Interreg
Danube Transnational Programme
WACOM

Water Contingency Management in the Sava River Basin

Stakeholder Communication Workshops with Pilot Actions Analysis

Output Number T3.3

Lead Institution	Ministry of the Sea, Transport and Infrastructure
Lead Author	Lana Deraković-Rakas
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List of contributors:

PP Acronym	Contributor
ERDF LP - UL	Jerca Praprotnik Kastelic, Ajda Cilenšek, Primož Banovec
ERDF PP1 - DRSV	
ERDF PP2 - HESS	
ERDF PP3 - HV	Natalija Matić, Tomislav Novosel
ERDF PP6 - MMPI	Lana Deraković-Rakas, Davor Čuljak
ERDF PP5 - ISRBC	
IPA PP1 - AZUR	
IPA PP3 – RUCZ RS	
IPA PP4 - JCI	

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2nd WACOM workshop in Croatia

Water Contingency Management in the Sava River Basin

The 2nd National WACOM Project Workshop was held on Tuesday, July 12, 2022, between 9:00 am and 12:00 pm via the online platform ZOOM.

The key challenge of the WACOM project is to improve transboundary coordinated response to accidental pollution and flooding on transboundary watercourses in the Sava River Basin, which includes a response analysis in each country.

The workshop, second in a series of three, served as a simulation of a staff exercise in which we tested the tools and approaches developed for improved transboundary response and cooperation in the event of such disasters.

The second Croatian WACOM national workshop was attended by 48 participants. In addition to the organizers and project partners, the representatives of the following institutions were also present:

- JANAF
- City of Samobor
- Harbour Masters Office Sisak
- JVP »Vode Vojvodine«

1 Agenda of the 2nd National Workshop of the WACOM project, 12. 7. 2022 (online)

08.45 – 09.00	Testing the link	
09:00 – 09:10	Welcome and introduction of the participants	*HV Danko Biondić / UL FGG*
09:10 – 09:20	Overview of the WACOM project and Sava Commission activities	*Primož Banovec, Samo Grošelj*
09:20 – 09:30	Presentation of the purpose and concept of the table-top exercise	*Primož Banovec*
09:30 – 09:55	Overview of the conducted simulation of the table-top exercise in case of pollution - Scenario of the table-top - Participants in the table-top - Timeline of the table-top	*Davor Čuljak*
09:55 – 10:15	Overview of the conducted simulation of the table-top exercise in case of floods - Scenario of the table-top exercise - Participants in the table-top exercise - - Timeline of the table-top exercise	*Tomislav Novosel*
10.15 – 10.30	Break	
10:30 – 11:00	Presentation of the WACOM tools	*Primož Banovec*
11:00 – 11:20	Comparison of the five exercises conducted under the WACOM project (Brežice, Slavonski Brod, Brčko)	*Robert Mikac*
11:11:20 - 11:45	Questionnaires - online survey Discussion	*Robert Mikac*
11:11:45 – 12:00	Conclusions and further work on the WACOM project	*Primož Banovec*

2 Introduction

After the welcome by the project leader, Mr. Primož Banovac, UL of the Faculty of Civil and Geodetic Engineering, the WACOM project, project partners and project's purpose and contents were presented according to the agenda.

2.1 Overview of the WACOM project and Sava Commission activities

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

Following this, MrSamo Grošelj (ISRBC) presented the legal framework and activities of the Sava Commission.

The International Sava River Basin Commission consists of 4 member countries and Montenegro. It mainly deals with management of water-related emergencies in the Sava River Basin, as well as sustainable water management, sustainable risk management (floods, droughts, accidents, etc.), regulation of international navigation and FASRB protocols. Its current activities are aimed at controlling flood risks, as well as establishing and improving the flood forecasting and warning system in the Sava River Basin. The activities of the Sava Commission are also aimed at prevention and control of accidents, which allows early informing of potentially affected riparian states (Protocol on Emergency Situations (draft) and the Emergency Accident Warning System (AEWS)). They also inform the public using the system for exchange of data and information on RBM, FRM and HMI, and the database for FFWS: Sava GIS (www.savagis.org) and Sava HIS (www.savahis.org). Their upgrade (APC and NAV module) is planned within the WACOM project.

