Achieving Land Degradation Neutrality and some SLM practices

An overview of Bosnia and Herzegovina – Federation of BiH entity priorities and strategy

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LDN target setting process and

FAO/GEF project „Decision Support for Mainstreaming and Scaling up of Sustainable Land Management“ (DS-SLM-GCP/GLO/337/GFF) are being implemented in both entities.
Context of land degradation

• Land Cover/land use

In the period 2000-2006, such changes were identified at 871 locations, i.e. polygons, on a total area of 33,976 ha.

The pressure on the land cover was considerably lower in the period 2006-2012, so that changes are visible on a total area of 10,991 ha (271 polygons).
Context of land degradation

- **Land productivity dynamics**
  - Reduction of productivity 11,400 ha,
  - Early signs of reduction 13,800 ha,
  - Stable but under stress 410,500 ha,
  - Stable productivity without stress 410,500 ha,
  - Increase in productivity 2,066,400 ha.
• Organic carbon content

According to the ISRIC data, the carbon content ranged between 0 to 174 t/ha, while the average is 111.7 t/ha.

Carbon stocks in forest areas amount to 119.3 t/ha, and in agricultural 107.9 t/ha.

The average level of carbon stocks in wetlands and water bodies is 98.3 t/ha.
Context of land degradation

Major land degradation drivers are as follows:

• Population migration and rural depopulation which leads to increased urbanization (mostly illegal), the creation of illegal communal landfills and the occurrence of landslides;

• Non-implementation of policies and measures to protect the land;

• Industrialization and expansion of the area under exploitation of minerals as well as the landfills of mining waste and other materials;

• Inadequate agricultural systems (application of improper practices in agriculture) leading to the occurrence of erosion and soil pollution;

• Illegal felling that is conducive to erosion and landslides;

• Obsolete industrial technologies that lead to land contamination;

• Climate change reflecting in extremes such as droughts and floods.
LDN target setting process

MAIN LDN TARGET

• Improve land quality and protection and restore degraded land functions in specific ecosystems or minimize adverse environmental impacts

This target is aimed at developing programs and projects for the protection, rehabilitation and regulation of degraded land, as well as increasing its fertility.

LDN SUB-TARGETS

• Land management in support of environmental protection and spatial planning system

This sub-target pertains to the establishment of a land condition and land use monitoring system, and the development of reporting indicators.

• Establish a basis for harmonious and spatially balanced socio-economic development, with a focus on marginalized and degraded areas

This sub-target is aimed at developing and improving the legislative on agricultural and forest land, as well as adopting strategic documents in which the LDN approach will be fully integrated. The focus is also placed on building the capacity of stakeholders in the area of land resources use and management.
Federation BiH Government initiatives towards LDN

• In 2017, as a result of the LDN process, the Federation BiH Ministry of agriculture, water management and forestry recommended to the Government of the Federation of BiH to introduce the land degradation neutrality concept.

• Projects on the development of the Study on land use value that are implemented by the Faculty of Agricultural and Food Sciences of the Sarajevo University as well as environmental strategies have been recognized as the most important basis for mainstreaming the LDN.

• Opportunities arising in the mainstreaming and strengthening of activities are also related to the planned measures and projects in the basic strategic documents, both at the Federation and cantonal levels.

• FAO/GEF project „Decision Support for Mainstreaming and Scaling up of Sustainable Land Management“ (DS-SLM-GCP/GLO/337/GFF).

• The funds coming from the change of land use (approximately 1.507.000 EUR).

• Fund for Environmental Protection which finances activities related to the protection, preservation and improvement of the quality of air, soil, water and seas, as well as the mitigation of climate change and the protection of the ozone layer.

• Federation of BiH and cantonal ministries of agriculture as well as the local communities, earmark certain funds for improving the state of agricultural land, its fertility and productivity.

• In the future there will be great opportunities for the implementation of measures and projects to be financed from EU pre-accession funds.
What additionally is required to achieve LDN in Bosnia and Herzegovina – Federation of BiH

• Identification of more hot spots and specific land degradation issues;

• Land degradation issues and its solutions have to be a part of five years projections and plans in accordance with the laws and by laws which regulate LDN;

• Implementation of project and measures have to be in line with recognized methodologies and tools;

• Monitoring - indicators have to be developed as well as indicators of success; capacity building is crucial.
Decision Support Framework
for SLM mainstreaming and scaling out

**Module 1**
Operational Strategy and Action Plan for mainstreaming and scaling out SLM

**Phase A**
Review and Initial Strategy and Action Plan

**Module 2**
National / Subnational Level Assessment
- Assessment of LD & SLM
- Partnerships with policy institutions and financing mechanisms

**Module 3**
Selection of Priority Landscapes

**Module 4**
Landscape Level Assessment
- Assessment of LD & SLM
- Livelihoods and natural resources assessment
- Selection of SLM Best Practices

