

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

A nexus approach to transboundary cooperation

The experience of the Water Convention



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More information about the nexus assessments under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention): <http://www.unece.org/env/water/nexus.html>

The key references from ECE:

Methodology for Assessing the Water-Food-Energy-Ecosystems Nexus in Transboundary Basins and Experiences from its Application: Synthesis (United Nations, 2018)

Reconciling Resource Uses in Transboundary Basins: Assessment of the Water-Food-Energy-Ecosystems Nexus (United Nations, 2015)

Policy Guidance Note on the Benefits of Transboundary Water Cooperation (United Nations, 2015)

All publications are available from <http://www.unece.org/env/water/publications/pub.html>

Why a “water-energy-food-ecosystems” nexus approach to foster transboundary cooperation?

Every transboundary river basin or aquifer presents specific management-related challenges, and making a coordinated response to various pressures is beyond the means of water management alone. For example, among the intersectoral challenges that call for coordinated solutions across sectors and borders are: flooding and sedimentation, water scarcity and pollution, unsustainable land use and agricultural practices, suboptimal use of existing infrastructure and impacts of new infrastructure, inefficient use of resources, and degradation of ecosystems and their services. Various drivers of change, economic strategies and sectoral policies result in pressures and impacts on water resources, and water management does not always have an influence on such factors.

A “nexus approach” to managing interlinked resources has become recognized for its potential to enhance the closely interlinked aspects of water, energy and food security by increasing efficiency, reducing trade-offs, building synergies and improving governance, while also protecting ecosystems. A common ground for compromise needs to be found to effectively address trade-offs between development and environment protection, and also between diverging interests of riparian countries and economic sectors. At the same time, applying a nexus approach can bring mutual benefits between energy and water efficiency, and also helps to establish coherence between sectoral policies. With a better understanding of the benefits for different sectors and the implications of sectoral developments for water resources, nexus considerations also provide a more solid basis for equitable water allocation between various uses in watercourse-sharing countries.

Recognizing the need to strike a balance be-

tween different sectoral objectives, the international community explicitly calls for taking a nexus approach to implement the Sustainable Development Goals (SDGs). In taking such an approach, cooperation in the management of natural resources is essential. The 2030 Agenda for Sustainable Development, adopted by the Member States of the United Nations in 2015, includes several goals (17) and a multitude of targets (169). In line with the spirit of the 2030 Agenda, these targets are highly ambitious, and many of them – notably those related to water and sanitation (SDG 6), food security (SDG 2), sustainable energy (SDG 7) and environmental protection (SDG 15) – draw from a common pool of natural resources that are globally finite, and sometimes locally scarce. Achieving all the SDGs simultaneously means reconciling different interests and taking into account these interdependencies when devising the implementation of sectoral policies and measures. Policymakers (and national authorities in particular) are therefore called to take a more sustainable and collaborative approach to resource management and then, crucially, to translate this collaboration into concrete actions.

At present, policymakers around the world face common challenges: improving coherence between sectoral policies, balancing economic growth with environment and climate action, and using resources more efficiently. In order to manage natural resources more responsibly and sustainably, Governments need to gain greater understanding – and control – of the dynamics linking policy decisions at different levels (basin, local, regional, national). What, for example, is the impact of a national strategy on climate change mitigation on river basin management planning? Are there trade-offs and synergies to be discussed? And if so, through which

mechanisms? Although integrated resource management approaches are not new, and many have become well established (e.g. Integrated Water Resources Management (IWRM) at the river-basin level), a nexus approach aims at taking integration a step further by promoting dialogue between different resource management fields, and across scales, in strategic policymaking and planning.

Nexus dynamics are particularly complex in transboundary basins because intersectoral impacts can traverse borders, and governing such complexity requires international cooperation. In fact, it was precisely an awareness – underpinned by evidence from regional assessments on transboundary waters – of the adverse effects of low policy coherence across sectors and countries that lay behind the decision of the Parties to the Water Convention in 2012 to look into assessing nexus issues. The Water-Energy-Food-Ecosystems Nexus approach applied under the Water Convention reflects, on the one hand, the mandate of the Water Convention to control and reduce transboundary impacts, to use transboundary waters in reasonable and equitable ways, and to ensure their sustainable management; and, on the other, the prominent role of the energy and agricultural sectors among large water users and other impact sources.

