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Review of the project
“Integrated Natural
Resources Management
in Degraded Landscapes
in the Forest-Steppe
Zone of Ukraine”



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Review of the project “Integrated Natural Resources Management in Degraded Landscapes in the Forest-Steppe and Steppe Zones of Ukraine”

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Abstract

This report is a final review of the Integrated Natural Resources Management in Degraded Landscapes in the Forest-Steppe and Steppe Zones of Ukraine project. As a consequence of the ongoing war in Ukraine, the originally planned terminal evaluation was defined as a final review of the project.

The project's objective was to promote the restoration of degraded landscapes in the forest-steppe and steppe zones of Ukraine by scaling up integrated natural resources management (INRM) practices. This was to be achieved through three components in order to: i) create an enabling environment for INRM in Ukraine at national and subnational levels; ii) restore the productivity and resilience of production landscapes through INRM; and iii) ensure the learning and sharing of lessons learned through effective project monitoring and evaluation (M&E) and adaptive management.

The review assessed the extent to which the project produced its intended results. It also identified any design or implementation challenges. The review could not focus on the project's impact due to the war that has persisted in the country since 2022. This narrowed a differentiated analysis regarding long-term results. Consequently, the conclusions, relevant recommendations and lessons learned have to be viewed against the backdrop of a situation that is still volatile.

The assessment adopted a consultative, transparent approach. Information and evidence were triangulated by adopting different data collection methods: a desk review; online interviews; discussions; debriefings; and participatory observation.

The project was particularly relevant in terms of environmental degradation and climate change. Indeed, it took important first steps towards a land degradation neutrality (LDN) monitoring system and integrated land use management plans in Ukraine. Efforts to enhance the integration of environmental policy into governance systems were strategically aligned with the country's obligations. These were consistent with the Global Environment Facility (GEF) focal area and the Food and Agriculture Organization of the United Nations (FAO) strategic framework and objectives.

Despite challenges caused by the ongoing war and the COVID-19 pandemic, the project's activities and incentives stand out as good practices to replicate. The project significantly contributed to successful capacity building. This led to enhanced information sharing and the development of draft laws on environmental protection. Numerous demonstration and capacity building activities on good conservation agricultural practices and enhanced technologies like no-till drill, subsurface drip irrigation, crop rotation and sustainable shelterbelt management generated greater awareness. There were also promising income generation activities for women.

It is essential to finalize the creation of the National Soil Information System and integrate it into the Global Soil Information System. This will pave the way towards a more adaptable and sustainable agricultural production and build on the gained experiences. The project's results will then be the basis for a complete, highly relevant cadastral soil map of Ukraine.

Nevertheless, the war's impact on agriculture and rural households has yet to be seen. Soil contamination demands the need for a systematic assessment of soil restoration and reclamation. It is urgent to survey two affected areas: zones that were liberated from the occupation by the Russian Federation; and land that was flooded after the destruction of the Nova Kakhovka Dam.

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Abbreviations

ASSOGU	All-Ukrainian Association of Village Councils and Amalgamated Communities, by its Ukrainian acronym
BTOR	back-to-office report
CC-LDD	Ukrainian Coordination Council to Combat Land Degradation and Desertification
CSA	climate-smart agriculture
EX-ACT	Ex-Ante Carbon-balance Tool
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer Field School
FLO	Funding Liaison Officer
FPMIS	Field Programme Management Information System
GEF	Global Environment Facility
INRM	integrated natural resources management
LDN	land degradation neutrality
LOA	letter of agreement
LTO	Lead Technical Officer
M&E	monitoring and evaluation
MTR	mid-term review
NGO	non-governmental organization
NWFP	non-wood forest product
OED	Office of Evaluation
PES	payments for ecosystem services
PIR	Programme Implementation Report
PMU	Project Management Unit
PPR	project progress report
PTF	Project Task Force
REU	Regional Office for Europe and Central Asia
SDG	Sustainable Development Goal
SLM	sustainable land management
SOC	soil organic carbon
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
USP	Ukrainian Soil Partnership

Executive summary

Introduction

1. The originally planned terminal evaluation is now defined as a final review of the project due to the war in Ukraine that broke out on 24 February 2022. This decision was based on a request from the Global Environment Facility (GEF) and advice from the Independent Evaluation Office.
2. The main objective was to assess the extent to which the project achieved its intended results and to identify any design and implementation issues. The country's difficult situation was taken into account. The review could not focus on the project's impact. This limited the analysis of possible long-term achievements. The conclusions, relevant recommendations and lessons learned have to be viewed against the background of a situation that is still volatile.
3. The project's objective was to promote the restoration of degraded landscapes in the forest-steppe and steppe zones of Ukraine by scaling up integrated natural resources management (INRM) practices. The project was designed around three components to: i) create an enabling environment for INRM in Ukraine at national and subnational levels; ii) restore the productivity and resilience of production landscapes through INRM; and iii) ensure the learning and sharing of lessons learned through effective project monitoring and evaluation (M&E) and adaptive management.
4. Grounded on an analysis of baseline investments and opportunities to positively influence institutional, legal and policy enabling conditions – including on-site management – the project intervened in the forest-steppe and steppe zones of Ukraine. This involved regions with fertile, black soils that suffer from the loss of both above- and below-ground carbon stocks. Severe land degradation and the inadequate management of shelterbelts and trees in the production landscape were the causes.
5. The review covered activities that had been implemented from May 2018 to June 2023 in four oblasts: i) Kyiv; ii) Kharkiv; iii) Mykolaiv; and iv) Kherson. The war led to the cancellation of some activities. Therefore, the project focused on two additional oblasts – Chernihiv and Sumy – in 2022. The oblast of Kyiv, which was partially occupied in March 2022, continued to implement activities. The partially occupied oblast of Kharkiv, freed in the autumn of 2022, was in the process of being demined and recovered at the time of this review. Activities in the oblast of Mykolaiv, situated at the frontline, stopped in 2022. The main activities in Velyki Klyny – a farm in the raion of Oleshky, oblast of Kherson – stopped due to the occupation.
6. The assessment followed the GEF evaluation guidelines (GEF, 2017). This aimed to answer the main evaluation questions based on the GEF criteria: relevance and coherence; effectiveness (achievement of project results); efficiency and factors affecting performance; and sustainability and impact. These were complemented by the cross-cutting dimensions of gender, human rights and Indigenous Peoples. Environmental and social safeguards were also considered.
7. The analysis adopted a consultative and transparent approach. Evidence and information were triangulated through different data collection methods: a desk review; online interviews; discussions; debriefings; and participatory observation. Key informants included: i) the FAO Ukraine project team in Kyiv; ii) the extended team at the FAO Regional Office for Europe and Central Asia (REU) (Budapest); iii) FAO headquarters; and iv) the implementing partners at national, subnational and local levels. Focal point contacts from the executing agencies, as

important co-financing partners, could not be established. This involved the following ministries of Ukraine: the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, as the lead; and the Ministry of Agrarian Policy and Food as support. This shortcoming caused a general lack of understanding. An exhaustive assessment of roles and responsibilities at the central execution level could not be done. This also limited the quality of cooperation among these key stakeholders.

Relevance and coherence

8. The project strategically aligned with national development goals and policies. It was consistent with the country's obligations under several international conventions. The project also contributed to the Sustainable Development Goals (SDGs).
9. The project aligned with FAO's strategic framework and objectives, the GEF's focal areas, and regional priorities. FAO accelerated strategic thinking on global challenges and opportunities to boost preparedness and effectiveness, as per the FAO Strategic Framework 2022–2031 (FAO, 2021a).
10. The project was particularly relevant in terms of environmental degradation and climate change, especially in light of the ongoing war. Ukraine recognized the project's steps to enhance the integration of environmental policy into governance systems.

Effectiveness (achievement of project results)

11. The project generated meaningful achievements for improved INRM. However, the total emissions reduction (CO_{2e} per year sequestered) as an overall result of the project interventions was not available at the time of this review.
12. The project significantly contributed to successful capacity building among key stakeholders. This enhanced information sharing and led to the development of draft laws on environmental protection. The project took important steps with the State Service of Ukraine for Geodesy, Cartography and Cadastre and the Ministry of Agrarian Policy and Food to build a national land degradation neutrality (LDN) monitoring system. Soil maps and regulation, however, still need substantial updating and harmonization. Not all of the activities could be finalized due to the invasion by the Russian Federation, so the total surface area of the three integrated land use plans was not available at the time of this review.
13. Shelterbelt management models were developed and tested. This included a shelterbelt inventory (a total of 1 150 ha of shelterbelts) and a definition of ownership rights. This also involved recommendations for the establishment, reconstruction and maintenance of shelterbelts in the forest-steppe and steppe zones, as well as guidelines on good agroforestry practices in different agroclimatic zones.
14. The agroforestry practices and conservation agriculture interventions were supplemented by criteria and indicator development for payments for ecosystem services (PES). A chain assessment of high-demand species involving non-wood forest products (NWFPs) and medicinal herbs was key. Recommendations on shrub planting, medicinal herb cropping and crop rotation schemes were also meaningful achievements. This review also highlights the engagement of women in terms of leadership and the cultivation of medicinal and honey herbs in the steppe zones.

15. Numerous demonstration activities on good conservation agricultural practices with project stakeholders revealed greater awareness. The project created a strong, multilevel enabling environment through capacity building programmes and the introduction of Farmer Field School (FFS) initiatives. Such an environment is necessary to address climate change. The initiation and scaling up of sustainable land management (SLM) and best practices involving climate-smart agriculture (CSA) with improved shelterbelt management were applied on a surface area that covered almost ten times more than the 248 220 ha planned. Eight FFS initiatives on conservation agriculture and one shelterbelt management training were conducted. Capacity was built among 436 participants. Knowledge exchange on climate change and its impact on agriculture, water bioresources and ecology were among the key outcomes. Also important were proposals for scientific research and the improvement of educational programmes. The Ukrainian-English digest, *Best Soil Conservation Practices*, is highlighted. Curricula, webinars and field trips were also held.
16. A gender-oriented desk review led to conservation agriculture trainings for at least 73 female farmers. Important initiatives were undertaken under a New Opportunities for Women programme. This involved the ecological and economic potential of shelterbelts, self-forested or other uncultivated (abandoned) natural areas. Nine business models were generated on their use.
17. The project produced a significant range of communications and outreach materials: publications; television and radio broadcastings; radio and newspaper interviews; press conferences; webinars and workshops; panels and outreach events; newsletters; web publications and posts; training manuals and courses for bachelor's and master's degree students; and scientific articles. Compiling these and other essential reports into an accessible portal for future use is crucial.

Efficiency and factors affecting performance

Coordination, decision-making and stakeholder engagement

18. The project faced significant structural shortcomings upon setup. FAO Ukraine acted as a project office, not a Country Office. This proved to be particularly challenging as FAO Ukraine lacked sufficient organizational structure and officially assigned units with appropriate functions. Moreover, the COVID-19 pandemic in 2020, the outbreak of the war in 2022, and a deteriorating country situation exacerbated these issues. The FAO offices temporarily closed. Numerous activities halted. Compounded, this fundamentally impeded efficient project planning.
19. The main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food – were largely unavailable. This made it impossible to assess the coordination, the quality of collaboration, and the management mechanisms among the central and subnational authorities. Apparently, the FAO Ukraine project team coordinated the stakeholders and managed the interventions.
20. The project's participatory processes and emphasis on inclusivity could not be adequately assessed. Many stakeholders, as per the 2016 project document, were inactive. The 2014 regional development and decentralization reforms for 1 469 amalgamated municipalities meant that the local municipalities primarily delivered public services under a multilevel regional development planning framework. Despite a tremendous strain on financial and human resources, these stakeholders drove the implementation of activities.

Management arrangements and workplans

21. The project had significant obstacles: a delayed inception; key executing ministries restructured in 2019 and 2020; the COVID-19 pandemic in 2020 and 2021; uncertain ownership rights due to ongoing land reform; and the outbreak of the war in 2022. Compounded, these factors significantly impeded the timely delivery of results. Further, rather lengthy procurement processes and delayed letter of agreement (LOA) signings interrupted the services. This negatively affected efficient implementation. Regardless, the FAO Ukraine project team strived to complete the main activities.

Financial management

22. Co-financing contributions from the main implementing partners at the decentralized level created the potential for valuable synergies that favoured the project.
23. The budget was managed efficiently. However, planned co-financing from the central ministries – especially USD 6 million from the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources – did not materialize. Of the planned USD 12 099 751 (cash and in kind) from different donors, USD 1 285 380 was implemented by the end of June 2023. In contrast, USD 607 000 against the planned USD 590 000 was received from the Ministry of Agrarian Policy and Food. Ninety-four percent of the total cash grant (USD 1 776 481) from the GEF was disbursed.

Monitoring and evaluation

24. The project's efforts to measure and collect data through a monitoring system were unclear. An appropriate system would have updated stakeholders on decisions and workplans. The main M&E mechanism assessed progress in terms of achieving results and meeting objectives. This was based on targets and indicators from the project's results matrix. The National Project Coordinator, assisted by the Lead Technical Officer (LTO), was responsible for M&E. However, it seems that the project steering committee did not follow up on this aspect. In fact, only one project steering committee meeting was held.

Communications and knowledge management

25. Formalized internal communication between the executing bodies and the implementing partners was weak throughout the project's life cycle. Sophisticated tools for a communication structure were not implemented.
26. Communication between the ministries and FAO Ukraine, as well as between the ministries and the implementing partners, was very weak. This led to a lack of transparency and mutual accountability. A website or portal for sharing internal project outputs, information and products among stakeholders was not achieved.
27. In contrast, the project elaborated a wide range of significant communications products and materials. At subnational and local levels, the All-Ukrainian Association of Village Councils and Amalgamated Communities (ASSOGU, by its Ukrainian acronym) had considerable potential to engage communities. An important platform for dialogue and cooperation was created with the Ukrainian Soil Partnership (USP). However, a project-related, internet-based knowledge management system was not set up.

Sustainability and impact

Institutional, socioeconomic, sociopolitical and financial sustainability

28. The overall risks to sustainability include: i) force majeure caused by the war with the Russian Federation; ii) the departmental fragmentation of soil observations, including methodical inconsistencies that hamper proper soil monitoring; iii) gaps in legislation; iv) insufficient analytical data for land protection; v) the lack of modern soil laboratories based on European standards; vi) the lack of a large-scale soil map; and vii) an inadequate model map on the sequestration of carbon in soils.
29. Capacity building is at the core of the project's strategy to scale up CSA interventions and ensure sustainability. The evaluation found high ownership in terms of institutional capacity development, especially at the subnational level.
30. The project's arrangements immediately strengthened existing institutional capacities. In 2018, the Ukrainian Coordination Council to Combat Land Degradation and Desertification (CC-LDD) supported intersectoral coordination for the INRM at national and subnational levels. This body, however, was not operational at the time of the review. Continued support is therefore essential.
31. The ASSOGU, with 15 000 members, has considerable potential to reach communities and agroenterprises at subnational and local levels. The association's continued outreach and dissemination of good practices and management advice largely helped to sustain capacity among communities. This included, *inter alia*, important information on income generation for women.
32. It was difficult to critically assess the project in socioeconomic terms. This was attributed to missing economic impact data and the inability to see immediate changes among beneficiary communities in terms of income generation.
33. This project was the first in Ukraine to plant shelterbelts against wind erosion. Its achievements in conservation agriculture-related activities and sustainable shelterbelt management improved soil fertility. This will likely be sustained as participating farmers can now cope with soil erosion. The combined application of no-till technology, subsurface drip irrigation and afforestation reclamation measures represent a new, integrated approach to soil management that stops soil degradation. A prerequisite for sustainable land use under arid conditions was created, and this will have an improved, long-term stabilizing effect on ecosystems and soils. In contrast, however, the negative consequences of intense chemical and pesticide use were found to be critical.
34. The impact of the war on agriculture and rural households could not be determined at the time of this review. One out of every 4 of the 5 200 respondents had reduced or stopped agricultural production. The project undertook major efforts to move several activities to other regions. Regardless, unsustainable practices are expected due to the conflict-driven shift in priorities.
35. Political support, such as environmentally sustainable natural resources management from policy reform processes, was favourable upon project launch. There is still a medium risk associated with a lack of ownership on the integration of environmental considerations for both the agriculture and the forestry sectors. Notably, the project had a high risk of unclear responsibilities within institutions as a consequence of repeated restructuring processes and the country's volatile situation. This may have changed priorities. Several missed opportunities and concerns about legislation adaptation and the building of a national LDN monitoring system were emphasized.

In this sense, intersectoral cooperation and information support were highlighted as essential for sustainability given the LDN monitoring system.

36. It is highly likely that the project's benefits will continue. In fact, Ukraine's ecological policy and strategy through 2020 (Government of Ukraine, 2010) recognized the need to further integrate environmental policy into environmental governance systems. However, expected in-kind contributions from the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, were not obtained. This created a relevant risk in terms of long-term financial sustainability. There were, however, considerable contributions from state organizations, the private sector, government authorities, the local government, communities and non-governmental organizations (NGOs). All of these entities had a strong presence and ownership at the decentralized level. In fact, they clearly showed investment and long-term vision.
37. It is highly likely that there will be financial sustainability for shelterbelt management. This is because 73 percent of forest land in Ukraine is owned by the state and managed by the State Forest Resources Agency. Further, socioeconomic and environmental sustainability is expected through AgroGeneration, an agricultural company that creates jobs and invests in modern agricultural machinery. This involves minimum tillage methods and the production of grains and oilseeds that adapt to specific regions.
38. Several initiatives showed potential, interesting synergies in terms of ongoing emergency projects in Ukraine. Conservation agriculture, combined with demining and soil remediation, is still a priority. A signed LOA with the Soils Protection Institute of Ukraine was in place at the time of this review. This involved baseline information for demining.

Cross-cutting dimensions

39. The project should have benefited from FAO REU gender expertise and engaged national gender experts throughout the entire life cycle. There was, however, no evidence that all project implementation staff members were given gender sensitization trainings at the inception stage – as proposed. This would have included a relevant review, adjustment and application of FAO checklists for gender mainstreaming during the entire life cycle.
40. Regardless, the project made remarkable strides towards greater female participation during its final stages. This involved access relating to: decision-making; employment; markets and value chains; knowledge; and new technologies. A late start to specific interventions meant that there was not an impact assessment on the medium- and long-term effects. Nevertheless, the gained knowledge and incentives offered great potential. Indeed, this was realized through: field trips; webinars; roundtable discussions; the Ecological and Economic Potential of Shelterbelts, Self-forested and other Uncultivated, Abandoned Natural Areas best practices manual (FAO, 2023d); and nine business models. From this perspective, the interventions are highly likely to be successful.
41. A lack of institutional coordination, the COVID-19 pandemic, erratic climate conditions and, particularly, the outbreak of the war in February 2022 negatively affected the project's implementation performance. Regardless, pertinent measures taken by FAO Ukraine positively contributed to mitigating the connected risks.

Conclusions

Conclusion 1. Strategically well aligned with national development goals and policies, the project was entirely consistent with the GEF's focal areas and FAO's strategic framework. The project also fully aligned with the country's obligations under several international conventions and significantly contributed to the SDGs.

Conclusion 2. The project had meaningful achievements in improved INRM. It provided the necessary information on soil protection to solve problems of agricultural land degradation. Significant steps towards the elaboration of a national LDN monitoring system were taken. However, important issues still need to be tackled: legislation adaptation; soil monitoring updates and harmonization; and clarification on land use and shelterbelt ownership rights. In addition, the total emissions reduction (CO_{2e} per year sequestered) from the implemented activities still needs to be calculated. This involves, for example, extrapolations from the overall project results.

Conclusion 3. The introduction of SLM and CSA best practices, including improved shelterbelt management, brought important results on a surface land area that covers 248 220 ha. This represents almost ten times more than the originally planned 29 400 ha.

Conclusion 4. An impact assessment of scaled up INRM interventions could not be conducted due to time limitations. In contrast, a significant range of communications and outreach materials were produced. It is essential to compile relevant project materials in a public, easily accessible portal that links to other websites. This will further scale up the INRM activities and lessons learned and promote continual information sharing with a focus on income generation for women.

Conclusion 5. It was impossible to assess the coordination, the quality of collaboration, and management mechanisms between the central and subnational authorities. The lack of availability among the main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food – throughout the review substantiates the finding of significant structural challenges within the ministries. However, FAO Ukraine's commitment and the many dedicated, well-established implementing partners significantly contributed to important project outcomes.

Conclusion 6. Oftentimes, cumbersome FAO procedures and administrative rules regarding budgets and payments as part of the LOA arrangements with service providers offered only limited flexibility for the planned interventions. This negatively impacted efficient project implementation.

Conclusion 7. There is still a medium risk associated with a lack of ownership on the integration of environmental considerations into agriculture and shelterbelt management. Political support, such as environmentally sustainable natural resources management from policy reform processes for both the agriculture and the forestry sectors, was very favourable upon project launch. Priority setting changed due to the war. Regardless, the government must have also recognized that the economic return on current conservation agriculture investments will be significantly higher for measures that prevent degradation compared to measures that restore degraded land.

Recommendations

Recommendation 1. Strategic – to the Ukrainian Government and FAO Ukraine: the government should move towards SLM and scale up the rehabilitation of degraded land and soil. Further strengthen capacities among project stakeholders from different levels (the government and line sectors, local authorities, communities, and extension services) to replicate the INRM interventions. Decisive contributions to biodiversity conservation must be made to achieve the SDG Target 15.3 on LDN, improve food security in Ukraine and avoid further land degradation.

Recommendation 2. Strategic and operational – to the Ukrainian Government and FAO Ukraine: the national soil monitoring system needs to be elaborated. This involves significant soil map updates. The adoption and implementation of relevant legal frameworks is imperative. FAO Ukraine’s expertise and comparative advantage can contribute through advocacy and synergy.

Recommendation 3. Strategic – to the Ukrainian Government: the state and local governments must solve the issue of ownership rights as soon as possible. Raise the level of legal awareness and improve land dispute resolution procedures in order to sustainably move from traditional to integrated land use management. This process should also protect the rights of landowners, land users and the local governments. This can be done through information campaigns on land rights among the population and local officials.

Recommendation 4. Operational – to the Ukrainian Government and FAO Ukraine: internal communication between the main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food as the lead agencies – and the implementing partners should improve significantly. Develop a sophisticated tool and structure to formalize appropriate communication channels.

Recommendation 5. Operational – to FAO headquarters and FAO Ukraine: FAO should support service providers at an early stage of project implementation – especially in war contexts. The planning phase should have transparent communication on expected implementation modalities and outcomes. In addition, the identification of a timely risk assessment on the agreed upon workplan may be beneficial for decent planning. This ensures a continuous workflow under difficult working conditions.

Recommendation 6. Strategic – to the Ukrainian Government and FAO Ukraine: finalize ongoing and planned project activities by engaging more small-scale farmers. Focus on stronger NGO and large-scale private sector involvement (FAO, 2021c). FAO, together with the government, should foster partnerships, identify potential risks, and build synergies with ongoing opportunities and future interventions and initiatives. This will multiply the project’s results in other regions and cushion the current challenges induced by the war.

Lessons learned

42. The project took key first steps towards an LDN monitoring system and integrated land use management plans in Ukraine. This included clarifying ownership rights, as well as inventory and standards-setting for the management and planting of shelterbelts based on soil types and natural zones.
43. The project introduced a new approach to INRM practices in the forest-steppe and steppe zones in Ukraine. The interventions facilitated the understanding and internalization of conservation agriculture, as well as relevant technical implementations that accompany this approach. Capacity building paved the way towards a more adaptable and sustainable production in the face of dwindling soil, water and biodiversity resources. This involved: no-till on irrigated land; subsurface drip irrigation; soil cultivation in arid zones; crop rotation in the Eastern steppe zones; soil fertility management; shelterbelt management;¹ technology implementation in the forest-steppe zones; and trainings on the economic dimensions of conservation agriculture.² Despite the challenges of

¹ This involves developing measures for land reclamation (agroforestry) and a plan to implement such measures. Further, this determines standards for creating climate-oriented forest belts for each oblast, land area and location, and for implementing the most adequate mechanisms that stimulate the creation of new shelterbelts for all landowners.

² The project made considerable efforts to elaborate criteria and indicators for the PES scheme on conservation agriculture and agroforestry. This included recommendations for agroforestry practices and conservation agriculture in selected project areas.

the COVID-19 pandemic and, even more – the ongoing war – the project’s activities and incentives stand out as best practices to replicate across the country. In particular, drought-sensitive zones can benefit from these lessons.

44. It is essential to finalize the creation of the National Soil Information System and integrate it into the Global Soil Information System. This involves systematic soil data sharing at national and international levels. Indeed, this will further build on the project’s experiences. In light of this, the project’s results will be the basis for creating a complete cadastral soil map of Ukraine. This element was found to be highly relevant under the current land market conditions. In fact, this would significantly improve a still fragmented regulation, as demonstrated by the project.
45. Immediately conduct a survey of soil indicators at the monitoring sites. This is of utmost importance and involves not only affected areas that were liberated from the occupation by the Russian Federation but also areas that were flooded due to the destruction of the Nova Kakhovka Dam. This survey will provide a systematic assessment of the impacts, effects and costs of soil restoration and reclamation.
46. It is essential to shift from measuring soil humus content to measuring soil organic carbon (SOC) content. This involves SOC stocks based on FAO methodology and developing models to transform the current database on humus content into SOC content. Further, this will provide reliable data for the national report on SDG Indicator 15.3.1 (carbon stock subindicators) (UN Statistics Division Development Data and Outreach Branch, 2022; Vargas, 2023).
47. Considerable risks to sustainability were found regarding the project’s aim to establish favourable conditions for policy integration. Intersectoral coordination and collaboration for the INRM at national and subnational levels are still not evident. This involves building linkages and synergies among sectors. The project demonstrated the need for continued support for the CC-LDD, as well as the Climate Change Adaptation Working Group.

Executive summary table 1. The GEF evaluation criteria rating

The GEF criteria/subcriteria	Rating ⁱ	Summary comments ⁱⁱ
A. STRATEGIC RELEVANCE		
A1. Overall strategic relevance	HS → HU	HS
A1.1 Alignment with FAO-GEF strategic priorities	HS → HU	HS
A1.2 Relevance to national, regional, and global priorities and beneficiary needs	HS → HU	HS
A1.3 Complementarity with existing interventions	HS → HU	HS
B. EFFECTIVENESS		
B1. Overall assessment of project results	HS → HU	S
B1.1 Delivery of project outputs	HS → HU	S
B1.2 Progress towards outcomes ⁱⁱⁱ and project objectives		
- Outcome 1	HS → HU	MS
- Outcome 2	HS → HU	S
- Outcome 3	HS → HU	S
- Overall rating of progress towards achieving objectives/outcomes	HS → HU	S
B1.3 Likelihood of impact	HS → HU	MS
C. EFFICIENCY		
C1. Efficiency^{iv}	HS → HU	MS
D. SUSTAINABILITY OF PROJECT OUTCOMES		
D1. Overall likelihood of risks to sustainability	L → HU	ML (= moderate risks to sustainability) (*)
D1.1 Financial risks	L → HU	ML (*)
D1.2 Sociopolitical risks	L → HU	ML (*)
D1.3 Institutional and governance risks	L → HU	ML (*)
D1.4 Environmental risks	L → HU	MU (= significant risks to sustainability)
D2. Catalysis and replication	HS → HU	MS
E. FACTORS AFFECTING PERFORMANCE		
E1. Project design and readiness^v	HS → HU	U
E2. Quality of project implementation	HS → HU	MS
E2.1 Quality of project implementation by FAO (Budget Holder, LTO, Project Task Force [PTF], etc.)	HS → HU	HS
E2.2 Project oversight (project steering committee, project working group, etc.)	HS → HU	U
E3. Quality of project execution For direct execution modality projects: Project Management Unit (PMU)/Budget Holder For Operational Partners Implementation Modality projects: executing agency	HS → HU	U/A
E4. Financial management and co-financing	HS → HU	HU
E5. Project partnerships and stakeholder engagement	HS → HU	S

The GEF criteria/subcriteria	Rating ⁱ	Summary comments ⁱⁱ
E6. Communications, knowledge management and knowledge products	HS → HU	MS
E7. Overall quality of M&E	HS → HU	MS
E7.1 M&E design	HS → HU	S
E7.2 M&E plan implementation (including financial and human resources)	HS → HU	MS
E8. Overall assessment of factors affecting performance	HS → HU	MS
F. CROSS-CUTTING DIMENSIONS		
F1. Gender and equity	HS → HU	MS
F2. Human rights issues/Indigenous Peoples	HS → HU	N/A
F3. Environmental and social safeguards	HS → HU	S
Overall project rating (given the actual situation)	HS → HU	S

Notes:

i See the rating scheme in Appendix 1.

ii Include reference to the relevant sections in the report.

iii Assessment and ratings by individual outcomes may be undertaken if there is added value.

iv Includes cost efficiency and timeliness.

v This refers to factors affecting the project's ability to start as expected, such as the presence of sufficient capacity among executing partners upon project launch.