2.2 Presentation of the purpose and concept of the table-top exercise

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

The greater the knowledge about the disaster management mechanism in upstream countries, the better the efficiency and effectiveness of the response in downstream countries (floods, extreme pollution).

This requires engagement of both the countries and the sectors: disaster management, water management and navigation.

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

Objectives of conducting table-top exercises:

1) Test and verify the usability and adequacy of the proposed WACOM tools for coordination and communication during incidents in an international environment (headquarters in different countries in the Sava River Basin). The WACOM tools: Transnational Modelling Tool, Incident Coordination Tool, Situational Awareness Tool;

2) Conduct several international staff exercises in the manner of table-top drills;

3) Interactive staff exercise;

4) Involve as many international target participants as possible (becomes critical);

5) Evaluate the existing and new proposals for disaster management approaches;

6) Assess the acceptability of introducing new tools into international practice; and

7) Promote conducting of staff exercises, create examples of best practices.

2.3 Presentation of the conducted simulation of the table-top exercises

The WACOM project objectives include the execution of five table top exercises that simulate several emergency situations of accidental pollution and floods:

•3x simulation of accidental pollution of the 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)

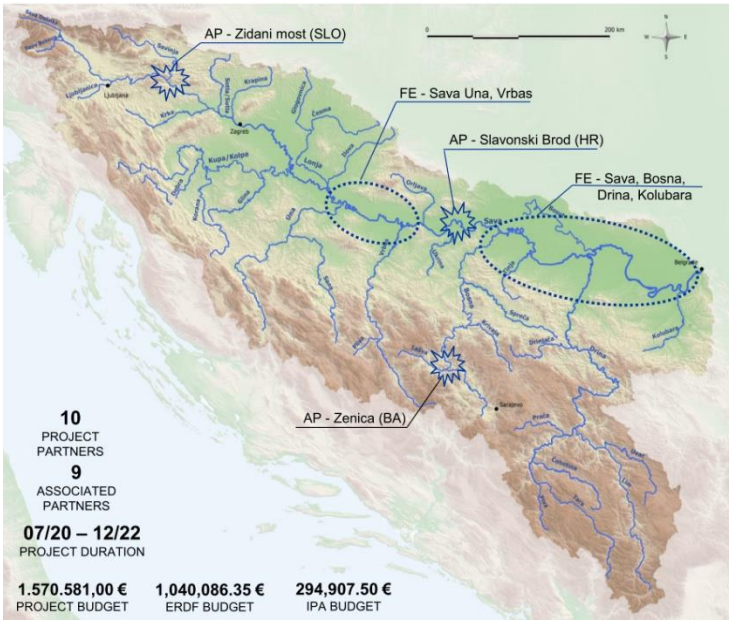


Fig. 1: Five executed table-top exercises

2.3.1. Phases of preparation for conducting the simulation of the TTX exercise

The preparation for conducting the simulation of the TTX exercise was performed in several phases: preparation phase, execution phase and analysis phase (as shown in Fig. 2).