The Water-Food-Energy-Ecosystems Nexus approach applied under the Water Convention reflects a variety of perspectives from different sectors. The water sector, however, has played a prominent role in the development of a nexus approach from the beginning: this is mostly a response to the need to capture the multiplicity of drivers and pressures on one single resource, namely water. A greater awareness of nexus dynamics has evolved over time, thanks to the leading efforts of several international agencies. Highlighted efforts within the energy community include the work of the International Renewable Energy Agency (IRENA) on the im-

pact of renewables on water and land resources, and that of the International Energy Agency (IEA) on the interdependencies between energy and water utilities. In agriculture, the Food and Agricultural Organization of the United Nations (FAO) has provided technical support to set up “nexus-sensitive” policies. Furthermore, leading environmental organizations such as the International Union of Conservation of Nature (IUCN) and the World Wide Fund for Nature (WWF) have contributed shared perspectives on the nexus, namely: environmental resilience is a function of sustainability, and a nexus approach can help in taking better account of environmental needs when planning for socioeconomic development.

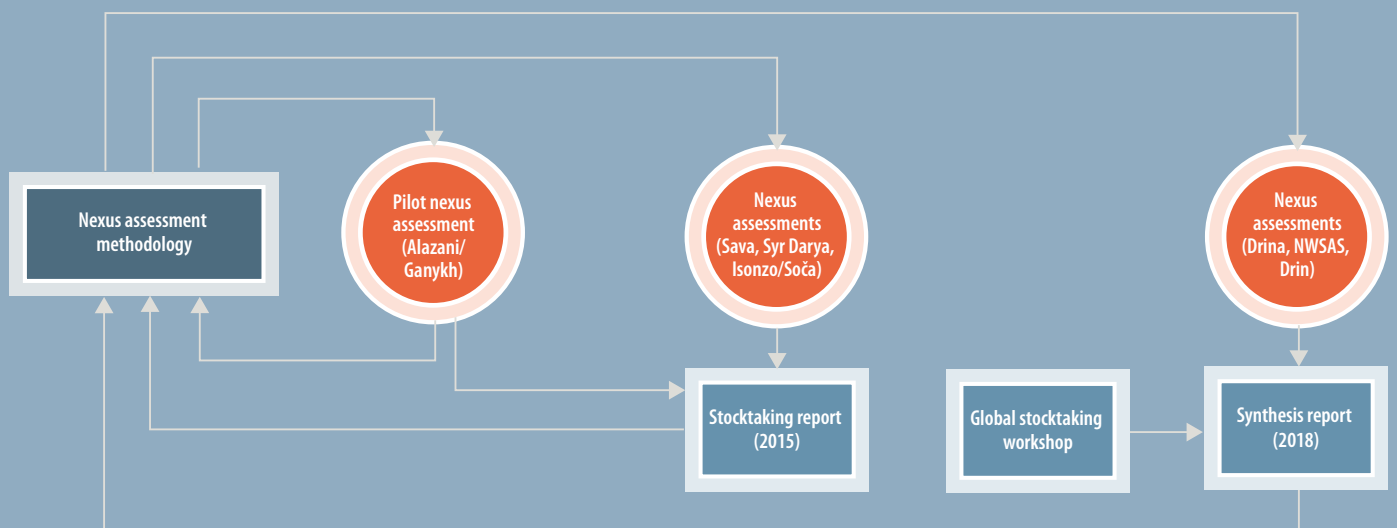
Reflecting the specificities of the nexus in transboundary basins, the main objective of the work on the nexus carried out under the Water Convention is to foster cooperation. In practice, this means supporting joint identification of synergies and actions that can reduce tensions related to the multiple needs for common resources; it also means assisting countries in optimizing resource use and in building capacities to address intersectoral and transboundary impacts. Water Convention work on the nexus thus far includes: the development and piloting of a methodology for participatory assessment of the nexus in transboundary basins (hereafter simply referred to as “the methodology”); a series of demand-driven basin assessments in close cooperation with the Governments of riparian countries; the facilitation of or contributing to national-level and regional-level dialogue; the dissemination of findings and experience from the assessments; and general advocacy for cooperation to address intersectoral issues in transboundary basins. It is the Task Force on the Water-Food-Energy-Ecosystems Nexus under the Water Convention that provides a devoted platform with a focus on transboundary settings for Governments who want to exchange experience on identifying, assessing and responding to complex intersectoral issues.

