



Water Contingency Management in the Sava River Basin

Third national workshops on improved transboundary cooperation and interoperability in the field of water emergencies

Output Number T4.3

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Version	V1
Date	25.10.2022
Date (version)	



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1 The 3rd WACOM workshop in Slovenija

On Wednesday, October 19, 2022, the 3rd national workshop of the WACOM project was held between 9:00 and 12:00 in the premises of the Faculty of Civil Engineering and Geodesy (UL FGG) and through the online platform ZOOM.

The central challenge of the WACOM project is to improve transboundary coordinated responses to accidental pollution and flooding on transboundary watercourses in the Sava River basin, which includes an analysis of responses in individual countries.

The third Slovenian WACOM national workshop was attended by 36 participants. In addition to the organizers and project partners, representatives of the following institutions were also present:

- Uprava Republike Slovenije za zaščito in reševanje
- Gasilska zveza Slovenije, SZ Sevnica
- DRAVA vodnogospodarsko podjetje Ptuj d.o.o.
- ARSO, Hidrolog
- Termoelektrarna Brestanica d.o.o.
- DRSV, Sektor območja spodnje Save
- Infra d.o.o.
- Hidrotehnik
- Policijska postaja Krško in Brežice
- Občina Kamnik, poveljnik civilne zaščite
- Občina Jesenice, civilna zaščita
- Občini Brežice, civilna zaščita
- Javno podjetje VOKA SNAGA
- Geološki zavod Slovenije



2 Agenda of the 3. National workshop of the WACOM project, 19. 10. 2022

08.45 - 9.00	Registration and testing of connection	
09:00 - 9:10	Welcome and presentation of the participants	DRSV – UL FGG
09:10 - 9:20	Overview of the WACOM project and activities of the Sava Commission	Primož Banovec, Samo Grošelj
09:20 - 9:30	Presentation of the key findings of the table-top exercise	Ambrož Božiček
9:30 - 10:30	Presentation of the WACOM catalog of measures related to strategies for the introduction of measures - General measures - Measures related to the case of floods - Measures related to the case of accidental pollution	Primož Banovec
10.30 -10.45	Break	
10:45-10:45	Participants' discussion of actions by group: - Action in case of floods	Primož Banovec
	- Action in case of noods - Action in case of accidental pollution	Stanka Koren
11:4 -11:55	Discussion summaries	Stanka Koren
11:5 -12:00	Conclusions and further work in the WACOM project	Primož Banovec
12.00 -13.00	Lunch	

3 Introduction

After a welcome by the project leader, Primož Banovec, UL of the Faculty of Civil Engineering and Geodesy, and Stanka Koren, DRSV, according to the agenda, the WACOM project, the project partners and the purpose and content of the project were presented.

3.1 Overview of the WACOM project and Sava Commission activities

The WACOM project builds on the activities and protocols of the International Commission for the Sava Basin (ISRBC, Sava Commission), and various international protocols (on transboundary pollution, ICPDR - International Commission for the Protection of the Danube River) and builds on the logic of the EU Civil Protection Mechanism and takes into account the sovereignty of interventions in various countries.

Then Samo Grošelj (ISRBC) presented the legal framework and activities of the Sava Commission.

The Commission coordinates the activities of 4 member states to the Framework Agreement on the Sava River Basin (BA, HR, RS and SI), and Montenegro whith whom the MoU has been signed. The FASRB and the protocols to the FASRB concerns the management of emergency situations related to the waters of the Sava River Basin and sustainable management of waters, sustainable management of hazards (floods, droughts, accidents, etc.), regulation of international navigation.



Activities of the Sava Commission are aimed at controlling flood risk, establishing and improving the flood forecasting and warning system in the Sava River basin and prevention and control of accidents, which enables early information of potentially affected riparian states. They also inform the public on Sava GIS for exchange of data and information on river basin and flood risk and Sava HIS for exchange of hydrological and meteorological data. Within the WACOM project the update of Sava GIS is planned with the accident prevention and control and navigation modules.

3.2 Presentation of the main results of the table-top exercise

The purpose of the staff exercise is primarily that successful management of major disasters (e.g., transboundary flooding, accidental pollution) requires effective and coordinated action by institutions in all countries.

