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**Economic Commission for Europe**Meeting of the Parties to the Convention on  
the Protection and Use of Transboundary  
Watercourses and International Lakes**Working Group on Integrated Water  
Resources Management****Ninth meeting**

Geneva, 25 and 26 June 2014

Item 8 of the provisional agenda

**Thematic assessment of the water-food-energy-ecosystems nexus****Progress report on the thematic assessment of the  
water-food-energy-ecosystems nexus****Prepared by the secretariat***Summary*

At its sixth session (Rome, 28–30 November 2012), the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes included an assessment of the water-food-energy-ecosystems nexus in the Convention's programme of work for 2013–2015<sup>1</sup>. The Parties decided that the Task Force on the Water-Food-Energy-Ecosystems Nexus and the Working Group on Integrated Water Resources Management would be the responsible bodies for the assessment.

The present document provides an update on the preparation of the assessment since the eighth meeting of the Working Group (see ECE/MP.WAT/WG.1/2013/2). The Working Group is invited to make comments on the work described. The Task Force on the Water-Food-Energy-Ecosystem Nexus will subsequently review the status of work in detail, including the nexus assessments under development, at its second meeting, to be held in Geneva from 8 to 9 September 2014.

<sup>1</sup> See ECE/MP.WAT/37/Add.1, available from <http://www.unece.org/env/water/mop6/documents.html>.



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## I. Background

1. When it comes to water resources, friction and potential conflicts may result from tensions between sectoral objectives, unintended consequences of resource management and trade-offs between sectors, both at the national and the international level. By assessing the situation in transboundary basins jointly and improving the knowledge base, synergies can be achieved and potential solutions identified. Recognizing this challenge, the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, at the sixth session of the Meeting of the Parties (Rome, 28–30 November 2012), included an assessment of the water-food-energy-ecosystems nexus<sup>2</sup> in the Convention's programme of work 2013–2015.<sup>3</sup>

2. At that session, the Meeting of the Parties also established the Task Force on the Water-Food-Energy-Ecosystem Nexus, chaired by Finland, to overview and guide the assessment's preparation. 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 mainly attended by the representatives of the countries and organizations linked to proposals of basins to be assessed. The process and scope were discussed in the meeting, and a possible approach was presented. The documents and presentations are available on the website of the meeting.<sup>4</sup>

4. The assessment aims to support transboundary cooperation by identifying intersectoral synergies that could be further explored and utilized in the different basins, and by determining policy measures and actions that could alleviate negative consequences of the nexus and help to optimize the use of available resources, including under future environmental and climate constraints.

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

## II. Overall approach, process and the timeline

6. An update on the preparation of the assessment of the nexus in selected transboundary basins under the Convention is provided below. This document focuses on developments since the eighth meeting of the Working Group on Integrated Water Resources Management when the secretariat last reported on the assessment (see ECE/MP.WAT/WG.1/2013/Inf.4).<sup>5</sup>

7. According to the Task Force's decision at its first meeting, 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 would be a participatory workshop.

<sup>2</sup> 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.

<sup>3</sup> See ECE/MP.WAT/37/Add.1, available from <http://www.unece.org/env/water/mop6/documents.html>.

<sup>4</sup> See [http://www.unece.org/env/water/tfnexus\\_2013.html](http://www.unece.org/env/water/tfnexus_2013.html).

<sup>5</sup> Available from [http://www.unece.org/env/water/8th\\_wgiwrm\\_2013.html](http://www.unece.org/env/water/8th_wgiwrm_2013.html).

8. Subject to the availability of additional funding and to the interest of the riparian countries, further quantification of selected issues and aspects of the nexus, such as an in-depth trade-off analysis involving, for example, more extensive use of modelling tools, could be carried out.
9. The Task Force further decided that the process should lead to an analytical assessment or stock-taking and the drafting of conclusions and recommendations.
10. The basin-level process will be carried out between January 2014 and April 2015. It will include the organization of the various intersectoral basin workshops, the collection of supporting data and the drafting of assessments. A pilot basin has been assessed and the second basin is being worked on.
11. The second meeting of the Task Force will be held on 8 and 9 September 2014. Updates of the status of preparation of the different basin assessments will be presented then, including the draft assessments or at least the main findings. The revised methodology, proposed outline of the individual assessments and the stock-taking report and model maps and graphics will also be presented for review.
12. To be able to present the findings to the next session of the Meeting of the Parties, preliminarily scheduled to be held from 17 to 20 November 2015, the findings of the assessment have to be ready for publishing by August 2015. The draft content therefore has to be endorsed by the Task Force in April 2015 (the preliminary dates are 28–29 April 2015) and by the tenth meeting of the Working Group in June 2015.

