NEWSLETTER

Kosovo Water
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№5

NEW KNOWLEDGE ON AVAILABLE WATER RESOURCES

Wanting to shed new light on the availability of water resources in space and time in Kosovo, the IWRM-K Program supported a country-wide state-of-the-art water balance assessment. Targeting its four main basins, the study now provides the most up-to-date systematised knowledge on available water resources.

Integrated Water Resources Management in Kosovo

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HASAN PRISHTINA UNIVERSITY OF PRISHTINA

FACULTY OF CIVIL ENGINEERING - GENERATOR OF KNOWLEDGE AND SCIENCE

I am very pleased to write the editorial for Kosovo's Integrated Water Resource Management (IWRM-K) Newsletter, and introduce the work of the Faculty of Civil Engineering (FCE) to the public. Operating under the University of Prishtina, the FCE is the leading educational and scientific institution in the field of civil engineering in Kosovo.

Standards of excellence in teaching are achieved through the research work carried out by our academic staff. Academic staff regularly present their research findings at international conferences, and publish scientific papers in prestigious journals. The FCE has achieved support for its scientific research programme through successful grants programmes and international projects. Through the "InWaterSense" (Intelligent Wireless Sensor Networks for Monitoring Surface Water Quality) scientific project, funded by the European Union (EU), the FCE has established cooperation between researchers in Kosovo in different fields, such as hydraulic engineering and computer engineering, involving the Kosovo Hydrometeorological Institute and EU partner universities.

The FCE is part of another project called GEOBIZ funded by the European Union's ERASMUS+ KA2 Capacity Building in Higher Education initiative which aims to continue raising the quality of curricula through cooperation between higher education institutions, and public and private businesses. The institution and academics contribute to the needs of the labour market, which is our top priority.

Given the trends of urbanisation and the continuous development of our country's economy and industry, the demands for natural resources, especially water, have increased. This increased demand for water and the degradation of water quality pose a continual threat to our existing water resources. To manage this threat will require highly qualified personnel who will be responsible for the planning, design and operation of water systems. To address these challenges, the FCE's academic partnership with the University of Peja has designed a Master's study programme with an interdisciplinary and integrated approach to delivering sustainable human capacity building.

For the MSc programme in Integrated Water Resources Management, the University of Prishtina has already signed a co-operation agreement with the Swiss Agency for Development and Cooperation (SDC), through the Integrated Water Resource Management-Kosovo Program. The Program has signed a further agreement with TH Köln, dedicated to supporting the MSc in IWRM through an accreditation process, lectures, internship and diploma theses. The programme aims to build professional capacity in the field of sustainable management of water resources at the national level. The investment from SDC will also be used for hydraulic engineering and environmental engineering laboratories and other equipment.

The IWRM MSc study programme prepares students with a broad knowledge of scientific and technical innovations in this specialised field by placing them in the local and international labour market. This Master's programme has been conceptualised in a way to help Kosovo improve its overall water resources management, shifting from traditional approaches to contemporary holistic concepts that consider multiple aspects and rely on the integration of achievements of different scientific disciplines.

The FCE will continue its partnership with the Faculty's Industrial Board, and make use of the existing Memoranda of Understanding with public and private Institutions. Ongoing and new Erasmus projects will enable many project activities offering exchange of knowledge, such as workshops, meetings, and training, as well as student and staff mobility.

"Anyone who can solve the problems of water will be worthy of two Nobel prizes - one for peace and one for science." - John F. Kennedy

INTERVIEW WITH

MR. BATON BEGOLLI

ADVISOR - INTER-MINISTERIAL WATER COUNCIL (IMWC), KOSOVO

Who is Baton Begolli and for how long have you been involved in Kosovo's water resources management system?

I am an environmental engineer with a major in water from the Middle East Technical University in Ankara, Turkey. I returned to Kosovo in 1999 to serve my country. Later, whilst working for central institutions, I realised there was a need to develop further academically in environmental management policies, so I studied for an MSc degree on Environmental Impact Assessment, Auditing and Management Systems from the University of East Anglia (Norwich) in the United Kingdom.

