

*Report about the stakeholder analysis,
their interests and their benefits from the
floodplains in the pilot areas resulting
from the workshops*

WP	WP 4: Flood prevention pilots
Activity	Activity 4.2
Activity-Leader	CUEI and TUM
Number and name of deliverable	D 4.2.1 Report about the stakeholder analysis, their interests and their benefits from the floodplains in the pilot areas resulting from the workshops and further analysis as input for D 4.2.3 and part of output 5.1.
Participating partners	All partners from countries with pre-selected pilot areas
Connection with other deliverables/ outputs	D 4.2.3; output 5.1

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1. Introduction

An important aspect of the Danube Floodplain Project is to involve various stakeholders from the beginning of the project. It is not just to inform about the project, its outputs and deliverables, but to increase the knowledge about floodplain restoration and to improve cooperation between different sectors (like water management, agriculture and nature protection) (see D 2.1.1 Communications and Stakeholder Engagement Strategy). The overall aim of the project is to identify flood protection measures which also increase the ecological situation. Prospective flood protection and restoration measures are to be implemented in such a way that a win-win situation results. This means that the measures not only improve flood protection, but also benefit nature. Among others, one aim of the project is to test and evaluate the potential win-win situation in five pre-selected pilot areas located in Hungary, Slovakia, Czech Republic, Serbia and Romania.

Each of the pre-selected pilot areas has a different complex issues related to flood risk management or floodplain restoration, which is to be solved by various measures. In the pilot area in Hungary on the Middle Tisza, a flood retention area is to be created to protect the downstream residents against flooding. The pilot area in Slovenia (Krka River) and the pilot area between Czech Republic and Slovakia at the Morava river also deals with flood protection but also with the improvement of the ecological situation of the riparian forest by connecting it to the river. In Serbia, on the other hand, pure restoration measures are to be implemented. In Romania, in addition to the two aspects of flood protection and ecological upgrading, the economic aspect is added. The region around the pilot area is very poor and has been struggling since 2005 with the consequences of the dam failure during the flood.

The planned measures in the pre-selected pilot areas affect a wide range of stakeholders including landowners and residents. Therefore, their interest in the project should be particularly high and it is all the more important to get stakeholders enthusiastic about the measures and to involve them in the project. Therefore, stakeholders will be informed from the beginning about the intentions of the project in the pre-selected pilot areas and will also be partly involved in the development of the measures. In addition, the knowledge of the stakeholders is used to record and evaluate the ecological, economic and cultural values of the pilot areas with the aid of the ecosystem service approach.

2. Stakeholder engagement to assess ecosystem services

Ecosystem services can be determined in many ways. There are some tools for evaluating ecosystem services (InVEST, ARIES, TESSA, RESI). These tools require data, mostly land use / land cover data, to determine and evaluate the occurring ecosystem services. Another method is the questioning of stakeholders. This can be done in different ways. Questionnaires can be used or choice experiments to assess the value of ecosystem services. It is also possible to ask

local residents which ecosystem services they use in the study area or to hold the survey in the form of discussion rounds.

As there was not enough time for extensive interviews with local residents or the staff required within the project, one workshop per pilot area was held to assess the kind and intensive of the use of different ecosystem services with the help of stakeholders. For this purpose, the participants were divided into groups consisting of participants from different interest groups.

Four of the five workshops followed immediately after the National kick-off press event, during which the project and the planned measures were presented. Only in the pilot area Bistret (Romania) the National kick-off event was held two months before of the workshop. The measures to solve the flood risk management or floodplain restoration issues of the area were not planned and the Romanian project partners wanted to exchange their ideas as soon as possible with the affected stakeholders.

3. Identification of stakeholders

In order to assess ecosystem services with the help of stakeholders it needs a detailed analysis which interest groups are suitable. The following questions were considered to identify stakeholders:

- Who can be affected by the planned measures?
- Who is active in the pilot area?
- Who benefits from the pilot area?
- Who is familiar with the pilot area?
- Who has knowledge of the ecological situation of the pilot area?

This includes, for example, water authorities, nature conservation authorities and associations, representatives of agriculture, fishery, tourism and local residents. Especially residents often have good knowledge of the area and traditions and can thus give an overview of the economic, environmental and cultural situation.

To identify other stakeholders potentially not covered by the questions, experience from the research project 'River Ecosystem Service Index (RESI)' was used. Within this project, a list of 25 relevant ecosystem services of German rivers and floodplains has been generated along with the identification of relevant stakeholders associated with these services (Podschn et al., 2018, see Table 1). Since it was important to record mostly all ecosystem services of the pilot areas and determine their intensity of use, it was important to have enough experts at the workshops.