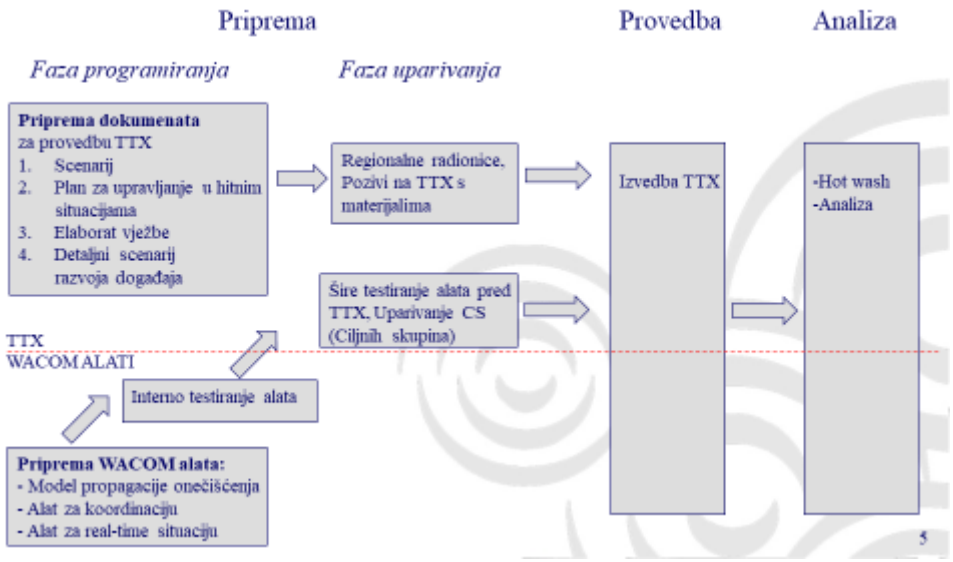


Fig. 2: Phases TTX

Documentation for the preparation and execution of a TTX exercise simulation

The documents prepared under the WACOM project serve as the main documents that define details about the preparation and execution of a table-top exercise of accident simulation. Four documents were prepared for each of the five table-top exercises that simulated several emergency situations. The four documents are: Scenario, Contingency Plan, Elaboration and Master Scenario Event List.

Fig. 3: The four documents prepared for each of the five TTXs

2.3.2. Execution and key steps of a TTX simulation

1) Introduction to the scenario, MSEL and WACOM tools

- The scenario of the accidental pollution event started when the motor boat "Siscia" ran aground in shallow waters at the rkm 367.0.
- At the moment of the stranding, more than 200 t of diesel oil spilt into the river. There were no reported human victims or staff injuries on the location of the accident.
- The accident occurred on a workday at 12:00 in late autumn. The outside temperature was 4.6 ^{0}C, with no precipitation

Fig. 4: Scenario of the accident

Scenario condition:

- The risk of a cross-border impact, i.e. spill spreading to Bosnia and Herzegovina
- The use of the WACOM tools for international coordination of the response

2) Beginning of the event (spill);

3) Communication, reporting, etc.;

4) Use of the WACOM tools;

5) Preparation of a report and reporting about the planned activities (ICS 209);

6) AEWS reporting;

7) Completing and supplementing of the ICS 207 reports (organising staff);

8) Design of press releases for the general public;

9) Completion of activities and transition to the "rehabilitation phase";

10) Questionnaires for the participants; and

11) Analysis and HOT WASH.

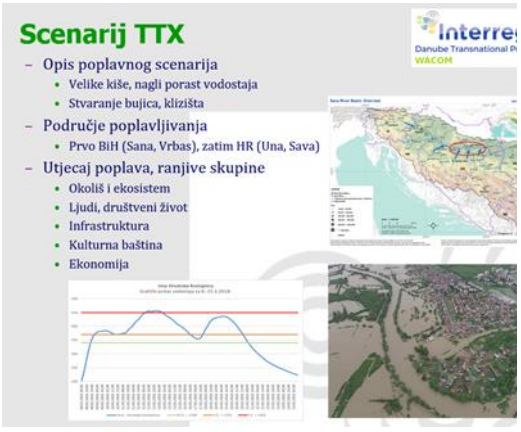
FLOODS - Flood event scenario

1) Introduction to scenario, MSEL and WACOM tools

The description of the event is provided in the document D.T3.1.3 (2/5) Descriptive documentation of pilot actions and related issues addressing and floods, Floods in the areas of river Una, Vrbas and Sava (HR/BA).

The document also provides some more detailed information, such as the exact date and time of the event, weather conditions, flows of the Una, Vrbas and Sava Rivers. It also provides a broader list of local characteristics of the flooded area. Various vulnerabilities that can be affected by floods have been identified, as well as actors for whom a more important role in disaster response has been identified.