My career in Kosovo initially led me to the waste management sector. However, the progress that was noted at the time was achieved by linking proper waste management with water resource protection. Soon I was involved with the Kosovo water services sector reforms and on the creation of the Ministry of Environment and Spatial Planning, I joined as Director of the Water (resources) Department.

Why was the IWMC created and what role does it play in the Government of Kosovo structure and water governance in general?

The water sector in Kosovo was split early on. Water resources were the responsibility of the Ministry of Environment and Spatial Planning while water services were initially the responsibility of UNMIK institutions. After independence they were handed over to the Ministry of Economic Development (initially Ministry of Economy and Finance). Then there were other bodies with a role in the water sector, such as agriculture, public health, etc. so there was a need for an overarching body to co-ordinate the overall interests of the sector at the highest executive office.

To this end, the government established its Water Task Force (WTF), which was supported by the Swiss government. All water sector stakeholders recognised its efficiency and significant impact on the water sector, and in 2013 the WTF was transformed into the Inter-Ministerial Water Council by law. The IMWC is chaired by the Prime Minister, and composed of the Ministers of Environment, Spatial Planning and Infrastructure; of Economy; of Agriculture, Forestry and Rural Development; and of Finance, Labour and Transfers. It is therefore like a political body reflecting integrated water resources management and NEXUS principles.

The IMWC provides a forum for collecting and evaluating the positive experiences of the water sector, but also the challenges of implementation, communication and co-operation. Furthermore, it provides a platform for the development of policies for reforming the water sector considering different perspectives, from water users to water providers. The IMWC also develops and approves the policies required to ensure the sustainability of reforms and investments in the water sector.

With the help of donors, the Government of Kosovo has initiated very ambitious plans for improving water resources management. What concrete steps have been taken to address priority challenges and what should we expect to see in the years to come?

The initial focus of the Government was to improve the water supply sector. The situation inherited after the war was one of devastation and decades of neglect, so from around a 50% access to water supply and 27% access to sanitation, the situation improved considerably to over 90% access to water supply (including rural systems currently not being managed by public utilities) and around 70% access to sanitation. With this achievement, the focus has shifted more towards wastewater treatment in the largest municipalities initially, and to protection of existing water resources as well as developing new dams to meet water security for the regions with greatest water stress.

There are now a lot of activities in meeting ever-evolving challenges: in the water services sector these are the gradual development of wastewater management and associated sludge management in Gjakova, Gjilan, Mitrovica, Peja, Prishtina and Prizren, and funds are being sought for the next 10-12 largest municipalities. The focus for water resources is assessing the potential for new dams and initiating their constructions, e.g. in Firaja, Kamenica, etc., as well as in overall water resources management by developing river basin management plans, flood hazard and flood risk maps, groundwater monitoring, etc. Another particular area of interest is the development of a new group of young professionals to be actively involved in once-in-a-lifetime-opportunity projects and to build local know-how to meet future challenges.

For around two decades, the Swiss Government has been the key donor country in the water sector in Kosovo. How important is this cooperation between the Government of Switzerland and Kosovo on water management issues?

The Swiss Government has been an instrumental partner not only due to the size of its contributions but, in my view, primarily due to their approach. Swiss support in the water sector is manifested at every level of the sector: rural water supply and sanitation; improvement of water utilities performance, initially in southeast Kosovo and now across all seven Regional Water Companies; institutional support for integrated water resources management; civil society engagement; academic development; young professional empowerment and support to the highest political level, the IMWC. This holistic support to the sector allows for proper fine-tuning of the cooperation and coordination of the interventions.

Where do you see the role and transformative potential of the ongoing Swiss and Government of Kosovo IWRM-K Program?

For far too long, water resources have been the weakest link in the water sector, and the programme couldn't have come at a better time. With committed client, River Basin District Authority (RBDA) and other Ministry bodies, the Program is progressing quite well. Many previously ignored processes have been invigorated and there is concrete work being done – for example towards improving the planning and monitoring of water resources, deploying a fresh workforce to an understaffed client, initiating a Master's programme in IWRM, actively engaging stakeholders at basin level, and a lot more important activities to be concluded or planned, primarily the river basin management plans for the Ibri, Lepenc and Morava e Binçës basins. The programme has the potential to take the water resources sector to the next level over this phase and beyond.