Knowledge of the disaster management mechanism in upstream countries improves the efficiency and effectiveness of the response in downstream countries (floods, extreme pollution)

It links both countries and sectors: disaster management, water management and navigation

It involves target groups, creating a broad platform needed for better prevention and response to floods and emergencies.

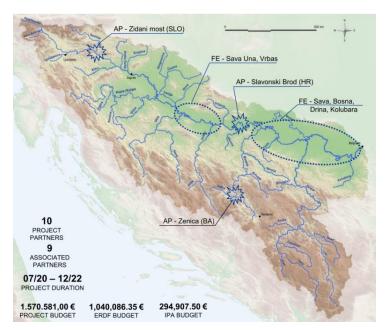
The WACOM project objectives include execution of five table top exercises which simulate several emergency situations of accidental pollutions and floods:

•3x simulation of accidental pollution to Sava river

- -SLO-HR accidental pollution Zidani Most
- -HR-BIH accidental pollution Slavonski Brod
- -BIH-SRB accidental pollution Zvornik(Drina)

•2x simulation of floods

- -HR-BIH (river area: Una, Vrbas)
- -BIH-SRB (river area: Drina, Sava)



Picture 1: five table top exercises were executed

Findings: Participants would like to see more key agencies involved in disaster response participate in such exercises. In this way, they would gain more hands-on experience, more



information and better insight into what actually happens during operations, and be able to better assess the usefulness of the tools.

Findings from the participants' experiences: TTX was positively received by the participants

- TTX provides better insight into what happens during interventions
- During TTX, participants learn about the operations of other institutions and their protocols for responding to accidents. This enables:
 - a better work of the incident commanders and
 - better interaction and coordination between headquarters
- Lack of exercises of this type (for some it was the first such experience)
- Overall rating of WACOM tools: 4.3

Organizers' findings:

- To ensure effective familiarization with TTX and implementation, it is necessary to conduct preparatory workshops in advance, and the implementation documents should not be too extensive
- A brief description of the purpose and the exact role of the participants is required
- The Master Scenario Event List must not be too extensive; it must reflect the main idea of the script, and during the TTX the script must be guided by the narrator so that changes can be made during the event
- It would be necessary to involve the media in such workshops (familiarity with what is happening during the interventions, importance of sharing selected information)
- Example of good practice: conducting group and individual analysis
- TTX is an efficient approach to testing new tools (for developers and users)
- TTX was used to successfully achieve the project goals in the WACOM project (testing and verifying new WACOM tools in an international environment)

3.3 Presentation of the WACOM catalog of measures related to strategies for the introduction of measures

Main conclusions and hot wash

The main purpose of the workshop was to present a set of measures and strategies that would contribute to an approach for improved response and cooperation in the event of such disasters at the national or transnational level. The measures refer to the case of floods as well as to the case of accidental pollution.

We presented WACOM's comprehensive list of measures as a starting point for prioritizing the following issues:

- The status of implementation of the measure in each country (SLO, CRO, BH, SRB) the measure is already implemented the measure is not implemented
- The priority of the introduction of the measure in the short term
- The priority of the introduction of the measure in the long-term period

We have divided the measures into groups, namely:



- Education
- Organization
- Knowledge
- Logistics
- ICT
- Infrastructure measures
- Control measures
- Planning
- HR measures
- Financing
- Other

Measures already included in water management plans and flood risk reduction plans are not part of the strategy.

