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Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes

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Item 4 (d) of the provisional agenda
Review of past activities and discussion of future activities in the different areas of work: assessment of the status of transboundary waters

Lessons learned from the preparation of the Second Assessment and plans for future assessments under the Convention

Prepared by the secretariat in consultation with the Bureau

Summary

The present document was prepared by the secretariat to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes in consultation with the Bureau, in particular the Chair of the Working Group on Monitoring and Assessment, in accordance with the programme of work adopted by the Meeting of the Parties at its fifth session. Programme area 2 of that workplan calls for the preparation of an analysis on the need to prepare a third assessment of transboundary waters and, if applicable, a strategy for its preparation, for consideration at the sixth session of the Meeting of the Parties (see ECE/MP.WAT/29/Add.1).

The document summarizes the lessons learned from the preparation of the *Second Assessment of Transboundary Rivers, Lakes and Groundwaters*[1] and the proposals concerning future assessments of transboundary waters under the Convention.

[1] United Nations publication, Sales No. E.11.II.E.15.

Contents

I. Background and proposed action by the Meeting of the Parties

1. The approach to future assessments of transboundary waters as proposed in this document is based on the outcomes of discussions held at previous meetings of the Working Group on Integrated Water Resources Management, the Working Group on Monitoring and Assessment and the Bureau of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). The draft concept of the "special edition" assessment was developed based on the recommendations of the Bureau from among alternative initial concepts fleshed out in the "Strategic Workshop on the Future Work under the United Nations Economic Commission for Europe (ECE) Water Convention: Building on the Findings of the Second Assessment and Other Results Achieved" (Geneva, 14–15 February 2012), and draws upon the discussions there. The proposal also reflect the comments made during the joint meeting of the Working Group on Monitoring and Assessment and the Working Group on Integrated Water Resources Management (Geneva, 3–4 July 2012) and the inputs received during consultations with potential partners. At the joint meeting, the Working Groups endorsed the approach outlined herein as well as the water-food-energy-ecosystems nexus as the theme of the special edition assessment.

2. The Meeting of the Parties may wish:

(a) To express its high appreciation for the *Second Assessment of Transboundary Rivers, Lakes and Groundwaters* and to reiterate the importance of regular assessments for keeping the state of the transboundary water resources in the ECE region — and beyond, if appropriate — under review and for benchmarking progress achieved in implementing the Convention;

(b) To thank Finland for its leadership and for the substantive and financial support provided for the Second Assessment, and to welcome its future leadership of the area of work on the water-food-energy-ecosystems nexus in the programme of work for 2013–2015;

(c) To also thank all other donors that contributed to this undertaking — the Governments of Slovakia, Switzerland, Sweden, Germany, Hungary, the Netherlands and Georgia — for the funding provided;

(d) To further thank all the partners, notably the International Water Assessment Centre (IWAC), the secretariat of the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), the Global Resource Information Database of the United Nations Environment Programme (UNEP/GRID-Europe), the International Groundwater Resources Assessment Centre and the Global Water Partnership Mediterranean, as well as the river basin commissions of the Danube, Elbe, Meuse, Moselle-Saar, Oder, Rhine, Sava and Scheldt Rivers for their substantive contributions;

(e) To thank all Parties, non-Parties, including non-ECE countries, and the relevant experts who contributed information and data;

(f) To take note of the lessons learned from the Second Assessment and agree that the third comprehensive assessment will be carried out in six to eight years' time from the Second Assessment;

(g) To endorse the concept of the thematic assessment with a focus on the water-food-energy-ecosystems nexus, recognizing at the same time the challenges that lie ahead and the needs for involvement of different sectors and diverse expertise;

(h) To invite countries and joint bodies sharing transboundary basins to indicate their interest in participating in the thematic assessment by the end of December 2012;

(i) To entrust the Task Force on the on the Water-Food-Energy-Ecosystems Nexus, in cooperation with the Working Group on Integrated Water Resources Management, with finalizing the thematic assessment in time for its submission to the seventh session of the Meeting of the Parties, and to prepare an analysis for scoping of the third comprehensive assessment and, if applicable, a concept for it;

(j) To call upon donors to mobilize the funds needed to support this important area of work.