Where would you wish to see Kosovo in the next ten years when it comes to water governance?

I'd like to see the water sector reforms completed so far – such as the Regional Water Companies, independent Water Services Regulator accountable to Parliament, and the institutional split between water resources and water services – maintained and strengthened. I'd like to see a full cadre of new professionals across the water bodies and the transformative and innovative dimension they would bring. I'd like to see the construction of Firaja and Kamenica dams, and a clear vision for other needs for dam development. I'd like to see water bodies in the Government – such as RBDA, the Kosovo Hydrometeorological Institute, the inspectorate, and the Institute of Public Health – having all the respect they deserve, and being fully staffed. I'd like to see the end of at least two incomprehensible problems: solid waste disposal in rivers and wild unregulated river exploitation. I'd like to see operational wastewater treatment plants established in all major settlements, and work starting in the ten next largest ones. Seeing these accomplishments would be a fulfillment of a life of good service.

New in-depth knowledge on
KOSOVO'S AVAILABLE WATER RESOURCES

Wanting to shed new light on the availability of water resources in space and time in Kosovo, the Integrated Water Resources Management Program supported a country-wide state-of-the-art water balance assessment. Targeting the four main basins (Ibër, Morava e Binçës, Drini i Bardhë, and Lepenci), the study provides the most up-to-date systematic knowledge on available water resources, and current and projected water stress levels, considering water use trends and the effects of climate change.

The water balance analysis was carried out through the application of various hydrological modelling platforms which convert the data inputs (e.g. rainfall, land-use, discharge, abstraction, storage) into multi-purpose outputs (e.g. available water resources, runoff). One of the key differences compared to earlier similar analyses was the 'thinking outside the box' approach when it came to addressing data gaps. The ability of the programme to fill in the major historical data gaps (e.g. climate data), makes the analyses far more relevant from a current water resource management point of view.

