STAKEHOLDER CONSULTATIONS:
WATER SECURITY DIAGNOSTICS

Water Security is about building a water secure future for humans, the economy and the environment in the face of global, regional and local changes. Extending the scope of previous analytical work like the Danube Water Program State of the Sector Reports, efforts to develop Water Security Diagnostics for the Danube region are ongoing, examining water sector architecture, performance, endowment and outcomes.

Supported by a consortium around the International Institute for Applied System Analysis (IIASA), this research takes a broad approach to identify and investigate key issues that the sector has to address to achieve a resilient and water secure Danube region at national and regional level.

Water Security Diagnostics Research Consortium member Mr. Eduard Interwies, of InterSus Sustainability Services led, this discussion format aiming to raise questions and gain participants' feedback on key water security issues in the Danube region, gathering input for the further development and honing of the water security diagnostic tools under development.

Water Security in the Danube region

Mr. Raimund Maier, senior water resource management specialist and Task Team Leader for the Danube Water Program, gave an ignite talk highlighting the socio-economic framework and background issues relating to water security in the Danube region.

Mr. Maier started with an overview of the region, indeed the world's most international river basin, with hugely diverse landscapes and significant differences in water resources, climate, political situations and socio-economic circumstances: Some countries in the region produce the highest GDP per capita in Europe, others the lowest. A significant share of the population - about 1.7% region-wide - lives below the poverty line of 2.5 U.S. dollars per day. Continuous population decline has slowed down in recent years, but is, nevertheless, ongoing. About 63% of the region's population live in urban areas, and most rural areas are depopulating. In some cases, cities in remote locations now run oversized infrastructures for shrunk and still shrinking populations. Challenges in access to water services are most pronounced in rural areas that depend on agriculture as their main income source and are undergoing a, sometimes stressful, structural transformation during of EU accession processes.

Mr. Maier names EU accession and integration as a key driver for water sector development and policies in the region. Specific EU legislation drives and governs the water sector, prominent among those the EU Water Framework Directive, Flood Directive, Drinking Water Directive and Wastewater Treatment Directive. EU member states are striving for compliance.

Candidate and potential candidate countries are committed to harmonization of their national legislative frameworks. Consequently, there are significant policy reform, capacity building and investment needs for EU approximation and for reaching compliance of EU member states with regard to the EU directives.

Regarding the water supply and sanitation, a still present gap in access to piped water is slowly closing, and access to piped water supply in the region has recently risen to 85%. However, in the less populated parts of the region, further improvement remains a challenge. With regard to sanitation services, it is noteworthy that only five countries in the region can provide more than 70% of their population with safely managed sanitation services, some countries manage less than 25%, and altogether, some 60% of the Danube region's population are connected to sewer networks. Significant investment in wastewater have been made in longstanding EU member states, some recently joined members and candidate countries face under-investment challenges and difficulties to comply with the Wastewater Directive.

Furthermore, while the Danube region is relatively rich in water resources, those are not evenly spread, and significant differences exist among individual parts of the basin. While no country of the Danube region is considered water scarce, some are water stressed or close to water scarcity, including the Czech Republic, Kosovo, Bulgaria, Macedonia and others whose water resources per capita are far below the regional average.

With regard to climate change, Mr. Maier points out that precipitation totals are expected to decrease in parts of the basin, specifically in the Southeast. Droughts are increasingly an issue, with quite a pronounced seasonality between summer precipitation and winter precipitation. Although overall annual mean precipitation levels may remain unchanged, changes in seasonality can produce prolonged droughts, while at the same time increasing temperatures may trigger additional water demand.

The introduction of integrated flood risk management in the region is mainly driven by the EU Flood Directive. Joint implementation efforts are ongoing, with EU member states teaming up with non-EU member states, strengthening a region-wide holistic flood-risk management approach. While there are data gaps in some countries, the EU Floods Directive is now the commonly accepted framework for flood-risk management, followed by EU member states as well as candidate and associated countries.

Regarding waterbodies status quality and biodiversity aspects, Mr. Maier describes the need to balance anthropogenic water use-related pressures against the necessity to protect healthy aquatic ecosystems. The main driving force here is again the EU Framework Directive, and the Nature Directives. They trigger significant investment needs to, for instance, address point source pollution and diffuse pollution sources stemming from agriculture and hydromorphological alterations. Further investments will be necessary to restore river systems. The Water Framework Directive has set a challenging 2027 deadline, and there are still numerous gaps in monitoring, where full data and information should become available as soon as possible.

