



## Analyse of the water sector needs in the Western Balkans

Milan Gocić  
University of Niš

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University of Niš



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Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders  
Project number: 597888-EPP-1-2018-1-RS-EPPKA2-CBHE-JP



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## Outline

- Online questionnaire
- Results and discussion
- Recommendations
- Handbook and LLL courses for professionals in water sector



# Online questionnaire

- 12 questions divided into 5 groups (General details; Job Responsibilities as regards to Water Management in the organization; Awareness, Knowledge to Water Resources Management Policy; Training Need; Technical Training)

➤ <http://swarm-survey.pr.ac.rs>

➤ in four languages

➤ Register of companies in the field of Water Resources Management in the Western Balkan countries

➤ 1136 respondents from WB countries

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# Online questionnaire

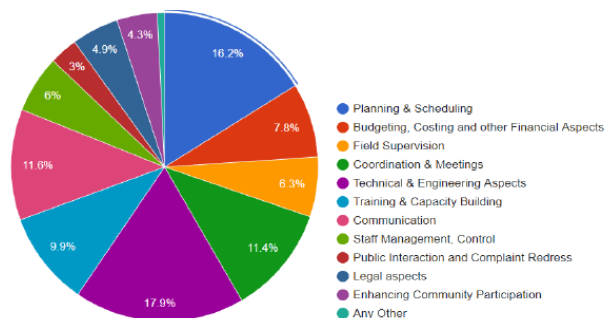
The screenshot displays the online questionnaire interface with five numbered sections:

- 1. General details:** Includes fields for University, Gender, Age, Level of education, Employment sector, The institution where you are employed, Position, Number of years of experience, and a comment box.
- 2. Job Responsibilities as regards to Water Management in the organization:** Asks for the time devoted to water resources management and lists responsibilities such as Planning & Scheduling, Budgeting, Field Supervision, and Staff Management.
- 3. Awareness, Knowledge to Water Resources Management Policy:** Asks about awareness of various instruments like EU Water Law, National Water Law, and National Development Plans.
- 4. Training Need:** Requests a self-rating of skills on a five-point scale, covering areas like Understanding WRM procedures, Technical & Engineering aspects, and Communication Skills.
- 5. Technical Training:** Asks for preferred technical training topics such as Water resources infrastructure, Irrigation, and Flood management.



# Results

Responsibilities in water resources management

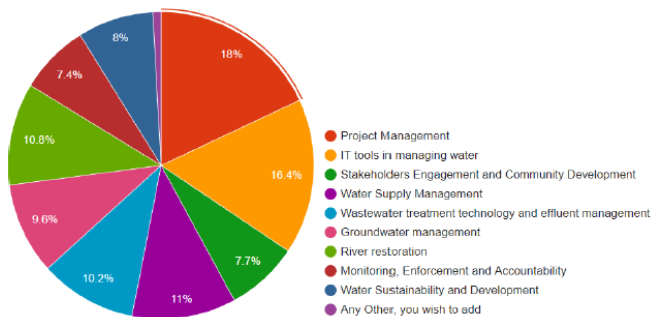


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# Results

Areas of training needs to increase the competencies in managing water resources services

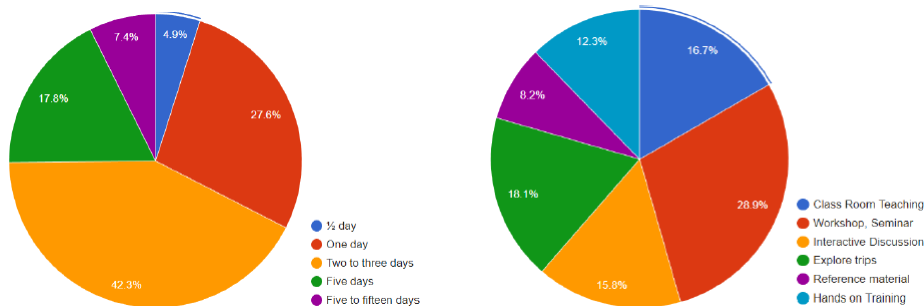


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## Results

Preferable **technical training** are: Water resources infrastructure, Sustainable Integrated Water Resources management, Flood management, Energy/hydropower, and Wastewater treatment



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## Recommendations

- Increase **awareness** on the strategic documents, action plans and procedures in the water resources management
- Improve exchanging of the **best-practice experiences** and **innovative solutions** in WRM
- Strengthen previously acquired **knowledge** and improve **practical skills** through the organization of **multiday theme-based trainings**
- Improve the **role of water-related companies** in **community participation**