1. Introduction

1.1 Purpose of the final review

1. The war in Ukraine broke out on 24 February 2022. The initially planned terminal evaluation, as required by the Global Environment Facility (GEF) Coordination Unit, was ultimately defined as a final review of the project. This decision was made based on a request from the GEF and advice from the Independent Evaluation Office.
2. This review serves both learning and accountability purposes, but it primarily seeks to assess the project's results. It identifies constraints encountered during implementation, highlights outcomes and considers the country's situation. This review could only minimally cover project impact due to the war, which persisted during data collection. Further, this limited an analysis of possible long-term achievements. The review also seeks to draw conclusions and formulate relevant recommendations. These must be viewed against a background that is still volatile. The review includes, to the extent possible, a summary of lessons learned to stimulate future interventions.

1.2 Intended users

3. The intended users of this review are: i) the GEF; ii) the Budget Holder; iii) the designated Evaluation Manager; iv) the Project Management Unit (PMU), including the national project counterpart and the implementation unit; v) the Funding Liaison Officer (FLO); vi) the Lead Technical Officer (LTO); vii) project steering committee members; and viii) other project stakeholders, beneficiaries and partners.

1.3 Scope and objective of the final review

4. The main objective of this review was to assess the extent to which the project achieved its intended results in the intervention areas and to identify any design and implementation issues. The review covered all activities from May 2018 (the project's inception) to June 2023, considering lessons learned, conclusions and recommendations.
5. The review took into account three project components, including planned outputs (see Appendix 2). It focused on four oblasts and two oblasts that were added in 2022. Key activities with active stakeholders were implemented in different raions and pilot sites in the oblasts of: i) Kyiv; ii) Kharkiv; iii) Mykolaiv; iv) Kherson; v) Chernihiv; and vi) Sumy (see Section 2 and Figure 1).
6. This review aimed to ensure that the collected and analysed data are credible, reliable and useful. It followed the GEF evaluation guidelines (GEF, 2017) as per terminal evaluation practices. These guidelines helped to answer the main evaluation questions, which were based on the GEF criteria (see Box 1).

Box 1. Key evaluation questions based on the GEF criteria

<p>Relevance and coherence</p> <ul style="list-style-type: none"> - <i>To what extent was the project relevant and consistent in meeting the strategic priorities of the Government of Ukraine? Consider sustainable agricultural development and environmental conservation in terms of the Food and Agriculture Organization of the United Nations (FAO)–GEF strategic objectives.</i>
<p>Effectiveness (achievement of project results)</p> <ul style="list-style-type: none"> - <i>To what extent were the expected project objectives achieved? What was the level of progress towards project closure – especially given the ongoing war in Ukraine?</i>
<p>Efficiency and factors affecting performance</p> <ul style="list-style-type: none"> - <i>Was the project efficient with regard to: coordination and decision-making; stakeholder engagement; management and workplans; financial management; M&E; internal and external communication; and knowledge management?</i>
<p>Sustainability and impact</p> <ul style="list-style-type: none"> - <i>Given the war, and as far as it can be assessed, to what extent did the project achieve sustainable results? Which conditions were put in place to reduce the risks that could jeopardize long-term achievements?</i>
<p>Cross-cutting dimensions: gender and equity; human rights issues/Indigenous Peoples; and environmental and social safeguards</p> <ul style="list-style-type: none"> - <i>Did the project contribute, in a relevant way, to the achievement of the United Nations/FAO/ the GEF commitments on women’s empowerment and gender equality?</i> - <i>Were environmental and social safeguards risk classification and risk mitigation provisions identified and adequately addressed during project implementation?</i>

Source: Elaborated by the Evaluation Team.

1.4 Methodology

- An international consultant, as both the Evaluation Specialist and the team leader, conducted the final review. Luca Molinas, Regional Decentralized Evaluation Manager from the Food and Agriculture Organization of the United Nations (FAO) Office of Evaluation (OED) at FAO Regional Office for Europe and Central Asia (REU), and Serdar Bayryyev, Senior Evaluation Officer from FAO OED at FAO headquarters, provided quality assurance and oversight.
- The review process adhered to the United Nations Evaluation Group Norms and Standards. It was based on a systemic and participatory approach. It applied the Organisation for Economic Co-operation and Development’s Development Assistance Committee criteria: relevance and coherence; effectiveness (achievement of project results); efficiency and factors affecting performance (monitoring and evaluation [M&E] system, quality of execution, partnerships and communication); and sustainability and impact. The overarching criteria on cross-cutting dimensions relate to best development practices. These cover gender, human rights, Indigenous Peoples, and environmental and social safeguards in order to address risk management.
- This review adopted a consultative and transparent approach to keep internal and external stakeholders informed throughout the process. The gathered evidence and information were triangulated through different data collection methods to support the credibility and validity of the findings. This involved a desk review, online interviews and participatory observation.
- In line with the FAO–GEF project cycle, the review also verified compliance with the common United Nations country programming principles. Underscored is the human rights-based

approach: the right to food and the right to decent work; gender mainstreaming; sustainability (financial, sociopolitical, institutional and environmental); capacity building; and results-based management.

1.4.1 Preparatory phase

11. The preparatory phase of the review included an initial virtual meeting on 14 April 2023 with the Regional Evaluation Manager, the National Project Coordinator, the National M&E and Reporting Specialist, the national project assistant and the international consultant. The meeting specified the objectives of the review and its time frame. A tentative schedule for an eventual country mission was also exchanged.
12. This phase also involved a desk review to collect and analyse the project's documents. These documents should have been provided through the Field Programme Management Information System (FPMIS) but were finally shared via a link to SharePoint (see Subsection 3.3.4). An evaluation matrix was elaborated for consultations with stakeholders and partners. This was based on the project document and outlined the evaluation questions and subquestions.

1.4.2 Data collection phase

13. The international consultant could not conduct the planned field mission in Kyiv. As a result, the FAO Ukraine project team in Kyiv introduced the project's achievements and results through an online presentation on 12 May 2023. Document sharing followed. Data and information were gathered remotely and virtually through in-depth, semi-structured interviews. This involved 30 relevant project stakeholders and beneficiaries (out of a requested 37), including research institutions, universities, farmers and the private sector (see Appendix 3). Different interviewee categories were consulted separately. This also included regular debriefings with the FAO Ukraine project team in Kyiv.
14. The international consultant collected key information from FAO Ukraine and the extended team at FAO REU (Budapest) and FAO headquarters on the quality and efficiency of the project's operational, administrative and financial management. Online discussions with FAO REU and FAO headquarters focused on technical support for the project. This included field missions, report reviews, approval processes and budget revisions.
15. Key informants for all project-related activities included implementing partners at national, subnational and local levels. As important co-financing partners, the lead executing agencies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, with support from the Ministry of Agrarian Policy and Food – should have been included. It was impossible to establish focal points (see Subsection 1.5).

1.4.3 Data analysis and final review report

16. The international consultant provided answers to the evaluation questions and subquestions to support the findings. The evidence was then triangulated, and resource documents, tools, statistics and scientific sources were analysed. This examination was complemented by follow-up discussions and online meetings with key actors.
17. The findings were assessed based on the GEF's key criteria. Relevance and coherence addressed the project's strategy. The international consultant examined the quality of the project design in order to assess: the validity of the problem targeted by the project; its coherence and continuity

with other initiatives; the practicality of the basic assumptions; and its alignment with country priorities and the FAO–GEF strategic objectives. An overall strategic relevance assessment was made through a seven-point rating scale: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU); and Unable to Assess (UA).

18. The project’s results were compared with expectations to assess effectiveness and achievement. A seven-point rating scale was used to examine the overall outcomes: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU); and Unable to Assess (UA).
19. Efficiency and factors affecting performance address the quality of project implementation and execution. This pertained to the roles and responsibilities discharged by the GEF agencies and by the country or regional counterparts that executed the funded activities on the ground. The performance was rated on a seven-point scale: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU); and Unable to Assess (UA).
20. On sustainability and impact, the conditions that had been put in place were examined to ensure the consolidation of results and promote ownership by the national stakeholders. Sustainability was assessed by considering the risks related to institutional, financial, socioeconomic and sociopolitical factors. This involved the environmental sustainability of the project’s outcomes, as well as the measures to prevent, eliminate or mitigate such risks. The assessment also determined the extent to which progress towards long-term impacts could be attributed to the project. A five-level rating scale assessed the overall sustainability: Likely (L); Fairly Likely (FL); Fairly Unlikely (FU); Unlikely (U); and Unable to Assess (UA).
21. Cross-cutting dimensions focused on the quality and effectiveness of gender-related issues. This involved other vulnerable or disadvantaged groups or minorities. Environmental and social safeguards were addressed by referring to FAO–GEF policies. This criterion was rated on a seven-point scale: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU); and Unable to Assess (UA).
22. Recommendations were formulated, highlighting the project’s strengths and weaknesses. This included lessons for the design and execution of future interventions.

1.5 Limitations

23. The war in Ukraine has resulted in severe civilian casualties, cross-border and internal displacement, and destruction. It has left at least 17.6 million people in need of humanitarian assistance and protection, and close to 6 million internally displaced persons. Serious damage to all economic activities in Ukraine – including agriculture (FAO, 2023a, p. 1) – significantly impacted the project. Some project areas were in Eastern and Southern Ukraine. The war, either directly or indirectly, has affected these sites.
24. Sources state that the originally planned mid-term review (MTR) did not take place due to the COVID-19 pandemic. Instead, an independent supervisory mission was carried out from 20 to 24 January 2020 and resulted in an undated back-to-office report (BTOR) (Muminjanov, Burtak and Viatkin, 2020). Regardless, this report mainly provided general information on the project’s achievements with too many recommendations of a predominantly operational nature. In

addition, the assessment was not based on target indicators, as per the results matrix – nor did it consider the theory of change according to the project document (FAO and GEF, 2016, p. 20) and adapted workplans. This had limited a systematic assessment of the results since the MTR.

25. A major challenge during data collection was the late availability of project-related documents, especially technical and meeting reports. Documentation was not uploaded to the FPMIS, and this impacted an efficient desk review. Remote, online interviews were a similar case. The late provision of contacts impeded the efficient realization of meetings. The international consultant sent repeated inquiries to the understaffed FAO Ukraine project team in order to mitigate or reduce the risk that the review would miss important information. This involved a template that indicated missing documents and the contact details of potential interviewees. These challenges were finally solved. It can be assumed that this situation was also caused by FAO Ukraine's heavy workload, which stemmed from ongoing war-related emergency projects. Subsequent exchanges with the FAO Ukraine project team were efficient and well organized.
26. A more serious problem was the lack of availability among focal points from the central ministries. These were key national actors from the executing agencies. Despite repeated inquiries that were supported by the National Project Coordinator, it was impossible to liaise with the FAO Policy and Programme Adviser, who normally establishes contact with the relevant ministries. This drawback caused a general lack of understanding. It limited not only an exhaustive assessment of roles and responsibilities at the central execution level but also the quality of cooperation among these key stakeholders.

2. Background and context of the project

27. Ukraine covers a total surface area of 603 628 km². The country has the largest area of arable land in Europe with almost 40 percent of the world's most productive black soils. Agriculture dominates Ukraine's landscape, covering approximately 70 percent of the total surface area. It accounts for 10 percent of the gross domestic product (GDP) and 19 percent of the employment rate.
28. Ukraine's agricultural exports, at USD 3.5 billion, were the largest of the 12 Eastern European, Caucasus and Central Asian countries. Ukraine's agrifood sector had been a vital source of livelihood for nearly 13 million rural households before the war broke out. According to FAO, commercial enterprises accounted for around 65 percent of agricultural production. This was around 32 percent for rural households. As a consequence of the war, at least 25 percent of rural households have either reduced or entirely stopped agricultural production (for oblasts at the frontline, this accounts for at least 38 percent) (FAO, 2022a). In addition, the war has caused widespread and severe damage to the environment and inflicted both immediate and long-term consequences on human health, ecosystems and the Ukrainian economy. The environmental damage is enormous and evident, but its extent, as of today, is difficult to measure (OECD, 2022a; Ministry of Environmental Protection and Natural Resources, 2024).³
29. Before the war, it was estimated that Ukraine's rapidly growing agricultural sector had caused from 35 to 40 percent of all environmental degradation in the country – including 100 million ha of degraded land. The root causes of the country's land degradation include intensive chemical-based agriculture, the overuse of land and unsustainable forestry practices. Soil degradation leads to reduced productivity. Rural income then falls. The quality and availability of food for rural households may decrease. Land degradation and desertification problems get aggravated due to rapid climate change. Higher annual average temperatures and recurring extreme weather events like drought accompany this. Gradually, climatic zones shift. Rising temperatures create conditions for the spread of pests and diseases. This affects vital crops and tree species. The project document (FAO and GEF, 2016, p. 15) stressed that land degradation and desertification lead to immense biodiversity loss⁴ and the deterioration or disappearance of water bodies. This exacerbates water supply problems.
30. Ukraine's extraordinary black, fertile soils suffer from serious erosion and deterioration due to many years of intense production. Unsustainable agricultural practices rely on the excessive use of mineral fertilizers and outdated technologies. This has eroded soils and depletes soil organic matter and nutrients. Not only that – the soils become acidic, saline

³ At the start of the war, the government launched several tools to document environmental damage. The EcoZagroza dashboard provides data on the war's impact on the environment. The work of the state environmental inspectorate recorded over 250 cases of crimes against the environment and over 1 200 cases of damage to the environment from the aggression. Special units have collected evidence: photographs; video and satellite images; and, where possible, air and soil samples for laboratory testing. Work to develop methodologies that calculate the monetary value of the environmental damage is underway.

⁴ Kyiv and its surrounding area had 126 known rare species of vascular plants. Forty-two of them disappeared. Thirty-one species were identified under the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora – 17 of them disappeared. Three out of 13 species under the Berne Convention on the Conservation of European Wildlife and Natural Habitats disappeared. Thirty-five known species from the Red Data Book of Ukraine cannot be found.

or alkaline. Over 13 million ha of land has been damaged by water erosion, and 6 million ha by wind erosion. Within just ten years, the eroded area is estimated to increase from 70 000 ha to 100 000 ha per year. Moreover, water loss increased and irrigated land decreased by approximately 15 percent in just 15 years. This is largely due to ineffective irrigation management.

31. A particular challenge is the management of the large number of shelterbelts that were planted in the 1930s to protect against the erosion of black soils in the forest-steppe and steppe zones. Forest vegetation, including shelterbelts and other similar tree plantations, are commonly referred to as agroforests. They prevent further soil erosion and improve soil properties. In Ukraine, approximately 440 000 ha of shelterbelts protect 13 million ha of arable land and agricultural landscapes.
32. Roughly 30 percent of farm shelterbelts are in very poor condition. The ownership and management responsibilities for many of the shelterbelts have remained unclear since the collapse of the Soviet Union and the resulting decay of collective farms that had managed them. The rapidly deteriorating shelterbelts, which usually control and protect soil against land degradation – including above- and below-level carbon sequestration – need urgent rehabilitation and proper management, as per the project document (FAO and GEF, 2016, p. 15).⁵
33. Moreover, there is no proper legislation and regulation on the exploitation and protection of such agroforests. This causes serious adverse effects for agricultural landscapes. There is an urgent need for long-term investments and incentive systems to encourage the development and restoration of shelterbelts. This would generate socioeconomic and global environmental benefits.
34. To improve the management of Ukraine’s agricultural landscape for food production and natural resources management – and to safeguard critical ecosystem services like carbon sequestration and the prevention of soil erosion – the project document (FAO and GEF, 2016, p. 18–19) identified the following barriers that need urgent attention.
 - i. There are inadequate policy and institutional structures and legislation for the sustainable management of land and forest resources. This includes insufficient intersectoral coordination on land and forest management. Further, it involves responsibilities on the environment and agriculture, as well as measures from other departments and industries to combat land degradation and desertification. There are also unclear ownership and tenure rights for certain types of land like shelterbelts.
 - ii. There are inadequate financial resources to solve conservation issues. This relates to the sustainable use of land and forest resources. There is a lack of economic incentives through market-based mechanisms like payments for ecosystem services (PES) (FAO, 2011, 2022b) and value chains. There is also a lack of clear rules and criteria to mobilize resources.

⁵ The most severe degradation processes are as follows: soil erosion by water and wind (nearly 57 percent of the country’s territory); inundation of land (approximately 12 percent); acidification (almost 18 percent); salinization and sodification (that is, the accumulation of sodium, over 6 percent). Approximately 20 percent of all Ukrainian lands are polluted. Almost 23 000 cases of landslides are registered yearly.

- iii. The state of land use planning is unsatisfactory. In particular, this involves land conservation documentation and the implementation of planned measures. There is also an insufficient provision of information for the State Land Cadastre system. Problems, for instance, include: unjustifiably high levels of economic (mainly agricultural) exploitation of the territory and unbalanced land use; poor planning of industrial and residential properties, especially on the availability of local water resources; and an insufficient allocation of land conservation areas for the environment, recreation, tourism and cultural heritage.
 - iv. There is a failure to operationalize science-based principles of land use and the basics of cropping. This includes a failure to follow rotation plans and recommendations to increase the use of organic fertilizers over agrochemicals (fertilizers). In fact, this is partly linked to the insufficient functional maintenance of the state's monitoring system: i) land and environment; ii) drought and early warning; iii) a hydrometeorological observation network; iv) an insufficient level of government unit access to management-related material, technical and human resources for land and other natural resources; v) an inadequate use of modern technologies, including geoinformation, remote sensing and innovative scientific findings to inform and implement managerial decisions; and vi) low awareness and a lack of interest and capacities among land owners and users to ensure the sustainable use of land and forests.
35. The project identified the oblasts of Kharkiv, Kyiv, Mykolaiv and Kherson, as well as a number of raions to realize the field activities (see Figure 1). An analysis of baseline investments and opportunities to positively influence the institutional, legal and policy enabling conditions – including on-site management – formed the basis of this identification.
36. The project's planned intervention areas were in the forest-steppe and steppe zones of Ukraine. These regions have black, fertile soils that suffer from the loss of both above- and below-ground carbon stocks. This is a result of severe land degradation and the inadequate management of shelterbelts and trees in the production landscape.
37. As a consequence of the war, two additional oblasts were added to the project in 2022: Chernihiv and Sumy (see Subsection 3.5).⁶ The oblast of Kyiv, partially occupied in March 2022, continues to implement activities. The partially occupied oblast of Kharkiv, freed in the autumn of 2022, was in the process of being demined and recovered at the time of this review. Activities in the oblast of Mykolaiv, situated at the frontline, stopped in 2022. The main activities in Velyki Klynny – a farm in the raion of Oleshky, oblast of Kherson – stopped due to the occupation.
38. The following points highlight the planned and implemented intervention areas.
39. Doslidnytske Village (raion of Vasylkivskyi, oblast of Kyiv) has 1 911 inhabitants. It is in the forest-steppe zone and situated 70 km from the city of Kyiv. Its surroundings are dominated by flat terrain with black soils and shelterbelts, including many streams, ponds

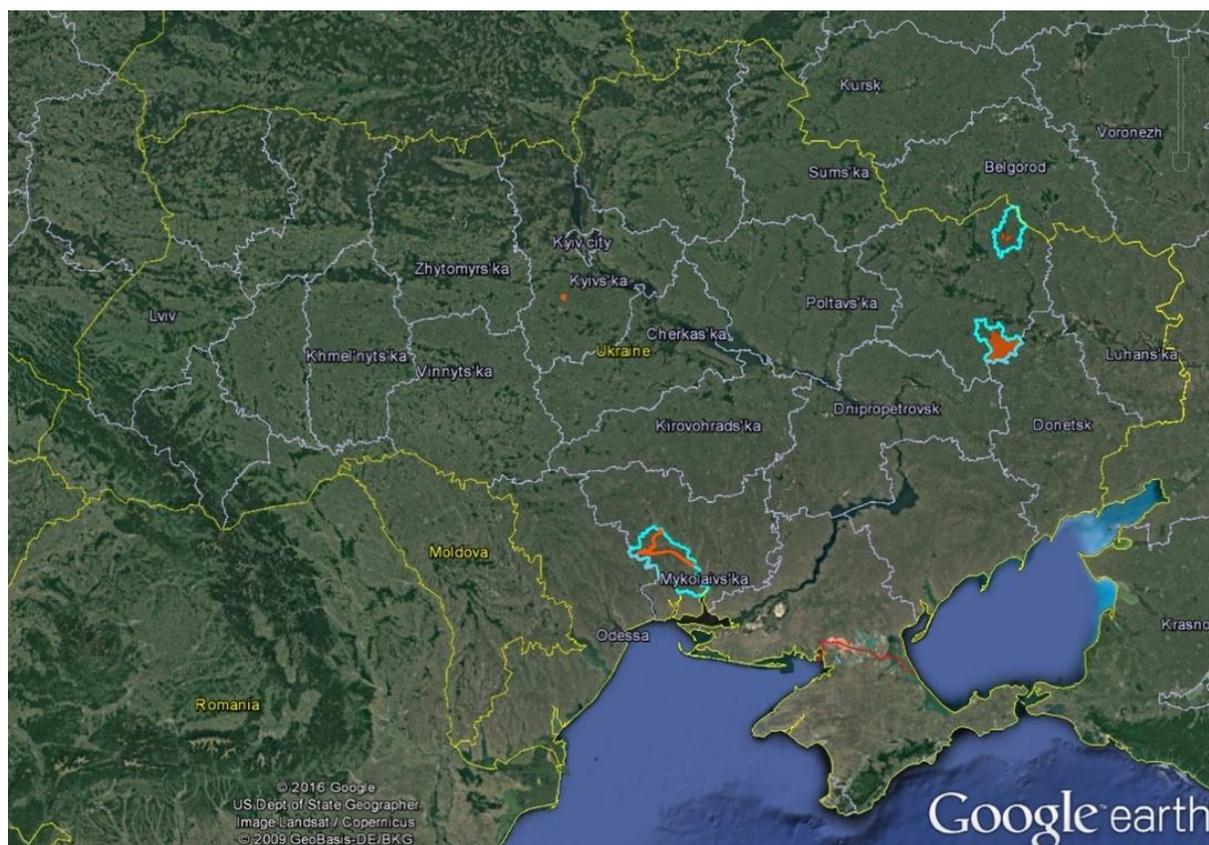
⁶ Recent interventions focus on new opportunities for women in three oblasts (Kyiv, Chernihiv and Sumy) with 14 communities: Trostyanetska (Sumy); Krasnopilska (Sumy); Ivankivska (Kyiv); Lubetzka (Chernihiv); Novgorod-Siverska (Chernihiv); Kulikovska (Chernihiv); Varvynska (Chernihiv); Prylutska (Chernihiv); Kiptivska (Chernihiv); Menska (Chernihiv); Byshivska (Kyiv); Kozhanska (Kyiv); Velikodymirska (Kyiv); and Petrivska (Kyiv, raion of Vyshhorod).

- and lakes. The Leonid Pogorilyi Ukrainian Scientific Research Institute on Forecasting and Testing Machinery and Technologies for Agricultural Production is the largest institution in the village. It is a subordinate of the Ministry of Agrarian Policy and Food. It has a network of regional affiliates in different parts of the country, including the German-Ukrainian Agricultural Demonstration and Training Centre. The Leonid Pogorilyi Ukrainian Scientific Research Institute manages 880 ha of land to develop and test new technologies and agrarian machineries. In total, 17 km of shelterbelts are on 34 ha of land.
40. The raion of Barvinkovskyi (oblast of Kharkiv) has 60 settlements and covers 136 450 ha. The total area of agricultural land is 120 157 ha, and the population is 24 384 (including 10 104 urban and 14 280 rural inhabitants with a population density of 17.8 persons per km²). The area is in the steppe zone. The climate is continental. Important natural resources of the raion feature black soils, pastures and water reservoirs. Agricultural activities are dominated by crop (grain and industrial), livestock (cattle breeding, sheep and pigs) and fisheries production.
 41. The raion of Velykoburlutskyi (oblast of Kharkiv) has 81 settlements and covers 122 080 ha. The total area of arable lands has a surface area of 83 900 ha and 16 800 ha of pasture. The population is 22 724 (5 576 urban and 17 148 rural inhabitants with 21.7 persons per km²). The area is in the steppe zone. The climate is continental. Agriculture employs over 60 percent of the working population. Agricultural activities are dominated by crop (grain and industrial) and livestock (cattle breeding and pigs) production. The main area of livestock production is the breeding of large cattle for meat and dairy. The area includes 31 agricultural enterprises or farms.
 42. The raion of Mykolaivskyi (oblast of Mykolaiv) has 52 settlements and covers 142 990 ha. The total surface area of agricultural land covers 106 090 ha. Forest and shelterbelts cover 3 percent of the raion's area. The population of the raion is 31 081 (including 54 percent women, with a population density of 22 persons per km²). The area is in the steppe zone. The climate is moderate continental. Agricultural activities are dominated by crop (grain and industrial) production.
 43. The raion of Veselynivskyi (oblast of Mykolaiv) has 54 settlements and covers 120 000 ha. The total area of agricultural land is 83 900 ha. The population is 23 380 (8 095 urban and 15 285 rural inhabitants, which represents 20 persons per km²), out of which 4 815 people work in the agriculture sector. The area is in the steppe zone. The climate is moderate continental. Agricultural activities are dominated by crop (80 percent) and livestock (20 percent) production. There are 19 agricultural enterprises and 155 farms.
 44. The raion of Vosnesenskyi (oblast of Mykolaiv) has 47 settlements and covers a surface area of 139 190 ha. Agricultural land covers 112 780 ha (including 90 397 ha of arable land). The total population is 30 600 (with a population density of 22.5 persons per km²). The area is in the steppe zone and the climate is moderate continental. Agricultural activities are dominated by crop (84 percent grain and industrial) and livestock (13 percent) production. There are 337 enterprises and farms.
 45. Kherson is an oblast in southern Ukraine, north of the Autonomous Republic of Crimea and the city of Sevastopol, Ukraine, temporarily occupied by the Russian Federation. Its administrative centre is Kherson on the west bank of the Dnieper. The area of the region is 28 461 km, and the population was estimated at 1 001 598 in 2022. The oblast of Kherson

features a well-developed agricultural industry. The oblast possesses about 2 million ha of agricultural land, which is the greatest share of ploughed fields in Ukraine. The total area of agricultural land is 1 969 500 ha (1 776 800 ha ploughed fields, 26 600 ha perennial crops, 10 400 ha hayfields and 155 700 ha pastures). The oblast is considered the “fruit basket” of the country. Most of its area has been under the Russian Federation’s military occupation since 2022. The territory in the northwest, including the city of Kherson, was recaptured by Ukraine in the southern counteroffensive in November 2022.

46. Figure 1 shows the project’s planned intervention zones.

Figure 1. Project intervention zones and pilot sites (according to initial plans)



Source: FAO. 2016. *Review of the project “Integrated Natural Resources Management in Degraded Landscapes in the Forest-Steppe and Steppe Zones of Ukraine”* – Project document. Rome. p. 13, Based on Google Earth. Map complies with United Nations. 2023. Map of Ukraine. www.un.org/geospatial/content/ukraine-0

2.1 Description of the project

47. The project’s objective was to promote the restoration of degraded landscapes in the forest-steppe and steppe zones of Ukraine by scaling up the integrated natural resources management (INRM) practices. The project was designed around three components in order to: i) create an enabling environment for INRM in Ukraine at national and subnational levels; ii) restore the productivity and resilience of production landscapes through INRM; and iii) ensure learning and the sharing of lessons through effective project M&E and adaptive management (see Box 2).

Box 2. Basic project information

Project title: Integrated Natural Resources Management in Degraded Landscapes in the Forest-Steppe and Steppe Zones of Ukraine
Project symbol: GCP/UKR/004/GFF; recipient country – Ukraine
Resource partner: the GEF
FAO project ID: 640633
The GEF, the Least Developed Countries Fund and the Special Climate Change Fund project ID: 9813
Executing partners at project design: Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and Ministry of Agrarian Policy and Food, restructured in 2019, 2020 and 2021
Contribution to FAO’s strategic framework
a. Strategic objective/organizational result
Strategic Objective 1: contribute to the eradication of hunger, food insecurity and malnutrition
Strategic Objective 2: increase and improve the provision of goods and services from agriculture, forestry and fisheries in a sustainable manner
Strategic Objective 3: reduce rural poverty
Strategic Objective 5: increase the resilience of livelihoods to threats and crises
b. Regional result/priority area
1 – Food security and nutrition
2 – Natural resources management, including climate change mitigation and adaptation
3 – Policy and institutional support for the entry of Member States into setting standards for regional and global trade, and organizations of regional economic cooperation
c. Country Programming Framework outcome
Priority Area 2: contribution to land reform, rural development and food security systems
Priority Area 2.4: capacities and national legislative frameworks in the context of rural development strengthened, and support to small and medium enterprises on improving access to information provided
Priority Area 3: agrifood production chain development and access to international markets
Priority Area 3.6: capacities and public–private dialogue in the grain, dairy and meat sectors promoted
Priority Area 3.7: review and drafting of legal acts related to producer organizations and cooperatives promoted
Priority Area 4: environment and management of natural resources, including forestry and fisheries
Priority Area 4.1: raise awareness and capacities of line ministries and relevant stakeholders to sustainably manage natural resources, as well as policies in the areas of protection and the sustainable use of land and other natural resources
Priority Area 4.2: raise capacity to develop and implement climate-smart agriculture (CSA) programmes, including bioenergy initiatives at national and local levels
Project focal area: multifocal area (land degradation and climate change mitigation)
The project’s strategic objectives:
Land Degradation-3, Programme 4: scaling up sustainable land management (SLM) through the landscape approach
Climate Change Mitigation-2, Programme 4: promote the conservation and enhancement of carbon stocks in forest and other land use, reduce emissions from land degradation, and support CSA
Environmental and social risk classification: low
Expected FAO start date (EOD): 4 October 2017; inception workshop report 15 May 2018
Expected not-to-exceed (end date): originally 31 July 2020; extended until 30 June 2023
Project extensions: three – 31 December 2021, 31 December 2022 and 30 June 2023
MTR: not applicable – BTOR for an independent supervisory mission from 20 to 24 January 2020

48. The project design, based on the original project document, had three components with related outcomes and outputs. These are outlined in the following points.

Component 1. Enabling environment for the INRM.

The GEF budget: USD 649 489 (37 percent).

Effectively: USD 553 571 (Outcome 1, USD 347 932; Outcome 2, USD 205 639), as per Budget Revision C from 13 December 2022 (Excel file).

Outcome 1.1. Strengthened institutional, legal and policy-enabling conditions for the INRM.

49. Expected results: a strong enabling environment and monitoring system facilitates INRM integration into land use planning for 230 800 ha of land.
50. Five outputs aimed to: i) enhance intersectoral coordination and information sharing on the INRM; ii) draft laws and regulations in agreed upon and approved areas; iii) establish a system for environmental monitoring and spatial planning; iv) document and share a land degradation neutrality (LDN) monitoring system for replication in other locations; and v) have at least three integrated land use plans for 230 800 ha of land.

Outcome 1.2. Financial and incentive mechanisms for the INRM in place at national and subnational levels.

Expected result: have at least two incentive mechanisms in place.

51. Three outputs targeted the following results: i) operationalize standards for shelterbelt ownership and use; ii) develop criteria and indicators to establish PES schemes (FAO, 2011, 2023b) in Ukraine; and iii) make at least two food and feed value chains more inclusive and environmentally friendly.
52. Component 1 was to be led by the Ministry of Ecology and Natural Resources with support from the Ministry of Agrarian Policy and Food. It represented a critical first step in integrating environmental concerns into sector policies and agriculture-related legislation that combats land degradation and shelterbelt management. Institutional structures and legislation were to be strengthened, especially for shelterbelts with unclear statuses regarding ownership and management responsibility. Monitoring systems and spatial planning were also to be strengthened with the help of remote sensing, geospatial data and improved access to information. In addition, enhanced access to financial resources was assessed as crucial for improving the management of natural resources in Ukraine, both through state-led and market-based mechanisms. This included: i) the clarification of ownership rights, especially for shelterbelts; ii) the development of criteria for PES schemes; and iii) the greening of value chains for selected crops.

Component 2. Restoration of productivity and resilience of production landscapes.

The GEF budget: USD 641 703 (36 percent).

Effectively: USD 595 235 (Outcome 1 USD 291 286; Outcome 2 USD 303 949).

Outcome 2.1. Scaling up of sustainable land management (SLM) and climate-smart agriculture (CSA) practices for production landscapes in the forest-steppe and steppe zones.

Expected results: 29 400 ha under SLM, sequestering 277 675 t CO_{2e}.

53. Three identified outputs targeted the following results: i) 30 agricultural service providers trained in conservation agriculture with three Farmer Field School (FFS) initiatives established and three exchange visits organized; ii) good conservation agricultural practices implemented on 29 400 ha of land, leading to the sequestration of 277 675 t CO_{2e}; iii) 30 agricultural service providers trained in gender issues and the specific needs of rural women; and iv) two exchange visits organized.

Outcome 2.2. Rehabilitation and the sustainable management of shelterbelts.

Expected results: 3 600 ha of shelterbelts sequestering 87 821 t CO₂e.

54. Two outputs targeted the following results: i) guidelines applied at project demonstration sites; and ii) shelterbelts and best management practices implemented on 3 600 ha of land, leading to the sequestration of 87 821 t CO₂e.
55. The component included the development of capacities to scale up conservation agriculture with no-till and minimum tillage, as well as the use of green manure and effective microflora in the forest-steppe and steppe zones. This approach represented sustainable and effective CSA practices. It reduced soil erosion and enhanced carbon stocks in the rich black soils (chernozems) that cover most of these agroecological zones. So far, mainly the steppe area has adopted conservation agriculture on just 2 percent of soils. The need for conservation agriculture demonstrations for the main crops grown in the forest-steppe zone, such as different cereals and oil seeds, was therefore essential. Demonstration activities were expected to be scaled up to roughly 90 800 ha of land at the oblast level with the support of government and private sector co-financing.
56. There was need to improve shelterbelt management on the agricultural land of the forest-steppe and steppe zones that had degraded and deteriorated due to unclear ownership situations since the country's independence. Consequently, plans involved strengthening capacities to develop appropriate guidelines. This objective included the following: inventories using modern information and communications technologies, such as satellite images and digitized geospatial information through smartphones and tablets; and demonstrations on rehabilitation and multipurpose shelterbelt management. The latter was meant for erosion control, carbon sequestration for better habitat connectivity and income generation. It involved non-wood forest product (NWFPs) (ScienceDirect, 2024; FAO, 2023b)⁷ like *Robinia pseudoacacia*, fruit trees, linden, bushes and *Caragana arborescens*. Demonstration activities were expected to be scaled up to approximately 230 800 ha. The following key institutions were to participate: the State Forest Resources Agency; the Ukrainian Nut Association; and various private sector companies.

Component 3. M&E and adaptive management.

The GEF budget: USD 299 775 (17 percent).

Effectively: USD 221 437, as per Budget Revision C from 13 December 2022 (Excel file).

Outcome 3.1. Adaptive management and key lessons shared (M&E system ensuring the timely delivery of project benefits).

Expected results: the project delivers the expected results and shares best practices.

57. Three outputs included the following results: i) MTR recommendations implemented, and the final evaluation conducted; ii) scaled up INRM approaches resilient to climate change and other external stressors; and iii) six project newsletters available and four outreach events held.

⁷ The NWFPs are useful foods, substances, materials or commodities obtained from forests (fruits, nuts, mushrooms, fibres, medicinal and ornamental plants, mosses, dyes, resins, gums, leaves as fodder, poles for local construction, honey, syrup, fish and game, as well as other animal products). Harvest ranges from wild collection to farming. The NWFPs are a subset of non-timber forest products. They exclude wood fuel and wood charcoal. Both NWFPs and non-timber forest products include wild foods.

58. This component should ensure the tracking and periodic monitoring of the project for learning purposes and adaptive management. The Scientific and Technical Advisory Panel and the GEF guidelines on resilience, adaptation and transformation assessment (GEF, 2016) were to be applied during project inception and at mid-term. This was to see whether implementation strategies and pathways adapt in order to integrate climate change resilience and other external stressors into the INRM approaches. Project results, innovative approaches and achievements should then be disseminated for replication and scaling up.

Project management and coordination: USD 186 603.

Effectively: USD 183 420.

59. The project's overall planned budget was USD 12 099 751, including a cash allocation from the GEF, the Least Developed Countries Fund and the Special Climate Change Fund in the amount of USD 1 776 484 and a contribution from FAO for USD 1 065 000 (cash and in kind). The national in-kind co-financing from different donors and FAO should have been USD 9 258 267. At its outset, the project also benefited from a number of other interventions in Ukraine, which were consistent with and complementary to the planned project objectives and outputs (see Subsection 3.1).
60. The materialized co-financing (cash and in kind) from national donors (including FAO) at the time of this review was USD 1 285 380. Information on in-kind co-financing from the Ministry of Ecology and Natural Resources, afterward Ministry of Environmental Protection and Natural Resources, was pending. This, however, was expected to be USD 6 000 000 (see Table 1).

Table 1. Planned vs materialized co-financing (status as of 30 June 2023)

Donor name	Type of fund	Type of contribution	Confirmed at Chief Executive Officer approval (USD)	Materialized by 30 June 2023 (USD)	Materialized at project closure, according to the FPMIS (USD)	Expected disbursement by the end of the project (USD)
The GEF	The GEF, the Least Developed Countries Fund and the Special Climate Change Fund	Cash	1 776 484	1 674 028	1 615 413	1 776 484
Sources of co-financing	Co-financer name	Type of co-financing	Confirmed at Chief Executive Officer approval (USD)	Materialized by 30 June 2023 (USD)	Materialized at project closure (USD)	Expected disbursement by the end of the project (USD)
United Nations executing agency	FAO	Cash	465 000	421 561	805 522	1 065 000
		In kind	600 000			
National government	Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources	In kind	6 000 000	N/A	N/A	6 000 000
National government	Ministry of Agrarian Policy and Food	In kind	590 000	365 500	607 000	607 000
State organization	State Ecological Academy of Post-graduate Education	In kind	80 000	0	0	0
Private sector	AgroGeneration	In kind	2 188 267	327 207	451 074	451 074
Private sector	Centre of Soil Ecology (<i>inter alia</i> , dedication of fields, machinery and equipment, human resources)	In kind	400 000	7 200	14 400	14 400
State organizations	Institute of Water Problems and Land Reclamation	In kind	0	63 020	18 147	81 168
	National Academy of Agriculture Sciences	In kind	0	3 400	3 400	3 400
	Institute of Irrigated Agriculture, Kherson	In kind	0	9 800	9 800	20 000
	Ukrainian Research Institute of Forestry and Agroforestry	In kind	0	5 670	5 670	5 670
	Soils Protection Institute of Ukraine	In kind	0	0	N/A	N/A

Donor name	Type of fund	Type of contribution	Confirmed at Chief Executive Officer approval (USD)	Materialized by 30 June 2023 (USD)	Materialized at project closure, according to the FPMIS (USD)	Expected disbursement by the end of the project (USD)
	Institute of Agroecology	In kind	0	0	N/A	N/A
	Institute of Soil Science and Agrochemistry	In kind	0	0	N/A	N/A
Government authorities	State Service for Geodesy, Cartography and Cadastre	In kind	0	7 430	7,430	7,430
	State Forest Planning Agency	In kind	0	2 250	2 250	2 250
Local government	Kherson Oblast State Administration	Cash and in kind	0	4 900	4 900	300 000
Local communities	Mostivska Amalgamated Territorial Community, Mykolaiv Oblast	Cash and in kind	0	9 500	9 500	15 000
	Vynohradivska Amalgamated Territorial Community, Kherson Oblast	Cash and in kind	0	9 500	9 500	15 000
	Pustovarivska Amalgamated Territorial Community, Kyiv Oblast	Cash and in kind	0	4 355	4 355	10 000
	Byshivska Amalgamated Territorial Community, Kyiv Oblast	Cash	0	570	570	570
	Makarivksa Amalgamated Territorial Community, Kyiv Oblast	Cash	0	1 263	1 263	1 263
	Dmytrivska Amalgamated Territorial Community, Kyiv Oblast	Cash	0	754	754	754
Non-governmental organization	Ukrainian Soil Partnership (USP)	Cash and in kind	0	6 000	N/A	61 000
Subnational private sector	PLAE Burlutske, Velykyi Burluk City, Kharkiv Oblast	Cash and in kind	0	4 000	4 000	15 000
	FE Tellus-Ug, Tavriiske Village, Kherson Oblast	Cash and in kind	0	2 500	2 500	2 500
	Yugran, Fedorivka Village, Kharkiv Oblast	Cash and in kind	0	4 000	4 000	4 000
	FE Arcadia, Ivanivka Village, Mykolaiv Oblast	Cash and in kind	0	5 700	5 700	5 700

Donor name	Type of fund	Type of contribution	Confirmed at Chief Executive Officer approval (USD)	Materialized by 30 June 2023 (USD)	Materialized at project closure, according to the FPMIS (USD)	Expected disbursement by the end of the project (USD)
	AP Zorya-Yug, Kucheryavovolodymyrivka Village, Kherson Oblast	Cash and in kind	0	5 000	5 000	5 000
	PLAE Frunze, Berdyanka Village, Kharkiv Oblast	Cash and in kind	0	3 500	3 500	3 500
	Agro-Survivor, Cherkasy, Cherkasy Oblast	Cash and in kind	0	1 500	1 500	2 500
	Agrofirma Kolos, Pustovarivka Village, Kyiv Oblast	Cash and in kind	0	8 000	8 000	15 000
	AF Dodola, Novoraisk Village, Kherson Oblast	Cash and in kind	0	1 300	1 300	1 300
		Total (Cash and in kind)	12 099 751	1 285 380 (+ 1 674 028 from the GEF)	1 991 035 (+1 615 413 from the GEF)	8 715 479 (+1 776 484 from the GEF)

Source: Elaborated by the Evaluation Team.

61. The following key stakeholders were identified and had an active role during project implementation (see Subsection 3.3.1).
62. FAO,⁸ with its extensive experience in supporting agriculture and forest policy reform in Ukraine – including SLM and INRM – acted as the GEF agency of the project.⁹ The Organization provided support in the execution of project activities (supervision and technical guidance), as well as technical backstopping and financial, procurement and contracting services. FAO was further responsible for semi-annual reports and financial statements on project expenditures, including sharing information on budget revisions with the project steering committee. FAO processed due payments for the delivery of goods, services and products upon request of the project coordination unit based on the annual workplan, budget and procurement plans that are approved annually by the project steering committee. The GEF financed a full-time National Project Coordinator who was in charge of the project's daily management, technical (field) supervision, communication and guidance. This involved administrative assistance on operations, finance and procurement in terms of budget management at FAO Ukraine.
63. The project's Budget Holder, represented by FAO REU, managed the GEF resources. It also handled the establishment of an interdisciplinary Project Task Force (PTF)¹⁰ within FAO to guide project implementation. In consultation with the LTO,¹¹ FAO REU oversaw the timely operational, administrative and financial management of the GEF's project resources. In accordance with the PTF, FAO REU further approved the annual workplans and budgets submitted by the project coordination unit. This also involved the project progress reports (PPRs), which were commented on by the PTF.¹²
64. Finally, the FAO-GEF Coordination Unit¹³ acted as the FLO that reviewed the PPRs and financial reports. It also approved budget revisions based on the project's approved budget and annual workplan.
65. At the national level, the Ministry of Ecology and Natural Resources was in charge of the implementation of the United Nations Convention to Combat Desertification (UNCCD) in Ukraine. It also represented the leading organization in implementing the national action plan to combat land degradation and desertification, which was approved by the government (Government of Ukraine, 2016a). This means that it is generally responsible

⁸ FAO, as the GEF implementing and executing agency, was responsible for efficient project implementation and oversight. The Organization ensures that the GEF policies and criteria are applied. FAO reports on project progress to the GEF Secretariat, and on financial aspects to the GEF trustee. FAO supervises the project through the concerned units at FAO headquarters, FAO REU and FAO Ukraine.

⁹ In detail, this includes: i) administrating the GEF funds; ii) overseeing project implementation; iii) providing technical guidance; iv) conducting yearly supervisory missions; and v) providing annual Programme Implementation Reports (PIRs) to the GEF Secretariat and FAO Ukraine Evaluation Office, and financial reporting to the GEF trustee.

¹⁰ The PTF, established by FAO REU, had a Budget Holder, an LTO, an FLO and one or more Technical Officers at FAO headquarters. This project, however, did not include Technical Officers at FAO headquarters.

¹¹ The LTO is an FAO REU Agricultural Officer. The LTO oversees and carries out technical backstopping and supports the Budget Holder in the implementation and monitoring of annual workplans and budgets, including workplan and budget revisions. This LTO is also accountable for providing or obtaining technical clearance on technical inputs and services procured by the Organization.

¹² Further, the FAO Financial Division provides annual financial reports to the GEF trustee and, in collaboration with the FAO-GEF Coordination Unit, requests project funds on a six-monthly basis to the GEF trustee.

¹³ The GEF Coordination Unit reviews and approves the six-monthly PPRs, the annual PIRs, the results-based financial reports and budget revisions, and works closely with FAO OED, the Budget Holder and the LTO to make project adjustments, when necessary.

for: the rational use, reproduction and protection of natural resources; the protection and rational use of land; the conservation, restoration and sustainable use of biological and landscape diversity; and the preparation of relevant legislation and regulation. It heads the Ministry of Environmental Protection and Natural Resources of Ukraine, which is the main ecological monitoring and development authority in the Ukrainian Government. As the leading agency of the project, the Ministry of Environmental Protection and Natural Resources was also in charge of hosting the project steering committee and coordinating the participation of other ministries, state agencies and stakeholders. According to the initial plan, the Ministry of Environmental Protection and Natural Resources would have primarily coordinated the activities under Components 1 and 3, and further contributed with its relevant legal expertise to the national, regional and local levels of the INRM. This involved the development of planning processes, as well as underlying government staff and infrastructure.

66. The Ministry of Agrarian Policy and Food, as one of Ukraine’s oldest government agencies, is the central executive authority in charge of the country’s agricultural development. More precisely, it is responsible for the development and realization of agrarian and forestry state policy and the state supervision of land use and protection. It can prepare legal drafts and submit them to the Cabinet of Ministers. During the project, it was planned that the Ministry of Agrarian Policy and Food would lead the activities related to the development of minimum agroecological standards. This would include conservation agriculture and organic farming under Component 2, which contributed to the integration of environmental and climate change concerns into agriculture and rural development. The Ministry of Agrarian Policy and Food regularly shares information on its website regarding interventions with FAO, including emergencies (Ministry of Agrarian Policy and Food, n.d.). In 2019, an interdepartmental working group was established through the Ministry of Agrarian Policy and Food to improve legislation in the field of plant protection products (agents) (Ministry of Agrarian Policy and Food, 2019).
67. The Leonid Pogorilyy Ukrainian Scientific Research Institute on Forecasting and Testing Machinery and Technologies for Agricultural Production is a key Ukrainian organization. It provides state control for the production and export of agriculture machinery and equipment, assessment, and the optimization of technologies and innovation transfer. As a national project stakeholder, it demonstrated and disseminated CSA-related agricultural practices and relevant trainings.
68. The Institute for Soil Science and Agrochemistry Research O. N. Sokolovsky is a leading national science and methodology centre. It is also a national partner of the Global Soil Partnership. The institute manages and coordinates relevant research and development activities related to soil science, agrochemistry and soil protection for over 20 entities through the National Academy of Agrarian Sciences of Ukraine, the Ministry of Agrarian Policy and Food, and the Ministry of Education, Youth and Sports. It has been an active stakeholder since the project’s outset and began to formally participate in the project in mid-2020. The institute prepared a model map on the sequestration of carbon in soils in the oblast of Kharkiv. This was used as a baseline to monitor carbon sequestration.
69. The Soils Protection Institute of Ukraine is a leading scientific organization on soil protection and a national partner of the Ukrainian Soil Partnership (USP). It participated in strengthening national environmental monitoring systems and sustainable land use

development with affiliates in each region of Ukraine. This included the agrochemical passportization of agricultural lands.

70. The Institute of Agroecology and Environmental Management of the National Academy of Agrarian Sciences of Ukraine incorporates over 50 institutes, scientific centres and experimental stations. The academy's main objective involves the scientific provision and development of the country's agroindustrial sector. The implementation of fundamental research, organization and the coordination of applied scientific agriculture research is envisaged. Regarding the project, this entity engaged in an NWFP market analysis. This included medicinal herbs and provided recommendations on shrub planting and medicinal herb cropping.
71. The Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine, active in research on the sustainable use of water resources and reclaimed lands in Ukraine, was responsible for elaborating the methodological approach to identifying irrigation areas. This included existing irrigation infrastructure and the availability of water resources.
72. The Ukrainian Research Institute of Forestry and Forest Melioration G. M. Vysotskiy – as a subordinate to the State Forest Resources Agency of Ukraine and the National Academy of Sciences of Ukraine (with seven research stations in different oblasts) – is the leading research institution for the development of scientific principles on forestry and hunting management, agroforestry improvement and rational nature management. The institute elaborated the methodological approach for the creation of integrated land resources management maps.
73. The Scientific and Methodological Centre for Higher and Further Vocational Education, formerly AgroOsvita, focuses on information and analytical support for trainings in the agriculture sector. It promotes quality agrarian education. It had no official letter of agreement (LOA) with FAO Ukraine but has contributed through FFS initiatives in four oblasts since 2019.
74. The National University of Life and Environmental Sciences of Ukraine is a leading institution on education, science and culture in Ukraine. It contributed to the technical creation and development of online courses for the project.
75. The USP (FAO, 2019b, 2019c, 2024a),¹⁴ established and launched in 2019, is part of the subregional Eurasian Soil Partnership and the European Soil Partnership under the auspices of the Global Soil Partnership. Seven national leading institutions in the field of soil monitoring are the founders of the partnership. The association acts as a single national platform for dialogue and cooperation between parties at the national level. This is a major project outcome. Its purpose is to support and promote the sustainable management of soil and land resources and to enhance the technical environment for composing the national agriculture LDN monitoring data exchange among relevant stakeholders. It remarkably contributes to the achievement of regional and global common goals by implementing the principles of the Global Soil Partnership set out in the World Charter.

¹⁴ The USP was established during an FAO-organized, two-day international seminar in 2019. The partnership facilitates dialogue and cooperation among ministries, leading institutions, existing research schools and laboratories on land resources, and relevant stakeholders to benefit Ukraine's forest-steppe zones.

76. AgroGeneration is a private agricultural company that owns about 120 000 ha of arable land in Ukraine, including the oblast of Kharkiv. AgroGeneration provided fields and equipment in 2018. The project worked closely with the Pogorilyy Scientific Institute in order to test new conservation agriculture practices and strengthen the management of shelterbelts with local communities.
77. At the subnational level, the All-Ukrainian Association of Village Councils and Amalgamated Communities (ASSOGU, by its Ukrainian acronym) was founded in December 2016. It was created to develop local self-government in Ukraine as the basis for a sovereign, independent, democratic, social and legal state. Its ultimate goal is the sustainable development of rural areas through the development of self-government in territorial communities. It engaged with the project to develop effective use models and restore field protection shelterbelts, self-forested territories and uncultivated, abandoned lands. This included scaling up best shelterbelt management practices. Integrated land management plans were also developed. This involved abandoned land in the oblast of Kyiv. Other planned INRM interventions were cancelled due to the war.
78. The oblast government authorities supported and participated in the project's activities. As a stakeholder on the subnational level, they are responsible for different infrastructure and social projects in order to improve the socioeconomic conditions of the inhabitants in particular areas. This includes green tourism.
79. All of the oblast and raion councils and state administrations still do not have legal rights to manage land outside of settlement boundaries.¹⁵ This is an ongoing process in the country. These subnational stakeholders supported and participated in project activities in their particular raions. Based on the Land Code and the Law on Land Protection (Government of Ukraine, 2001, 2003), oblast and raion state administration authority on land management includes: i) the use of natural resources; ii) environmental protection; iii) the disposal of state-owned lands within the legal boundaries; iv) the coordination of land management and state control over land use and protection; v) the implementation of national policies for land use and protection; and vi) the development of economic incentives for sustainable land use and protection.
80. Farmers and agricultural producers as local stakeholders at the subnational level participated in the project's demonstration activities on SLM and CSA. They also participated in sustainable forest management and NWFP harvesting.

2.2 Theory of change

How robust, sophisticated and realistic was the theory of change (as elaborated during project design)?

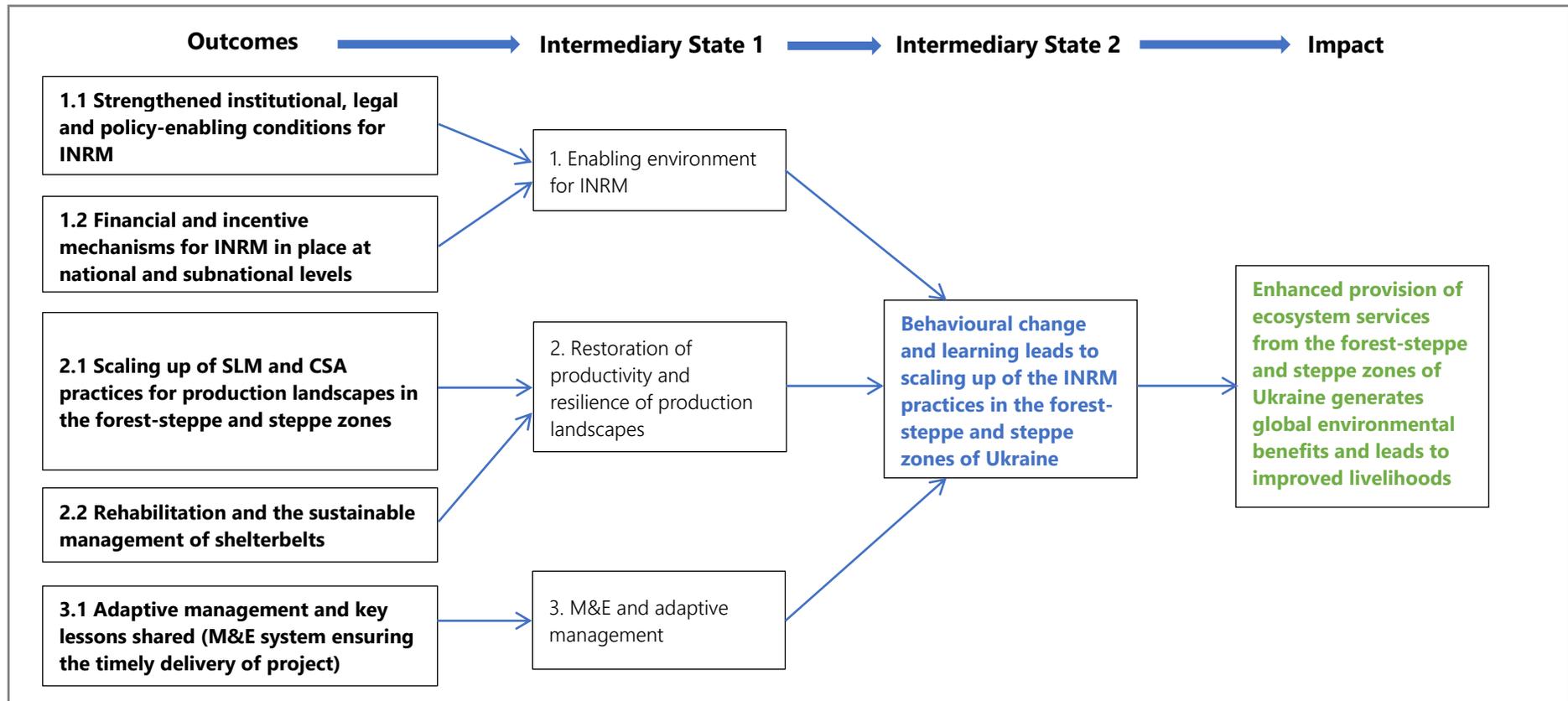
81. The project design created a theory of change (see Figure 2). This should have been part of a broader analysis during the project's mid-term. Perhaps this was due to a limited MTR.

¹⁵ Until 2019, all non-private lands were managed by the government through the State Service for Geodesy, Cartography and Cadastre, which had both registration and management functions. Today, many ownership rights belong to local communities. The project elaborated tools for local communities to manage non-arable lands (see Subsection 3.2, Output 1.1.3).

As cited, the project did not do an MTR in the usual format. Instead, only a BTOR was elaborated in 2020 (see Subsection 1.5).

82. According to the plan and with reference to this theory of change, the project must have been able to enhance the provision of ecosystem services in the forest-steppe and steppe zones of Ukraine. In fact, it generated global environmental benefits that led to improved livelihoods.
83. The theory of change reflects logical, direct pathways on the achievement of global environmental benefits and the project's overall goal of climate change mitigation and adaptation. The target upon project closure (overall goal) happens through two major steps: Intermediary States 1 and 2. Milestone 1 reflects the implementation of the three components, and Milestone 2 indicates important behavioural change in order to scale up the INRM practices.
84. The elaborated theory of change is coherent and realistic with regard to the project's results matrix. The underlying assumptions were not presented and were apparently made implicitly. Activities with concrete outputs were not included. Regardless, activities and subactivities were subject to adapted workplans that were elaborated during project implementation.
85. Although the theory of change represented a consistent approach to the planned outcomes, it did not reflect the need for continuous CSA and SLM mainstreaming. It also did not reflect the promotion of best practices. These are prerequisites for national planning and the elaboration of policy frameworks. Replicating the INRM practices requires sophisticated regulation in order to mitigate climate change. These are built on convincing lessons and productive collaboration among the implementing actors. This needs to be understood as a continual process, which the project demonstrated. As such, the national LDN monitoring system to be elaborated by the project is an essential tool to significantly improve national regulation.

Figure 2. Theory of change



Source: Elaborated by the Evaluation Team.

3. Key findings by evaluation questions

3.1 Relevance and coherence

To what extent was the project relevant and consistent in meeting the strategic priorities of the Government of Ukraine? Consider sustainable agricultural development and environmental conservation in terms of the FAO–GEF strategic objectives.

86. The subquestions on relevance and coherence are outlined in the following points.
- i. Did the project align with national environmental and development goals and priorities?
 - ii. Did the project align with FAO–GEF strategic priorities and higher goals like the Sustainable Development Goals (SDGs)?
 - iii. Did the interventions complement beneficiary needs?

Finding 1. The project strategically aligned with national development goals and policies. It was fully consistent with the country's obligations under several international conventions. The project considerably contributed to the SDGs.

87. The project fully aligned with a variety of frameworks, such as: i) the Ukraine 2020 Strategy for Sustainable Development (President of Ukraine, 2015); ii) SDG 15 to protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss – specifically, Target 15.3 to, by 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world (UNSDG, 2019);¹⁶ iii) the main principles (strategy) of the National Ecological Policy of Ukraine until 2020 (Government of Ukraine, 2010); iv) Ukraine's Land Protection Law (Government of Ukraine, 2003a); and v) the Law on the State Control of Land Use and Protection (Government of Ukraine, 2003b). This is further supported by the updated main principles (strategy) of the state environmental policy until 2030 (Government of Ukraine, 2016b).
88. As Ukraine is a signatory to four important conventions – the Convention on Biological Diversity (CBD), signed in 1992 and ratified in 1995 (CBD, 2024), the United Nations Convention to Combat Desertification (UNCCD), ratified in 2002 (UN, 2024a), the United Nations Framework Convention on Climate Change, signed in 1992 and ratified in 1996 (UN, 2024c), and the Stockholm Convention on Persistent Organic Pollutants, signed in 2001 and ratified in 2007 (UN, 2024b) – the project's objectives were fully consistent with Ukraine's obligations under these conventions. In addition, with Ukraine being a signatory to the Paris Agreement, signed and ratified in 2016 (UNFCCC, 2024), the project's carbon mitigation objectives on afforestation, land restoration, sustainable agriculture, shelterbelt management, direct seeding and other methods entirely aligned with Ukraine's Net Zero Carbon Goal by 2050 (Ministry of Environmental Protection and Natural Resources, 2017).
89. The project directly contributed to concept note provisions in order to combat land degradation and desertification (Government of Ukraine, 2014). This was followed by Ukraine's national action plan to combat land degradation and desertification (Government of Ukraine, 2016a). These efforts included regional programmes on economic and social development, sectoral and branch programmes, and strategies. As such, the project corresponded to the priority of the national

¹⁶ This was supported by the President of Ukraine and the Ukrainian Government.

action plan to strengthen the policy environment for SLM and the institutional capacity of competent authorities. This also involved providing conditions for financial resource mobilization. Ukraine also committed to adopting the national LDN goal following the 12th Session of the UNCCD Conference of Parties (COP 12) in Ankara, Türkiye from 12 to 23 October 2015. Here, the amount and quality of land resources that are necessary to support ecosystem functions and services and enhance food security will at least remain stable or, in the best-case scenario, strongly increase within specified temporal and spatial scales and ecosystems.

90. The project also fully aligned with Ukraine's climate change commitments and its nationally determined contribution to reduce greenhouse gas emissions (Government of Ukraine, 2015). This involves shifting land use, land use change and forestry by at least 40 percent below the 1990 levels by 2030. However, Ukraine still needs to define a method to enforce all of this, as noted by the project document (FAO and GEF, 2016, p. 32–33).

Finding 2. The project was entirely consistent with the GEF's focal areas and FAO's strategic framework and objectives. It fully aligned with the regional priorities.

91. Through a cross-cutting approach, the project was designed to align with climate change mitigation, land degradation and biodiversity. This way, it could establish SLM and conservation agriculture activities. Consistent with the GEF Land Degradation-3 objective of Programme 4, the project strengthened an enabling environment for scaling up integrated policies, the INRM practices, and incentives to improve ecosystem service flows for production landscapes of the forest-steppe and steppe zones. This included improving institutional capacity for INRM by supporting intersectoral coordination and the integration of environmental priorities into agriculture and forestry policies, as well as multistakeholder landscape planning. In line with Climate Change Mitigation-2, the project also aimed to improve access to finance by strengthening value chains for key crops and developing consistent criteria for PES schemes. This involved the strengthening of national environmental monitoring systems to ensure the integration of carbon emissions from land use, land use change and forestry, as well as the development of integrated land use management plans for selected landscapes. In line with the GEF Land Degradation-4 objective of Programme 4 and Climate Change Mitigation-2, the project scaled up CSA practices to improve soil health and further support improved shelterbelt management. This generated a wide range of ecosystem services related to the regulation of water, pests and diseases while protecting carbon pools. Consistent and in line with Climate Change Mitigation-2, the interventions were complemented by agroforestry support. This enhanced carbon sequestration and NWFP production.
92. The interventions also aligned with the GEF cross-cutting objectives on learning, the sharing of experiences and the scaling up of best practices through advocacy. The project further built on a strong baseline with FAO's comparative advantage that is ensured by strong national institutions. The project's relevance was further buttressed by the fact that it was built on the achievements of other relevant GEF-financed projects in the country.¹⁷

¹⁷ This included: i) the United Nations Environment Programme–GEF project on Conserving, Enhancing and Managing Carbon Stocks and Biodiversity in the Chernobyl Exclusion Zone through the establishment of a research and environmental protection centre and protected area (2011–15); ii) the European Union project on Integrating Climate Change into Vulnerable Ecosystems Management: Natural Parks in Wetlands and Forest Areas (Ukraine) (2011–13); iii) the United Nations Environment Programme–GEF project on the Development and Alignment of a National Action Programme to the UNCCD 10 Years Strategy and Preparation of the Fifth Reporting and Review process (2012–18); iv) the United Nations Development Programme (UNDP)–GEF–German Agency for International Cooperation project on Capacity Development:

93. The project fully aligned with FAO's regional priorities: i) food security and nutrition; ii) natural resources management, including climate change mitigation and adaptation; and iii) policy and institutional support for the entry of Member States into regional and global trade standard-setting and organizations of regional economic cooperation. It also entirely aligned with FAO's Country Programming Framework for Ukraine (2016–19)¹⁸ by contributing to four of FAO's strategic objectives: Strategic Objective 1 on eradicating hunger, food insecurity and malnutrition; Strategic Objective 2 on increasing and improving the provision of goods and services from agriculture, forestry and fisheries in a sustainable manner; Strategic Objective 3 on reducing rural poverty; and Strategic Objective 5 on increasing the resilience of livelihoods to threats and crises.

Finding 3. Given the war, the project was particularly relevant in terms of environmental degradation and climate change. The steps initiated by the project to enhance the integration of environmental policy into integrated governance systems were highly recognized by the country.

94. The need to enhance the ecological protection of natural resources was fully recognized by Ukraine's Ecological Policy and Strategy until 2020 (Government of Ukraine, 2010). Recently, this was also fully recognized by the main principles (strategy) of the state environmental policy of Ukraine until 2030 (Government of Ukraine, 2019).
95. The project significantly contributed to institutional development and the strengthening of state governance efficiency. The Ministry of Ecology and Natural Resources should have largely supported the implementation of the strategy to underpin the project's relevance. An inclusive and equitable strategic vision and policy framework to reform the agricultural sector was put into motion through the adopted 2015–20 single comprehensive strategy and action plan for agriculture and rural development for Ukraine (Ministry of Agrarian Policy and Food, 2015).
96. The project focused on important actions to improve the management of agricultural landscapes and natural resources, increase food security and fight the loss of ecosystem integrity. The project document (FAO and GEF, 2016, p. 15) underscored the project's importance since Ukraine had introduced only a few systematic efforts to integrate environment into its agricultural practices. In fact, no effective programmes had been put into place to restore soil fertility and improve nutrient management. Although not a core project element, the use of biological control techniques was still minimal. Farmers lacked adequate trainings in integrated pest management

Integrating Rio Convention Provisions into Ukraine's National Environmental Policy Framework (2013–18); v) the European Union project on the Protection of Steppe Biodiversity (2010–15); vi) the European Union–UNDP Clima East pilot project on the Conservation and Sustainable Use of Peatlands (2013–16); vii) the Swiss–Ukrainian project on Organic Market Development in Ukraine (2012–16); and viii) the United States Agency for International Development project on Agriculture and Rural Development Support (2016–20). In collaboration with the Ministry of Ecology and Natural Resources, Wetlands International has supported projects on wetland biodiversity conservation to mainstream environmental considerations into the agricultural landscapes of Ukraine.

¹⁸ Priority Area 2 contributes to land reform, rural development and food security systems. Priority Area 2.4 strengthens capacities and national legislative frameworks in the context of rural development and supports small and medium enterprises in improving access to information. Priority Area 3 develops agrifood production chains and access to international markets. Priority Area 3.6 promotes capacities and public–private dialogue in the grain, dairy and meat sectors, and Priority Area 3.7 promotes the review and drafting of legal acts related to producers and cooperative organizations. Priority Area 4 addresses the environment and the management of natural resources, including forestry and fisheries. Priority Area 4.1 raises awareness and builds capacities of the line ministries and relevant stakeholders to sustainably manage natural resources and strengthens and harmonizes policies on protection and the sustainable use of land and other natural resources. Priority Area 4.2 builds capacity to develop and implement CSA programmes and bioenergy initiatives at national and local levels.

approaches. This aspect neglected the potential of organic farming, which covers just 1.3 percent of farmland in the country (GOPA AFC, 2023; IFOAM-Organics Europe, 2022).¹⁹

97. Project activities to establish a soil monitoring system were highly relevant. These efforts complemented the government’s policy to establish spatial data infrastructure²⁰ on natural resources. A highly relevant, united national platform was created through the USP under the umbrella of the Global Soil Partnership. This supported the formation of a monitoring base for land cover, land productivity and carbon stocks.
98. The project also pioneered important partnerships to create efficient conditions for environmentally friendly technologies and sustainable agriculture. It introduced incentives for the private sector to “green” agribusinesses and value chains. This involved production, processing and marketing, along with the promotion of PES to ensure balanced use of natural resources.
99. The key stakeholders and beneficiaries confirmed the importance of addressing the identified challenges. The activities that were initiated and implemented by the project were all highly relevant. They positively illustrate the huge potential for catalysing a production era that fully aligns with SLM, biodiversity and climate change concerns.
100. Through the FAO Strategic Framework 2022–2031, FAO has undertaken a Corporate Strategic Foresight Exercise to accelerate strategic thinking on global challenges and opportunities. This aims to increase preparedness and effectiveness in achieving the 2030 Agenda. The exercise includes knowledge sharing on challenges, threats and opportunities in moving agrifood systems towards sustainability. The Corporate Strategic Foresight Exercise has identified key current and emerging socioeconomic and environmental drivers and related trends that impact agrifood systems. These, in turn, get impacted through feedback effects (FAO, 2021a, p. 8,31).
101. According to FAO, “Geopolitical instability and increasing impacts of conflicts, including those relating to competition over resources and energy, are a major driver of food insecurity and malnutrition. (...) This driver, interacting with climate change, degradation of renewable natural resources and desertification, is disrupting agricultural livelihoods and agrifood systems” (FAO, 2021a, p. 32). FAO’s rapid response plan for Ukraine (FAO, 2022c) outlines three pillars of action, which will require USD 205 million of funding: i) restore food security and self-sufficiency for half a million rural households in frontline or otherwise heavily-impacted areas through the provision of seeds, feed and cash; ii) restore critical production and value chains by providing diesel and gas generators, seeds for wheat, barley, oats and peas, temporary and fixed modular storage units, and other needs; and iii) bolster critical agrifood system services by supporting tests and certification for alternative grain export routes, restoring veterinary services, partnering with

¹⁹ Before the war, there were 400 organic farms with a total area of 420 000 ha. This corresponded to 1.3 percent of the total area of agricultural land in Ukraine. The following Ukrainian organic associations are important contributors in the sector: Organic Ukraine; Federation of Organic Movement of Ukraine; and Biodynamics Ukraine under the Ministry of Agrarian Policy and Food, which is working on a Ukrainian organic agriculture law.

²⁰ Spatial data infrastructure implements a framework of geographic data, metadata, users and tools that interactively connect in order to use spatial data in an efficient and flexible way. The development of the National Spatial Data Infrastructure and topographic mapping in Ukraine had a positive dynamic before the war with the Russian Federation started in 2022. A Ukrainian law on national spatial data infrastructure was adopted in 2020. Decree No. 532 from the Cabinet of Ministers on approving the procedure for the functioning of the national spatial data infrastructure was adopted in 2021. A pilot project for the implementation of the national spatial data infrastructure was also implemented, and a geoportal was developed at <https://nsdi.gov.ua/> from 2020 to 2021.

specialized organizations to facilitate the removal of explosive hazards from agricultural lands, and conducting damage and loss assessments (OCHA, 2023).

Overall assessment for strategic relevance: HS

3.2 Effectiveness (achievement of project results)

To what extent were the expected project objectives achieved? What was the level of progress towards project closure – especially given the ongoing war in Ukraine?

102. The subquestions on effectiveness (achievement of project results) are outlined in the following points.
- i. To what extent were the outcomes achieved based on the indicators set in the project's results matrix?
 - ii. What were the direct project outputs?
103. To assess the extent to which the objectives (including outcomes and outputs) were achieved, the analysis focused on the following:
- i. project document (2016);
 - ii. BTOR in lieu of the MTR (2020);
 - iii. Programme Implementation Reports (PIRs) (July 2018–June 2019, July 2019–June 2020, July 2020–June 2021, July 2021–June 2022 and the July 2022–June 2023 draft version);
 - iv. PPRs (January–June 2018, July–December 2018, January–June 2019, July–December 2019, July–December 2020, July–December 2021 and July–December 2022);
 - v. inception workshop report (15 May 2018);
 - vi. annual project steering committee meeting report (22 May 2019);
 - vii. financial and technical reports (Excel file and Budget Revision C from 13 December 2022); and
 - viii. online interviews against the backdrop of the project's results matrix (see Appendix 2).

Finding 4. The project had meaningful achievements of improved INRM. However, the total emissions reduction (CO₂e per year sequestered) from the project's interventions is still not available.²¹

104. According to the project document (FAO and GEF, 2016, p. 31), the project's carbon was calculated using the FAO greenhouse gas appraisal Ex-Ante Carbon-balance Tool (EX-ACT). The default Intergovernmental Panel on Climate Change coefficients (high activity clay soil, cool temperate moist climate and three-year project with 16-year capitalization) were used.
105. According to the project document and as a result of project implementation, the following global environmental benefits were expected: i) the improved provision of ecosystem services from 33 000 ha of degraded agricultural land and shelterbelts, such as the enhancement of productivity (percentage) and the reduction of soil erosion to scale up 230 800 ha; ii) the sequestration of carbon in black soils (chernozem) and shelterbelts for a total of 365 496 t CO₂e; and iii) improved living conditions for the targeted local communities with a focus on income generation through

²¹ The figures should include extrapolations that stem from the overall project results.

new job opportunities along selected value chains. This benefited around 75 700 people and had a scale up potential of 363 300 people – 52 percent of whom were women.

106. The following points assess the materialized project outputs by component.

3.2.1 Component 1. Enabling environment for INRM

Outcome 1.1. Strengthened institutional, legal and policy-enabling conditions for the INRM.

Finding 5. The project significantly contributed to successful capacity building among key stakeholders. This led to enhanced information sharing and the development of draft laws on environmental protection. However, soil maps and regulation will need further updating and harmonization.

107. Output 1 dealt with enhanced intersectoral coordination and information sharing on INRM, and regular meetings of the established Ukrainian Coordination Council to Combat Land Degradation and Desertification (CC-LDD) working groups and project steering committee members. It led to the following achievements: i) important capacity building among different stakeholders, including the Ministry of Health, the State Forestry Project Agency, the Soils Protection Institute of Ukraine (state institution), the USP and the ASSOGU as two non-governmental organizations (NGOs), one oblast administration, regional authorities, and local village communities; ii) the establishment of the USP and an important national monitoring platform that facilitates dialogue and cooperation among ministries, leading institutions, and existing research schools and laboratories on land resources, as well as relevant stakeholders; iii) the elaboration of the LDN strategy with the USP; iv) training on the EX-ACT and capacity building in greenhouse gas calculations²² with 23 representatives from national institutions; v) the revision of the national action plan to combat land degradation and desertification under the UNCCD (Government of Ukraine, 2016a), including the development of a shelterbelt reconstruction action plan in the oblast of Kherson; vi) 12 meetings to define the main goals, methods and a road map for the establishment of the Coordination Centre of Sustainable Agriculture; and vii) the World Soil Day event on agricultural land productivity (with the Ministry of Agrarian Policy and Food and the USP).
108. Output 2 focused on draft laws and regulations in the agreed upon and approved areas. This built on previous efforts and resulted in the development of relevant drafts for environmental protection. It included the development and approval of two national legislative regulations, namely: 1) the regulation of stubble burning and the burning of residues and vegetation (plus the development of the draft law); and 2) the regulated maintenance and preservation of field protective shelterbelts that are located on agricultural lands (plus the development and testing of three legislative models or mechanisms on shelterbelt management). This also included the development and endorsement of amendments to the five following laws: 1) Law on Land Protection (Government of Ukraine, 2003a); 2) Law on Flora (Government of Ukraine, 1999); 3) Land Code (Government of Ukraine, 2001); 4) Code of Civil Protection (Government of Ukraine, 2012); and 5) Code on Administrative Offenses (Government of Ukraine, 1984). In addition, a strategy for environmental safety and adaptation to climate change (Government of Ukraine,

²² FAO's EX-ACT provides *ex ante* estimations regarding the impact of agriculture and forestry development projects on greenhouse gas emissions and carbon sequestration by indicating the effects on the carbon balance.

2016b) was developed in collaboration with the Ministry of Environmental Protection and Natural Resources within the frame of the EU4Climate project.²³

109. Output 3 aimed to establish a system for environmental monitoring and spatial planning. This resulted in important steps towards cooperation with the State Service for Geodesy, Cartography and Cadastre²⁴ and the Ministry of Agrarian Policy and Food to build a national LDN monitoring system. Many activities were conducted with well-known institutions. The following products are highlighted: i) a concept note on land monitoring indicators; ii) an analytical note on institutional capacity to prepare the national environmental monitoring system; iii) technicians from relevant institutes trained in soil salinity monitoring; iv) the elaboration of correlation tables for national and international soil classification systems on soil types; v) improved digital soil maps for the cadastral map of Ukraine; vi) methodology development on matching Ukrainian soil types; vii) a concept note and approach to the integrated management of land resources on agricultural land; viii) trainings on drought monitoring and agrometeorology; ix) a training on land and shelterbelt resource spatial planning (see Output 1.1.5); x) an assessment on droughts and agricultural water loss in southern Ukraine; xi) a systematized Ukrainian–English dictionary for unambiguous soil classification translation; xii) a standardized data structure and format (including metadata) for the soil profile database; xiii) capacity strengthening on agrochemical soil data collection and harmonization; xiv) digital soil maps of the oblasts of Kharkiv and Kherson; xv) guidelines on matching national soil classifications; xvi) the consolidation of soil profile data; xvii) the consolidation of data on monitoring sites and agrochemical soil passports (data templates); xviii) recommendations to harmonize data exchange between the Global Soil Information System (FAO, 2024b) and the national agriculture LDN monitoring platform; and xix) recommendations for mapping carbon sequestration for different land use scenarios. The recent draft 2023 PIR includes updated information on partially finalized, ongoing and still planned activities.²⁵

²³ Funded by the European Union and implemented by the United Nations Development Programme (UNDP), EU4Climate supports six countries from the Eastern Partnership in their execution of the Paris Agreement. These efforts aim to improve climate policies and legislation. The EU4Climate project redirected part of its budget to respond to the humanitarian emergency. It now addresses the urgent needs of the war-distressed population alongside broader humanitarian assistance from the European Union.

²⁴ The State Service of Ukraine for Geodesy, Cartography and Cadastre is an organization with around 10 000 employees and hundreds of focal points in the oblasts. It is responsible for all of the geodetic surveying, the cartographic registration of cadastral parcels, and the title registration of land. The registration of property titles is done by another government agency: the State Register of Property Rights to Real Estate. The organization implements state policy in the field of land relations, disposes of state property agricultural lands in accordance with the law, and implements state supervision (control) of the agroindustrial complex in terms of compliance with land legislation, use, and the protection of all categories of land and forms of ownership. According to the information received, all state data resources with maps were under cyberattack due to the outbreak of the war in 2022. These resources were therefore limited.

²⁵ This includes: i) data format and structure to be developed among FAO, the USP and the State Service of Ukraine for Geodesy, Cartography and Cadastre based on the existing data flow of agrochemical passportization and for a harmonized import into the database of the national soil monitoring system; ii) a standardized data structure and format to be established from soil monitoring hotspots, including metadata and based on the existing data flow of these hotspots and for harmonized import into the database of the national soil monitoring system; and iii) the creation of a standardized agrochemical passportization dataset (no less than 30 000 fields from no less than 3 000 farms) for the forest-steppe zones. The pilot dataset of agrochemical data will still need to be converted into the standard format, as defined by Output 1. The dataset will include agrochemical data, metadata, and georeferenced and vectorized geographic information system data on field locations. Further, this includes: i) the creation of a standardized soil hotspot monitoring dataset (for the period from 2015 to 2020); ii) the development of a 1:200 000 scale digital soil map of the oblasts of Kharkiv, Kherson and Mykolaiv (with a national soil classification linked to a corresponding land map of the State Service for Geodesy, Cartography and Cadastre and the World Geodetic System (WGS 84) standards, and in accordance with the 2022 World Reference Base for Soil Resources classification system); and iii) a Ukrainian translation and editing of the International Code of Conduct for

110. Output 4 dealt with LDN monitoring system documentation and sharing to replicate in other locations. Its key achievements were: i) strategy, development and the establishment of the LDN monitoring platform (USP, 2024),²⁶ including information on technical specifications; ii) layouts prepared to harmonize soil reference data and metadata for the soil profile and soil agrochemistry database; iii) 1 000 soil data profiles harmonized and prepared for further processing, including 30 000 samples of soil agrochemistry and 750 land monitoring data profiles; iv) five meetings for the national agriculture LDN monitoring platform software installation and testing; and v) pilot testing of the LDN monitoring system. However, the final technical report states that, instead of the planned data based on the results of agrochemical certification for 30 000 fields, data based on the results of agrochemical certification was provided for only 4 000 fields. As a consequence, this significantly impeded subsequent planning for the modelling of the spatial distribution of soil indicators (content of humus, content of nutrients like nitrogen, phosphorus and potassium, and soil acidity). As a result, only about 50 percent of the planned activities were completed.
111. Output 5 involved at least three integrated land use plans covering 230 800 ha. The interventions resulted in: i) integrated land management plans for abandoned lands in the oblast of Kyiv; ii) a survey of the amalgamated territorial communities in the oblast of Kyiv to define the pilot; iii) a methodology for integrated land resources management maps; iv) the mapping of abandoned lands in the Byshiv and Dmytrivka village communities; v) integrated land resources management maps, including the creation of shelterbelts and their vector layers, self-forested areas and wetlands, and an analysis of land resources in the Krasnokutsk and Rogan amalgamated territorial communities; vi) vector layer creation for shelterbelts in Geojson and format shaping in the oblast of Kharkiv; and vii) recommendations for integrated land management plans for abandoned lands. The total surface area is still unavailable since not all of the activities could be finalized due to the invasion by the Russian Federation in the planned regions.

Outcome 1.2. Financial and incentive mechanisms for INRM in place at national and subnational levels.

112. Output 1 addressed operationalizing standards for shelterbelt ownership and use. Its key results were: i) recommendations for end users regarding access and the improved operation of shelterbelts; ii) a practical guide for effective shelterbelt management; iii) guidelines for shelterbelt inventory; iv) three draft guidelines created on species selection for shelterbelt planting; v) consultation with 21 attendees at the Kyiv Regional Council; vi) three models for shelterbelt management; and vii) models tested in three pilot oblasts with a shelterbelt inventory on 1 150 ha and defined ownership rights – covering 108 ha in the Byshiv and Dmytrivka village councils in the oblast of Kyiv (see Output 2.2.2).
113. Output 2 dealt with criteria and indicators for the establishment of PES schemes in Ukraine. The following was achieved: i) criteria and indicators developed for PES schemes on conservation agriculture and agroforestry; ii) a description of ecosystem services, including the NWFPs to increase farmers’ income; and iii) recommendations on PES schemes for agroforestry practices and conservation agriculture in selected project areas, including a brief stakeholder analysis.

the Sustainable Use and Management of Fertilizers (FAO, 2019d) (for publication and upload to the websites of FAO and the Institute of Agroecology and Environmental Management of the National Academy of Agrarian Sciences of Ukraine). Reclamation and land drainage data collection and mapping still need to be done in terms of capacity development and the LDN monitoring system.

²⁶ This involved the created platform with a database on the soils of Ukraine. The database, with FAO support, is publicly available and significantly strengthens both the monitoring and accessibility of information. This used to be stored in paper archives.

114. Output 3 involved making at least two food and feed value chains more inclusive and environmentally friendly. Here are the key results: i) a market analysis carried out on the NWFPs and inclusive medicinal herbs for the oblasts of Kyiv, Mykolaiv and Kherson; ii) a value-added chain assessment for high-demand species of NWFP and medicinal herbs; iii) a list of criteria developed and areas defined in the forest-steppe and steppe zones for NWFP and medicinal and aromatic herb production; iv) a concept note to support value chain development for NWFP and medicinal and aromatic plants among farmers in southern Ukraine; v) recommendations on shrub planting, medicinal herb cropping and crop rotation schemes, including a technological map based on local reference examples; and vi) one webinar held in Iziium of the oblast of Kharkiv on women's leadership and the cultivation of medicinal and honey herbs in the steppe zones.

3.2.2 Component 2. Restoration of productivity and resilience of production landscapes

Outcome 2.1. Scaling up of SLM and CSA practices for production landscapes in the forest-steppe and steppe zones.

Finding 6. The introduction and scaling up of SLM and CSA best practices, including improved shelterbelt management, were applied on a surface area almost ten times more than originally planned or anticipated.

115. Output 1 focused on training 30 agricultural service providers in conservation agriculture, establishing three FFS initiatives and organizing three exchange visits. The following products were achieved: i) eight FFS trainings in conservation agriculture (plus one shelterbelt management training) in four pilot oblasts; ii) conservation agriculture and shelterbelt management capacity strengthening for 436 participants (144 farmers, 98 agriculture service providers, 25 representatives of village communities and others) from 15 oblasts (Kyiv, Kharkiv, Mykolaiv, Kherson, Vinitsa, Kirovograd, Cherkasy, Lugansk, Zaporizhyya, Khmelnytskyi, Odesa, Zhytomyr, Poltava, Sumy and Ternopil), including eight farmer-to-farmer visits (FAO, 2019e); iii) a curriculum for online conservation agriculture courses; iv) a concept note for the Coordination Centre for Sustainable Agriculture; and v) scaling up of conservation agriculture practices and the establishment of the Coordination Centre for Sustainable Agriculture for community capacity empowerment in the Dniester river basin. Further activities were completed with reference to the recent draft 2023 PIR. This involved participation at the international scientific conference, Climate Change and Agriculture: Challenges to Agricultural Science and Education, on 15 November 2022. There were 216 participants – 193 of which were online: 65.3 percent were women; and 34.7 percent were men. The conference had a knowledge exchange on climate change and its impact on agriculture, water bioresources and ecology in Ukraine. It also made proposals for scientific research and the improvement of educational programmes.
116. Output 2 dealt with implementing good conservation agricultural practices on 29 400 ha of land, leading to the sequestration of 277 675 t CO₂e. The following achievements were realized: i) three conservation agriculture practices combined with subsurface drip irrigation in the oblast of the Kherson pilot sites on 20 ha; ii) one enhanced soil maintenance practice elaborated in the oblast of Kharkiv on 110 ha; iii) good conservation agricultural practices disseminated and scaled up to an area of 248 220 ha through the FFS; iv) 12 personal meetings and 13 phone interviews with farmers on best soil conservation practices; v) an FAO expert group formed; vi) a survey of 25 farmers, including ten farm visits to assess different aspects like applied agronomic practices, production philosophy, technical solutions, and the state of technologies in the oblasts of Kyiv, Mykolaiv, Kherson and Dnipropetrovsk; vii) meetings conducted with teaching and scientific staff from four well-known agricultural universities – Mykolaiv Agrarian University, Kherson Agrarian University, Bila Tserkva Agrarian University, and the National University of Life and Environmental

Sciences of Ukraine; viii) a draft textbook on no-till and striptill farming systems for farmers, scientists and experts, including sections, crop residue management and cover crops as basic elements of the no-till and striptill system; ix) course approval on no-till and striptill at the Faculty of Agrarian Management (National University of Life and Environmental Sciences); x) interviews with 14 farmers on agronomic practices; and xi) a digest on best soil conservation practices with an English translation. Today, this digest is also part of the study course of agronomists at the National University of Life and Environmental Sciences. The latest results according to the draft 2023 PIR include: i) research on best practices for shelterbelts, self-forested and other uncultivated (abandoned) natural areas for job creation and the promotion of women's self-employment, including new service markets and value chains for the best practices manual; and ii) a study on the Ukrainian experience in the communities of the oblasts of Kyiv, Chernihiv and Sumy using the ecological and economic potential of nature-protecting shelterbelts, as well as ecosystem services and models.

Finding 7. The numerous demonstration activities on good conservation agricultural practices with project stakeholders revealed a considerable awareness increase. The project created a strong enabling environment on different levels through capacity building programmes and the introduction of the FFS. This was needed to address the challenges posed by climate change.

117. Output 3 dealt with training 30 agricultural service providers in gender issues and the specific needs of rural women and organizing two exchange visits. Here are the results: i) a gender-oriented desk study, including the public sharing of results; ii) at least 73 female farmers trained in conservation agriculture in the oblasts of Kyiv, Kharkiv, Mykolaiv and Kherson; iii) one webinar for rural women on ecosystem services promotion (as part of the FFS on shelterbelts); iv) a published article about a rural woman; and v) a field trip on women's role in ecosystem services promotion in the oblast of Kherson, including one webinar on women's leadership and the cultivation of medicinal and honey herbs in the steppe zones in the oblast of Kharkiv (see Output 1.2.3). The recent draft 2023 PIR reports further results: i) one roundtable, New Opportunities for Women: The Ecological and Economic Potential of Shelterbelts, Self-forested and Other Uncultivated (Abandoned) Natural Areas, for the amalgamated territorial communities of the oblasts of Kyiv, Chernihiv and Sumy (including a demonstration and exchange of experiences among leading scientific institutes, farmers and agricultural producers, as well as local self-governmental bodies); ii) one training on the development of models for the effective use and restoration of field protection shelterbelts, self-forested territories and uncultivated, abandoned lands for participants from the oblasts of Kyiv, Chernihiv and Sumy (including the development of models and the demonstration of practical experiences); and iii) nine business models that were applicable to the situation, including three business models for the use of shelterbelts, three business models for the use of self-forested areas and three business models for the use of uncultivated, abandoned areas (see Subsection 3.5).
118. The nine FFS trainings included gender-disaggregated data. About one quarter of the participants were women (see Table 3).

Table 3. The FFS trainings

Type of FFS training	Geographical area/ hectares of land under cultivation	Number of participants	Number of women/men (percentage)
1. Conservation agriculture: the spring sowing campaign	State Enterprise, Experimental Facility, Tellus-Yug Farm, Hola Prystan Raion, Velyki Klyny Village Kherson Oblast/16 460 ha	53	16/37 30.1%/69.9%
2. Conservation agriculture: crop rotation in the eastern steppe zones of Ukraine	Izum Raion Kharkiv Oblast/68 050 ha	74	17/57 23.2%/76.8%
3. Conservation agriculture: biodiversity and no-till	FG Arcadia, Bratsky Raion, Mykilska Village Mykolaiv Oblast/82 765 ha	94	11/83 11.7%/88.3%
4. Conservation agriculture: technologies implementation in the forest-steppe zones	L. Pogorilyy UkrNDIPVT, Doslidnitske Village, Vasylykiv Raion Kyiv Oblast	32	7/25 21.8%/78.2%
5. Conservation agriculture: no-till on irrigated land	Zorya-Yug Farm Ltd., Kucheryavovolodymyrivka Village, Chaplynka Raion Kherson Oblast/36 530 ha	55	10/45 18%/ 82%
6. Conservation agriculture: soil cultivation in arid zones	PSP Frunze, Berdyanka Village, Zachepyliv Raion Kharkiv Oblast/62 340 ha and 97 000 ha	60	8/52 13%/87%
7. Conservation agriculture: the management of soil fertility	Pustovarivka Village, Skvyra Raion Kyiv Oblast/28 200 ha and 287 000 ha	43	9/34 21%/79%
8. Shelterbelt management	DP DG Velyky Klyn, Hola Prystan Raion Kherson Oblast/unknown surface area	N/A	N/A
9. Economy of conservation agriculture	Public Institution AgroOsvita Kyiv City/14 300 ha	25	10/15 40%/60%
Total participants/by gender (not less than)		436+	88+/348+

Source: Elaborated by the Evaluation Team.

Outcome 2.2. Rehabilitation and the sustainable management of shelterbelts

119. Output 1 addressed the guidelines applied at project demonstration sites. The following was achieved: i) a manual on shelterbelt inventory for farmers and other end users; ii) Ukrainian-English practical guidelines for effective shelterbelt management (tested at three pilot sites in the oblasts of Kyiv, Mykolaiv and Kherson); iii) recommendations published for the establishment, reconstruction and maintenance of shelterbelts in the forest-steppe and steppe zones (based on the pilot in the oblast of Kherson); iv) guidelines on best agroforestry practices in different agroclimatic zones; v) an online workshop and roundtable on effective shelterbelt management models (Shelterbelts from A to Z); vi) guidelines on plant species selection (ongoing); and vii) shelterbelt inventory improvement on land identification and mapping, including shelterbelts using Earth remote sensing and a geographic information system.²⁷
120. Output 2 focused on the number of shelterbelts and best management practices implemented on 3 600 ha of land, leading to the sequestration of 87 821 t CO₂e. The results are as follows: i) 8 ha shelterbelts established and maintained and 24 ha reconstructed in the oblast of Kherson;

²⁷ According to the Ukrainian Research Institute of Forestry and Forest Melioration, it was found that the use of Earth remote sensing and geographic information system technologies is highly effective for identifying and mapping land objects like: field shelterbelts, self-forested areas, wetlands and landfills.

ii) 1 150 ha of shelterbelts inventoried (340 ha in the oblast of Kherson, 600 ha in the oblast of Mykolaiv and 90 ha in the oblast of Kyiv from 2019 to 2020; 120 ha of shelterbelt inventory in three village communities of the oblast of Kyiv from 2020 to 2021; 108 ha in the Byshiv and Dmytrivka village council in the oblast of Kyiv from 2021 to 2022); iii) three best agroforestry practices applied (climate-resilient agroforestry, nut and honey production); iv) FFS curriculum developed on agroforestry; v) five webinars and three field trips conducted on shelterbelts in three pilot oblasts (within FFS 2); and vi) a course and guidelines developed and presented on effective shelterbelt management models in Ukraine.

3.2.3 Component 3. M&E and adaptive management

Outcome 3.1. Adaptive management and key lessons shared (M&E system ensuring the timely delivery of project benefits).

Finding 8. The project produced a significant range of communications and outreach material. However, for their future use, it is essential to compile these and the project’s key reports into an accessible portal.

121. Output 1 dealt with implementing the MTR recommendations and conducting the final evaluation. The project only delivered a BTOR of a mission from 20 to 24 January 2020. This report, categorized as an MTR, did not adhere to the appropriate format. It featured descriptive elements from the mission, including 17 recommendations of a mainly operational nature. There was no reference to the results matrix with specific indicators.
122. Output 2 aimed to scale up the INRM approaches that are resilient to climate change and other external stressors. This was cancelled. The project implementation period was too short to scale up the planned interventions and assess their impact, especially due to the war.
123. Output 3 focused on making six project newsletters available and conducting four outreach events. The project achieved the following products (FAO, 2023e): i) three international publications (FAO; Asahi Shimbun Globe, Japan; conference thesis Uzbekistan); ii) one national television broadcasting and one national radio broadcasting; iii) one national monography; iv) three national press conferences and one national briefing; v) eight webinars and one online workshop; vi) three national radio interviews and one national newspaper interview; vii) two fora (East Expo 2019 and the United Nations Environmental Forum 2021); viii) 16 outreach events; ix) five publications, including recommendations for the creation, restoration, reconstruction and maintenance of shelterbelts in the forest-steppe and steppe zones of Ukraine (in Ukrainian), an overview of the soil conditions of arable land, guidelines on the implementation of efficient shelterbelt management models (in Ukrainian), a published success story, and a success story shared through national media; x) a Keep Soil Alive video (in English and Ukrainian, and translated into French and Spanish (FAO, 2020a); xi) two newsletters; and xii) 402 web publications and posts. The recent draft 2023 PIR states additional achievements: i) the preparation of improved educational methods for the higher agricultural educational institutions of Ukraine (bachelor’s and master’s); ii) a teaching aid with a collection of the best practices of soil protection and resource-saving agriculture in Ukraine (130 pages, in Ukrainian and English) and a training manual on no-till and striptill farming systems (350 pages); iii) a programme and materials for an online course on systems of conservation agriculture for no-till and striptill; iv) a training course on no-till and striptill farming systems with 15 hours of lectures and 30 hours of laboratory and practical classes – studied today by 145 bachelor’s and 87 master’s students; v) a script for an animated video on the conservation and development of biodiversity (importance of preserving and developing biodiversity in agrolandscapes); vi) an analysis of the FFS survey involving soil conservation technologies for the restoration of degraded soils of the forest-steppe and steppe

zones of Ukraine (held in the oblasts of Kherson and Kharkiv in 2019 and 2020), plus an analytical report and a scientific article in Ukrainian and English (scientific articles in the agricultural publications of Ukraine and the European Union are also planned to further popularize soil conservation practices); and vii) the preparation and distribution of best examples and practices of the effective use of field protection shelterbelts, and forested and uncultivated territories.

Overall assessment of project results, given the current challenges: S

3.3 Efficiency and factors affecting performance

Was the project efficient with regard to: coordination and decision-making; stakeholder engagement; management and workplans; financial management; M&E; internal and external communication; and knowledge management?

124. The subquestions on efficiency and factors affecting performance are outlined in the following points.
- i. How effectively did project management deal with the challenges that the project faced? Did it adapt to overcome difficulties? Consider the ongoing war in Ukraine.
 - ii. Were project activities cost-effective and implemented in a timely manner?

3.3.1 Coordination, decision-making and stakeholder engagement

Finding 9. The project faced important structural shortcomings.

125. This project was very technical. In fact, it was the first GEF project of its size to incorporate the INRM practices as a new approach in the forest-steppe and steppe zones of Ukraine. FAO Ukraine acting as a project office, not a Country Office, had been a challenge since the start. According to the information received, FAO Ukraine lacked a sufficient organizational structure with officially assigned units and appropriate functions. FAO Ukraine, with very limited personnel, did not have the tools for the technical implementation. On-field machinery and equipment were unavailable at that time. As such, FAO Ukraine was not ready to provide the expected services at the beginning of the project. In addition, the outbreak of the war and the deterioration of the situation in the country – compounded with the temporary closure of the FAO offices and a total standstill of numerous activities – fundamentally impeded efficient project planning during the months that followed.

Finding 10. The lack of availability of the main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food – made it impossible to assess the coordination, the quality of collaboration, and the management mechanisms between the central and subnational authorities. Apparently, the project management engine had always been the FAO project team, which handled coordination among the stakeholders and planned the relevant interventions.

126. The project's management structure had FAO as the GEF implementing agency and the main execution body. FAO carried out the workplan in close consultation with the government executing agencies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources as the lead – along with the Ministry of Agrarian Policy and Food. Based on the setup, the Ministry of Environmental Protection and Natural Resources would host the project steering committee and coordinate the participation of other ministries, state agencies and additional implementation stakeholders (see Subsection 2.1). However, these ministries underwent several restructuring processes in 2019, 2020 and during the

first half of 2021 (with the temporary takeover of the Ministry of Agrarian Policy and Food by the Ministry of Economic Development, Trade and Agriculture). This led to frequent focal point changes. In fact, according to the information received, the Deputy Minister focal point at the Ministry of Ecology and Natural Resources changed three times. In addition, other important key partners, such as the Soils Protection Institute of Ukraine and the Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences also had lengthy reorganization processes. This restructuring resulted in high staff turnover, particularly at the decision-making level, which delayed feedback provision, contract signing and procurement processing. This then caused the postponement of activities with numerous consequences like schedule and exchange rate changes. Ultimately, this led to considerable delays in project implementation.

127. In this sense, the lead executing partner – the Ministry of Environmental Protection and Natural Resources – should have provided financial, procurement and practical capacities. It should have further guided the project's execution through an appointed project director as the focal point (the terms of reference are in Appendix 7 of the project document) with the support of the Budget Holder and the LTO. The LTO provides technical guidance under the Lead Technical Unit. Interviews revealed that the project did not appoint an Operations Officer until 2021. The National Project Director was assisted by a Policy and Programme Adviser, acting at the policy level to ensure the necessary support and inputs from the government. For inexplicable reasons, it was impossible to get in touch with this person during the review.
128. According to the plan, FAO REU was responsible for establishing an interdisciplinary PTF within FAO to support project implementation. This involved technical inputs from the participating units. However, information revealed that such a body was not built. By the project's mid-term, the BTOR had already pointed at the need to elaborate a list of PTF members.

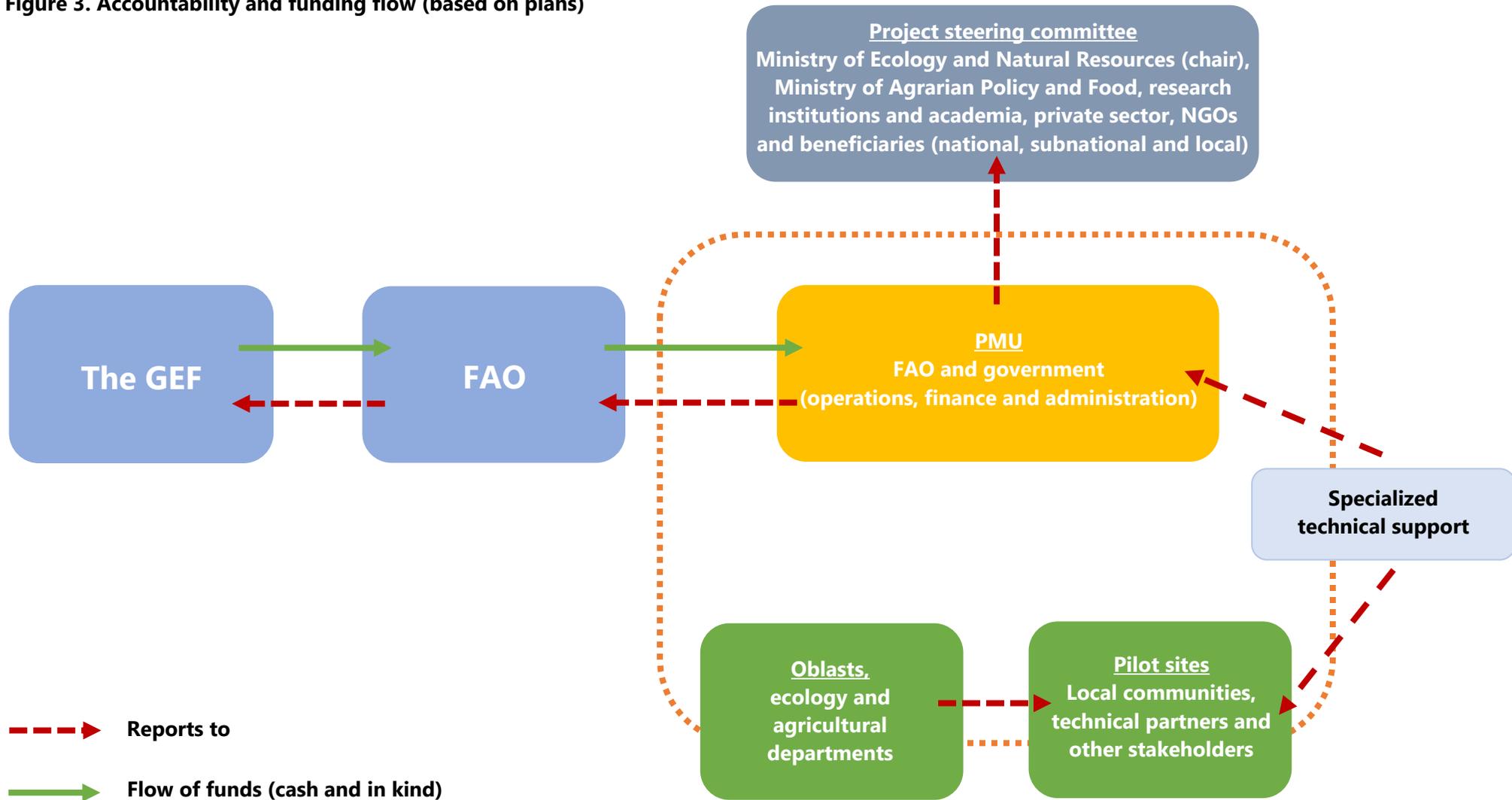
Finding 11. The project's participatory processes and importance given to inclusivity could not be adequately assessed. A large number of stakeholders identified in the project document actively participated in the project.

129. There was a wide range of stakeholders foreseen in the project design, however, many seemed rather inactive during implementation. This involved national stakeholders: i) the State Forest Resources Agency of Ukraine; ii) the State Ecological Academy of Post-graduate Education and Management; iii) the Ukrainian Centre of Ecology of Soils; and iv) InterEcoCentre, a civil society (charity) organization. Among the NGOs, this involved: i) the National Association of Agricultural Advisory Services of Ukraine; ii) the Ukrainian Nut Association; and iii) the Women's Information Consultative Centre, established in 1995 to strengthen women's rights and support gender-specific CSA activities. On the subnational level, this involved farmer organizations through the Association of Agricultural Service Cooperatives and, among the private sector, the Ukrainian Railways.
130. It appears that the actively involved stakeholders were identified and approached individually. This included the signing of an LOA between FAO Ukraine and the appropriate institutions. Many of the actively involved implementing partners were well established universities and research institutions at national and subnational levels with long-standing experience in their specific fields (see Subsection 2.1). On the local level, the direct beneficiaries gained from a long-standing network among FAO Ukraine and the farmers (associations and cooperatives). The USP was an NGO that was actively involved in the project. In fact, it was established in 2019 as a result of the project. This association represents a national platform for dialogue and cooperation among the parties at the national level whose duties support and promote the sustainable management of soil and land resources. Another NGO was represented by the ASSOGU, which was founded in

December 2016 to develop local self-government in Ukraine. The main national-level private sector stakeholders with considerable co-financing engagements were AgroGeneration and the Centre of Soil Ecology. At the subnational level, at least nine companies co-financed the project (see Table 2).

131. It is not clear to which extent project ownership trickled down from central governmental bodies to subnational authorities. This was due to a lack of evidence associated with the quality of collaboration among the central government and the oblast and raion councils and state administrations. This situation may have negatively affected joint project governance between both the government agencies and the implementing partners. Noted through interviews, however, is that the municipalities are continuing to deliver local public services and are shouldering additional responsibilities, despite the tremendous strain on their financial and human resource capacity. This has been particularly true since the outbreak of the war. This phenomenon may be attributed to the fact that municipalities "have built on the experiences gained through the regional development and decentralization reforms implemented as of 2014. These reforms resulted in the creation of 1 469 amalgamated municipalities, the establishment of an elaborate multilevel regional development planning framework, as well as a significant increase in local public service delivery and public funding for regional and local development" (OECD, 2022b).
132. Figure 3 shows the accountability system among the key stakeholders.

Figure 3. Accountability and funding flow (based on plans)



Source: Elaborated by the Evaluation Team.

133. Table 4 summarizes the materialized human resources for the project.

Table 4. Human resources for the project

Institution	Number of personnel members	Total
<u>National level/government</u> Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources (lead agency)	1 project focal point/National Project Director	1
<u>National level/government</u> Ministry of Agrarian Policy and Food	1 project focal point/National Project Director	1
<u>Subnational level</u> oblast and raion councils/ state administrations	The project did not assign a subnational focal point.	0
FAO Ukraine and FAO REU	There were eight project team members at the beginning of the project. This number varied depending on the project phase. Core project team members (at the time of the final review) are as follows: <ul style="list-style-type: none"> - 1 National Project Coordinator - 1 project assistant (partly also gender expert) - 1 project LTO/Agricultural Officer (FAO REU) - 1 Operations Officer - 1 national leading expert (LDN monitoring) - 1 information technology and data analysis expert - 1 geographic information system analyst on soil data mapping - 2 conservation agriculture experts - 1 Communication Specialist - 1 Policy and Programme Adviser - 2 national and 3 subnational field specialists (during initial project stage) - 1 gender consultant (during final project stage) 	11+
Total		13+

Source: Elaborated by the Evaluation Team.

3.3.2 Management arrangements and workplans

Finding 12. Specific factors significantly impeded the timely delivery of project results: a delayed inception; the restructuring of key executing ministries (2019 and 2020); the COVID-19 pandemic (2020 and 2021); the uncertainty of ownership rights due to ongoing land reform in Ukraine; and the outbreak of the war (2022) in particular. Compounded, this led to three extensions. However, the FAO Ukraine project team – to the best of its ability – strived to ensure the completion of the main activities.

134. Frequent change among the focal points within the ministries negatively affected efficient planning. It was unclear as to whether a true sense of project ownership on behalf of the main governmental bodies was viewed as essential for the successful implementation of the workplan.
135. Following a delay, the project inception workshop took place on 15 May 2018 in Kyiv. Sixty-five representatives from central and regional government agencies, science and academia, businesses, civil society and international organizations attended. During implementation, the project hosted only one project steering committee meeting with 18 participants in Kyiv on 22 May 2019. The first extension was discussed in 2019 due to the project's late start and given an early reported risk of stakeholder changes. Restrictions caused by the COVID-19 pandemic made it impossible to organize a second project steering committee meeting in 2020. In 2021, the

restructuring of the ministries made it impossible to hold a project steering committee meeting. Although the project steering committee represented the project's main decision-making body, it was unclear as to why a project steering committee meeting was not conducted in the format of an online conference. In this sense, it seems that there was not a mechanism in place to organize project steering committee meetings. It may be assumed that bilateral meetings were held. However, there is no evidence to confirm this due to the lack of meeting minutes. Moreover, some delays in 2021 may also be attributed to the fact that the FAO National Project Coordinator left in May 2021. The succession of the newly appointed National Project Coordinator, however, was planned well in advance. The fact that the new National Project Coordinator had been an active team member since the start of the project was an advantage.

136. The land market was another major constraint. This operational aspect tied into the effective introduction of conservation agriculture and shelterbelt inventories. It also reflected a lack of understanding among the local authorities on procedures and economic benefits due to complex regulations. Farmers have been given the right to buy the land that they cultivate only since 1 July 2021.
137. The project was subject to three no-cost extensions with the following not-to-exceed end dates: 31 December 2021; 31 December 2022; and 30 June 2023. The total project extension was two and a half years. The main drivers behind these extensions were: i) internal delays that many of the GEF projects face from their outset, such as forming the project team and the management structure, updating workplans and budgets, and organizational matters like task allocations; ii) travel restrictions due to the COVID-19 pandemic, which limited in-person activities; iii) the restructuring of ministries and important key partners; and, most importantly, iv) the invasion by the Russian Federation in February 2022, which constrained effective implementation. The escalation of the war and ongoing hostilities at the project sites led to the suspension of certain activities. FAO Ukraine was not operational for at least four months due to relocation of personnel.
138. It appears that the governmental executing partners did not use workplan tools nor facilitate a common and transparent understanding of project implementation progress in an efficient way. The fact that co-financing letters were not obtained – despite several inquiries by FAO Ukraine – further substantiates this finding.

Finding 13. Rather lengthy procurement processes, delayed LOA signing and instalments that were classified as too low by some of the service providers negatively affected efficient project implementation. In some cases, this situation did not allow for the productive execution of the planned activities. This had an adverse effect on creating a sense of project ownership.

139. Some interviewed parties and the analysed PIRs highlighted rigid and cumbersome FAO procedures and administrative rules regarding the procurement of services and LOA elaboration. Low and sometimes late upfront payments during the implementation period often impeded the timely completion of the planned activities. Service contracts had time limitations of nine to twelve months. This sometimes led to service interruptions and challenges on the ground. In fact, this became apparent during planting seasons.

3.3.3 Financial management

Finding 14. Co-financing contributions by the main implementing partners at decentralized levels created the potential for building valuable synergies in favour of the project. The budget was managed efficiently, but important planned co-financing from the central ministries – particularly the Ministry of Ecology and Natural Resources – seems as though it did not materialize during the project’s life cycle.

140. The project design and implementation allowed for considerable efforts to build upon existing synergies and complementarities with similar initiatives and frameworks in the country. This was done in collaboration with experienced institutions that had valuable research and data sources. These co-financing sources²⁸ significantly contributed to the project’s overall efficiency. However, co-financing reports from the central ministries were not available during the entire project implementation period.²⁹
141. The planned overall project budget was USD 12 099 751, including a cash allocation from the GEF, the Least Developed Countries Fund and the Special Climate Change Fund of USD 1 776 484. The co-financing from FAO was USD 1 065 000 (USD 465 000 cash and USD 600 000 in kind). Different donors were to give USD 9 258 267 in kind (see Table 2).
142. In-kind co-financing contributions, for example, attending meetings, allocating staff time and providing logistical support to the project, may not have led to annual co-financing reports. With regard to the overall project co-financing, the disbursement figures could not be assessed during this review since the updated co-financing reports were not available. At the time of the project’s mid-term, the BTOR confirmed that the planned co-financing reports by the executing agencies would have been available until the end of 2020 – but this never happened. According to the draft 2023 PIR, the total co-financing materialized as of 30 June 2023 from implementing partners, including FAO (USD 421 561), was USD 1 285 380. This represents a big difference compared to the planned co-financing of USD 10 323 267.
143. Upon finalizing this report, a review of the financial records as reported in the FPMIS indicated a total disbursement of USD 1 674 028 of the GEF funds. This represents a share of approximately 94 percent of the total amount of USD 1 776 481 of the GEF grant.
144. According to the information received, the budget was used efficiently. The project’s coordination unit was confident that all funds would be spent over the coming months. The funds were not fully spent by the time of this review. The procurement of both a server (USD 50 000) and planting materials (USD 30 000) was still underway.

3.3.4 Monitoring and evaluation

Finding 15. In terms of establishing a proper monitoring system, it was not entirely evident how the project worked on measurement and data collection. This would have allowed stakeholders to stay informed about decision-making and work planning throughout the project’s life cycle.

145. At the beginning of project implementation and according to the project document, the project coordination unit was assigned the task of establishing a system to monitor the project’s progress. This would include participatory mechanisms and methodologies to support the M&E of performance indicators and the development of outputs. At the project’s inception meeting, an

²⁸ The project document did not include any commitment letters. The project signed an LOA with different partners to implement the activities.

²⁹ According to the information received, only one co-financing report for 2020 was elaborated by the government.

M&E assistant was engaged to present the results framework and the connected tasks during project implementation – including a clarification on the division of M&E tasks among different stakeholders. This involved M&E and adaptive management in the GEF projects. A prepared M&E matrix was to serve the National Project Coordinator as a management tool in order to monitor the achievement of output indicators on a six-monthly and annual basis.

146. It is not evident whether an M&E expert was assigned throughout the entire project implementation period. The main M&E mechanism utilized was the checking or evaluation of the progress in achieving project results and objectives based on targets and indicators from the results matrix. The M&E responsibility was continuously carried out by the National Project Coordinator³⁰ according to FAO–GEF M&E policies and guidelines. However, there was apparently no follow up at the higher project steering committee meetings. As underscored, only one project steering committee meeting was held in 2019 (see Subsection 3.3.2).
147. The day-to-day monitoring and supervisory missions of project implementation were led by the National Project Coordinator and assisted by the LTO. This was driven by the preparation of reports and workplans. At the project’s mid-term, it was reported that there was no relevant Technical Officer from FAO headquarters to support the project team. The extent to which these outputs were the products of a unified planning process among the main project stakeholders is therefore unclear – especially since communication among the main executing bodies was challenging and the project steering committee was not really operational after 2019.³¹
148. The Budget Holder was responsible for coordinating the preparation and finalization of the PPR in consultation with the PMU, the LTO and the FLO.³² While the National Project Coordinator reported to the Programme Officer, the LTO liaised directly with the National Project Coordinator (and also directly with the technical experts of the project) on any technical aspects. Annual workplans and budgets were updated (more or less) regularly. The six-monthly PPRs were complete for 2018 and 2019 (two reports per year). For 2020 and 2021, there was only one PPR in each case available (from July to December 2020), and for 2022, only one report (from July to December 2022). With regard to the annual PIR, all reports were complete, including the 2023 draft (five PIRs in total). Since both the PPRs and PIRs are lengthy and overlap in the GEF reporting system, it may be assumed that the number of PPRs was reduced to one starting in 2020. There were no meeting minutes to be assessed as the provided document folders were empty. It is therefore noted that the PPRs and PIRs were not uploaded to the FPMIS as they should have been.
149. Component 3 covered M&E. This included the MTR and the terminal evaluation, but also activities at the operational level like the scaling up of the INRM approaches, communications and outreach. These were conducted by individual service providers through LOA arrangements at each activity level. It is to be noted, however, that some of the originally foreseen supervisory bodies of the project’s individual components, such as the PTF and the project steering committee, were cancelled for unknown reasons (see Subsection 3.2).

³⁰ All efforts for the recruitment of M&E experts did not produce effective results. The project was therefore monitored through its indicators. The first National Project Coordinator was assigned in July 2015 and was on duty until the end of 2016. The second National Project Coordinator was assigned in the last week of April 2017.

³¹ The project document notes on page 46: “Specific inputs to the annual workplan and budget and the PPRs will be prepared based on participatory planning and progress review with all stakeholders and coordinated and facilitated through project planning and progress review workshops” (FAO and GEF, 2016).

³² After clearance from the LTO, the Budget Holder and the FLO, the FLO ensures that the PPRs are uploaded to the FPMIS in a timely manner, as per the project document (FAO and GEF, 2016, p. 47).

3.3.5 Communications and knowledge management

Finding 16. Regarding external communications and outreach, the project elaborated a wide range of significant communications products and materials (see Component 3, Finding 8). The actively involved ASSOGU proved to have considerable potential in engaging communities at subnational and local levels. An important platform for dialogue and cooperation was built through the establishment of the USP. In contrast, a project-related, internet-based knowledge management system was not available, and the FAO X (formerly Twitter) account was not a practical tool for users.

150. Under Component 3, the project aimed to enhance communication and the visibility of the INRM through the dissemination of best practices and lessons learned. This effort stemmed from Component 2 field interventions, including demonstrations of the INRM practices related to conservation agriculture, CSA, and shelterbelt rehabilitation and management. This component supported community exchange visits through the FFS, including capacity building on improved market information and value chains.
151. In this respect, the project produced many important publications and a great deal of communications and outreach materials (FAO, 2019f, 2020c, 2021b). The USP regularly publishes relevant information under Output 1.1.1 (see Subsection 3.2). It would be beneficial to link this website to important sources from FAO. In addition, a Keep Soil Alive video was produced under Output 3.1.3 (FAO, 2020a).
152. A project-specific, internet-based knowledge management system was not produced. This could have involved a specific website or an easily accessible portal for disseminating all project-related information and materials to a larger number of beneficiaries and the broader public. This may be due to the fact that the COVID-19 pandemic and the escalating war created a situation that was not conducive to knowledge dissemination initiatives.
153. A Communication Specialist was not assigned to this project. Nonetheless, every publication had to be approved by a Communication Specialist. The person in charge acted as an additional supervisor to approve or reject the proposed activities related to communications rather than create content and manage and disseminate knowledge. Many relevant manuals and materials prepared by experts remained unpublished and were not disseminated – of note are the important best practices digest and a no-till handbook.
154. On the operational, subnational level, however, information exchanges on activities were used by the stakeholders and beneficiaries through social media accounts like Facebook or Instagram. This was particularly efficient. The planned Coordination Centre of Sustainable Agriculture (under Output 1.1.1) was still being elaborated at the time of this review.

Finding 17. Formalized internal communication between the executing bodies and the implementing partners was a weak point throughout the project's life cycle. Further, a sophisticated communication structure tool was never implemented.

155. As highlighted, there was not a designated Communication Specialist. This largely impacted the mainstreaming of meaningful project achievements. In contrast, the National Project Coordinator and the FAO Ukraine project team provided exceptional guidance and supervision capabilities that positively affected the directly implementing partners at the subnational level. Regular internal communication like weekly review meetings among these actors was satisfactory overall. Some interviewees, however, highlighted challenges regarding efficient response behaviour –

particularly in the frame of LOA arrangements that were not signed in a timely manner (see Finding 13).

156. Communication between the ministries and FAO Ukraine, and between the ministries and the implementing partners, was very weak. This caused a lack of transparency and mutual accountability. This may essentially be attributed to difficulties within the executing bodies (see Subsections 3.3.1 and 3.3.2). In addition, the project could not develop a website or portal to share internal project outputs, information and products among stakeholders.
157. The following aspects were not subject to an in-depth analysis during the review: i) the quality of contact and communication among the Budget Holder, the PMU and the GEF Coordination Unit's FLO; ii) the knowledge of the PMU and the FLO on the project's financials; iii) the knowledge of project progress when disbursements were undertaken;³³ iv) attention to compliance with procurement rules and regulations;³⁴ v) the PMU and the FLO responsiveness to addressing and resolving any financial issues; vi) any budget revisions and any disbursement issues, including proof of transfers; and vii) any relevant legal agreements like LOA arrangements.

Overall assessment for efficiency (including factors affecting performance): MS

3.4 Sustainability and impact

Given the war, and as far as it can be assessed, to what extent did the project achieve sustainable results? Which conditions were put in place to reduce the risks that could jeopardize long-term achievements?

158. The subquestions on sustainability and impact are outlined in the following points.
 - i. Was there any evidence of the feasibility of replication or catalysis of the project's results, as well as the likelihood that project activities will continue after the official project closure?

3.4.1 Institutional, socioeconomic, sociopolitical and financial sustainability

Finding 18. Capacity development remains at the core of the project's scaling up strategy of CSA interventions. This will ensure sustainability. In fact, the institutional capacity strengthening results were positive in terms of high ownership, particularly at the subnational level. This outcome, however, was not observed at the level of the central ministries.

159. Several activities under Component 1 contributed to relevant capacity strengthening across different sectors on national, subnational and local levels (see Subsection 3.2). Through the USP, the project has built an important national platform for dialogue and cooperation to promote sustainable soil and land resources management across the country. The planned Coordination Centre of Sustainable Agriculture will further contribute to sustainably supporting the project's achievements.
160. The project management arrangements positively contributed to strengthening existing institutional capacities, especially due to the CC-LDD and its role to support intersectoral coordination for INRM at national and subnational levels. During a 2018 meeting, and independent of this project, the CC-LDD "(...) outlined the recommendations on protection and sustainable use of land, as well as the proposed national voluntary LDN targets, focusing on the

³³ Notifications are usually issued for funding requests, and feedback is provided once the requests are granted.

³⁴ The PMU follows general FAO rules and regulations on procurement under the guidance of the Procurement Unit, led by an international Procurement Officer.

stabilization of soil organic matter (humus) as the main target to achieve LDN in Ukraine by 2030.” In addition, proposals were made on the rehabilitation and sustainable use of peatlands, the restoration of irrigation and the improvement of soil conditions on irrigated lands (UNCCD, 2018; FAO, 2018).³⁵ Regardless, the CC-LDD did not appear to be active at the time of this review.

161. The ASSOGU has been active since 2016 and has 15 000 members. It has considerable potential to reach out to communities and agroenterprises at subnational and local levels. This body is characterized by a high degree of acceptance among users. As an actively involved partner in the project, the association significantly contributed to providing access to new knowledge and best practices in conservation agriculture, CSA and shelterbelt management to combat land degradation and desertification.³⁶ The association regularly shared information concerning relevant initiatives and actions to be taken on project-relevant activities.³⁷ Its continued outreach and dissemination of good practices and management advice largely helped to strengthen and sustain the capacities within the communities. It provided information on planned trainings alongside practical information on income generation activities – especially for women.³⁸ The participants had a unique opportunity for regular contact with experts and the possibility for consultations at each stage of project implementation, including provided access to relevant training information materials (Kopanytsa, 2023a, 2023b, 2023c). These important results were also illustrated by the fact that the total number of posts reached more than 50 000 users, and interactions with the posts ranged from 500 to 2 500 clicks as per the draft 2023 PIR.

Finding 19. There were limitations in seeing immediate changes regarding the impact of income generation activities on beneficiary communities. This made it difficult to critically assess the project in socioeconomic terms, which was attributed to missing economic impact data.

162. The project provided good evidence of high ownership by different communities that implemented the activities at subnational levels. Capacity building on CSA practices significantly contributed to the project’s sustainability. In the last phases of project implementation, the results of *New Opportunities for Women: The Ecological and Economic Potential of Shelterbelts, Self-forested and Other Uncultivated (Abandoned) Natural Areas* appeared on various information dissemination channels, social networks and official pages of territorial communities or participants (see Subsection 3.5).

³⁵ The CC-LDD met on 4 May 2018 in Kyiv with representatives from the central and regional governmental bodies, local municipalities, scientific institutions, and international and civil society organizations. Among experts, these representatives discussed the implementation of the national action plan to combat land degradation and desertification in Ukraine. Also discussed were the results of the LDN target-setting process, especially the proposed national voluntary targets.

³⁶ The association provides an educational platform at <https://assogu.org.ua> and is regularly active on Facebook.

³⁷ Refer to the draft 2023 PIR and the provided Facebook links related to Component 3.

³⁸ This included ample information on: i) the identification of potential communities to be involved in the project; ii) publications and roundtable discussions; iii) world restoration practices for degraded lands; iv) the restoration of shelterbelts as an important element of environmental policy; v) restoration features of damaged and degraded lands; vi) siderates and their potential for soil enrichment and restoration; vii) possibilities in using the ecological and economic potentials of shelterbelts; viii) finding funding opportunities and a description of approved business models on *New Opportunities for Women: The Ecological and Economic Potential of Shelterbelts, Self-forested and other Uncultivated (Abandoned) Natural Areas*; ix) possibilities in using shelterbelts and degraded lands – medicinal herbs, the cultivation of nettles, and bioenergy crops; x) best practices for the use of forest belts, shelterbelts and degraded lands, the growing of medicinal herbs, the production of hydrolates and essential oils from medicinal herbs, the cultivation of valuable wood like black walnut and the growing of truffles; xi) wild medicinal plants and the legal aspects of the use of plant resources and peculiarities of ecological collection of raw materials; xii) grants to develop horticulture for greenhouses; xiii) business models for the oblasts of Kyiv and Chernihiv; xiv) environmental benefits from the implementation of models; and xv) data collection and the development of technological project maps.

163. The project’s FFS approach was applied for the first time in Ukraine and directly reached at least 436 farmers. Staff at the raion level gained a series of on-the-job trainings throughout the project in order to support the sustainable replication of the established FFS curriculum. The strengthened capacities of key stakeholders directly contributed both technically and practically at field levels through FFS hands-on demonstrations with the farming communities. As such, the achievements with direct beneficiaries on conservation agriculture-related activities and sustainable shelterbelt management (the first project in Ukraine that planted shelterbelts against wind erosion) essentially contributed to the improvement of soil fertility. These are highly likely to be further sustained because the farmers realized that improved and adapted technologies can cope with soil erosion. Nevertheless, the negative consequences of continued extensive application of chemicals and pesticides need to come to the fore (FAO, 2019d).
164. Beyond the successful work to reconstruct and plant new shelterbelts, which yielded long-term effects,³⁹ the project’s pilot testing further confirmed subsurface drip irrigation to be the most cost-effective. This had a profitability of 90 percent compared to 80 percent for surface drip irrigation. The combined application of no-till technology and irrigation is a new, integrated approach to soil management that aims at stop soil degradation. This creates the prerequisite for sustainable land use under arid conditions. Further, this approach fundamentally enriches soil biodiversity and forms more favourable nutrient cycles and basic regimes for soil and plants⁴⁰ (Romashchenko, 2020). The widespread application of no-till technology, combined with subsurface drip irrigation and afforestation reclamation measures, will have important long-term stabilizing and improving effects on ecosystems and soils.
165. The decentralized structures of the implementing partners, acting as self-governing bodies, are in a favourable position to scale up successful interventions. They can quickly adapt to changing environments due to their flexibility and good skills in adaptive management. In this respect, the different implementing partners have highlighted increased collaboration with the private sector to be of particular importance in the long term.
166. It remains to be said, however, that FAO’s recent nationwide assessment (FAO, 2022e) on the impact of the war on agriculture and rural households reveals that 1 out of every 4 of the 5 200 respondents reduced or stopped agricultural production due to the war. In this sense, the project undertook major efforts to either move some of the activities to other regions or cancel them entirely. In light of this, some of the successful interventions that had been initially assessed as sustainable needed to be reconsidered. New areas from the oblasts of Chernihiv and Sumy were introduced into the project in 2022 (see Section 2 and Subsection 3.2).

Finding 20. Political support, which involved shifting to environmentally sustainable natural resources management practices as a result of policy reform processes in Ukraine,⁴¹ was assessed as favourable upon project launch. However, there was still a medium risk associated with a lack of ownership regarding the integration of environmental considerations into agriculture and shelterbelt management.

167. The project document (FAO and GEF, 2016, p. 34–35) stressed the high risk of unclear responsibilities within institutions. Component 1 and the planned support to improve institutional structures and legislation for sustainable land and shelterbelt management, including defining

³⁹ The Ukrainian Research Institute of Forestry and Forest Melioration has trained 1 000 people.

⁴⁰ Positive changes in the soil through the application of no-till and irrigation occur due to an increase in the amount of plant residues (fresh organic matter), the improved balance of organic carbon and nutrients, greater soil biodiversity, and the stoppage of the downward redistribution of substances and CO₂ emissions.

⁴¹ This was initiated for the agriculture and forestry sectors with support from FAO and the European Union.

roles and responsibilities at national and subnational levels, proved to be challenging throughout the project. Several interviewees underlined the numerous missed opportunities for legislation adaptation and building a national LDN monitoring system.

168. Certain factors further underpinned considerable institutional risks, namely: the volatile situation in the country as a consequence of the ongoing war; the repeated restructuring processes affecting the responsible ministries; and the unavailability of ministries and public authorities during this review. Such a situation may negatively affect collaborative cooperation among the key institutional stakeholders. This was stressed during the project design (FAO and GEF, 2016) but was also the result of the interviews. This situation can be detrimental to the many professional and research institutions engaged as co-financing partners, which carried out many important analyses in the frame of the project. In this sense, and in order to enhance sustainable institutional cooperation, the strengthening of existing intersectoral coordination mechanisms like the CC-LDD remains an important objective.

Finding 21. The project aimed to increase the efficient and effective use of land resources and provided the necessary information on soil protection to solve the problems of agricultural land degradation. Significant steps towards the elaboration of a national LDN monitoring system were initiated during project implementation. However, the actors did not observe important barriers and issues that need to be tackled.

169. The USP website (USP, 2024) was chosen as the platform for the formation of a database on the soils of Ukraine. This resource presents two types of soil data: i) results from 750 soil monitoring sites; and ii) soil survey results by genetic horizons of about 1 000 soil profiles. The publicly available database, created with FAO support, significantly strengthens monitoring capacities, increases the efficiency of using information (which until now remained only on paper and in archives), and can already be widely used for various purposes (Dmytruk, 2022).
170. Moreover, intersectoral cooperation and information support were highlighted as essential given the elaboration of the national LDN monitoring system – especially on sustainability. According to FAO experts, this includes: i) information support for the management system at various levels (from the state executive power to local self-governing bodies) in order to take the necessary decisions in the field of soil protection and the environment in general; ii) the support for Ukraine's participation in international, regional and global soil and environmental monitoring systems, particularly in accordance with the UNCCD and FAO's SoilSTAT; iii) the simulation of soil indicator dynamics (primarily fertility) under various anthropogenic impacts and conditions of climate change, as well as military operations; iv) information about the types of soil degradation, the problems of soil fertility preservation and protection, and the regular sharing of soil monitoring implementation results among the interested audience (farmers, united territorial communities and students); and v) the development of methodological recommendations in the context of strengthening FAO's capabilities for methodological and informational support at various scales (Dmytruk, 2022).
171. In this context, certain risks to sustainability may be summarized as the result of still existing barriers: i) force majeure caused by the military aggression by the Russian Federation; and ii) legislative acts that do not form an appropriate legal field for real soil monitoring. Their effective conduct is hampered by the departmental fragmentation of soil condition observations in Ukraine and their methodical inconsistency. In addition, the received information is stored in separate, unstructured databases and is to be found mainly on paper. Further barriers are: i) insufficient legislation regarding soil protection and preservation of its fertility, where a separate section should justify soil monitoring – this is urgently needed – alongside the approval of the strategy

for monitoring the neutral level of land degradation; ii) amendments to the Law on Land Protection remaining pending because its provisions on large-scale soil surveys (at least once every 20 years) have been disregarded and the analytical data need updating; iii) the lack of a network of modern soil laboratories according to European standards; and iv) the unavailability of a digital, publicly accessible and large-scale (at least 1:50 000) soil map of Ukraine (Dmytruk, 2022). In addition, the initiatives undertaken to prepare a model map on the sequestration of carbon in the soils of the oblast of Kharkiv (that may be used as a baseline for the monitoring of carbon sequestration) need to be further followed up on.

Finding 22. The likelihood of continued benefits after project funding ends was assessed as high. This is because conservation agriculture and INRM are approaches that were taken up, especially by decentralized governmental funding programmes and the private sector. In contrast, and due to the ongoing war in the country, there was a particular risk in terms of significantly changed priority setting among the central government.

172. As outlined in the project document, Ukraine's ecological policy and strategy until 2020 (Government of Ukraine, 2010) recognized the need to enhance the integration of environmental policy into integrated environmental governance systems. This was reflected through the major in-kind contribution that was planned by the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food. However, these baseline contributions could not be confirmed due to missing information, particularly from the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, as the lead executing agency. This indicates a relevant risk in terms of long-term financial sustainability. However, considerable contributions were noted from state organizations, the private sector, governmental authorities, the local government, local communities, and NGOs – all with a strong presence and ownership at decentralized levels (see Table 2). These were clear indications of investment interest and long-term vision.
173. On shelterbelt management and the outlook of financial sustainability, 73 percent of forest land in Ukraine is state-owned and under the management of the State Forest Resources Agency. This agency was another important supporter of the project. To improve the efficiency of forest management, the agency implements state policy related to forest management, protection and conservation, sustainable forest management, and the regeneration of forest resources with its territorial departments. At the local level, the agency supports forest management through state forestry enterprises that are responsible for the full range of activities along the value chain from planting, felling and primary wood processing – but also for the afforestation of agricultural lands to improve soil fertility and reduce erosion. The strong implication of AgroGeneration is of note. This company creates jobs for local residents and invests in modern agricultural machinery and minimum tillage methods in order to minimize soil erosion and produce grains and oilseeds that adapt to the specific oblasts of operation. Therefore, sustainability is highly likely in terms of improved shelterbelt management, generating both socioeconomic and environmental benefits.
174. In the context of agroforestry and shelterbelt establishment or reconstruction, it was emphasized during the interviews that long-term investments would be essential to develop a strategy for land reclamation with a sophisticated plan to implement appropriate measures for all of Ukraine. Determining the standards and improving the legal framework for the creation of climate-oriented forest belts for each oblast, land area and location would be required. This would increasingly stimulate and encourage landowners to create new shelterbelts.

175. Past and present interventions may create interesting synergies. The following initiatives are in an ongoing emergency project context in Ukraine.
- i. In 2023, FAO invited farmers to register for food support (United Nations Ukraine, 2023).
 - ii. FAO launched maize and sunflower seed registration to support agricultural producers from oblasts at the frontline (Ministry of Agrarian Policy and Food, 2023a).
 - iii. Together with the Japan International Cooperation Agency⁴² and the Ministry of Agrarian Policy and Food, FAO was able to help small farmers in the oblast of Kharkiv with maize and sunflower seeds for the spring sowing campaign (Ministry of Agrarian Policy and Food, 2023b).
 - iv. The recovery and development of an agricultural value chain may be guaranteed for rural households through a European Union–FAO partnership. Smallholder farmers and small-scale agricultural enterprises will benefit from a USD 15.5 million project. Funded by the European Union and implemented by FAO, this initiative supports the functioning, reinforcement and strengthening of value chains in agriculture, fisheries and forestry. It also includes adaptation to the war conditions. The project will focus on supporting producers in the oblasts of Lviv, Ivano-Frankivsk, Zakarpattia and parts of the oblast of Chernivtsi with matching grants for on-farm and value chain-based investments paired with extension and advisory support (FAO, 2023c).
176. Financial and incentive mechanisms for INRM at national and subnational levels aimed to significantly contribute to financial and economic sustainability. This included clarifying shelterbelt ownership rights since Ukraine’s land reform is ongoing and runs parallel to the country’s decentralization process (USAID, 2024). It also involved clear criteria to establish the PES schemes, as well as support to establish inclusive and green food and feed value chains for cereals, oil seeds and selected NWFPs. The project largely paved the way, but there are still essential steps to be taken.
177. Currently and in the medium-term perspective, priority will be given to continued work on conservation agriculture with demining and soil remediation activities. A signed LOA with the Soils Protection Institute of Ukraine is already in place, and baseline information for demining activities is available.

Overall assessment for the likelihood of risks to sustainability: ML

3.5 Cross-cutting dimensions

Did the project contribute, in a relevant way, to the achievement of the United Nations/FAO/the GEF commitments on women’s empowerment and gender equality? Were environmental and social safeguards risk classification and risk mitigation provisions identified and adequately addressed during project implementation?

178. The subquestions on cross-cutting dimensions are outlined in the following points.

⁴² The Japan International Cooperation Agency is a government organization that provides technical assistance, grants and low-interest loans to foreign governments. It focuses on technical assistance programmes and projects to strengthen the capacity and institutional development of states.

- i. Were gender, minorities and vulnerable groups taken into account in the project design and implementation?
- ii. To what extent were environmental and social concerns considered in the project design and implementation?

Finding 23. The project made remarkable strides towards increasing women's participation and access to decision-making, employment, markets, knowledge and new technologies. However, due to the late start of concrete interventions, female participation remained below expectations at the time of this review, and an adequate impact assessment was not yet available.

179. As a signatory to several international agreements, Ukraine joined and adopted most of the key international and regional gender equality, women's empowerment and human rights treaties. These commitments were integrated into several national laws and policies. Despite important legislative advancements and international commitments, the World Economic Forum global gender gap reports from 2020 to 2022 (World Economic Forum, 2019, 2021, 2022) indicate that there is still a lot more to be done to improve gender equality in Ukraine. Ukraine was ranked 59th in 2020, but by 2022 it was only 81st out of 146 countries. On women's political participation, the 2021 Gender Inequality Index ranks Ukraine as 103rd out of 156 countries, with a slight improvement to 100th in 2022 (UN Women Europe and Central Asia, 2024).
180. According to the project document (FAO and GEF, 2016, p. 29–30), women represent more than 53 percent of Ukraine's rural population and own 60 percent of the land. However, the needs of rural women are not fully recognized, and the challenges faced by women include income inequality (in agriculture, women earn 11 percent less than men on average) and inadequate participation in decision-making processes (over one third of rural women do not participate in decision-making). In addition, women over 60 years of age constitute one third of the rural population compared to one quarter in urban areas. Most single-parent households in rural areas are headed by women. These women have weak economic security and live under simple conditions in areas of underdeveloped infrastructure and poor access to social services. This situation has become even more critical, as many of the male family members are absent because of the ongoing war in the country.
181. The feminization of agriculture in Ukraine has led to over-representation of women in rural areas. However, the project document highlighted (FAO and GEF, 2016, p. 24) that women often shoulder the main responsibility for agricultural activities. Relating to FAO's commitment to promote gender equality (FAO, 2020b),⁴³ the project aimed to identify and support the specific needs of rural women in order to encourage their important roles in the farming sector. The gender mainstreaming strategy included a gender analysis that aimed to: i) close the gender gaps

⁴³ Page 1 states that "FAO's commitment to promote gender equality stems from the intergovernmental mandate of the United Nations to promote and protect women's rights as fundamental human rights, as recognised by the 1948 Universal Declaration of Human Rights and the 1979 Convention on the Elimination of All Forms of Discrimination against Women." Page 4 states: "(...) across regions, rural women still face major gender-based constraints that limit their potential as economic agents and their capacity to reap the full benefits of their work. The root cause of these discriminations lies in social norms, attitudes, and beliefs, which shape how women and men are expected to behave, the opportunities that are offered to them and the aspirations they can pursue. (...) Land is perhaps the most important economic asset for which this gender gap is evident: women still account for less than 15 percent of agricultural landholders in the world. Disparities are also noticeable when it comes to different page types of agricultural support services, be it extension, financial, or business development." Further, page 6 states that "participation alone, however, might not be sufficient to ensure that women's needs and demands are effectively addressed and translated into action. The objective therefore aims to enhance women's leadership and decision-making power within institutions and governance mechanisms at all levels and increase their involvement in the formulation of legal frameworks, policies, and programmes."

in access to and control over natural resources; ii) improve women's participation and decision-making; and iii) generate socioeconomic benefits or services for women.