The “transboundary basin nexus assessment” methodology

The development of the methodology was iterative, involved a great deal of learning by doing, and resulted in a flexible, adaptable framework. The first version of the methodology was developed between 2013 and 2015, with key expert input from the Royal Institute of Technology (KTH, Stockholm), and informed by feedback from its first applications in a set of representative transboundary basins in Southern Europe, the Caucasus, and Central Asia. From 2016 to the present, the methodology has been further refined, taking into account additional assessments (including the first aquifer, in North Africa), and with increasingly multidisciplinary input (see figure 1). In the course of conducting all of the basin assessment processes, close to 300 officials, experts, and other key stakeholders have contributed to shaping the methodology, whether directly or indirectly. Notably, each basin case has required some degree of adaptation, which effectively demonstrates the evolution of a flexible and adjustable framework.

The nexus assessment of a basin is a highly participatory process that builds upon a frequent exchange of information between the analysts carrying out the assessment and the stakeholders involved in the process. There is also a great variety of input (including opinions from different sectors and countries) to be collected, processed, analysed and discussed during the assessment. The ultimate goal of this participatory process is to generate a broad range of solutions and actions in response to pressing issues shared in common that are jointly identified by a representative group of stakeholders from key sectors in all riparians (see figure 2). Workshops are the backbone of the participatory process: they provide venues for direct consultation and – most importantly – intersectoral, transboundary dialogue. The workshops are explicitly designed to allow voices to be heard from all concerned sectors, to facilitate stakeholder dialogue, and to discuss possible solutions and associated benefits, informed by analysis.

FIGURE 1
The iterative process of development of the methodology.



For the analyst, a transboundary basin nexus assessment consists of six consecutive steps. Starting from a broad understanding of the overall socioeconomic context of the basin, the riparians and the surrounding region, the assessment zooms in on the analysis of specific intersectoral issues of relevance. The first part of the assessment is basically diagnostic and is largely based on desk work (with limited input and guidance from local authorities and focal points, as needed); the second part, which delves into priority issues, requires a higher level of stakeholder engagement (see figure 3).

Participatory methods provide for consultation of authorities and key stakeholders at crucial moments of the assessment process. In fact, the effectiveness of participation can be a decisive factor in ensuring the relevance of conclusions and the uptake of findings. Key participatory methods used in the methodology are: stakeholder mapping of key sectors and actors (also to inform the selection of participants in the assessment); factual questionnaires to gather preliminary information; opinion-based questionnaires to reveal different views; brainstorming exercises to identify nexus issues; and a nexus dialogue to develop a shared understanding.

The analytical work builds on two fully complementary tracks: the technical analysis and the governance analysis. The first track is a technical assessment of natural resources in terms of their availability and quality, and considers the evolution of their multiple uses in terms of demands and impacts. The aim of second track, the governance analysis, is to understand how rules and actors determine the management of these resources. In-depth governance assessments include the consideration of organizations and other actors, the legal and regulatory basis, and relevant policies related to the key sectors. The scope includes considering different scales and cycles of decision-making, institutional arrangements and governance culture.

The methodology enables stakeholders to jointly map positive linkages (synergies) and negative linkages (trade-offs, impacts) between sectors, with the possibility to account for future changes. Working with officials and experts from the concerned sectors and countries, linkages are identified and mapped in a qualitative way and in a participatory manner (see figure 4). It is crucial that the perspectives of all key sectors are brought to the table: to this end, a brainstorming exercise in