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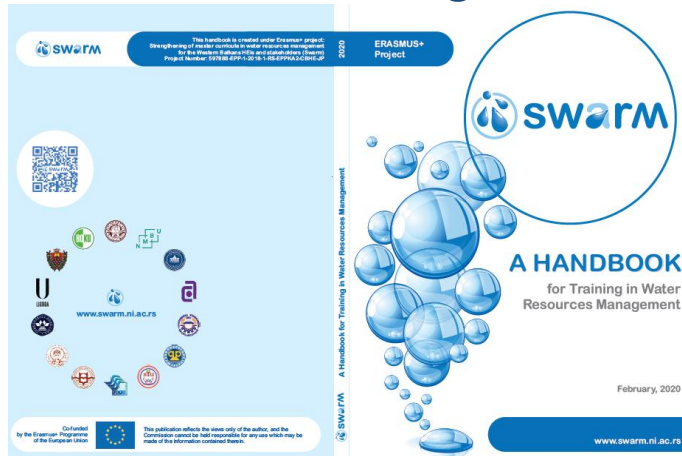
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# Handbook for training in water resources management



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# LLL courses for professionals in water sector

1. Water management and climate change adaptation
2. Water – scarce resource
3. Flood and drought risk management
4. Managing the quality of stormwaters
5. Wastewater treatment and reuse of treated wastewater
6. IT tools in the water resources management
7. Innovation in the water sector – Model of managing a process of water supply network repair using fuzzy logic and fuzzy inference

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# Leaflet for training promotion

**swarm** ERASMUS+ Project

**TARGET AUDIENCE:**

- Experts in the water sector
- Decision makers working with local people in governments
- NGOs oriented to water resources development programs
- Staff working in higher education

**LOCATION:**

7 cities in the Western Balkan countries

Mostar, Koprivnica Mitrovica, Sarajevo, Novi Sad, NIS, Podgorica, Leposavić

**TIME AND DURATION:**

- 3-day training (8 hours per day) are scheduled for December 2020

**TRAINING COACHES:**

- Experienced academic professionals from SWARM Erasmus+ project consortium

**TRAINING METHODOLOGY:**

- Classroom lectures
- Laboratory demonstrations
- Open field training
- Case studies examinations and simulations
- Best practice examples

**TRAINING GROUP SIZE:**

- 30 participants

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Coordinator: University of Niš, Laskarski put 2, 18000 Niš, Serbia, www.un-ni.ac.rs

**TRAINING ON WATER RESOURCES MANAGEMENT**

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# Leaflet for training promotion

ERASMUS+ Project: Strengthening of Master Curricula in Water Resources Management for the Western Balkans HEIs and stakeholders **swarm**

**TRAINING PROGRAMME:**

- SESSION 1: Water Management and Climate Change Adaptation
- SESSION 2: Water - Scarce Resource
- SESSION 3: Flood and Drought Risk Management
- SESSION 4: Managing the Quality of Storm waters
- SESSION 5: Wastewater Treatment and Reuse of Treated Wastewater
- SESSION 6: IT Tools in the Water Resources Management
- SESSION 7: Innovation in the Water Sector

**TRAINING DESCRIPTION:**

Sustainable management of water resources and access to safe water is essential for improving economic growth and productivity. Drivers such as urbanization, demographic and climate changes increase stress on water resources. Instead of the traditional approach, a more holistic approach to water management is essential. This training is designed to aid in the management of water resources in a more efficient, equitable and sustainable ways.

**TRAINING OBJECTIVES:**

- Learn concepts in water resource management and water policy.
- Gain skills in managing the quality of storm waters.
- Gain skills on water quality, its components, and interventions.
- Understand the causes of water resource conflicts and resolution measures.
- Gain skills on water supply waste management techniques.
- Gain skills in using IT tools in the water resources management.

**SWARM project specific objectives:**

- Improve the level of competencies and skills in WB HEIs
- Design and implement seven new and up-to-date laboratories
- Develop and implement LLL courses for the water sector

**ENHANCING PROFESSIONAL SKILLS**

interdisciplinary harmonization skills innovative experience

**Modern curriculum**

advanced laboratory innovative teaching ICT Master innovative learning

ECTS Knowledge

**SEWAGE**

- Retention
- Pollution
- Purification
- Lack of water
- Spring drainage
- WATERWAY
- WATER RESOURCES
- Hydraulics
- Watershed
- groundwater
- water shortage
- fresh water
- natural drinking water
- Hydrology
- water area
- Irrigation

Trained professionals to manage water resources efficiently and sustainably [www.swarm.ni.ac.rs](http://www.swarm.ni.ac.rs)

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**Thank you for your attention!**

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Milan Gocić  
University of Nis  
Univerzitetski trg 2, 18000 Nis  
milan.gocic@gaf.ni.ac.rs

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