II. Lessons learned from the preparation of the Second Assessment

A. Process

3. The process of preparing the *Second Assessment of Transboundary Rivers, Lakes and Groundwaters* had many benefits.

4. The preparations supported political and technical dialogue and provided an opportunity for countries to raise issues and concerns as well as ideas for cooperation. It also helped to ensure a region-wide debate on water management issues, as well as provided for exchange of experience and good practices. Also, submitting data for the Second Assessment provided the countries involved with an occasion for self-assessment of water problems, available policies and management responses.

5. The Second Assessment has been a collective effort by Parties and non-Parties to the Water Convention, and even of countries outside the ECE region, indicating a broad interest in such an activity, and in general in the platform that the Water Convention represents.

6. The Second Assessment also provides a strong basis for the work under the Convention, supporting other initiatives. It was also used as an element that enriched the discussions on the programme of work for the Convention, 2013–2015, in the strategic workshop.

7. Another positive result has been the broad cooperation that developed in the preparation of the Second Assessment among such partners as IWAC, the secretariat of Ramsar Convention, UNEP/GRID-Europe, the International Groundwater Resources Assessment Centre and the Global Water Partnership Mediterranean.

8. Also, from the financial point of view, while most of the necessary financial support was provided by the Government of Finland, many other donors joined in this undertaking — the Governments of Slovakia, Switzerland, Sweden, Germany, Hungary, the Netherlands and Georgia — highlighting the widespread recognition of the importance of the product.

9. Overall, these side benefits demonstrate the value of regular regional assessments under a common framework, which not only allows monitoring and benchmarking progress for about 50 countries, but also fosters a progressive harmonization of approaches.

10. At the same time, some areas in the process were identified that could be improved for future assessments:

(a) The process was a very laborious one, involving several revisions of some subregions' assessments;

(b) The schedule was difficult to manage, especially due to the delays in getting inputs from countries;

(c) Due to the extensive geographical and thematic scope, it was difficult to look into issues in depth, analysing them in more detail;

(d) More parallel preparation of maps and graphics would have supported the analysis.

B. Content

11. The Second Assessment is the most comprehensive, up-to-date overview of the status of transboundary waters in the European and Asian parts of the ECE region. The unique, comprehensive scope of the Second Assessment was highly appreciated according to the feedback received. The information collected serves as a valuable reference for the future. It contributes to a better understanding of the problems and strengthens the knowledge base for identification and implementation of appropriate management measures to reduce transboundary impacts and improve the status of transboundary waters.

12. The Second Assessment sheds light on the main water management issues in the ECE region, including poor management practices, pollution (agriculture, wastewater discharges, etc.), overexploitation, unsustainable production and consumption patterns, hydromorphological pressures, inadequate investment in infrastructure and low efficiency in water use.

13. The Second Assessment also demonstrates that, while transboundary water cooperation has made great progress in the past 20 years, the level and effectiveness of cooperation varies in the region and there are still many challenges.

14. Furthermore, competition — and in some cases even conflicts — between different water uses, often in different riparian countries, is a common challenge. Climate change impacts are expected to further aggravate the problems. In many basins, potential impacts of climate change on water resources have not been specifically assessed: more comprehensive and collaborative research into the impacts of climate change at the subregional and basin level is needed.

15. An overarching finding of the Second Assessment, throughout the pan-European region, is that stronger water and environmental governance, sound land management policies and, above all, integration of sectoral policies are needed more than ever.

16. A major innovation of the Second Assessment is the specific attention devoted to ecological and biodiversity issues, through the assessment of 25 Ramsar Sites and other wetlands of transboundary importance. This exercise showed the great potential and interest of cross-sectoral assessments and of bringing together different perspectives on transboundary water management and use. It strongly highlighted the importance of policy coherence across sectors.