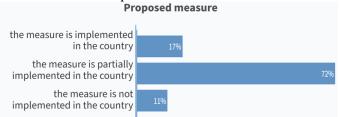
	Key intervention area	Pronosed measure	
	•	Education on all levels, including Social, educational and awareness work with the youth, Education of general public and promotion activities and	
1	EDUCATIONAL	ICS 100 - incident command system standardized framework protocols	
2		Enforcing the polluter pays principle (compensations for the floods)	
3	FINANCIAL	Securing public financial resources	
4		Improved insurance practices and stimulations for wider penetration of insurance for floods and accidental pollution	
5		Education of water users (abstractions) on emergency procedures (floods, accidental pollution)	
6	GOVERNANCE	Elective representatives for long-term challeneges after the accident	
7	HUMAN RESOURCES	Employee satisfaction	
	MANAGEMENT		
8	INFORMATION AND	GIS based situational awareness	
9	COMUNICATION	Nowcasting and forecasting systems	
10	TECHNOLOGY	Flood management centres and Improved data integration	
11	MONITORING	Discharge/level monitoring	
12	INFORMATION	Improved supervision and control over the transport of pollutants and Improved supervision ond control over the production, use and storage of	
	IN OUNTAINON	pollutants	
13	INFRASTRUCTURAL	Safe river access locations (rescue)	
14	KNOWLEDGE	National and international (EN) standards	
15		Knowledge base of the polluters and Knowledge base of the pollutants and procedures	
16	LOGISTICS	Availability of the emergency equipment (pollution) and Availability of the emergency equipment (floods)	
17		Rescue tools and resources availability and Identification of service provides for emergency response	
18		Costing units supporting administration and finance processes	
19		Clear positioning of the MACS (Multi Agency Coordination System) being in the core of complex response	
20		Improved communication in response framework	
21		River basin management plans and flood management plans	
22		Protocols with the key water uses/abstractions	
23		Protocols enabling involvement of insurance companies	
24	ORGANIZATIONAL	Strategic crisis communication	
25		Improved integration of the levels of MACS	
26		Control the of legislation implementation and enforcement	
27		Improved documentation process of the incidents	
28		Improved communication in response framework (companies)	
29		EU whistle blower directive (2019/1937)	
30		Disaster forensics after the accident	
31		Planning, execution and improvement of exercises	
32	PLANNING	Hazard identification, risk assessment	
33		Regular monitoring of water quality, port areas and auditing of hazardous activities	
34	OTHER	Demining of the Sava (and Drina) river	
35		River corridor maintanance - floating debris and waste	



4 Analysis of the voting on the measures according to the "Quick Fingers" principle

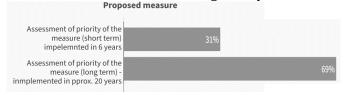
After a detailed presentation of the measures, we conducted a vote on the measures according to the "Quick Fingers" principle, where we individually prioritised each measure in Slovenia in terms of:

 The status of implementation of the measure in the country: the measure is already implemented - the measure is not implemented



Slika 2: assesment of implementation in the country

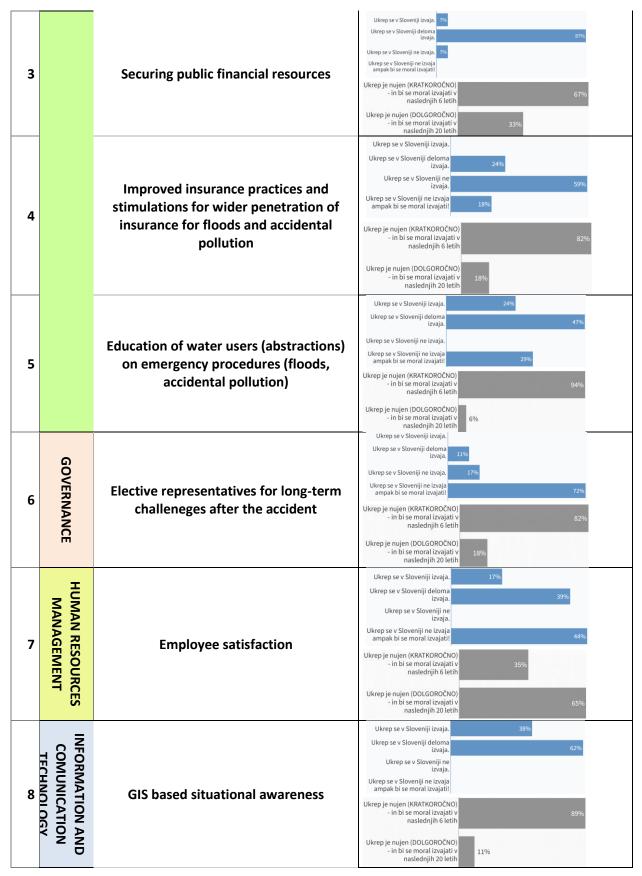
- Priority of the introduction of the measure in the short term period
- Priority of the introduction of the measure in a long-term period



