Creating an Enabling Environment to Support LDN Target Implementation Through Strengthening Capacities and Establishing an LDN Monitoring and Reporting System in Bosnia and Herzegovina

Part I: Project Information

GEF ID
10830

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

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

Countries
Bosnia-Herzegovina

Agency(ies)
UNEP

Other Executing Partner(s)
FAO

Executing Partner Type
GEF Agency

GEF Focal Area
Land Degradation

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Sustainable Forest, Improved Soil and Water Management Techniques, Sustainable Agriculture, Land Degradation Neutrality, Food Security, Climate Change, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Stakeholders, Type of Engagement, Information Dissemination, Participation, Consultation, Local Communities, Civil Society, Non-Governmental Organization, Communications, Public Campaigns, Awareness Raising, Education, Gender Equality, Gender results areas, Capacity Development, Participation and leadership, Gender Mainstreaming, Gender-sensitive indicators, Women groups, Beneficiaries, Capacity, Knowledge and Research, Knowledge Generation, Private Sector, Individuals/Entrepreneurs, Knowledge Exchange

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

6/21/2022

Expected Implementation Start

7/1/2022

Expected Completion Date

6/30/2024

Duration

24In Months

Agency Fee($)

82,008.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-2-5	Create enabling environments to support scaling up and mainstreaming of SLM and LDN	GET	863,242.00	6,563,000.00
		Total Project Cost($)	**863,242.00**	**6,563,000.00**

B. Project description summary

Project Objective

To foster a coherent policy environment and track progress towards achieving the national LDN targets.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1: Creating an enabling environment for LDN	Technical Assistance	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*	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 responsible for monitoring and reporting (with clearly determined responsibilities) on LDN progress	GET	492,496.00	788,000.00
		1.2: Enhanced LDN target implementation capacity of relevant stakeholders *Indicator:* *200 individuals (100 women and 100 men) receiving support through the capacity development program*	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)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Establishing LDN monitoring and reporting system and development of LDN roadmap	Technical Assistance	2.1 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 <u>*Indicator:*</u> *Decision support system that aligns local and national data operational to support planning, monitoring and reporting* - *10,000 hectares under best practices are selected and supported with gender perspective*	2.1.1 Land Monitoring and Information sharing system (LMIS) developed, with two hosts 2.1.2 Capacity to monitor and report on LDN improved at national and sub-national levels 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	GET	246,054.00	4,266,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Monitoring and evaluation	Technical Assistance	3.1 Monitoring and dissemination of lessons learned to support scaling up of FLR to the national level	3.1.1 Projects results and lessons learned disseminated among stakeholders on national and sub national level	GET	46,250.00	852,000.00
			3.1.2 Project results monitored and evaluated			
				Sub Total ($)	**784,800.00**	**5,906,000.00**

Project Management Cost (PMC)

GET	78,442.00	657,000.00
Sub Total($)	**78,442.00**	**657,000.00**
Total Project Cost($)	**863,242.00**	**6,563,000.00**

Please provide justification

N/A.

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Agriculture, Forestry and Water Management of Republika Srpska	In-kind	Recurrent expenditures	6,300,000.00
GEF Agency	FAO	Grant	Investment mobilized	263,000.00
			Total Co-Financing($)	**6,563,000.00**

Describe how any "Investment Mobilized" was identified

i. FAO cofinancing corresponds to Technical Cooperation Programs in BiH supporting

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Bosnia-Herzegovina	Land Degradation	LD STAR Allocation	863,242	82,008	945,250.00
				Total Grant Resources($)	**863,242.00**	**82,008.00**	**945,250.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Bosnia-Herzegovina	Land Degradation	LD STAR Allocation	50,000	4,750	**54,750.00**
				Total Project Costs($)	**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
10000.00	10000.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
10,000.00	10,000.00		

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	280000	280000	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	280,000	280,000		
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting	2023	2023		
Duration of accounting	20	20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	1,100	1,100		
Male	1,100	1,100		
Total	2200	2200	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

i. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed.

The Global Environmental Problem

1. Land degradation is an important aspect of production, but it can severely influence livelihoods by limiting the availability of vital ecosystem services (including food and water), increasing the risk of poverty and ultimately forcing people to migrate. As a major global challenge, land degradation is one of the underlying threats to biodiversity, ecosystem stability, and global climate. The interconnectivity between ecosystems across multiple scales means that land degradation can trigger destructive processes that have cascading effects across the entire biosphere with dire effects on people livelihood and food security.

2. Human pressure affects the landscape characteristics, which affect the level of land sensitivity to degradation. Land abandonment and unsustainable use of rural and peri-urban areas are usually considered the main land cover-based drivers of land degradation[1]. There have been mainly two types of change that have increased land's sensitivity to degradation: decrease in croplands (converted into artificial areas or grass/shrubs) and increase of shrubs (transition of forest into shrubs, grassland and sparsely vegetated areas). Our study using CORINE data, shows that changes in land cover in Bosnia and Herzegovina for the periods 2000-2018 amount to 535,958 ha, i.e 10% of the country land cover types have changed (Figure1).

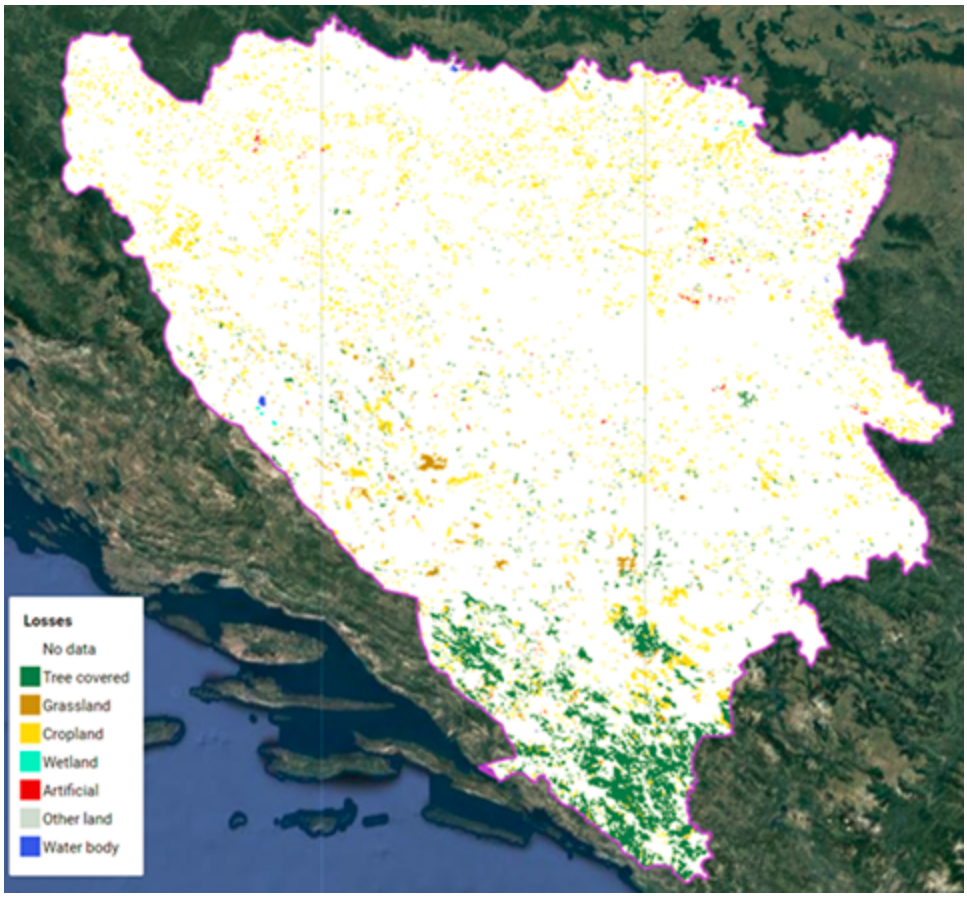


Figure 1: Land Cover change: Lost classes between 2000 and 2018 (Corine Data)

3. The analysis of Land Productivity Dynamic (LPD, Figure 2) shows that in the Federation of BiH land productivity has reduced on 84,011 ha, while early signs of reduction were observed on 379,048 ha in the period 2001-2021. A total area of land that is stable but under stress, from the productivity viewpoint, amounts to 35,044 ha. Productivity reduction in the Republic of Srpska is correlated with loss of agricultural land and forests, occurrence of extreme events like floods, drought and forest fires especially in Herzegovina as very vulnerable area. The areas of intensive agricultural production are the most affected one. Cropland is characterized by decreased land productivity on 187,880 ha or 3,68% territory for the observed period. Land productivity of forests, shrubs, grasslands and sparsely vegetated land, has been decreased on 356,028ha or 7% of the territory. Overall, grasslands and croplands represent the most unbalanced from a LDN perspective (Figure 3)

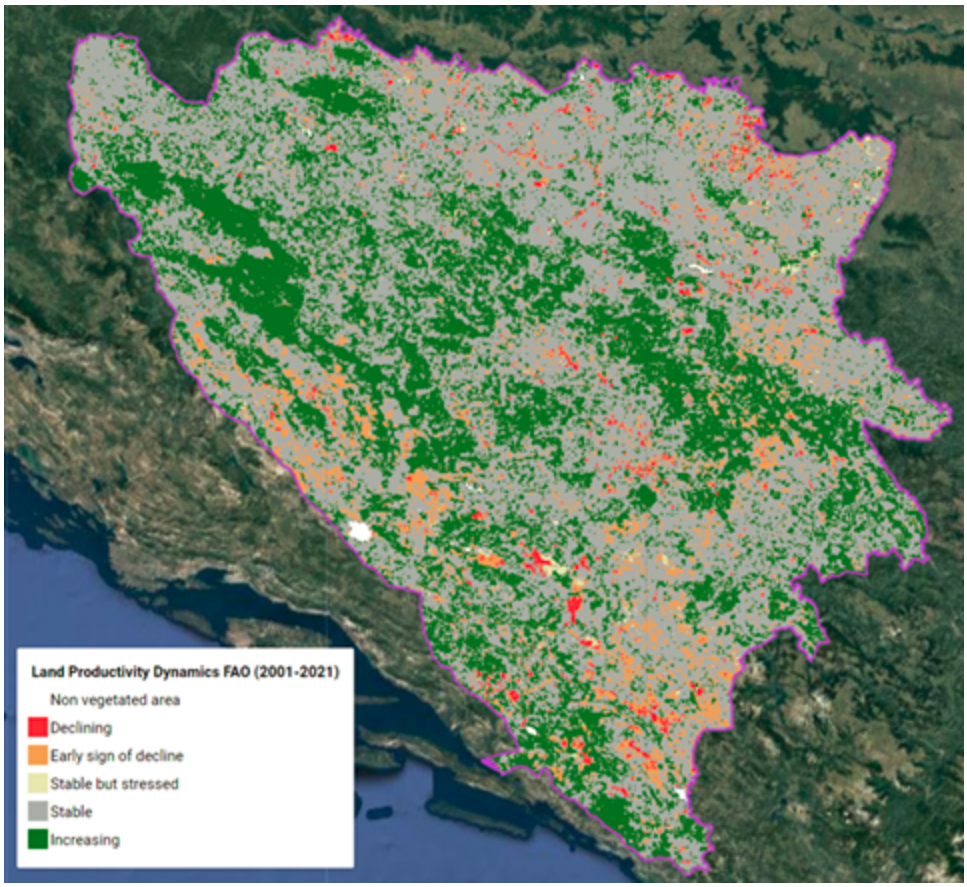


Figure 2: Land Productivity Dynamics (LPD) Map calculated using MODIS NDVI time series from 2001 to 2021 (Method from FAO published in https://doi.org/10.4060/cb7986en)

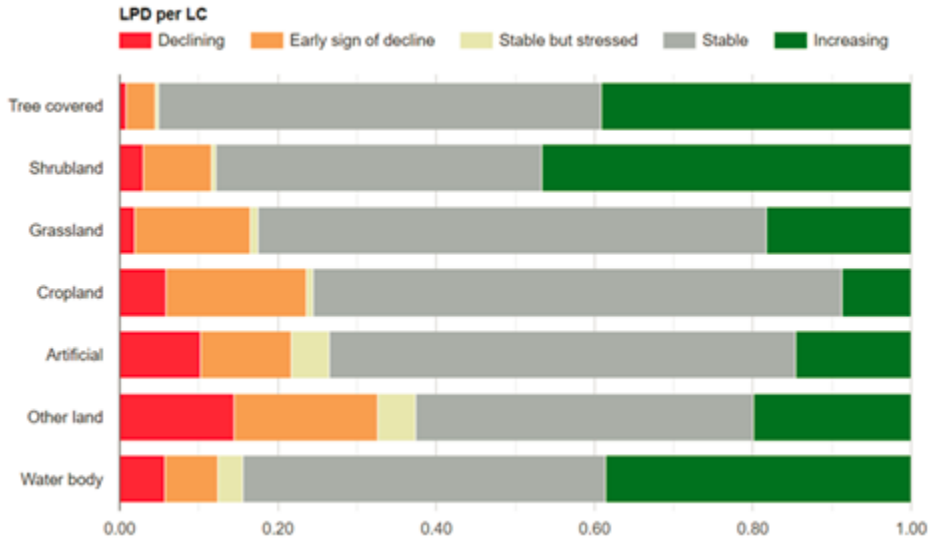


Figure 3: Distribution of LPD for each of the land cover classes of the new ESA Land Cover map (European Space Agency, WorldCover 10m resolution for 2020)

4. Soil organic carbon (SOC) stocks are of importance because of their role in the global carbon cycle. According to the data, the carbon content ranged between 0 to 174 t/ha, while the average is 70 t/ha. The category with carbon stocks amounting 50-110 t/ha represents the soils of medium

structure stability, fertility and water retention capacity. Higher SOC content is found in Forest, shrublands and grasslands, while cultivated land in general presents lower SOC content. Regarding LPD the areas with Early sign of Decline and Stressed productivity are the ones that also have higher SOC on average (figure 4).

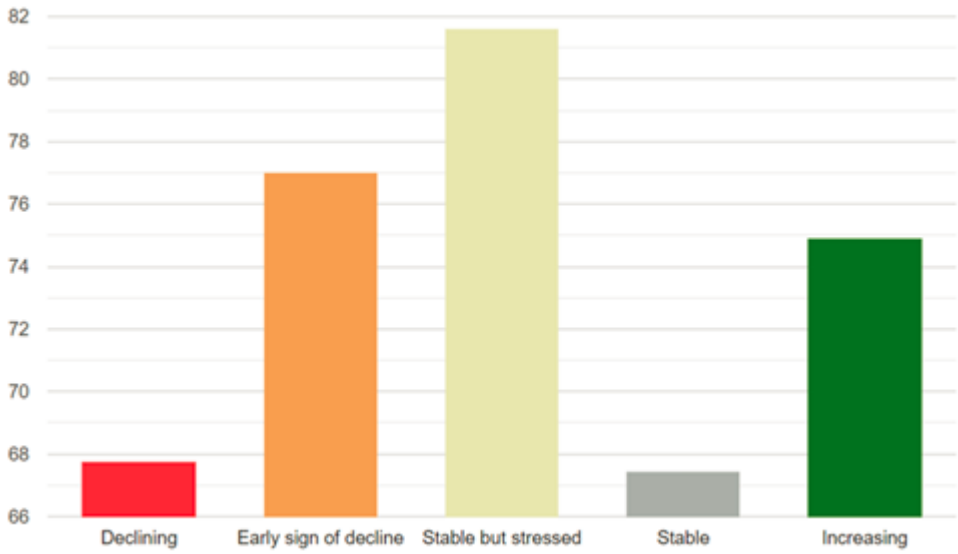


Figure 4: Average SOC for each LPD category (According to the GSOC map available at http://54.229.242.119/GSOCmap/)

5. During the post-conflict and economic transition period, Bosnia and Herzegovina (BiH) has been facing numerous social, economic and environmental problems among which the land degradation stands out as one of the most crucial ones. Pursuant to a decision of the BiH Parliamentary Assembly, Bosnia and Herzegovina acceded the UNCCD in 2002 and became its full-fledged Party on 26th November 2002. Land use in BiH is affected by inadequate and unsound planning practices of resource utilization. In most cases, loss of agricultural land is caused by unplanned construction of residential and industrial facilities and infrastructure, unsustainable agriculture practices, wildfire, unreasonable exploitation of mineral raw materials and excessive erosion caused by deforestation and inadequate treatment of steep slopes, but also abandoned land due to internal and external migrations for the past 25 years. In BiH, 1.2 million people live on degrading agricultural land. The share of rural residents, who inhabit degraded agricultural land, is around 52% of the total rural population.

6. The United Nations Convention to Combat Desertification (UNCCD) has defined land degradation neutrality (LDN) as ?a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems?. It means securing enough healthy and productive natural resources by avoiding degradation whenever possible and restoring land that has already been degraded. At its core are better land management practices and better land use planning that will improve economic, social and ecological sustainability for present and future generations.

7. Land Degradation Neutrality (LDN) represents a paradigm shift in land management policies and practices. It is a unique approach that counterbalances the expected loss of productive land with measures to avoid or reduce that degradation and the recovery of degraded areas. It places the measures to conserve, sustainably manage, and restore land in the context of land use planning. It has strategic implications to how the country plans and manages its land resources.

Threats and root causes of land degradation

Unsustainable Agricultural Practices:

8. Unsustainable land management is a direct human cause of land degradation through processes of terrain deformation, soil erosion by water and/or wind, compaction and soil crusting, subsidence and waterlogging, in addition to the loss of essential nutrient and organic matter, disruption of water cycle, salinization and alkalization, and acidification. Several practices associated with intensive agriculture accelerate these processes and have also have a major negative impact on biodiversity.