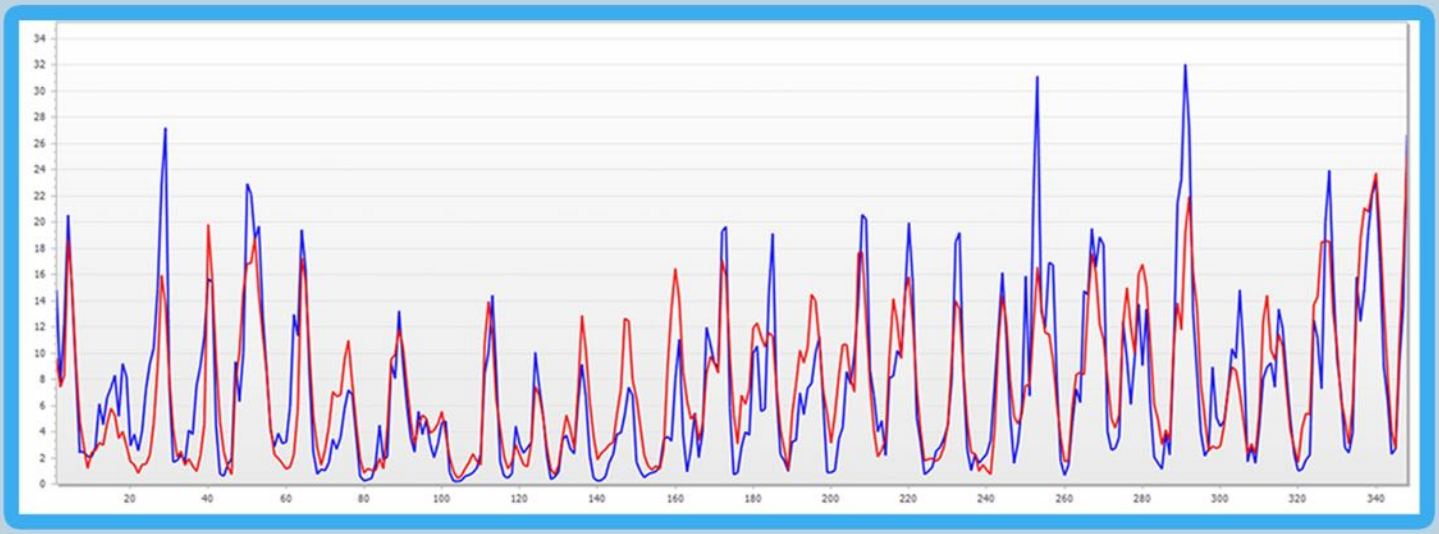
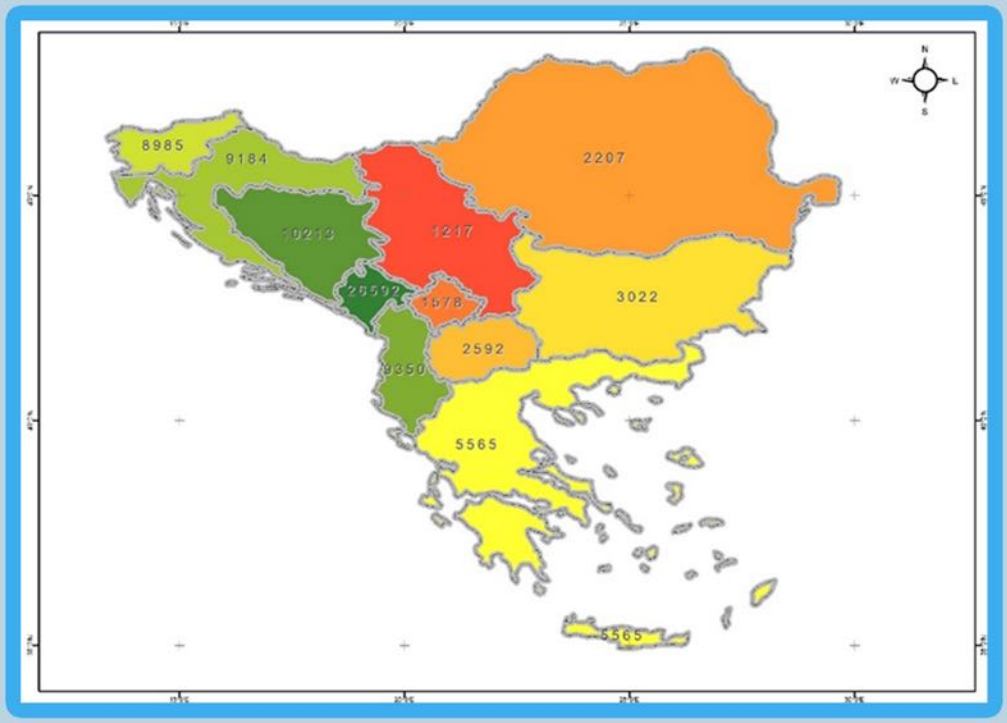


Figure 1. The high alignment between the modelled and observed hydrological data – evidence of the model accuracy (Lepenci River Basin)



Use of a long series of satellite-based climate data extending until the moment of the study, and accessing measured data from all neighbouring countries (e.g. on discharge of transboundary rivers), enable the models to capture ongoing trends and generate more reliable predictions for the future.

Figure 2. Kosovo's water stress levels in a regional context expressed through the Falkenmark Water Stress Index (available water in m3/capita/year)
(https://www.eea.europa.eu/data-and-maps/figures/annual-water-availability-per-person)

With less than 1,600 m^3 of water per capita per year, Kosovo faces considerable stress levels which are expected to increase under a business-as-usual scenario, i.e., if no appropriate measures are taken to better match the available and necessary water resources. The situation gains on complexity considering the in-country unevenness of water resource availability and the negative projected trends determined by the prevailing climate scenarios.