**Module 5**
SLM Territorial Planning
- Prioritization and action plan for implementation with stakeholders
- SLM support mechanisms, partnerships with decentralized policy institutions and financing mechanisms

**Module 6**
SLM Implementation and scaling out
- Multi-sector and multi-stakeholder process and impact assessment

**Module 7**
Knowledge management platform for informed decision making

**Phase B**
Partnerships and Capacity Development

**Phase C**
Scaling Out through Policies, Territorial Strategies, Incentives, Financing Mechanisms
**DEVELOPMENT OF LAND USE VALUE MAP**

<table>
<thead>
<tr>
<th>Target</th>
<th>Amount of funds and potential sources</th>
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<tbody>
<tr>
<td>The map of agricultural land use value is a binding document in the preparation of spatial, urban planning and regulatory plans and directing the land use towards supporting the function of sustainable development and protection of land. The land use value map defines the categories of land according the soil bonity classes, the way of use and agro-zones, taking into account its natural properties, fertility and health condition.</td>
<td>Municipal funds from budget restructuring</td>
</tr>
<tr>
<td>Target</td>
<td>Priority areas</td>
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<tr>
<td>The main target of this measure is to implement technical and biological remediation of physically, chemically and biologically damaged land of landfills for waste tailings (overburden materials) and industrial waste dumps, and to establish the function of management of land as a resource. In the forthcoming period, remediation should be performed on as much devastated agricultural land as possible, and regulations governing this area should be applied consistently, especially the Law on Mining.</td>
<td>Areas of exploitation with a special focus on: Banovići, Lukavac, Tuzla, Živinice, Kalesija, Srebrenik, Zenica, Breza, Kakanj, Novi Travnik, Donji Vakuf</td>
</tr>
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The target of this measure is the application of conservation measures and rehabilitation of areas affected by floods and erosion in order to bring this land back to function. This measure is closely related to flood protection measures, ban of plowing down the slope, terracing, the concept of afforestation and grassing, etc. This measure should have a comprehensive character and continuity in the implementation of remediation.

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<td>Tuzla Canton, Sarajevo Canton, Zenica-Doboj Canton, Herzegovina (Dinarides)</td>
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<td>Issues within the flood protection measures should be considered</td>
<td>Karst fields of the Dinaric Herzegovina region, river valley of the Bosna,</td>
</tr>
<tr>
<td>integrally, knowing that the best way is to make sure that flood</td>
<td><strong>river valleys of the Spreča and Tinja</strong></td>
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<td>protection begins at the highest point of the basin. Given the</td>
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<td>extreme climate conditions as a result of climate change, flood</td>
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<td>protection implies the construction of infrastructural facilities</td>
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<td>for regulating the water wave, and in the lower parts of the levee,</td>
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<tr>
<td>for regulating basic drainage and irrigation. Priority areas fit into</td>
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<td>hot spot areas.</td>
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Module 1. Operational strategy and Action plan for mainstreaming and scaling out

TUZLA CANTON ➔ SLM APPROACH AND TECHNOLOGIES / LDN

RAVNO MUNICIPALITY ➔ LAND CONSOLIDATION
Module 2. National/subnational assessment

- **FEDERATION OF BIH:** analysis of land cover/use database and changes (2000-2012), legislation, strategic documents.

- **TUZLA CANTON:** analysis of land degradation, spatial plan, legislation, strategic documents.

- **MUNICIPALITIES OF TUZLA CANTON:** assessment done through preparation of land capability maps/databases in GIS and land use studies for nine municipalities in Tuzla Canton.

- **RAVNO MUNICIPALITY:** land consolidation.
Module 3. Selection of priority landscapes

Criteria used for selection of landscape

- Types of land degradation,
- Surface of degraded areas,
- Existance of land capability maps and studies as a basis for planning and analysis,
- Interest of local communities for SLM,
- Capabilities of local communities (e.g. participation in FAO PLUD project),
- Ongoing projects and activities,
- Possibilities for funding of SLM,
- Economic-ecological zones (e.g. potential for agriculture).
Module 4. Local / landscape assessments
Module 5. SLM Territorial planning

Participatory Development
Proces razvoja sa učešćem svih zainteresiranih strana

Stake Holders
Municipality Administration
Farmer associations
Business associations
Environment groups
Refugee groups
Hunting/fishing/sport associations
Other interested parties

Zainteresirane strane
Opišinske strukture
Udruženja poljoprivrednika
Trgovačka-poslovna udruženja
Udruženja koje se bave zaštitom okoliša
Udruženja izbjeglica
Lovačka, ribarska, sportska udruženja
Ostali zainteresovani korisnici
Participatory development
Participatory development
Participatory development

Hot spots - priorities


By using defined soil bonity categories, land capability study defines the natural potential of soils in terms of agricultural production and food production, and defines the zones for various land use types. From the rational land use point of view, it means adequate spatial planning, urban development and environmental protection.