9. Agriculture, being one of the essential economic activities and economic development for BiH, has a great influence on land processes and various types of its destruction and degradation. In agricultural land, protection and preventive actions must be related to the preservation of its physical, chemical and biological properties. Agricultural land in Bosnia and Herzegovina was reported at 43.18 % of total land area in 2018, making 22110 sq. Km, according to the World Bank (2022). The arable land (%) in Bosnia and Herzegovina was reported at 20.1 % of total land area, totaling 1029000 hectares and making 0.30957 ha/person. The amount of permanent cropland was reported at 1.9531% of total land area.

10. The loss of SOC due to conventional tillage, which is nowadays the almost exclusive method applied in the cultivation of crops in BiH, has a direct impact on nutrients availability to plants and to the overall condition of soil physical and chemical properties. Soil organic carbon is responsible for many soil functions and allows the provision of ecosystem services such as an improved agricultural production and storage and filtration of water. Soils are also the largest terrestrial carbon pool and thus SOC plays also a crucial role in the global carbon balance by regulating dynamic biogeochemical processes and the exchange of GHGs. There are no state or entity data that can be used to appraise the SOC content in BIH. On the other hand, through the LDN process, global data (ISRIC 2016) are used for the SOC estimation despite many uncertainties particularly in shallow soils on limestone that covers the south of the country.

11. The amount of SOC in soils is essential also for the stability of the soil structure. Soils having less SOC are less resilient to the impacts of factors that can seriously deteriorate soil structure, as for example compaction, which reduces soil porosity, thus limiting water and air circulation, impeding root growth and reducing biodiversity. Compaction can be induced in various ways; most often it is the use of heavy agricultural machinery, poor tillage especially if performed during periods of bad weather conditions and rainfall. Structural weakness of soils leads to increased erodibility, with changes in land use and management systems directly affecting the intensity and speed at which erosion happens. As an example, conventionally tillage may produce a soil loss that may exceed the rate of soil formation in more than 2 orders of magnitude. This means that, upon inadequate soil management, erosive processes can be particularly severe and result in accelerated erosion. The degree of soil erosion in many areas of BiH is considered nowadays more favorable than in the past. Reductions in soil erosion were likely due to displacement during and after the Civil War, and reduction of anthropogenic pressure on land. However, many regions of BiH are still exposed to erosion. For instance, vineyards and orchards, as well as plough fields are normally situated on sloping relief surfaces and locations. In these lands, erosion of varying intensity occurs, with consequences for agricultural productivity, pollution and siltation of waterbodies.

12. Intensification of soil management can also lead to nutrient depletion ?issue that is exacerbated in soils having low amounts of SOC. Although fertilization at levels that sufficiently replenish nutrient depleted soils are needed for maintaining soil health and enabling sustained agricultural production, an inadequate or lowly efficient use of fertilizers ends in adverse impacts not only on soil structure but also on environmental pollution (contamination of soil, groundwater, waterways, rivers, lakes, seas, etc.) and biodiversity (invasion of weeds).

13. The main soil pollutants are primarily agrochemicals (fertilizers and pesticides), primarily nitrates, but also soil contamination with heavy metals. Environmental pollution caused by agricultural activities is currently a topic of concern not only to many experts but also to the general public,

especially in areas having issues with increased concentrations of nitrates, phosphates, pesticide residues and other pollutants in drinking water and soil, which often brings into question the quality of certain agricultural products. In the lowland areas of Posavina, in river valleys on alluvial deposits, and in karst fields where intensive production of crops, vegetable, and fruit is carried out, there is a considerable uptake of pollutants into terrestrial ecosystems, being a consequence of the application of more chemicals in the form of mineral fertilizers, and in some cases, as previously noted, organic fertilizers, with the issue of nitrogen often in the first place. Systematic soil fertility monitoring should be performed at least once every five years to obtain reliable data on the condition, fertility, and needs for its improvement. The priority of achieving high yields and producing good quality products is achieved using organic fertilizers, and the use of manure and mineral fertilizers should meet crop requirements for nutrients with a minimum of environmental pollution. The quantities should be based on the needs of the plants, the nutrient content of the manure and the soil reservoir. The total amount of nitrogen applied to the soil must not exceed 170 kg/ha (Nitrate Directive). Fertilizer consumption in Bosnia and Herzegovina was reported at 182 % of fertilizer production in 2018, making 84.76 Kg of fertilizer per hectare of arable land, according to the World Bank collection of development indicators, compiled from officially recognized sources in May of 2022.

14. Inadequate fertilization can also lead to soil acidification, which can be produced, in addition to natural processes, by the intensive use and application of inadequate agrotechnical measures, as well as pollution due to dry and wet deposition of air-pollutants. Acidic soils cover around 1/3 of the total soil resources in BIH (UNEP 2017). The reduced intake of organic matter and the use of exclusively mineral (nitrogen) fertilizers have also contributed to the more intensive process of soil acidification over the past decades. On the other hand, salinization is recognized as a land degradation driver typical of the agricultural regions of BIH, and the general conclusion is that high-quality soils (classes I, II, and III of soil capability) account for only 15%?16% of all soils (UNEP 2017).

15. Different types of soil, as well as the amount and distribution of rainfall in certain parts of Bosnia and Herzegovina further contribute to the impact of agricultural activities on the state and quality of the environment. An important condition for sustainable land management is the choice and type of agricultural production in accordance with the soil properties and the climate conditions of the area, and soil health should be maintained or improved by choosing the appropriate cultivation method and agricultural practices for a given crop.

16. The Good Agricultural Practice (GAP) Code forms the minimum standard for farm management that includes the protection of natural resources environmental management, workforce safety, animal health and welfare, food security, and health protection. The Code of Good Agricultural Practice is just a set of recommendations to help farmers improve their performance. It is normal for good agricultural practice to be supported by legislation. Implementing the Code in agricultural practice will be easy for some farmers, but in some areas, it will be difficult to implement because of the natural conditions, especially in marginalized areas. The Code requires farmers to contribute, to the best of their abilities, to the conservation of the natural environment, the conservation of soil fertility, and the maximum utilization of potential aimed at food production and the achievement of the quality of agricultural products. In order to minimize the negative impact of agricultural activities on the condition and degradation of land, it is necessary to take various measures and procedures that will help preventive conservation of land, improvement of the level of degradation, or its natural potential. One of the important procedures is to know the natural properties of the soil, which is achieved through detailed pedological research and fertility studies. The identification and selection of a set of soil quality parameters to be monitored is of particular importance.

17. *Climate Change:* Climate change exacerbates the rate and magnitude of several ongoing land degradation processes and introduces new degradation patterns. Human-induced global warming has already caused observed changes in two drivers of land degradation: increased frequency, intensity and/or amount of heavy precipitation; and increased heat stress. In some areas sea level rise has exacerbated coastal erosion. Global warming beyond present day will further exacerbate ongoing land

degradation processes through increasing floods, drought frequency and severity, intensified cyclones, and sea level rise, with outcomes being modulated by land management.

18. Climate change-induced land degradation is very important in BIH, revealed through floods, drought and frequent wildfires in the recent decades. As an additional form of land degradation, floods, drought and wildfires are becoming more and more frequent over the past several years. Data of the Federal Office for Civil Protection indicate that at the level of FBiH, for the period 2010-2012, flood and landslide-induced damages amounted to approximately USD 51 million, while drought-induced damages amounted to USD 91,806,678.12. On the other hand, official reports of the Ministry of agriculture, forestry and Water Management of the RS, showed total economic damage caused by drought, and reflected through the reduction of corn and soybean production amounted to USD 50,480,182.94. Looking at the production of vegetables in the open air, the damage caused by the drought in 2017 amounted USD 26,610,910,59. Damage in the area of ??fruit production amounted USD 38,364,705.88. Therefore, weather conditions have significantly affected the agrarian sector of RS, with the most significant agricultural regions (Semberija, Posavina, Lijev?e Polje and Herzegovina) seriously affected by drought. This caused a decrease in production value of about 115million USD in just one year and one Entity.

19. At the same time, land degradation is a driver of climate change through emission of greenhouse gases (GHGs) and reduced rates of carbon uptake. Lower carbon density in re-growing forests, compared to carbon stocks before deforestation, results in net emissions from land-use change. Forest management that reduces carbon stocks of forest land also leads to emissions, but global estimates of these emissions are uncertain. Cropland soils have lost 20?60% of their organic carbon content prior to cultivation, and soils under conventional agriculture continue to be a source of GHGs. Agricultural practices also emit non-CO2 GHGs from soils and these emissions are exacerbated by climate change, contributing to feed the degradation loop.

20. Industry: Industry contaminates land through toxic pollutants and by deposition of pollutants directly to the air (dry and wet deposition). Emission of aero-pollutants sooner or later falls on the ground in an altered or non-altered form. Pollutants contaminate not only the land itself but can get to water bodies and to the food chain, jeopardizing ecological balance, ecosystem services and human health. Thermal power plants and cement production facilities in the areas of study are the main sources of dust and ash that contaminate arable land in their vicinity.

21. BiH has important coal deposits, and iron and bauxite ores. Coal is exploited at an area of 18,000 ha whereas the waste material disposal area takes up nearly 6,000 ha. Open cast mining or surface exploitation of mineral ore (coal, iron ore, bauxite and clay) has left about 15,000 ha of damaged land to date, and the main consequences of such exploitation are direct loss of land and land out of use in areas where waste material is disposed. Quite often, heavy metals contamination causes permanent distortion of the physical features of soil.

22. The laws on mining provide for the mandatory remediation of degraded areas and a land reclamation plan must be incorporated into the mining projects. In most cases, land reclamation is implemented by applying technical and biological measures, after which mined out areas can be used for agriculture or forestry. According to the Law on Environmental Protection of FBiH[2] and the Law on Environmental Protection in RS[3], the mines producing more than 50,000 tons annually, or those covering an area larger than five hectares, are obliged to have an environmental permit, carry out regular monitoring of emissions and report to competent institutions.

Pilot Sites

23. To better understand and present the location and information available on LDN and natural resources of the project selected Cantons and municipalities, the project designers have developed an

interactive Decision Support System (DSS) that was used during the PPG phase. It will be available for use, and further development during project implementation (as described in Output 2.1.1 of the alternative scenario). The DSS allows for context specific baseline establishment at the required scales, providing data at for different administrative units and landscape, with a set of spatial data layers, toolboxes and cross-analytical statistics. To access the project specific LDN DSS, please follow the provided link: **https://projectgeffao.users.earthengine.app/view/ldn-bih**

24. This system allows users to explore relevant baseline data, visualize maps and use it them for a wide range of scenarios and scales. The DSS allows to perform multi-criteria analysis and explore land cover transitions to select hotspot and areas of interest and thus serving as a basis for a future monitoring and reporting system. The possibility to explore the dataset in a dynamic way without any GIS requirement and in an intuitive environment also facilitates that more stakeholders can evaluate the quality and usefulness of the data, which contributes to understand how to improve the LDN indicators in the future. It also can provide a range of information on project demonstration sites as described below.

25. The most vulnerable regions affected with land degradation were identified during LDN Target setting process in BiH, implemented separately by each entity. Taking into account the state of the indicators in LDN Report (2018), two most important hot spots were identified. One is located in the South-eastern part of the country and the other in the North-eastern part. On meetings and expert workshops, the focal areas were further narrowed down to 4 cantons/municipalities (Figure 5), that will allow for better demonstration sites and be representative of the region for scaling up results.

26. For the Federation of Bosnia and Herzegovina (FBiH) the Tuzla Canton was chosen in the North-eastern part and for the Republic of Srpska (RS) the Bijeljina Municipality, from the standpoint of land degradation under anthropogenic influence. In the South-eastern and from the standpoint of natural influences, drought and fires, followed by erosion due to degradation processes, the Neretva Canton (FBiH) and Trebinje Municipality (RS) were chosen).

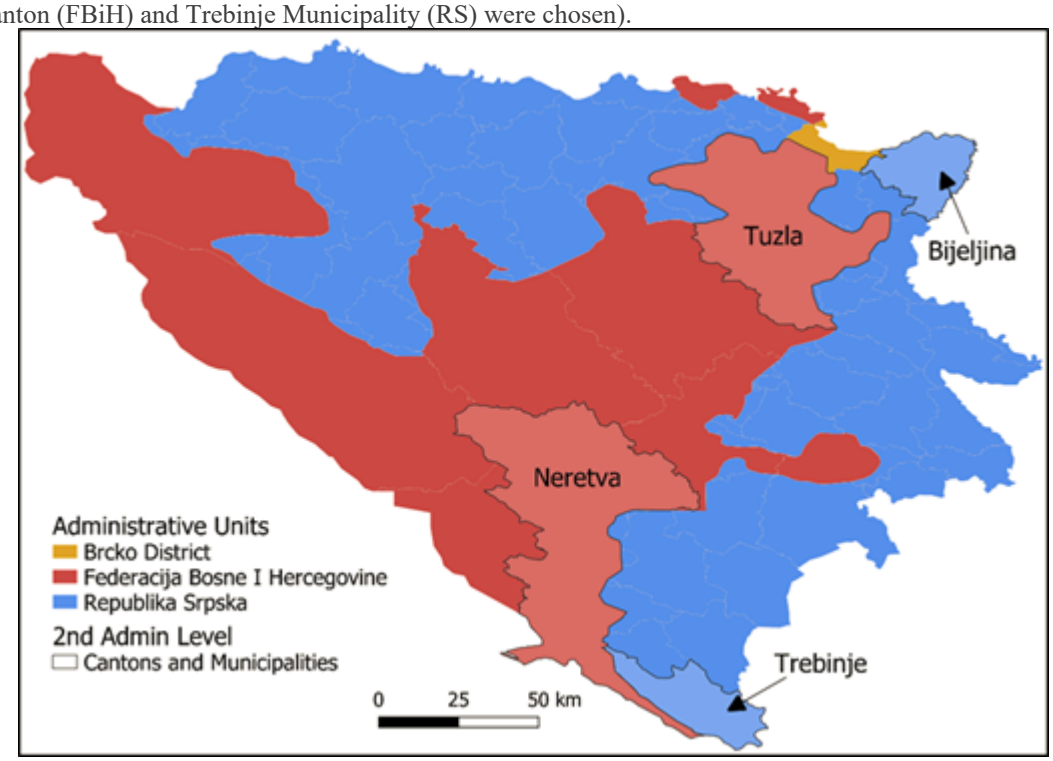


Figure 5: Project selected areas, Tuzla Canton and Bijeljina Municipality in the North-eastern part and Neretva Canton and Trebinje Municipality in the South-eastern part.

27. **Tuzla Canton** is one of the most degraded areas in (FBiH). The abandonment of traditional grazing methods in Tuzla Canton has led to the expansion of shrubbery and woody vegetation on pastures as well as the emergence of invasive species. Overgrowing of pastures has a negative impact on biodiversity and local communities, especially on people who are still engaged in animal husbandry, since suitable grazing sites are disappearing. Agriculture and food industry which provide significant income to many families in the basin, are also affected by the use of water of poor quality and the presence of pollutants. Tests carried out by the FBiH Institute of Agropedology indicate a continuous presence of organic pollutants as well as the presence of mercury in the amounts exceeding the officially permitted levels. Pollutants do not only contaminate the soil, but easily pass through the soil and contaminate groundwater. Plants absorb pollutants from the soil and transfer them to the food chain. The most fertile lands in this area are along the river Spre?a and the production from this zone could directly endanger the health of consumers as well as their right to access to safe food and foodstuffs. Also, the export of such products to the international market has been precluded since they do not meet the set quality standards. While the productivity trend is dominantly stable, for some land types like shrublands, grasslands and croplands the situation is very unbalanced with more areas in negative trends than in positive ones (Figure 6).

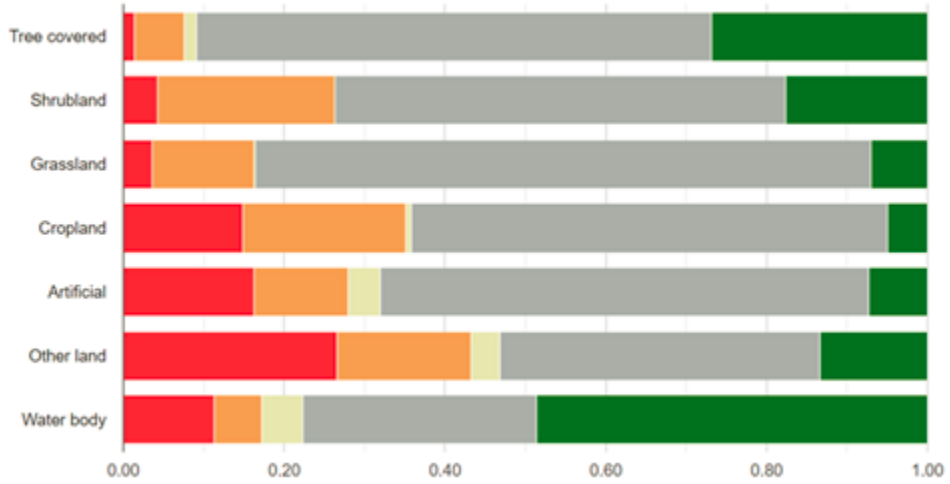


Figure 6: Distribution of LPD for each of the land cover classes in the Tuzla Canton

28. **Bijeljina Municipality** is one of the most important agricultural areas of the Republic of Srpska. Intensive agricultural production as the backbone of economic development, but commercial agriculture is negatively affecting land productivity and soil health. The local community identified frequent drought and floods as very important land degradation drivers, but also soil compaction and uncontrolled usage of fertilizers and pesticides. The agricultural producers especially highlighted the problem of deficiency of land resources for leasing and cultivation, which distinguishes them from other areas s where abandoned agricultural land is identified as an important factor of land degradation. In addition, urbanization has been identified as pressure on land resources, where significant areas of fertile land are permanently lost due to urbanization. Investment into land rehabilitation measures would be an important prerequisite for achieving land degradation neutrality in this region.

