

Capacity Building Workshop on  
"Shared Groundwater Resources Management"

2 – 4 December 2008 / Postojna, Slovenia



# Capacity Building Workshop on "Shared Groundwater Resources Management"

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Karst Research Institute SRC SASA, Postojna, Slovenia

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Jointly organized by  
Global Water Partnership-Mediterranean  
Mediterranean Information Office for Environment, Culture and Sustainable Development  
Ministry of the Environment and Spatial Planning of the Republic of Slovenia  
Karst Research Institute SRC SASA  
Sava Commission

Financially supported by the  
German Ministry for Environment, Nature Conservation and Nuclear Safety  
Ministry of the Environment and Spatial Planning of the Republic of Slovenia  
European Commission

### Background

Groundwater is a “hidden” resource with special characteristics and it is interlinked with the other components of the physically integrated land–surface water–groundwater–coastal/marine system. This fact has to be taken into account by the related policies, laws and management schemes and instruments at local, national and regional level. Also integration of policies for groundwater management with policies for economic development and consequently land use management, including designation and functioning of national parks and protected areas, is an imperative for sustainable development.

Management at national level is, in many cases, not sustainable due to gaps in the legal frameworks of the countries and ineffective application of management measures. Poor knowledge of the characteristics of the aquifer systems and inadequate monitoring exacerbate the situation.

Geological formations have no regard to national boundaries. Aquifers are to a large extent shared between two or more countries. The UNECE Assessment of transboundary water resources (“Our waters: joining hands across borders” – First Assessment of Transboundary Rivers, Lakes and Groundwater, October 2007) identifies 51 transboundary aquifers in SEE. Other assessments raise this number to more than 60. These provide a share of total water usage in their respective area that ranges from 15 to 90 or even 100 percent in some of the Dinaric karstic aquifers of Albania, Bosnia and Herzegovina, Croatia and Montenegro.

While visible progress has been achieved in the cooperation for the management of shared surface waters in many parts of the region, there is lack of transboundary cooperation and relevant arrangements for the management of shared aquifers. This may present an obstacle for the stability and economic development of SEE countries in the future. Solutions need to be specific for each case, taking into account, among others, the nature of the aquifer and severity of pressures exerted, the size and importance of the shared resources and the number of countries involved.

Shared aquifers can be found in the Sava River Basin and the Dinaric Arc area. Their integrated management taking into account the geographical and geological characteristics such as karstification, karst hydrology, forests, biodiversity, etc. is crucial for the sustainable development of the region. Some examples of good practice in the area exist.

### The Capacity Building Workshop

Against this background the Global Water Partnership-Mediterranean (GWP-Med), the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO/ECSDE), the Slovenian Ministry of Environment and Spatial Planning (SMESP), the Slovenian Karst Research Institute SRC SASA and the Sava Commission co-organize a Capacity Building workshop on Shared Groundwater Resources Management on 2 – 4 December in Postojna, Slovenia. The activity is supported by the German Ministry for Environment, Nature Conservation and Nuclear Safety, the Slovenian Ministry of Environment and Spatial Planning and the European Commission – DG ENV (through the Annual Funding of MIO/ECSDE).

The Workshop will geographically focus on the Sava River Basin and the wider Dinaric Arc area.

The Workshop comes as a follow up to the International Roundtable “Integrated Shared Groundwater in Southeastern Europe” that was organized in Brdo pri Kranju, Slovenia, 14-16 November 2007 jointly by the SMESP and GWP-Med within the framework of the Petersberg Process Phase II / Athens Declaration Process and GEF IW:LEARN.

This Workshop forms part of a series of Capacity Building (CB) workshops focusing on Transboundary Water Resources Management in South-Eastern Europe implemented by GWP-Med and MIO-ECSDE within the framework of Petersberg Phase II / Athens Declaration Process and GEF IW:LEARN. Three CB workshops have been/will be implemented within 2008 (for information on the structure and content see [www.watersee.net](http://www.watersee.net)):

- "Stakeholder involvement in Transboundary Water Resources Management", 25-28 March 2008, Podgorica, Montenegro;
- "Integrated Management of Shared Lakes Basins", 16-18 July 2008, Ohrid, FYR Macedonia;
- "Integrated Water Resources Management in the extended Drin River Basin", 25-27 November 2008, Shkodra, Albania.

### Aims

The purpose of the Workshop is to build the capacity of the stakeholders in the Sava River Basin countries as well as the countries that the Dinaric karstic eco region is extended to and provide knowledge and tools to improve their skills on Shared Groundwater Resources Management. Promotion of transboundary cooperation in this regard is another aim. The facilitation of the work of the Sava Commission in the long term and responding to the needs in the area in view of sustainable management of water resources is also a goal.

### Participants

The target audience is staff of competent national authorities and institutions, NGOs etc. from the Sava countries i.e. Croatia, Bosnia & Herzegovina, Serbia and Slovenia as well as Albania, FYR Macedonia and Montenegro.