The short summary of the event is provided below:



Date and time of the event: 8-25.3.2018

- Weather conditions, temperature: heavy perticipation, 5-15°C
- Discharge of the Sava River 2500 m3/s (Sava, Jasenovac)
- Discharge of Una 1600 m3/s
- Discharge Vrbas: 114 m3/s
- The couse of trigger event: heavy rain

Fig. 5: Scenario of the accident

2) The beginning of the event (floods).

3) Communication, reporting

4) Use of WACOM tools

5) Preparation of report and reporting of planned activities (ICS 209).

6) Completing, supplementing ICS 207 reports (organising staff).

7) Design of press releases for the public

8) Completion of activities and transition to "rehabilitation phase".

9) Questionnaires for the participants

10) Analysis and HOT WASH

2.3.3. Analysis of the table-top exercises

The participants were invited to actively participate in the interactive story about the accident and to participate in the description of the expected sequence of events and activities that their facility's team would perform during the actual rescue.

The exercise was conducted in such a manner that all participants followed the main narrative of the story as told by the narrator of the exercise, even if they were not familiar with the actual incident. The participants also observed the activities or reactions of all other participants. This was the only way for each participant to better understand and evaluate the new approaches and use of assistive devices in conducting of the exercise.

Each participant responded in accordance with best practices and any innovations resulting from the use of WACOM tools as part of the protection and recovery plan.

During the exercise, the participants became familiar with the use of the WACOM tools. The evaluation of the usefulness of these tools was an important element in the final evaluation of the exercise.

Some participants were not actively involved and had the role to monitor and oversee the TTX implementation. They provided an ongoing analysis of the activities and identified the deviations from the planned implementation plan or existing procedures.

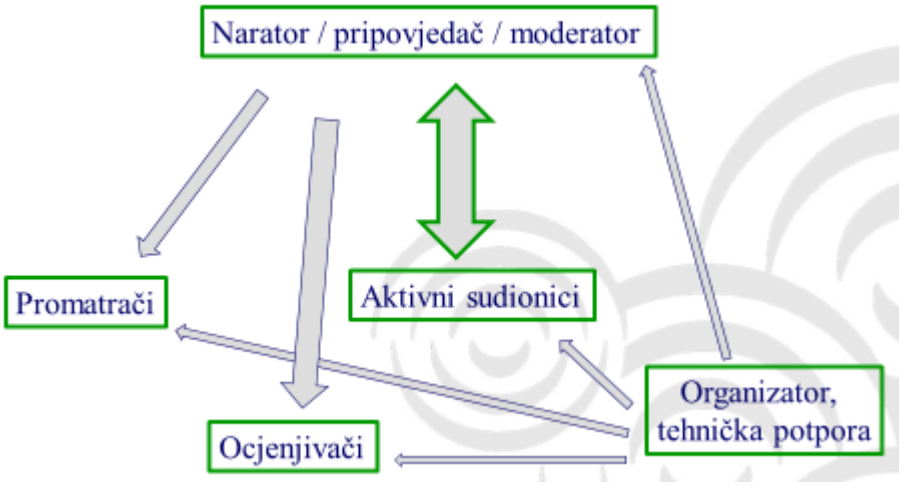


Fig. 5: Key actors in the TTX

HOT WASH analyses - POLLUTION

A "hot wash" analysis must be conducted immediately after the completion of the exercise to allow all participants to provide comments that will be discussed in the "After Action" report. As part of the analysis, the following questions have to be answered:

1. Individual active headquarters participate and reflect on the questions:

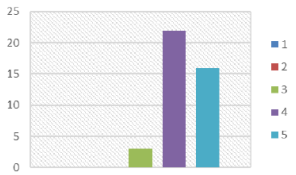
- Was it done well?
- What was not done well and what was the reason?
- Were there any surprises? Which ones?
- Were the goals and objectives of the exercise met? If not, why?
- What can be included in the "after action" report?

2. Individual questionnaires for all participants - expectations from the TTX, experiences with similar instruments, data availability during the exercise, information and communication between headquarters, evaluation of the WACOM instruments.