29. **Neretva Canton** and neighboring **Trebinje Municipality** share many common features in their southern part that is dominated by semi-arid conditions. This area is impacted by extreme climatic phenomena such as heavy showers, winds, and even strong isolation. These climatic phenomena through erosion create recognizable areas of exposed karst and bare land area. This phenomenon happens mostly on the slopes, where it is impossible to form soil without landscaping and protection against erosion, the washed soil goes into the valleys where high quality and fertile soils are formed. Many areas of karstic soil were used for intensive agriculture and abandoned after erosion reduced productivity. Erosion and grazing continued on these lands, exacerbated by high recurrence of fires in the last 20 years (figure 7).

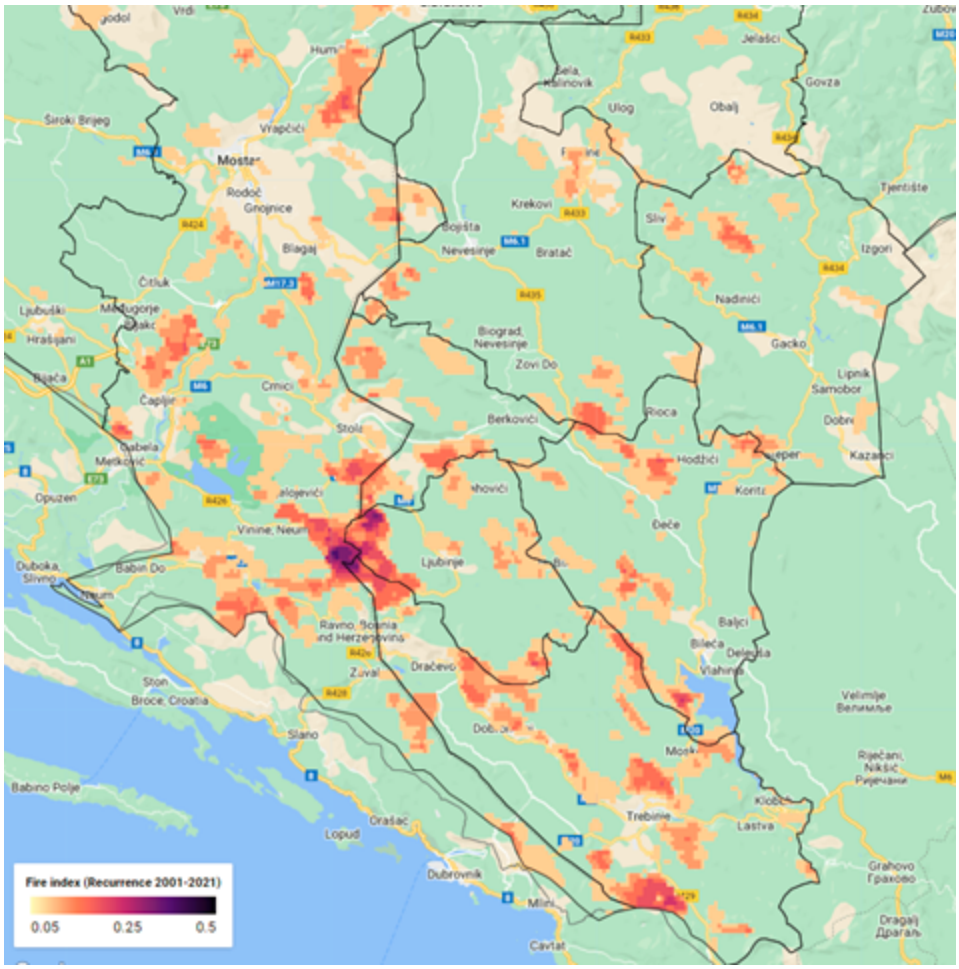


Figure 7: Fire recurrence between 2001 and 2021. Values close to 1 indicate at least one burning event every year and values of 0.1 indicate 1 burning every 10 years. (Sources FAO: https://doi.org/10.4060/cb7986en).

30. While fire is one of the environmental and evolutionary pressures that has led to the diversity of plant and animal life on Earth, climate change and human activities have increased the frequency, spread, severity, and biological effects of fires, accelerating vegetation type conversion, species diversity and biomass loss, and soil erosion. Fire is widely used as a land management practice to produce a green pick in grazing areas or for land clearing of cultivated areas, with a direct impact on greenhouse gas emissions. In order to preserve arable land on slopes from erosion, it is necessary to establish long-term Mediterranean cultures such as e.g. olives, pomegranate, figs, vines, lavender and other medicinal herbs. In the case of grazing lands, it is regenerative management techniques that can improve vegetation and soil health.

31. One dominant factor in all the 4 selected areas is the fact that soil health, vegetation productivity and diversity and water quality are being affected by a combination of poor management practices of agricultural land and socioeconomic dynamics related to land tenure. Land abandonment is one side of the spectrum while leasing dynamics affect the most valuable and productive lands. Mining and industrial activities provide also additional pressure that mounts on that of frequent drought and floods to worsen land degradation processes. Restoration of degraded landscapes is conceived as a triple win solution to regain ecological integrity, enhance human well-being in deforested or degraded landscapes and resilience to climate change. While better management is needed on agricultural and grazing lands to avoid further degradation and build up resilience to extreme climatic conditions, thus

maintaining ecosystem services and productivity and avoiding events of land abandonment. Additionally, activities related to rescuing old traditional best practices on land management and land products processes associated to food or medicinal herbs, could provide more spaces for gender related activities and land abandonment avoidance.

32. Working at field scale for the demonstration sites will require participatory stakeholder consultations with local producers and landowners, government agents, academics and professionals in the specific knowledge area, extension agents and other relevant partners from the value chain that is going to be targeted. A database of possible SLM to implement can be found in WOCAT[4], where some specific data and publications of BiH are also available[5]. Table 1 below provides a set of SLM that can be considered for a first approach at national level, but due that local conditions on each site are very particular, it should be adapted to each area with the participatory process to validate it. Then local users can have a basis of recommended practices for their sites from which to choose from.

Table 1: Description of the SLM technologies identified during project development:

NAME OF SLM	DEFINITION (FAO)	TARGETED BENEFICIARIES	BARRIERS
Water Harvesting	?Collection of runoffs for its productive use".[6] Runoff may be harvested from roofs and ground surfaces as well as from intermittent or ephemeral watercourses.	Rural and urban communities, land users, especially those dependent on natural resources for livelihoods, specially in the south-eastern part	Cost of construction and upkeep, debatable returns on investment (lack of data), lack of economic incentives, knowledge gaps
Water-saving and recovery technologies	Technologies or approaches that increase production efficiency or water recovery rates for secondary uses	Small and medium size farms, rural households and communities, value chain operators	Initial investment costs and high amortization, maintenance, lack of economic incentives, knowledge gaps
Soil fertility practices & technologies	Soil fertility is the ability of a soil to sustain plant growth by providing essential plant nutrients and favourable chemical, physical, and biological characteristics as a habitat for plant growth.[7]	Small and medium size farms, rural households and communities, value chain operators	Lack of economic incentives, knowledge gaps

Soil conservation practices & technologies	Reversing the degradation of soil, water and biological resources and enhancing crop and livestock production through appropriate land use and management practices are essential components in achieving food and livelihood security[8]	Small and medium size farms, rural households and communities.	Lack of economic incentives, knowledge gaps
Forest Regeneration	Forest regeneration is the application of technology to allow forest to return to their ecological climax after trees have been harvested or have died from fire, insects, or disease.	Rural and urban communities, land users, especially those dependent on natural resources for livelihoods and drainage-basin communities, value chain and tourism operators	Initial investment costs, lack of economic incentives, knowledge gaps
Rangeland rehabilitation	Process by which rangeland species return to a contextually appropriate species composition and land productivity as stipulated by the Land Potential[9] and land management objectives	Pastoralists, rural households, rural communities.	Initial investment costs, lack of economic incentives, knowledge gaps

Climate Smart Agriculture and integrated farm design	Climate-smart agriculture (CSA) is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate.[10] Integral, holistic design of the production space is a key element to the approach.	Small and medium size farms, rural households and communities specially in the south-eastern part.	Initial investment costs, lack of economic incentives, knowledge gaps
Wetlands and Riparian zone rehabilitation	Process by which riparian forest and wetland species return to their historic species composition and density	Rural and urban communities, land users, especially those dependent on natural resources for livelihoods, value chain and tourism operators	Initial investment costs, lack of economic incentives, knowledge gaps

Remaining barriers

33. Weak institutional, policy and regulatory framework and lack of capacity in applying and promoting sustainable land management practices: Based on the BiH Constitution, environmental management is not institutionalized at the state level but is being carried out within the organizational structure of the entity governments, i.e., ministries on the entity level that have land-related jurisdiction and environmental issues in their portfolios. In Brcko District, environmental protection policy is a direct responsibility of the Government through its sectors for communal issues, agriculture and forestry. Lower level of environmental management is under the responsibility of cantonal ministries in the Federation BIH and municipalities in Republika Srpska. The improvement of the state of the environment in BiH should be a coordinated endeavour. To this effect, it is necessary to identify a mechanism which would facilitate a common approach in efforts to address this issue, as well as permanent regional and global participation with efficient, effective and coordinated cooperation with the entities and Brcko District, cantons and local communities, aimed at designing common measures against land degradation.

34. Weak institutional and regulatory context a as well as missing horizontal and vertical coordination among institutions at various governmental level are one of the main drivers of land degradation and are among the biggest barriers to sustainable land management system application. There are no laws on land protection neither at state level nor entity or cantonal level. At the level of the Federation of BiH, there are three ministries relevant for land issues (the FBiH Ministry of

Environment and Tourism, the FBiH Ministry of Physical Planning and the FBiH Ministry of Agriculture Water Management and Forestry) as well as cantonal ministries or departments (10 cantons). However, there are no official mechanisms that require the institutions to exchange information and data and to coordinate their work in the area of land status monitoring, analysis and protection.

35. The general opinion is that the lack of the FBiH spatial plan opens up opportunities for non-institutional action and space management that is not in compliance with legal or any other sustainable forms and mechanisms. This is best manifested in activities relating to the adoption of spatial plans. When it comes to spatial planning, there is also a pronounced problem of the lack of cooperation among sectors which is a major constraint as spatial planning must have a multi-sectoral character. The FBiH legislation has many deficiencies and requires review and harmonization. The existing legislation should be improved and enhanced by the principles and requirements imposed by the LDN approach. Outcome 1.1 of the project will address this barrier.

36. *Limited Capacity, and know-how for implementation of LDN Targets:* The role of the local authorities is limited. Both decision makers and local communities need capacity building to understand the socio-economic gains from sustainable land management, sustainability practices and the practical guidance on how to implement sustainable land management practices on site. BiH authorities lack comprehensive guidelines for rehabilitation of degraded land, best measures to use and for sustainable land management needed to achieve land degradation neutrality as planned in their LDN Reports. The implementation of strategic documents and legal acts in the Federation of BiH is aggravated by the fact that the Federation of BiH has ten cantons that have their own competences for land management, environmental and spatial planning. The cooperation of relevant ministries is not at a satisfactory level, the strategies of various sectors are not harmonized, and this creates additional pressure on land and conflict in space.

37. With very scarce regulatory and procedural provisions, BiH lacks examples and experience in good practices of land conservation measures and activities. Over the past years (from the end of the war in 1995 onwards), little was done on tackling the rehabilitation of degraded land by investing in knowledge, resources capacity building and building experiences. Therefore, nowadays there is a lack of knowledge in all levels of government and local communities concerning sustainable land management approaches, land cultivation activities and common techniques.

38. While land degradation can occur as a result of natural processes, there is a widespread opinion that it mostly happens as a result of the impact of users? activity on the land and is often a ?social problem,? which can be prevented if the underlying causes are addressed properly. It is crucial to increase awareness of the importance of land as a natural and irreplaceable resource, educate public and human resources. Mobilizing citizens for the purpose of raising public awareness on the importance of land as a natural resource, and its preservation, represents a very important objective for restoring the degraded ecosystems within the country. Outcome 1.2 and 3.1 of the project will address this barrier.

39. *Lack of information and Monitoring and reporting system for LDN roadmap:* The lack of systematic land and soil monitoring, and of an information system of soil and land degradation is primarily linked to the lack of specific laws obliging to that. Furthermore, there are no official mechanisms that require the institutions to exchange information and data and to coordinate their work in the area of land monitoring, analysis and protection even within one entity. Systemic addressing of the issue of land protection against any type of degradation implies more active involvement of public and non-governmental organizations and of all citizens, in the process of making, adopting and implementing environmental decisions. Civil society and scientific community can significantly contribute to awareness raising efforts and education of population on problems causing land degradation and on land degradation consequences.

40. The Land Information System (LIS) foreseen by the Law on Agricultural Land (Official Gazette of FBiH, No. 52/09) and by the strategy of RS ?The Basis of Protection and Use of

Agricultural Land in RS? has not yet been established. Regular update of databases on spatial planning is also foreseen by the Law on Spatial Planning and Constructing in Brcko District (Official Gazette of BD No. 52/09). Since 2007, Pollution and Release and Transfer Registers (PRTRs) are partially in function in both political entities (Federation of Bosnia and Herzegovina and Republika Srpska) and Br?ko District (BD) in terms of reporting air pollution emissions by air polluters, but other forms of pollution (into land, soil, rivers) are still not reported.

41. Thus, there is no database of the state of agricultural/forest land in any of the entities, which would enable obtaining of data on agricultural/forest land and its losses to all stakeholders. A functional land monitoring system with quality and well-organized databases, so spatial analysis is facilitated and monitoring is enabled, is also lacking. The SOTER databases, which are the result of the FAO project ?Inventory of Land Resources 2000-2002?, and which could have been the basis for the Land Information System, are not up to date (although it partially exists in FBIH) regarding the state of land and the data required for the calculation of indicators monitored in NAP, including LDN indicators. The limited information available at national scale is restricted to basic land structure and use, soil classes and land ownership structures. In the specific case of soils, there is a particular lack of soil information, with BiH being absent from most European databases. Soil being an important component of land, its health features in the long-term goal of achieving land degradation neutrality within SDG Target 15.3, which specifically addresses soil/land degradation through Indicator 15.3.1 along with the LDN mechanism. Long and short-term development and investment decisions addressing the evaluation, prevention and restoration of degraded lands require integrated strategies and mechanisms that must, necessarily, be substantiated by accurate soil data.

42. The lack of adequate soil information is therefore a significant barrier regarding the achievement of LDN, as well as in the LDN target setting and reporting process. In many cases soil surveys were conducted decades ago, so the few available data do not reflect current conditions. In other cases, soil information exists, but a significant amount of it has been obtained under individual projects, resulting in fragmentation and low accessibility. Fragmentation is further exacerbated by the disconnection that may exist between government agencies whose mandated activities have direct and indirect impacts on land and soil, each of them maintaining separate and frequently unrelated databases. In other cases, soil information existed but was destroyed during the war, as, for example, the most complete overview of soil erosion of the country ?the Soil Erosion Map of the Socialistic Republic of BiH, developed between 1979 and 1985. This was reconstructed only for the RS and, currently, there is no reliable data on the areas affected by erosion in BiH at the national level and no erosion monitoring system is in place.

43. This means that, currently, the CORINE European database and the global datasets used for LDN process are the only sources of available data for the determination of baseline levels of SOC and for monitoring its changes, leading to unrealistic or inaccurate assessments of the actual situation at national and local scales. In addition, since SOC stocks can vary greatly in areas under the same land use/cover but different soil types, climate and management, the estimates of SOC change obtained from land cover/land use change disregard the SOC changes not linked to these transitions.

44. According to the 2018?s UNECE environmental performance review of BiH, there is also no adequate infrastructure for environmental sampling and analysis for emergency but also for routine inspections, meaning that immediate sampling and analysis of soil (as well as of air, water and waste) cannot be performed. These services are outsourced to private laboratories, are costly and cannot respond in the event of emergencies.

45. As a result of all this, the country is severely limited in its capacity to identify not only which locations and agricultural systems are degraded or have the highest risk of degradation, but also where to find the largest potential for C sequestration ?thus for increasing SOC stocks?, which is essential for leading the transformation from degrading systems to sustainably managed soil and lands, and crucial in the context of achieving LDN. Outcome 2.1 of this project will address this barrier.

ii. The baseline scenario and any associated baseline projects

46. In May 2017, the BiH Council of Ministers adopted an Action Program to combat land degradation and mitigate the effects of drought in Bosnia and Herzegovina (BiH NAP). This is the only state-level document which addresses the issue of land and combating land degradation. In this way, the basis for implementing the planned programs and measures has been created. As a result of the LDN process, on 31 October 2017, the Sarajevo Canton Government adopted the Cantonal Environmental Protection Plan where one of the operational goals (operational goal 4.3.) is the Implementation of UNCCD approach of ?land degradation neutrality? (LDN ? Land Degradation Neutrality) in accordance with UN SDG 15.3. goal. One of the measures provided is the Alignment of the legislation on the protection of agricultural and forest land with the EU and UN initiatives through the implementation of LDN, and the adoption of the Program of rehabilitation and planning of degraded land, abandoned solid waste landfills and the selection of new potential sites. In addition, a set of projects related to the rehabilitation and protection of land by 2022 was provided for in this plan. The FBiH Ministry of Agriculture, Water Management and Forestry has started activities on amending the Law on Agricultural Land.

