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

Working Group on Monitoring and Assessment
Extraordinary meeting, 15-16 December 2010
Agenda item 2 (e)

EXECUTIVE SUMMARY OF THE SECOND ASSESSMENT

Prepared by the secretariat

Acknowledging the importance of an executive summary for enhancing dissemination of the main messages, the Working Group decided at its 11th meeting on 6-7 July 2010 that a separate Executive Summary of the second Assessment of Transboundary Rivers, Lakes and Groundwaters under the UNECE Water Convention should be prepared.
The present document is meant to facilitate the discussion by the Working Group on Monitoring and Assessment about possible structure and elements of the Executive Summary

The general outline of the whole assessment and the assessments of individual transboundary basins follow the outline that was presented to the Working Group at its 11th meeting (see document WGMA/2010/Inf.3- WGIWRM/2010/Inf.2). The draft of the outline (that it largely follows) was presented to the Working Group at its 10th meeting on 10-11 June 2009 in Bratislava (see document ECE/MP.WAT/WG.2/2009/3).

The suggestions made in the present document by the secretariat are based on the comments made by the Working Group members during and as follow up to the 11th meeting of the Working Group, observations by the secretariat on the information received from the countries and exchanges with partners.

The Working Group is invited to:

(a) Discuss and agree on the structure and content of the Executive Summary of the second Assessment, the presentation of the information there and the approach to preparing it. In particular the Working Group is invited to advise the secretariat on main messages to be included in relation to Eastern and Northern Europe;

(b) Discuss and provide guidance to the secretariat on possible maps and graphics to be included in the Executive Summary;

(c) Agree about the necessary steps for filling any gaps in information for preparing the Executive Summary.

I. INTRODUCTION — ROLE OF THE EXECUTIVE SUMMARY AND THE APPROACH TO ITS PREPARATION

1. The outline of the second Assessment of Transboundary Rivers, Lakes and Groundwaters under the UNECE Water Convention, showing its scope and structure, is presented in Annex 1 as endorsed by the Working Group.

2. As the second Assessment as a whole includes a substantial amount of information (and will hence inevitably be voluminous) and technical details, the Executive Summary is of utmost importance to give the ministers and other interested audience an overview to get the essential information in a brief and condensed form. As the second Assessment targets decision-makers, it is important that information with a high political relevance is highlighted in the Executive Summary.

3. To ensure effective dissemination of the main messages and conclusions from the second Assessment in the Seventh Ministerial "Environment for Europe" Conference, to be held on 21–23 September 2011 in Astana, Kazakhstan, the Executive Summary with selected graphics and thematic maps, will be prepared for distribution at the Conference. The second Assessment will have a prominent role in the Astana Ministerial Conference considering that one of the two main themes of the Conference is "Sustainable management of water and water-related ecosystems" and that the presentation of its' main findings is included in the draft annotated provisional agenda of the Conference (ECE/CEP/2010/3).

4. The second Assessment will, as far as possible, have a subregional focus and therefore also the Executive Summary should highlight the characteristics of the different sub-regions. Furthermore, as the availability and level of detail of the information varies somewhat between the subregions, it seems appropriate to select the thematic maps and graphics for each subregion in such a way that they are scaled to the level of information available and that they reflect issues that are most relevant. The main messages to be highlighted will be extracted from the subregional summaries.

5. The maps and corresponding inventory of transboundary waters – both surface and groundwaters – are among the key contents of the second Assessment and should therefore feature prominently also in the Executive Summary.

II. STRUCTURE AND CONTENT OF THE EXECUTIVE SUMMARY

6. Due to the intended readership and use of the Executive Summary, it has to be a stand-alone synthesis of the sub-regional summaries (substantially rewritten, if necessary), drawing upon the whole content of the second Assessment, with visual appeal.

