Regional Director	Eskişehir Regional Directorate of Forestry	Eskişehir
Çetinkaya	Tuğba	Agricultural Engineer	Eskişehir Provincial Directorate of Agriculture and Forestry	Eskişehir
Çetinkaya	Yurdal	Agricultural Engineer	Eskişehir Provincial Directorate of Agriculture and Forestry	Eskişehir
Çokan	Arif	Agricultural Engineer	Kütahya Provincial Directorate of Agriculture and Forestry	Kütahya
Dingil	Erdal	Regional Director	Kütahya Regional Directorate of Forestry	Kütahya
Dündar	Biröl	Regional Director	Kütahya Regional Directorate of Forestry	Kütahya
El-Awar	Faraj	Senior Land and Water Expert, Lead Technical Officer in the absence of a Lead Technical Officer	FAO Türkiye	Ankara
Elçin	Ali	Head of Department	TRGM	Ankara
González	Hernán M.	Technical Officer	The GEF Unit	Rome
Gümüş	Ender Muhammed	Provincial Director	Eskişehir Provincial Directorate of Agriculture and Forestry	Eskişehir
Güneş	Yunus	Deputy Head of Department	OGM	Ankara
Gutu	Viorel	FAO Subregional Coordinator for Central Asia	FAO Subregional Office for Central Asia	Ankara
Köse	Cihan	Non-wood Forest Products Branch Manager	Kütahya Regional Directorate of Forestry	Kütahya

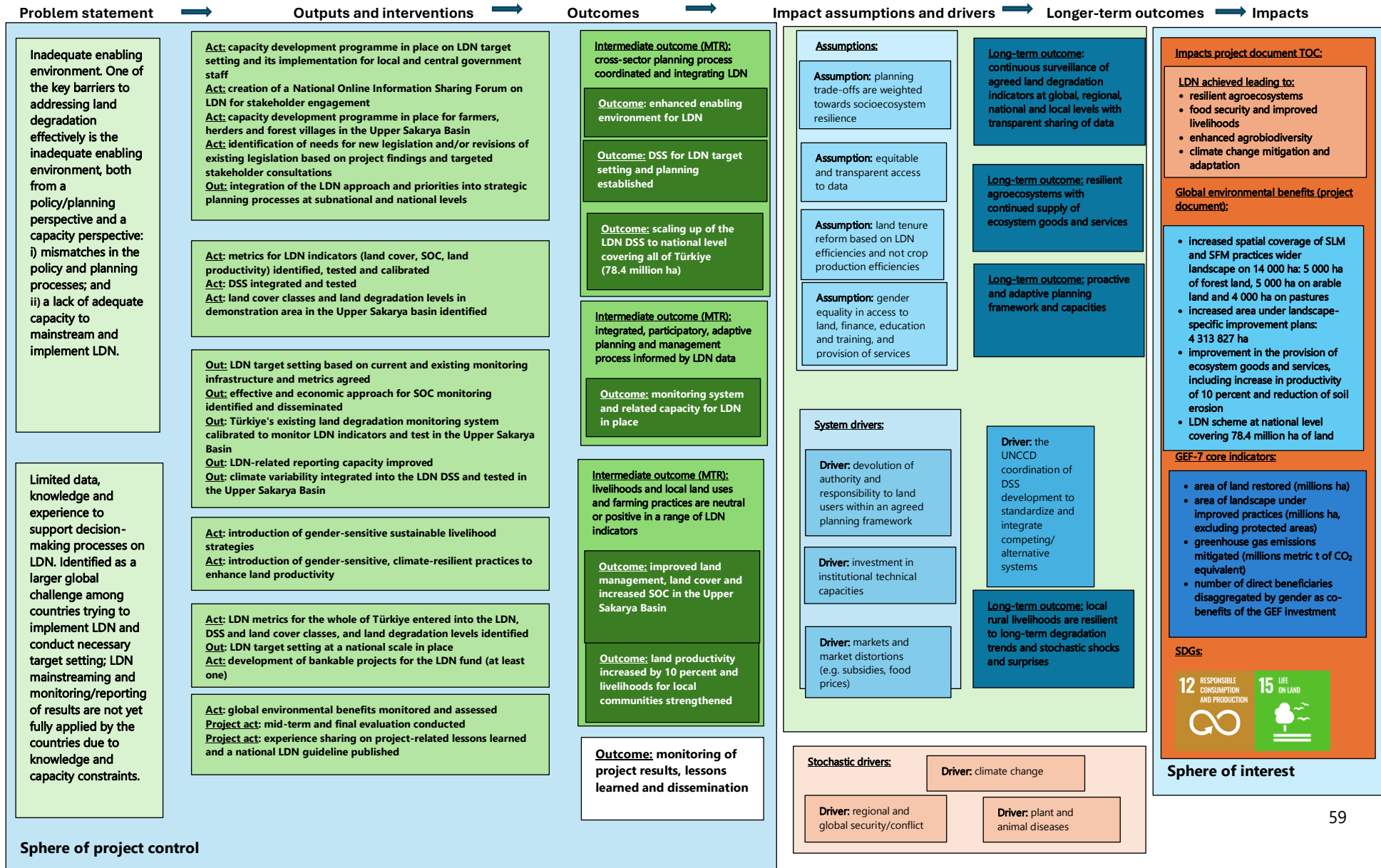
Appendix 1. People interviewed

Last name	First name	Position	Organization	Location
Köse	Derya	Head of Department	ÇEM	Ankara
Metin	Nusret	Agricultural Engineer	Kütahya Provincial Directorate of Agriculture and Forestry	Kütahya
Özbek	Ali Kılıç	Head of Department	TRGM	Ankara
Özçalık	Orhan	Provincial Director	Kütahya Provincial Directorate of Agriculture and Forestry	Kütahya
Özcan	Işıl	The GEF Programme and Operations Specialist	FAO Türkiye	Ankara
Ozevren	Erdogan	The GEF Portfolio Coordinator	FAO Türkiye	Ankara
Pinar	Melis Özge	Researcher	Transitional Zone Agricultural Research Institute	<u>Eskişehir</u>
Seçgel	Gürcan	Head of Department	ÇEM	Ankara
Selişik	Ayşegül	Assistant FAO Representative Türkiye	FAO Representation in Türkiye	Ankara
Sönmez	Bülent	Deputy Director General	TAGEM	Ankara
Soyak	Osman Gökhan	Etude and Project Chief Engineer	Kütahya Regional Directorate of Forestry	Kütahya
Taş	Nurettin	Previous General Director	ÇEM	Ankara
Tekeli	İnci	Branch Manager	TAGEM	Ankara
Tekin	Sibel Nihal	National Project Coordinator	FAO Türkiye	Ankara
Topal	Bahadır	M&E Specialist, South–South Coordinator	FAO Türkiye	Ankara
Topçu	Metin	Deputy Regional Director	Eskişehir Regional Directorate of Forestry	Eskişehir
Tuncer	Ender	Etude and Project Chief Engineer	Eskişehir Regional Directorate of Forestry	Eskişehir
Ulutürk	Erhan	Sivrihisar District Director	Sivrihisar District Directorate of Agriculture and Forestry	Eskişehir
Ünle	Savaş	Deputy Regional Director	Kütahya Regional Directorate of Forestry	<u>Kütahya</u>
Yeniay	Emre	Provincial Director	Kütahya Provincial Directorate of Agriculture and Forestry	Kütahya
Yenigün	Kasım	Current General Director	ÇEM	Ankara
Yücel	Yusuf	Agricultural Engineer	Kütahya Provincial Directorate of Agriculture and Forestry	Kütahya

Last name	First name	Position	Organization	Location
Zadeh	Sara Marjani	Lead Technical Officer, Land and Water Officer	FAO Türkiye	Ankara
	Kertek Village	Pasture Management and Fodder	Beneficiary groups and individual farmers	Kertek Village
	Koçaş Village	Pasture Management and Fodder, Small Ruminants, Marketing and Processing	Beneficiary groups and individual farmers	Koçaş Village
	Sivrihisar	Country Office Operational Partners, Greenhouse Production	Beneficiary groups in particular, women's beneficiary groups	Sivrihisar
	Yaylababa Village (Kütahya)	Country Office Operational Partners, Animal Husbandry and Processing	Beneficiary groups, women's beneficiary groups	Yaylababa Village (Kütahya)

Appendix 2. Revised theory of change with spheres of project control, influence and interest

Project objectives: develop a model for LDN target setting, planning and decision-making at the national level and for demonstration in the Upper Sakarya Basin



Appendix 3. The Global Environment Facility evaluation criteria rating table

Appendix table 1. GEF rating table

The GEF criteria/dimensions	Rating ⁱ	Summary comments
Overall outcome	HS	The outcomes exceed targets, and they are highly relevant and cost-effective.
A. Outcome 1. Enhanced enabling environment for LDN (relevance, coherence, effectiveness and progress towards impact, efficiency)	S	The project has significantly increased the human resources capacity to support and implement the existing, comprehensive policy and regulatory framework. This has been achieved across institutions (ÇEM, OGM, TRGM, TAGEM) and vertically (central-level, provincial, district) through trainings and by introducing new approaches to operational activities (participation, social inclusiveness). This has increased the organizational sharing of data and knowledge. At the level of the community and individual farmers, there has been an effective delivery of skills and knowledge relating to different aspects of SLM, as well as organizational skills (establishing cooperatives, product diversification and business skills). The LDN has been mainstreamed into the 12th National Development Plan, including budget allocation for LDN activities.
A. Outcome 2.1. DSS for LDN target setting and planning established	HS	The DSS is a cost-effective, versatile system for LDN monitoring and target setting. It has been developed through a participatory process with considerable capacity building benefits. It has the potential to evolve and remain relevant. The system is adaptable, cost-effective through applications such as Google Earth Engine and open-source software, and capable of being used in circumstances where datasets are of limited quality (leave no one behind). It has already been replicated and scaled up in 30 other countries with support from other agencies. This has been a remarkable achievement.
A. Outcome 2.2. Monitoring system and related capacity for LDN in place	HS	The DSS has been effectively tested in the Upper Sakarya Basin to a very good effect. The LDN metrics and indicators have been developed, and considerable datasets have been generated. The capacity to use the DSS has been developed. However, it would be advisable to continue further with human resources training to ensure sufficient capacity – especially at provincial and district levels. The DSS has been scaled up to cover all of Türkiye (78.4 million ha). It has been used to improve national reporting to the UNCCD. Existing national LDN targets are to be revised using the DSS, prioritizing implementation sites in the National Watershed Management Strategy. Losses and gains in productivity can be generated and mapped. The DSS allows for comparison of TÇM and land productivity dynamics, and both can be used for multicriteria analysis. A web-based M&E and Reporting System was created prior to the project (through effective co-financing). The DSS has been effectively tested through this process.