47. Active implementation of the FAO/GEF project ?Decision Support for Mainstreaming and Scaling up of Sustainable Land Management? (DS-SLM-GCP/GLO/337/GFF) started in December 2017. One of the project components is related to the promotion and integration of LDN into development policies and plans. This project is being implemented in ten municipalities, nine of which are in the Tuzla Canton area that is characterized as a hot spot in the LDN process. As a result of the LDN process, in 2017 the FBiH Ministry of Agriculture, Water Management and Forestry recommended to the FBiH Government to introduce the concept of land degradation neutrality.

48. Having recognized the importance of the LDN process, the Government of the Federation of BiH tasked the FBiH Ministry of Agriculture, Water Management and Forestry as well as cantonal ministries to work on drafting the land protection policies, to introduce and promote the land degradation neutrality concept into the process of planning and future development (FBiH Government Decision 2106/2016).

Associated baseline projects

49. The ongoing, continuous project Land use value map (executed at municipal and cantonal level), financed 100,000 EUR by the Federal Ministry of Agriculture, Water Management and Forestry, is analyzing the basic socio-economic factors affecting the methods of use of land area, primarily use of land. The main purpose of the project is to prepare thematic bases and maps, research and to analyze the area of a Municipality/Canton using GIS and remote sensing information sources (satellite and orthophoto). As outputs of this project , LD authorities in BiH will be capable to define balances of land area use methods, identify certain types of land damages and perform verifications through capability classes, as well as analysis of pedological characteristics of soil types.

50. Ongoing projects in RepublikaSrpska (BiH) related to the project:

? Construction of irrigation systems in Ljubinje(LDN hotspot area)which includes artificial accumulation and infrastructure for irrigation under pressure, budget 1,94 mil USD, duration 2020-2023;
? Construction of irrigation systems in Aleksandrovac Laktasi (LDN hot spot area). It is planned to be used as pilot plots on irrigation technology, budget 0,88 mil USD, duration 2020-2023;

? Construction of irrigation systems in Trebinje (LDN hot spot area) infrastructure for irrigation under pressure, budget 6,18 mil USD, duration 2020-2023;
? Construction of irrigation systems in Semberija (Bijeljina) LDN hot spot area budget 9,29 mil USD, duration 2020-2023;.

51. Projects for the construction of irrigation systems are being implemented by the Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska in cooperation with the World Bank. The projects aim is to rehabilitate and modernize existing irrigation systems, build new ones, and strengthen institutional capacity in the public and private sectors to ensure the sustainability and efficient use. Also, improvement of agricultural income for rural households with sustainable use of land resources represents additional benefits. The projects are of particular importance due to the fact that in the LDN hot spot regions, due to climate change, in the coming years there is an increased risk of drought and fire. Of the total value of the project, the World Bank finances 85% (through the loan), and a minimum of 15 percent will be provided by the Government of Srpska, beneficiaries and local communities.

52. Additionally, continuous projects in the RS entitled ?Basis for protection of development and usage of agricultural land? at the level of municipalities are financed by local governments (depending on the size and development of the municipality, approximately 25.000 EUR/municipality) represents strategic documents on the local level that are focused on land use along with drivers that cause land degradation under specific socio-economic conditions. Main sources of data are GIS and remote sensing information (satellite and orthophoto), that together with respecting pedological characteristics of soil types provide preconditions for recommendation on land use for different categories having in mind socio economic development, income of people dependant on agriculture, sustainable spatial planning and achievement of LDN on the local level. Four municipalities in the RS (Lakta?i, Doboj, Gradi?ka and ?amac) are now in process of creating local strategic document for land use planning.

53. UNDP in BiH project ?Interlinking Disaster Risk Management (IDRM) in Bosnia and Herzegovina? aims at strengthening Disaster Risk Reduction (DRR) policy and legal frameworks and enabling the implementation of disaster and climate risk management measures at all Government levels to protect citizens. Total cost of project is EUR 300,000.00 with duration of two years, starting February 2018, ending February 2020. Key activities include:

? Develop disaster response strategic capacity assessment and roadmap;
? Improve entity civil protection legislative framework;
? Improve local level disaster risk management through risk assessments and implementation of strategic DRR actions;
? Implementation of DRR measures in five municipalities.

54. Other Baseline project currently being implemented by FAO are listed below:

? TCP/BIH/3706 - To reduce vulnerability and resilience in disaster risk reduction in agriculture through strengthening capacity and coordination mechanisms (2019-2021, US$190,000):

The standalone project complements part of FAO activities within the Joint UN Programme UNDP, UNICEF, UNESCO, UNFPA, FAO, ?DRR for Sustainable development of Bosnia and Hercegovina 2018-2020? (UNJP/BiH/011/UNJ), financed by Switzerland. The project focuses on enhancing the established municipal DRR Platforms at state and entity levels, while strengthening local government?s disaster risk assessment capacities in agriculture through the municipal risk assessments. Additionally, the project aims at strengthening capacity and awareness of farmers and agricultural producers on DRR, and promote good practices and technologies to reduce the impact of natural hazards in the agriculture sector (by applying the FAO proprietary Farmer Field School (FFS) methodology).

? TCP/BIH/3802/C2 - Potentials of fast-growing plantation forests (2021-2022, US$63,000):

To address the impact of climate change on forests, FAO plans to conduct an assessment of potential locations for plantation forests in BiH, focusing on fast-growing wooden species along rivers, as well as prepare technical guidelines for the sustainable management of plantation forests to contribute and achieve a strong commitment to support a future climate change mitigation intervention in the forestry sector. Additionally, the project will support the discussions with national and sub-regional administration as well as municipalities and land owners to contribute to and achieve a strong commitment to support a future climate change mitigation intervention in the forestry sector through the establishment of fast-growing plantation forests while contributing to the sustainable economic development of rural areas in BiH.

? TP/BIH/3705 - Strengthening of the private and public sector capacities in priority value chains (2020-2021, US$153,000):

FAO is currently providing technical assistance in building the technical capacity of institutional staff, producer groups, farmers, advisory services, and local communities to develop potato, rural tourism and plum value chains, which have been selected as a result of consultations with all stakeholders (ministries, agencies, local governments, NGOs in sector). In the context of Bosnia and Herzegovina, special attention is given to the value-chain challenges of particular relevance to the regional economies, that are identified by applying FAO?s ?Sustainable Food Value Chain (SFVC) proprietary development framework?. Within the framework of this project two value chain analytical reports and three local plans will be developed.

? TCP/BIH/3801/C1 - To strengthen the administrative system to manage and support sustainable geographical indications (2021-2022, US$75,000):

FAO is starting to assist the National Food Safety Agency with the assessment of the geographical indications (GI) potential of Bosnia and Herzegovina through a countrywide awareness campaign on advantages of GIs and registration procedures for agriculture producers and agribusiness, municipalities. Being a marketing tool, GI can be instrumental for enhancing regional trade integration and market access by distinguishing the products in the market, supporting local production and rural development, contributing to local tourism and fighting with product counterfeiting.

? UNJP/BiH/011/UNJ - To support local DRR multi sectoral platforms (2019-2022, US$4.9mil.):

FAO is currently one of the UN Agencies (together with UNDP, UNICEF, UNESCO, and UNFPA) implementing the Joint Swiss UN Programme "Reducing Disaster Risk for Sustainable Development in Bosnia and Herzegovina", where FAO is responsible for strengthening the capacities of agriculture sector and vulnerable farmers in target localities to increase disaster preparedness and reduce disaster losses. The Programme aims to introduce and operationalise an integrated model of disaster risk governance and livelihood enhancement at the local level, as a springboard to a bottom-up introduction of DRR governance in Bosnia and Herzegovina.

National institutional and legal setup

55. In accordance with Article 9 of the Law on ministries and other administrative bodies of BiH, the BiH Ministry of Foreign Trade and Economic Relations (MoFTER) is, inter alia, competent for defining policies, basic principles, coordinating activities and harmonising plans of entity authorities and bodies at the international level in the areas of, inter alia, agriculture, energy, environmental protection, development and use of natural resources. Department for agriculture, food, forestry and rural development[11] the BiH Ministry of Foreign Trade and Economic Relations coordinates agriculture land issues at state level while Department for Environmental Protection coordinates environmental protection issues.

56. Several legal acts at the entity levels incorporate the concept of sustainable management of land and its resources. Thus, land protection against degradation is addressed by various sectoral regulations governing spatial planning, protection of the environment and water, agricultural land, forests and forest land and mining.

57. Aside from these three ministries (BiH Ministry of Foreign Trade and Economic Relations (Department for agriculture, food, forestry and rural development), FBiH Ministry of Agriculture, Water Management and Forestry and RS Ministry of Agriculture, Forestry and Water Management (UNCCD Focal Point), at the level of the FBiH, cantons have their own cantonal ministries that cover these areas. Institutions do not exchange information and data to coordinate work on land status monitoring, analysis and protection since there is no official mechanism that demands it. Table 1 shows institutional and legal framework in BiH on land issues.

Table 1: Institutional and legal framework on land issues in BiH .

Issues	Ministry	Governmental level	Related Laws

AGRICULTURE, FORESTRY, WATER MANAGEMENT	BiH Ministry of Foreign Trade and Economic Relations (Department for agriculture, food, forestry and rural development) FBiH Ministry of Agriculture, Water Management and Forestry, Federal Institute for Agropedology RS Ministry of Agriculture, Forestry and Water Management (UNCCD Focal Point), Agricultural institute of RS BD Government-Department for agriculture, Forestry and Water Management	BiH FBiH RS Brcko District	BiH Law on Agriculture, Foods and Rural Development FBiH Law on Agricultural Land, Law on Waters[12] RS Law on Agricultural Land, Law on Waters, Law on Forest BD Law on Agricultural Land, Law on Waters, Law on Forest

ENVIRONMENTAL PROTECTION (LAND, AIR, WATER)	BiH Ministry of Foreign Trade and Economic Relations (Sector for water resources, tourism and environmental protection - Department for Environmental Protection) FBiH Ministry of Environment and Tourism RS Ministry for Spatial Planning, Construction and **Ecology** BD Government-Department for spatial planning and Property Affairs	BiH FBiH RS BD	BiH Law on ministries and other administrative bodies of BiH FBiH Law on Environmental Protection; Nature Protection Law; Waste Management Law RSFBiH Law on Environmental Protection; Nature Protection Law; Waste Management Law BD Law on Environmental Protection; Nature Protection Law; Waste Management Law
SPATIAL (PHYSICAL) PLANNING AND LAND USE	FBiH Ministry of Physical Planning RS Ministry for Spatial Planning, Construction and Ecology BD Government-Department for spatial planning and Property Affairs	FBiH RS BD	FBiH Law on Spatial Planning and Land Use RS Law on Spatial Planning and Construction BD Law on Spatial Planning and Construction

MINING	FBiH Ministry of mining, energy and industry RS Ministry of energy and mining	FBiH RS	FBiH Law on Mining RS Law on Mining

58. Other regulations at entity levels include Law on Concessions; Law on Survey and Real Estate Cadastre; and the Law on Land Cadastre and The Law of incentives and rural Incentives/development. This organizational structure shows that land is managed by (at least) three different ministries at the level of entity but there are no mechanisms that support or oblige these institutions to share data and information, and coordinate activities neither vertically nor horizontally related to monitoring the state of, analysis and protection of land. Table 2 gives more detailed roles of institutions in the field of land protection.

Table 2 institutions in the field of land protection

FBiH Ministry of Environment and Tourism	Its scope of activity consists of administrative and expert tasks related to air, water and soil protection; monitoring and control of environmental standards; drafting of environmental strategies and policies, and tourism development
RS Ministry for Spatial Planning, Construction and Ecology	Its scope of activity includes tasks related to air, water and soil protection (e.g. sustainable use and management of natural resources and goods, ensuring their functions while preserving natural values and the balance of natural ecosystems); monitoring and control of environmental standards; drafting of environmental strategies and policies
FBiH Ministry of Physical Planning	Tasks related to physical planning and improvement; policy of land utilization at the Federal level; drafting, enforcing and applying the Physical Plan of the Federation BiH, verifies harmonization of the physical plans of the Cantons with the Physical Plan of the Federation BiH; directing a long-term development in utilization of natural resources; geologic researches; drafting of basic maps ? geophysical, seismological, geothermal, minerogenetic, geochemical, geomorphological, and other; preparing geological backgrounds for physical improvements; supervision of appropriate institutions in this sector
RS Ministry for Spatial Planning, Construction and Ecology	It provides all standards and official requirements aimed to regulate the system of spatial planning and construction standards, preparation and adoption of spatial planning documents, location conditions, land construction rules and requirements (environmental provisions), issuance of building permits, the competence and operation of the Chamber of Engineers, and other issues of importance for landscaping, construction land and construction of buildings
FBiH Ministry of Agriculture, Water Management and Forestry	Administrative, professional and other responsibilities in the field of agriculture, water management, forestry and veterinary medicine, management of the two river basins (the Adriatic and the Sava River Basin)
RS Ministry of Agriculture, Forestry and Water Management (UNCCD Focal Point)	Administrative, professional and other responsibilities in the field of agriculture, water management, forestry and veterinary medicine, management of the river basin (the Sava River Basin)

Federal Administration for Inspection Issues	Implementation of regulations and control in the field of environmental protection under the Inspectorate of Urban-Environmental Inspection
RS Administration for Inspection Issues	Implementation of regulations and control in the field of environmental protection under the Inspectorate of Urban-Construction and Environmental Inspection
Environmental Protection Fund of FBiH	Collection and distribution of funds for environmental protection on the territory of FBiH, promotion and funding of preparation, implementation and development of programmes, projects and similar activities related to conservation, sustainable use, protection and improvement of the state of the environment and use of renewable sources of energy
Fund for Environmental Protection and Energy Efficiency of RS	The activity of the Fund includes the activities related to fundraising, as well as financing the preparation, implementation and development of programs, projects and similar activities in the field of conservation, sustainable use, protection and improvement of the environment, and on energy efficiency and use of renewable energy sources

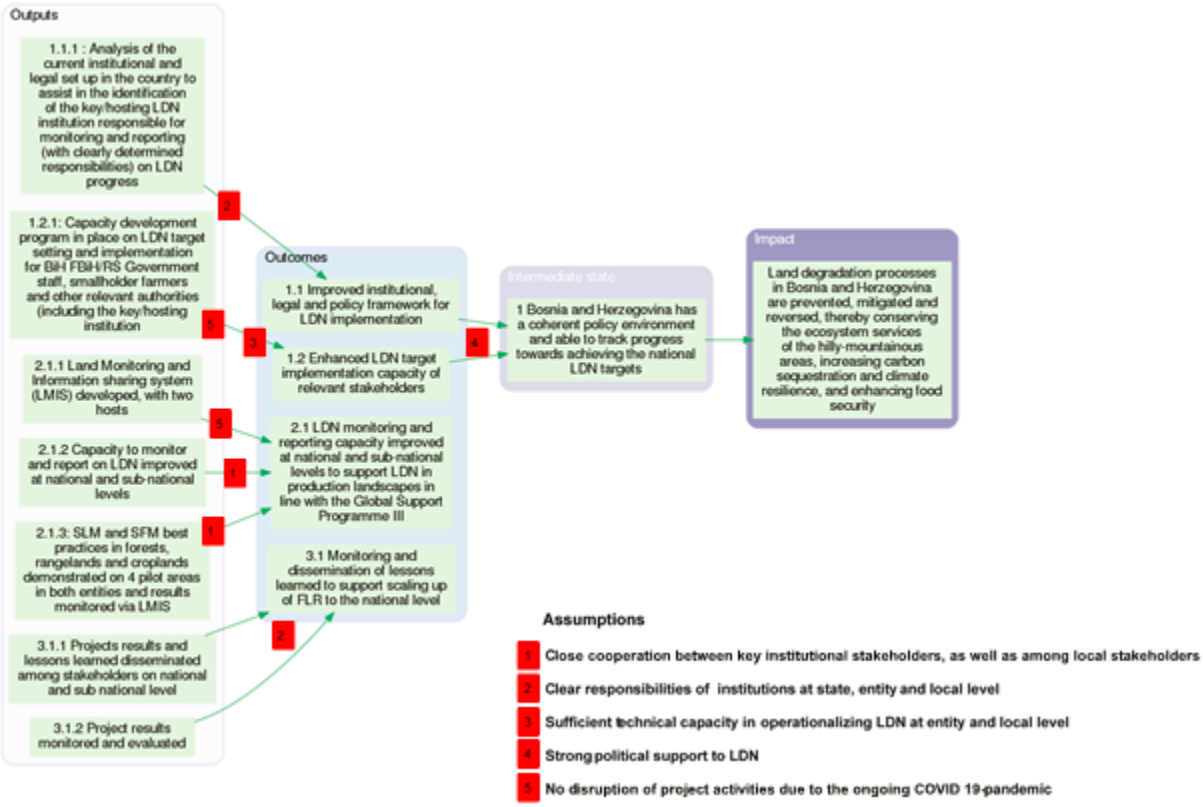
iii. The proposed alternative scenario with a description of outcomes and components of the project

59. Planning for LDN involves counterbalancing anticipated losses with measures to achieve equivalent gains, within individual land types, where land type is defined by land potential. Land degradation can be avoided, reduced or reversed by implementing sustainable land management (SLM), restoration and rehabilitation practices that simultaneously provide many co-benefits, including adaptation to and mitigation of climate change. Sustainable land management involves a comprehensive array of technologies and enabling conditions, which have proven to address land degradation at multiple landscape scales, from local farms to entire watersheds.

