

SERVICES NATURE PROVIDES US

WATER MANAGEMENT RELATED POLICY RECOMMENDATIONS
FOR DECISION MAKERS



MINISTERUL MEDIULUI





WHAT DOES NATURE PROVIDE FOR WATER MANAGEMENT?

The term ecosystem services is an umbrella term for all those services that nature provides for society. These services such as climate regulation, water retention, water purification, or touristic attractiveness are useful and often vital. Unfortunately, we are losing them at an alarming rate, and their loss not only damages nature but represents a heavy economic burden, too.

From the aspect of water management, the most important service is good water quantity and quality, with adequate water flow of rivers and smaller streams as well as good ecological condition as its basis. A number of examples show that near-natural rivers of good ecological condition secure provision of nutrients and water for floodplains while natural riparian vegetation prevents soil erosion.



IMPORTANCE OF WATER-RELATED SERVICES

In the course of our work, we assessed the key ecosystem services of the Niraj-Târnava Mica region. Our objective was to explore key services and facilitate the integration of their protection in relevant development plans. We involved the local population in our research since it is them who are most familiar with the landscape's features and likewise they are the ones most affected by changes in the landscape.

In our interviews local people ranked water retention among the socially and economically most important ecosystem services.



WHAT DOES WATER MEAN TO US?

In the area, one of the most critical resources is water. Although strictly speaking water is part of our non-living environment, we cannot ignore it because the quantity and quality of water at our disposal determines the functioning and services of ecosystems. To ensure adequate water supply in habitats and agricultural areas, stable climate conditions, water retention and the slowing down of runoff are necessary. Ecosystems contribute to climate change miti-

gation on both a global and a local level. On a global level, with their carbon sequestration capacity, and on a local level, through water retention in the landscape. Habitats' water retention is interdependent with vegetation cover, topography, soil condition, and mode of cultivation.

Rivers and water habitats are important for tourism as well. Local people have a strong attachment to the rivers. Many debate the river regulation works in the

Niraj-Târnavă Mica region. Artificial river regulations, which are mostly used to manage floods and mitigate other damage, often cause displeasure among community members. They believe that river regulations cause wider damage to the landscape and ecology in addition to the direct functional changes to streams. That damage is further intensified by non-environmentally friendly forestry and agriculture. Many

people attribute the recently experienced reduction of the water level in wells and the contamination of the water in wells, brooks, and rivers to it. In their opinion, the cause of the increasing contaminations can be traced back mostly to the intensification of agriculture, logging, with total disregard for mountain brooks, and, in general, to people's irresponsible behavior.



WHAT DO WE INTEND TO ACHIEVE IN THE NIRAJ-TÂRNAVA MICA REGION BY 2040?

In our research, we have outlined an ideal scenario where the ecosystem services are all preserved and properly used. However, in order to achieve this, we need to act in the present. To facilitate realization of this favorable scenario, we have developed recommendations.

According to this ideal scenario, the population will become efficient water users, preserve wetlands, will be able to produce clean drinking water using modern technology and develop integrated water management.

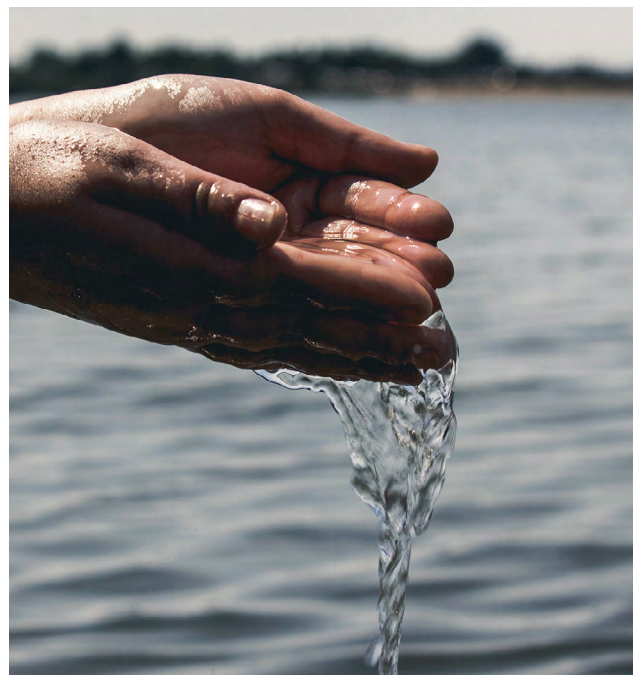
WHAT CAN BE DONE FOR ADEQUATE WATER MANAGEMENT?

By 2040, climate change may have caused serious droughts in the region. Conscious and efficient use of water can prevent drying-up of the region: in the ideal scenario, the population will be able to use less water consciously and efficiently. Water retention can be greatly facilitated by developing small-scale water storage facilities that are congruent with the landscape and introducing water-efficient economic practices such as drip irrigation, precipitation storage, and vegetation cover.

Preservation of wetlands should enjoy priority since these are useful areas, which greatly contribute to the healthy functioning of other ecosystem services. When producing clean drinking water, not only technological advancement should be considered but strong emphasis should be placed on prevention of contamination, too, which can be safeguarded by strict environmental protection regulation for forestry and agriculture.

Integrated water management introduced as a result of the Water Framework Directive enables us to deal with water flows as well as the entire catchment area in a complex way. Instead of drastic interventions like riverbed transformation measures, we prefer natural

solutions in flood protection like rehabilitation of floodplains and protection of the forests in the catchment area.



TO ACHIEVE THIS WE RECOMMEND:

- A full implementation of the Water Framework Directive until 2020,
- Proper integration of the natural water retention measures into the River Basin Management Plan,
- Strengthening wetland conservation and implementation of appropriate management measures,
- Greater support through the National Rural Development Programme for measures that enable water-efficient practices and water retention measures,
- Ensuring strict compliance with the Nitrates Directive and other environmental regulations aiming to curb pollution and informing the public and users,
- Developing an incentive scheme especially for primary polluters that motivates them to favor appropriate management instead of water contamination,
- Implementation of communication campaigns that raise awareness of the importance of and options for preserving good water quality and quantity.

For further information, see publications „*What is the way forward? - Scenarios for the Niraj and Târnava-Mică region with relation to ecosystem services*”, and “*How much are nature’s gifts worth? - The summary study of mapping and assessment of ecosystem services in the Niraj-Târnava Mică region’s Natura 2000 sites*”.

Available at: www.milvus.ro/ecoservices.

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The objective of the project was to map and assess the key ecosystem services of the research area. The study explores the contribution of the region’s ecosystem services to the major economic sectors.

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For more information about the EEA Grants, please visit the following websites: www.eeagrants.org, www.eeagrantsmediu.ro, www.eeagrants.ro.