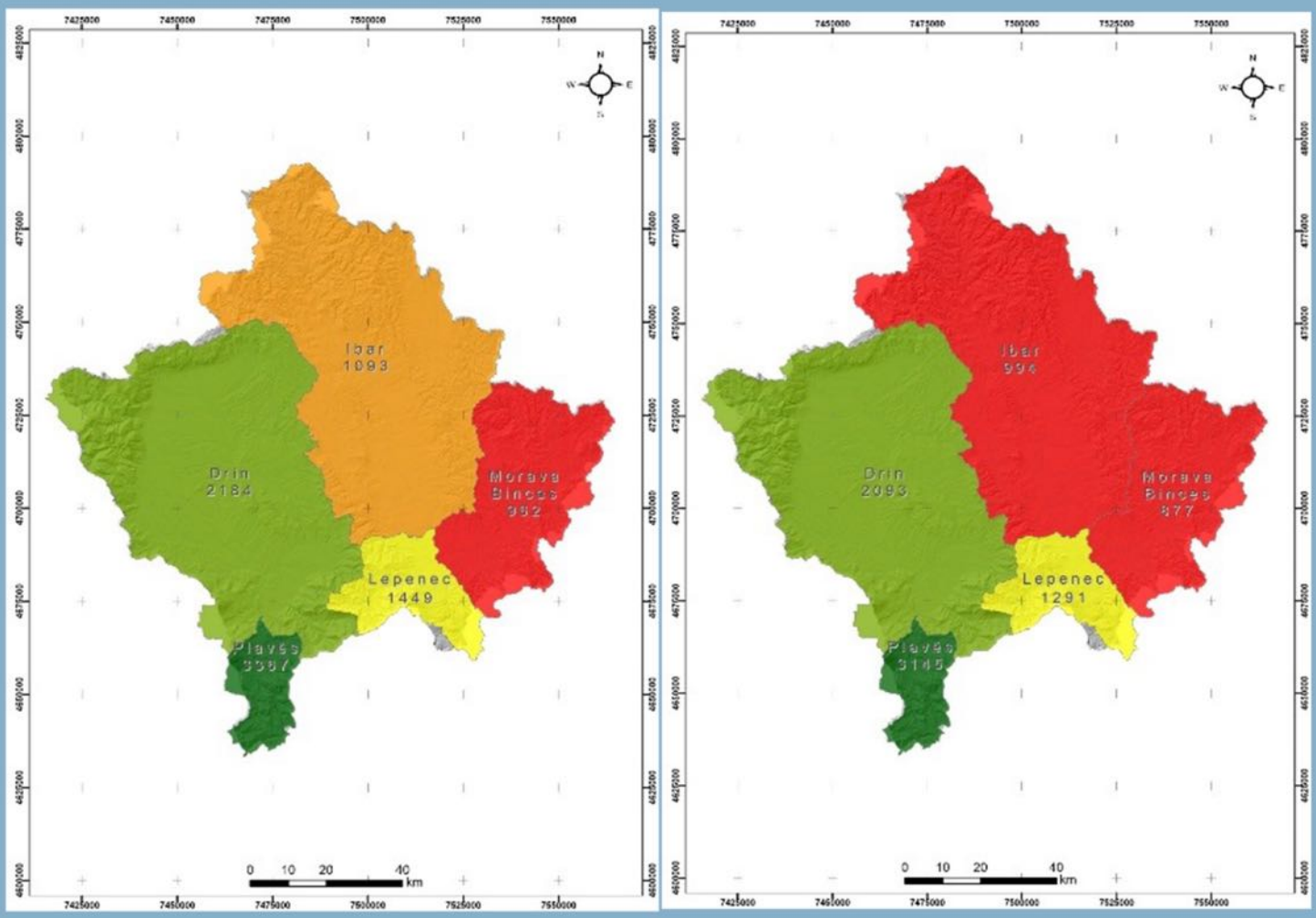


Figure 3. In-country asymmetry in the current vs. projected (years 2081-2100) water stress levels according to RCP8.5 (business-as-usual) climate scenario based on Falkenmark Water Stress Index

The study is already feeding into important planning documents (e.g. River Basin Management Plans) and other relevant projects. Recognising the power of the modelling platforms used, particularly the SWAT, the Program is currently upgrading them to simulate not just water, but also erosion and sediment transport processes, and pollutant loading to water bodies from a wide array of points and diffuse sources.