3. Questionnaires for the evaluators.

Would the WACOM tools be useful in your work?

General assessment of the WACOM tools (usability)



Assessment of today's workshop

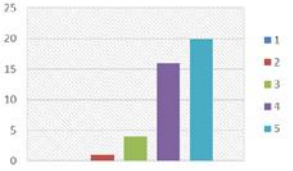


Fig.6: Presentation of the questionnaire analysis

HOT WASH analyses – FLOODS

- The participants of the workshop were actively engaged in the discussion and contributed to providing their insight into the current situation

- The participants recalled the great flood from May 2014 and exchanged experiences and lessons learned.

- The participants identified the mistakes that were made, and they also noticed the mistakes of others - The critical review of the performance of the exercise showed professionalism and the desire to constantly improve the way it works during the flood

- The problem of lack of human and material capacities is becoming more noticeable and evident - it is necessary to work intensively on strengthening the staff

- It is extremely important to inform the public - improve communication with journalists (accurate and timely information is important)

- The issue of cultural-historical heritage requires a specialized procedure related to floods - In general, the protection of cultural assets does not have a developed procedure, but there is a good register of cultural-historical heritage, at least in Slovenia and Croatia

- During the exercise, the need for a single line of command was recognized

MAIN CONCLUSIONS - FLOODS

- Kudos to the narrator

- The TTX exercise was rated as more than successful - until now there has been no exercise of this type at the international level

- The crisis plan should include a better description of the process of interaction of the local community with the unified command (Headquarters) during floods

- There is a need for better coordination and communication between institutions and towards local communities

- Presented WACOM tools can certainly be helpful in emergency management (pollution and flooding)

2.4 Comparison of the five table-top exercises carried out under the WACOM project (Brežice, Slavonski Brod, Brčko)

Main conclusions and hot wash

- Excellently organized workshop;
- All participants actively participated in the implementation of the exercises;
- The discussion was of high quality and showed situations that need to be resolved within each country, as well as across borders;
- The technical solutions developed under the WACOM project can be very useful in real situations; and
- The workshop served as a model for the following workshops.

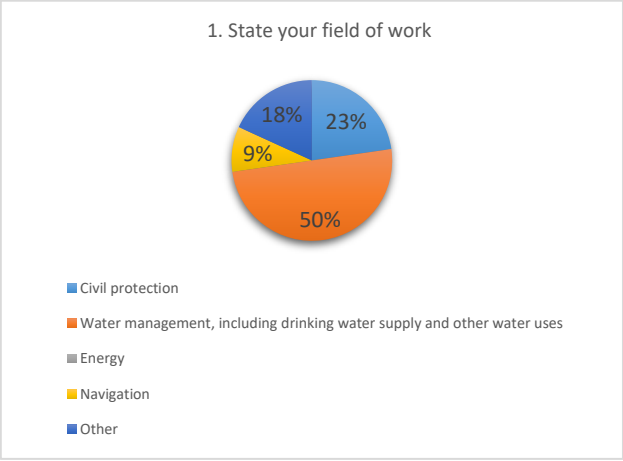
3 Analysis of the questionnaire results

Since the discussion took place online, we had prepared a questionnaire in advance that the participants completed via polls (ZOOM survey) in the hope of getting a greater response and better results. The 25 workshop participants took the survey and answered 10 questions. The questions and the analysis of the responses are presented below.