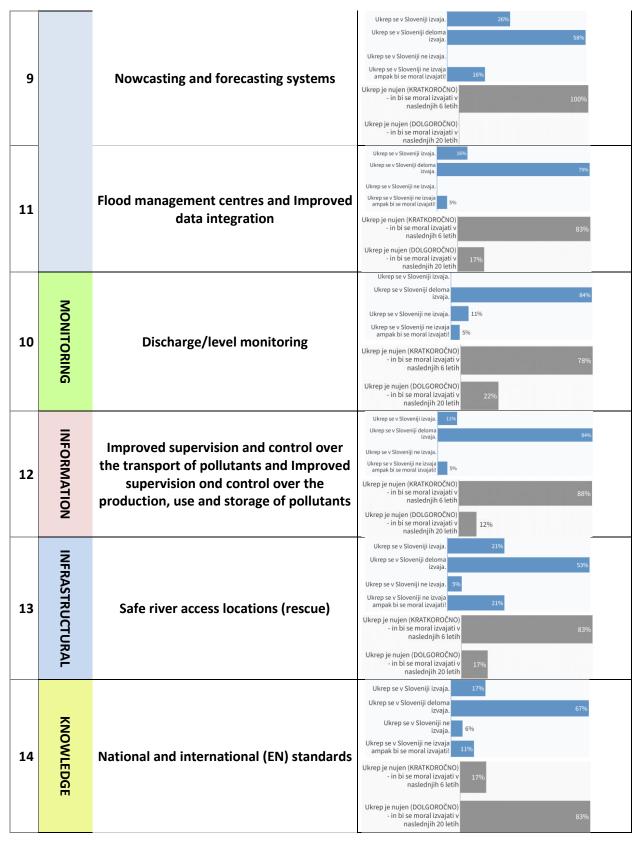
Slika 3: assesment of priorities (short term/long term)

Number of responses: 20 Key interventio Assesment of n area **Proposed measure** implementation/priorities Ukrep se v Sloveniji izvaja. Education on all levels, including Social, Ukrep se v Sloveniji delom **EDUCATIONA** educational and awareness work with the Ukrep se v Sloveniji ne izvaja ampak bi se moral izvajati youth, Education of general public and 1 promotion activities and ICS 100 -Ukrep je nujen (KRATKOROČNO in bi se moral izvajati v naslednjih 6 letih incident command system standardized Ukrep je nujen (DOLGOROČNO) - in bi se moral izvajati v naslednjih 20 letih framework protocols Ukrep se v Sloveniji izvaja Ukrep se v Sloveniji deloma izvaja **FINANCIAL** Ukrep se v Sloveniji ne izvaja Ukrep se v Sloveniji ne izvaja ampak bi se moral izvajati! Enforcing the polluter pays principle 2 (compensations for the floods) Ukrep je nujen (KRATKOROČNO) in bi se moral izvajati v naslednjih 6 letih Ukrep je nujen (DOLGOROČNO) - in bi se moral izvajati v naslednjih 20 letih