17. Despite the merits, the information received in the process demonstrates certain gaps and shortcomings that would be good to address in the future, when possible:

(a) Not all areas were always covered, demonstrating the difficulty of intersectoral coordination and cooperation, and emphasis was commonly on technical information;

(b) Comparison of quality data remains a challenge due to the different approaches and criteria complicating assessment;

(c) The response/participation from some countries was poor and consequently many assessments were prepared based on input from one riparian country only;

(d) The situation regarding the status of waters and cooperation evolves slowly, especially on the institutional side, and in some cases not much change could be reported since the *First Assessment of Transboundary Rivers, Lakes and Groundwaters* (2007).[2]

III. Approach to future assessments of transboundary waters under the Convention as outlined by previous Working Group decisions

18. Due to the slow evolution of the status of transboundary waters, it is proposed that the next comprehensive assessment is prepared in six to eight years' time from the Second Assessment, when marked changes compared to the situation in 2011 can be expected. In the meantime, in order to ensure continuity of the assessment process and to keep the status of transboundary waters under scrutiny, a special edition assessment will be prepared by 2015 with a specific thematic scope and approach, limited to a representative set of basins. A proposal for such a special edition was endorsed in May 2011 by the Working Group on Integrated Water Resources Management and the Working Group on Monitoring and Assessment, at their sixth and twelfth sessions, respectively, and subsequently in July 2012 by the two Working Groups at their joint meeting.

IV. Draft concept for the special edition thematic assessment: the water-food-energy-ecosystems nexus or reconciling multiple water uses in transboundary basins

19. Various possible themes for the special edition assessment were proposed and considered in the strategic workshop held in February 2012 in Geneva. Two themes were selected by the Bureau from among alternative initial concepts considered at the strategic workshop, namely: (a) the water-food-energy nexus; and (b) climate change adaptation and water efficiency. The draft concept of the special edition assessment on the water-food-energy-ecosystem nexus set out in the following paragraphs is the one selected by the Bureau, based on its evaluation and subsequently developed by the secretariat under the guidance of the Bureau.

20. The water, energy and food sectors are so strongly interlinked that actions in one area commonly have impacts in one or both of the others; yet these sectors too often operate in isolation, and seeking security in one sector may compromise others. Water is used in variable intensity in different industries as well as for energy production not only in hydro-power-plants but also as a cooling media in other types of power-plants. Conversely, energy is needed for extracting, transporting, distributing and treating water. In the ECE region, as well as globally, agriculture is the largest consumptive water user; the predicted agricultural production increase necessary in the future, and the current push for increasing the use of renewable energies (especially hydropower and biofuels), affect water and land resources. The possibilities of agriculture and food production are constrained by limited suitable land resources, which in some areas are threatened by land degradation. The development perspectives depend substantially on functioning ecosystems and the services they provide specifically to these three sectors, as well as to maintain biodiversity, and the many services derived from it, such as support of tourism, local economies, climate change adaptation and mitigation, etc. The pressures from population growth, urbanization, industrialization, economic development and climate variability and change add to the challenge of ensuring availability of water in sufficient quantity and quality for the various

[2] *Our Waters: Joining Hands across Borders*, United Nations publication, Sales No. E.07.II.E.19.

uses. Accommodating the different sectors and promoting synergies between them supports the transition to a green economy, which aims (among others) at efficiency in resource use and greater policy coherency.

21. Even at the national level, coordination between the water, energy and food sectors is fraught with difficulties, but the complexity increases substantially in transboundary basins, where the impacts spread from one country to another. Despite the attention devoted to the water-food-energy nexus in recent years, little has been done to assess the situation in transboundary basins, including the negative externalities and the possibilities of increasing resource productivity across sectors and sharing benefits equitably.

22. This thematic assessment will seek to identify intersectoral synergies, as well as reduction of trade-offs or support to decision-making on trade-offs.

23. The various water uses and related needs with respect to water quantity, quality and timing will be assessed, together with how the current water availability (including the provision by ecosystems) and infrastructure (e.g., multiple-use reservoirs, but also "natural infrastructure" (i.e., ecosystems)) support/accommodate them and in what ways the resource is expanded (water transfers, desalinization, etc.). The use/needs of different water sources of different sectors and of the environment will be considered.