The GEF criteria/dimensions	Rating ⁱ	Summary comments
A. Outcome 3.1. Improved land management, land cover and increased SOC in the Upper Sakarya Basin	S	A total of 57 390 ha of land has been improved: 20 657 ha of cultivated land; 3 025 ha of rangeland; and 33 708 ha of forest land. The FFS approach has been very successful in introducing new ways to support farmers and communities. Eight FFS initiatives were established, and 121 farmers were trained (30 women) (FAO, 2024d). Techniques ranging from direct SLM (composting, direct seeding, drip irrigation, leonardite, cover and fodder crops on pastures, <i>hügelkultur</i> , ⁱⁱ food forests, strip ploughing) were introduced. The SLM interventions have been broadly accepted because they have utility and economic benefits for the farmers involved. For instance, leonardite and crop rotations considerably reduce farm inputs, including chemicals, and increase productivity. This makes farms more profitable. These techniques also provide SLM benefits. No-till agriculture reduces land treatment costs while improving soils, increasing land cover and sequestering greater levels of SOC. This also involves food forests and other land treatments, such as the application of farmyard manures. Therefore, the SLM interventions are practical from the farmer's perspective and profitable, and provide direct LDN gains.
A. Outcome 3.2. Land productivity increased by 10 percent, and livelihoods for local communities strengthened	S	Support to sustainable livelihoods (beekeeping, milk chilling and storage, polytunnels, raised beds, crop diversification, product processing, biogas, solar submersible pumps) and capacity building (cooperatives, marketing, support to female farmers, business support, planning, use of service providers, FFS) have built considerable social capital. There is evidence that the polytunnels and processing and marketing support have increased access to economically profitable activities, especially for women. For instance, milk chilling allows for the storage of milk. This reduces waste and transport costs, and allows women to sell directly to buyers. Crop diversification and vegetable growing in the polytunnels, as well as beekeeping, have increased opportunities for the targeted farmers to engage in profitable economic activities. As with Outcome 3.1, the use of organic manures, raised beds and other holistic techniques has increased productivity without necessarily increasing the areas under cultivation.
A. Outcome 4.1. Scaling up of the LDN DSS to the national level, covering all of Türkiye (78.4 million ha)	HS	The DSS was scaled up to the national level (78.4 million ha). See Outcome 1 reporting due to the M&E framework weakness, and duplication in outcomes and indicators.
A. Outcome 4.2. Monitoring of project results, lessons learned and dissemination	Not rated	The M&E implementation and reporting was diligent and of high quality. Internal evaluations of performance and progress were realistic. Internal communications were very good. Implementation was very adaptive in that it overcame weaknesses and other issues in design for effective outputs and activities. Numerous publications on LDN and SLM were produced. Seminars and workshops were carried out. The DSS was scaled up to 30 countries.

The GEF criteria/dimensions	Rating ⁱ	Summary comments
A1. Relevance	HS	The project outcomes and objective have aligned closely with the UNCCD LDN and other Rio Conventions, the Government of Türkiye policy framework (35 substantive policy and other normative documents), the GEF Land Degradation 3 focal area, and the FAO Strategic Framework (2022–2031) (FAO, 2021) in the Programme Priority Areas: of better production, better environment and better life. The project outcomes supported SDG 12, Responsible Consumption and Production, and SDG 15, Life on Land.
A2. Coherence	HS	Internal coherence is very good. The project's strategy, although overly complicated at times, represents the best way to achieve the objective. The DSS is fully coherent with the needs of the UNCCD LDN target setting and monitoring.
A3. Effectiveness	HS	The project exceeds targets in four out of seven outcomes and achieved its expected targets in the other three outcomes. The DSS has demonstrated qualities and utility in target setting and monitoring LDN, which have already been scaled up to at least 18 countries. Its utility, effectiveness and cost efficiency have been recognized by the UNCCD and the GEF, among others. The SLM interventions (Component 3) were delayed largely due to restrictions imposed by the COVID-19 pandemic. This occurred at a critical point in the project cycle. However, the project has recovered well, using non-state service providers to roll out SLM extension activities (with significant demonstration benefits for government agencies tasked with providing agricultural and land management support to farmers and rural communities). These have shown to make significant cost savings for farmers, reduced risk and increased profitability, as well as provided significant LDN benefits such as increased carbon sequestration and increased cover and productivity.
A4. Efficiency	HS	The project was implemented with a high degree of efficiency. It was able to navigate the COVID-19 pandemic restrictions very well by prioritizing activities that could progress online (the DSS), while planning for the restrictions to be lifted in order to ensure that the field activities would commence at the earliest date. There has been high efficiency in the interactions and communications between the executing partners and the Budget Holder, facilitated by the PIU. There were no budget revisions. Co-financing exceeded the amount committed in the project document (1:6 project document – 1:16 actual). Budget execution was 100 percent.
B. SUSTAINABILITY (financial, sociopolitical, institutional and governance, environmental dimensions including risks to sustainability)	L	There are strong indications that the project outcomes will be sustainable. The DSS has already been financially supported in an additional 30 countries. It lends itself to project applications, which would cover the start-up costs across a range of different agencies. It is a versatile tool, and countries can begin using it without the need to have additional investment in data collection by utilizing

The GEF criteria/dimensions	Rating ⁱ	Summary comments
		existing datasets. The capacity building has enabled more effective existing policy implementation and has real applications for work across the range of executing partners. The Government of Türkiye is invested in LDN and is likely in close collaboration with FAO and the GEF to keep promoting and supporting LDN and the DSS. The social capital and capacity building at the community level reduce risks to farmers, decrease their dependency on external inputs, and have economic and financial benefits to their use. The SLM interventions have clear environmental benefits. With further support, these can be replicated and scaled up to larger areas.
C. IMPLEMENTATION	HS	The direct implementation modality was very effective across the range of institutional stakeholders and in ensuring that the DSS was developed with a global reach in mind. Internal communications were very good, and the PIU was well supported by the executing partners and the Budget Holder. Resources were used effectively. As noted, the project strategy, although overly complicated in the project document, represented the best strategy for achieving the objective. The delivery of activities was very good – the use of non-state service providers, social inclusion and attention to the role of women in agriculture proved to be very effective. The PIU played a considerable role in ensuring that the project was effective and appears to have had considerable internal capacities and strengths.
D. EXECUTION	S	The project was originally planned under an OPIM arrangement with the Ministry of Agriculture and Forestry as the executing partner, collaborating with the Ministry of Environment, Urbanization and Climate Change, the Ministry of Interior, and the Ministry of Development, regional institutions, the private sector, and non-governmental organizations. However, the modality was changed to direct execution during the first project steering committee meeting on 10 December 2019, transferring implementation responsibility to the FAO Country Office with a PIU contracted by FAO. Despite the change, the Ministry of Agriculture and Forestry and ÇEM played crucial roles in coordinating partnerships among institutional players both horizontally (Ministry of Environment, Urbanization and Climate Change, ÇEM, Ministry of Agriculture and Forestry) and vertically (district general directorates like OGM, TRGM and TAGEM). They also provided critical political support for DSS implementation at the regional level. Procurement was managed under the FAO PIU (direct execution modality), ensuring collaborative annual work planning and budgeting processes. This approach facilitated high levels of co-financing and overcame limitations in government procurement procedures by enabling access to specialized technical expertise. Executing partners agreed that the direct execution modality approach optimized project execution, particularly for sourcing technical services in areas like the DSS.

The GEF criteria/dimensions	Rating ⁱ	Summary comments
M&E plan	MS	The M&E framework improved after the MTR, but it had weaknesses in its design. The framework was overly complicated, and a good number of indicators were poorly phrased or better for a workplan than a measure of performance and impact. There were no objective-level indicators and few outcome indicators. Among other inefficiencies, this created considerable confusion early on and became a subsequent heavy reporting burden for the PIU.
M&E implementation	S	It would have been disruptive (bureaucratically) for the project to revise the M&E framework. Therefore, it was reasonable to proceed with the M&E framework and indicators in place. The M&E was diligent and accurate. Reporting was regular, and the project's internal evaluation was realistic. The inclusion of the FAO Country Office Monitoring Department was innovative and effective, and helped to foster a culture of M&E across the executing partners.
Overall project rating	S	The project has achieved its objectives and outcomes to a very high degree.

Notes: ⁱ See the rating scheme in Appendix 4.

ⁱⁱ *Hügelkultur* is a German horticulture and permaculture method to make raised beds that use rotting wood to provide nutrients for fruits, vegetables and herbs. The technique replicates nutrient cycles that occur in natural forest areas.

Appendix 4. The Global Environment Facility rating scheme and descriptors

Appendix table 2 presents performance descriptors for each specific rating. In most instances, actual performance may not fully correspond to any of the rating descriptions. Therefore, a rating will be based on the description that provides the best fit based on the evidence. Where available evidence is insufficient to provide a rating, the performance will be rated as unable to assess. The performance will be rated on a six-point scale.

Appendix table 2. Outcome ratings

Ratings	Description
Highly satisfactory (HS)	<i>The outcomes exceed targets, and they are highly relevant and cost effective.</i>
Satisfactory (S)	<i>Level of outcomes achieved meets targets. The outcomes are relevant and cost-effective.</i>
Moderately satisfactory (MS)	<i>Level of outcomes achieved was generally close to the targets. Majority of the targets were met or almost met but some were not. The outcomes are generally relevant and cost-effective.</i>
Moderately unsatisfactory (MU)	<i>Overall, the level of outcomes achieved is lower than targets, although some outcomes were substantially achieved. The outcomes are generally relevant but not sufficient given the costs or, alternatively, generally cost-effective but not adequately relevant.</i>
Unsatisfactory (U)	<i>The expected outcomes were not achieved, or achievement was substantially lower than expected, and/or the achieved outcomes are not relevant. Alternatively, the outcome was cost-ineffective compared to alternatives.</i>
Highly unsatisfactory (HU)	<i>Negligible level of outcomes were achieved and/or the project had substantial negative consequences that outweigh its benefits.</i>
Unable to assess (UA)	<i>The available information does not allow an assessment of the level of outcome achievement.</i>

SUSTAINABILITY

The sustainability will be assessed taking into account the risks related to the financial, sociopolitical, institutional and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a six-point scale.

Appendix table 3. Sustainability ratings

Rating	Description
Highly likely (HL)	<i>There is negligible risk to the continuation of benefits and, based on the progress made so far, it is expected that the long-term objectives of the project will be achieved.</i>
Likely (L)	<i>Either there is negligible risk to the continuation of benefits or there are some risks, but the magnitude of their effect is too small and/or the probability that they will materialize is too small. Overall, it is likely that the net benefits of the project will continue.</i>
Moderately likely (ML)	<i>There are some risks to sustainability, and they may have some effect on continuation of benefits if they materialize. However, the probability of materialization of these risks is low. Net benefits are more likely to continue than abate.</i>
Moderately unlikely (MU)	<i>There are significant risks to sustainability. The effect on the continuation of benefits would be substantial if these risks materialize, and the probability of materialization of these risks is significant. Overall, net benefits of the project are likely to abate.</i>
Unlikely (U)	<i>Because of the high risks, it is unlikely that net benefits of the project will continue to accrue, and the progress made so far is likely to be lost. It is unlikely that the project will achieve its long-term objectives.</i>
Highly unlikely (HU)	<i>It is expected that the project will not achieve its long-term objectives. Major risks have either already materialized and halted the accrual of net benefits or have high probability of materializing soon and will halt the accrual of net benefits when they materialize.</i>
Unable to assess (UA)	<i>Unable to assess the expected incidence and magnitude of risks to sustainability.</i>

PROJECT IMPLEMENTATION AND EXECUTION

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF agencies that have direct access to GEF resources. Quality of execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF agencies and executed the funded activities on the ground (this could be the very same FAO with co-executor partners or an executing partner identified by an FAO operational agreement). The performance will be rated on a six-point scale.