The upgraded models will then be used to simulate the effects of different management scenarios including land-based practices, structural practices, and pollution inputs. This will enable not only the programme, but most importantly the country's institutions, to take best decisions on targeted measures that will maximise water resource protection and efficiency of use.

The benefits for the country will depend on the extent to which the modelling is adopted by the authorities. The Program facilitates this by transferring databases and complete models together with targeted training on model application for Ministry of Environment, Spatial Planning and Infrastructure technical staff.

CIVIL SOCIETY ORGANISATIONS ARE SIGNIFICANT STAKEHOLDERS IN WATER GOVERNANCE IN KOSOVO

It is an opinion accepted worldwide that the government, the wider public, and civil society organisations (CSOs) should recognise common values, and accept common responsibilities including human resources for the achievement of common water management goals. Such cooperation maximises the strengths of all stakeholders.
Following this logic, the strengthening of the role of CSOs in water resources management is an essential part of Kosovo's Integrated Water Resources Management (IWRM) Program.

To fulfil this task, the Program has launched a Grant Scheme for CSOs offering grants supporting initiatives aligned with IWRM principles and approaches.The grant scheme will be implemented in parallel to, and in combination with, a variety of Program-backed planning, capacity-building, and pilot initiatives. The grant scheme will focus on objectives such as:

Conceptualised in this way, the Grant Scheme for CSOs aims to achieve high relevance, effectiveness, and efficiency as key preconditions for the desired impacts and sustainability of results.

The Program expectations are that CSOs – especially environmental organisations – will show creativity and provide innovative ideas in their proposals including targeting water resources management at the local level, community mobilisation and awareness-raising, social inclusion and gender mainstreaming, and sustainable development.

UPGRADING WATER MONITORING IN KOSOVO

With the state of the climate in the last two decades in the world and Kosovo, we have seen that available information and processed data are crucial for effective responses to weather conditions and the management and rational use of water resources. In such a situation, the establishment and continued operation of hydrometeorological services is essential in management processes. The Hydrometeorological Institute of Kosovo (HMIK) is important to all citizens of the Republic of Kosovo for human life, water resources, and environmental protection.

The HMIK is making important progress in strengthening monitoring capacities across the country. For example, as part of Kosovo's Integrated Water Resources Management Program (IWRM-K), HMIK staff have mastered analytical methods for the detection of organic pollutants in water samples. Sophisticated equipment available at HMIK is now in use for the benefit of water resources management.

In addition, the IWRM-K Program provided state-of-the-art hydrological monitoring equipment (an acoustic Doppler current profiler) to measure the discharge in ungauged rivers and streams. Data generated by the equipment will help in better decision-making regarding future water use and flood risk mitigation. HMIK staff attended training on the use of the equipment by SEBA Hydrometrie GmbH & Co. KG from Germany.

NEW KNOWLEDGE FOR BETTER WATER RESOURCE MANAGEMENT

Acknowledging the importance of investing in Young Water Professionals (YWPs), the International Water Association notes that:

"YWPs provide a window to the future, and with their active involvement and support we can incorporate their priorities into our current practice."

"Working together with YWPs not only decreases your workload but also forces you to rethink and discuss your ideas with someone with a different approach, which is inherently valuable."

It is certainly great news that Kosovo's Young Water Professionals (YWP-K) are showing enthusiasm in absorbing new technical knowledge and developing their organisation. As part of the consolidation efforts supported by Kosovo's Integrated Water Resources Management (IWRM) Program, YWP-K now have a new strategy and work plan, internal regulations, an information management system and communication plan along with a new corporate identity. YWP-K's old and new members are also already using the new knowledge from their training and coaching on leadership, emotional intelligence, self-assessment, self-motivation, and teamwork.