SLM best practices – LAND CONSOLIDATION, SOIL REMEDIATION, EROSION PROTECTION MEASURES etc.
Module 1. Mainstreaming strategy

The Operational Strategy for SLM Mainstreaming and Scaling out (DS-SLM Mainstreaming Strategy) shall define the mechanism for the country to support decisions, by strengthening the contribution of the DLDD/SLM methodological assessments, tools and project findings to key decision-making processes (mainstreaming and scaling up) in order to promote the dissemination of identified SLM practices (scaling out).

The DS-SLM Mainstreaming Strategy should have impact on:

- Facilitating SLM implementation.
- Improving the understanding and importance of land degradation and SLM issues.
- Providing long term support for SLM implementation and scaling out (beyond the DS-SLM project).
Core concept for mainstreaming SLM in the context of DS-SLM

NATIONAL / SUBNATIONAL LEVELS

LAND DEGRADATION
- Status
- Drivers
- Trends
- Impacts
- Responses

SLM Technologies
Best practices

DECISIONS TO BE SUPPORTED

POLICIES
- Regulations
- Sectoral strategies

INVESTMENTS
- Financing mechanisms
- Budget allocations

LAND USE STRATEGIES
- Territorial planning
- Management plans at different levels

SLM technologies implemented and scaled out
### Types of decision-making processes and policy instruments for mainstreaming SLM

#### Policies and Regulations
- National Development policies
- Sectoral policies (agriculture, economy, environment, etc.)
- Regulatory instruments: Legislation, regulations
- National strategies and action plans

#### Programmes and Projects
- National and subnational sectoral and cross-sectoral programmes and projects (environment, agriculture, climate change, small business, etc.)

#### Incentives and Financing Mechanisms
- Financing frameworks (budget allocation)
- Economic and non-economic incentives
- Microcredits
- Financing mechanisms and funds (e.g. watershed funds)
- Certification schemes

#### Territorial Planning Processes
- Territorial planning processes
- Administrative units budget allocation for SLM
- Information and monitoring systems

#### Local Decisions
- Local organizations (producers associations, indigenous organization, etc.)
- Local management plans
Mainstreaming strategy

Key Mainstreaming objective: To integrate SLM into Development strategy of Tuzla Canton 2016-2020

Some of priority projects/ideas:

1. Regulation of Spreca river is a key priority in the Tuzla Canton
2. Landslides / erosion protection
3. Land consolidation
4. Soil remediation
5. Development of infrastructure such as water pools and irrigation systems due to the fact that canton is most vulnerable area in BiH to drought and climate change
Module 6. SLM implementation and scaling out

During FAO/GEF project implementation Land capability study and maps were prepared for three new municipalities (Banovici, Tuzla, Srebrenik).

Besides ongoing activities in Donja Luka, land consolidation activities will be implemented in area of Gornja Luka in total surface of 250 ha.

Donja Luka:
Before land consolidation: surface 101.5 ha; No. of parcels 744, No. of owners 121
After land consolidation: No. of parcels 127, No. of owners 116

Gornja Luka:
Before land consolidation: surface 250 ha; No. of parcels 1,667; 300 farmers will be involved
Two SLM demonstration sites were established

**SLM project promoted, municipalities in Tuzla are interested for land consolidation, other cantons interested for land capability maps and studies**
Module 7. Knowledge management platform for informed decision making

Container cultivation of blueberries on infertile or degraded soils (Bosnia and Herzegovina)

**DESCRIPTION**
The technology of container cultivation of berry fruits or possibly container growing of other crops allows organization of profitable agricultural production on soils with bad physical or chemical properties, soils with decreased fertility or non-fertile soils. The technology demands drip irrigation system.

**LOCATION**

Stopping the shallow landslides with barriers of wooden poles (Bosnia and Herzegovina)

**DESCRIPTION**
Formation of wooden poles arranged in two lines and pounded into the ground with possibly accompanying drainage is an efficient way of stopping the movement of land in the recovering of shallow (2 - 3 m) landslides of relatively small surfaces.

**LOCATION**
Gubi li Bosna i Hercegovina tlo pod nogama?

Posmatrano s globalnog UN-ovog nivoa, zadatak svake zemlje je da zaustavi proceseg degradacije i gubitaka zemljišta i da ih do 2030. svede na nulu.

Izvor: BARKO GLEDARAC

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CONCLUSIONS

The achievement of the defined targets and measures of LDN and SLM, in addition to political will, requires legislation, financial sources, creation of public awareness and education about land and its functions within the ecosystem in general.

Education of stakeholders and pilot activities are high priority!
Thank you!