60. The proposed alternative scenario implies the existence of national and local institutions with the capacity to diagnose and monitor LD and implement and promote SLM practices. For that, this alternative scenario foresees the strengthening of institutional capacities and involves the establishment and functioning of an LDN Monitoring and Reporting System able to monitor the UNCCD three global indicators for LDN ? land cover, land productivity and carbon stocks. SLM and SFM practices aimed at LDN will be integrated into existing land-use planning in the selected project area so that targets can be set in the demonstration area and are apt to be upscaled. Otherwise speaking, according to Objective 2 of the GEF7 Land Degradation focal area, the GEF, through this FAO-UNEP proposal, is set to build capacity at various levels as required to restore and maintain functional landscapes, including the development of monitoring and reporting systems, in order to support BiH voluntary LDN target implementation.

61. The project?s theory of change is based on joint delivery of the outcomes of 3 project components that will (i) create an enabling environment for LDN in BiH at national and sub-national level and assist in removing barriers to national and local capacity for LDN, (ii) address the need for efficient monitoring and reporting system for LDN implementation, and (iii) ensure learning and sharing of lessons learned through effective project monitoring and evaluation and adaptive management. The outcomes of these three components will result in an adequate environment to support LDN target implementation, which will lead to prevention of land degradation processes in

Bosnia Herzegovina in the long run. The Project Theory of Change is summarized in the following Figure.



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

Outcome 1.1 Improved institutional, legal and policy framework for LDN implementation

Output 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 responsible for monitoring and reporting (with clearly determined responsibilities) on LDN progress

62. Policy reform is also vital to scaling of SLM and SFM practices, especially under the requirements and ambition of the LDN framework. Lastly, policy reform plays a key role in developing incentives for increased SLM approaches. The capacity to influence or change policies will depend on the project?s sphere of influence and the capacity to present logical, win-win scenarios for change. Of special importance will be incentive or nudge programmes aimed at removing barriers to SLM specially among the project beneficiaries that run demonstration activities. This aims to produce the required behavioural change and mainstream the LDN/SLM concepts. Policy assessments and papers will also include policy responses to the barriers to SLM experienced by small and medium size producers and vulnerable populations who depend on natural resources for their livelihoods. The drivers of LD and cross-cutting, intersectoral nature of the LDN approach requires conversations with many stakeholders who exert pressures and influence landscape functions and ecosystem services. Inter-sectoral coordination mechanisms for SLM and LDN will be strengthened, especially between the Ministries and other relevant stakeholders. The focus on the national policies as well as monitoring systems will ensure its sustainability from an institutional perspective.

63. The following activities will be carried out:

i. Analyse gaps and barriers in existing legislative framework on land.
ii. Analyse and identify the gaps and barriers concerning the coordination among key institutions and national data exchange.
iii. An inter-ministerial task force implemented.
iv. Mapping the responsibilities/competencies of relevant institutions in terms of LDN monitoring and reporting.

Outcome 1.2: Enhanced LDN target implementation capacity of relevant stakeholders

64. A capacity development program will be put in place on land monitoring and LDN target setting for local and central government staff. The project will seek to develop capacity both at the institutional (central and local government) and grassroots level. At the local level, the project will focus on communities and government institutions within the project areas but keeping in mind the underlying goal of the project to set the basis for upscaling its experience at the national level. Significant improvements in making environmental information and data available on the state of the environment are required. For that, the relevant ministries address the significant environmental data gaps (e.g., on land and soil) as well as improved data collection, application and exchange between environmental information systems to ensure that environmental monitoring in the Federation of Bosnia and Herzegovina, Republika Srpska and Br?ko District is harmonized.

65. Among other public and private sectors, LDN is still an innovative concept. To achieve project objective and outcomes, capacity will need to be built among key actors within private and public institutions, and training will play a key role in this process. Project developers will also need to look outside traditional groups for capacity building and knowledge transfer by including a wider range of sectors and representatives. This outcome will be delivered through two outputs:

Output 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

66. The proposed project will develop, in coordination with relevant national authorities and the MITF, a capacity development plan to ensure that project stakeholders have a set of tools to allow them to plan an implement LDN commitments in the country. The project will build on the efforts from the Target Setting Program carried out between 2017-2018. The following activities will be carried out:

i. Political/administrative training of personnel on land related institutions on LDN implementation and information exchange

ii. Technical training of stakeholders including private forest owners and smallholder farmers focused on the application of the LDN concept.

iii. Strengthening technical capacities of extensionists and technical staff on approaches and methods for soil monitoring, including data harmonization, DSM, SIS, field techniques, analytical methods (SOPs), through *ad hoc* training from the GSP and using the EduSoils platform

iv. Training of producers (farmers, forest managers and landowners) on sustainable soil and land management (SSM/SLM) through a farmer-to-farmer approach. In synergy with existing extension services, the establishment of a farmer-to-farmer training system based on the FAO?s Global Soil Doctors Program (GSDP) will strengthen the capacity of the producer communities on the principles of soil health and SLM/SSM.

The GSCP provides farmers with specific high-level theoretical and practical training in detecting and solving problems in soil management, based on local priorities and needs, so that they can train other farmers in their communities. Increased awareness and access to monitoring tools will allow farmers to make immediate and responsible decisions on soil management with a direct impact in reducing land degradation, and act as land monitoring agents. The Soil Doctors Program provides training and tools to build the capacity of farmers for sustainable soil management. As a result, gender sensitive packages of theoretical and practical information adapted to the specific pedoclimatic characteristics, SLM and SSM practices and crops of the study sites. Trainings will also make use of the demonstration sites (output 2.1.3). Collaboration with research institutes and universities will be established, which will ultimately support and strengthen the link between academia and farmer practices. It is expected that at least 600 farmers will benefit from the GSDP through the following actions:

? Coordination with the national programmes on agricultural extension and identification of promoter institutions and farmers? communities interested in the programme.

? In collaboration with the promoters, adaptation of training materials, including field exercises and soil test kits, for addressing local-specific needs, from the information collected in outputs 1.2.2 and 2.1.3. Special attention will be put to the management of very fertile and productive but fragile black soils (Chernozems), which are the most abundant soils in Moldova and are of paramount importance for the performance of the national agricultural sector. Selection of trainers of trainers (15) by the promoters.

? Identification and training of potential Soil Doctors by the promoter. Soil Doctors (150) will be chosen among them and will receive high level training on soil health and SSM monitoring and assessment.

? Soil Doctors provide theoretical and practical training to farmers in their communities (600 end beneficiaries), assist in daily monitoring and soil-related problem solving, and act as reference for communicating with the promoters, extension services and institutions.

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

Outcome 2.1 LDN monitoring and reporting capacity improved at national and sub-national levels to support LDN in production landscapes

67. Measurement of specific metrics or indicators is vital to understanding the impacts of activities and management. Key Performance Indicators are needed to measure what is achieved in real terms with the allocated investments. In order to improve land management and practices, it is necessary to measure and monitor key part of the process. Many countries that to date are implementing LDN struggle to find indicators that speak to a wide variety of stakeholders and data needs at diverse scales (local, regional and national). Much of this comes from the fact that the three

SDG 15.3.1 sub-indicators commonly used for UNCCD National Reporting are ?Change of State? indicators and represent only one dimension in the LDN impact Pathway. Scientific evidence suggests that in many cases could take more than 10 years to detect a change (either positive or negative) that can be related to SLM. So, other indicators more adequate are needed, that can monitor LDN along its entire impact pathway, like: 1.- ?Process and Response? indicators that are related to strengthening of the enabling environment, including policy framework changes, increasing capacities of stakeholders and improving information /monitoring systems; 2.- ?Stress Reduction/Change of Pressure? indicators, that capture the improved management of natural resources, impact of sustainable management practices or land-use planning activities, that in time may produce or not a ?Change of State?, but in the present will act on avoiding and reducing land degradation.

68. The problem of scale also needs to be addressed early on the development of implementation strategies and monitoring/assessment systems, since many time information and indicators need to be collected at diverse scale for different purposes.

Output 2.1.1.: Land monitoring and information sharing system developed, with two hosts

69. Achievement of Land Degradation Neutrality target requires the systematic collection of up-to-date information regarding current land state, natural and anthropic degradation factors and existing threats. In order to accomplish that, information on three LDN indicators - land cover, and land productivity, and carbon stocks, as well as on other land and soil variables informing on degradation processes, will be periodically gathered. Determining land productivity dynamics either qualitatively or quantitatively helps to define gains and losses in the biomass within the area following changes in vegetation cover during a certain period. In order to enable an accurate evaluation of the soil health, in particular on the SOC stocks and on other soil characteristics that may inform on risks or incipient degradation processes, a system for specifically tracking soil health and SSM will be designed as part of the wider land information and decision-making system. These indicators are also used as sub-indicators in the calculation of the indicator "Degraded Land Area to Total Land Area" used for measuring progress in achieving the Sustainable Development Goal (SDG) 15.3 target on Land Degradation Neutrality.

70. Advanced technologies, such as geographical information systems and remote sensing techniques will be employed for data collection and harmonization, and data will be verified through ground truthing. The collected data will be processed using a Decision Support System (DSS) specifically designed for that according the country?s physiographical characteristics and priorities. The DSS will also be able to process information on socio-economic parameters such as tenure, gender, size of the farms, historical and cultural aspects, etc. The specific dataset and variables to be used will be agreed by relevant partners and selected based on a sound background knowledge of the country and pilot site context, in order to provide basic statistics to describe the current state of the areas, but also allow data analysis to answer specific questions of interest.

71. The DSS is thus as an integral component of the monitoring and LDN reporting framework, and willallow that, based on the data the terrestrial ecosystem and, in particular, on the biomass change, the land degradation situation can be correctly and quickly presented to stakeholders and decision makers. Decision Support System are intended to address data inquiries on multiple issues. They also serve to understand at a spatial scale where limited resources are best employed within complex environments. An important objective of this tools is to provide a wide range of users the ability to explore maps and derived statistics without the need of GIS expertise, thus socializing these types of data, creating awareness and empowering decision makers. However, DSS cannot provide definite answers, and are not predictive tools that can foresee ramifications or potential consequences of actions. Hence the continuing need for well capacitated experts who can use the data and observations to provide analysis and recommendations, and the reliance and importance of capacity building and training for the success of this output.

72. The following activities will be carried out:

i. 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.

ii. Harmonization of available data, including legacy maps and ancillary geographic information.

iii. Define the indicators that will be used to monitor LD and SLM implementation at different levels, data sources and/or responsibilities on data provision

iv. Creation of a system for monitoring soil health and sustainable soil management integrated within LMIS, through the following steps:

v. Compilation and harmonization of soil legacy data and assessment of the need of further soil information.

vi. Assessment of existing country?s monitoring infrastructure in terms of soil information management and soil analytical capabilitiesand needs, including capacity building.

vii. 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.

viii. Strengthening of BiH?s national analysis and data management capacity for that metrics, including the adoption of standard analytical procedures.

ix. 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.

Output 2.1.2 Capacity to monitor and report on LDN improved at national and sub-national levelss

73. The scale of field implementations and information flow that happens at that scale, is normally hard to be visualised when one is considering the whole national territory to make strategic decisions at that level. Nevertheless, local and field data is the one that supports and scales up to describe the national historical processes. The relation is obvious but also hard to bridge when many data cannot be extrapolated. Ways to use local assessment data needed for impact monitoring in decision making at national and sub-national scale should be worked out from early in the design of monitoring systems.

National Level Monitoring:

74. From the decisions and information infrastructure designed and created within Component 1, a DSS will be developed to prevent land degradation and ensure that the country has the capacity of achieving the LDN targets in the Project. One very useful functionality is the mutli-criteria analysis that permits overlaying of datasets to find suitable areas, hotspot or land management units. Other analytical tools that are important are the ones that allow trend analysis and transition analysis since this allows the users to find and select areas with different behaviour. To help the reporting process a tool to showcase the SDG 15.3.1 layers needed for UNCCD reporting, that allows statistical analysis on different areas is also a desirable toolbox. So, defining the users of the DSS and the type of decision s they need is crucial to start the development of the tool, also considering its usability for experts and non-expert alike.

75. The DSS prepared for this prodoc already serves as a mean to test some of the future functionalities of the future project DSS, the layout is presented in the next figure . The system as 3 main panels: (1) Layer and ToolBox panel, where the user does most interactions, (2) Map view panel where cartographic responses are shown, (3) Statistic and Chart panel where information is updated according to the user choice of area of interest: Charts, Figures and Tables can be zoomed and downloaded together with their data. In the section (4) of the Tool panel, the user can choose how to query areas, either administrative areas from a list or using a specific layer to click on the map. The base layers are shown in section (5) for the user to choose, but extra layers can be found in toolboxes. The first toolbox is the SDG 15.3.1 (6) that allows the user to see reporting products from different sources (UNCCD PRAIS 4 Defaults, Trends.Earth default and FAO-WOCAT defaults). The multi-Criteria analysis (7) which allows to combine specific layers in order to find areas of interest (For example: Grasslands with decreasing productivity in non-mountain areas for restoration or Forest with stable or improving productivity in mountain areas to protect or avoid degradation). When this toolbox opens it also provides statistic on the combination of three global LDN indicators: Land Cover, Soil Organic Carbon and Land Productivity Dynamics, including reporting tables. The next toolbox is the Land Cover Transition analysis (8) where users can choose to compare maps and obtain Gain/Loss from different initial years and products. Finally, the system has a Drawing tool (9) that users can use to create layers to provide feedback or submit ideas i.e: mark areas of interest, sites undergoing important issues, map or system errors, priority sites for specific SLM, etc.

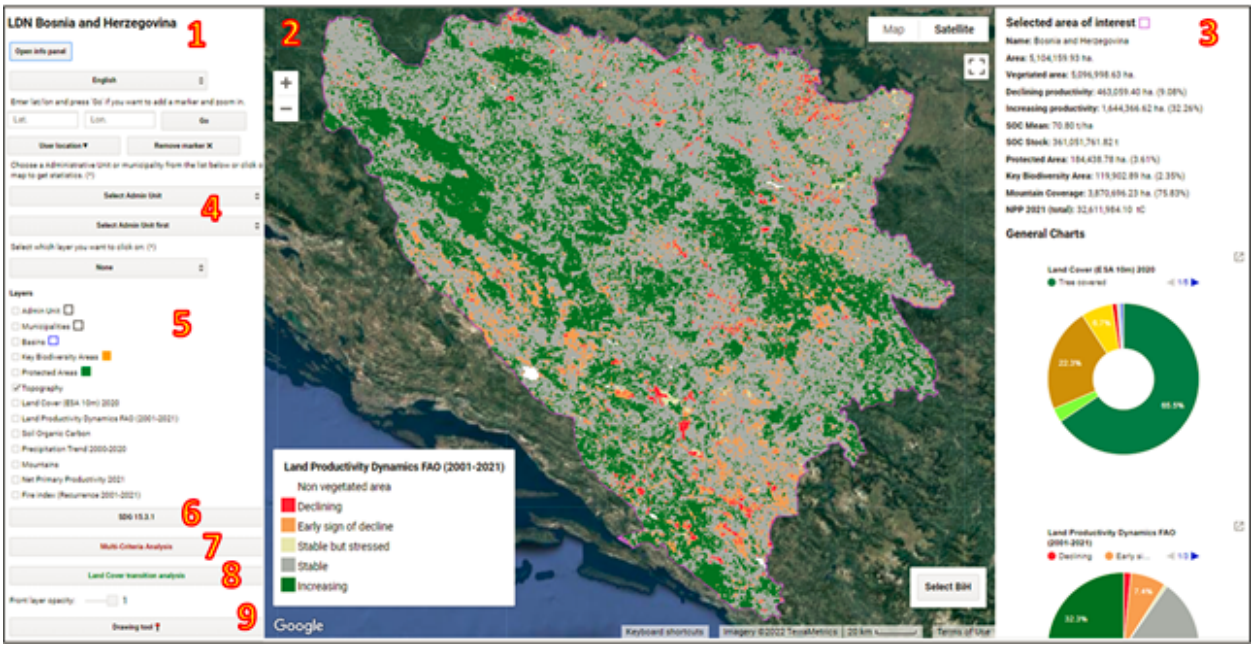


Figure: Decision Support System prepared to support the development of this project document.
Available at: https://projectgeffao.users.earthengine.app/view/ldn-bih

Link to local monitoring and impact assessment (output 2.1.3)

76. Includes the assessment and monitoring of soil health and SSM in the sites and in the sites designated for soil monitoring. The monitoring methodologies will follow the Protocol for the Assessment of soil Health and SSM, and its User Manual), and will include the acquisition of accurate and standardized data on soils through harmonized methods, as well as the management and

publication of soil information and its integration with other land and socio-economic variables..by means of DSS. This will allow to build models of land capability and suitability; identification of soil threats and risks of degradation; estimation of the potential SOC sequestration and the biophysical conditions of SOC saturation; analysis of scenarios of C inputs and SSM; estimation of future SOC stocks; and the identification of the most suitable sites for different types of interventions and pathways to reverse, reduce and avoid land degradation.

77. Proposed project activities:

i. Create baseline maps and choose algorithms for land degradation assessment: preliminary models for the area under study will be produced.

The modeling approach to be used will be decided after comparing the information that the different models can provide in order to accurately reflect the country's reality. Many approaches exist for modelling land processes and for determining changes in land resources (positive or negative) directly or indirectly caused by human activity. The selection of the approach has to take into consideration the scale (resolution) of available data and the scale (extent and resolution) aimed. One of the most recently proposed approaches for the national scale is the "Land Productivity Dynamics". At 2015 COP 12 in Turkey, this approach was proposed for setting targets for Balancing Land Degradation as an important step in the achievement of these goals, and its integration with decision support systems is possible. Models will be verified through ground truthing, and baseline maps corrected consequently.

ii. Define sampling needs and methods, and methodologies for analysis, following FAO?s Protocol for the assessment of Soil Health and SSM

iii. Existing SLM practices identified and characterized, and recorded in WOCAT/GSP databases

Output 2.1.2: SLM and SFM best practices in forests, rangelands and croplands demonstrated on 2 pilot areas in both entities and results monitored via LMIS .