Appendix table 4. Implementation and execution ratings

Ratings	Implementation	Execution
Highly satisfactory (HS)	Performance of the GEF agency was exemplary. Project preparation and implementation were robust. The agency ensured that relevant GEF policies were applied in project preparation and implementation. Project supervision was strong: the agency identified and addressed emerging concerns in a timely manner. The agency ensured that project implementation stayed on track and project activities were completed on time.	Performance of the executing entity was exemplary. Execution of project activities was timely and of high quality. Relevant GEF policies and requirements were adhered to. Guidance from the GEF agency was followed, and any corrective actions required were taken promptly. Measures were undertaken to mitigate risks to sustainability, and steps were taken to support follow-up to the project. Project activities were completed on time.
Satisfactory (S)	Performance met expectations and did not have any salient weaknesses. Project preparation and implementation were robust,	Performance met expectations and did not have any salient weaknesses. Execution of project activities was timely and of good

Appendix 4. The Global Environment Facility rating scheme and descriptors

Ratings	Implementation	Execution
	and relevant GEF policies were applied. The GEF agency supervised the project well: it identified and addressed emerging concerns in a timely manner. The agency ensured that project implementation was on track.	quality. Relevant GEF policies and requirements were adhered to. Guidance from the GEF agency was followed. Measures were undertaken to mitigate risks to the sustainability of project outcomes.
Moderately satisfactory (MS)	Performance had some weaknesses but met expectations overall. Project preparation and implementation were adequate, and relevant GEF policies were applied, but there are some weak areas. Project supervision was adequate: the GEF agency identified and addressed emerging concerns, but some may have been inadequately addressed. Project implementation had minor delays, and a few activities may have been dropped.	Performance had some weaknesses but met expectations overall. Execution of project activities was generally timely but with some instances of delay. Relevant GEF policies and requirements were adhered to, but some minor slipups may have been observed. Guidance from the GEF agency was followed, and problems were fixed. There were some areas for improvement in execution.
Moderately unsatisfactory (MU)	Performance did not meet expectations, but there were some areas of solid performance. Project preparation and implementation had weaknesses, but these were not too severe. Project supervision was somewhat weak: although the GEF agency identified most emerging concerns, many remained unaddressed or inadequately addressed. Project implementation was delayed, and a few activities were dropped or reduced in scale because of issues that were largely under agency control.	Performance did not meet expectations, but there were some areas of solid performance. Execution of project activities was delayed, and executing entity capabilities observably limited project execution. Several slipups in the adherence to GEF policies and requirements were observed. Guidance from the GEF agency was generally followed and problems were fixed, but such actions usually were not timely. There were several areas for improvement in execution.
Unsatisfactory (U)	Performance did not meet expectations. Project preparation and implementation were weak. Project supervision was weak: emerging concerns were not identified in time and remained unaddressed or inadequately addressed. Activities were not implemented in time or were not undertaken. Project implementation was delayed, and several activities were dropped or reduced in scale.	Performance did not meet expectations. Execution of project activities was delayed, and at least some activities were dropped due to factors largely under the control of the executing entity. Many slipups were observed in adherence to GEF policies and requirements. Guidance from the GEF agency was not put into practice, or was applied with considerable delay.
Highly unsatisfactory (HU)	Performance had severe shortcomings. The GEF agency mismanaged project implementation, and its supervision was poor. Emerging concerns were not identified in time, including those that should have been obvious. Although instances of mismanagement were discovered, corrective actions were not undertaken. Project activities were poorly implemented, and several had to be dropped.	Performance had severe shortcomings. There were several instances of mismanagement by the executing entity. Emerging concerns were not addressed in time, including those that should have been obvious. Most activities were very poorly executed and/or experienced delays, and some activities were dropped. The GEF policies and requirements were not applied.
Unable to assess (UA)	The available information is not sufficient to rate performance.	The available information is not sufficient to rate performance.

MONITORING AND EVALUATION

Quality of project M&E will be assessed in terms of i) quality of design of project M&E plan and ii) quality of project M&E during implementation. Appendix table 5 presents relevant descriptors for each rating.

Appendix table 5. Monitoring and evaluation ratings

Ratings	M&E plan	M&E implementation
Highly satisfactory (HS)	The M&E plan is a good practice and does not have any weaknesses. Its alignment with the project's TOC is robust. Complete baseline data have been provided. The specified indicators are appropriate, and arrangements for plan implementation are adequate. Overall, the M&E plan exceeds expectations and is exemplary.	The M&E plan implementation was excellent. Weaknesses in the M&E plan, if present, were addressed promptly. The M&E activities were conducted in a timely manner, and M&E data were used to improve project implementation. Overall, the M&E implementation exceeds expectations and was exemplary.
Satisfactory (S)	The M&E plan is robust and has no or only minor weaknesses. Its alignment with the project's TOC is robust. Baseline data are provided or their collection is planned at project start. The specified indicators are appropriate, and arrangements for M&E plan implementation are adequate. The plan meets expectations.	The M&E plan implementation was generally robust. Weaknesses in M&E were addressed in a timely manner. The M&E activities were conducted in a timely manner, and M&E data were used in improving project implementation. Overall, the M&E implementation meets expectations.
Moderately satisfactory (MS)	The M&E plan is solid overall. Its alignment with the project's TOC is solid. The specified indicators are generally appropriate, and arrangements for M&E plan implementation are adequate. There are areas where the M&E plan could be strengthened but, overall, it is adequate.	The M&E plan implementation was generally robust, with some weaknesses. Weaknesses in the M&E were generally addressed but some remained. Some M&E activities were delayed. The M&E data were used for reporting but had little use in improving project implementation. Overall, M&E implementation meets expectations with some areas of low performance.
Moderately unsatisfactory (MU)	The M&E plan is weak overall, but it has strengths in some areas. Its alignment with the project's TOC is somewhat weak. The specified indicators are generally appropriate, but additional indicators are required to adequately capture project results, and/or arrangements to gather data on indicators are not adequate. The plan needs several improvements to meet expectations.	The M&E plan implementation was weak and/or did not address weaknesses in the original plan. Most M&E activities were completed, with some either dropped or delayed. The M&E data were not reported in a timely manner, and there is little evidence to suggest that the data were used to improve project implementation. Overall, the M&E implementation does not meet expectations, but there are some areas of adequate performance.
Unsatisfactory (U)	The M&E plan has severe shortcomings. Its alignment with the project's TOC is weak. No baseline data are provided, nor is there any indication that these would be collected at project start. Indicators do not adequately address project outcomes and other results; relevant indicators have not been specified for several results. There are gaps in arrangements for M&E plan implementation. Either no budget or an inadequate budget has been provided for M&E.	The M&E plan implementation was flawed and/or did not address severe weaknesses in the original plan. Several M&E activities were either dropped or were incomplete. The data collection methodology was not sound. The M&E data were not reported in a timely manner, and there is little evidence to suggest that the data were used to improve project implementation. The M&E implementation does not meet expectations.
Highly unsatisfactory (HU)	No M&E plan was prepared.	No, or negligible, M&E activity was implemented other than conduct of the project evaluation.
Unable to assess (UA)	Unable to assess because project documents are not available.	Unable to assess as the terminal evaluation does not cover M&E implementation adequately.

Appendix 5. United Nations Evaluation Group's ethical guidelines and principles

Respect for dignity and diversity

Evaluators shall:

- a) Respect differences in culture, local customs, religious beliefs and practices, personal interaction, gender roles, disability, age and ethnicity, and be mindful of the potential implications of these differences when planning, carrying out and reporting on evaluations, using evaluation instruments appropriate to the cultural setting.
- b) Keep disruption to a minimum while needed information is obtained, providing the maximum notice to individuals or institutions they wish to engage in the evaluation, optimizing demands on their time and respecting people's right to privacy.

Rights and fair representation

In including individuals or groups in the evaluation, evaluators shall ensure:

- a) Right to self-determination. Prospective participants should be treated as autonomous agents and must be given the time and information to decide whether or not they wish to participate and be able to make an independent decision without any pressure or fear of penalty for not participating.
- b) Fair representation. Evaluators shall select participants fairly in relation to the aims of the evaluation, not simply because of their availability, or because it is relatively easy to secure their participation. Care shall be taken to ensure that relatively powerless, 'hidden' or otherwise excluded groups are represented.

Compliance with codes for vulnerable groups

Where the evaluation involves the participation of members of vulnerable groups, evaluators must be aware of and comply with legal codes (whether international or national) governing, for example, interviewing children and young people.

Redress

Stakeholders receive sufficient information to know: a) how to seek redress for any perceived disadvantage suffered from the evaluation or any projects it covers; and b) how to register a complaint concerning the conduct of an implementing or executing agency.

Confidentiality

Evaluators shall respect people's right to provide information in confidence and make participants aware of the scope and limits of confidentiality. Evaluators must ensure that sensitive information cannot be traced to its source so that the relevant individuals are protected from reprisals.

Avoidance of harm

Evaluations can have a negative effect on their objects or those who participate in them. Therefore, evaluators shall seek to: minimize risks to, and burdens on, those participating in the evaluation; and seek to maximize the benefits and reduce any unnecessary harms that might occur from negative or critical evaluation, without compromising the integrity of the evaluation.

Appendix 6. Enabling environment and policy

Name	Law/regulation number	Areas/law regulation applies to
National law		
Constitution of the Republic of Türkiye	Law No. 2709. Date of acceptance 7 November 1982 Articles 44, 45, 56, 57, 90, 166, 169, 170 and 171	Within the context of natural resources management and prevention of land degradation, these law regulations are applied to: • protection of land; • elimination of poverty in rural areas; • land acquisition by landless farmers; • protection of forests and pastures; and • raising the living standards of forest villagers.
Land Conservation and Land Use Law	Law No. 5403. Date of acceptance 19 July 2005 – law regulation is applied to:	• conserving land and soil resources; and • use of agricultural lands.
Forest Law	Law No. 6831. Date of acceptance 8 September 1956 – law regulation is applied to:	• forest areas; • in-site forest pastures; and • forest villagers.
Agricultural Reform Law on Land Regulation in Irrigation Areas	Law No. 3083. Date of acceptance 1 December 1984 – law regulation is applied to:	• irrigated agricultural lands.
The Environment Law	Law No. 2872. Date of acceptance 1 August 1983 – law regulation is applied to:	• biological, physical, social, economic and cultural environments.
Pasture Law	Law No. 4342. Date of acceptance 28 February 1998 – law regulation is applied to:	• pastures and meadows; and • grasslands.
Agriculture Law	Law No. 5488. Date of acceptance 25 April 2006 – law regulation is applied to:	• agricultural sector; and • rural areas.
Organic Farming Law	Law No. 5262. Date of acceptance 3 December 2004 – law regulation is applied to:	• organic farming activities.
Law on Waters	Law No. 831. Date of acceptance 10 May 1926 – law regulation is applied to:	• drinking water.
Law on Underground Waters	Law No. 167. Date of acceptance 23 December 1960 – law regulation is applied to:	• underground waters.
Irrigation Unions Law	Law No. 6172. Date of acceptance 22 March 2011 – law regulation is applied to:	• irrigation unions.
Biosafety Law	Law No. 5977. Date of acceptance 26 March 2010 – law regulation is applied to:	• organisms and products modified genetically.
National Parks Act	Law No. 2873. Date of acceptance 11 August 1983 – law regulation is applied to:	• national parks; • nature parks; • natural monuments; and • natural protection areas.
National Forestation and Erosion Control	Law No. 4122. Date of acceptance 26 July 1995 – law regulation is applied to:	• forestation and erosion control works.
Mobilization Law		
Land Hunting Law	Law No. 4915. Date of acceptance 11 July 2003 – law regulation is applied to:	• hunting and wildlife management.
Law on the Use of Renewable Energy Sources for the Purpose of Generating Electricity	Law No. 5346. Date of acceptance 10 May 2005 – law regulation is applied to:	• renewable energy sources.
Energy		