Table 1: Ecosystem Services from rivers and floodplains identified in the RESI project.

Main group	Sub group	Ecosystem Service
Provisioning	Nutrition	Cultivated crops
		Plant resources for agricultural use
		Wild animals and fish
		Surface water for drinking
		Drinking water (groundwater)
		Ground water for drinking
	Resources	Fibers and other materials from plants for direct use or processing
	Water for non-drinking purposes	
	Biomass-based energy resources	Plant-based resources
Regulating	Retention/(Self-purification)	Retention of organic C
		Retention of N
		Retention of P
	Global climate regulation	Retention of greenhouse gas emission / carbon sequestration
	Extreme discharge mediation	Flood risk regulation
		Drought risk regulation
	Drainage	Drainage capability
	Sediments	Mass flow / Sediment regulation
Soil formation in floodplains		
Local climate regulation	Local temperature regulation/Cooling	
Habitat	Maintaining habitats	
Cultural		Landscape aesthetics
		Education and Research
		Natural and cultural heritage
		Unspecific interactions with riverine ecosystem
		Water-related activities

The identified stakeholders were finally assigned to seven target groups:

- Local public authority
- Regional public authority
- National public authority
- Sectoral agency
- Interest groups including NGOs
- Higher education and research
- International organization
- General public

This classification, but without the 'General public' group, was also used to identify stakeholders for the National Kick-off event (readable in Deliverable D 2.1.1 Communications and Stakeholder Engagement Strategy).

4. Stakeholder interests

4.1 Interest of participated target groups

Various target groups from different interest fields took part in the workshops. Depending on the pre-selected pilot area, representatives from local, regional and national public authorities, from sectoral agencies, from interest groups including NGOs, from higher education and research, from international organizations and from General public participated (see Figure 1).

The number of participated groups varied between 12 (Krka) and 32 (Middle Tisza). The large number of groups participating in the workshop of the Middle Tisza workshop results from the high number of participating regional authorities (14), mainly district water management directorates (9). In contrast, in most other workshops only 2 regional authorities were present. No regional public authority participated at the workshop at Morava River. In two of the five pre-selected pilot areas no researchers or participants of higher education were present. The high number of participated local public authorities in Romania is an indication that there is a high need for action in the Bistret region in order to improve the flood protection situation as well as the economic situation. There was also a great deal of interest from various representatives of NGOs in Serbia (Begečka Jama) and Hungary (Middle Tisza). In Serbia, there were representatives from the fishing, tourism and forestry sectors. In Hungary, the workshop was attended by representatives of agriculture, spatial development, water management planning, tourism, energy and nature conservation. On the Krka and the Morava, mainly national authorities took part in the workshop. Additionally, there was one more target group (general public) participated in the pilot area Krka and Begečka Jama, citizens of neighboring villages took part on the workshops.

