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**International Recommendations for Water Statistics:
Process leading to the publication**

Paper prepared by UNSD

(for discussion)

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Progress report prepared by UNSD

UNCEEA Meeting
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A. Introduction

1. At its 38th Session in March 2007, the UN Statistical Commission (UNSC) adopted the *System of Environmental-Economic Accounting for Water* (SEEAW) as an interim international statistical standard and recommended its implementation in countries. It further “requested the United Nations Statistics Division to develop and submit to the next Statistical Commission an implementation strategy for the SEEAW, taking into account the fact that countries were at different stages of development of environment statistics and environmental-economic accounting”.¹

2. In response to the request by the Statistical Commission, UNSD prepared an implementation strategy based on extensive consultation with countries and discussions at several international meetings.² A summary of the implementation strategy was presented in the Report of the Committee of Experts on Environmental-Economic Accounting to the UNSC at its 39th Session in February 2008.³

3. The SEEAW implementation strategy included, among other elements, the development of international recommendations for water statistics, accompanied by guidelines on data collection and compilation material.

4. This paper presents the scope and coverage of the *International Recommendations for Water Statistics* (IRWS), an outline of the process for its drafting and adoption as well as a suggested timetable. It is submitted to the UNCEEA for discussion and approval because of its mandate to ensure the overall coordination of activities in environmental-economic accounting and related statistics.

¹ Statistical Commission Report on the thirty-eighth session (27 February to 2 March 2007) Economic and Social Council Official Records 2007 Supplement N. 4 (E/2007/24 E/CN.3/2007/30).

² Meetings that discussed the SEEAW implementation strategy included the Second Meeting of the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) (Minutes of Second Meeting of the UNCEEA, 5-6 July 2007), the 11th meeting of the London Group on Environmental Accounting (Pretoria, 26-30 March 2007) and six training workshops or training programmes on water accounting held during 2007.

³ E/CN.3/2008/25.

B. Scope and coverage

5. IRWS builds on the *System of Environmental-Economic Accounting for Water* (SEEAW) as well as the previous efforts of Inter-Secretariat Working Group on Environment Statistics (ISWGES) to harmonise the terms and definitions used in water statistics. The IRWS will provide an agreed list of data items and agreed definitions on water statistics that countries are recommended to compile and hence form the basis of water statistics programmes.

6. The data items will support the production of water accounts as well as assist in the production of most of the indicators commonly used in water statistics, including the Millennium Development Goals related to water supply and sanitation. The data items are fully harmonized with those in the SEEAW standard tables but are more detailed to cover additional items related to water needed for sector-specific policies and analyses.

7. The IRWS is organized into two parts. Part I, covering the international recommendations, will have 4 chapters and cover the key concepts, definition of data items and indicators. Part II will have 5 chapters and will provide general guidelines on data sources, data quality, data collection strategies, and dissemination. Four annexes will address: (1) supplementary data items (2) the links between the data items and the SEEAW; (3) the links between the data items and commonly used water indicators and; (4) data quality assessment framework for water statistics.

8. The structure of IRWS is similar to other recently developed international recommendations (e.g. the *International Recommendations for Industrial Statistics* and the *International Recommendations of Distributive Trade Statistics*) but it has been tailored to suit the needs of water statistics. As the drafting of the IRWS proceeds some additional modifications to the structure may be made. A draft annotated outline of the IRWS is included in Annex I.

9. The SEEAW and IRWS will be followed by practical guidelines, based on best practices, on how to collect and compile the data items. The compilation guide will be made available after Parts I and II are completed and adopted by the UNSC. Some work on these guidelines will occur while the IRWS is being developed. The guidelines will provide more specific guidance on the compilation of the standard tables of the SEEAW, the filling in of international questionnaires and production of indicators used for international monitoring and reporting.

10. It is planned that the compilation guidelines are part of knowledge-base platform that will enable the guidelines to be easily updated and accessed via the UNSD website. In addition to compilation guidelines, other relevant material, such as country examples and best practices, will also be included. This will build on existing functions of the UNSD website, for example the searchable archive of publications on environmental-economic accounts.

11. Together the SEEAW, the IRWS and the compilation guidelines will provide a suite of publications for the standard definition, presentation, compilation, analysis and description of water statistics. The SEEAW provides the *macroeconomic output framework* consisting of concepts, definitions, classifications and inter-related tables and accounts integrating economic and hydrological information. The IRWS is an agreed

intermediate output framework of a coherent set of internationally agreed principles, concepts and definitions of data items to be collected and published for the measurement and analysis of water.

C. