

GEF - PROJECT IMPLEMENTATION REPORT (PIR)

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UNEP GEF PIR Fiscal Year 2024
Reporting from 1 July 2023 to 30 June 2024

1 PROJECT IDENTIFICATION

1.1 Project Details

GEF ID: 10830	Umoja WBS: SB-023178
SMA IPMR ID: 155658	Grant ID: S1-32GFL-000834
Project Short Title: BiH Restoration Project	
Project Title: Creating an Enabling Environment to Support LDN Target Implementation Through Strengthening Capacities and Establishing an LDN Monitoring and Reporting System in Bosnia and Herzegovina	
Duration months planned:	24
Duration months age:	11
Project Type:	Medium Sized Project (MSP)
Parent Programme if child project:	
Project Scope:	National
Region:	Europe
Countries:	Bosnia and Herzegovina
GEF Focal Area(s):	Land Degradation
GEF financing amount:	\$ 843,242.00
Co-financing amount:	\$ 6,563,000.00
Date of CEO Endorsement/Approval:	2022-07-29
UNEP Project Approval Date:	
Start of Implementation (PCA entering into force):	2023-09-05
Date of Inception Workshop, if available:	
Date of First Disbursement:	2023-11-22
Total disbursement as of 30 June 2024:	\$ 429,467.00

Total expenditure as of 30 June:	\$ 171,867.00
Midterm undertaken?:	n/a
Actual Mid-Term Date, if taken:	
Expected Mid-Term Date, if not taken:	
Completion Date Planned - Original PCA:	2025-05-09
Completion Date Revised - Current PCA:	
Expected Terminal Evaluation Date:	2025-11-09
Expected Financial Closure Date:	2026-03-31

1.2 Project Description

Project is divided in three components: 1: Creating an enabling environment for LDN and Component 2: Establishing LDN monitoring and reporting system and development of LDN roadmap and 3: Monitoring and evaluation, under component 1: there is two project outcomes: 1.1: Improved institutional, legal and policy framework for LDN implementation and 1.2: Enhanced LDN target implementation capacity of relevant stakeholders Indicator for outcomes 1.1 is number of planning documents that incorporate LDN monitoring and reporting for enhanced LDN implementation and indicator for outcome 1.2 is 200 individuals (100 women and 100 men) receiving support through the capacity development program. Project outcome for component 2 is LDN monitoring and reporting capacity improved at national and sub-national levels to support LDN in production landscapes in line with the Global Support Programme III and Indicators for this outcome is decision support system that aligns local and national data operational to support planning, monitoring and reporting and 10,000 hectares under best practices are selected and supported with gender perspective. Project outcome for component 3 is Monitoring and dissemination of lessons learned to support scaling up of FLR to the national level.

1.3 Project Contacts

Division(s) Implementing the project	Ecosystems Division
Name of co-implementing Agency	
Executing Agency (ies)	FAO
names of Other Project Partners	
UNEP Portfolio Manager(s)	Johan Robinson
UNEP Task Manager(s)	Ersin Esen
UNEP Budget/Finance Officer	George Saddimbah
UNEP Support Assistants	Charles Imbezi

Manager/Representative	Nabil Gangi
Project Manager	Vlado Pijunovic
Finance Manager	Andrea Berczi
Communications Lead, if relevant	

2 Overview of Project Status

2.1 UNEP PoW & UN

UNEP Current Subprogramme(s):	Thematic: Nature action subprogramme
UNEP previous Subprogramme(s):	
PoW Indicator(s):	<ul style="list-style-type: none"> Nature: (iv) Increase in territory of land- and seascapes that is under improved ecosystem conservation and restoration
UNSDCF/UNDAF linkages	Outcome 1. By 2025, people benefit from resilient, inclusive and sustainable growth ensured by the convergence of economic development and management of environment and cultural resources.
Link to relevant SDG Goals	<ul style="list-style-type: none"> Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Link to relevant SDG Targets:	<ul style="list-style-type: none"> 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality 15.3 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

2.2. GEF Core and Sub Indicators

GEF core or sub indicators targeted by the project as defined at CEO Endorsement/Approval, as well as results

