



Presentation of state of art in soil management in Republic of Srpska

Prof. dr Mihajlo Marković

University of Banja Luka, Faculty of Agriculture,

in coordination with

Svetlana Lazić,

Senior Associate for Agricultural Land Protection
(MAFWM RS)

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1. The importance of sustainable land and soil management at the entity level in the RS?

- About 0.83 ha of agricultural land per capita, or 0.68 ha of arable land per capita.
- The average arable land in the world was 0.19 ha, and in the EU 0.21 ha

= unfortunately, data represent the large emigration from RS and depopulation (not wealth in land areas).

Land is not just area, so vertical division (quality of land profiles) is more important than spatial distribution.

Importance of healthy and fertile land for obtaining quality and biologically healthy food (especially for organic production).

- Four factors important in the creation of microclimatic condition: soil-plant-air-water (SPA-W).
- Land management and water management can never be separated, and all together can significantly affect adaptation to global climate change.
- Farmers from RS are great drivers of Ag-NBS - they are mostly poor and have to combine their traditional knowledge with new skills thus protect the ecosystems on which food production.
- This type of production should be forced in the future (contour tillage, sub-walls, wattles, planting of shrubs and woody fruits, etc.)..

2. General assessment of the data available (conclusions and recommendations)

- The main source of land data is taken from the basic map of soils in BiH, in the scale of 1: 50000 (now available in GIS format),
- National data on organic carbon content are not useful (different analytical and field procedures without a chronological sequence),
- Global data and the European CORINE database are the only data sources that can be used to monitor land status and losses,
- Problem is the inter-institutional disconnection and the lack of protocols in the exchange of existing databases,

- Land monitoring hasn't been established,
- A very small number of employees have the necessary knowledge and skills to use the available databases.

Recommendations:

- To identify the contaminated areas,
- To establish a monitoring scheme and define a protocol in the exchange of existing databases between institutions in the RS, and then outside the RS,
- Trainings for staff in public institutions in the use of existing databases.

3. Legal framework for sustainable land and soil management: gaps and recommendations for improvement

- Law on Agricultural Land (Official Gazette of the Republic of Srpska, No. 93/06,86/07,14/10,05/12, 58/19 and 119/21)
- Law on Forest (Official Gazette of the Republic of Srpska, No. 75/08, 60/13 and 70/20)
- Law on Waters (Official Gazette of the Republic of Srpska, No. 50/06, 92/09 and 121/12)
- Law on Environmental Protection (Official Gazette of the Republic of Srpska, No. 71/12, 79/15 и 70/20)

- Off all laws, only a few legal provisions are implemented in practice,
- Law on Land Protection not yet established (term "Law on Land Health" is not acceptable in the local language),
- A cadastre of contaminated areas has not been established,
- It was not created a Strategy for Sustainable Land Management in the RS,
- Public administration officials are not familiar with the commitments from the Green Agenda and the content of the new EU Soil Strategy for 2030.

Recommendations:

- Finding potential donors to support the development of the Strategy for Sustainable Land Management in the RS,
- Trainings and workshops for municipal and government staffs / current EU regulations, the EU Soil Strategy for 2030 and the Green Agenda.

- The numerous tasks need to be delegated to a lower level, in order to enable the best possible implementation of current regulations and to understand the importance and need to harmonize measures and activities with the Green Agenda and EU standards.
- Strengthen education, training and coaching through scientific research institutions and advisory services and strengthen the awareness of each individual, and not act exclusively through inspection services.

4. The main soil degradation processes: gaps related to the assessment and management of degradation processes

- There are numerous drivers of land degradation in RS, such as:
 - construction of settlements on high quality arable land,
 - surface exploitation of various raw materials,
 - landfills, water accumulation, construction of infrastructure (roads, railways, etc.),
 - thermal power plants ,
 - industrial facilities,

- occurrence of water erosion and landslides,
 - inadequate management of land and forests,
 - presence of landmines and radioactive materials,
 - floods and droughts.
- In the field of international obligations undertaken by BiH regarding land, the most important is the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and / or Desertification, Particularly in Africa (UNCCD), ratified by BiH in 2002 by the Decision on Ratification of the UNCCD (Official Gazette of BiH, No. 12/02).
 - The focal point for the UNCCD in BiH is the Ministry of Agriculture, Forestry and Water Management of the RS.