Name	Law/regulation number	Areas/law regulation applies to
Cadastre Law	Law No. 3402. Date of acceptance 9 July 1987 – law regulation is applied to:	• real estate.
Law on the Protection of the Integrity of the Development Plans	Law No. 3067. Date of acceptance 6 November 1984 – law regulation is applied to:	• planning of national development at the macro level.
Law on the Establishment, Coordination and Duties of Development Agencies	Law No. 5449. Date of acceptance 8 February 2006 – law regulation is applied to:	• providing development on a regional basis.
Metropolitan Municipality Law	Law No. 5216. Date of acceptance 23 July 2004 – law regulation is applied to:	• metropolitan municipality and municipalities within the borders of the metropolis.
Turkish Civil Law	Law No. 4721. Date of acceptance 8 December 2001 – law regulation is applied to:	• relations between individuals.
International Conventions adopted in parliament pursuant to Article 90 of the Constitution	• United Nations Framework Convention on Climate Change Law No. 4990. Date of acceptance 21 October 2003; • UNCCD Law No. 4340. Date of acceptance 14 February 1998; • Convention on Biodiversity Law No. 4177. Date of acceptance 3 September 1996; • European Landscape Convention Law No. 4881. Date of acceptance 17 June 2003; and • Ramsar Convention Law No. 3958. Date of acceptance 17 May 1994.	
Government regulations		
Development Plan (2014–2018)		• Protection of the environment and sustainable use of resources.
Government Programme (2019–2028)		• 11th National Development Plan (2019–2023); and • 12th National Development (2024–2028).
Strategies and action plans		
Strategic plans related to LDN and action plans related to these strategic plans prepared and implemented within the scope of international agreements and Law No. 5018		• Türkiye's Climate Change Strategy and Action Plan (2010–2023); • National Strategy and Action Plan to Combat Desertification (2015–2023); • National Biological Diversity Strategy and Action Plan (2007); • National Watershed Management Strategy (2014–2023); • National Drought Management Strategy Document and Action Plan (2017–2023); • Strategy and Action Plan for Combating Drought (2017–2023); • European Union Integrated Environmental Adaptation Strategy (2007–2023); • Water Quality Management Strategy Document and Action Plan (2015–2023); and • National Rural Development Strategy (2014–2020).

Appendix 7. Project objective, outcome, outputs and indicators (from project document)

Objective: develop a model for LDN target setting, planning and decision-making at the national level and for demonstration in the Upper Sakarya Basin	Indicator No indicators given
Component 1. Strengthen the enabling environment for LDN	
Outcome 1.1. Enhanced enabling environment for LDN	Indicator 1. Integration of LDN into strategic planning processes Indicator 2. Investment programme for LDN
Output 1.1.1. Capacity development programme in place on LDN target setting and its implementation for local and central government staff	Output indicator. Number of institutional training courses that integrate LDN Output indicator. Number of people trained at local and central levels Output indicator. National and international symposia Output indicator. International LDN exchange Output indicator. National Online Information Sharing Forum on LDN
Output 1.1.2. Creation of a National Online Information Sharing Forum on LDN for stakeholder engagement	
Output 1.1.3. Capacity development programme in place for farmers, herders and forest villages in the Upper Sakarya Basin	Output indicator. Number of FFS established on modern and sustainable production methods Output indicator. Number of local people trained, including number of women Output indicator. Mass media campaigns on LDN
Output 1.1.4. Identification of needs for new legislation and/or revisions of existing legislation based on project findings and targeted stakeholder consultations	New and/or revised legislation that operationalizes the LDN approach
Output 1.1.5. Integration of the LDN approach and priorities into strategic planning processes at subnational and national levels	Output indicator. Integration of LDN into strategic planning processes Output indicator. Strengthening of the LDN intersectoral working group
Component 2. DSS for LDN	
Outcome 2.1. DSS for LDN target setting and planning established	Indicator 3. DSS established with calibrated metrics for LDN indicators
Output 2.1.1. Metrics for LDN indicators (i.e. land cover, SOC and land productivity) identified, tested and calibrated	Output indicator. Calibrated metrics for LDN indicators available
Output 2.1.2. DSS integrated and tested	Output indicator. Integration for LDN DSS
Output 2.1.3. Land cover classes and land degradation levels in demonstration area in the Upper Sakarya Basin identified	Output indicator. Land cover classes and land degradation levels in the Upper Sakarya Basin verified
Outcome 2.2. Monitoring system and related capacity for LDN in place	Indicator 4. LDN monitoring system in place with target setting agreed
Output 2.2.1. LDN target setting based on current and existing monitoring infrastructure and metrics agreed	Output indicator. Target setting and hot spots and cold spots for gains and losses identified
Output 2.2.2. Effective and economic approach for SOC monitoring identified and disseminated	Output indicator. Agreed soil Output indicator. Organic carbon monitoring approach
Output 2.2.3. Türkiye's existing land degradation monitoring system calibrated to monitor LDN indicators and test in the Upper Sakarya Basin	Output indicator. TÇM and land productivity dynamics models tested
Output 2.2.4. LDN-related reporting capacity improved	Output indicator. Web-based M&E and Reporting System operationalized Output indicator. Training of decision-makers and technical staff

Appendix 7. Project objective, outcome, outputs and indicators (from project document)

Output 2.2.5. Climate variability integrated into the LDN DSS and tested in the Upper Sakarya Basin	Output indicator. Subindicators of climate variability tested in the Upper Sakarya Basin for the TÇM and SOC models
Component 3. Demonstration of the LDN approach in the Upper Sakarya Basin	
Outcome 3.1. Improved land management, land cover and increased SOC in the Upper Sakarya basin	Indicator 5. Area with improved land management Indicator 6. Area with improved land cover Indicator 7. Percentage increase in SOC
Output 3.1.1. Participatory landscape-specific improvement plans based on priorities identified by the DSS covering 4 313 827 ha of land	Output indicator. Hectare of land covered by landscape-specific improvement plans
Output 3.1.2. Demonstrations of SLM and SFM best practices in forests, rangelands and croplands that provide carbon benefits on 14 000 ha of land	Output indicator. Area with demonstrations of SLM and SFM best practices
Output 3.1.3. Measures and approaches for reducing the impacts of climate variability integrated into SLM and SFM practices	Output indicator. Percentage increase in SOC in area covered by best practices
Output 3.1.4. Preparation of an implementation plan for achieving LDN targets in the whole Upper Sakarya Basin	Output indicator. Number of climate-smart measures and approaches integrated into SLM/SFM
Outcome 3.2. Land productivity increased by 10 percent, and livelihoods for local communities strengthened	Output indicator. Implementation plan for achieving LDN targets in the Upper Sakarya Basin
Output 3.2.1. Introduction of gender-sensitive sustainable livelihood strategies	Indicator 8. Increase in land productivity
Output 3.2.2. Introduction of gender-sensitive, climate-resilient practices to enhance land productivity	Output indicator. Gender action plan for the Upper Sakarya Basin
	Output indicator. Number of gender-sensitive, climate-resilient practices targeting women
	Output indicator. Area covered
	Output indicator. Number of households with improved living conditions
	Output indicator. Number of women trained
Component 4. Scaling up of LDN experiences, and M&E	
Outcome 4.1. Scaling up of the LDN DSS to the national level, covering all of Türkiye (78.4 million ha)	Indicator 9: Area covered by the LDN DSS
Output 4.1.1. LDN metrics for all of Türkiye entered into the LDN DSS, and land cover classes and land degradation levels identified	Output indicator. LDN metrics for all of Türkiye available in the DSS
Output 4.1.2. LDN target setting at a national scale in place	Output indicator. LDN target setting in place
Output 4.1.3. Development of bankable projects for the LDN fund (at least one)	Output indicator. Number of bankable projects for the LDN fund
Outcome 4.2. Monitoring of project results, lessons learned and dissemination	Indicator 10. M&E system in place Indicator 11. Lessons learned disseminated
Output 4.2.1. Global environmental benefits monitored and assessed	Output indicator. Baseline and targets for global environmental benefit indicators refined
Output 4.2.2. Mid-term and final evaluation conducted	Output indicator. Mid-term and final evaluation reports
Output 4.2.3. Experience sharing on project-related “lessons learned” and a national LDN guideline published	Output indicator. National LDN guidelines

Appendix 8. Project indicator analysis from the mid-term review

Description	Indicator	Project mid-term target	MTR specific, measurable, achievable, relevant and time-bound analysis					MTR comments
	Indicators		S	M	A	R	T	
	Objective indicators							
Objective: develop a model for LDN target setting, planning and decision-making at the national level and for demonstration in the Upper Sakarya Basin	None	None	X	X	X	X	X	Normally, a project would be expected to have objective-level indicators. The absence of indicators at this level makes the M&E challenging.
Component 1. Strengthen the enabling environment for LDN	Outcome 1 indicators		S	M	A	R	T	
Outcome 1.1. Enhanced enabling environment for LDN	Indicator 1. Integration of LDN into strategic planning processes	LDN integrated into at least one strategic planning process	Q	Q	✓	✓	✓	An indicator is essentially an activity. The term "integration" lacks the clarity necessary for objective measurement. The indicator and target are essentially the same thing. Both indicators appear to share baselines, mid-term and end-of-project targets.
	Indicator 2. Investment programme for LDN	LDN integrated into at least one strategic planning process	✓	✓	Q	Q	Q	The target is not related to the indicator. Some measure of budget allocation, private sector investment, etc. would be more appropriate.
Component 2. DSS for LDN	Outcome 2 indicators		S	M	A	R	T	
Outcome 2.1. DSS for LDN target setting and planning established	Indicator 3. DSS established with calibrated metrics for LDN indicators	DSS for LDN in place with calibrated metrics for LDN indicators	Q	Q	✓	✓	✓	The indicator and the target re-state the outcome. The outcome is more suitable as an output and not an outcome; arguably it could be considered an activity. The indicator is the equivalent of "full" or "empty." There is no calibration.