78. Plan on land degradation neutrality of the pilot area will be developed with recommendations and measures to reduce soil degradation, improve soil quality and protect the environment, fine-tuned to the specific characteristics of the area. The plan will include, but not be limited to, SSM strategies that provide: 1. an adequate management of Soil Organic Carbon (SOC) and the soil fertility improvement through implementation of integrated soil fertility management, zonal crop rotations, cultivation of cover crops, use of organic and mineral fertilizers, and green manure; 2. improvement of irrigated soils fertility, their rational use and the management of irrigation risks such as salinization; 3. phyto- and agrotechnical measures to prevent and combat soil erosion, land rehabilitation, clearing of degraded multiannual plantations, planting of shelterbelts to reduce soil erosion by wind and conserve soil moisture.The principles of FAO?s Voluntary Guidelines for Sustainable Soil Management (FAO, 2017) and of the International Code of Conduct for Fertilizer management (FAO, 2019) will be observed.

79. LDN will be achieved only under the conditions of a neutral or positive balance of organic matter in soils. Sustainable agriculture approaches implemented during the project can include, among others:

? conservation agriculture (e.g., no-till and minimum tillage),

? continuous soil cover,

? crop rotation and intercropping,

? management of crop residues,

? optimization of nutrient use,

? integrated soil fertility management

? integrated weed, disease and pest management.

80. As mentioned above, in order to ensure the sustainability of these practices, not only the heads of the farms will be engaged, but all family farm members working in agriculture. For this, differences in logistical and substantive needs of men and women will be considered, including also single-headed households and other vulnerable groups. All data of beneficiaries will be disaggregated by sex and age to ensure that both men and women working in agriculture are engaged in the project actions, including the young. Corrective measures will be taken during project implementation as needed, so a minimum quota of 40 percent of either sex will be ensured.

81. Proposed activities:

i. Selecting site-specific SLM 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

ii. Actions towards mitigation of floods, drought and wildfires, including Construction of flood protection infrastructural facilities

iii. Revitalization of land in vulnerable/abandoned/bare areas

iv. Establishment of land erosion protection measures

v. Pollution remediation

vi. Implementation of SSM addressed to avoid SOC loss and to maintain and enhance soil fertility (black soils), including integrated soil fertility management (ISFM) strategies.

Monitoring SLM and SFM in the demonstration sites.

82. A range of field-based assessment approaches and methodology options are available, and experiences on LD assessments in other countries has shown the need for a tailored approaches that incorporated different elements of the available methodologies as data needs become clear through consistent stakeholder interventions at the multiple scales involved. Among the many methods that can be derived from Remote Sensing, there are others that are based on measurement and expert surveys, like the Participatory Assessment of Land Degradation and Sustainable Land management in Grassland and Pastoral Systems (PRAGA) in addition to LADA (Land Degradation Assessment in Drylands) and

WOCAT methods, although most need some adaptations to local context and area size to collect data for the LDN conceptual framework. Issues mentioned above about monitoring ?Changes of State? and the need for national stress reducing indicators to better understand processes within the system before big changes occur are an essential component of the process, as is knowing the accounting of investments needed to achieve certain levels of impacts that the interventions produce. These activities will include a significant input from local stakeholders and land users. Soil monitoring activities (data collection and evaluation of the progress) will be performed as per the Protocol of Soil Health and SSM assessment.

83. Activities:

i. Data collection: sampling, measuring. Analytical baselines for the three LDN indicators as well as other soil properties will be stablished for the Pilot Sites before the implementation of SLM, including SOC, but also other proxies/metrics related to land and soil health and threats. Information management. Analyses. Evaluation of results.

ii. Assessment of soil health following the FAO?s Protocol for the Assessment of Soil Health and SSM, and actions proposed consequently. The effects of the SLM on soils (compliance with VGSSM) will be assessed through yearly sampling and analysis, including field visual soil assessment, through comparison with the analytical baseline. However, the performance of the implemented SLM can only be partially assessed during the timespan of the project, since slow-changing variables such as SOC stocks may take 4 years or more in showing improvements,

iii. Integration of soil data in DSS and production of updated thematic maps.

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

Outcome 3.1 Monitoring and dissemination of lessons learned to support scaling up of FLR to the national level

Output 3.1.1 Projects results and lessons learned disseminated among stakeholders on national and sub national level

84. The proposed project will develop a gender-sensitive knowledge and communication strategy, followed by knowledge and communication products in the area of SLM practices that can be applied to achieve LDN in Bosnia and Herzegovina. At a minimum, National LDN guidelines and fact sheets will be published that describe how LDN should be measured at different scales and how gains and losses could be balanced from the landscape level and up to the national scale. The following activities are foreseen:

i. Road map and guidelines for LDN monitoring and UNCCD reporting published and disseminated to key stakeholders at the subnational level.

Information to support SLM concepts and practices, presentation of LDN targets, and Guides to implement and monitor in a LDN context will be produced to the wider public. Recommendations for this output are therefore the development and distribution of the following knowledge products:

? 1 knowledge product explaining and promoting LDN framework and BiH voluntary targets edited and developed for a public audience. Associated with this

could be promotional materials to inform on project objectives and activities, or information on LD baselines, hotspots and monitoring approaches for scaling.

? 2 knowledge product promoting SLM production practices and techniques, including information on Climate Change Adaptations (CCA), links to LDN and landscape planning, 1 for each region on which there is demonstration activities (Nort-eastern and South-eastern).

? 2 gender-sensitive knowledge products focusing on improving value-adding options and marketing of sustainably produced vegetable, meet/dairy products or medicinal plants.

While most projects tend to focus on technical manuals for these products given ease of distribution and budgeting, project developers are encouraged to explore innovative audio-visual methods to reach new audiences and increase impact. The Inter-sectoral Group on LDN could perform a key role in identifying best channels and mainstreaming information.

ii. Dissemination of project results to stakeholoders via round tables

iii. Awareness raising campaign through distribution of educational material, media and social networks

iv. Organization of a series of 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;

v. Establishing an information sharing network to promote SLM and SFM in BiH linked to the Drylands Sustainable Landscapes Impact Program

Output 3.1.2 Project results monitored and evaluated

85. A project M&E system will be established to measure project progress and impacts in terms of multiple global environmental benefits (GEBs), and social and economic benefits using baseline and targets for project indicators. They will include gender-specific and social inclusion indicators, and the rest of indicators will be disaggregated by sex, age and other relevant social determinants as possible. Baseline and targets for project indicators and LDN will be refined and used for monitoring project progress and impacts and reporting through three annual project reports (PIRs) submitted to GEF Secretariat and 6 half-yearly project progress reports (PPRs) submitted by the PCU to the LTU and the FAO/GEF unit. A Final Evaluation will be conducted and will include the review of project reports, web-based information, and field visits to selected sites, with recommendations for ensuring sustainability of project outcomes.

86. Activities

i. Using the monitoring guidelines the activities under output 2.2.2 are properly assessed to measure the impact at demonstration level and global benefits.

ii. Annual reports on project implementation prepared

iii. Independent final evaluation implemented

iv. Alignment with GEF Focal Areas

87. The proposed project aligns to the Land Degradation focal area strategy by providing technical support for capacity building, reporting, and voluntary national land degradation neutrality

target setting and implementation. It will help Bosnia & Herzegovina facilitate coordinated investments in Land Degradation Neutrality. GEF resources will be utilized to implement the long-term UNCCD strategy by contributing to achieve SDG 15 and target 15.3. For this purpose, this GEF investment will create an enabling environment to support the country?s voluntary LDN target implementation in order to contribute to the implementation of this UNCCD strategic framework and National Action Programme.

88. FAO and UNEP through this project, will support GEF to promote UNCCD?s LDN concept by creating an enabling environment for LDN target implementation in Bosnia & Herzegovina. Hence, this project is aligned to Objective 2 of the GEF-7 Land Degradation focal area. In the first place, this project will settle a conducive enabling framework and overarching political support as an indispensable foundation for LDN investments. Component 1 will ensure the creation of an enabling environment by facilitating the coordination at Ministry level to tackle LDN issues, building capacity at Government and smallholder level and working on policies at national level to resolve land tenure issues. In the second place, Component 2 will ensure the development of a monitoring and information system that will reinforce coordinated efforts to address overall LDN issues.

v. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

89. This project is designed to achieve an enabling policy environment to support LDN target implementation through strengthening national and local capacity and establishing an LDN monitoring and reporting system in Bosnia and Herzegovina track progress towards achieving and reporting on the national LDN targets building form the current baseline in BiH and addressing the persistent barriers as follows:

90. The outcome 1.1. will address the persistent barrier about weak institutional, policy and regulatory framework and lack of capacity in applying and promoting sustainable land management practices.

91. The current baseline is a situation where the responsibilities of the national institutions remain complex and deal with land issues under distinct aspects. Thus, there is not a unique approach to the problem of land degradation, and legislation remains inadequate for land protection. The complexity of the current institutional structure, as well as the lack of coordination among government levels obstructs the development of a coherent and integrated land policy. Hence, BiH lacks a strong and integral LDN institutional framework to support the implementation of the envisaged activities. To this effect, the first component of the project through outcome 1.1 will analyse the current institutional and legal set up in BiH to identify the adequate entities and policies for the implementation, monitoring and reporting of LDN targets.

92. Outcome 1.2. will addressed the second barrier about Limited Capacity, and know-how for implementation of LDN Targets as follows:

93. The current baseline consists of a situation where national local authorities lack comprehensive guidelines for rehabilitation of degraded land, best measures to use and for sustainable land management needed to achieve land degradation neutrality as planned in their LDN Reports. Additionally, BiH lacks examples and experience in good practices of land conservation measures and activities. The outcome 1.2 will improve the capacity among the relevant stakeholders to address this capacity and knowledge gap with a combination of capacity development programs and field

demonstrations of Sustainable Land Management (SLM) and Sustainable Forest Management practices (SFM).

94. Finally, Outcome 2.1: LDN monitoring and reporting capacity improved will address the third barrier about the lack of an information and Monitoring and reporting system for LDN targets.

95. Currently, BiH has written reports identifying baseline indicators at the national level for the three main UNCCD indicators: Land Productivity, Land Use and Soil Organic Carbon. Additionally, the country has identified national LDN targets and land degradation hotspots. However, as highlighted previously, collaboration and data exchange among Ministries within one entity level (vertically) as well as among entity levels and state (horizontally) remains very weak. As a result, overall land issues are approached in various divergent manners. Additionally, national capacity for defining, reporting and monitoring indicators at the subnational level is insufficient and the available data sets and methodologies could improve. The outcomes 1.2 and 2.1 will build on this baseline to implement LDN monitoring system and improve the national capacity.

vi. Global environmental benefits

96. This proposal will contribute to generate Global Environmental Benefits (GEBs) by sustainably managing 10,000 hectares of forests, rangelands and croplands in target cantons by supporting on the ground implementation of SLM and SFM practices to achieve LDN targets. The implementation of these practices includes the remediation of degraded land, revitalization of land in vulnerable/abandoned areas, land erosion protection, sustainable water supply for agriculture in hilly-mountainous areas and construction of flood protection infrastructural facilities. GEBs resulting from this proposal include:

? Improved provision of agro-ecosystem and forest ecosystem goods and services: Addressing the problem of Land Degradation leads to improving food availability (increased food production), to soil fertility enhancement (by enhancing the capacity to receive, store and transmit energy to support plant growth), and to the improvement of soil carbon sequestration capacity.

? Mitigated/avoided greenhouse gas emissions and increased carbon sequestration in production landscapes: SLM best practices demonstrated under Output 2.1.3 will provide carbon benefits.

? 200 project beneficiaries

vii. Innovativeness, sustainability and potential for scaling up

97. This proposal will pilot innovative measures under Output 2.1.1 in order to enhance land and soil quality and protection, as well as restoring land functions in degraded ecosystems. This project is designed to be scalable; Component 1 will support the integration of LDN approaches at national level and creates a baseline for future reporting and monitoring. Moreover, concerning sustainability, Output 2.2.1 will deliver a roadmap that will set the milestones and indicators for the next 10 years that will support the monitoring and reporting against the national LDN target as well as toward the achievement of SDG 15.3. Finally, this project will ensure that the experience of implemented pilot activities is disseminated. These activities will be shared and exchanged through experience sharing notes under Output 3.1.1.

98. The returns on acting against land degradation are estimated at 6 USD for every dollar invested in restoring degraded land in BiH. Assessments of the costs of action against land degradation through restoration and sustainable land management practices versus the cost of inaction highlight the strong economic incentive for bold actions against land degradation.

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[1] Bajocco, S., De Angelis, A., Perini, L. et al. The Impact of Land Use/Land Cover Changes on Land Degradation Dynamics: A Mediterranean Case Study. Environmental Management 49, 980?989 (2012). https://doi.org/10.1007/s00267-012-9831-8

[2] Official Gazette of the Federation of Bosnia and Herzegovina no. 38/09

[3] Official Gazette of Republika Srpska no 79/15

[4] World Overview of Conservation Approaches and Technologies. https://www.wocat.net/en/global-slm-database

[5] https://www.wocat.net/documents/1074/SLM_BOOK_FINAL.pdf and https://www.wocat.net/en/projects-and-countries/projects/ds-slm/countries/bosnia-and-herzegovina

[6] Critchley, W & Siegert, K 1991, A Manual for the Design and Construction of Water Harvesting Schemes for Plant Production, Water harvesting (AGL/MISC/17/91), FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS - Rome, 1991

[7] http://www.fao.org/global-soil-partnership/areas-of-work/soil-fertility/en/

[8] http://www.fao.org/soils-portal/soil-management/soil-conservation/en/

[9] Land potential is defined as the inherent potential of the land to sustainably generate ecosystem services required to meet today?s needs without compromising our ability to meet the needs of the future. https://landpotential.org/knowledge/what-is-land-potential/

[10] http://www.fao.org/climate-smart-agriculture/en/

[11] The Law on Agriculture, Foods and Rural Development of BiH

[12] There is no FBIH law on Forest so far only for some cantons there are cantonal laws on forests

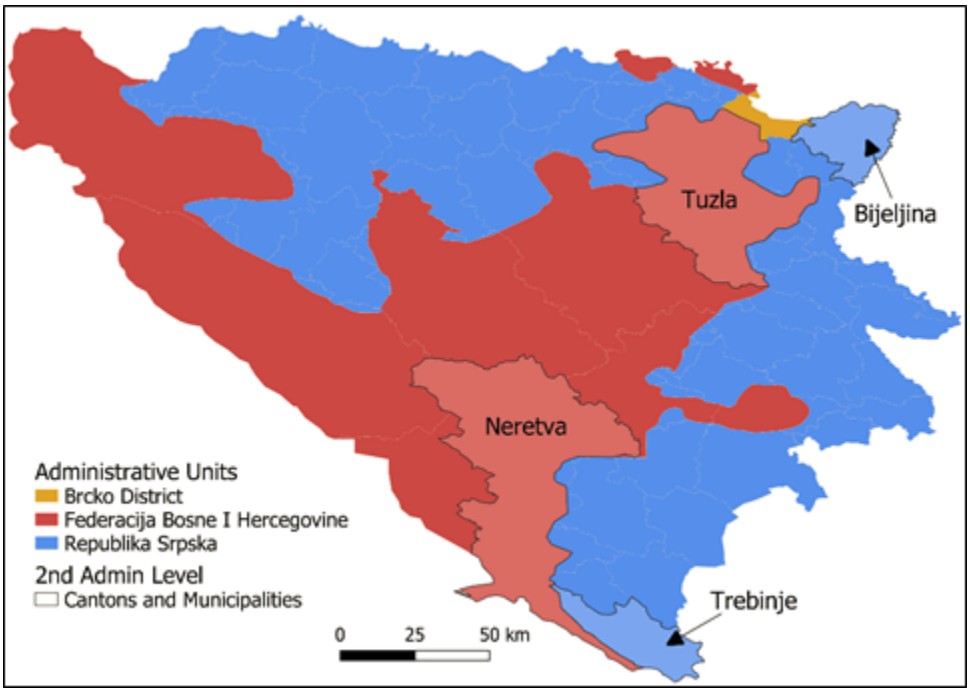
1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

For all information regarding the maps of different indicators with statistics for the different administrative level units including the project selected areas please refer to the Decision Support System at the following link:

https://projectgeffao.users.earthengine.app/view/ldn-bih

A simple map of the project selected Cantons and Municipalities where the demonstration sites will be located can be seen in the following image:



The geo-coordinates can be found in the following table:

Administrative Unit	Canton/Municipality	ADM2 code	Area [ha]	Geo-coordinates EPSG:4326			
				Lat min	Lat max	Lon min	Lon max
Federacija Bosne I Hercegovine	Neretva	6242	420786	42.606	43.895	17.379	18.334
Republika Srpska	Trebinje	6315	86704	42.561	42.961	17.944	18.577
Federacija Bosne I Hercegovine	Tuzla	6246	289742	44.165	44.918	18.124	19.044
Republika Srpska	Bijeljina	6252	73576	44.577	44.922	18.930	19.374

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

1. Stakeholder engagement within the project is critical for supporting the project?s risk management process, specifically the early identify and avoidance/management of potential impacts (negative and positive) and cost-effective project design. Impacted local communities by land degradation are groups of people who can be directly or indirectly (positively or negatively) affected by a project. An impacted community may be affected through components of the natural or social environment as a consequence of various aspects of a project and in varying degrees over its life cycle.