Indicators	Targets - Expected Value			Materialized to date
	Mid-term	End-of-project	Total Target	
4- Area of landscapes under improved practices (excluding protected areas)			10000	4,000
6- Greenhouse gas emissions mitigated			0.28	
11- People benefitting from GEF-financed investments			2200	1,200
11.1- Male			1100	700
11.2- Female			1100	500

Implementation Status 2023: 1st PIR

2.3. Implementation Status and Risks

	PIR#	Rating towards outcomes (section 3.1)	Rating towards outputs (section 3.2)	Risk rating (section 4.2)
FY 2024	1st PIR	S	S	L
FY 2023				
FY 2022				
FY 2021				
FY 2020				
FY 2019				
FY 2018				
FY 2017				
FY 2016				
FY 2015				

Summary of status

Component 1: Creating an enabling environment for Land Degradation Neutrality (LDN)

Gaps and barriers in existing legislative framework on land and mapping the responsibilities/competencies of relevant institutions in terms of LDN monitoring and reporting done, Institutional and legal assessment prepared. Set of three technical trainings of institutional personnel on land related institutions on LDN implementation and information exchange done. Two technical trainings of stakeholders in pilot areas including private forest owners and smallholder farmers focused on the application of the LDN concept implemented. Strengthened technical capacities of extensionists from Ministries of Agriculture in both entities and technical staff on approaches and methods for soil monitoring, including data harmonization, DSM, SIS, field techniques, analytical methods (SOPs), through three trainings using the EduSoils platform.

Component 2. Establishing LDN monitoring and reporting system and development of LDN roadmap

GAP analysis of available land databases/data (global, regional and national) in terms of data that are needed for the LDN monitoring and reporting system in progress will be finalized latest October 2024. The indicators that will be used to monitor LD and SLM implementation at different levels, data sources and/or responsibilities on data provision defined. Ongoing activity on creation of a system for monitoring soil health and sustainable soil management integrated within LMIS, will be finalized by November 2024. Assessment of existing country's monitoring infrastructure in terms of soil information management and soil analytical capabilities and needs, including capacity building ongoing and will be finalized in October 2024. Assessment of threats to soil health (according to the definition of soil threats from the SWSR report) and

consequently agree on metrics for soil monitoring also considering the country’s physiographical context and socio-economic priorities ongoing and will be part of two host LDN monitoring mechanism. Strengthening of BiH’s national analysis and data management capacity for that metrics, including the adoption of standard analytical procedures done through three technical workshops/trainings. Decision on monitoring criteria and methodologies in order to obtain a systematic and sustainable data collection strategy that can be integrated in the wider data information and decision support systems and suitable to be used at local and national scale will be finalized after two host LDN monitoring mechanism finalized. Baseline maps and choose algorithms for land degradation assessment: preliminary models for the four pilot areas area under study produced. Sampling needs and methods, and methodologies for analysis, following FAO’s Protocol for the assessment of Soil Health and SSM done and from pilot areas in total 280 soil samples has been analysed. Existing SLM practices identified and characterized. Site-specific SLM selected in all pilot areas, depending on land degradation factors and processes, and soil threats, also considering socio-economic parameters and in line with FAO’s VGSSM and International Code of Conduct for the Use of Fertilizers. Actions towards mitigation of drought and wildfires, identified in two pilot areas Gabel-Capljina and Trebinje, implementation of selected measures starting in October 2024 due to planting window for selected seedlings (wild pomegranate and organic olive trees) which will contribute to revitalization of land in pilot areas. Data collection: sampling, measuring, analytical baselines for the three LDN indicators as well as other soil properties established for the Pilot Sites before the implementation of SLM, including SOC.

Component 3. Knowledge management, monitoring and evaluation and public awareness raising

Road map and guidelines for LDN monitoring and UNCCD reporting prepared and disseminated to key stakeholders at the subnational level. Dissemination of project results so far to stakeholoders via two round tables done. Four awareness raising events organized in pilot areas (one even in each area). Organized two technical workshops for presentation and discussion of project findings with national, and district authorities, forestry and agro-businesses, experts, NGOs, local communities, carbon and other investors, international organizations done so far, two more are planned in next period.

2.4 Co Finance

Planned Co-finance:	\$ 6,563,000
Actual to date:	5,830,000
Progress	Justify progress in terms of materialization of expected co-finance. State any relevant challenges: The co-finance activities from FAO in amount USD 263,000 implemented. Co-financing activities from ministries of Agriculture in amount USD 5,567,000 implemented so far. Co-finance report has not been submitted to the IA yet.