Description	Indicator	Project mid-term target	MTR specific, measurable, achievable, relevant and time-bound analysis					MTR comments
			S	M	A	R	T	
Indicators								
Outcome 2.2. Monitoring system and related capacity for LDN in place	Indicator 4. LDN monitoring system in place with target setting agreed	LDN monitoring system in place with target setting agreed	Q	Q	Q	Q	Q	(As above)
Component 3. Demonstration of the LDN approach in the Upper Sakarya Basin	Outcome 3 indicators		S	M	A	R	T	
Outcome 3.1. Improved land management, land cover and increased SOC in the Upper Sakarya Basin	Indicator 5. Area with improved land management	7 000 ha	Q	Q	Q	✓	✓	The indicator is weakly defined as to what constitutes “improved land management”. (As above) The baseline is given as zero. The target should relate to a measure of the increase in land cover x area to reduce ambiguity. The increase needs to be calibrated. It is not clear how the term “improved” should be measured. The PIU has, to some extent, tried to define this indicator in the PIR. It is also questionable whether this indicator would have sufficient sensitivity in a four-year project (not counting the effect of the COVID-19 pandemic). A project would reasonably only be expected to see changes in biological indicators after several years and, even then, a correlation between project intervention and variable change would need to dismiss other variables such as rainfall patterns, etc. As a project time frame indicator, it lacks utility. Presumably, this would also include land use planning (e.g. microbasin plans), which would be an unrealistic target for the project’s material resources and time frame and be better
	Indicator 6. Area with improved land cover	2 000 000 ha						
			✓	✓	Q	✓	✓	

Description	Indicator	Project mid-term target	MTR specific, measurable, achievable, relevant and time-bound analysis					MTR comments
			S	M	A	R	T	
Indicators								
Outcome 3.2. Land productivity increased by 10 percent and livelihoods for local communities strengthened	Indicator 7. Percentage increase in SOC	20 percent increase in SOC	✓	X	X	✓	X	expressed as the number of plans (e.g. one to two plans by the end of the project). The MTR questions whether this indicator is sensitive enough to measure the variable within the time period of the project.
	Indicator 8. Increase in land productivity	5 percent increase in land productivity	Q	Q	Q	✓	✓	The baseline is stated as “land productivity and incomes are low in the Upper Sakarya Basin due to outdated SLM and SFM practices”. A 5 percent increase is not measurable without an objective, empirical measurement. Further issues include defining the spatial area. There is no indicator for livelihoods and if this would be an amalgamation of different land use types, etc. It is not possible to calculate the percentage of “low”. Land productivity and income should be disaggregated into two separate indicators if the indicator is to provide a reasonable metric of impact. This is because they are amalgamated in the baseline and outputs.
Component 4. Scaling up of LDN experiences, and M&E	Outcome 4 indicators		S	M	A	R	T	
Outcome 4.1. Scaling up of the LDN DSS to the national level covering all of Türkiye (78.4 million ha)	Indicator 9. Area covered by the LDN DSS	Land cover classes for all of Türkiye identified based on the six Intergovernmental Panel on Climate Change classes	Q	✓	✓	✓	✓	The outcome is an output or even a target. The indicator re-states the “outcome”.

Description	Indicator	Project mid-term target	MTR specific, measurable, achievable, relevant and time-bound analysis					MTR comments
			S	M	A	R	T	
	Indicators							
Outcome 4.2. Monitoring of project results, lessons learned and dissemination	Indicator 10. M&E system in place	Implementation of project based on adaptive results-based management				X		This is a work planning issue and does not belong in the M&E framework.
	Indicator 11. Lessons learned disseminated	Implementation of project based on adaptive results-based management				X		This is a work planning issue and does not belong in the M&E framework.
	SMART: specific, measurable, achievable, relevant and time-bound Green: SMART criteria compliant; yellow: questionably compliant with SMART criteria; red: not compliant with SMART criteria							
Q Questionable	× Not SMART	✓ SMART						

Appendix 9. Evaluation matrix

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
Relevance [rated]	To what extent are the project (the three project components) scope and objectives aligned with current country environmental and development priorities, the GEF focal areas/operational programme strategies, the FAO Country Programming Framework, the national policy framework and the mandates of executing partners, and the needs and priorities of targeted beneficiaries? How is the project responding to the national needs on land degradation, programmes and priorities set by the Government of Türkiye on LDN? How is the project clearly contributing to the achievement of FAO's commitments to SDG 15 and other related SDGs? To what extent do the projects support the process initiated with the 12th COP to the UNCCD, hosted by Türkiye?	Document review, KIIs, analysis of project document, inception report, PIRs, project steering committee meeting minutes and MTR Implementation arrangements Level and type of co-financing	Critical analysis of the project design: the original design and strategic approach will be challenged against best practices and the management response to the MTR recommendations Critical analysis of the project design Critical reflection on the measures of project success Emphasis on constructive analytical dialogue An examination of process: critically examine the project's actions and activities to ensure that there has been sufficient effort in ensuring that elements of capacity building and participation are establishing processes	Central level (i.e. the GEF agency and operational partners) Central-level operational partners Provincial operational partners Beneficiaries National LDN Target Setting consultant
	How relevant is the project strategy to the project area/national context and circumstances? How did the project determine the interventions and intervention sites (provincial operational partners)? How have stakeholders benefited from the project's approach and use for new projects funded by other donors (provincial operational partners)?	Review and analysis of the project document, M&E framework, MTR, TOC and PIRs Coherence between project design and implementation: what changes have been necessary? Should changes have been made? Project document, inception report, PIRs and MTR	Critical analysis of the project design Critical reflection on the measures of project success	FAO Country Office and PIU Central-level operational partners Provincial operational partners

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
	Do stakeholders continue to have an active role in project and outcome decision-making that supports efficient and effective project implementation? If so, how is this achieved?	Gender-disaggregated data, level of co-financing commitment/expenditure, workshop and meeting attendance, degree of ownership of the project's community-based/civil society initiatives Project reports, PIR, workshop reports, co-financing records and KIIs	Examination of process: critically examine the project's actions and activities with particular emphasis on the inclusion of women Constructive analytical dialogue with stakeholders	Central-level operational partners Provincial operational partners Beneficiary FGDs (including female-only interviews)
Coherence [rated]	To what extent is the project coherent with other development interventions in the same context, adding value and avoiding duplication? What is different between this project and other LDN projects initiated in the region? (FAO)	Review of global LDN target setting initiatives	Analysis of global, regional and national policy, and enabling framework	FAO external actors
	Does the project design (internal coherence of the project components) provide a comprehensive approach to address desertification and land degradation? How did this project contribute to achieve Türkiye's goals and commitments to combat land degradation and desertification?	Review of project document, MTR, TOC (project document and MTR), end-of-project results, project components and M&E framework	Review, analysis of logical hierarchy in M&E framework (objective, components, outcomes, outputs, activities, results and budget) and KIIs Critical analysis of the project design Critical reflection on the measures of project success Synthesizing plausible future impacts: use analytical methods to identify plausible future outcomes resulting from the impact of the project in the future and how these might affect the project's TOC	FAO Central-level operational partners Operational partners Beneficiaries

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
Effectiveness [rated]	To what extent did the project contribute to its intended outcomes? This includes: - enabling environment for LDN; - DSS for LDN target setting and planning; - national-level DSS scaling up; and - improved land productivity and local community livelihoods. Women’s cooperatives: - To what extent did project support and the incentives contribute to their production? - To what extent did they benefit from the FFS approach? - How did the experience exchange visits help them? - How did the training increase their knowledge and understanding on sustainable production techniques? - What lessons were learned in the process? - Did the project help them apply these practices on their own land? Local women (and men) farmers in Kütahya, Yaylababa Village: - How did the project support the village? (incentives, trainings, etc.) - To what extent did they benefit from the FFS trainings on livestock and rangeland management? - To what extent was the training on high tunnels (small greenhouse), and sapling and vegetable production beneficial? - How did the project encourage women farmers? To what extent did they believe	Project results: PIRs; direct field observations; KILs at all levels (global, national, provincial, site, etc.), feedback from other DSS projects/users and FFS results	Examination of process Analysis of PIRs/M&E framework results, end-of-project target achievements and KILs Critical reflection on the measures of project success	FAO Central-level operational partners Provincial operational partners Beneficiaries

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
	that they can have better and sustainable production? • Are they planning to establish a women's cooperative? If so, are there any barriers preventing this? • What are their observations regarding their own willingness to continue production? Did this process also help them build capacities and self-confidence? • Have there been any local initiatives to continue to build capacity?			
	How effectively did the FAO operational partner arrangement, including changes in implementation modality, support capacity building and project outcome achievement?	Evidence of horizontal and vertical cooperation and collaboration between operational partner directorates, provincial-level directorates, project steering committee meeting minutes and KIIs	Constructive analytical dialogue with stakeholders	FAO Country Office and PIU Central-level operational partners Provincial operational partners
	Was the project strategy and means of implementation the most effective way to achieve the objective (did all results contribute directly to the outcomes)?	Budget, co-financing, TOC, M&E framework and PIRs	Examination of process Analysis of PIR/M&E framework results, end-of-project target achievements and KIIs	FAO Country Office and PIU Central-level operational partners Provincial operational partners Beneficiaries
	What factors have contributed to achieving or not achieving the intended outcomes and outputs? Could the project include alternative strategies?	PIR, risk log, project steering committee meeting minutes	Examination of process Analysis of PIR/M&E framework results, end-of-project target achievements and KIIs	FAO Country Office and PIU Central-level operational partners Provincial operational partners

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
	To what extent has the project demonstrated: a) scaling up; b) replication; c) demonstration; and/or d) production of public good?	M&E framework, end-of-project results, direct field observations, KIIs and FGDs	Critical reflection on the measures of project success	All
Efficiency [rated]	Was the project cost-effective in converting inputs to results in a timely and economical manner, and how did the FAO operational partner arrangement influence project efficiency?	M&E framework, end-of-project results, budget execution and co-financing	Value for money analysis Examination of process: critically examine the project’s actions and activities with regard to adaptive management	FAO Country Office and PIU Central-level operational partners
Implementation [rated]	To what extent did FAO and the executing agencies fulfil their roles and responsibilities across project phases, and how effectively did the agencies identify, manage and respond to internal and external changes impacting project implementation? How is FAO monitoring progress and the technical quality of the work of the operational partner? Is the Budget Holder/project team appropriately equipped to monitor and oversee the operational partner? Does it get support if needed? Does it lead to the implementation of corrective actions and the improvement of identified weaknesses?	PIRs, project steering committee meeting minutes, project reports, MTR, MTR management response, annual work plan (AWP) and budget, risk register and project assurance role	Examination of process: critically examine the project’s actions and activities with regards to adaptive management	FAO, Budget Holder and PIU
Execution [rated]	To what extent have the executing agencies, including the selected operational partners, effectively fulfilled their roles and responsibilities in the management and administration of the project? What impact has the change in implementation modality had compared to the planned (project document) execution? Has this affected compliance with the social and environmental screening process safeguard requirements?	PIRs, project steering committee meeting minutes, project reports, MTR, MTR management response, AWP and budget, risk register, project assurance role and gender action plan	Examination of process Analysis of PIRs/M&E framework results, end-of-project target achievements and KIIs Constructive analytical dialogue with stakeholders	Budget Holder and PIU Central and provincial operational partners