FIGURE 2
The participatory process of the methodology

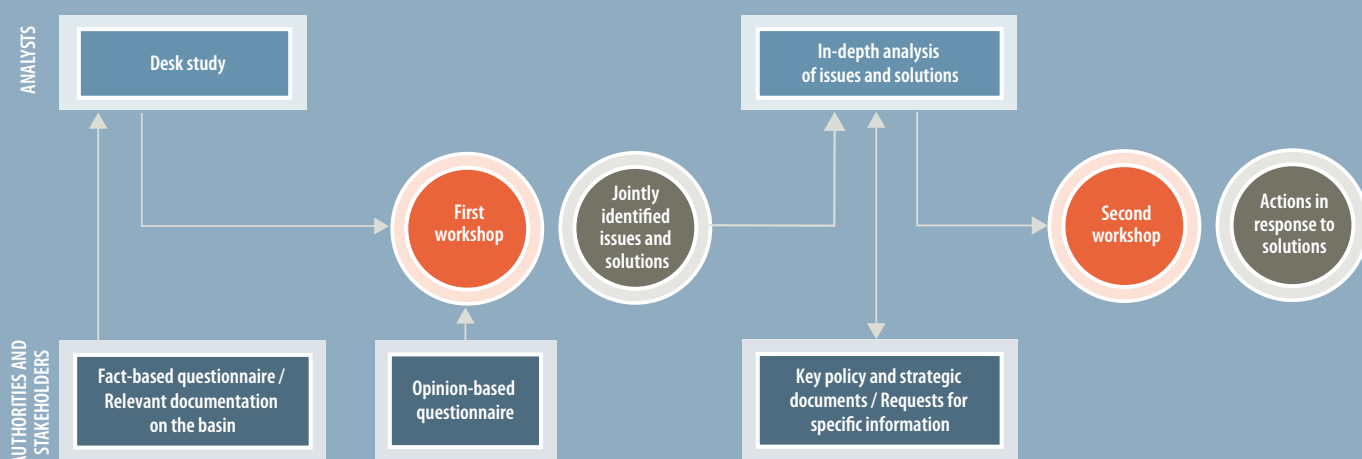
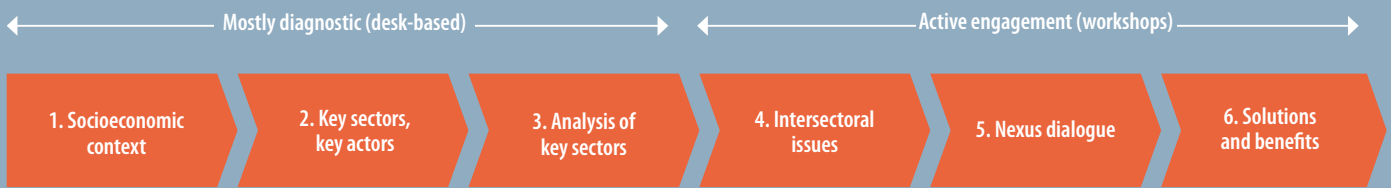


FIGURE 3

The six steps of the nexus assessment of a transboundary basin in the methodology



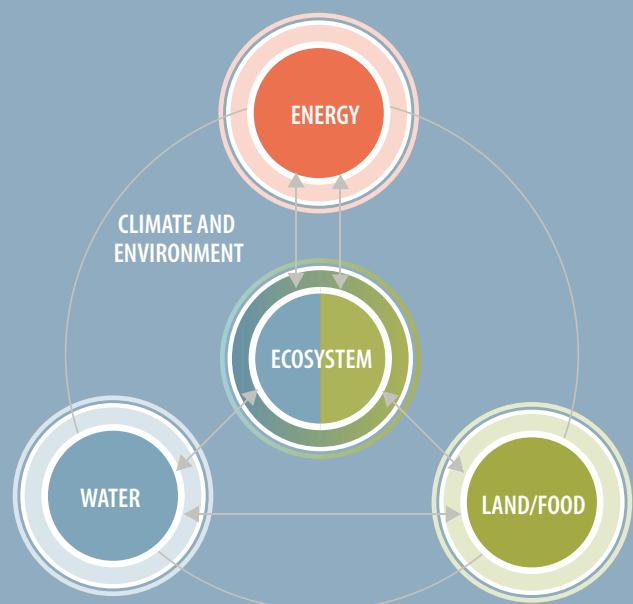
sectoral groups precedes the actual nexus dialogue during which interlinkages are jointly prioritized.

A limited quantification of interlinkages is undertaken to motivate a more focused follow-up analyses. Priority interlinkages (as defined by participants in the nexus assessment process) can be quantified as trade-offs, solutions or benefits, provided that data and applicable analytical tools are available. While some quantification is included in the assessment, this is mostly done to illustrate the potential of a quantitative assessment of the nexus and to establish a basis for more focused and advanced follow-up analyses (e.g. to compare different degrees of cooperation between hydropower operators along a river in terms of energy production, greenhouse gas emissions and flood response).

Benefits of cooperation are made explicit for different sectors. Looking at the range of benefits that can be generated by using a nexus approach helps to communicate the value of cooperation between sectors at the transboundary level. Pointing out the benefits of implementing nexus solutions provides additional incentives to put assessment recommendations into action; at the same time, the nexus assessment provides space for revealing previously overlooked benefits of possible coordinated actions in the basin (both from a national and a basin perspective). This can result in preparing common ground for broader cooperation: while each riparian will not gain in every respect, the sum of all benefits – also counting non-economic benefits, and across multiple sectors – is greater than it would be from just allocating water.

FIGURE 4

Basic, adaptable workshop diagram to facilitate nexus dialogue





The importance of ownership, partnership and adaptability

The participatory assessment process is driven by assessments, and to discuss findings and related

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