2. Stakeholders will be timely informed on each project activity, with coordination of the Ministry of Agriculture, Forestry and Water management for each entity, who will initiate round tables, workshops, and/or consultations prior to each project component to ensure feedback from stakeholders and to provide reliable impact assessment of SLM/SFM implemented. Information will be disseminated through Agricultural advisory services in each local community in cooperation with municipalities, through media and promotional material conducted during the project lifetime.

3. Engagement activities will therefore include interviews with stakeholder representatives and key information organizations (communities, authorities, NGOs) using one-on-one meetings, workshops and smaller focus group meetings. Engagement phase, disclosure and consultation activities will be designed in the way consultation events and opportunities must be widely and proactively publicised, especially among project affected parties, at least 2-3 weeks prior to any meeting; Relevant material will be accessible prior to any event to ensure that people are informed of the content and conclusions in advance of the meeting; The location and timing of any meeting will be designed to maximise accessibility to project affected stakeholders; Information presented will be clear and non-technical, and will be presented in the local language understood by those in the communities; Facilitation will be provided to ensure that stakeholders are able to raise their concerns.

4. During project development phase the project team held bilateral meetings with following stakeholders in the country:

? Ministry of Foreign Trade and Economic Relations BiH

? Ministry of Agriculture, Water Management and Forestry of Republika Srpska

? Ministry of Agriculture, Forestry and Water Management of FBiH

? Department for Agriculture, Water Management and Forestry of Brcko District

? Ministry of Agriculture of Tuzla Canton

- ? Ministry of Agriculture of Hercegovacko-Neretvanski Canton
- ? NGO ?Majka Priroda?
- ? NGO ?AREA? GEF CSO network
- ? NGO ?ENOVA?
- ? Local authorities of Trebinje City
- ? Local authorities of Bijeljina city
- ? University of Banja Luka, Forestry Faculty
- ? University of Sarajevo, Forestry Faculty

5. After bilateral consultation with key stakeholders, the project team organized stakeholders? workshop to present project activities to wider community and get feedback/comments. Stakeholder?s workshop has been organized online via Microsoft Teams platform on 13th November 2020., with participation of 27 institutions/NGO-s. List of participants as well as workshop report has been produced and available on request. There were not any objections from stakeholders on presented log frame of project, therefore project activities have been endorsed by all stakeholders.

6. The Validation Workshop took place on May 18.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The detailed Stakeholder Plan (Annex T) is attached for more information on how stakeholders will be consulted in project execution and other related engagement information.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Introduction

1. Policies and initiatives on land in BIH and its entities are frequently not gender-responsive. The rights and needs of women, particularly in rural areas remain insufficiently addressed in existing legislative and strategic framework and rural women do not benefit from measures that could ameliorate their situations. Gender indicators in agriculture and forestry are very limited in BIH which limiting planning, implementation and evaluation of activities and measures to improve gender equality through this project. The agriculture sector is an important employer for women in the RS: 33.9 percent of all employed women are working in this sector as compared to less than ten percent in the FBiH. In addition to farms, women are also engaged in agriculture through cooperatives (private sector).

2. For example, the relevant entity-level ministries for agriculture maintain registries of farmers and agricultural holders, but registration is linked to the receipt of subsidies and is not mandatory. On the other hand, there are ongoing activities related to improvement of land registry and cadastre system, aimed to include sex-disaggregated data on real estate ownership, but these data have not been used to generate statistics about the representation of women among farm owners (with the exception of statistics on women property owners in the Republika Srpska).

Strategies and activities

3. Gender perspective will be fully integrated into project implementation, results, monitoring and evaluation for inclusive rural development in general, particularly in sustainable agriculture and forestry where land management is crucial. Gender expert will be engaged as a part of project team to ensure equal opportunities for women and men to participate in and benefit from the project. This will be measured through:

? GEF indicator 11

? Relevant FAO Core Set Gender indicators in agriculture

? National indicators defined in strategic documents below.

4. Proposal will also benefit from FAO (Regional Office for Europe and Central Asia) gender expertise and close cooperation with a national gender expert in the project team.

5. Second, the project team shall be provided with gender sensitization training at the inception stage. In the third place, the checklist of the FAO guide Gender and Human Rights Based Approach Guidelines for Technical Officers will be adjusted to the relevant context and applied by the project management throughout the entire project cycle. Efforts will be made to have gender equitable participation and active engagement in all project activities, including during consultations and needs assessments, to ensure balanced gender representation among key stakeholders. All data collected by the project team (based on project relevant Core Set Gender indicators in agriculture) will be sex-disaggregated, as well as disaggregated by age and other relevant social determinants as possible. Gender considerations and participatory approaches will also be specifically taken into account at monitoring and evaluation, through the specific assessment. GEF indicator 11 will be used here to analyse number of direct beneficiaries disaggregated by gender.

6. Project activities will be associated with the Gender Action Plan of Bosnia and Herzegovina ?GAPBiH? (2018-2022). The objective of this proposal can be linked to measures under priority area I.3 Labour, employment and access to economic resources. The GAPBiH highlights the implementation of promotional activities, information/awareness-raising campaigns on the right to equal access to employment, labour market and economic resources in the area of environmental protection and sustainable development. Also RS entity will associate project activities with Action Plan for Improving the Situation of Rural Women in the Republika Srpska (objectives relevant for the project concerning rural women?s access to social and health services, economic position, and participation in decision-making as well as promoting gender equality in rural areas) while FBIH with strategic documents entitled The FBiH Women?s Entrepreneurship Development Programme for 2018-2020 and the RS Strategy for the Development of Women?s Entrepreneurship for 2018-2022.

7. The monitoring and evaluation of progress in achieving the results and objectives of the project will be based on targets and indicators in the Project Results Framework, with gender sensitive indicator and sex disaggregated data on stakeholders, direct beneficiaries, trained participants etc (Annex A). Monitoring and evaluation activities will follow FAO, UNEP and GEF policies (GEF guidance on gender) and guidelines for monitoring and evaluation. It will be undertaken through: (i) day-to-day monitoring and project progress supervision missions (PCU); (ii) technical monitoring of gender disaggregated indicators to measure a reduction in land degradation (PCU and LTU in coordination with partners); and (iii) monitoring and supervision missions (FAO).

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making

Generating socio-economic benefits or services or women

Does the project?s results framework or logical framework include gender-sensitive indicators?

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

1. This proposal will set up the conditions for local smallholders, private companies related to agricultural production, forest nurseries to implement SLM/SFM strategies trough a capacity development program under Outcome 1.1. In the long term, it is expected that the replication and scaling up of these practices will lead to increased incomes for households.

2. Private sector engagement will include active participation of agricultural private companies and forest nurseries who will be trained about possible measures that can be implemented in the production, that will sustain or increase yield, preserve soil and increase soil organic carbon (SOC) content, thus soil fertility rate, aimed to encourage private investments in land.

3. Involvement of private sector in the Project will contribute in identification of existing gaps and challenges in transforming policy and regulatory environments to encourage sustainable investments and innovative financial instruments where is possible. This is opportunity to bring into the same table decision makers and private sector, to discuss possibilities and innovative approaches to encourage private sector and further investments that will contribute to land sustainability. Also, active participation of private sector is opportunity to establish multi stakeholder alliances and strengthen institutional capacities related to land degradation. Agricultural producers need to be active partners in this process that will voice identified problems and possible solutions that will help them to sustain production, and preserve soil health. Here, associations of agricultural producers, private concessionaires related to land and water, business club of women, wine producers, private forest owners, forest nurseries will be considered as representatives of private sector.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

	Risk	Impact*	Likeli-Hood*	R/A/G	Mitigation Action

	Risk	Impact*	Likeli-Hood*	R/A/G	Mitigation Action
1	Lack of close cooperation between key institutional stakeholders, as well as among local stakeholders	H	MH	R	The capacity development program under Outcome 1.2 will enable effective and coordinated cooperation and communication among ministries in order to achieve LDN common goals.
2	Unclear responsibilities of institutions at state, entityand local level	H	ML	A	Component 1 delivers a map of the responsibilities/competencies of institutions regarding LDN monitoring/reporting. This proposal, under Outcome 1.1, will analyse the institutional/legal structure and will identify a key responsible institutions for monitoring/reporting on LDN target achievement progress.
3	Low technical capacity in operationalizing LDN at entity and local level halting the project?s progress	MH	L	G	FAO and UNEP provides technical support for capacity building, reporting, and LDN target setting and implementation through this proposal. A capacity development program is established under Output 1.2.1 for Government staff, smallholders and farmers ensuring participation of 50% of women. Technical capacity development is reinforced via demonstrations of SLM and SFM practices in selected pilot areas.
4	Lack of political support to LDN	L	L	G	The interest and support from BiH have been manifested through the various ongoing projects and programmes investing in LDN (World Bank Irrigation Development Project, World Bank Sustainable Forest and Landscape Management Project, UNEP-GEF Support to NAP development). Furthermore, political will and support to LDN is reflected in the *Action programme to combat land degradation and mitigate the effects of drought in BiH*and the *LDNtarget setting programmes.* Lastly, this project ensures Government participation in its activities and trainings.

	Risk	Impact*	Likeli-Hood*	R/A/G	Mitigation Action
5	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.	MH	L	G	SLM and SFM demonstration practices under Output 1.2.2 include: - Drought adaptation and mitigation, flood protection and soil erosion protection, bare land consisting of conservation measures and rehabilitation of affected land that will bring back its functionality. Flood protection is part of this measure through construction of infrastructural facilities..

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Institutional arrangements

1. **UNEP** represents the Implementing Agency (IA) of the Global Environment Facility (GEF), with following roles:

? Providing consistent and regular Project oversight to ensure that GEF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes
? Performing the liaison function between the project and the GEF Secretariat
? Regularly monitoring project progress and performance and rating progress towards meeting project objectives, project
? execution progress, quality of project monitoring and evaluation, and risk
? Ensuring that both GEF and UN Environment guidelines and standards are applied and met (technical, fiduciary, M&E)
? Ensure technical quality of products, outputs and deliverables
? Ensuring timely disbursement/sub-allotment to executing agencies, based on agreed legal documents
? Approve budget revision, certify fund availability and transfer funds
? Providing technical support and assessment of the execution of the Project
? Providing guidance if requested to main TORs/MOUs and subcontracts issued by the project
? Follow-up with EA for progress, equipment, financial and audit reports
? Certify project operational completion

2. At the request of the government of BiH and the Republic of Srpska, FAO will ast as the Executing Agency (EA) of the project. Its main responsibilities include:

? Overseeing that the project is executed according to the agreed workplan, budget and reporting tasks
? Participate in the Steering Committee meetings
? Signing the relevant Legal Instrument to allow disbursement of funding
? Addressing and rectifying any issues or inconsistencies raised by the IA
? Support compilation and submission of progress, financial and audit reporting to IA
? Take responsibility for the execution of the project in accordance with the project objectives, activities and budget

? Notify IA in writing if there is need for modification to the agreed implementation plan and budget, and to seek approval
? Address and rectify any issues raised by IA with respect to project execution in a timely manner
? Report to IA and comply with the administrative and financial procedures
? Managing the financial resources and processing all financial transaction relating to sub-allotments
? Preparing all annual/year-end project revisions
? Assessing project risks in the field, monitoring a risk management plan
? Coordinate project execution with Ministry of Sustainable Development and Tourism, based on a to-be-signed MoUs

The Project's Governance Structure

3. **National Project Director.** The government will designate a National Project Director (NPD), who will be a government staff and will be have the responsibility of supervising and guiding the NPC on the government policies and priorities. He/she will also be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will be responsible for requesting UNEP the timely disbursement of GEF resources that will allow the execution of project activities, in strict accordance with the Project Results-Based Budget and the approved annual work plans and budgets (AWP/B) for the current project year.

4. A **Project Steering Committee (PSC)** will be established and chaired by the National Project Director and it will be comprised of representatives from Ministry of Foreign Trade and Economic Relations BIH, department of agriculture and Ministry of Agriculture, Forestry and Water management of the RS and FBIH. The members of the PSC will act as project Focal Point(s) in their respective institutions. As Focal Points, the concerned PSC members will: (i) technically oversee activities in their sector, (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project, (iii) facilitate coordination and links between the project activities and the work plan of their agency, and (iv) facilitate the provision of co-financing to the project.

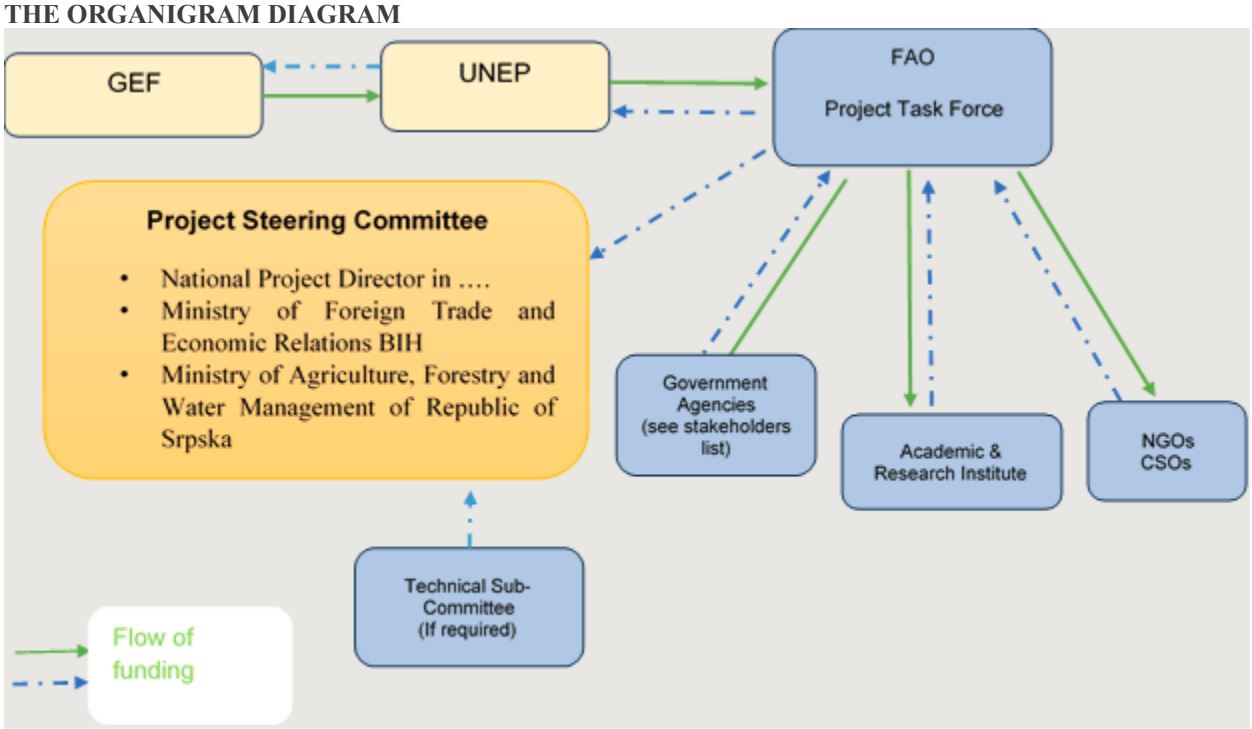
5. The **National Project Coordinator (NPC)** will be the Secretary to the PSC. The PSC will meet at least twice a year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the project and other ongoing projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of government partner work under this project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget; vii) Making by consensus, management decisions when guidance is required by the National Project Coordinator.

6. A **Project Management Unit (PMU)** will be co-funded by the GEF and established within the FAO office in Sarajevo. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation, and monitoring of the project through the effective implementation of the AWP/Bs. The PMU will be composed of a National Project Coordinator (NPC) who will work full-time for the project lifetime. In addition, the PMU will include (please add other components/staff).

7. The **National Budget and Operations Officer** (part-time) will be responsible for the day-to-day financial management and operation of the project including raising contracts and procure other needed inputs in accordance with the approved budget and annual work plans. The Budget and Operations Officer will work in close consultation with the NPD, Budget Holder, Lead Technical Officer and project executing partners, particularly with the FAO Representation in the country, and will take the operational responsibility for timely delivery of needed inputs to produce project outputs.

8. Financial management of GEF resources will be carried out according to UNEP and FAO rules and procedures.

THE ORGANIGRAM DIAGRAM



Coordination with other relevant GEF-financed projects and other initiatives

9. The project will coordinate with other GEF-financed projects with the objectives of identifying opportunities and facilitate mechanisms to achieve synergies. This collaboration will be undertaken through: i) informal communications between GEF Agencies and executing partners of other programs and projects; ii) annual coordination meetings; iii) specific meetings on technical matters; iv) meetings and activities to exchange experiences and lessons.

10. GEF ID 9685 Project (Regional ? International Waters): Mediterranean Coastal Zones: Managing the Water-Food-Energy and Ecosystems NEXUS implemented by United Nations Environment Programme with the objective of Balancing of competing water uses in priority coastal areas through water, food, energy and ecosystems integrated governance, to enhance environmental security and sharing of benefits.

? GEF ID 5076 Project: Support to Bosnia and Herzegovina for Development of National Action Programs Aligned to the UNCCD 10 Year Strategy and Reporting Process implemented by United Nations Environment Programme

? GEF ID 4922 Project (Land Degradation): Decision Support for Mainstreaming and Scaling up of Sustainable Land Management implemented by Food and Agriculture Organization

? GEF ID 4779 Project: Sustainable Forest and Landscape Management implemented by The World Bank

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

1. The Land Degradation Neutrality Target Setting Process in BiH started in 2016 in both political entities (FBiH and RS). The Government of the Federation BiH requested the Federal Ministry of Agriculture, Water Management and Forestry as well as cantonal ministries to work on the development of land protection policies, to introduce and promote the concept of land degradation neutrality and to incorporate it in the process of planning and future development. The Ministry of Agriculture, Forestry and Water Management of Republika Srpska together with other governmental institutions took the leading role in LDN process from its beginning. The data analysis from JRC , CORINE as well as global data, reveals a baseline scenario where the total area of land in FBiH that is stable but under stress(in terms of productivity) amounts to 38,500 ha, while in RS it amounts to 50,600 ha. Moreover, this analysis brings to light a baseline scenario where reduction in productivity (categories declining and early signs of decline productivity) was identified on 25,200 ha in FBiH, while in RS, on 12,900 ha. However, an increase in productivity was identified on 2,066,400 ha in both political entities.