Questionnaire for the 2nd National WACOM Project Workshop in Croatia

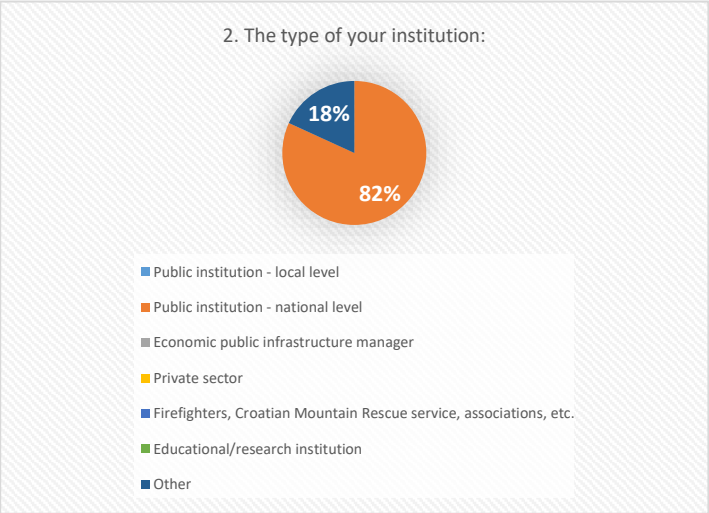
1 **State your field of work** (Multiple Choice)

- Civil protection
- Water management, including drinking water supply and other water uses
- Energy
- Navigation
- Other



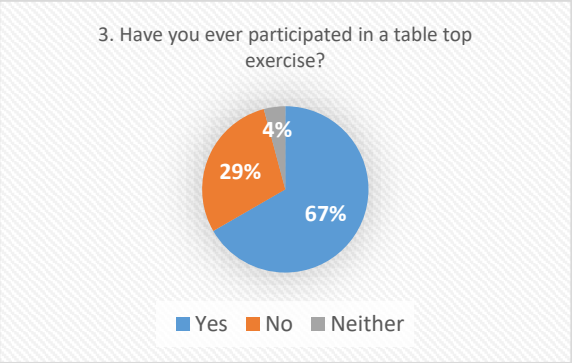
2 **The type of your institution** (Multiple Choice)

- Public institution – local level
- Public institution – national level
- Manager of economic public infrastructure
- Private sector
- Firefighters, Croatian Mountain Rescue Service, associations, etc.
- Educational / research institution
- Other

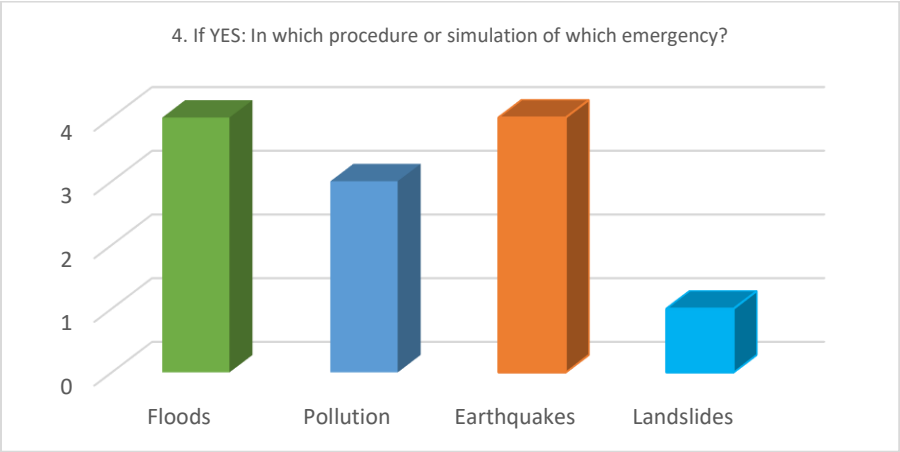


3 **Have you ever participated in a table top exercise?** (Single Choice)

- Yes
- No
- Neither yes nor no

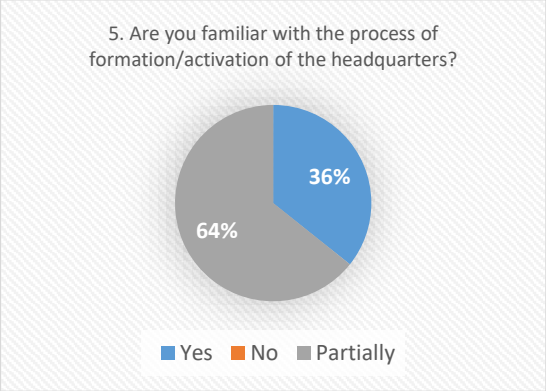


4. **If YES: In which procedure or simulation of which emergency? (If you have not participated, write: NO)** (Short Answer)