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
Additionality	What is the incremental value that the GEF grant has brought to the results achieved (in terms of innovative approaches, technologies, big push to scale up, etc.)?	PIRs, project steering committee meeting minutes, project reports and MTR Field observations and participation in external DSS introduction workshop	Critical reflection on the added value of the GEF grant Synthesizing plausible innovations, unique approaches and evidence of scaling up	All
Sustainability [rated]	What is the degree of ownership of project achievements among institutional, regional and local actors, and to what extent has the project anticipated and planned for key risks to ensure the sustainability of benefits? What advantages and disadvantages for the achievement, ownership and sustainability of results did the project obtain because of the delegation of selected project results implementation to the operational partners?	M&E framework, end-of-project results, direct field observations, KIIS and FGDs	Critical reflection on the measures of project success Synthesizing plausible future impacts: use analytical methods to identify plausible future outcomes resulting from the impact of the project in the future and how these might affect the project's TOC Developing criteria for a legacy plan	All
M&E design [rated]	To what extent did the M&E system meet the GEF requirements, with well-defined indicators and systematic data collection to inform project progress and decision-making? To what extent did the M&E plan sufficiently identify resources and budget for M&E activities in line with the project's theory of change and M&E requirements?	M&E framework, TOC (project document and MTR), PIRs, MTR management response, LDN tracking tool and core indicators, and AWP and budgets	Terminal evaluation internal review and discussions with the Budget Holder, the PIU and the FAO Office of Evaluation	Budget Holder, PIU and FAO Office of Evaluation
M&E implementation [rated]	Was information gathered systematically, in a timely manner and according to a robust methodology? How could the process be improved?	M&E framework, TOC (project document and MTR), PIRs, MTR management response, LDN tracking tool and core indicators, and AWP and budgets Disbursement trends	Terminal evaluation internal review and discussions with the Budget Holder, the PIU and the FAO Office of Evaluation	Budget Holder, PIU and FAO Office of Evaluation

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
		Follow-up and adjustments of procurement plan Co-financing complementarities/substitution M&E system updates and annual/intrayear budgetary adjustments Periodicity of technical meetings with project team and relevant support/timeliness of recruitments Changes in project team personnel Activity/personnel/service payment delays Inclusion of OPIM in analysis and M&E		
Co-financing	To what extent did the planned co-financing materialize, and how did the shortfall in co-financing, or the realization of greater than expected co-financing, affect project results?	PIRs, co-financing records and direct observations	Terminal evaluation, internal review and discussions with the Budget Holder, the PIU, and central and provincial operational partners	Budget Holder, PIU and FAO Office of Evaluation Central and provincial operational partners
Application of the GEF policies and guidelines	To what extent were environmental, social and human rights concerns – including gender equality, empowerment and equity – integrated into the project’s design and implementation, with specific consideration of analysis, implementation plan, indicators, targets, budget, time frame and responsible parties?	M&E system covering gender Activity adaptability as per gender and types of target beneficiaries Degree of project targeting of vulnerable people	Examination of process Terminal evaluation, internal review and discussions with the Budget Holder, the PIU, and central and provincial operational partners Beneficiary FGDs	Women beneficiary FGDs Cross-cutting in all interviews

The GEF criteria	Evaluation questions	Information needs and sources	Analysis methods	Key informants
	Did the project design include gender considerations and the inclusion of targeted beneficiaries according to FAO and the GEF policies? How effectively were local communities, including women, persons with disabilities, and other disadvantaged or marginalized groups, as well as Indigenous Peoples' populations, informed, consulted and involved in decision-making, and to what extent did they participate and benefit from the project? Were any potential negative impacts identified on gender equality, women's empowerment or marginalized groups, and, if so, what mitigation measures were put in place?	Number of women and vulnerable people that were direct beneficiaries of the project's results Level of participation of vulnerable groups and women in activity operationalization Safeguarding actions and activities Free, prior and informed consent, gender action plan and implementation Document review, KIIs, analysis of project document, inception report, PIRs, project steering committee meeting minutes and MTR		
Lessons learned	What knowledge, lessons or best practices have been generated from project results and experiences that are applicable for broader use, replication or scaling?	M&E framework, end-of-project results, MTR lessons, and best and worst practices	Terminal evaluation, internal analysis and jointly defining lessons with FAO, the PIU, and the FAO Office of Evaluation, and project partners Critical reflection on the measures of project success Measuring progress and performance	FAO, PIU, FAO Office of Evaluation, operational partners (all) and project beneficiaries

Appendix 10. Project implementation arrangements



Appendix 11. Project achievement assessment

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Objective: develop a model for LDN target setting, planning and decision-making at national level and for demonstration in the Upper Sakarya Basin					Not rated
Objective rating					
Objective indicator: no indicators given	No baseline	No target(s)	No target(s)	<u>MTR comment:</u> the MTR considers that there is significant progress towards achieving the stated objective, but there are no objective-level indicators. Therefore, any assessment is subjective and based on the evidence that the outcomes are largely on track with the national- and project site-level (the larger global UNCCD functionality of the DSS in the LDN target setting is not reflected in the objective). Regarding the DSS, there remain some concerns about the field-based activities, but these will likely be achieved if the project has more time. <u>Terminal evaluation comment:</u> the terminal evaluation reiterates the problem with the M&E framework noted in the MTR. However, based upon the final assessment, there is less subjectivity based upon the quality of the project's outputs and the outcome achievements. The issues related to the field-based activities such as the SLM. However, these were largely related to the <i>force majeure</i> effects of the COVID-19 pandemic. The project recovered well and introduced a number of very effective SLM interventions, as well as a process of delivering change in both practices and behaviour at the level of the farmer and the community.	Not assessed
Component 1. Strengthen the enabling environment for LDN					
Outcome 1.1. Enhanced enabling environment for LDN					Satisfactory
Indicator 1.1.1. Number of institutional training courses that integrate LDN, and number of people trained at local and central levels	Knowledge of LDN and how to operationaliz e it at local and national levels is limited, despite the earlier LDN pilot project	At least one institutional training programme that integrates LDN At least 30 people trained at the central level and 15 at the local	At least two central-level training programmes and one local that integrates LDN At least 150 people trained (at least 50 women)	- Project inception workshops in three project provinces. - Four technical workshops. - One online training session on FFS, on inception and on curricula workshop on FFS. - Two stakeholder meetings. - Numerous online meetings by ministry partners. - Two online trainings (due to the COVID-19 pandemic) on combating desertification and land degradation were conducted with the participation of 144 experts from African countries. - Three other trainings were conducted by ministry partners; 194 people were trained in these trainings in this reporting period.	HS

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 1.1.2. National and international symposia, and international LDN exchange	None given	National LDN symposium At least five people participated in the national symposium related to LDN At least 35 people participated in international LDN exchange programmes	International LDN symposium At least five people participated in a national symposium and two in an international symposium related to LDN At least 50 people participate in international LDN exchange programmes	- National Strategy and Action Plan on Combating Desertification was renewed, and a workshop was conducted by ÇEM with 34 people. - In the final year, 187 people received trainings organized by ministry partners through two workshops and one technical workshop conducted by the project (approximately 50:50 male to female) across a broad cross-section of institutions (agriculture, forestry, spatial planning, environment, water management, nature conservation). Target was exceeded, including contributions to regional and global training. Among others: a Workshop on the Development of the Project for Combating Land Degradation and Desertification in the ECO Region was held in Türkiye between 14 and 16 December 2021. A project proposal on technology transfer in the scope of the LDN DSS was discussed. The ÇEM organized a joint workshop with the UNCCD with the participation of 40 experts, namely Capacity Building on the Implementation of the Convention to Combat Desertification. Ministry partner participated in the online First G20 Environment and Climate Sustainability Working Group Meeting on Arresting Land Degradation, Accelerating Ecosystem Restoration and Enriching Biodiversity, which was one of the major discussions. The project has contributed widely to an international symposium on LDN and promoting the DSS.	S
Indicator 1.1.3. National Online Information Sharing Forum on LDN	No LDN platform exists	One National Online Information Sharing Forum on LDN	One National Online Information Sharing Forum on LDN	National Online Information Sharing Forum was developed.	S
Indicator 1.1.4. Number of FFS (established on	Knowledge of modern and	At least three FFS established	At least three FFS established	Four FFS initiatives were established, and 121 local people were trained – of whom 30 are women (FAO, 2024d). Target exceeded and of high quality.	S

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
modern and sustainable production methods, and number of local people trained, including how many women	sustainable production methods is limited at the local village level	At least 30 local people trained, of whom 50 percent are women	At least 60 local people trained, of whom 50 percent are women		
Indicator 1.1.5: Mass media campaigns on LDN	No mass media campaigns on LDN	At least one mass media campaign	At least two mass media campaigns	One introductory film was prepared on LDN and combating desertification. High-level managers of the ministry partners presented LDN on television programmes, delivered interviews and published LDN-related information from official social media accounts. Three public service announcements were published on desertification. Press statements were announced on LDN and desertification. LDN and desertification is highlighted on XV World Forestry Congress through presentations.	S
Indicator 1.1.6: New and/or revised legislation that operationalizes the LDN approach	LDN is not currently integrated into any legislation or regulations	Gap analysis of relevant legislation New and/or revised legislation	Gap analysis of relevant legislation New and/or revised legislation	A gender action plan analysis was prepared during the preparation of the LDN action plan process. The LDN legislation workshop on New and/or Revised Legislation that Operationalizes the LDN Approach will be conducted in July 2023. At an LDN target setting workshop, participants discussed the necessity for new and/or revised legislation to operationalize the LDN approach. Feedback highlighted that creating an umbrella framework or a presidency note dedicated to the implementation of LDN could facilitate the mainstreaming and scaling up of the LDN approach effectively. This will provide a cohesive structure for aligning various legislative and policy efforts, ensuring a more streamlined and coordinated approach to achieving the LDN goals.	S
Component 2. DSS for LDN Outcome 2.1. DSS for LDN target setting and planning established					Highly satisfactory
Indicator 2.1.1. DSS established with calibrated	There are many DSS for natural	DSS for LDN in place with	DSS for LDN in place with	The LDN DSS is developed to integrate existing models/systems produced with national data and newly produced products. The LDN DSS is now functioning as a tool that allows any user to select a particular area of interest, e.g. a water catchment, and	HS

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
metrics for the LDN indicators	resources management in Türkiye, but none that focus on LDN	calibrated metrics for LDN indicators	calibrated metrics for LDN indicators	obtain summary statistics, charts and tables integrating the available data. One of its key functionalities is to make a multicriteria analysis and show areas that meet certain criteria. The DSS developed under the project in Türkiye is a versatile tool that integrates various data sources to monitor and evaluate land degradation at different spatial scales. It allows users to select specific areas of interest and obtain detailed summary statistics, charts and tables. The DSS is particularly useful for identifying areas with high levels of SOC and productivity, which can be prioritized for conservation measures. It also facilitates the M&E of land degradation, providing opportunities for optimizing and adapting land management practices. The DSS accessibility and flexibility (including the ability to utilize existing datasets of varying quality) and cost efficiency (including the Google Earth Engine application) suggest that its application will continue to expand. This contributes to target setting and reporting to the UNCCD, as well as supporting national policy formulation and LDN monitoring. The tool's adaptability and broad applications make it suitable for replication in other countries and regions, which informs the target setting process and enhances the M&E of land degradation.	
Indicator 2.1.2. Calibrated metrics for LDN indicators available	Information on the three LDN indicators available – is available but needs to be calibrated	Calibrated data on land cover, SOC and productivity available for the Upper Sakarya Basin	Calibrated data on land cover, SOC and productivity available for the whole of Türkiye	- SOC and land productivity indicators are calibrated. - Türkiye's desertification model is calibrated. - Production and validation of land use/land cover data are continued in the scope of the National Land Use Land Cover project. - ÇEM invested in the calibration of the National Land Use Land Cover model.	HS
Indicator 2.1.3. Integration for LDN DSS	Software for other DSS exists that will be used to integrate the LDN DSS	LDN DSS available	LDN DSS integrated, tested and used	A Google Earth Engine application (as software) on LDN was developed to combine national tools by FAO. The system first prepared for Upper Sakarya was scaled up at the national level and extended to 17 FAO countries in the region. The Google Earth Engine increases the access, versatility and adaptability of the DSS. It is reasonable to state that the DSS has exceeded the original expectations of the project document.	HS