7. The following elements are proposed to be included in the Executive Summary:

A. Introduction
   Background for the second Assessment, description of the process, scope and limitations, methodology (DPSIR framework) (3 pages)

B. Overview of main issues at the whole UNECE level focusing on:
   - Legal, policy and institutional frameworks for transboundary water management (3 pages)
   - Monitoring of transboundary rivers, lakes and groundwaters (2 pages)
   - Main problems, impact and status (6 pages including biodiversity and conservation aspects deriving from the Ramsar assessments)
   - Climate change and its impacts on water resources (2 pages)
   - Responses (3 pages)
   - The way forward (2 pages)

In this section, overview maps showing all transboundary waters (surface and groundwaters) as well as transboundary Ramsar sites in the second Assessment will be included (see Annex 2 for surface waters). Possibly thematic maps will also be developed to illustrate the relevance of the different above mentioned issues at the UNECE level

C. Subregional chapters (maps will illustrate how the sub-regions are defined):
   - For each sub-region a more detailed assessment focusing on 3/4 main issues which are characteristics of the region (4 pages per sub-region, total 20 pages).
   - For each sub-region, maps showing basin boundaries, aquifers/groundwater bodies delineation (see Annex 3) will be included. A series of bar charts showing the highest mean flow is proposed to complement the sub-regional maps.
   - If possible for each sub-region, thematic maps and graphics will be developed to illustrate the main issues (e.g. water withdrawal by sectors)

D. Inventory of transboundary rivers, lakes and groundwaters by recipient sea, including data on flow, basin extension, etc. (5 pages)

E. Status of ratification of selected international agreements relevant to transboundary water management (3 pages)

III. MAPS AND GRAPHS PROPOSED TO BE INCLUDED

8. The Executive summary will draw on the maps already produced for the second Assessment, such as the overview maps of surface waters (see Annex 2). Transboundary groundwaters will likely be shown both as locations on the overview maps and on sub-regional maps (with the delineations of transboundary aquifers and/or groundwater bodies[1]). The draft map of transboundary aquifers in South-Eastern Europe is presented in Annex 3 as an example. Locations of transboundary wetlands (or wetlands of transboundary importance) which are assessed together with the Ramsar Convention secretariat will also be shown in overview maps. The geographical level of presentation in the Executive Summary will be scaled appropriately to achieve good readability of the maps.

9. To present the spatial distribution of selected pressure factors and of water availability, the following graphs are produced at basin level and can therefore serve as elements also for the subregional thematic maps (see Annex 4):

   – *Landuse/land cover*: percentual shares of main land use/land cover classes (pressure indicator) by transboundary basin. The percentages reported by countries are used as priority for producing the pie charts of the type presented in Annex 4 and possible gaps that remain are filled using the GlobCover[2] product.

[1] As "groundwater bodies" identified according to the definitions of the European Union's Water Framework Directive (WFD) differ from aquifers, the map of transboundary groundwaters in the EU may need to be a mix of both. As there are different degrees of certainty about the delineations, this has to be reflected in the choice of symbols.

[2] GlobCover is a 300 metre resolution global Land Cover product of ESA / ESA GlobCover Project, led by MEDIAS-France. The product is independently validated, derived from an automatic and regionally-tuned classification of a time series of the MERIS FR composites (remotely sensed imaging spectrometer data), which cover the period from December 2004 to June 2006. For details, please refer to the web site http://ionia1.esrin.esa.int/index.asp. For the second Assessment the initial values are reclassified and regrouped as close as possible to the landuse/land cover categories employed in the assessment datasheet (water bodies, forests, cropland, grassland/shrubland, urban/industrial areas, surfaces with little or no vegetation, wetlands/peatlands).

- *River discharges* (quantity status information): The aim of presenting this information to allow comparison of flow volumes of rivers/tributaries to illustrate the spatial distribution of surface water resources. At the basin level, the natural variability of flow, maximum, average and minimum flows will be shown for different gauging stations, together with the station locations.
- *Population* (pressure indicator): Indicates the pressure from human settlements on water resources. Population figures by country within the basin are included now among the graphs, but for sub-regional level presentation these could be recalculated as a single figure by transboundary basin.

10. Selected summarizing maps or graphs could be produced for the Executive Summary only or to be used also in the second Assessment report, for example:

- Existence of a legal/institutional framework for transboundary water cooperation in the basins
- Extent of international River Basin Districts and level of preparation of River Basin Management Plans(in cooperation with EEA) or, for non EU countries, level of application of IWRM
- Water resources per capita in transboundary basins or in each country's territory within a basin (as a series of bar charts)
- Water withdrawal by sector (e.g. as pie charts on a subregional map, as linked to transboundary basins)
- Population density[3] by transboundary basin
- Installed hydropower capacity and reservoir volume
- Main pressures exerted on water resources (for example as summary tables or matrices)
- Potential impacts of climate change by subregion

11. Some maps or graphs could be produced only for a particular sub-region for which the data are available or in which the issue is topical.

