



**Convention on the Protection and Use of Transboundary
Watercourses and International Lakes**

Working Group on Integrated Water

Resources Management

Eighth meeting

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Thematic assessment of the water-food-energy-ecosystems nexus

**Report on the preparation of the assessment of the water-
food-energy-ecosystems nexus**

Prepared by the secretariat

Summary

This document provides an update on the preparation of the assessment of the water-food-energy-ecosystems nexus to inform the Working Group on Integrated Water Resources Management. The Working Group is invited to make comments.

The Task Force on the Water-Food-Energy-Ecosystem Nexus will be consulted on the methodology and the indicators by correspondence.

I. Background

1. Tensions between sectoral objectives, unintended consequences of resource management and trade-offs between sectors may result in friction and possibly conflict. By assessing the situation in transboundary basins jointly, and by improving the knowledge base, synergies can be achieved and potential solutions identified. Recognizing this challenge, the Parties to the Water Convention at the sixth session of the Meeting of the Parties (Rome, 28–30 November 2013) included an assessment of the water-food-energy-ecosystems nexus¹ in the programme of work for 2013–2015² under the Water Convention.

2. The Meeting of the Parties also established a Task Force on the Water-Food-Energy-Ecosystem Nexus, chaired by Finland, to overview and guide the preparation of the nexus assessment. The Parties invited countries and joint bodies sharing transboundary basins to indicate their interest in participating in the assessment by the end of January 2013.

3. The first meeting of the Task Force (Geneva, 8–9 April 2013) was attended mainly by representatives of the countries and organizations linked to proposals for basins to be assessed. At the meeting, a possible approach was presented in the form of a discussion paper³. The information on the objectives, process and approach as presented in the paper remain valid in general terms.

4. In brief, the aims of the assessment are:

(a) to identify intersectoral synergies that could be further explored and utilized in the different basins;

(b) to determine policy measures and actions that could alleviate negative consequences of the nexus and help to optimize the use of available resources (under future environmental and climate constraints).

5. This exercise does not seek to assess the performance of the countries in tackling the nexus; it simply aims to identify cooperative opportunities — across borders or nationally — that the riparian countries might choose to pursue. Intersectoral coordination and coherence between policies remain challenges for countries irrespective of the level of development.

6. Participation in the assessment is expected to benefit the participating countries (national administrations but also other actors) through increased efficiency in resource use, through greater policy coherency and co-management, and through building capacity in addressing intersectoral impacts.

¹ The nexus term in the context of water, food (agriculture) and energy refers to these sectors being inextricably linked so that actions in one area commonly have impacts on the others, as well as on the ecosystems which also provide services to these sectors

² http://www.unece.org/fileadmin/DAM/env/water/mop_6_Rome/Official_documents/ece.mp.wat.37.add.1_submitted.pdf

³ The discussion paper (in English and in Russian) as well as the presentations and other material from the meeting of the Task Force is available at http://www.unece.org/env/water/tfnexus_2013.html

II. Status of preparations

7. An update on the preparation of the assessment of the nexus in selected transboundary basins under the Water Convention is provided below.

Overall approach and process

8. The Task Force meeting attracted high interest and was well attended. It included presentations on intersectoral studies or specific nexus assessments in different basins, discussions on the different aspects of the process and stages of the assessment, and group work to survey the preferences of the participants for the scope of the assessment and the depth of the analysis.

9. Even though there was a clear demand for in-depth assessment and significant interest in quantifying various aspects of the nexus, participants also acknowledged resource and other constraints. The nexus Task Force therefore agreed that a scoping-level assessment of the nexus, covering all confirmed basins, would be mostly qualitative, involving the identification of linkages and major issues, substantiated by appropriate indicators. A key step in the process in each basin will be a consultative workshop involving all the relevant sectors (water, agriculture, energy, environment and others as appropriate, depending on the basin), local authorities as well as other relevant stakeholders (operators, private sector, civil society etc.). The data to be collected is expected to be relatively limited, and will be extracted from available databases to the degree possible (subject to review by the countries).

10. In the light of the first stage of the methodology development, it seems that some quantification and spatial analysis of selected major inter-linkages (impacts, trade-offs, or self-enforcing mechanisms) will be feasible. This will include initial quantitative assessments of the most important resource constraints and their possible nexus effects. Once the pilot assessment will have been carried out, followed by at least one other nexus assessment applying the methodology, there will be a better understanding of what level of quantification and spatial analysis is feasible.

11. Pending the availability of additional funding, and subject to the interest of the riparian countries, further quantification could be carried out of selected issues and aspects of the nexus involving, for example, more extensive use of modelling tools.

12. The Task Force further decided that the outputs of the process should include an analytical assessment or stock-taking and the development of principles and recommendations based on the findings. The Task Force discussed the possibility that the final analytical assessment report might build on experience in additional basins at the global level as well as on the experience of the Task Force. This issue will need to be reviewed by the Task Force at a later stage.