24. By focusing on the transboundary dimension, the assessment will incorporate a security perspective into the study of interconnections and impacts. Viable and practical solutions from the ECE region and beyond will be sought to reconcile the different sectors' needs in a transboundary context. Despite the context specificity of solutions, e.g., in terms of climate and systems of production, recurring areas of opportunity will be sought, as well as transferable and inspiring lessons. In particular, the assessment will aim to produce relevant information for regional, national and basin level policymakers and other stakeholders. Cost-effective and long-term sustainable solutions will be sought, for instance, taking into account ecosystem services.

25. Drawing on the Second Assessment, the process will involve selection of a representative set of transboundary basins (less than 10). These basins will feature the different ECE subregions as well as informative examples from outside the region, or shared by ECE and non-ECE countries. These basins will illustrate a diversity of sector importance, natural/climatic conditions and riparian relationships.

26. The assessment process will involve representatives of the concerned sectors and main water users in the different basins. Intersectoral basin-level meetings that bring together the key sectors and other relevant stakeholders in each basin to assess the situation and trends, as well as identify hindrances to and opportunities for additional benefits from stronger integration across sectors, will be an important part of the process of preparation and will also promote the exchange of experience and the building of capacity. These meetings will be organized in cooperation with the main partners, including the respective river basin commissions, where applicable.

27. The assessment will also build on other sources of information, such as the information collected in the Second Assessment and other activities under the Convention, notably the National Policy Dialogues under the European Union (EU) Water Initiative.

28. The predicted impacts of climate change on water resources and water-related ecosystems in the basins, the implications for the different sectors' water uses and the impacts of envisaged adaptation measures will be taken into account as much as possible. In this regard, the thematic assessment will draw upon findings from the programme of pilot projects and platform for exchanging experience on climate change adaptation in transboundary basins under the Water Convention, as well as other similar initiatives and projects. Hydrological variability, including extreme events (floods and droughts), which can substantially impact on the food and energy sectors will also be considered.

29. In particular, the following aspects will be considered:

(a) Characterization of basins in terms of:

(i) Sectoral water uses and the degree of integration in water resources management, considering different water sources like surface water and groundwater;

(ii) Water quality and impacts of point and diffuse pollution sources;

(iii) Land use/land cover;

(iv) Assessment of water-related ecosystems, their status, uses and functions, and the importance of natural infrastructure;

(v) Population and relevant trends, including degree of urbanization, ageing, etc.;

(vi) Energy needs, energy production, energy mix, energy efficiency and saving (for example, use of low-energy pumps, energy generation from wastewater) and relevant trends;

(vii) Food demands, agricultural production, agriculture intensification and efficiency, sources of water for agriculture (rain-fed, irrigated, wastewater reuse) and relevant trends;

(viii) Water intensity of industrial production and wastage/inefficiency in water use (e.g., losses through leakage; level of production technology, such as application of closed systems; degree of water reuse; dry cooling power plants);

(ix) Assessment of relative resource scarcity and productivity, multiple-use systems and socio-economic impacts;

(x) Sustainability of use: impacts on the hydrological cycle and the environment from the quantities abstracted, as well as chemical, organic and thermal pollution and flow regulation regime;

(xi) Available information on the existing and potential impacts of climate variability and change on water resources, water-related ecosystems and on water-related sectors;

(b) Other relevant drivers, such as trade and policy developments (e.g., in the EU, cross-sectoral externalities/interlinkages between the EU Water Framework Directive,[3] the Common Agricultural Policy, the Habitats Directive,[4] the energy and climate policies and others), including:

(i) An analysis of the institutional aspects, considering in particular how governance across sectors works and what kind of arrangements/structures exist for intersectoral cooperation at the national and transboundary levels, including possible ways to overcome institutional disconnects and power imbalances;

(ii) An analysis of the policy response and of its coherence levels (e.g., integrated planning of infrastructure for water, wastewater and energy; integrated water and land resources planning and management) and measures in place to increase sustainability and efficiency, demand management and incentives like pricing, etc.;

[3] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

[4] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

(iii) An analysis of the basis for transboundary cooperation, looking at the scope of the existing water agreements, as well as other agreements related to energy and food.