2. This project proposal is consistent with the ?Action Programme to Combat Land Degradation and Mitigate the Effects of Drought in Bosnia and Herzegovina?. Forest Management and Land Degradation activities prioritized in this action programme are:
? Establish specific forest and forestland management systems in extreme conditions (fire risk, wind erosion and the like);
? Identify, select and protect rare types of land (podzol, brunipodzol, peatlands, etc) from regular management measures;
? Establish additional measures of banning deforestation in high mountain and Karst areas (where land is at risk of degradation);
? Insist on limited utilization of heavy machinery in forest exploitation activities.

3. The proposed project is is aligned with strategic and operational objectives of the AP (priority actions)
? Strategic objective 1: Improvement of the legal framework in order to protect land resources and sustainable land management
- Operational objective 1.1. To adopt regulations and plans pertaining to land protection from degradation
- Operational objective 1.2. To ensure implementation of the adopted regulations, strategic documents and international commitments

? Strategic objective 2. Efficient institutions and administration able to respond to the requirements of sustainable land management
- Operational objective 2.1. To strengthen and reform institutions dealing with land issues
- Operational objective 2.2. To strengthen cross-sectoral and institutional cooperation

? Strategic objective 3. Improvement and implementation of melioration measures, remediation and sustainable land management in BiH
- Operational objective 3.1. To develop sustainable monitoring systems and establish adequate data bases
- Operational objective 3.2. To protect land and recover the function of degraded land

? Strategic objective 4 Public awareness raising and the role of education in combating land degradation and the effects of drought

- Operational objective 4.2 Public awareness raising and the role of education

4. Drought management plans development is ongoing activity in both entities, in coordination of UNCCD and Ministries of Agriculture, aiming to adapt, mitigate and combat drought which is in line with activities in planned LDN hot spot regions, LDN.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

1. Demonstration activities will be carried through in order to display best practices at field level. Moreover, this proposal has been designed to ensure the dissemination of practices and lessons learned through Output 2.2.1. on a broader level. A roadmap to achieve the national LDN target by 2030 will be developed and published. This roadmap will outline agricultural and forestry activities to achieve the national LDN target in each Entity. The following table outlines the knowledge management approach for the project:

Knowledge Management Activity	Responsible parties	Time frame/ Periodicity	Budget
Community exchange visits	PC, project partners, local organizations	Biannual	USD 40,000
Brochures and leaflets for land users	PC project partners, local organizations, with clearance by the LTO	Twice during project lifetime	USD 25,000
Project Newsletter	PC and LTO	Annual	USD 20,100
Website, webpage and social network pages	PC; FAO (FAO REU, LTO)	Within two months of project start-up with regular uploads and maintenance	USD 15,000
Films for television and internet campaigns	PC, with stakeholder contributions and other participating institutions	Once during the project lifetime	USD 20,000
Operational films for local land users	PC, with contributions from FAO (LTO)	Once during the project lifetime	USD 15,000
Public events and press releases	PC with input from project partners	Annual	USD 22,000
Total budget			**USD 157,100**

9. Monitoring and Evaluation

Describe the budgeted M and E plan

1. In line with the GEF Evaluation requirements and UNEP?s Evaluation Policy, all GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.
2. In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review?s performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.
3. However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project?s operational completion If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.
4. The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Project Manager is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

Table 5. Summary of the main monitoring and evaluation reports, parties responsible for their publication and time frames.

M&E Activity	Responsible parties	Time frame/ Periodicity	Budget
Inception workshop (online)	NPC; UNEP, FAO Representation in Bosnia and Herzegovina	Within two months of project startup	--
Project Inception Report	NPC, M&E Expert, FAO Representation in Serbia	Within one month after the workshop	Included in cost of PMU

M&E Activity	Responsible parties	Time frame/ Periodicity	Budget
Closing Workshop (online)	NPC; UNEP, FAO Representation in Bosnia and Herzegovina	Two months before project closing	--
Field-based impact monitoring	PMU; project partners, local organizations	Continuous	USD 11,250 (Cost of the M&E Operations specialist)
Supervision visits and rating of progress in PPRs and PIRs	NPC; FAO Technical staff as needed.	Annual, or as needed	USD 15,000
Project Progress Reports (PPRs)	NPC, FAO Representation in BiH with stakeholder contributions and other participating institutions	Six-monthly	NPC and FAO staff time
Project Implementation Review (PIR)	Drafted by the NPC, with the supervision of the FAO LTO and BH. Approved and submitted to GEF by UNEP	Annual	UNEP staff time financed though GEF agency fees. PMU time covered by the project budget.
Co-financing reports	PMU with input from other co-financiers	Annual	NPC staff time
Technical reports	NPC; FAO (LTO, FAO Representation in BiH)	As needed	Project budget and GEF Agency fees
Final Evaluation	External consultant, selected by UNEP	At least three months before end of project	USD 20,000
Total budget			**USD 46,250**

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

This project will contribute to a paradigm shift towards low carbon and resilient development. Thus, global environment benefits (GEBs) of this project include carbon sequestration and climate regulation as a result of land rehabilitation, land restoration, improvement of government policies as well as access to education and information regarding land degradation.

The generation of these GEBs will be supported by several socio-economic benefits that will be delivered both at national and local level by this GEF-FAO-UNEP proposal.

At national level, this project will, in the first place, strengthen the development of policies and measures to address the issue of LDN contributing to the achievement of UNCCD National Action Programme as well. Outcome 1.1 ensures that the legal and policy framework is reinforced. The increase of land productivity and yields at smallholder level will also lead to the overall boost of production in the agriculture, agroforestry and land-use change sectors.

At local level, the project will indirectly support poverty reduction and increased food security as a result of smallholders? income raise. Secondly, SLM demonstration activities under Output 1.2.2 will bring about carbon benefits in four pilot areas through land restoration.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex M - Env and Social risk screening	CEO Endorsement ESS	
Env and Social risk screening_updated 14	Project PIF ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicator	Baseline	Target	Means of verification	Assumptions	Responsible for data collection
Component 1: Creating an enabling environment for LDN						
1.1 Improved institutional, legal and policy framework for LDN implementation	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)	Reports to UNCCD	Strengthening the enabling environment for LDN has support from government	PMU
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 responsible for monitoring and reporting (with clearly determined responsibilities) on LDN progress						
1.2: Enhanced LDN target implementation capacity of relevant stakeholders	[Core Indicator 11] 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	Attendance sheets, certificates of attendance	Willingness and interest to participate in LDN capacity building among target groups	PMU
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						
Component 2: Establishing LDN monitoring and reporting system and development of LDN roadmap						

Results chain	Indicator	Baseline	Target	Means of verification	Assumptions	Responsible for data collection
2.1. LDN monitoring and reporting capacity improved at national and sub-national levels to support LDN in production landscapes	Decision support system that aligns local and national data operational to support planning, monitoring, and reporting	Current national targets established based on the three core indicators for land productivity dynamics (land use change, soil organic carbon, and changes productivity)	Decision support system (DSS) developed, building on an agreed approach and a set of national indicators agreed by MITF	Meeting report	There is willingness of key ministries and other institutions to collaborate and share information	PMU
	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 and SLM/SSM	Land Monitoring Information System operational	Annual report from operator of Monitoring System		PMU

Results chain	Indicator	Baseline	Target	Means of verification	Assumptions	Responsible for data collection
	[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	Approved plans Field reports for pilot sites	Proejct beneficiaries see benefits of SLM/SSM and carry out investments to upscale pilot activities	PMU
2.1.1. Land monitoring and information sharing system developed, with two hosts 2.1.2. Capacity to monitor and report on LDN improved at national and sub-national levels 2.1.3. SLM and SFM best practices in forests, rangelands and croplands demonstrated on 2 pilot areas in both entities and results monitored via LMIS						
Component 3. Knowledge management, monitoring and evaluation and public awareness raising						
3.1 Monitoring and dissemination of lessons learned to support scaling up of SLM/SSM to the national level	Project implemented based on RBM principles PIR ratings	None	Project implemented without major delays PIR rating: at least S	Annual PIRreports		PMU
3.1.1 Projects results and lessons learned disseminated among stakeholders on national and sub national level 3.1.2 Project results monitored and evaluated						

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

N/A.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **50,000**			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Baseline assessments	20,000	20,000	
Project document write up	20,000	20,000	
Consultations	10,000	10,000	
Total	50,000	50,000	

If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities up to one year of CEO Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report closing of PPG to Trustee in its Quarterly Report.

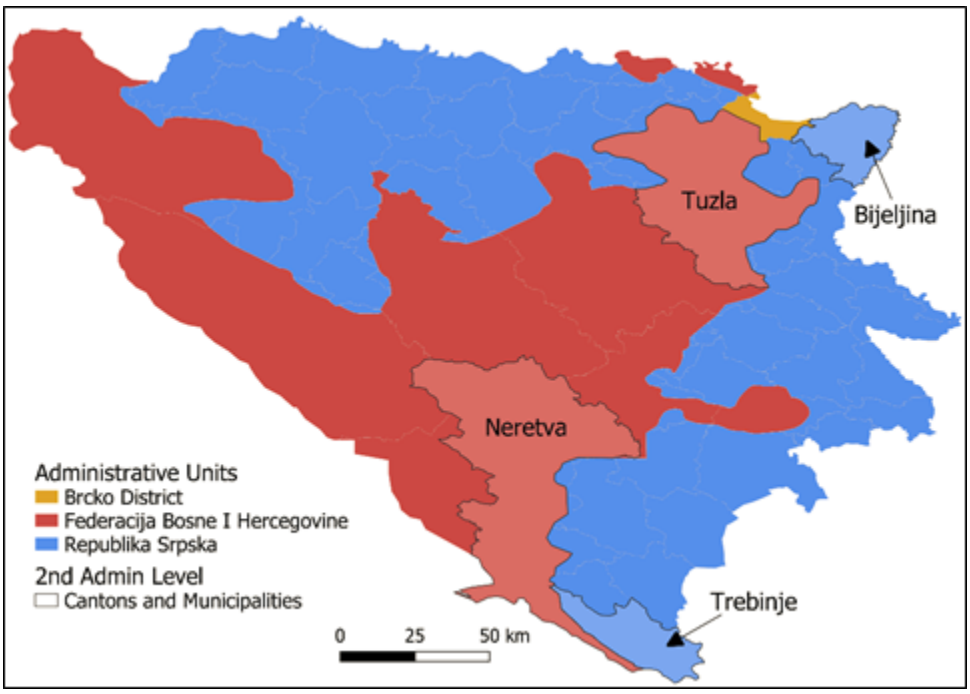
ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

For all information regarding the maps of different indicators with statistics for the different administrative level units including the project selected areas please refer to the Decision Support System at the following link:

https://projectgeffao.users.earthengine.app/view/ldn-bih

A simple map of the project selected Cantons and Municipalities where the demonstration sites will be located can be seen in the following image:



The geo-coordinates can be found in the following table:

Administrative Unit	Canton/Municipality	ADM2 code	Area [ha]	Geo-coordinates EPSG:4326			
				Lat min	Lat max	Lon min	Lon max
Federacija Bosne I Hercegovine	Neretva	6242	420786	42.606	43.895	17.379	18.334
Republika Srpska	Trebinje	6315	86704	42.561	42.961	17.944	18.577
Federacija Bosne I Hercegovine	Tuzla	6246	289742	44.165	44.918	18.124	19.044
Republika Srpska	Bijeljina	6252	73576	44.577	44.922	18.930	19.374

ANNEX E: Project Budget Table

Please attach a project budget table.

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					BUDGET in USD						Total	
Oracle code and description	Component 1: Creating an enabling environment for LDN				Component 2: Establishing LDN monitoring and reporting system and development of LDN roadmap				M&E	PM	GEF	the bud
	1.1.1.	1.2.1	1.2.2	Total	2.1.1	2.2.1	2.2.2	Total	Total	Total		
5300 Salaries professionals												
				0				0			-	
5300 Sub-total salaries professionals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**0**	**0**	
5570 Consultants												
5542 International Consultants												
LDN monitoring systems expert				0	13,500	13,758		27,258		0	**27,258**	FAO
M&E specialist				0				0	11,250	0	**11,250**	
SLM/SFM expert			11,250	11,250				0		0	**11,250**	FAO
IC - Human Resource Services												
Sub-total international Consultants	**0**	**0**	**11,250**	**11,250**	**13,500**	**13,758**	**0**	**27,258**	**11,250**	**0**	**49,758**	
5543 National consultants												
Project Coordinator				0				0		45,600	**45,600**	FAO
Project /Admin and Finance				0				0		32,842	**32,842**	FAO
Policy and Institutional Expert	12,000			12,000	6,000	6,000		12,000		0	**24,000**	FAO
				0				0		0	-	
Field Officer/Expert Group Leader		31,500		31,500				0		0	**31,500**	FAO
Gender Focal Point	9,000			9,000	9,000			9,000		0	**18,000**	FAO
IT/Database/GIS expert				0	12,750			12,750		0	**12,750**	FAO
Soil monitoring expert				0	37,500			37,500		0	**37,500**	FAO
Forestry expert		25,000	25,000	50,000				0		0	**50,000**	FAO
LDN expert		37,000		37,000		37,000		37,000		0	**74,000**	FAO
SLM expert		37,000	37,000	74,000				0		0	**74,000**	FAO
NC - Human Resources Services												FAO
Sub-total national Consultants	**21,000**	**130,500**	**62,000**	**213,500**	**65,250**	**43,000**	**0**	**108,250**	**0**	**78,442**	**400,192**	
5570 Sub-total consultants	**21,000**	**130,500**	**73,250**	**224,750**	**78,750**	**56,758**	**0**	**135,508**	**11,250**	**78,442**	**449,950**	
5650 Contracts (LOAs)												
Development of information sharing system with two hosts				0	30,000			30,000		0	**30,000**	FAO
Technical Support and capacity building for implementation of SLM in agriculture, adaptation to drought pilot plot 1		45,000		45,000				0		0	**45,000**	FAO
Technical support and capacity building for revitalization of land in vulnerable regions pilot plot 2		45,000		45,000				0		0	**45,000**	FAO
Technical support for remediation measures and land erosion protection pilot plot 3		45,000		45,000				0		0	**45,000**	FAO
Administrative costs		0		0				0		0	-	FAO
Final Evaluation				0				0	20,000	0	**20,000**	UNEP (i
Contracts - Procurement Services												
5650 Sub-total Contracts	**0**	**135,000**	**0**	**135,000**	**30,000**	**0**	**0**	**30,000**	**20,000**	**0**	**185,000**	
5900 Travel												
PMU (incl DSA)				0				0	15,000	0	**15,000**	
National policy coordination meetings	10,000			10,000				0		0	**10,000**	FAO
International consultants' travel	4,500			4,500	4,500			4,500		0	**9,000**	FAO
5900 Sub-total travel	**14,500**	**0**	**0**	**14,500**	**4,500**	**0**	**0**	**4,500**	**15,000**	**0**	**34,000**	
5020 Training and workshops												
Annual work planning meetings and steering committee meetings			4,000	4,000			4,000	4,000			**8,000**	FAO
Meetings of the Intersectoral Expert Group	18,400			18,400				0			**18,400**	FAO
Training on Sustainable land management and LDN		30,000		30,000				0			**30,000**	FAO
Training of land users and field visit to demonstration sites		40,000		40,000				0			**40,000**	FAO
International Workshop (VGGT)					15,000			15,000			**15,000**	FAO
Training in opportunities for women in agriculture and forestry	5,000	5,000		10,000				0			**10,000**	FAO
Training - Procurement Services												
5020 Sub-total training	**23,400**	**75,000**	**4,000**	**102,400**	**15,000**	**0**	**4,000**	**19,000**	**0**	**0**	**121,400**	
6000 Expendable procurement								**0**				
Brochures design and printing		2,000		2,000				0			**2,000**	FAO
Annual status reports			1,500	1,500			1,500	1,500			**3,000**	FAO
Posters			1,000	1,000			1,000	1,000			**2,000**	FAO
Material for SFM (e.g. seedling, fertilizers, etc.)		10,000		10,000				0			**10,000**	FAO
Billboard signs -info and demarcation		1,346		1,346	1,346			1,346			**2,692**	FAO
Expendable procurement - Procurement Services												
6000 Sub-total expendable	**0**	**13,346**	**2,500**	**15,846**	**1,346**	**0**	**2,500**	**3,846**	**0**	**0**	**19,692**	
6100 Non-expendable procurement								**0**				
Laptops				0			10,000	10,000			**10,000**	FAO
Non-Expendable procurement - Procurement Services												
6100 Sub-total non-expendable	**0**	**0**	**0**	**0**	**0**	**0**	**10,000**	**10,000**	**0**	**0**	**10,000**	
6300 GOE budget								**0**				
Office rent and utilities				0		28,800		28,800			**28,800**	FAO
Vehicle operations and maintenance				0		14,400		14,400			**14,400**	FAO
GOE- Procurement Services												
Security Expenses in country of Operations												
6300 Sub-total GOE budget	**0**	**0**	**0**	**0**	**0**	**43,200**	**0**	**43,200**	**0**	**0**	**43,200**	
5050 GOE Common Services- (Other Central Support Services)												
IT Services												

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N/A.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N/A.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N/A.