Methodology

13. At the time of submission of this document, the main elements of the methodology have been sketched out and are being further elaborated in cooperation with the Royal Institute of Technology (Stockholm). A draft list of indicators has also been developed. The work is carried out in consultation with partner organizations like the Food and Agriculture Organization of the United Nations (FAO).

14. The assessment is proposed to involve a review of available data on the basin (relevant studies, national development strategies and sectoral policies and targets, selected databases etc.) by the expert team. The review will be complemented by data

collection from the national authorities using a targeted questionnaire to fill gaps. The received data will be structured to visualize nexus issues in the respective countries, using a set of nexus indicators. These indicators – plus other qualitative information on the situation of the investigated river basins -- will help to enrich discussions in the basin assessment workshop on important nexus trade-offs, institutional economy and resource allocation. Inter-linkages between the different sectors (or components) of the nexus will be identified and their relative importance determined in group discussions.

15. The intention is also to identify jointly with the riparian countries in the workshop: (a) meaningful development scenarios, the impact of which on the nexus could be assessed (at least in general or qualitative terms); and (b) possible solutions for alleviating the nexus and identifying synergies.

16. Building on the basin workshop and focusing on the priorities and gaps identified jointly with the countries there, the experts complement the assessment with selected analyses.

17. On the substantive side, the assessment is proposed to have the following components:

(a) Mapping of the land (considering the link to both agriculture and environment/ecosystems), energy and water balances in the form of a transparent set of indicators;

(b) Development of a conceptual picture of the nexus in the basin, with the relative importance of interlinkages determined and illustrated with selected indicators, and the quantification of selected nexus aspects;

(c) Scenarios of potential trade-offs that may arise as population, resource demands, technologies (e.g. energy technologies) and management patterns change within the basin (also taking into account environmental conditions and climate (change));

(d) Carry out an initial institutional analysis of involved actors.

18. Once a draft assessment has been developed jointly by the secretariat and the expert team, in close coordination with the national experts, the authorities and stakeholders will be consulted on the findings. The basin assessments will later be reviewed and endorsed by the nexus Task Force.

19. The resulting assessment can be the basis for a later, more in-depth quantitative trade-off analysis, as referred to above.

The basins planned to be assessed

20. Since the meeting of the Task Force, the participation of a number of basins in the assessment has been confirmed, while others are still in the process of being confirmed. Taking into account complexity of transboundary settings in the different basins, data availability, eligibility for available funding and co-funding perspectives, the Alazani/Ganyh Basin, shared by Azerbaijan and Georgia, was selected for the piloting. The pilot basin workshop is planned for November 2013. The Sava Basin is the second basin planned to be assessed, in the beginning of 2014, with the rest of the basins following.

21. So far it has also been confirmed that the Narva and the Niger will be worked on in this assessment. Possible participation of following basins is being explored and is at different stages of discussion either with the joint bodies or with the riparian countries concerned: the Mekong, North-West Sahara Aquifer, Prut, Rhone, Syr Darya and possibly the Ural. An Alpine basin is also expected to be assessed.

22. Consultations on the methodology and the indicators as well as individual basin assessments with the Task Force and the concerned countries until then will be carried out by correspondence.

III. Timeline

23. The refinement of the methodology and the specification of the data requirements are on-going and will continue until November 2013 for the pilot. The methodology and data requirements will be revised in the light of the first applications and will be made available in their revised form in February 2014.

24. Testing the methodology on a pilot basin (Alazani/Ganyh) will run from October 2013 to January 2014. That work will include data collection, analyses and assessment, drafting of conclusions of the testing and the revision of the methodology in the light of the findings.

25. The basin-level process, including organization of the various inter-sectoral basin workshops and supporting data collection and drafting of assessments, will be carried out between January 2014 and April 2015.

26. The preliminary dates for the second meeting of the Task Force are 8-9 September 2014. This timing will allow more ample material and results to be presented for review by the Task Force, thus allowing more informed decisions on how the findings can be used, best presented and disseminated.

27. The content of the nexus assessment will have to be endorsed by the nexus Task Force in May 2015 to allow publication of the findings of the assessment in August 2015.

IV. Funding

28. The assessment of individual basins is subject to availability of funding for which the respective countries are eligible. Funds have been secured and are in the process of being agreed upon for finalizing the methodology and piloting, including the assessments of the first two basins. This part is mainly covered by contributions made by Finland and Switzerland. Switzerland has also confirmed its support for continuation of the work and some further contributions are expected. The secretariat has examined funding of the nexus assessment with several other donors; elaboration of project proposals is on-going.

29. Further funding is still needed also in the form of co-financing as in-kind contributions, for example to organize the basin process for the basins to be assessed. The initial resource requirement estimate for the nexus assessment as a whole is USD 1,520,800.⁴

⁴ For more details, the Programme of Work for 2013–2015 (ECE/MP.WAT/37/Add.1) can be referred to, available at:
http://www.unece.org/fileadmin/DAM/env/water/mop_6_Rome/Official_documents/ece.mp.wat.37.add.1_submitted.pdf