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[3] Requires a recalculation based on the figures reported by the countries. To be

Annex 1

OUTLINE OF THE SECOND ASSESSMENT

A. Outline of contents

MAPS
Surface waters and aquifers will be presented in a single map for a given subregion. The maps will show basin boundaries, topography, land cover/land use distribution and delineations of transboundary aquifers

- Overview map of main transboundary surface waters and aquifers in the UNECE region (maybe split in more than one map)
- Possible thematic maps which may partly be the same for the Executive Summary

I. OVERVIEW/SUMMARY (text similar to the one of the executive summary also published separately)

II. OBJECTIVES AND SCOPE OF THE ASSESSMENT

III. MAJOR FINDINGS OF THE ASSESSMENT
Major findings of the Assessment will be presented by subregions each having the following sub-sections

- LEGAL, POLICY AND INSTITUTIONAL FRAMEWORKS FOR TRANSBOUNDARY WATER MANAGEMENT
- MONITORING OF TRANSBOUNDARY RIVERS, LAKES AND GROUNDWATERS
- MAIN PROBLEMS, IMPACT AND STATUS
  (Including specific issues such as climate change, health impacts, water-related ecosystems, as highlighted in the assessment of the different basins)
- CLIMATE CHANGE AND ITS IMPACTS ON WATER RESOURCES
- RESPONSES
- THE WAY FORWARD
  Trends and recommendations

IV. ASSESSMENT TRANSBOUNDARY RIVERS, LAKES AND GROUNDWATERS
Assessment of the different river basins grouped by recipient sea as presented below.

- Chapter 1: DRAINAGE BASINS OF THE WHITE SEA, BARENTS SEA AND KARA SEA
- Chapter 2: DRAINAGE BASINS OF THE SEA OF OKHOTSK AND SEA OF JAPAN
- Chapter 3: DRAINAGE BASIN OF THE ARAL SEA AND OTHER TRANSBOUNDARY WATERS IN CENTRAL ASIA
- Chapter 4: DRAINAGE BASIN OF THE CASPIAN SEA
- Chapter 5: DRAINAGE BASIN OF THE BLACK SEA
- Chapter 6: DRAINAGE BASIN OF THE MEDITERRANEAN SEA
- Chapter 7: DRAINAGE BASINS OF THE NORTH SEA AND EASTERN ATLANTIC
- Chapter 8: DRAINAGE BASIN OF THE BALTIC SEA

Annex 1: Inventory of transboundary rivers, lakes and groundwaters and Ramsar sites
Annex 2: Brief description of the water resources management framework in the countries
Annex 3: Existing agreements related to the management of transboundary basins/water bodies
Annex 4: Status of ratification of selected international agreements relevant to transboundary water management

Annex 5: List of country codes
Annex 6: List of acronyms and units of measurement
Annex 7: Illustrations of transboundary aquifer types
Annex 8: Alphabetical index of rivers, lakes, aquifers and Ramsar sites

Other annexes as needed

B. Draft outline of a section for a river basin/aquifer under part IV

- Each section should address in integrated way transboundary surface and ground waters.
- Assessment of groundwaters that cannot be associated to a specific river basin will be presented at the end of the relevant chapter, following the same outline.
- The assessments of the sub-basins follow the description of the main basin.
- For selected basins, there will be an assessment of a transboundary Ramsar site(s) or wetlands of transboundary importance presented in a separate box (see outline in section C below).

I. General description of the basin

Source and recipient, area of the basin within each riparian country, population and population density in the territory of each country

II. Hydrology and hydrogeology

An integrated overview on surface waters and shared aquifers in the basin.

III. Pressures

For surface and groundwaters, information on main pressure factors likely to cause a transboundary impact and a qualitative assessment of their importance on scales local vs. widespread and moderate vs. severe, when available (according to the questionnaire)

IV. Status and transboundary impacts

Water quantity and quality status, and impacts on it, including on water-related ecosystems; socio-economic impacts

V. **Response measures** (including implemented measures, gaps and foreseen measures)

Both structural and non-structural measures; monitoring of transboundary waters; legal and institutional developments; financing etc.

VI. Future trends

Foreseeable trends on the status, possibly including scenarios on water quality and water quantity taking into account drivers of change such as economic development, climate change, etc.