## Capacity Building Workshop Programme

### Day 1: Tuesday - 2 December

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*Introducing participants, introducing concepts and structures for shared groundwater management.*

- 9.00 – 10.00**    **1. Welcome and introductory activities**  
1a. Welcome  
*Ministry of Environment and Spatial Planning of the Republic of Slovenia*  
*Representatives of the Karst Research Institute SRC SASA, Škocjan Cave Park, WWF, UNESCO, Alpine Convention*
- Introduction to workshop**  
1b. Participants' familiarization activity  
1c. Participants' expectations  
1d. Presentation of the objectives and structure of the workshop  
*DIMITRIS FALOUTSOS, GWP-Med*
- 10.00 – 10.45**    **2. The legal frameworks for transboundary water resources management: UNECE Water Convention, EU WFD**  
*MITJA BRICELJ, Ministry of Environment and Spatial Planning of the Republic of Slovenia*  
Discussion
- 10.45 – 11.15**    **Coffee Break**
- 11.15 – 12.00**    **3. Karstic characteristics in the Sava River Basin and the Dinaric eco-region**  
*NATAŠA RAVBAR*  
*Presentation to be made by the Karst Research Institute SRC SASA*  
Discussion
- 12.00 – 12.45**    **4. The legal framework for the management of karstic aquifers in Slovenia – experiences from its application**  
*JOERG PRESTOR, J. URBANC, P. MEGLIČ, J. ŠINIGOJ, K. HRIBERNIK*  
*Presentation to be made by the Geological Survey, Slovenia*  
Discussion
- 12.45 – 13.30**    **5. Management of underground biodiversity**  
*ANTON BRANCELJ*  
*Presentation to be made by the National Institute for Biology, Slovenia*  
Discussion
- 13.30 – 14.30**    **Lunch**
- 14.30 – 15.15**    **6. Management of protected areas**  
*MLADEN BERGINC, GREGOR DANEV*  
*Presentation to be made by the Ministry of Environment and Spatial Planning of the Republic of Slovenia, Institute for Nature Protection*  
Discussion
- 15:15 – 16.00**    **7. Forest management**  
*ŽIVAN VESELIČ, DRAGAN MATJAŠIČ, MARKO JAGODIČ, EVGEN ERŽEN*  
*Presentation to be made by the Slovenia Forest Service, Papirnica Vevče d.o.o.*  
Discussion
- 16.00 – 16.15**    **Coffee Break**

**16.15 – 17.00 8. Guidelines for spatial development on karstic areas**

*KRIŠTOF OŠTIR, MITJA PRELOVŠEK*

*Presentation to be made by the Scientific Research Center, Slovenian Academy of Science and Art*

*Discussion*

**Side events:**

**Presentation of the Youth Parliament of Alpine Convention**

*DARJA KRAVANJA, KATJA HOLNTHANER ZOREC*

**Sava Water Partnership**

*MITJA BRICELJ, DEJAN KOMATINA*

**Dinaric Arc Ecoregion – Protected Areas for Living**

*JANA KUS*

**19.00 – Dinner**

*At the beginning of the workshop the expectations of the participants will be identified and discussed to check to what extent these will be met in the program. The aim is for the participants to have a clear picture about what this workshop is about – this will facilitate the learning process.*

*The program of the first day is designed to establish a shared level of understanding of key concepts and structures about the management of groundwater resources, how this is linked to the management of other natural resources (wetlands, forests) and how spatial planning can be used as a valuable instrument for integrated management.*

*It is expected that the concepts about groundwater resources management are already known to some extent, but also expect that the perception on these will vary among the participants. By discussing them, we hope to create a more shared understanding.*

*Experiences will be presented to further facilitate the process.*

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**Day 2: Wednesday – 3 December**

*Experiences on groundwater management in Slovenia – cooperation with neighbouring countries. The role of the business sector in the management of groundwater resources.*

**09.00 – 17.00 9. Field trip – Presentation of Cases of good practice**

*ALBIN DEBEVEC*

- *Škocjan Cave Regional Park (UNESCO, management of natural heritage),*

*ALOJZ JURJEC*

- *Notranjsko Kraška Ecoregion (cooperation of local communities, institutions, planners etc.)*

*MIHAEL BRENČIČ*

- *Karavanke (cross border groundwater body)*

*LILI MAHNE*

- *Sustainable development in karst regions, role of business sector*

*Presentation to be made by the COVEVO and the Ministry for Agriculture, Forest and Food of the Republic of Slovenia*

**19.00 – Dinner**

*The Field Trip will give the chance to the participants to have a first hand experience about the resource, the pressures and the managerial measures adopted.*

*Slovenia has a long history in managing karstic aquifers also in cooperation with neighbouring countries. A number of case studies and related experiences will be presented.*

*The presentation of the role of the business sector will allow the participants to understand the inter-linkages between groundwater management and economic development.*

### Day 3: Thursday – 4 December

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*The application of Geographical Information Systems in the management of karstic areas and aquifers will be presented by Geological Survey, Institute for Nature Protection, Slovenia Forest Service and Environmental Agency of the Republic of Slovenia*

**09.00 – 13.30 12. Using Geographical Information Systems for the management of groundwater resources**

Presentation eWater

*JOERG PRESTOR, J. URBANC, P. MEGLIČ, J. ŠINIGOJ, K. HRIBERNIK*

**10.45 – 11.15 Coffee Break**

**Using Geographical Information Systems for the management of groundwater resources**

**Continued**

Presentation of Nature Conservation Atlas

*MARTINA KAČIČNIK JANČAR*

**13.30 – 14.30 Lunch**

**13.30 – 16.00 Using Geographical Information Systems for the management of groundwater resources**

**Continued**

GIS for forest

*DRAGAN MATJAŠIČ, ŽIVAN VESELIČ*

**16.00 – 16.15 Coffee Break**

**16.15 – 17.00 13. Reflection on results and discussion – Evaluation of the workshop**

*DIMITRIS FALOUTSOS, GWP-Med*

**19.00 – Dinner**

*The participants, with the assistance of facilitators, will work in groups on a case study using GIS. The aim is to understand the use of decision support systems in the management of karst aquifers.*

*At the end of the day the participants will discuss the outcomes of the workshop and evaluate it.*