### **III. The methodology**

13. Following the decisions by the Task Force at its first meeting, a draft methodology was developed in cooperation with the Royal Institute of Technology (KTH) in Stockholm in 2013 and it was circulated for comments to the Task Force in December 2013 in English and in Russian. A draft list of indicators has also been developed. KTH has identified a number of suitable international data sources, but preference will be given to national, basin-level and local data and information. Refining of the methodology is carried out in consultation with partner organizations like the Food and Agriculture Organization of the United Nations (FAO). A methodology for an institutional assessment component has been developed in cooperation with an expert of the University of Geneva.
14. On the substantive side, the assessment has the following components:
  - (a) A survey in the form of a factual questionnaire for preliminary identification of the main pressures and hotspots;
  - (b) A desk review of the available documentation, such as reports of relevant projects at the national and transboundary levels and policy documents;
  - (c) A participatory workshop at the transboundary level, involving all the relevant sectors (water, agriculture, energy, environment and others as appropriate, depending on the basin), local authorities and other relevant stakeholders (operators, the private sector, civil society, etc.). A sequence of specifically designed interactive sessions include the following topics:
    - (i) Review of the riparian countries' water management and sectoral plans and a discussion on their compatibility;
    - (ii) Identification of the intersectoral linkages, impacts and trade-offs and a determination of their relative importance;

- (iii) Nexus in the future: trends in the light of sectoral strategies and policies, as well as changing drivers and climate change;
- (iv) Identification of possible synergic actions;<sup>6</sup>
- (d) An indicator-based analysis comprising:
  - (i) Comparisons and substantiation using available data and indicators reflecting the basin setting and the interlinkages identified;
  - (ii) Limited quantification and spatial analysis of selected main interlinkages (impacts, trade-offs or self-enforcing mechanisms), focusing on, for example, the most important resource constraints and their possible nexus effects;
  - (iii) An institutional analysis to assess how conducive institutional arrangements are to intersectoral coordination. This includes a mapping of: the actors, the degree of centralization, the role of authorities, different administrative levels, etc.; the extent of regulation in relation to uses; the coherence between different objectives of sectoral policies and the degree of coordination; allocation and pricing; and the main resource use rivalries or hotspots;
- (e) Preparation of the nexus assessment report with the analysis of: the sectoral characteristics, including development options; intersectoral linkages and priority issues; qualitative future scenarios (trends, climate change); and potential solutions identified, including policy recommendations.

15. The application of the methodology has revealed its value in facilitating a dialogue across sectors and resources. The representatives of the countries have appreciated the opportunity for intersectoral discussions, which are not common practice even at the national level. The two first basins have allowed for an iterative improvement of the methodology. Even though a general assessment framework was developed to assess diverse basins, the methodology allows for flexibility to adjust to the characteristics of each basin.

16. Building on the workshop and focusing on the priorities and gaps identified jointly with the countries there, the experts complement the assessment with selected analyses. National experts are engaged to facilitate the work, as needed. Development of a draft assessment is a joint effort of the secretariat and the expert team, done in close coordination with the national experts. The authorities and stakeholders will be consulted on the findings. The basin assessments will be presented for a review and endorsement by the Task Force.

#### **IV. The basin assessments**

17. Some 13 proposals were submitted by countries,<sup>7</sup> joint bodies and other organizations for basins to be considered for assessment in response to a call for expressions of interest. The perspectives and limitations of each were discussed between the secretariat, the countries concerned and partners. Gradually, the basins to be assessed have been confirmed through correspondence with the countries and the identification of

<sup>6</sup> For example, with regard to changes in policies, new policies, management measures and practices, institutional arrangements and ways in which the infrastructure is operated.

<sup>7</sup> For the full list, see the annex to the discussion paper presented at the first meeting of the nexus Task Force:

[http://www.unece.org/fileadmin/DAM/env/documents/2013/wat/Nexus\\_mtg/NexusAssessment\\_DiscussionPaperOnApproach\\_final\\_forWeb.pdf](http://www.unece.org/fileadmin/DAM/env/documents/2013/wat/Nexus_mtg/NexusAssessment_DiscussionPaperOnApproach_final_forWeb.pdf).

the necessary funding. Taking into account the complexity of transboundary settings in the different basins, data availability, eligibility for available funding and co-funding perspectives, the Alazani/Ganikh Basin, shared by Azerbaijan and Georgia, was selected for a pilot assessment.

### **A. The pilot basin: the Alazani/Ganikh River**

18. The basin workshop for the nexus assessment was organized from 25 to 27 November 2013 in Kachreti, Georgia, by the secretariat in cooperation with the United Nations Development Programme (UNDP) Global Environment Facility (GEF)-funded project, “Reducing Transboundary Degradation in the Kura Ara(k)s River Basin” and the Ministry of Environmental Protection of Georgia.<sup>8</sup> The GEF project contributed to the process with co-funding as well as with substantive and logistical local support.

19. The workshop involved economically relevant sectors (among which, agriculture and energy), as well as water and environment administrations, companies and civil society representatives.

20. The workshop allowed the testing in practice of the methodology and showed that interactive sessions and visual aids helped active participation.

21. Participants recognized the decisive importance of energy policies for protecting ecosystem and water resources from the negative effects of deforestation. They also concluded that improving water infrastructure, including for irrigation and treatment, would be a helpful step in reducing the pressures on natural resources and would improve the local economy.

