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Solutions and investments in the water-food-energy-ecosystems nexus

A synthesis of experiences in transboundary basins

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SOLUTIONS AND INVESTMENTS IN THE WATER-FOOD-ENERGY-ECOSYSTEMS NEXUS: A SYNTHESIS OF EXPERIENCES IN TRANSBOUNDARY BASINS

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FOREWORD

Understanding the interlinkages between food and energy production, water and the ecosystems improves the capacity to anticipate and minimize negative trade-offs and opens cross-sectoral cooperation opportunities at national and transnational levels in transboundary basins. This is the essence of the nexus approach which serves to reconcile the multiple uses of these resources and to reduce related tensions.

Work on the water-energy-food-ecosystems nexus under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) started in 2013, with the development of a methodology to analyse cross-sectoral linkages – essentially resource management trade-offs and synergies — in transboundary settings in order to facilitate cooperation. The Task Force on the Water-Food-Energy-Ecosystems Nexus was established to guide application of this methodology.

The methodology has since been used in close cooperation with national administrations to assess six transboundary river basins and one shared aquifer, leading to the establishment of partnerships promoting cross-sectoral, transboundary cooperation in different contexts.

As transboundary nexus dialogues and assessments have the potential to provide concrete solutions and extend investments, it is timely to take stock of the experience accumulated so far in countries and basins around the world. The analysis presented in this publication draws on 36 nexus case studies from specific basins in Europe, Asia, Africa and the Americas. The findings demonstrate the added value of this form of cooperation, highlighting implementation challenges and providing possibilities for future development.

The publication also provides important policy considerations related to the financing of cross-sectoral investments, and addresses managers and policymakers in the fields of water and the environment, energy and agriculture, finance and the economy, as well as actors engaged in transboundary water cooperation and conflict prevention.

As this publication shows, transboundary and regional cooperation play a crucial role in the development of solutions and investments, building on existing synergies in natural resources, improving the coherence and effectiveness of cross-sectoral policy action, especially in relation to climate and the environment, and providing multiple benefits such as increased quality and sustainability in accessing water and energy. Actual implementation of these solutions and investments also requires effective cross-sectoral cooperation in and across other scales – urban and local, sub-national and national, and global.

Multi-level coordination and cooperation is essential to implementing the Agenda 2030 for Sustainable Development and to addressing global challenges related to climate change, widespread ecosystem loss and increased resource insecurity, and to manage the impact that these have on the socio-economic, health and environmental conditions on the ground.

The United Nations Economic Commission for Europe (ECE) promotes the application of the nexus approach to cooperation at different levels through relevant tools and instruments such as Conventions and standards. The work of the ECE Nexus Cluster on the "sustainable management of natural resources" supports countries in the design and implementation of integrated policies that address current and future challenges.

Finland, which leads the Convention's work on the water-energy-food-ecosystems nexus, is able to draw on perspectives linked to its unique resource base in order to apply integrated approaches to managing natural resources and promote nexus thinking. It is our hope that this publication will inspire the development and implementation of a greater number of cooperative solutions and joint nexus investments in transboundary basins around the world.

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[1] UN Security Council Resolution 1244

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