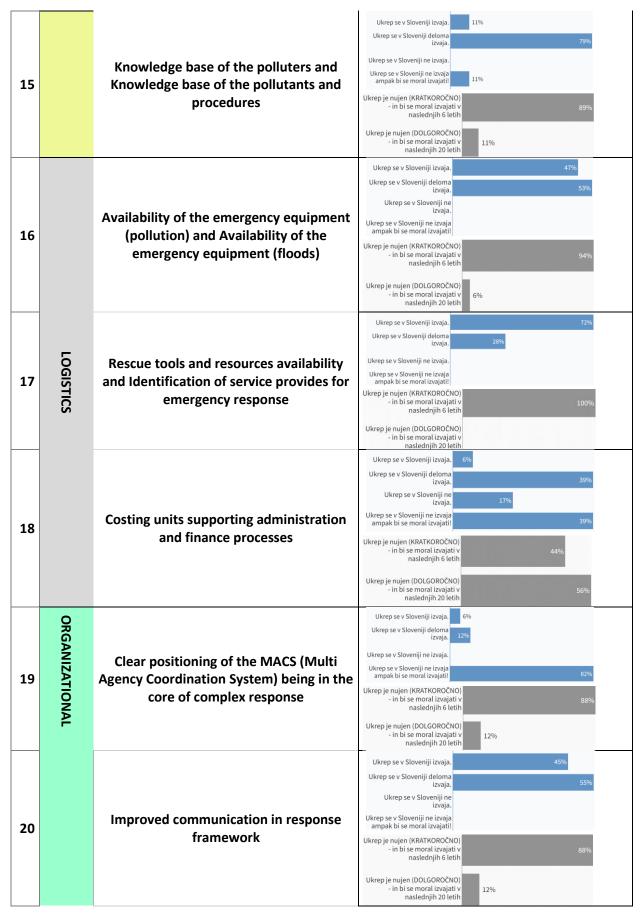




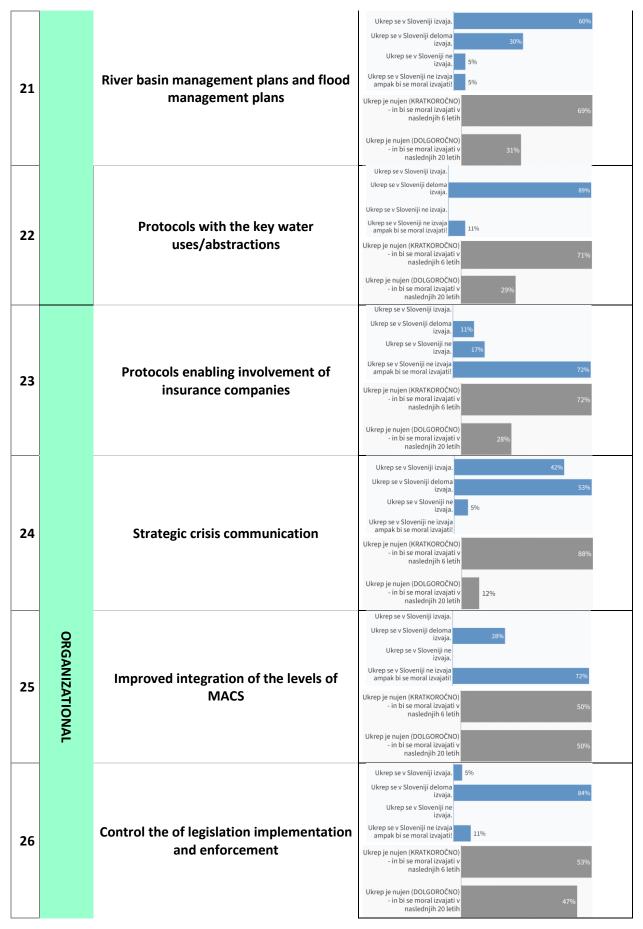




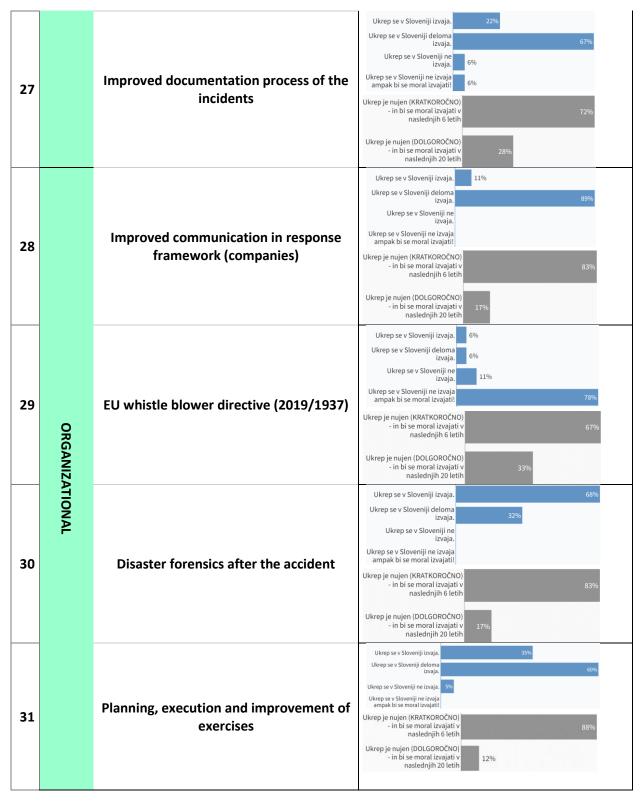




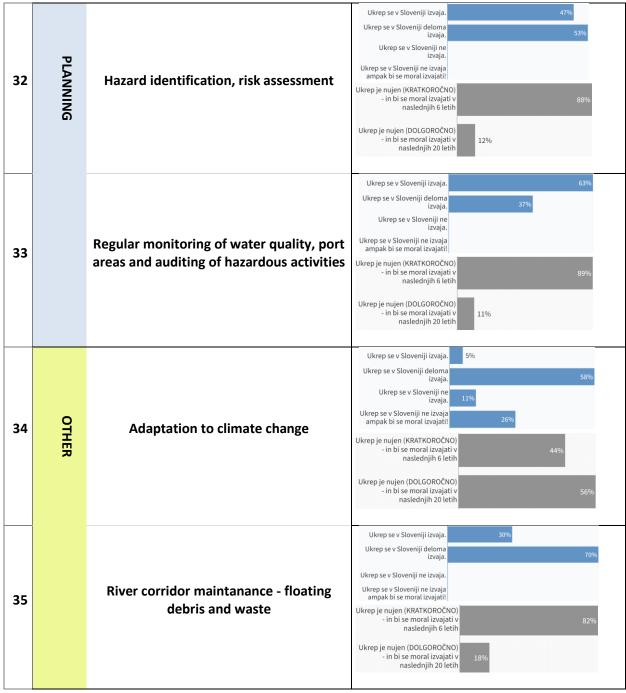












Number of responses: 20

5 Conclusions

After the successful completion of the third national workshop within the project WACOM DTP - Management of Emergency Situations Related to Water in the Sava River Basin - we can say that the participants are aware of the importance of response preparedness and disaster management in case of exceptional pollution of watercourses and floods in Slovenia.

In general, the participants expressed positive views on the presented measures and strategies that would contribute to an approach for improved response and cooperation in case of such



disasters at national or transnational level. The measures refer to the case of floods and accidental pollution, which is a sufficient spectrum, but could be extended to other types of disasters. Participants expressed concern about the inconsistent reporting instructions and the forms they have to fill out in case of accidents, as they should be harmonized, especially in case of serious accidents that require the collection and analysis, as well as the unnecessary coordination of a large number of different reports. Communication and recognition of the different actors and their roles, responsibilities and methods of collaboration are also very important, which is crucial for the management of interventions. Above all, the participants emphasized that the implementation of the protocols in practice is extremely important, since the courses of action were written and should be followed in order to organize quickly and well after the accident. We must also pass on the problem of flowing waters to the managers of flowing waters, so that they try to prevent undesirable processes and events that could affect the action in advance of accidents, thus reducing or even preventing the extent of accidents.