- Regarding the reporting processes of land degradation, there are two important documents:
 1. „Action Programme to Combat Land Degradation and Mitigate Drought Effects of the BiH (adopted by the Council of Ministers BiH in 2017) and
 2. LDN Target Setting Programme for BiH-February 2018 (consisting of 3 individual reports).

During 2018, a document entitled "List of Selected Environmental Indicators in BiH" was prepared, but it is unacceptable and inapplicable at this form for RS (the problem is that it was adopted by the Council of Ministers of BiH, without prior accepted comments or suggestions from the RS Government).

The reporting process for BiH is currently based on global data and the European CORINE database, and in accordance with the above, the situation for RS in 2018 is presented in the table below:

Corine Land Cover class	km²	%
Artificial surfaces	1615,2299	6,44
Agricultural areas	10145,3663	40,42
Forest and semi natural areas	13176,50	52,5
Wetlands	13,9394	0,06
Water bodies	147,0644	0,58
TOTAL	25098,1	100

5. Capacity assessment of the country to deal with sustainable soil management (administrative, technical, laboratories, education, etc.), **conclusions and recommendation**

- Formally, the situation seems satisfactory: there are established policy management institutions (Ministry of Spatial Planning, Civil Engineering and Ecology, Ministry of Agriculture, Forestry and Water Management – there are established Sector of Agricultural Land), inspection supervision, training centers and laboratory facilities with equipment.

- **Realistically:** there are poor connections between individual institutions, staff shortages and almost no data exchange, a large fluctuation of the workforce- which adversely affects the connectivity of institutions and staffing, poor management practices (land, water and forests) have also spread in the field.
- Challenges: low level of information / knowledge exchange, weak socio-economic situation and knowledge and awareness among stakeholders about the importance of land is a matter of secondary importance.

Recommendations:

- A favorable political and institutional environment for the integration of sustainable land management, including: national and territorial policies and regulations; intersectoral coordination and synchronization of legislation, and planning processes that respect and integrate sustainable land management at the entity and local level;
- Functional financial and incentive mechanisms for the implementation of sustainable land management measures at the entity and local level;

- Introduction and application of new technologies and practices for sustainable land management, and the dissemination of existing good practices that provide sustainability;
- Strengthening capacity, knowledge and experience through a participatory approach, as a precondition for efficient integration into the legislative framework and policy, and meaningful implementation at the local level.
- Include the development of special protocols on data exchange between individual institutions and an increased number of educations, trainings and workshops through scientific research institutions and advisory services.

6. Assessment, conclusions, and recommendations

- Assist in the development of strategic documents (Strategy for Sustainable Land Management in the RS and adopt a revised document entitled "List of selected environmental indicators in BiH" with all recommendations and suggestions of the RS Government).
- Develop special protocols on data exchange between individual institutions;
- Intensify trainings for municipal and government staffs and advisory services through scientific research institutions - on various topics (database management, the importance of land management, etc.)

- Develop schemes and protocols for the transfer of land management activities to municipal administrations, in order to better implement applicable regulations.
- Initiate procedures and define elements of the RS Law on Land Protection.

7. Good case studies on soil management practices

- Some examples of best practices, tested in the demonstration sites in RS, are:

a) Irrigation of cropland belonging to the agricultural company "Napredak" in Pelagićevo:

- **the SLM measure for drought control.**
- Irrigation has increased yields by 35-40%.

Intensive irrigation on the fields of the agricultural company "Napredak" was carried out on about 40% (80ha) of the total arable area of this firm;

Irrigation measures have completely changed the structure of production and today it is focused exclusively on seed crops of corn, wheat, sunflower and soybeans, as well as part of the production of vegetable seeds.

The regime and structure of field production are completely different than in dry farming, and under the irrigation system they give much higher yields.




b) Reforestation of karst and bare land by planting tree seedlings in Trebinje.



Afforestation of karst landscapes in Herzegovina region: an SLM technique aimed to increase infiltration and water holding capacity.



Successful afforestation of bare karst land.

A young green plant with several leaves is growing out of a cracked, dry, and parched earth surface. The cracks in the soil are deep and form a grid-like pattern, indicating severe drought. The plant is positioned in the lower-left quadrant of the image, casting a shadow to its right. The background is a vast expanse of cracked, dry earth stretching towards the horizon.

**Thank you for
your attention!**

- For more information, send questions to:
- mihajlo.markovic@agro.unibl.org