Some reflections from YWP-K members:

"The knowledge we gained is helping us to increase our professional capacity, and to build a platform as water professionals, acting as an innovation catalyst." (Albert Salltakaj)

"As a wastewater technologist, I gain new knowledge and experience from the YWP-K, but I have also been given space to encourage others to think more about wastewater treatment." (Ylberinë Baliu)

"As a core engineer of the Hidroregjioni Jugor Regional Water Company, I can easily share my experience with the YWP group, but the knowledge I have gained here is also something I can apply in the water company." (Besar Grazhda)

Ten certified trainers will spread their new IWRM knowledge across Kosovo

An important part of water resources management knowledge building is the training programme on IWRM (TP-IWRM). Following the successful completion of the intense training of trainers programme in cooperation with the Kosovo Institute for Public Administration, Kosovo now has 10 certified IWRM trainers who are ready to share the most up-to-date water management knowledge among diverse stakeholder groups.

PARTNERING WITH INDUSTRIAL OPERATORS TO REDUCE INDUSTRIAL POLLUTION

The stress levels on water resources in Kosovo are expected to grow in the future in light of the climate crisis and the increased water demand for agriculture, industrial operations, mining and urban centres. Recent assessments show that industries and industrial sites around the world continue to be among the major contributors to water pollution, and Kosovo is no exception to this. To catalyse the adoption of best available technologies in reducing industrial pollution, Kosovo's Integrated Water Resources Management Program (IWRM-K) is partnering with environmentally and socially responsible industrial operators.

Through application of modern technologies, the selected operators are being supported to reduce polluting discharges to the environment. The main measures involve methods helping reduce raw material and energy use, increasing waste recycling and reuse, introducing new products from potential waste materials, promoting the use of cleaner technologies to reduce pollution at source, and introducing wastewater and solid waste management solutions.

In the first cycle of the IWRM-K grants scheme, the Program partnered with three well-known food processing operators (two dairy and one meat processing). Following the positive experience so far, at least three more industrial operators will receive such support, providing examples that can be followed by other operators and projects in the future.

WOMEN AND DECISION-MAKING
in Water Resources Management

Significant landmarks in establishing gender equality in the management of water resources were undoubtedly the Dublin Conference on Water (1992) and the Summit in Rio de Janeiro on Sustainable Development (Global Water Partnership, 2000), where the frameworks of Integrated Water Resources Management were defined. Of the four principles of the Dublin Conference, Dublin Principle III defines the important role that women play in the provision, management and conservation of water. However, even after three decades, the world is still far from achieving proportional decision-making and gender equality in the water sector. The challenges that women face in relation to water management are now exacerbated by the consequences of climate change with particular emphasis on droughts and floods.

Although it is widely accepted that women play a key role in collecting and storing water for domestic and agricultural use, still, their role is minimal in the process of decision-making, management and analysis of problems related to water resources. According to a study by UN Women which was based on data from 61 countries, in 80% of households deprived of basic water needs, women and girls carry the burden of water collection.

There is therefore a need for effective gender integration in water governance and the inclusion of women in water decision-making roles, because women not only have relevant experience but also have a deep understanding of water. The knowledge gained by women can be essential in efficient water management at all decision-making levels and the spectrum of activities through which women can participate in Integrated Water Resources Management should be gradually expanded.

Applying a gender perspective to the development and management of water is also essential when targeting sustainable development in the social, environmental, and economic context. This is best reflected in the final statement of the 2001 Inter-ministerial Conference on Fresh Water in Bonn, which states that, "Both men and women should be involved and have an equal voice in managing the sustainable use of water resources and benefit-sharing."*

**UN WOMEN. GENDER EQUALITY IN THE 2030 AGENDA: GENDER RESPONSIVE WATER AND SANITATION SYSTEMS ISSUE BRIEF. 2018*

#SOCIALMEDIAPOSTS

If we don't act now, worsening droughts & storms in some of the world's largest economies could cause US $5.6 trillion in losses to the global economy by 2050. Read how climate adaptation can reverse this.

More from @SarojJha001: http://wrld.bg/y7cQ50LIB4u @TheGwsp #gwsp2022

Water can fight climate change.

Sustainable water management is central to building the resilience of societies and ecosystems and to reducing carbon emissions.

Innovative financing for water resource management will be needed to help attract investment, create jobs, and support governments in fulfilling their water and climate goals.

#NowReading: https://buff.ly/3ED2WgK #WaterFacts on climate: https://buff.ly/3SDcqwg

This NEWSLETTER

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