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 2.1.3. Land cover classes and land degradation levels in the Upper Sakarya Basin verified	Land cover classes and land degradation levels in the Upper Sakarya Basin have been determined but need verification	Land cover classes and land degradation levels in the Upper Sakarya Basin verified	Land cover classes and land degradation levels in the Upper Sakarya Basin verified	LDN DSS validation is carried out by FAO experts with a high degree of accuracy. Draft Land Cover Maps (land cover data layer) of the project area was prepared under the National Land Use Land Cover and will be verified by ÇEM experts. National Land Use Land Cover data layer is prepared by ÇEM experts. Erosion Soil Loss Monitoring System web-based software.	S
Outcome 2.2. Monitoring system and related capacity for LDN in place					Highly satisfactory
Indicator 2.2.1. LDN monitoring system in place with target setting agreed	Many monitoring approaches have been tested in Türkiye that will provide the baseline	LDN monitoring system in place with target setting agreed	LDN monitoring system in place with target setting agreed	The LDN DSS is established and can monitor changes in the LDN indicators. The LDN DSS results were used for LDN reporting to the UNCCD (Performance Review and Implementation System-4). National targets were refined using the LDN DSS. Project partners requested to use DSS for prioritizing the implementation sites under the National Watershed Management Strategy. The DSS assessments were used to support LDN measures in the 12th National Development Plan.	HS

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 2.2.2. Target setting and hot spots and cold spots for gains and losses identified	Many monitoring approaches have been tested in Türkiye, including the land productivity dynamics approach that the target setting will build on	Target setting completed and hot spots and cold spots for gains and losses identified	Target setting completed and hot spots and cold spots for gains and losses identified	The LDN DSS now enables users to identify hot and cold spots for gains and losses using land productivity dynamics. The best land productivity dynamics model, reflecting the country’s hot and cold spots and gains and losses was determined through a participatory expert workshop. Türkiye was assigned as one of the 18 countries by the UNCCD that will set/renew the LDN targets. The DSS is going to be used to set and monitor new LDN targets. These aspects of the DSS are being demonstrated in at least 18 other countries.	HS
Indicator 2.2.3. Agreed SOC monitoring approach	The SOC Monitoring Model and Mapping Project of Türkiye will serve as the baseline	Agreed SOC monitoring approach	Agreed SOC monitoring approach disseminated	Türkiye has set a model for SOC, and a national SOC model was used as a base in the DSS. In addition, a potential carbon sequestration map was produced for the whole country. For plot-level SOC monitoring, soil samples were taken from pilot sites.	S
Indicator 2.2.4. TÇM and land productivity dynamics models tested	The existing TÇM model needs field calibration	TÇM and land productivity dynamics models tested in the Upper Sakarya Basin	TÇM and land productivity dynamics models compared on an area basis	The TÇM model was calibrated by the Ministry of Agriculture and Forestry before the inception of the project. The DSS now allows for a comparison of the TÇM and land productivity dynamics, and both can be used for a multicriteria analysis in the DSS. A participatory technical workshop was conducted on land productivity dynamics to identify the most representative land productivity dynamics model. Participants tested the land productivity dynamics models through a platform and compared them to the TÇM.	HS

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 2.2.5. Web-based M&E and Reporting System operationalized, and training of decision-makers and technical staff	The M&E and Reporting System has been developed, but further capacity in using it is needed	The M&E and Reporting System operationalized, and 20 decision-makers and 30 technical staff trained – of which 50 percent are women	A total of 30 decision-makers and 50 technical staff trained	The M&E and Reporting System became operational before the inception of the project. Four online trainings were carried out on the M&E and Reporting System. More than 200 people were trained. The target was exceeded.	HS
Indicator 2.2.4. Subindicators of climate variability tested in the Upper Sakarya Basin for the TÇM and SOC models	The TÇM and SOC models have not been calibrated for climate variability	Subindicators of climate variability tested in the Upper Sakarya Basin for the TÇM and SOC models	Subindicators of climate variability tested in the Upper Sakarya Basin for the TÇM and SOC models	Although planned to be conducted by ÇEM, upon ministry partners' request, the FAO team supported regarding climate variability. Climatic data is obtained from responsible institutions, and the data preparation process is completed. Climate layers for ten-year periods integrated under the DSS. FAO and the ÇEM are working on creating statistics and integrated maps that allow for the comparison of models. Largely a technical challenge.	S
Component 3. Demonstration of the LDN approach in the Upper Sakarya Basin Outcome 3.1. Improved land management, land cover and increased SOC in the Upper Sakarya Basin					Moderately satisfactory
Indicator 3.1.1. Area covered by SLM and SFM best practices	0	7 000	14 000	The total area with improved land management based upon project records is: - 20 675 ha of cultivated land; - 2 975 ha of rangeland; and - 33 708 ha of forest land. The target was exceeded.	HS
Indicator 3.1.2. Hectares of land covered by landscape- specific	Zero covered, but LDN planning will be integrated	2 000 000	4 313 827	The neutrality mechanism supports the achievement of LDN through a proactive focus on planning. It comprises the counterbalancing of anticipated losses in land-based natural capital with planned gains, within unique land types. The LDN DSS now allows any user and decision-maker to counterbalance in any landscape, which was first	S

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
improvement plans	into existing integrated watershed planning processes			targeted for the Upper Sakarya Basin, that is 4 313 827 ha, and has now been extended to the whole country. The LDN approach is used for new microbasin planning.	
Indicator 3.1.3. Area covered by SLM and SFM best practices, and carbon sequestered or emissions avoided in the sector of agriculture, forestry and other land	Zero covered, but the project will build on best practices tested elsewhere in Türkiye	7 000 Final target: more than 3 065 415 metric t of CO ₂ equivalent avoided (three years of implementation plus ten years CO ₂ equivalent avoided) (ten-year period of capitalization)	14 000	- 57 649 ha of lands in total - 20 657 ha of cultivated land - 3 025 ha of rangeland - 33 708 ha of forest land The target of 3 065 415 metric t of CO₂ equivalent avoided is achieved. Calculated in the agriculture, forestry and other land use sector.	HS
Indicator 3.1.4. Number of climate-smart measures and approaches integrated into SLM/SFM	0	5	10	Twelve climate-smart measures and approaches were integrated under SLM: - Direct seedling machines were provided under the project to introduce no-till agricultural practices. - Solid manure spreaders were provided to introduce the use of manure over chemical fertilizers. - Animal manure and chemical fertilizers were compared in different plots in maize and sunflower fields, and the use of chemical fertilizers could be limited with no loss of yield where solid manure was applied. - An SOC expert with an agricultural background prepared a report on best practices to be implemented in order to avoid climate change effects and increase SOC. - In Kütahya, a food forest was established. This mimicked the structure of a natural forest with multiple layers of vegetation, enhancing biodiversity, water capture, food security and carbon sequestration. - In Eskişehir, a windbreak/live fence and a food forest were created to prevent erosion and harvest water on agricultural lands.	S

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 3.1.5. Implementation plan for achieving LDN targets in the Upper Sakarya Basin	No such plan exists	One implementation plan for achieving LDN targets in the entire Sakarya Basin	One implementation plan for achieving LDN targets in the entire Sakarya Basin	- A small greenhouse was set up for flower production, and female farmers received training. - High tunnels were provided for two pilot areas targeting different groups of local women. In one group, members of a vegetable production association needed capacity building. Women near the food forest received training in vegetable production in another group. - Raised beds were completed, and female farmers were trained in their use. - Hot composting and <i>hügelkultur</i> practices were introduced to the community, especially among female farmers, to promote home gardening activities. Training materials were also prepared for this purpose. - Additionally, 105 bee colonies and related equipment were provided to farmers near the food forest, fostering mutual benefits. - Comparative plots were established in Kütahya to demonstrate direct seedling and training provided to farmers under the FFS during the production season. - Contracted pea farming was introduced to the farmers. Selected farmers cultivated peas for forage. This aimed to enhance the quality and sustainability of their livestock feed, as well as increase soil fertility. The target was exceeded with particular attention to process. The implementation plan was prepared to provide an LDN hierarchy. Suggested best SLM interventions for the basin were included.	S
Outcome 3.2. Land productivity increased by 10 percent and livelihoods for local communities strengthened					Moderately satisfactory
Indicator 3.2.6. Increase in annual land productivity trends in the	Land productivity and incomes are low in the Upper	Mid-term target: negative trends of land productivity dynamics are reverted (<i>target:</i>	Final target: positive trend in <i>NPP</i> achieved (<i>target: ΔNPP_0</i> , where $\Delta NPP =$	The productivity loss in the basin from 2018 to 2019 stopped, and from 2020 to 2021 an increase was achieved. The instalment process for 25 home biogas systems was underway during the terminal evaluation. This will benefit 150 people. In addition, a solar-powered submersible	Not assessed – indicator and targets are hard to understand

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Upper Sakarya Basin	Sakarya basin due to outdated SLM/SFM practices	$\Delta NPP \geq 0$, where $\Delta NPP =$ $NPP_{2021} - NPP_{2018}$)	$NPP_{2021} - NPP_{2018}$ 18 300 households with improved living conditions 300 women trained in entrepreneurship	pump system was installed to transmit spring drinking water to the community, providing easier access to clean drinking water at no cost to the local people. Together, these achievements can be considered as reaching the target.	
Indicator 3.2.7. Gender action plan for the Upper Sakarya Basin	No such plan exists	Gender action plan for the Upper Sakarya Basin	Gender action plan for the Upper Sakarya Basin	A gender action plan was developed. The project has made important contributions towards gender equality in the target communities in the Upper Sakarya Basin.	S
Indicator 3.2.8. Number of gender- sensitive, climate-resilient practices Area covered	Existing practices are not climate- resilient	Five practices/200 women 150 ha	Ten practices/300 women 200 ha	Eleven practices were implemented on the introduction of soil and land management practices, crop and pasture management practices, and alternative practices. - Honey bee colonies, beehives, bee kits and trainings were provided for five female farmers. - Rangeland rehabilitation was carried out on 10 ha of land with salt bushes to provide forage for farmers whose main source of income is animal husbandry. - Drip irrigation systems applied on 200 da of land for onion, sugar beet and maize fields. - Crop rotation plots were formed for 300 da with Hungarian vetch (implemented with direct seedling) and 500 da with oat. - Organic soil conditioner (leonardite) and local chickpea variety were applied to 300 da, which resulted in a 50 percent yield increase. - A greenhouse was established for vegetable production, where members of a women's cooperative were trained. - Wooden sales booths were established at a pilot site in a dam area. This will help the community members create an alternative source of income. - Milk storage, cooling tanks and forage pelletizer were procured under the project, where the main income of the local people is livestock. The aim was to increase animal	S