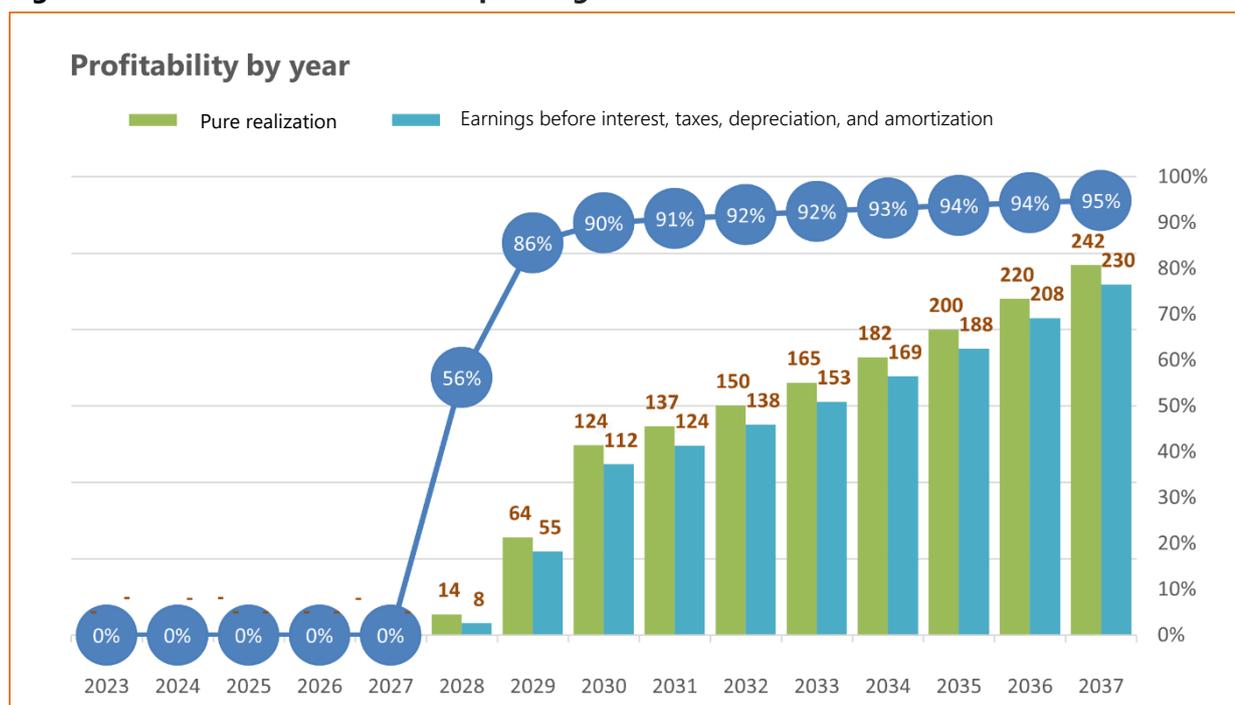
182. The project should have benefited from FAO REU gender expertise and engaged national gender experts throughout the entire cycle. There is, however, no evidence that all project implementation staff were provided gender sensitization trainings at the inception stage (as proposed during project design). This also would have included a relevant review, adjustment and application of FAO checklists for gender mainstreaming during the entire project implementation period. During the initial stages, the project M&E Officer acted as the FAO Ukraine gender focal point to facilitate the tracking of gender-specific results. The project assistant has performed gender mainstreaming tasks since 2020.⁴⁴
183. Data from the FFS field trainings were disaggregated by gender. For eight FFS trainings conducted, 88 out of 436 participants were women. The only project steering committee meeting held in 2019 had balanced participation among women and men regarding decision-making. This was also the case for implementing partners from research institutes and academia. A key stakeholder, the ASSOGU, and the Executive Director of the USP were represented by women. The former National Project Coordinator (from 2018 to 2021) and the head of the FAO Ukraine project office (from 2019 to 2022) were also represented by women.
184. In 2020, the project established contacts with the younger generation through the FFS and webinars. This was followed by online courses on CSA and conservation agriculture for students, which are currently being expanded. This target group may be expected to shift to sustainable agricultural practices and increased gender-balanced approaches.
185. In 2021, a desk study on INRM and agriculture-related gender risks in the degraded steppe areas of the oblasts of Kyiv, Kharkiv, Mykolaiv and Kherson was conducted. The results were shared during a national conference. However, the assessment identified problems with the statistical database and challenges connected to the professional employment sector. Two questionnaires were developed, but it remains unclear if these had any follow-up. FAO recommended sharing the gender results and statistics with the sectoral ministries because many information gaps were identified at the national level.
186. The project conducted a field trip to the oblast of Kherson in 2022 to identify and support the specific needs of rural women at the project sites. The goal was to ensure that they reap the benefits connected to CSA investment. Seventeen women and five men participated in The Role of Rural Women in Promoting Ecosystem Services. Another webinar was held on The Cultivation of Medicinal and Honey Herbs in the Steppe Zones of Ukraine and Women's Leadership in Izium, in the oblast of Kharkiv, with a total of 55 participants (41 women and 14 men).
187. The New Opportunities for Women: The Ecological and Economic Potential of Shelterbelts, Self-forested and Other Uncultivated (Abandoned) Natural Areas roundtable discussion with leading scientific institutes, farmer practitioners, agricultural producers and local self-governing bodies was held on 9 November 2022. Seventy interested people (53 women and 17 men) of the amalgamated territorial communities participated from the following oblasts: Kyiv (14 participants); Sumy (14 participants); and Chernihiv (42 participants) (FAO, 2023d). The greatest

⁴⁴ The Project Assistant participated in a two-day online training in gender mainstreaming for staff from the United Nations Recovery and Peacebuilding Programme (United Nations Entity for Gender Equality and the Empowerment of Women, UNDP, the United Nations Population Fund and FAO) and a training from the FAO Rural Transformation and Gender Equality Division.

interest came from the oblast of Chernihiv. Here, the Menska, Varvynksa and Prylutska communities had already started their own projects on shelterbelts inventory. Many participants from the oblast of Sumy could not attend the event due to shelling. A video was made publicly available afterwards.

188. A project logo was created to provide better visibility of these subregional initiatives. Best practices on the effective use of field protection shelterbelts and forested and uncultivated territories were prepared and distributed. A public announcement followed. This was extended until 1 December due to shelling and power outages. Fifteen communities finally offered plots of land and shelterbelts for the pilot project to be carried out. Experts held a three-day training on the development of models for the effective use and restoration of field protection shelterbelts, self-forested territories and uncultivated, abandoned lands. There were participants from the oblasts of Kyiv, Chernihiv and Sumy. Fourteen communities attended. A questionnaire was then developed to obtain feedback on the training.
189. A best practices manual was created. The Ecological and Economic Potential of Shelterbelts, Self-Forested and other Uncultivated, Abandoned Natural Areas aimed to create jobs, promote self-employment, and create new service markets and value chains. This involved internally displaced persons, and the focus was on women. The manual was based on information that had been collected from Ukrainian farmers. It features successful examples of planting medical herbs, honey herbs, mushrooms, energy crops and trees. It has served farmers and entrepreneurs regarding medicinal plants, beekeeping, cosmetology, and food industry and souvenir products.
190. More than 20 consultations with practitioners resulted in nine business models that are applicable to the current situation. Three business models address shelterbelt use, three business models address self-forested areas, and three business models address uncultivated, abandoned areas (see Table 5).

Figure 4. Business model for acacia planting in shelterbelts



Source: ASSOGU. 2023. *Final report on implementation of the project "New opportunities for women – the ecological and economic potential of shelterbelts, self-forested and other uncultivated (neglected) natural territories"*.

191. The business models represented useful tools for the local community authorities in the oblasts of Kyiv, Chernihiv and Sumy. These models are ready to be included in the development plans of the respective territories. They substantially enable communities to develop a communal economic capacity, promote women's self-employment, and – with the involvement of internally displaced persons – create new service markets and value chains.
192. The recent 2023 trainings covered topics in three result areas.
- i. Result Area 1: the role of women in agriculture, environmental conservation and the promotion of ecosystem services;
 - ii. Result Area 2: the role of rural women in ecosystem services promotion, and female leadership, knowledge, roles and responsibilities in the cultivation of medicinal and honey herbs; and
 - iii. Result Area 3: assess women's needs in medicinal and honey plant growth and management, as well as gender aspects in the promotion of ecosystem services and shelterbelt reconstruction among local communities to identify and incorporate them into the professional network of local female leaders.
193. As a result of delayed project implementation in the context of gender mainstreaming, positive medium- and long-term effects may not be determined. However, the gained knowledge and incentives offer a great potential for activities to be expanded and replicated to other regions in the country. From this perspective, recent interventions are highly likely to be successful.

Finding 24. The lack of institutional coordination, the COVID-19 pandemic, erratic climate conditions and, particularly, the outbreak of the war in February 2022 negatively affected the project's implementation performance. However, pertinent measures taken by FAO Ukraine positively mitigated the connected risks.

194. The project design created a risk matrix and performed an environmental and social safeguards assessment, as reported in the project document (FAO and GEF, 2016, p. 75–79). A high risk was assumed due to a lack of close and collaborative cooperation between key institutional stakeholders, as well as unclear responsibilities among institutions at national and local levels. For both cases, mitigation measures were planned through Component 1 under the responsibility of the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources. According to the project document, enhanced cooperation should have been achieved through the strengthening of intersectoral coordination mechanisms with the existing CC-LDD. Regarding unclear responsibilities, this should have been mitigated by improving institutional structures and legislation for sustainable land and shelterbelt management. This would have included the clarification of roles and responsibilities at national and subnational levels. In addition, a moderately high risk was assumed due to a lack of political support for integrating environmental considerations into agriculture and shelterbelt management. The mitigation measures were justified with substantial political support in Ukraine: shifting to environmentally sustainable natural resources management practices; and policy reform processes in both the agriculture and forestry sectors with support from the European Union, FAO and others. As such, the project created the necessary conditions and paved the way to further integrate global environmental considerations and demonstrate good practices in the field.
195. Cooperation and ownership at the central ministry level proved to be challenging throughout the project, especially due to political reforms and an unclear division of responsibilities (see

Subsection 3.3). However, important regional development and decentralization reforms have contributed positively to subnational community engagement since 2014. In addition, the numerous successful interventions may also be largely attributed to the many key stakeholders that represented established research institutions with a strong subnational and local presence.

196. The overall risk rating by the FAO Ukraine project team from low in 2019 to medium in 2020, and high since 2022, has been the result of: i) the COVID-19 pandemic and extreme weather conditions in 2020 and 2021; and particularly ii) the invasion by the Russian Federation in February 2022. The connected risks were largely mitigated through the cancellation or postponement of some activities, especially at project sites that directly witnessed the ongoing hostilities (see Section 2). The plan is to resume activities at a more appropriate point in time with funding from other ongoing emergency projects.
197. On the risk of natural changes in agroecological zones due to gradual changes in climate and extreme weather events, the most important mitigation measures to enhance resilience to climate change will be scaling up SLM, conservation agriculture practices and multipurpose agroforestry.
198. The following is an assessment of the cross-cutting dimensions.
 - i. gender and equity: MS;
 - ii. human rights/Indigenous Peoples: not applicable; and
 - iii. environmental and social safeguards: S.

4. Conclusions and recommendations

4.1 Conclusions

Conclusion 1. Strategically well aligned with national development goals and policies, the project was entirely consistent with the GEF's focal areas and FAO's strategic framework. The project also fully aligned with the country's obligations under several international conventions and significantly contributed to the SDGs.

199. Current challenges of environmental degradation and climate change and the steps initiated by the project were particularly relevant to enhance the integration of environmental policy into integrated governance systems. Before this project's interventions, Ukraine had introduced only a few systematic efforts to integrate the environment into its agricultural practices. There were no effective programmes in place to restore soil fertility and improve nutrient management. Although the use of biological control techniques was minimal and many farmers still lack adequate trainings, the project significantly strengthened an enabling environment to scale up INRM and incentivize the improvement of ecosystem service flows in production landscapes in the forest-steppe and steppe zones of Ukraine.

Conclusion 2. The project had meaningful achievements in improved INRM. It provided the necessary information on soil protection to solve problems of agricultural land degradation. Significant steps towards the elaboration of a national LDN monitoring system were taken. However, important issues still need to be tackled: legislation adaptation; soil monitoring updates and harmonization; and clarification on land use and shelterbelt ownership rights. In addition, the total emissions reduction (CO_{2e} per year sequestered) from the implemented activities still needs to be calculated. This involves, for example, extrapolations from the overall project results.

200. Relevant drafts for environmental protection were developed, but essential updating and the adoption of further regulation remains key. The project took important steps to cooperate with the State Service for Geodesy, Cartography and Cadastre⁴⁵ and the Ministry of Agrarian Policy and Food to build a national LDN monitoring system. The LDN strategy and the establishment of the publicly available LDN monitoring platform was elaborated (USP, 2024). This provides a database on the soils of Ukraine. However, only about 50 percent of the work could be performed⁴⁶ because data based on the results of agrochemical certification were available for only 4 000 fields instead of the planned 30 000. This impeded subsequent planning to model the spatial distribution of soil indicators.

201. The aim to elaborate at least three land use plans for 230 800 ha of land led to management plans with recommendations for the abandoned lands of the oblast of Kyiv. Information on the surface area for such management plans is still not available, but important inventories for 1 150 ha in the oblasts of Kyiv, Mykolaiv and Kherson resulted in three models and recommendations for improved shelterbelt management with key information on ownership rights. The achievements further entailed criteria development for the PES scheme on conservation agriculture and an agroforestry market analysis on NWFPs and inclusive medicinal herbs.

⁴⁵ The institution is responsible for all geodetic surveying and mapping, as well as the cartographic registration of cadastral parcels and the title registration of land.

⁴⁶ The project harmonized 1 000 soil data profiles for further processing. This included 30 000 samples of soil agrochemistry and 750 land monitoring data profiles.

202. Certain risks to sustainability stem from barriers that still exist: i) force majeure due to the ongoing war; ii) legislative acts that do not form an appropriate legal field for real soil monitoring since their effective conduct is hampered by departmental fragmentation and the methodical inconsistency of soil condition observations in Ukraine; iii) insufficient legislation and the lack of updated laws; iv) the lack of modern soil based on European standards; and v) the unavailability of a digital, publicly accessible soil map of Ukraine on a scale of at least 1:50 000.
203. Important capacity building among various stakeholders and trainings on EX-ACT and greenhouse gas calculations enhanced coordination and information sharing. This involved ministries, state institutions, the USP, oblast administrations, regional authorities and civil society. The calculated global environmental benefits from the project interventions are still not available.

Conclusion 3. The introduction of SLM and CSA best practices, including improved shelterbelt management, brought important results on a surface land area that covers 248 220 ha. This represents almost ten times more than the originally planned 29 400 ha.

204. Demonstration activities on good conservation agricultural practices revealed a considerable awareness increase. Through the introduction of FFS capacity building programmes, the project created a strong enabling environment on different levels to address the challenges posed by climate change. Nine FFS trainings conducted on conservation agriculture and one training on shelterbelt management in the oblasts of Kyiv, Kharkiv, Mykolaiv and Kherson strengthened capacity among 436 farmers, agriculture service providers and village community representative beneficiaries from 15 oblasts – one quarter were women.⁴⁷
205. Conservation agriculture and sustainable shelterbelt management achievements among the direct beneficiaries are underscored. This is the first project in Ukraine to plant shelterbelts against wind erosion. Essentially, this improved soil fertility that has a high likelihood to be sustained. The farmers realized that the adapted technologies can positively cope with soil erosion. Nevertheless, the negative consequences of continued extensive application of chemicals and pesticides need to come to the fore (FAO, 2019d).
206. As highlighted, the t CO₂e sequestration from the applied SLM and CSA best practices still needs to be calculated.⁴⁸

Conclusion 4. An impact assessment of scaled up INRM interventions could not be conducted due to time limitations. In contrast, a significant range of communications and outreach materials were produced. It is essential to compile relevant project materials in a public, easily accessible portal that links to other websites. This will further scale up the INRM activities and lessons learned and promote continual information sharing with a focus on income generation for women.

207. The project had many communications and outreach products. This included social and conventional media: publications; newsletters; articles and reports (analyses, guidelines and best practices); television and radio broadcastings; interviews; press conferences; forums and events; webinars and online workshops; an animated video (and another underway); curricula; manuals; and training courses for the FFS, students and higher education. Having relevant scientific articles

⁴⁷ The pilot sites in the oblast of Kherson included 20 ha of subsurface drip irrigation. In the oblast of Kharkiv, enhanced soil maintenance was practiced on another 110 ha. In addition, and as a result of shelterbelt inventories in different oblasts, recommendations for the establishment, reconstruction and maintenance of shelterbelts in the forest-steppe and steppe zones included 8 ha of maintained and 24 ha of reconstructed shelterbelts in the oblast of Kherson.

⁴⁸ According to the planned target, 277 675 t CO₂e was to be sequestered. A total amount of 365 496 t CO₂e was targeted as an overall project result.

in Ukrainian agricultural publications is fundamental. This further popularizes and disseminates soil conservation practices for the restoration of degraded soils and the effective use of field protection shelterbelts, as well as forested and uncultivated territories in the forest-steppe and steppe zones of Ukraine.

208. Communications were largely shared among the implementing partners via Facebook or Instagram, especially through the ASSOGU. This body, with about 15 000 members, had considerable potential to reach out to communities at subnational and local levels. The continued outreach and dissemination of good practices and management advice particularly helped women in strengthening and sustaining capacities. This included substantial information trainings and practical information on income generation activities. Rather recent implemented activities meant that the impact of new opportunities for women could not be measured. Positive medium- and long-term effects could not be determined for this final review. Regardless, the gained knowledge and incentives – including nine elaborated business models – offer a great potential for expansion.

Conclusion 5. It was impossible to assess the coordination, the quality of collaboration, and management mechanisms between the central and subnational authorities. The lack of availability among the main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food – throughout the review substantiates the finding of significant structural challenges within the ministries. However, FAO Ukraine’s commitment and the many dedicated, well-established implementing partners significantly contributed to important project outcomes.

209. The Ministry of Environmental Protection and Natural Resources, as the lead executing partner on project execution, should have provided considerable financial, procurement and practical capacities. Further, guidance should have been provided through an appointed focal point. Apparently, the extensive restructuring processes hampered the proper setup of the project. The FAO Ukraine project team therefore became the project management engine. In fact, it coordinated the stakeholders and planned all of the interventions. Also, it is not evident whether an M&E expert was assigned throughout the entire implementation period to actively measure and collect data. This effort would have kept stakeholders abreast of decision-making and work planning throughout the project’s life cycle. There was no evidence of regular stakeholder meetings. In fact, only one project steering committee meeting took place. This indicates apparently weak internal communication between the executing bodies and the implementing partners.
210. This rather technical project was the first of its size to incorporate INRM into the forest-steppe and steppe zones of Ukraine. For FAO Ukraine, acting as a project office and not a Country Office proved to be very challenging. Sufficient organizational capacities with officially assigned units and functions were not in place at the project’s onset. The COVID-19 pandemic in 2020 and 2021, as well as the outbreak of the war in 2022 and the temporary closure of the FAO offices, fundamentally impeded efficient planning.
211. Universities and research institutions with long-standing experience remained important implementing partners for co-financing throughout the project. Although their financial capacities were limited, co-financing from the private sector at decentralized levels created additional potential and valuable synergies for the project. In this sense, the regional development and decentralization reforms, implemented as of 2014, fostered greater local public service delivery and public funding for regional and local development. This positively impacted the project’s outcomes.

Conclusion 6. Oftentimes, cumbersome FAO procedures and administrative rules regarding budgets and payments as part of the LOA arrangements with service providers offered only limited flexibility for the planned interventions. This negatively impacted efficient project implementation.

212. The late signing of the LOA arrangements with service providers and the reported rather minimal budgets that covered contract periods from nine to twelve months substantially interrupted the planned activities. This was particularly challenging during the planting seasons. The low and, in some cases, delayed upfront payments often made it difficult to complete the planned activities. This situation did not create a sense of motivation and ownership.

Conclusion 7. There is still a medium risk associated with a lack of ownership on the integration of environmental considerations into agriculture and shelterbelt management. Political support, such as environmentally sustainable natural resources management from policy reform processes for both the agriculture and the forestry sectors was very favourable upon project launch. Priority setting changed due to the war. Regardless, the government must have also recognized that the economic return on current conservation agriculture investments will be significantly higher for measures that prevent degradation compared to measures that restore degraded land.

213. Unclear responsibilities due to repeated restructuring processes within the central institutions that are tied to shifting INRM practices still represent a risk. These challenges are also the result of an uncertain land market regarding shelterbelt inventory. This aspect is associated with a lack of understanding by authorities regarding procedures and economic benefits, and the overall complexity of existing (and missing) regulations. However, the project initiated important steps towards more sustainable approaches for a green economy (OECD, 2020, p. 2; EU, 2014).⁴⁹ This is also at the core of the Association Agreement with the European Union (EU, 2014).

214. The COVID-19 pandemic and extreme weather conditions in 2020 and 2021, and the outbreak of the war in February 2022, have created considerable risks for project implementation. Regardless, the likelihood of continued benefits after project funding ends is still high. This is because conservation agriculture and INRM were taken on by decentralized governmental funding programmes and the private sector. Ukraine will face huge environmental problems due to the war. In fact, the war has massively poisoned the country's air, water and soil. In this respect, a great deal of work will be to identify contaminated soils, demine the land and remediate polluted soils. Together with international donors, FAO is implementing a multidimensional strategy (FAO, 2022b) to sustain and restore agrifood systems at scale. The plan is under emergency interventions. It aims to attach emergency subsidies for farmers to conditions like the introduction of modules connected to conservation agriculture. This will further promote and considerably scale up inclusive green food and feed value chains that contribute to food security and help to combat climate change.

4.2 Recommendations

Recommendation 1. Strategic) – to the Ukrainian Government and FAO Ukraine: the government should move towards SLM and scale up the rehabilitation of degraded land and soil. Further strengthen capacities among project stakeholders from different levels (the government and line sectors, local authorities, communities, and extension services) to replicate the INRM interventions. Decisive contributions to

⁴⁹ From 2019 to 2022, the European Union for Environment (EU4Environment) Action helped Ukraine to achieve greener decision-making, a sustainable economy, green growth, smart environmental regulations, ecosystem protection and knowledge sharing.

biodiversity conservation must be made to achieve the SDG Target 15.3 on LDN, improve food security in Ukraine and avoid further land degradation.

215. In order to avoid land degradation: i) maintain currently healthy land; ii) reduce existing degradation; and iii) intensify efforts to restore and return degraded land to a natural or more productive state. The project achieved promising results that should be scaled up. This includes the adoption of SLM practices like conservation agriculture and shelterbelt rehabilitation activities through trainings and extension programmes like FFS. Hands-on demonstrations in the field with a focus on women is also key. The combined application of underground drip irrigation and no-till technology is a new, integrated approach to soil management. It aims to stop soil degradation and creates the prerequisite for sustainable land use under arid conditions.
216. The project proved to have a positive impact in terms of forest reclamation on both agriculture and the ecology. Forest reclamation is widely known in the country and has the potential for long-term effects. Further scaling up of organic farming and sustainable approaches – for instance, crop rotation and replacing chemicals through biological inputs⁵⁰ – remains an important objective. The increased involvement of farming communities that engage in sustainable shelterbelt management and the income generation opportunities for women will have long-term, stabilizing and positive effects on ecosystems and soils. In fact, it will slow degradation and bolster biodiversity, soil health, food production and economic sustainability. In light of this, the many significant conservation agriculture communications and outreach materials prepared during the project's life cycle should be printed and made available through an easily accessible portal.

Recommendation 2. Strategic and operational – to the Ukrainian Government and FAO Ukraine: the national soil monitoring system needs to be elaborated. This involves significant soil map updates. The adoption and implementation of relevant legal frameworks is imperative. FAO Ukraine's expertise and comparative advantage can contribute through advocacy and synergy.

217. In cooperation with the State Service for Geodesy, Cartography and Cadastre, the USP was assigned as the authorized national operator for the LDN monitoring platform creation. However, departmental fragmentation related to soil condition observations in Ukraine still negatively affects proper soil monitoring. This is demonstrated by methodical inconsistencies and unstructured databases, as well as data that are mainly available on paper.
218. Many activities on establishing a national soil monitoring system were not implemented. Important issues still need to be addressed: i) an expanded database to monitor the neutral level of soil degradation with soil indicators (that is, the content of humus and nutrients like nitrogen, phosphorus and potassium, and soil acidity) from the agrochemical certification process for the forest steppe (20 000 fields), the steppe (30 000 fields), and the forest and wetlands (Polisia) (20 000 fields); ii) the migration of content from private laboratory monitoring databases and the updating of analytical data; iii) the establishment of a network of modern soil laboratories according to European standards; iv) the elaboration of a digital, publicly available model map of agroproduction groups of soils for all of the Ukrainian territory on a scale of at least 1:50 000; v) the cartographic modelling for soil indicators (organic matter or humus, acidity, and the content of nitrogen, phosphorus and potassium) for all of the Ukrainian territory; vi) the digitalization of soil cover maps of the oblasts that were directly affected by the invasion by the Russian Federation (namely Kyiv, Mykolaiv, Chernihiv, Sumy, Zaporizhzhya, Donetsk and Luhansk); and vii) an

⁵⁰ The official Ukrainian translation of (FAO, 2019d) should be made freely available on both the websites of FAO and the Institute of Agroecology and Environmental Management of the National Academy of Agrarian Sciences of Ukraine, as well as published in print.

assessment of the current state of soils affected by the war, including the planning of measures for the restoration of degraded soils and irrigation systems.

219. Technical know-how generated through this project – especially experiences gained in maintaining and increasing soil fertility via conservation agriculture – ought to feed into more high-level public policy measures. In particular, the following legislative frameworks need urgent implementation: i) the elaboration of a law on soil protection and the preservation of its fertility, including a separate section on soil monitoring; ii) the approval of a strategy to monitor the neutral level of land degradation; and iii) an update to the law on land protection, including provisions for large-scale soil surveys in Ukraine – the latter survey needs to be done at least once every 20 years, but none have been conducted since the law was initiated.

Recommendation 3. Strategic – to the Ukrainian Government: the state and local governments must solve the issue of ownership rights as soon as possible. Raise the level of legal awareness and improve land dispute resolution procedures in order to sustainably move from traditional to integrated land use management. This process should also protect the rights of landowners, land users and the local governments. This can be done through information campaigns on land rights among the population and local officials.

220. According to the results of an analysis during project implementation in the oblast of Kyiv, up to 90 percent of lands have an uncertain ownership status. This implies that there is neither full information on land resources nor soil condition details. To efficiently solve the problem of ownership rights – which is closely linked to sustainable, integrated land use management – the following interventions are recommended and should be replicated in other oblasts of Ukraine: i) form land plots with indefinite ownership to be leased and used for INRM practices; ii) provide funding for the restoration of degraded lands through special fees or taxes, including fine remittance for unauthorized construction or misuse of land; iii) include data from the State Fiscal Service in the geographic information system; and iv) introduce the concept of self-seeded forests into legislation. Further: i) expand the network of stakeholders by involving farmers, research institutions and other structures that have managerial authority but are excluded from decision-making processes; ii) adopt new state, regional and local land management strategies that balance the needs of society and natural ecosystems to ensure social and environmental sustainability; and iii) update the software of the State Register of Real Property Rights to make the legally established procedure technically possible.

Recommendation 4. Operational – to the Ukrainian Government and FAO Ukraine: internal communication between the main executing bodies – the Ministry of Ecology and Natural Resources, afterwards Ministry of Environmental Protection and Natural Resources, and the Ministry of Agrarian Policy and Food as the lead agencies – and the implementing partners should improve significantly. Develop a sophisticated tool and structure to formalize appropriate communication channels.

