

## e-GUIDELINES ON ECOLOGICAL REHABILITATION OF RURAL AREAS WITH RECREATIONAL POTENTIAL

The purpose of the Guidelines being developed is to provide a situation-based approach to environmental and managerial measures that can be applied in two project partner's areas to ensure environmental preservation, greening and improvement of rural areas suitable for recreational purposes, such as forest lands, riverbanks, reservoirs, cultural landscapes.

The guidelines are aimed at nature-based solutions for water and soil decontamination, biodiversity protection, as well as for landscaping that enhances the attractiveness of rural areas without negatively impacting biodiversity and the natural landscape. The guidelines will identify aspects related to the implementation of the DNSH (Do No Significant Harm) principle, as well as applicable elements of the New European Bauhaus, a policy that makes green transition in built environments and beyond enjoyable, attractive and convenient for all. Even the smallest communities on the ground deserve living spaces that improve their well-being and sense of belonging. The initiative promotes solutions that are not only sustainable, but also inclusive and beautiful, while respecting the diversity of places, traditions, and cultures.

Ecological rehabilitation of rural areas with recreational potential focuses on repairing degraded environments to enhance biodiversity, soil and water quality, while simultaneously creating conditions for developing low-impact and sustainable tourism that benefits local communities. This approach involves, depending on specific circumstances, restoring soils, wetlands, forests and water bodies, key recreational resources, which can increase local income, reduce the urban-rural gap, enhance quality of life and emotional well-being of the local population and visitors and create sustainable conditions for recreation in nature.

The guidelines identify the key issues associated with impact of human activity on recreational ecosystems and propose measures for their restoration and preservation. The guidelines take into account specific characteristics of rural areas, their natural features, and the needs of recreational area users. Rural and urban ecological restoration is a critical global priority, driven by the need to address biodiversity loss, climate change, and human health, particularly under the umbrella of the UN Decade on Ecosystem Restoration (2021–2030) [1-3].

Over the past decade, the focus has shifted toward integrating nature-based solutions into both urban planning and rural landscape management to reverse environmental degradation.

Rural areas in the Republic of Moldova are dominated by agriculture and small to medium forested patches and provide crucial ecosystem services that support local livelihoods, agriculture, and environmental stability. These services are essential for both subsistence and economic income. The process of environmental restoration focuses on reversing damage caused by human activities (such as intensive agriculture or development) to make the area functional, sustainable, and aesthetically pleasing again, without necessarily returning it to its exact original state.

### **Key components ensuring restoration of rural recreation areas**

In our opinion, key components ensuring restoration of rural recreation areas are the following:

- **Environmental restoration:** Focuses on restoring physical components - cleaning up pollution, stabilizing soil, improving water quality, managing waste.
- **Ecological rehabilitation:** Aims to fix ecosystem functions - rebuilding habitats to enhance biodiversity, controlling invasive species, restoring natural ecological processes like water flow or nutrient cycling.

Ecological rehabilitation is inseparable from restoration of the environment and in rural areas they complement each other.

### **Key actions to support ecological rehabilitation, goals and objectives**

These actions are designed for areas that serve both nature and people and balance biodiversity conservation with human well-being, economic activity and cultural needs. They involve restoring natural habitats, improving water quality, and increasing biodiversity through native planting, soil decontamination, and erosion control. Key actions include reforestation with native species, building wetlands for water management, controlling invasive species, creating wildlife habitats, and establishing sustainable, low-impact infrastructure for tourism and local use.

#### **1. Soil and land rehabilitation.**

- Restoring ecosystem services: Remediation of degraded land, ensuring the land provides clean water, air purification, and biodiversity support. Removing trash, pollutants, and heavy metals from abandoned or neglected sites.

- Improving structural integrity of terrain: Fixing gully erosion through check dams and contour bunds, repairing vegetation cover to protect soil integrity.
- Balance between the use of natural resources and conservation: making areas safe and attractive for recreationists while preserving the natural habitat. Planting native dryland species to improve ecosystem resilience. Targeting and removing invasive, non-native species that degrade local plant communities. Biodiversity enhancement through creating habitats for local species.

## **2. Water resource management.**

- Water body rehabilitation: Repairing degraded aquatic ecosystems and re-establishing natural hydrology to restore their natural functions, such as water retention and filtration, habitat provision. Riparian area restoration to reduce sediment supply to streams.

## **3. Community engagement and management.**

- Community engagement and public participation: Involving local communities and local residents in decision-making, planning and management of their natural resources, stewardship of rehabilitation projects. Conducting awareness campaigns to educate residents and visitors on environmental protection issues through information boards and guided tours.

## **4. Development of sustainable recreational infrastructure.**

- Modern landscaping focused on creation of harmonious, functional and aesthetic living environment: Setting up infrastructure, which provides economic benefit, promotes low-impact access without degrading the landscape,. Designing walking trails and picnic areas that prevent damage to fragile ecosystems. Revegetation of heavily used and degraded areas. Eco-tourism development.

### **Potential of rural tourism for restoration of rural recreation areas**

Rural tourism in Moldova can act as a catalyst for local economic growth by diversifying rural income, reducing poverty, and creating jobs in underserved areas. It preserves cultural heritage, revitalizes traditional crafts, and promotes sustainable development of neglected rural spaces into attractive destinations through eco-friendly activities. Key benefits of rural tourism in Moldova include economic revitalization, job creation and stemming migration. It creates non-agricultural income sources for villagers, offers employment opportunities, helping to curb

migration to cities and abroad. Increased tourism encourages better, more modern infrastructure in rural areas.

The village of Dereneu is located in an area renowned for its picturesque landscapes, forests, and proximity to several significant orthodox monasteries. Developing rural tourism in Dereneu can directly support environmental rehabilitation by transforming natural landscapes into sustainable income sources while preserving rural identity.

### **Possible types of tourism in rural areas of Moldova**

- **Agro-ecotourism:** Accommodation in rural boarding houses, participation in the harvest, preparing traditional dishes with the hosts.
- **Ethnogastronomic tourism** with visits to rural wineries, combined with master classes.
- **Ethnographic and cultural tourism:** Visits to craft workshops (pottery, carpet weaving), introduction to folklore, folk songs and dances, and visits to rural museums.
- **Ecological (Active) tourism:** Hiking through picturesque hills, cycling routes.
- **Educational and religious tourism:** Excursions to ancient monasteries, rock complexes and archaeological sites.
- **Event tourism:** Participation in local holidays, harvest festivals, weddings and other folk traditions.

The presented guidelines will be further refined and detailed, taking into account the specific characteristics of the territories and the needs of the project partners.

### **Bibliography**

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