30. There is also the option to include for some basins — if time, data and resources available allow — the development of scenarios and predictions on how the water-food-energy-ecosystems demands will evolve in the future. This part of the exercise would entail an additional level of complexity to the exercise; however, it could rely on existing experience and available references, sources of information and tools — the applicability of which needs to be assessed — such as:

(a) World Business Council for Sustainable Development (WBCSD) scenarios for water, 2006;

(b) Organization for Economic Cooperation and Development (OECD) predictions;

(c) The EU-funded project, Water Scenarios for Europe and for Neighbouring States (SCENES);

(d) The Water Evaluation and Planning (WEAP) and/or the Long range Energy Alternatives Planning (LEAP) models of the Stockholm Environment Institute; and/or possibly

(e) The Foreseer tool of the University of Cambridge.

31. For each basin, the assessment will therefore aim to provide a picture of the interdependencies (or their understanding) across water, ecosystems, energy, food and other areas, such as climate change and biodiversity, in terms of uses, needs, economic and social benefits and potential synergies, as well as conflicts and trade-offs. The assessment will also aim to present the suite of sectoral policies together with an analysis of their integration, coherence and capacity to positively address the water, energy and food security nexus and improve water, energy and food security, taking into account linkages between water and land management.

32. The assessment will in particular address the transboundary dimension and aim to analyse interdependencies, synergies and mutually beneficial solutions, as well as potential conflicts and trade-offs, not only across sectors but also across borders, thereby highlighting the potential of cooperation.

33. The assessment will also, as far as possible, identify possibilities and provide recommendations for the different basins to further exploit synergies, reduce tensions between sectoral objectives, avoid unintended consequences and resolve trade-offs, in order to meet increasing demand without compromising sustainability.

34. Moreover, the process of preparation will, as in previous cases, contribute to a stronger understanding and to building capacity on the water-food-energy-ecosystems nexus.

35. The assessment will be guided by the Task Force on the Water-Food-Energy-Ecosystems Nexus, in cooperation with the Working Group on Integrated Water Resources Management, and coordinated by the Convention secretariat in cooperation with other key partners. IWAC will support the assessment process.

36. The Stockholm Environment Institute and the Stockholm International Water Institute will support the secretariat and the Task Force in the development of the approach and in the whole process of preparation of the thematic assessment. Other possible partners (to be explored and complemented) include river basin commissions; national and international statistics agencies; relevant ministries (environment/water, energy and agriculture, but also finance and foreign affairs); the World Bank; the Food and Agriculture Organization of the United Nations; the International Food Policy Research Institute;

OECD; the International Union for the Conservation of Nature; the secretariat of the Ramsar Convention; the United Nations Convention on Combating Desertification; the International Energy Agency; the European Environment Agency; WBCSD; and the International Institute for Applied Systems Analysis.

Preliminary cost estimate of the special edition assessment on the water-food-energy-ecosystems nexus

Process component/cost item	*Overall costs (United States dollars)*
Personnel costs: P-3 staff member for 36 months	554 400
Personnel costs: G staff member for six months	71 400
Meeting involving relevant experts and the key partners for exploring the methodological options, scope, format, indicators, etc.; pilot data collection based on a pilot basin; including travel of staff and participants	30 000
Consultancy for developing a methodology tailored for this assessment, for advice on the application of the methodology to the pilot basin, for the development of scenarios, etc.	430 000
Basin-level process: organization of working meetings for less than 10 basins for bringing together the different sectors to discuss the main points of the assessment, preceded by a preliminary data collection/review	200 000
Organization of two sessions of the supervising Task Force for a review and endorsement of the assessment at intergovernmental level	60 000
Consultancy fees for the finalization and technical editing of the assessment, translations into Russian and graphical layout	55 000
Consultancy fees for the production of maps	40 000
Production of the publication: printing of the report, development of an online version with data and maps	80 000
Subtotal	**1 520 800**
13 per cent overhead (rounded)	197 700
Total	**1 718 500**