2.5. Stakeholder

Date of project steering committee meeting	2022-12-14
Stakeholder engagement (will be uploaded to GEF Portal)	The project involved different stakeholders from the beginning. Many activities are already realized, where capacity building is separately planned for the stakeholders where the most important ones are: farmers, forest owners, Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska, Ministry of Spatial Planning, Civil Engineering and Ecology of the Republic of Srpska, Faculty of Forestry, Faculty of Agriculture, NGO sector, Institute of Agriculture, youth and rural people who are living in the selected hot spot areas. Stakeholders are regularly consulted about the main challenges and issues of land degradation in the Bijeljina and Trebinje regions. During the selection of areas that will be pilot areas within the project, round tables were organized and feedback from the local stakeholders is considered very relevant. Moreover, the capacity building process was focused on the end users, but also decision-makers aimed to improve existing challenges in this regard.

2.6. Gender

Does the project have a gender action plan?	Yes
Gender mainstreaming (will be uploaded to GEF Portal):	The project has a Gender Assessment Report as required by the proposal, which has been prepared and technically cleared.

2.7. ESSM

Moderate/High risk projects (in terms of Environmental and social safeguards)	<p>Was the project classified as moderate/high risk CEO Endorsement/Approval Stage?</p> <p>No</p> <p>If yes, what specific safeguard risks were identified in the SRIF/ESERN?</p>
New social and/or environmental risks	<p>Have any new social and/or environmental risks been identified during the reporting period?</p> <p>No</p> <p>If yes, describe the new risks or changes?</p>
Complaints and grievances related to social and/or environmental impacts	<p>Has the project received complaints related to social and/or environmental impacts (actual or potential) during the reporting period?</p> <p>No</p> <p>If yes, please describe the complaint(s) or grievance(s) in detail, including the status, significance, who was involved and what actions were taken?</p>
Environmental and social safeguards management	<p>The project conduct social and environmental management by adhering to UNEP’s Environmental and Social Safeguard Framework (ESSF), ensuring that all activities align with best practices and low-risk standards. This includes the implementation of the Gender Action Plan and a Stakeholder Engagement Plan to ensure inclusive participation and equitable benefits. Additionally, the project implements sustainable land and resource management practices to mitigate any environmental impact, focusing on the restoration of degraded lands and promotion of sustainable agricultural practices. Continuous monitoring and evaluation is conducted to ensure compliance with national and international standards, with particular attention to minimizing any adverse impacts on biodiversity, community health, and indigenous peoples' rights. Safeguard recommendations, such as revisiting guiding principles during project development and utilizing grievance mechanisms, will be integral to the project’s management approach. In addition, the Project will benefit from FAO’s grievance redress mechanism.</p>

2.8. KM/Learning

<p>Knowledge activities and products</p>	<p>Road map and guidelines for LDN monitoring and UNCCD reporting is prepared published and disseminated to key stakeholders at the subnational level.</p> <p>Information to support SLM concepts and practices, presentation of LDN targets, to implement and monitor in a LDN context is produced to the wider public through the workshops and education/training program. Recommendations for this output are therefore the development and distribution of the following knowledge products:</p> <p>Knowledge product explaining and promoting LDN framework and BiH voluntary targets is developed for a public audience (different stakeholder groups). Associated with this stakeholders are regularly informed on project objectives and activities, including LD baselines, hotspots and monitoring approaches for scaling. All these products are shared with the audience during workshops, meetings and other field visits.</p> <p>Knowledge products focused on promoting SLM practices and techniques, including information on Climate Change Adaptations (CCA), links to LDN and landscape planning are shared with stakeholders.</p> <p>Gender-sensitive knowledge products entitled Gender Assessment Report were created.</p>
<p>Main learning during the period</p>	<p>Active inclusion of stakeholders and regular communication with decision-makers and engaged experts is of great importance for project success. Some stakeholders mostly rural people were not interested in participation, and land degradation is unfortunately a question of secondary importance for the local people. After the implementation of capacity building and awareness raising among them, this was changed in the direction that many farmers and private forest owners were engaged in the project activities.</p> <p>Stakeholder engagement is a critical aspect of project success. Their expectations of the project are understood through interaction with stakeholders ensuring that everyone has a clear understanding of project goals and progress. Within the project stakeholder inputs are considered providing new insights and perspectives, leading to better decision-making processes. A stakeholder engagement plan serves as a strategic document outlining how a project intends to involve and communicate with stakeholders throughout a project.</p>