Water security has both a national and an international dimension. Consequently, the ICPDR has highlighted several issues that need to be addressed on a basin-wide level. This includes joint pollution reduction measures, hydromorphological alterations, and the new topic of climate change effects like droughts, water scarcity and extreme hydrological events, which will all be addressed in the New River Basin Management Plan. While the more traditional theme of flood risk management is the theme of the Floods Directive, other ongoing basin-wide integration efforts cover inland navigation, hydropower, agriculture and climate change. Additionally, the

river basin organizations tackle not only coordination, but also, to some extent, transboundary capacity building. Implementation of the measures is largely subject to national level management, and investment programs are in place in order to support implementation.

Asking how to best implement necessary measures, Mr. Maier quotes a simplified theory of change which helps to define what an intervention is trying to achieve and how to achieve it: Step one is identifying the problem. For instance, proper information on the effects of pollution on health or threatened species, and sectorial information on the impact and relevance of water for sectors like agriculture and energy will help to clarify the desired outcomes like, e.g., good status for waterbodies, access to water services and safe water supplies for humans, food security etc.

Additional factors are projections on economic development and the related additional pressures on water resources, consumption patterns, and, of course, assumptions about the effects of climate change which figure prominently in water management approaches in the region. Consequently, there is need for an integrated approach to accommodate different sectorial needs by matching infrastructure development plans with ecological objectives. Integrating all these aspects requires a strong institutional framework, capable of integrated water resource management and planning.

Step two is defining the necessary intervention and the goal it has to achieve. This covers the desired outcomes and outputs, and the necessary activities and inputs to reach them, including budgets and staff availability to do ensure the necessary output.

However, when designing measures for policy interventions, it can be helpful to think from the end towards the start, first defining the outcomes in a broader context, including individual sectorial needs, and then defining the desired outcomes and the outputs they demand. How many wastewater treatment plants do we need? Will there be demand for irrigation systems in the agricultural sector? Do we need to strengthen institutions and set up specific funding instruments to create the output and reach the outcome? Assessments of specific activities are necessary to achieve this. For instance, delivering training, establishing funding instruments and finally allocating the budget and the staff in order to get these activities on track.

Finally, Mr. Maier outlined the Water Security Diagnostics Framework of the World Bank. It looks into water security outcomes in a broader context, including economic, social and environmental outcomes, followed by an assessment of the water endowment and the specific entry points for actions like infrastructure, strengthening institutions, governance approaches, and the financing of measures. It also includes assessments of water sector performance and future trajectories, leading to recommendations on how to strengthen approaches to water resource management and which actions are necessary to achieve certain outcomes. Consequently, the Danube Water Security Diagnostics launched in 2021 as part of the Danube Water Program. Its focus is on broad sectoral analysis building on existing work, pointing out key water management issues in the region, in a format that is digestible for non-water experts, which supports discussions with countries on reform and investment needs. Following a broad analysis, there will be more in-depth country-specific analysis and profiles and the development of a regional narrative, providing country benchmarking but also pointing out regional issues that need to be addressed and taken into account in national management approaches.

Engaging the audience – an open discussion

After Mr. Maier's presentation, a poll started. The first question was an audience survey, showing that research institutions and consultancy had the highest shares of participants, with

each at 27%, followed by international organizations/donors at 18%, while water management authorities and NGOs tied at 9% each. Interestingly, there were no participants from the water utility sector.

Next, ranking the most pressing present and future Danube-wide water security challenges, adaptation to climate change came up first, followed by resilience against floods and resilience against droughts. Water and agriculture ranked fourth and biodiversity fifth, wastewater and sanitation sixth and water and energy wound up seventh. Water supply and navigation ranked lowest respectively. Adaptation to climate change touches all other issues as an overarching umbrella of all issues in the Danube region.

Asked what should be improved and what can be done to face the challenges at national level, die audience ranked political support was first. Financing and intersectoral coordination came up second and third respectively. Legal framework ranked fifth, reflecting the clarity of the legal framework in the Danube region, particularly when it comes to the implementation of the Water Framework Directive, the Floods Directive and other relevant EU legislation. However, with the 2027 deadline looming, the challenges are pressing. For example, more than 400 fish migration aids should be in place by 2027, but only 120 have been built during the last 12 years due to lack of financing. A future expansion of the existing supporting programs will be necessary.

The final question asked what would help to face the present challenges at transboundary level. Intersectoral cooperation at transboundary level emerged as the first priority here, followed by improved coordination/ cooperation, third was coordination of water related economic development programs, followed by cost effective financing at basin level, and strengthening the international institutions and legal frameworks respectively.

In conclusion, it emerged that in the prioritization of measures, a holistic approach is necessary. In addition, financing options should ensure that there is political will not to finance counterproductive developments.