221. Inefficiency and the occasional lack of communication between the ministries at the central level and the decentralized authorities – and between the ministries and FAO – were challenges throughout the project. This negatively affected ownership and efficient operational mechanisms to jointly manage the project in collaborative efforts. As such, FAO Ukraine and the implementing partners made considerable efforts to adapt to the institutional changes. At the same time, it appears that the executing bodies did not effectively use workplan tools or facilitate a common and transparent understanding of the progress of project implementation.
222. Inadequate synergistic implementation with the central government, and the fact that FAO Ukraine was not able to provide organizational capacities at the outset of the project, caused

important delays during the setup phase. In light of this, it is important to further strengthen cooperation with the line sector.

Recommendation 5. Operational – to FAO headquarters and FAO Ukraine: FAO should support service providers at an early stage of project implementation – especially in war contexts. The planning phase should have transparent communication on expected implementation modalities and outcomes. In addition, the identification of a timely risk assessment on the agreed upon workplan may be beneficial for decent planning. This ensures a continuous workflow under difficult working conditions.

223. The project encountered several challenges in the frame of practical implementation. In some instances, service providers emphasized complex administrative hurdles for LOA arrangements: limited budgets that were not exempt from value-added tax; and poorly timed M&E cycles in relation to the available funds. A request for greater flexibility regarding service contracts was voiced by several project partners and service providers.

224. The actual situation in the country does not allow for FAO's Operational Partners Implementation Modality, as requested by a few stakeholders. This modality represents a practical instrument to positively join forces and build long-term partnerships that enhance project ownership. First, however, this requires stable conditions and institutional structures that have enforced good governance principles and undergone further substantial political and administrative reforms. This modality also requires long-term planning and appropriate agreements.

225. The service provider budgets need to consider that the organizations or institutions in this role pay, according to Ukrainian law, value-added tax in the amount of 20 percent. This significantly limits the budget for tasks to be performed. The LOA budgets should have an extra line item of 20 percent for the provision of services in order to compensate for the future "losses" of value-added tax.⁵¹

Recommendation 6. Strategic – to the Ukrainian Government and FAO Ukraine: finalize ongoing and planned project activities by engaging more small-scale farmers. Focus on stronger NGO and large-scale private sector involvement. FAO, together with the government, should foster partnerships, identify potential risks, and build synergies with ongoing opportunities and future interventions and initiatives. This will multiply the project's results in other regions and cushion the current challenges induced by the war.

226. Weak institutional capacities among the lead executing agencies and major challenges connected to the ongoing war did not create a supportive environment to efficiently implement all of the planned activities. However, several key partners have already financed and set in motion initiatives to replicate experiences gained from the project. Through the USP – as part of the subregional Eurasian Soil Partnership and the European Soil Partnership, and under the auspices of the Global Soil Partnership – the project elaborated an important national platform for dialogue and cooperation. This platform is key in sustaining capacities, undertaking outreach, disseminating best practices, and advocating for actions that stem from small-scale farmer and large-scale private sector incentives.

227. Ukraine faces huge environmental problems due to the war, which has poisoned the nation's air, water and soil. There are many initiatives by international donors that currently focus on emergency interventions. For instance, EU4Climate, funded by the European Union and implemented by the United Nations Development Programme (UNDP), supports countries in

⁵¹ The same applies to FAO personnel and experts since the project has not been registered: an 18 percent tax on income and a 1.5 percent military tax need to be paid annually.

implementing the Paris Agreement by improving climate policies and legislation. It helps governments in six Eastern European Union partner countries to take action against climate change and promote a low-emission, climate-resilient economy. Some early assessments in Ukraine have already indicated registered pollution incidents that place people, animals and ecosystems at risk of acute and long-term harm. The EU4Climate initiative plans and implements emergency response activities to address the immediate needs of the population (UNDP, 2022, 2024).

228. “According to the Ministry of Environmental Protection and Natural Resources, around 30 percent (Pearce, 2022) of the country’s protected areas, covering more than 1.2 million ha, have been bombed, polluted, burned, or otherwise affected by military manoeuvres. Massive forest fires spread as the fighting rages on, while attacks on fuel and industrial facilities have caused chemicals to leach into rivers and groundwater” (UNDP, 2023). Between 2023 and 2025, UNDP and the Government of Sweden are working with state institutions to set up a Coordination Centre for Environmental Damage Assessment. This involves an initial investment of USD 6.7 million.
229. Other potential, international donors beyond the European Union – and due to good, existing relationships – may be Japan, Norway or the World Bank. In 2023, FAO implemented a multidimensional, innovative response programme to sustain and restore agrifood systems at scale. By capitalizing on its technical expertise and in-country experience, the response programme focuses on: i) restoring food security and self-sufficiency in frontline communities; ii) restoring critical agricultural production and value chains; and iii) enhancing coordination and technical support for the functioning of critical food system services (FAO, 2022b, 2023a). Ideally, and to optimally build on lessons learned, planned emergency subsidies to farmers should also be made conditional on the implementation of INRM approaches and conservation agriculture activities.

5. Lessons learned

230. The project took key first steps towards an LDN monitoring system and integrated land use management plans in Ukraine. This included clarifying ownership rights, as well as inventory and standards-setting for the management and planting of shelterbelts based on soil types and natural zones.
231. The project introduced a new approach to INRM practices in the forest-steppe and steppe zones in Ukraine. The interventions facilitated the understanding and internalization of conservation agriculture, as well as relevant technical implementations that accompany this approach. Capacity building paved the way towards more adaptable and sustainable production in the face of dwindling soil, water and biodiversity resources. This involved: no-till on irrigated land; subsurface drip irrigation; soil cultivation in arid zones; crop rotation in the Eastern steppe zones; soil fertility management; shelterbelt management;⁵² technology implementation in the forest-steppe zones; and trainings on the economic dimensions of conservation agriculture.⁵³ Despite the challenges of the COVID-19 pandemic and, even more – the ongoing war – the project’s activities and incentives stand out as best practices to replicate across the country. In particular, drought-sensitive zones can benefit from these lessons.
232. It is essential to finalize the creation of the National Soil Information System and integrate it into the Global Soil Information System. This involves systematic soil data sharing at national and international levels. Indeed, this will further build on the project’s experiences. In light of this, the project’s results will be the basis for creating a complete cadastral soil map of Ukraine. This element was found to be highly relevant under the current land market conditions. In fact, this would significantly improve a still fragmented regulation, as demonstrated by the project.
233. Immediately conduct a survey of soil indicators at the monitoring sites. This is of utmost importance and involves not only affected areas that were liberated from the occupation by the Russian Federation but also areas that were flooded due to the destruction of the Nova Kakhovka Dam. This survey will provide a systematic assessment of the impacts, effects and costs of soil restoration and reclamation.
234. It is essential to shift from measuring soil humus content to measuring SOC content. This involves SOC stocks based on FAO methodology and developing models to transform the current database on humus content into SOC content. Further, this will provide reliable data for the national report on SDG Indicator 15.3.1 (carbon stock subindicators) (UN Statistics Division Development Data and Outreach Branch, 2022; Vargas, 2023).
235. Considerable risks to sustainability were found regarding the project’s aim to establish favourable conditions for policy integration. Intersectoral coordination and collaboration for INRM at national and subnational levels are still not evident. This involves building linkages and synergies among sectors. The project demonstrated the need for continued support for the CC-LDD, as well as the Climate Change Adaptation Working Group.

⁵² This involves developing measures for land reclamation (agroforestry) and a plan to implement such measures. Further, this determines standards for creating climate-oriented forest belts for each oblast, land area and location, and for implementing the most adequate mechanisms that stimulate the creation of new shelterbelts for all landowners.

⁵³ The project made considerable efforts to elaborate criteria and indicators for the PES scheme on conservation agriculture and agroforestry. This included recommendations for agroforestry practices and conservation agriculture in selected project areas.

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The Evaluation Team also consulted the following documents:

GEF Annual Project Implementation Reviews (PIR)

- July 2018 – June 2019
- July 2019 – June 2020
- July 2020 – June 2021
- July 2021 – June 2022

Six-Monthly Progress Reports

- January – June 2018
- July – December 2018
- January – June 2019
- July – December 2019
- July – December 2020
- July – December 2021
- July – December 2022

Project Steering Committee (PSC) Meeting Reports

- Inception Workshop Report. 15 May 2018
- Annual Steering Committee Meeting Report. 22 May 2019

Financial Reports

- Budget Revision C from 13 December 2022 (Excel-file)

Appendix 1. People interviewed

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
1	Aboringong	Swirri	M&E and Reporting Specialist	FAO Ukraine	The GEF implementing and executing agency	14, 17, 19, 26 April 2023
2	Babanska	Nadiya	Head of the community	Oblast and raion councils/state administrations Subnational stakeholder	Local authority, Mykolaiv Oblast, Mostivska community https://hromady.org/about-the-association/	Requests remained unanswered
3	Başaran	Kaan	Programme Officer	FAO REU	FAO Partnership and Coordination Office in Azerbaijan	20 June 2023 9.00 CEST
4	Bykov	Mykola	Conservation agriculture expert	FAO Ukraine	The GEF implementing and executing agency	2 June 2023 9.00 CEST
5	Danylenko	Inliia		Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine National stakeholder	Research institute https://iwpim.org.ua	11 May 2023, 13.00 CEST and 12 May 2023, 9.00 CEST
6	Davydenko	Kateryna	Plant and Tree Protection	Ukrainian Research Institute of Forestry and Forest Melioration G. M. Vysotskiy National stakeholder	Research institute/Subordinate to the State Forest Resources Agency of Ukraine and the National Academy of Sciences of Ukraine https://uriffm.org.ua/en/about	19 May 2023 10.00 CEST
7	Demyanyuk	Olena		Institute of Agroecology and Environmental Management of the National Academy of Agrarian Sciences of	Research institute http://en.naas.gov.ua https://www.unccd.int/resources/knowledge-sharing-system/institute-agroecology-and-environmental-management	4 May 2023 15.00 CEST

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
				Ukraine National stakeholder		
8	Devis	Oksana	National Project Coordinator until 2021	USP National stakeholder	Association https://uasp.com.ua/pro-nas-2/?lang=en	5 May 2023 7.00 UCT
9	Didenkov	Nataliia		Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine National stakeholder	Research institute https://iwpim.org.ua	11 May 2023, 13.00 CEST and 12 May 2023, 9.00 CEST
10	Dmytruk	Yuriy	Soil expert National leading expert on LDN monitoring	FAO Ukraine	The GEF implementing and executing agency	30 May 2023 13.00 CEST
11	Domkin	Andrii	Head of the Economic Department, Project Coordinator	Soils Protection Institute of Ukraine National stakeholder	National Partner of the USP https://uasp.com.ua/pro-nas-2/?lang=en	5 May 2023 11.00 CEST
12	Drobitko	Vadym	National farmers' movement for conservation agriculture, Mykolaiv Oblast	Farmers and agricultural producers Subnational stakeholder		6 June 2023 9.00 CEST
13	Glovatskyy	Roman		Oblast and raion councils/state administrations Subnational stakeholder	Local authority, Sumy Oblast, Trostyanets community https://hromady.org/about-the-association/	12 June 2023 9.30 CEST - Close cooperation with ASSOGU - Cooperation on shelterbelt restoration activities, 2020–21 - Community active in agriculture reconstruction and recovery, 2022– 23

Appendix 1. People interviewed

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
14	Gonzales	Hernan	FLO	FAO headquarters	Office of Climate Change, Biodiversity and Environment	20 June 2023 9.00 CEST
15	Ishchenko	Tetyana		Scientific and Methodological Centre for Higher and Further Vocational Education, former AgroOsvita National stakeholder	Methodological centre for information and analytical support on training in the agriculture sector http://coa-ukraine.com/en/partners	2 May 2023 10.00 CEST
16	Klyuchnik	Natalya		ASSOGU National stakeholder	Association https://communities.org.ua/en/about-the-association/	8 May 2023 10.00 and 16.00 CEST
17	Korolchuk	Valentina	Also working with Mykola Bykov, expert on organic agriculture	National University of Life and Environmental Sciences of Ukraine National stakeholder	National university https://nubip.edu.ua/en	8 May 2023 14.00 CEST
18	Kosolap	Mykola	Conservation agriculture expert	FAO Ukraine	The GEF implementing and executing agency	2 June 2023 9.00 CEST
19	Levin	Arkadii		Institute for Soil Science and Agrochemistry Research O. N. Sokolovsky National stakeholder	National Academy of Agrarian Science/research institute National Partner of the Global Soil Partnership https://issar.com.ua/en	3 May 2023 17.00 CEST
20	Malkov	Mikhail	Policy and Programme Adviser	FAO Ukraine	The GEF implementing and executing agency	Requests remained unanswered
21	Mykhalchuk	Viktoriia	Communication Specialist	FAO Ukraine	The GEF implementing and executing agency	2 June 2023 11.00 CEST
22	Novokhatskyi	Mykola		Leonid Pogorilyy Ukrainian Scientific	Research institute http://www.ndipvt.com.ua	3 May 2023 14.00 CEST

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
				Research Institute National stakeholder		
23	Oleksandr	Vaslak		Oblast government authorities Subnational stakeholder	Agriculture Development Department, Sumy Oblast	Requests remained unanswered
24	Riabko	Oleksandra	Project assistant (since January 2023)	FAO Ukraine	The GEF implementing and executing agency	14, 19 April 12, 23 May 2023 (and several e-mails)
25	Rodriguez Eugenio	Natalia		Global Soil Partnership International partner		19 May 2023 (via e-mail)
26	Romanova	Svitlana	Deputy Director for scientific work	Soils Protection Institute of Ukraine National stakeholder	National Partner of the USP https://uasp.com.ua/pro-nas-2/?lang=en	5 May 2023 11.00 CEST
27	Santivanez	Tania	LTO, Agricultural Officer	FAO REU	Budget Holder	26 April 3, 12 May 19 June 14 July 2023
28	Schedrinov	Andriy		Farmers and agricultural producers Subnational stakeholder	Agricultural enterprise DPDG Velyki Klyny, Enterprise of the Institute of Water Problems and Land Reclamation in Kherson Oblast Main basic farm for three activities	Requests remained unanswered
29	Shapran	Serhiy	First Deputy General Director	Soils Protection Institute of Ukraine National stakeholder	State research institute/scientific organization https://www.iogu.gov.ua/?lang=en	5 May 2023 11.00 CEST
30	Shatkovskyy	Andriy		Institute of Water Problems and Land Reclamation of the	Research institute https://iwpim.org.ua	11 May 2023, 13.00 CEST and 12 May 2023, 9.00 CEST

Appendix 1. People interviewed

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
				National Academy of Agrarian Sciences of Ukraine National stakeholder		
31	Vysotska	Nataliia	Deputy Director, Forestry expert	Ukrainian Research Institute of Forestry and Forest Melioration G. M. Vysotskiy National stakeholder	Research institute/Subordinate to the State Forest Resources Agency of Ukraine and the National Academy of Sciences of Ukraine https://uriffm.org.ua/en/about	19 May 2023 10.00 CEST
32	Yosufi	Farid	Operations Officer	FAO Ukraine	The GEF implementing and executing agency	25 May 2023 12.00 CEST
33	Zaitsev	Yuriy		Soils Protection Institute of Ukraine National stakeholder	State research institute/scientific organization https://www.iogu.gov.ua/?lang=en	5 May 2023 11.00 CEST
34	Zhemoida	Oleksandr		Ministry of Ecology and Natural Resources/Ministry of Environmental Protection and Natural Resources of Ukraine National stakeholder	National government https://www.kmu.gov.ua/en/yevropejska-integraciya/coordination/energy-security-and-energy-efficiency	Requests remained unanswered
35	Zhuravel	Oleksandr	National Project Coordinator	FAO Ukraine	The GEF implementing and executing agency	14, 19 April 12, 23 May 9, 19 June 14 July 2023 (and several e-mails)
36				Ministry of Agrarian Policy and Food National stakeholder	National government https://minagro.gov.ua/en	Requests remained unanswered

No.	Surname	First name	Position (if available)	Institution	Department/division	Date of online interview or comment
37				AgroGeneration	Private sector https://agrogeneration.com	3 May 2023 14.00 CEST Actively involved during 2018; provided its fields and equipment through the Leonid Pogorilyy Ukrainian Scientific Research Institute
38			FAO Ukraine project team and key stakeholders	FAO Ukraine and project stakeholders	Final event of the project	27 June 2023 from 8.30 to 13.40 CEST

Appendix 2. Rating scheme

See the instructions provided in Annex 2 (GEF, 2017).

PROJECT RESULTS AND OUTCOMES

Project outcomes are rated based on the extent to which the project's objectives were achieved. A seven-point rating scale is used to assess overall outcomes.

Rating	Description
Highly Satisfactory (HS)	<i>Level of outcomes achieved clearly exceeds expectations and/or there were no shortcomings.</i>
Satisfactory (S)	<i>Level of outcomes achieved was as expected and/or there were no or minor shortcomings.</i>
Moderately Satisfactory (MS)	<i>Level of outcomes achieved more or less as expected and/or there were moderate shortcomings.</i>
Moderately Unsatisfactory (MU)	<i>Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings.</i>
Unsatisfactory (U)	<i>Level of outcomes achieved substantially lower than expected and/or there were major shortcomings.</i>
Highly Unsatisfactory (HU)	<i>Only a negligible level of outcomes achieved and/or there were severe shortcomings.</i>
Unable to Assess (UA)	<i>The available information does not allow for an assessment of the level of outcome achievements.</i>

PROJECT IMPLEMENTATION AND EXECUTION

Quality of implementation pertains to the role and responsibilities discharged by the GEF agencies that have direct access to the GEF resources. Quality of execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received the GEF funds from the GEF agencies and executed the funded activities on the ground. The performance is rated on a seven-point scale.

Rating	Description
Highly Satisfactory (HS)	<i>There were no shortcomings and the quality of implementation or execution exceeded expectations.</i>
Satisfactory (S)	<i>There were no or minor shortcomings and the quality of implementation or execution met expectations.</i>
Moderately Satisfactory (MS)	<i>There were some shortcomings and the quality of implementation or execution more or less met expectations.</i>
Moderately Unsatisfactory (MU)	<i>There were significant shortcomings and the quality of implementation or execution was somewhat lower than expected.</i>
Unsatisfactory (U)	<i>There were major shortcomings and the quality of implementation or execution was substantially lower than expected.</i>
Highly Unsatisfactory (HU)	<i>There were severe shortcomings in the quality of implementation or execution.</i>
Unable to Assess (UA)	<i>The available information does not allow for an assessment of the quality of implementation or execution.</i>

MONITORING AND EVALUATION

The quality of the project's M&E is assessed in terms of:

- i. design; and
- ii. implementation.

SUSTAINABILITY

Sustainability will be assessed by 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 four-point scale:

Rating	Description
Likely (L)	<i>There is little or no risk to sustainability.</i>
Moderately Likely (ML)	<i>There are moderate risks to sustainability.</i>
Moderately Unlikely (MU)	<i>There are significant risks to sustainability.</i>
Unlikely (U)	<i>There are severe risks to sustainability.</i>
Unable to Assess (UA)	<i>Unable to assess the expected incidence and magnitude of risks to sustainability</i>

Appendix 3. Evaluation matrix

Project objective: to promote the restoration of degraded landscapes in the forest-steppe and steppe zones of Ukraine by scaling up INRM practices

Outcomes	Outcome indicator ⁱ	Baseline	MTR target/effective assessment from 20 to 24 January 2020	End-of-project target	Cumulative progress since project start level on 30 June 2023 According to the draft 2023 PIR
Component 1. Enabling environment for INRM					
Outcome 1.1. Strengthened institutional, legal and policy-enabling conditions for the INRM	INRM principles integrated into environment, agriculture and forest sector frameworks, policies and programmes	Weak policy and legal framework for INRM and lack of management plans at the local level to implement INRM Lack of systematic and long-term monitoring of land resources	INRM principles integrated into key national policy frameworks and productive sectors	Strong enabling environment and monitoring system facilitates the integration of INRM into land use plans that cover 230 800 ha of land	75%
Output 1.1.1. Strengthening of the CC-LDD to support intersectoral coordination for INRM at national and subnational levels	CC-LDD provides a platform for coordination and information sharing on INRM Number of ministries and agencies that become members of the CC-LDD	National action plan recommends the establishment of the CC-LDD for enhanced coordination and information sharing, but the recommendations have not been operationalized	CC-LDD strengthened with participation from all relevant sectors	Enhanced coordination and information sharing on INRM across sectors	
Output 1.1.2. Improved institutional structures and legislation for sustainable land and shelterbelt management	Number of draft laws and regulations in support of INRM principles approved (i.e. on functional land use, economic incentives, monitoring systems, soil quality standards and ownership of shelterbelts)	The policy framework is full of loopholes (e.g. unclear ownership rights of shelterbelts)	Review of existing laws, regulations and policies related to INRM		

Outcomes	Outcome indicatorⁱ	Baseline	MTR target/effective assessment from 20 to 24 January 2020	End-of-project target	Cumulative progress since project start level on 30 June 2023 According to the draft 2023 PIR
Output 1.1.3. Strengthened national environmental monitoring systems and spatial planning on land and shelterbelt resources and land degradation control	System in place for environmental monitoring and spatial planning Number of persons in key institutions at national and subnational levels using the system	Tools and methods for environmental monitoring at the national level are neither up to date nor harmonized, which makes it difficult to use the generated information for land use planning	All relevant institutions trained in the use of up-to date tools and methods for environmental monitoring and land use planning	System in place for environmental monitoring and spatial planning	
Output 1.1.4. Establishment of an LDN monitoring system	System in place for the monitoring of LDN indicators at demonstration sites (land cover, land productivity and SOC)	Tools and methods for LDN monitoring are not up-to-date, and a new monitoring system needs to be established	LDN baseline, including SOC, established at demonstration sites	LDN monitoring system documented and shared for replication at other locations	
Output 1.1.5. Integrated land use management plans at the oblast level	Number of integrated land use plans	0	One land use plan covering at least 50 000 ha of land	At least three integrated land use plans covering 230 800 ha of land	
Outcome 1.2. Financial and incentive mechanisms for INRM in place at national and subnational levels	Number and types of state-led and market-led incentive mechanisms supporting INRM	Incentive mechanisms for INRM are generally weak in Ukraine due to the unclear ownership of resources and a lack of knowledge	Ownership rights of shelterbelts clarified and suitable incentive mechanisms, such as PES and opportunities for the certification of value chains, identified in the three participating oblasts	At least two incentive mechanisms in place	100%
Output 1.2.1. Ownership rights, procedures on inventory and standards for management and the planting of shelterbelts based	Ownership rights, procedures on inventory and standards for planting shelterbelts defined	Unclear ownership rights of shelterbelts are the main obstacle to their rehabilitation and sustainable use	Standards for shelterbelt ownership and use established	Standards for shelterbelt ownership and use operationalized	

Outcomes	Outcome indicator ⁱ	Baseline	MTR target/effective assessment from 20 to 24 January 2020	End-of-project target	Cumulative progress since project start level on 30 June 2023 According to the draft 2023 PIR
on types of soils and natural zones defined					
Output 1.2.2. Clear criteria and indicators developed to establish PES schemes for INRM	Criteria and indicators developed for the establishment of PES schemes	Ukraine has very limited experience with mechanisms for scaling up INRM, such as PES, and there is a need to establish clear criteria and indicators	Review of criteria and indicators to establish PES schemes with recommendations for Ukraine	Criteria and indicators to establish PES schemes in Ukraine developed	
Output 1.2.3. Inclusive and green food and feed value chains strengthened (e.g. cereals, oil seeds, selected NWFPs)	Number of inclusive and green food and feed value chains strengthened	Value chains are generally neither sufficiently inclusive nor environmentally friendly	At least four food and feed value chains analysed using the Making Markets Work for the Poor methodology	At least two food and feed value chains made more inclusive and environmentally friendly	
Component 2. Restoration of productivity and resilience of production landscapes					
Outcome 2.1. Scaling up of SLM and CSA practices for production landscapes in the forest-steppe zone	SLM and CSA technologies/best practices applied on X ha of land, sequestering Y t CO ₂ e	SLM and CSA technologies applied in isolated locations in Ukraine promoted by research institutes and agroenterprises that are not connected to higher-level planning and decision-making processes	10 000 ha	29 400 ha 277 675 t CO ₂ e	90%
Output 2.1.1. Capacity to implement conservation agriculture in the forest-steppe zone developed	Number of conservation agriculture training events and workshops supported by the project FFS initiatives established Number of farmer-to-farmer exchange visits	Agricultural service providers have limited knowledge and technical skills related to conservation agriculture	At least two training events, each in the oblasts of Kharkiv and Kyiv with around 20 agricultural service providers in total	30 agricultural service providers trained in conservation agriculture, three FFS initiatives established and three exchange visits organized	

Outcomes	Outcome indicatorⁱ	Baseline	MTR target/effective assessment from 20 to 24 January 2020	End-of-project target	Cumulative progress since project start level on 30 June 2023 According to the draft 2023 PIR
Output 2.1.2. Conservation agriculture practices (e.g. minimum tillage) demonstrated and scaled up (for cereals: wheat, barley and rye; for corn: oil seeds, sunflowers and canola)	Number of conservation agriculture practices implemented in selected production landscapes	Mainly the steppe area in Ukraine has adopted conservation agriculture on only 2 percent of soils	Number of good conservation agricultural practices implemented on 10 000 ha of land	Number of good conservation agricultural practices implemented on 29 400 ha of land, leading to the sequestration of 277 675 t CO ₂ e	
Output 2.1.3. Identification and support to the special needs of rural women at project sites to ensure that their important role in agriculture is recognized and that they reap the benefits of investment in climate-smart agriculture	Number of training events and workshops organized for women's groups, young women entrepreneurs, etc. Number of women-to-women exchange visits	The feminization of agriculture in Ukraine has led to an over-representation of women in rural areas, and they often shoulder the main responsibility for agricultural activities	At least one training event each in the oblasts of Kharkiv and Kyiv with around 20 agricultural service providers in total	30 agricultural service providers trained in gender issues and the special needs of rural women Two exchange visits organized	
Outcome 2.2. Rehabilitation and the sustainable management of shelterbelts	Best practices for shelterbelt management applied on X ha of land, sequestering Y t CO ₂ e	Shelterbelts have been allowed to degrade since independence due to unclear ownership	1 000 ha	3 600 ha 87 821 t CO ₂ e	80%
Output 2.2.1. Guidelines and capacity for inventory and the management of shelterbelts developed	Number of guidelines for inventory and the management of shelterbelts	No guidelines exist	Guidelines developed and published	Guidelines applied at project demonstration sites	
Output 2.2.2. Rehabilitation and multipurpose shelterbelt management demonstrated and improved	Number of shelterbelt best management practices implemented	No best management practices have been documented and demonstrated in Ukraine since independence	Number of shelterbelt best management practices implemented on 1 000 ha of land	Number of shelterbelt best management practices implemented on 3 600 ha of land, leading to the sequestration of 87 821 t CO ₂ e	

Outcomes	Outcome indicator ⁱ	Baseline	MTR target/effective assessment from 20 to 24 January 2020	End-of-project target	Cumulative progress since project start level on 30 June 2023 According to the draft 2023 PIR
Component 3. M&E and adaptive management					
Outcome 3.1. Adaptive management and key lessons shared (M&E system ensuring the timely delivery of project benefits)	M&E system in place to support adaptive results-based management and the monitoring of scaling up as a result of the project	No system in place	Implemented project based on adaptive results-based management	Project delivers expected results and shares best practices	60%
Output 3.1.1. Project progress continually monitored, and MTR and final evaluation conducted	MTR and final evaluation reports	0	MTR recommendations implemented		
Output 3.1.2. Assessment of the resilience of tested INRM approaches and feeding back of lessons to the field level	Resilience assessment	Resilience generally not taken into consideration in natural resource management activities	Resilience assessment using the resilience, adaptation and transformation assessment approach of tested INRM approaches to identify the most appropriate implementation pathways for further scaling up	Scaled up INRM approaches are resilient to climate change and other external stressors	Output cancelled
Output 3.1.3. Project achievements, results and innovative approaches recorded and disseminated	Project website and social media pages X number of project newsletters X number of awareness/outreach events organized	Low awareness of INRM, including SLM, conservation agriculture and CSA	Project website and social media pages established Outreach event organized in connection with project launch	Six project newsletters Four outreach events	

Note: ⁱ This is from the project's approved results framework.

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