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2.9. Stories

Stories to be shared	Stories will be shared in the next reporting period.
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3 Performance

3.1 Rating of progress towards achieving the project outcomes

Project Objective and Outcomes	Indicator	Baseline level	Mid-Term Target or Milestones	End of Project Target	Progress as of current period (numeric, percentage, or binary entry only)	Summary by the EA of attainment of the indicator & target as of 30 June	Progress rating
1.1: Improved institutional, legal and policy framework for LDN implementation	Indicator: Number of planning documents that incorporate LDN monitoring and reporting for enhanced LDN implementation	0. Country developed its LDN Targets and commitments based on global data.		4 planning documents (2 per entity)	2 documents finalized	Institutional and Legal Assessment done for both entities. It will be included into LDN Road Map.	S
1.2: Enhanced LDN target implementation capacity of relevant stakeholders	[Core Indicator 11]Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	0		2200 individuals (1100 women and 1100 men)	50%	Till June 2024 through capacity building trainings and workshops, but also under measure of soil analyses and provided recommendations for soil treatment 1,100 individuals have been covered, out of that 50% were women.	S
	Number of individuals with enhanced capacity to implement national LDN targets	0		200 individuals (100 women and 100 men) receiving support through the capacity development program	100%	Six workshops in total provided to beneficiaries. Four workshops done in pilot area for local beneficiaries, and two workshops done for entity and state officials, which provided capacity support to 200 individuals (100 men and 100 women).	S
2.1 LDN monitoring and reporting capacity improved at national and sub-national levels to support LDN	Decision support system that aligns local and national data operational to support	Current national targets		Decision support system (DSS)	60%	The team started working on decision system., so far baseline and first analyze done, now team organizing	S

Project Objective and Outcomes	Indicator	Baseline level	Mid-Term Target or Milestones	End of Project Target	Progress as of current period (numeric, percentage, or binary entry only)	Summary by the EA of attainment of the indicator & target as of 30 June	Progress rating
in production landscapes in line with the Global Support Programme III	planning, monitoring, and reporting	established based on the three core indicators for land productivity dynamics (land use change, soil organic carbon, and changes productivity)		developed, building on an agreed approach and a set of national indicators agreed by MITF		workshops with relevant stakeholder to prepare decision mechanism document.	
	Land Monitoring Information System implemented for the collection and harmonization of SLM data and indicators	National Report for the Target Setting Programme calls for the design of a single land information system Different databases exist to collect data related to land degradation		Land Monitoring Information System operational	50%	Set of data for land monitoring collected as well as current reporting monitoring mechanism analyzed. Now, the team is in stage of preparation LDN monitoring proposal to respective institutions.	S

Project Objective and Outcomes	Indicator	Baseline level	Mid-Term Target or Milestones	End of Project Target	Progress as of current period (numeric, percentage, or binary entry only)	Summary by the EA of attainment of the indicator & target as of 30 June	Progress rating
		and SLM/SSM					
	[Core Indicator 4]Number of hectares under best practices, supported with a gender perspective	Priority areas identified under the BiH Target Setting Programme submitted to the UNCCD in 2018		10,000 ha with management plans and proposed implementation activities for the priority areas with gender perspective	10%	So far even 26 ha done for soil analyses, and planned measures to be implemented in another 20 ha.	MS
	[Core Indicator 6]Carbon sequestered or emissions avoided in the AFOLU sector (tons CO2e)	0		280,000 tons	50%	Proper treatment of soil to pilot area already prepared, as soil analyses showed.	S
3.1 Monitoring and dissemination of lessons learned to support scaling up of FLR to the national level	Project implemented based on RBM principles PIR ratings	None		Project implemented without major delays PIR rating: at least S		There are delays in project reporting.	MS