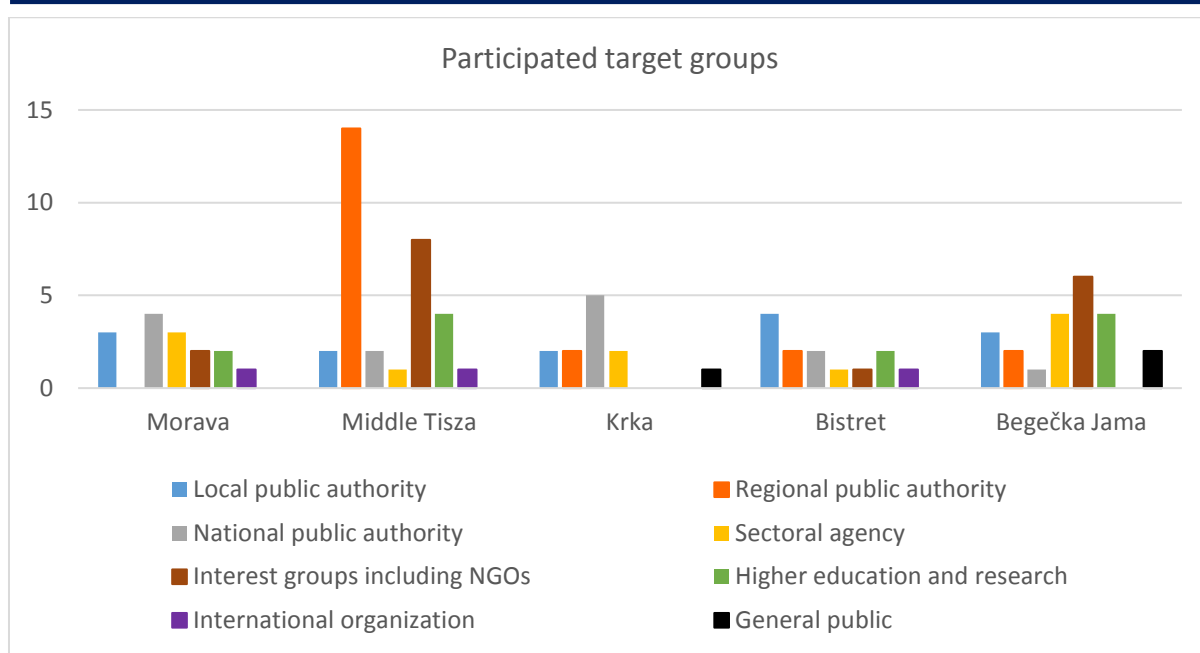


Figure 1: Number of participated target groups in the workshop at the five pre-selected pilot areas.

4.2 Interest of participants

The number of participants varied between the pilot areas. The workshop in Hungary was the most visited (71 participants), the lowest number of participants (17) was in Slovenia. The background of the participants of the five workshops was very different. They came from different sectors like water management, nature conservation and protection, fishery, forestry and agriculture, from the field of spatial development, natural sciences, and engineering as well as representatives and citizens from neighboring municipalities (see Table 2 and Figure 2). Representatives of the natural sciences were biologists, ecologists, geographers and hydrologists. However, since it was not clear what their main interests were, they were grouped together under the term 'natural science'. Only one representative from each of the hunting, waste water and civil engineering sectors was represented in a single pilot area. Even agricultural sector was sparsely represented and only in two pilot areas, although agricultural land in all pilot areas is affected by the planned measures.

Table 2: Number of participants sorted after their interest

Kind of interest	Morava	Middle Tisza	Krka	Bistret	Begečka Jama
Water management	12	38	7	17	11
Nature conservation and protection	12	13	1	6	7
Fishery	5	1	2		2
Representative / citizens of municipality	5	2	4	11	4
Forestry	2		2		3
Agriculture	2	1			
Natural science	3	3		4	6
Tourism		1			4
Spatial development		3			
Energy		4			
Defence and disaster management		3			
Waste water management		1			
Hunting			1		
Civil engineering		1			
Sum of participants	41	71	17	38	37

A total of 204 people took part in the workshops. Of these, 3/4 came from water management, from nature conservation or were representatives of affected communities. The remaining 26% were distributed among the remaining sectors, of which 8% were scientists. The Middle Tisza event had the greatest variety of interests. (see Figure 2). Representatives from 12 different sectors took part in the workshop. 71 participants from sectors such as spatial development, waste water treatment, defence and disaster as well as from the energy sector attended. At the workshop in Bistret there were only participants from four different sectors (water management, nature protection, natural science and representatives of neighboring municipalities). The highest interest in the Danube Floodplain project as well as in the assessment of ecosystem services in all pre-selected pilot areas came from the water management sector followed by participants from different nature conservation or protection groups. In the pilot area Morava, the number of these was as high as the number of participants from water management (12 participants each). In Krka and Bistret pilot area the participants with environmental interest did not show the second highest number of participants. Instead, representatives and citizens from neighboring municipalities and Villages formed this group (Krka: 4 participants, Bistret: 11 participants). With the exception of the workshop in Slovenia, the interest of natural scientists was also very high. Representatives from forestry and fishery also had a medium interest in the pilot areas Morava, Krka and Begečka Jama.