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 3.2.8. Number of households with improved living conditions		150 households	300 households	nutrition by using pelletizer (farmers were trained on this) and supporting them to increase the income earned from milk by collecting, storing and selling milk directly to companies. - Procurement of home-type biogas plants was made to avoid uncontrolled manure storage and greenhouse gas emissions. - Provision of a solar-powered submersible pump system and an off-grid photovoltaic system. A solar-powered submersible pump system was installed to transmit spring tap water through the solar-powered pump system. - Despite delays and limited growing seasons for proofing, these interventions were very successful. These activities started late. This was largely due to the COVID-19 pandemic. Although the approach to implementing them was extremely effective through the FFS, they were underway for just two years. For living conditions, small-scale biogas systems are being established to prevent uncontrolled manure storage. This is to provide heating and reduce carbon dioxide emissions, benefiting 150 people. Gender-sensitive and climate-smart practices contributed to local income and living conditions. Numerically, this indicator is problematic (including the wording, which is ambiguous in terms of "improved living conditions"). However, Component 2 activities have had a significant impact at the household level, especially with the focus on supporting women.	S
Indicator 3.2.9. Number of women trained	Not existing	50 women	100 women	Fifteen women were trained in beekeeping. Forty-seven women were trained on vegetable production and livestock under the FFS. Fifty women are expected in 2024, including for the FFS and vegetable production trainings.	S
Component 4. Scaling up of LDN experiences, and M&E Outcome 4.1. Scaling up of the LDN DSS to the national level, covering all of Türkiye (78.4 million ha)					Highly satisfactory

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 4.1.1. Area covered by the LDN DSS	No national LDN DSS in place	Land cover classes for all of Türkiye identified based on the six Intergovernmental Panel on Climate Change classes	National LDN DSS covers the national territory of 78.4 million ha	The LDN DSS application covers the entire country and arguably exceeds the target. It is extended to 17 FAO countries in the region.	HS
Indicator 4.1.2. LDN metrics for all of Türkiye available in the DSS	No national LDN DSS or metrics in place	Land cover classes for all of Türkiye identified based on the six Intergovernmental Panel on Climate Change classes	LDN metrics for all of Türkiye available in the DSS	The LDN metrics are identified. All LDN metrics are available under the LDN DSS. This was a considerable undertaking.	HS
Indicator 4.1.2. LDN target setting in place	No LDN target setting at the national scale	Alternative indicators examined for use at the national scale (socioeconomic)	National LDN target setting in place	Türkiye set national targets before project inception. Based on the DSS results, national LDN targets were revised through a workshop with the participation of a broad cross-section of different stakeholders to define the roles and responsibilities of the institutions within the revised targets. Ministry partners have started updating the national strategy and action plan on combating desertification, which will be aligned to the LDN approach. The UNCCD started the LDN Target Setting Programme 2.0, and Türkiye is one of the 18 "champion countries" selected to participate in it. The project supported government partners through this process via a United Nations-to-United Nations agreement, and by providing technical backstopping and organizing workshops.	S
Indicator 4.1.2. Number of bankable projects for the LDN fund	No projects for the LDN fund developed in Türkiye	0	One bankable project	An online workshop to inform the ministry partners on formulating project proposals was held. The indicator is problematic and lacks definition.	MS
Outcome 4.2. Monitoring of project results, lessons learned and dissemination					Not assessed

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 4.2.1. M&E system is in place	No system in place	Implementation of project based on adaptive results- based management	Project delivers expected results and shares lessons learned		Not assessed (see Section 4.2)
Indicator 4.2.2. Baseline and targets for global environmental benefit indicators refined	0	Project M&E system delivers expected reports and informs project management	Project M&E system delivers expected reports and informs project management	The indicator is problematic. Presumably, this relates to the GEF core indicators.	Not assessed
Indicator 4.2.3. Mid-term and final evaluation reports	0	Mid-project review recommendations implemented	Final evaluation	The MTR was conducted, and a management response was submitted.	Not assessed
Indicator 4.2.3. Experience sharing notes	0	Two experience sharing notes	Three experience sharing notes	An LDN publication was developed on Monitoring the Land Degradation Neutrality Impact Pathway Across Scales and Sectors Based on Experiences from Türkiye. Two more publications are underway, namely: 1. Assessing Land Degradation Neutrality in Türkiye Incorporating Multi-criteria Analysis Towards Sustainable Land Management; and 2. Harvesting Resilience: Farmer Field Schools in Promoting Sustainable Practices and Advancing Land Degradation Neutrality. The project experience has been widely promoted through ÇEM, PIU and FAO at various international LDN workshops and through other forums. For example: • LDN legislation workshop on New and/or Revised Legislation that Operationalize the LDN Approach. • Workshop on the Development of the Project for Combating Land Degradation and Desertification in the ECO Region in Türkiye from 14 to 16 December 2021.	S

Objective/ outcome indicator	Baseline	MTR target	End-of-project target	Terminal evaluation assessment based on the 2024 PIR and the terminal evaluation	Terminal evaluation rating
Indicator 4.2.3. National LDN guidelines	One LDN guideline	National LDN guidelines	One LDN guideline	- A workshop on Capacity Building on the Implementation of the Convention to Combat Desertification jointly organized by ÇEM with the UNCCD and 40 experts. - The ministry partner participated in the First G20 Environment and Climate Sustainability Working Group Meeting on Arresting Land Degradation, Accelerating Ecosystem Restoration and Enriching Biodiversity, which was one of the major discussions. - A workshop on the National Strategy and Action Plan on Combating Desertification was revised by ÇEM with the participation of 34 people. - Presentations were given online to other projects, e.g. in Jordan. Also see the bibliography. This co-financed activity, to be performed by ÇEM, was delivered during the LDN Target Setting Programme 2.0 process. As a part of the programme, nine different reports have been developed, and the final document reflects all steps. This process was presented during COP 16 in 2024.	S

Appendix 12. Sustainable land management interventions and practices

Intervention	Improving land management and soils	Increasing land cover	Increasing productivity	Product diversification	Processing	Marketing and access to markets	Water conservation	Infrastructure and equipment	Capacity building	Livelihood/ increased profits	Agroecological farming	Net SOC gain	Food security	Women's empowerment	Location*		
															Eskişehir	Kütahya	Pasture
Provision of direct seedling machines (no-till)	√	√	√				√			√	√	√			√		
Solid manure spreaders to introduce the use of manure, replacing chemical fertilizers	√		√				√			√	√	√			√		
Demonstration and comparison plots (animal manure vs chemical fertilizers in plots of maize and sunflower fields)	√		√				√		√			√			√		
Food forest (multiple layers of vegetation, enhancing biodiversity, water capture, food security and carbon sequestration)	√	√	√	√		√	√				√	√	√				√
Windbreak/live fence and a food forest to prevent erosion and harvest water on agricultural lands	√	√	√	√		√	√				√	√	√		√		
Greenhouse for flower production and training female farmers			√	√		√		√	√	√				√	√		
High polytunnels for two pilot areas, training of women's groups in vegetable production			√	√		√		√	√	√			√	√	√		
Raised beds constructed and training on construction, maintenance and use			√	√	√	√	√	√	√	√			√	√	√		
Hot composting and <i>hügelkultur</i> ** practices to promote home gardening activities, with associated training materials for scaling up			√	√		√	√	√	√	√			√	√	√		

Intervention	Improving land management and soils	Increasing land cover	Increasing productivity	Product diversification	Processing	Marketing and access to markets	Water conservation	Infrastructure and equipment	Capacity building	Livelihood/ increased profits	Agroecological farming	Net SOC gain	Food security	Women's empowerment	Location*		
															Eskişehir	Kütahya	Pasture
105 bee colonies and related equipment provided to farmers (with training) close to the food forest			√	√	√	√		√	√	√	√		√	√	√	√	√
Comparative plots established to demonstrate direct seedling and training provided to farmers under the FFS during the production season	√	√	√				√			√	√	√				√	
Contracted pea farming introduced to the farmers for forage to enhance the quality and sustainability of livestock feed and introduce leguminous crops	√	√	√	√	√	√			√	√	√	√	√		√		√
Drip irrigation systems applied in 200 da of land (onion, sugar beet and maize fields)	√	√	√	√			√	√	√	√		√	√		√		
Crop rotation plots for 300 da with Hungarian vetch (direct seeding) and 500 da with oat	√		√	√					√	√		√	√		√		
Milk storage and cooling tank allowing farmers to sell directly to milk companies			√		√	√		√	√	√			√			√	
Forage pelletizer (and training) to improve animal nutrition			√	√	√	√		√	√	√			√			√	
Rangeland rehabilitation of 10 ha of land with salt bushes to provide forage for farmers whose main source of income is animal husbandry	√	√	√				√			√	√	√	√		√		√
Small-scale home biogas digesters for 25 households to provide domestic energy for approximately 150 people	√***		√***		√			√	√	√		√			√	√	

Appendix 12. Sustainable land management interventions and practices

Intervention	Improving land management and soils	Increasing land cover	Increasing productivity	Product diversification	Processing	Marketing and access to markets	Water conservation	Infrastructure and equipment	Capacity building	Livelihood/ increased profits	Agroecological farming	Net SOC gain	Food security	Women's empowerment	Location* Eskişehir	Pasture Kütahya
and better treatment of agricultural waste																
Three wooden kiosks to support vegetable marketing						√		√	√	√				√		√
Report on best practices to be implemented to avoid climate change effects and increase SOC	√	√	√				√		√		√	√	√	√	√	√
Enterprise and organizational (cooperatives) support to communities						√			√	√				√	√	√

Notes: * Sivrihisar of Eskişehir Province is located on irrigated crop land. There are largely privately owned fields with good communications. Yaylababa, Kütahya Province, is a Forest Village. A Forest Village is a specific legal structure providing certain collective usufruct rights to the community within a reserved forest area.

** A *hügelkultur* is a sloped and raised planting bed filled with topsoil, wood and organic materials.

*** This involves the recovery of soil nutrients (which may be lost through combustion) for use on land through a digestion process.

Source: Based on direct observations from the evaluation mission, key informants, FGDs, and the PIRs from 2020 to 2024.

Appendix 13. The Global Environment Facility-7 core indicators

Core Indicator 4	Area of landscapes under improved practices (hectares, excluding protected areas)			Hectares
	Project Identification Form stage	Endorsement	MTR	Terminal evaluation
Area under improved land management	14 000	14 000	39 388	Total: 57 649 ha 20 657 ha of cultivated land 3 025 ha of rangeland 33 708 ha of forest land
Indicator 4.3	Area of landscapes under SLM in production systems			Hectares
	Project Identification Form stage	Endorsement	MTR	Terminal evaluation
Area under improved land management (demonstrations of SLM and SFM best practices in forests, rangelands and croplands that provide carbon benefits on 14 000 ha of land)	14 000	14 000	39 388	Total: 57 649 ha 20 657 ha of cultivated land 3 025 ha of rangeland 33 708 ha of forest land
Core Indicator 6	Greenhouse gas emissions mitigated			Metric t of CO ₂ equivalent
	Project Identification Form stage	Endorsement	MTR	Terminal evaluation
Expected CO ₂ equivalent (direct)	74 000 (four years)	74 000 (four years)	3 065 414	3 065 415
Indicator 6.1	Carbon sequestered or emissions avoided in the agriculture, forestry and other land use sector			Hectare
	Project Identification Form stage	Endorsement	MTR	Terminal evaluation
Expected CO ₂ equivalent (direct)		74 000	3 065 414	3 065 415
Anticipated start year of accounting		2022		
Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-beneficiaries of the GEF investment			Number
	Project Identification Form stage	Endorsement	MTR	Terminal evaluation
Female		925	609	609
Male		1 000	635	635
Total		1 925	1 214	1 214

Source: Figures submitted by the PIU, December 2024, and cross-checked with the MTR results and the PIR. This also includes figures from the Project Identification Form and the project document at the Chief Executive Officer endorsement stage.

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