22. The need for economic development in the countries, while at the same time acknowledging the necessity of limiting economic externalities and environmental impacts, makes intersectoral, considerations very timely. There are also opportunities from new energy policy efforts and efforts to modernize agriculture. An agreement on transboundary waters being negotiated between Azerbaijan and Georgia, and a multisectoral representation from the countries in envisaged.

23. A draft working report consolidating the relevant information and findings has been prepared by the international expert team (KTH). At the time of preparing the present document, the draft working report is being condensed into a short version which will be translated also into Russian and circulated to the national administrations of Azerbaijan and Georgia for comments and complementing.

24. Azerbaijani and Georgian authorities will be consulted about the findings, and some of the conclusions are expected to be reflected in the national integrated water resources management plans, currently under preparation with the support of the GEF project.

25. The possibility of continuing and expanding the nexus work in the Kura Basin with GEF support will be explored in the course of 2014.

### **B. Assessment of the Sava River Basin**

26. Based on a consultation of the riparian countries of the Sava River, the secretariat of the International Sava River Basin Commission (ISRBC) expressed interest in participating

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<sup>8</sup> The agenda and presentations of the meeting are available from [http://www.unece.org/env/water/alazani\\_ganyh\\_pilot\\_project\\_2013.html](http://www.unece.org/env/water/alazani_ganyh_pilot_project_2013.html).

in the nexus assessment. The nexus assessment workshop on the Sava River Basin was organized jointly by the secretariat and ISRBC from 4 to 6 March 2014 in Zagreb. Some 50 representatives of the relevant ministries and various interest groups from Bosnia and Herzegovina, Croatia, Montenegro, Serbia and Slovenia participated.

27. The findings highlighted that the need for irrigation will grow, as will investments in the energy sector. At the same time, extreme weather events pose risks and might damage infrastructure. Furthermore, investments should be made in new land reclamation strategies. It became clear that all of these developments were linked and involved trade-offs. For example, increased irrigation for agriculture might affect the potential power production of planned and existing hydropower plants.

28. In the Sava Basin, the assessment exercise is contributing to further integration of water policy with other policies and further dialogue with the key sectoral stakeholders, as specific objectives in river basin management defined in the Strategy on Implementation of the Framework Agreement on the Sava River Basin.

29. As a follow-up to this workshop, selected linkages will be investigated in more detail to identify integrated approaches that will take advantage of synergies and cooperation. KTH in cooperation with the United Nations Economic Commission for Europe secretariat is currently preparing a draft assessment, featuring as examples the key nexus issues from the workshop, and an institutional assessment prepared in parallel.

30. National experts engaged by ISRBC are expected to provide complementary information, and a country consultation on data and information requirements and availability is planned to be organized by ISRBC in April-May 2014.

31. The draft assessment is planned to be submitted for a review by ISRBC in early summer 2014 and then circulated for comments to the sector administrations.

32. Cooperation is being developed with the European Commission's Joint Research Centre (JRC) to eventually have some development scenarios modelled and quantified in the framework of JRC Danube Water Nexus project.

33. The status of the Sava and the Alazani/Ganikh Basin assessments, as well as the main findings will be presented at the second Task Force meeting in September 2014.

### C. Other basins planned to be assessed

34. Assessments of the North-West Sahara Aquifer and the Niger are planned, subject to the confirmation of funding. The possible participation of the 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/a tributary to the Mekong, the Syr Darya, the Narva and the Isonzo/Soca.

35. Partners that have been identified and with whom cooperation on the specific assessments are being discussed include the following:

(a) **North-West Sahara Aquifer:** Global Water Partnership Mediterranean, Observatory of the Sahara and the Sahel;

(b) **Syr Darya:** Global Water Partnership;

(c) **Niger:** Niger Basin Authority, Wetlands International, German Agency for International Cooperation (GIZ);

(d) **Mekong/a tributary to the Mekong:** Mekong River Commission, Conservation International.

36. The methodology developed is generic and could be applied to other transboundary basins (river or groundwater) as it makes it possible to focus on the jointly identified intersectoral/nexus issues.

## V. Funding

37. The assessment of individual basins is subject to availability of funding which the respective countries are eligible for. Funds already obtained allowed for the development of the methodology and piloting it, including the assessments of the first two basins. This part was supported financially by the Finnish Ministry of Foreign Affairs and the Swiss Agency for Development and Cooperation, with additional funding from the Environment and Security Initiative for the assessment of the Sava River Basin. The Swiss support is also confirmed for continuation of the work and some further contributions are expected.

38. The secretariat has liaised with several donors about funding for the nexus assessment, as well as with partners that can provide co-financing for specific basin assessments.

39. Negotiations on funding based on proposals made is ongoing for the assessments of the North-West Sahara Aquifer, the Syr Darya and the Niger.

40. Additional funding for the further basins that are envisaged to be assessed, also in the form of co-financing, such as in-kind contributions to organize the basin process, is needed. The initial resource requirement estimate for the nexus assessment as a whole was US\$ 1,520,800.<sup>9</sup> So far, some US\$ 530,000 has been either received or committed.

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<sup>9</sup> For more details, see the programme of work for the Convention for 2013–2015 (ECE/MP.WAT/37/Add.1), available from <http://www.unece.org/env/water/mop6/documents.html>.