5. **Are you familiar with the process of formation/activation of the headquarters?** (Single Choice)

- Yes
- No
- Partially

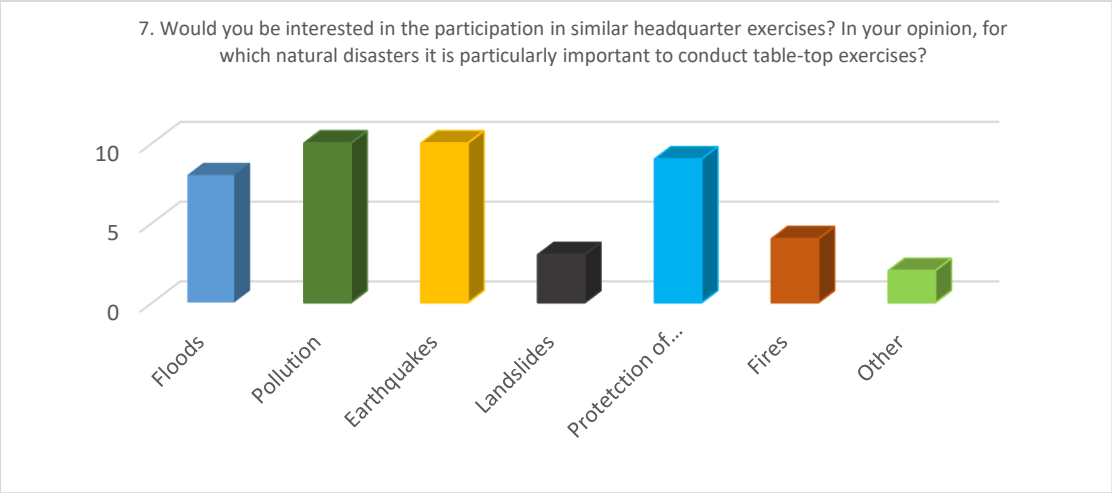


6 **In your experience, what is the communication like between the activated headquarters in the case of a complex response by several headquarters?** (Multiple Choice)

- The communication isn`t good
- The communication is good
- The communication is excellent

7 **Would you be interested in the participation in similar headquarter exercises? In your opinion, for which natural disasters it is particularly important to conduct table-top exercises?** (Multiple Choice)

- Floods
- Pollution
- Earthquakes
- landslides
- Protection of water resources
- Fires
- Other
- Not interested in cooperation

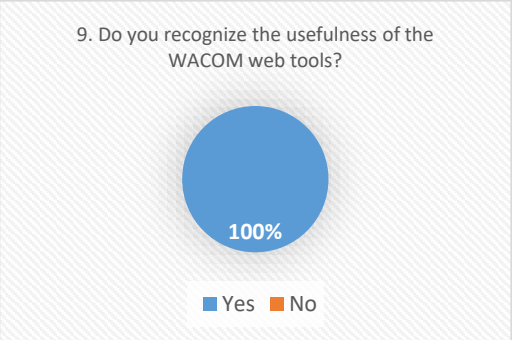


8 **Do you recognize the need for IT tools to achieve a better communication between headquarters?** (Single Choice)

- Yes
- Partially
- No

9 **Do you recognize the usefulness of the WACOM web tools?** (Single Choice)

- Yes
- Partially
- No



10 **Your comments and proposals** (Long Answer)

The answers:

- Compared to practical exercises, command and staff exercises, especially those of high complexity (transnational, different sectors), are not carried out often enough;
- The need to continue the project;
- Since this is my first project, it is the starting point for other projects. I like how it works and I hope and look forward to future joint projects. Thank you!

- To involve the local self-government units as much as possible in these exercises and similar activities;
- More TTX;
- The project is very useful, the WACOM tools are quite applicable and can be used for various purposes;
- Excellent approach of the project implementer and participants. I support the continuation of the project and the necessary activities in order to facilitate action in real situations.