The evaluation of the answers to the individual questions will take place within the framework of the handover of the catalog of measures, together with the evaluation of the implementation and the importance of the rapid start of the implementation of each measure in the formed strategy. Regardless of this, we can already state that the participants have clearly identified the measures that are already implemented to a large extent and that probably need to be strengthened, as well as the measures for which they have recognized that the level of implementation is low and the priority of their introduction is high. Among them, we can highlight the following:

- (6) Training of elected representatives for long-term challeneges after the accidents related to flood and pollution control and water democracy
- (18) Cost accounting centers to support administrative and financial processes
- (19) Clear positioning of the MACS (Multi Agency Coordination System) being in the core of complex response
- (23) Protocols enabling and better involvement of insurance companies in preparing for and responding to disastrous events.
- (25) Improved integration of the multi-agency response management levels (MACS) and improved integration of governmental sectors
- (29) EU whistle blower directive (2019/1937)

The participants of the stakeholder workshop welcomed the efforts made so far and welcomed the objectives of the project, namely to improve transboundary coordinated response to exceptional pollution and flooding on transboundary watercourses in the Sava River Basin. Finally, we invited the participants to the final conference of the WACOM project, which will take place on November 15, 2022 in Sarajevo via video streaming, where all the results of the WACOM project will be presented.