UNECE

Methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins and experiences from its application: synthesis





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Foreword

Back in 2013, ECE was spearheading the debate on the water-food-energy nexus at the transboundary level. The work on the nexus under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) started with the development of a methodology for assessing intersectoral links, trade-offs and benefits in managing transboundary basins by cooperating across borders and sectors.

After six years of assessment work in seven transboundary basins, a wealth of lessons has been drawn about facilitating intersectoral transboundary dialogues. The methodology has evolved into a flexible, generic and open framework that adapts to the context and issues at stake, applies fit-for-purpose tools, and is continuously enriched also by the methods and experience of partners in the assessments. In the framework of the Convention's Task Force on Water-Food-Energy-Ecosystems, under the leadership of Finland, close to 300 officials, stakeholders and experts contributed to shaping the assessment exercise, either in specific basins or at the global level.

This publication presents the consolidated methodology which was improved upon application over the years. Moreover, it describes in some detail the assessment methodology's application in order to facilitate its further use and development.

These participatory assessments of transboundary basins and aquifers went through a process of jointly identifying intersectoral resource management issues and then proposing more sustainable and collaborative ways of development and stewardship of the respective basin's water, energy, land and environmental resources which reconcile different interests. The findings demonstrate the value of an integrated approach to development, and these insights are particularly relevant for the achievement of the 2030 Agenda for Sustainable Development as the interdependencies between the Sustainable Development Goals need to be taken into account when devising implementation policies and measures.

It is urgent to support practical measures to rationalize resource use, improve sustainability and reduce transboundary impacts. However, the synthesis lays out a number of obstacles in the way of more integrated and collaborative management. To start with, national and sectoral interests are difficult to overcome. Capacities of national administration is often lacking and matters of coordination are often not given priority.

A key enabling factor for a range of solutions to effectively address the nexus challenges is in fact good governance, including more coherent policies between water and land management, energy sector, climate policy and environment protection. For realizing potential benefits from the jointly identified actions, cross-sectoral and cross-border cooperation is key. While awareness about opportunities is a start, political commitment and concrete response actions will be decisive for further progress.

ECE, with its tools and instruments, standard-setting and convening power, will continue to assist the countries of the region in tackling the nexus with a regional perspective. It is at the regional or transboundary levels where various benefits from applying a nexus approach can be best reaped.

Olga Algayerova Executive Secretary United Nations Economic Commission for Europe

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The various contributors are acknowledged in the respective basin assessment reports and in the publication *Reconciling resource uses in transboundary basins: assessment of the water-food-energy-ecosystems nexus* (United Nations, 2015), all available from http://www.unece.org/env/water/publications/pub.html.

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Abbreviations

LIST OF COUNTRY CODES

AZ	Azerbaijan
BA	Bosnia and Herzegovina
DZ	Algeria
GE	Georgia
HR	Croatia
П	Italy
KG	Kyrgyzstan
KZ	Kazakhstan
LY	Libya
ME	Montenegro
RS	Serbia
SI	Slovenia
IJ	Tajikistan
TN	Tunisia
UZ	Uzbekistan

ACRONYMS AND ABBREVIATIONS

CAREC	Regional Environmental Centre for Central Asia
CBD	Convention on Biological Diversity
CLEWs	Climate, Land-use, Energy and Water strategies
ECE	United Nations Economic Commission for Europe
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
EIA	Environmental Impact Assessment
ESCWA	United Nations Economic and Social Commission for Western Asia

ICPDR	International Commission for the Protection of the Danube River
ICSU	International Council for Science
IRENA	International Renewable Energy Agency
ISRBC	International Sava River Basin Commission
IUCN	International Union for the Conservation of Nature
IWA	International Water Association
IW: LEARN	International Waters: Learning Exchange and Resources Network
IWRM	Integrated Water Resources Management
JRC	Joint Research Centre, European Commission
KTH	Royal Institute of Technology, Stockholm
MENA	Middle East and North Africa
NDP	National Policy Dialogue
NGO	Non-governmental organizaiton
NWSAS	North-West Sahara Aquifer System
OECD	Organisation for Economic Co-operation and Development
OnSSET	Open Source Spatial Electrification Tool
OSCE	Organization for Security and Co-operation in Europe
OSS	Sahara and Sahel Observatory
RE	Renewable energy
RG	Revised Governance
RND	Regional Nexus Dialogue
SEA	Strategic Environmental Assessment
SDG	Sustainable Development Goal
SPECA	Special Programme for the Economies of Central Asia
TBNA	Transboundary Basin Nexus Assessment
UNU	United Nations University

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