C. Outline of boxes on the assessment of transboundary wetlands with designated Ramsar sites

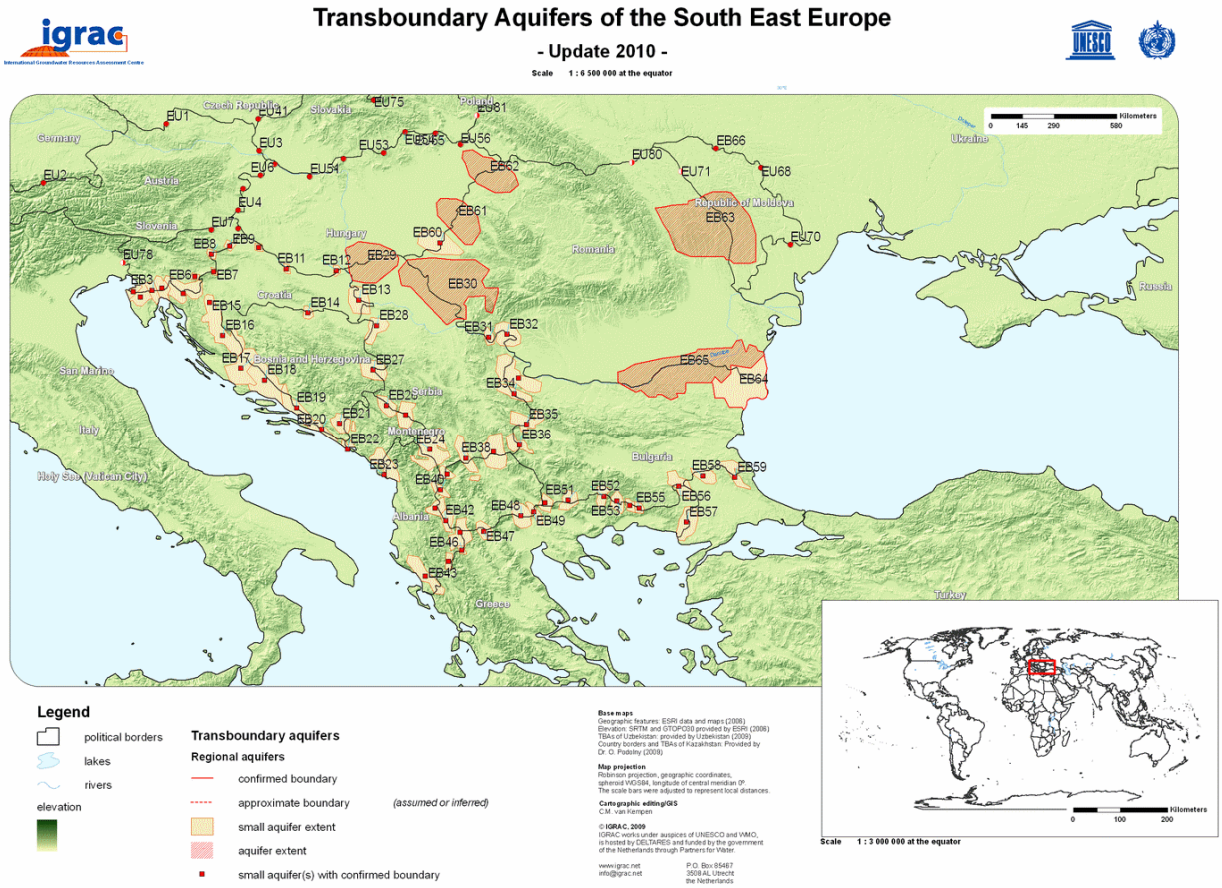
I. General description of the wetland area
II. Main wetland ecosystem services and supporting socio-economic services
III. Biodiversity values of the wetland area
IV. Pressure factors and transboundary impacts
V. Transboundary wetland management

Annex 2

Overview map of main transboundary surface waters in Western, Central, Eastern and Northern and South-Eastern Europe (from the first Assessment, to be updated)

Annex 3

Draft map of transboundary aquifers in South-Eastern Europe



Annex 4

Graphs to accompany the basin maps (Sava basin as example) which can also serve as elements for graphics in the Executive Summary

Percentage distribution of land use/land cover
Population in the territory of each riparian country within the basin
Average, minimum and maximum discharges at different gauging stations