3.2 Rating of progress implementation towards delivery of outputs (Implementation Progress)

Component	Output/Activity	Expected completion date	Implementation status as of previous reporting period (%)	Implementation status as of current reporting period (%)	Progress rating justification, description of challenges faced and explanations for any delay	Progress Rating
1 1: Creating an enabling	1.1.1 : Analysis of the current institutional and legal set up in the country to assist in the identification of the key/hosting LDN institution	2024-06-30	80%	100%	Analyse has been done and validated with relevant institutions. Activity	S

Component	Output/Activity	Expected completion date	Implementation status as of previous reporting period (%)	Implementation status as of current reporting period (%)	Progress rating justification, description of challenges faced and explanations for any delay	Progress Rating
environment for LDN	responsible for monitoring and reporting (with clearly determined responsibilities) on LDN progress				finalized.	
	1.2.1: Capacity development program in place on LDN target setting and implementation for BiH FBiH/RS Government staff, smallholder farmers and other relevant authorities (including the key/hosting institution)	2025-02-20	75%	80%	A capacity development program has been implemented for all stakeholders. The remaining activities will be done by February 2025.	S
2 Establishing LDN monitoring and reporting system and development of LDN roadmap	2.1.1 Land Monitoring and Information sharing system (LMIS) developed, with two hosts	2024-10-30	10%	60%	Report on road map for the nomination of host institutions, along with data exchange is ongoing.	S
	2.1.2 Capacity to monitor and report on LDN improved at national and sub-national levels	2024-10-30	30%	40%	An important challenge in this regard are capacities of the institutions for monitoring and reporting. A soil monitoring system exists in BiH, but it is not complete, synchronised between two entities. Laboratories are not equally equipped and methodology is not aligned with UNCCD.	S
	2.1.3: SLM and SFM best practices in forests, rangelands and croplands demonstrated on 4 pilot areas in both entities and results monitored via LMIS	2025-02-12	30%	70%	Best practices are ready for implementation starting in September. Soil sampling, analyse, SLM recommendation, seedlings etc. are prepared for the Autumn when it will be implemented.	S
3 Monitoring and evaluation	3.1.1 Projects results and lessons learned disseminated among stakeholders on national and sub national level	2025-03-03	20%	65%	So far project results, planned measures and finding in the field has been disseminated to all beneficiaries at all four pilot municipalities as well as to relevant institutions. Once planned SLM measures finalized in November 2024,	S

Component	Output/Activity	Expected completion date	Implementation status as of previous reporting period (%)	Implementation status as of current reporting period (%)	Progress rating justification, description of challenges faced and explanations for any delay	Progress Rating
					lessons learned will be further disseminated.	
	3.1.2 Project results monitored and evaluated	2025-03-31			This activity will be done in March 2025	S

The Task Manager will decide on the relevant level of disaggregation (i.e. either at the output or activity level).

4 Risks

4.1 Table A. Project management Risk

Please refer to the Risk Help Sheet for more details on rating

Risk Factor	EA Rating	TM Rating
1 Management structure - Roles and responsibilities	Low	Low
2 Governance structure - Oversight	Low	Low
3 Implementation schedule	Moderate	Moderate
4 Budget	Low	Low
5 Financial Management	Low	Low
6 Reporting	Low	Low
7 Capacity to deliver	Low	Low

If any of the risk factors is rated a Moderate or higher, please include it in Table B below

4.2 Table B. Risk-log

Implementation Status (Current PIR)

Insert ALL the risks identified either at CEO endorsement (inc. safeguards screening), previous/current PIRs, and MTRs. Use the last line to propose a suggested consolidated rating.

Risks	Risk affecting: Outcome / outputs	CEO ED	PIR 1	PIR 2	PIR 3	PIR 4	PIR 5	Current PIR	Δ	Justification
Governance structure-Oversight	Well-developed Management	L	L						=	Regular coordination meetings with local and entities governments are established
Lack of close cooperation between key	all outcomes	M	M						=	

Risks	Risk affecting: Outcome / outputs	CEO ED	PIR 1	PIR 2	PIR 3	PIR 4	PIR 5	Current PIR	Δ	Justification
institutional stakeholders. as well as among local stakeholders										
Unclear responsibilities of institutions at state, entity and local level	all outcomes	M	M						=	
Low technical capacity in operationalizing LDN at entity and local level halting the project's progress	all outcomes	L	L						=	
Lack of political support to LDN	all outcomes	L	L						=	
Climate Change stressors such as increased temperatures and frequency of intense precipitation as well as drought, lead to soil erosion and waterlogging, yield losses or crop failure.	all outcomes	L	L						=	
		L	L							