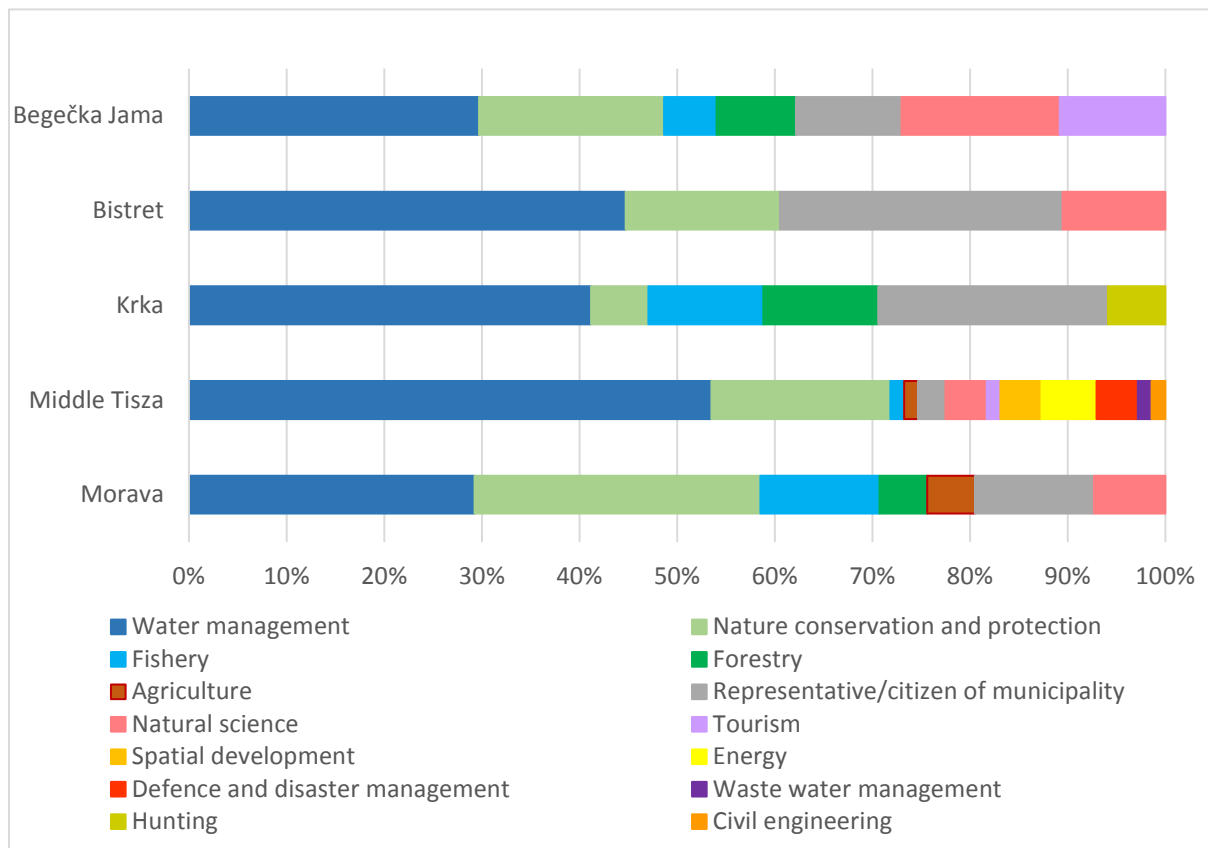


Figure 2: Number of participants from different interest field.

5. Stakeholder benefits

During the workshop the stakeholders had time to discuss the project, the planned measures in the pre-selected pilot areas as well as the outputs of the project. This was particularly the case in the Bistret pilot area, where the flood protection measures had not yet been conclusively identified. Since flood protection is not the only major issue in this region, but also the spatial development is of great interest to the local residents, the project partners and municipalities also discussed which possibilities for improving the economic situation could be given by possible restoration approaches. For example, the increase of the landscape attractiveness, which could lead to a touristic use. However, the measures were also discussed with great interest in other pilot areas.

The assessment of ecosystem services gave them the opportunity to engage themselves with topics outside of their interest field. For example, representatives from the different district water authorities also dealt with the forestry use of the riparian forests bordering the river or with the cultural offerings of the region.

The workshops enabled everyone to expand their knowledge of the pilot area and their understanding of different uses. This acquired knowledge and understanding of other sectors can help in later planning and implementation of flood protection and restoration measures. But not only authorities benefited from the event. The community representatives were also able to discuss their concerns with those involved in the project and implementing the measures. This, in turn, is of great interest to the project planners.

The participants of the workshops benefited in several ways,

- by imparting knowledge from other areas,
- by expressing their own interests,
- by giving them the opportunity to expand their network,
- and by getting in contact with the implementing authorities of the measures.

Overall, the approach of discussing and assessing ecosystem services with stakeholders before and after the implementation of measures is not only of great interest and benefit to the stakeholders themselves, but also a good means of mediating between different sectors. By involving as many stakeholders as possible, restoration measures can be evaluated from a wide range of perspectives. This allows to identify and address issues what might not have even been recognized in advance.

Literature

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