4.3 Table C. Outstanding Moderate, Significant, and High risks

Additional mitigation measures for the next periods

Risk	Actions decided during the previous reporting instance (PIRt-1, MTR, etc.)	Actions effectively undertaken this reporting period	What	When	By Whom
SLM measures are not implemented	Implementation of SLM measures in four pilot areas.	The team of project closely cooperates with government and executing agency finish on time procedures for planting pilot fields	Measures and exact locations identified. Materials and equipment procured.	By October 2024	The project team

High Risk (H): There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks. Significant Risk (S): There is a probability of between 51% and 75% that assumptions may fail to hold and/or the project may face substantial risks. Moderate Risk (M): There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/or the project may face only modest risks. Low Risk (L): There is a probability of up to 25% that assumptions may fail to hold or materialize, and/or the project may face only modest risks.

5 Amendment - GeoSpatial

Project Minor Amendments

Minor amendments are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5% as described in Annex 9 of the Project and Program Cycle Policy Guidelines. Please tick each category for which a change occurred in the fiscal year of reporting and provide a description of the change that occurred in the textbox. You may attach supporting document as appropriate

5.1 Table A: Listing of all Minor Amendment (TM)

Minor Amendments	Changes
Results Framework:	No
Components and Cost:	No
Institutional and implementation arrangements:	No
Financial Management:	No
Implementation Schedule:	
Executing Entity:	No
Executing Entity Category:	No
Minor project objective change:	No
Safeguards:	No
Risk analysis:	No
Increase of GEF financing up to 5%:	No
Location of project activity:	No
Other:	No

Minor amendments

5.2 Table B: History of project revisions and/or extensions (TM)

Version	Type	Signed/Approved by UNEP	Entry Into Force (last signature Date)	Agreement Expiry Date	Main changes introduced in this revision

Version	Type	Signed/Approved by UNEP	Entry Into Force (last signature Date)	Agreement Expiry Date	Main changes introduced in this revision

GEO Location Information:

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com> Please see the Geocoding User Guide by clicking here

Location Name	Latitude	Longitude	GEO Name ID	Location Description	Activity Description
Čapljina	43.08	17.676		Gabela	
Živinice	44.473	18.665			
Bijeljina 1	44.723	19.256			
Bijeljina 2	44.742	19.174			
Trebinje 1	42.717	18.3		Tvrdoš	
Trebinje 2	42.761	18.238		Slano	

Please provide any further geo-referenced information and map where the project interventions is taking place as appropriate. *

At the implementation sites of LDN activities (Živinice, Čapljina, Trebinje i Bijeljina), an additional analysis of the adapted land surface will be conducted using photogrammetry and remote sensing techniques. The plan is to create an orthomosaic image of the entire area before and after the implemented works. This imagery will be captured using an unmanned aerial vehicle (drone) equipped with a multispectral system covering the Blue, Green, Red, Red Edge, and Near Infrared bands, ensuring comprehensive coverage. The processed imagery will contain spatial information along with details on the current visual appearance of the adapted plot. Furthermore, crop health and surface conditions will be remotely assessed using the Normalized difference vegetation index (NDVI), the Soil Adjusted Vegetation Index (SAVI), and other vegetation indexes. These captured images and obtained data will serve to illustrate the differences between the initial and updated conditions, as well as to monitor the achieved results effectively.

Sentinel-2 satellite imagery with a basic pixel resolution of 10 x 10 m can be utilized for remote sensing and analysis. However, much more precise data can be obtained through the use of drones (0,1 x 0,1 m), which enable the identification of each plant and the determination of its health status (using indexes like SAVI or NDVI).

This level of detail is not achievable with satellite imagery, given that the pilot areas are smaller than 4 ha, and because newly planted vegetation, such as olive trees in their initial years of growth when their canopy is smaller, may not significantly impact the results of vegetation index analysis using satellites.

This applies to the analysis of applied land improvements, in this case, technical soil conservation measures such as terracing and soil property enhancement. Satellite imagery can complement these studies by providing a long-term trend analysis of the broader project area's condition.

[\[Annex any linked geospatial file\]](#)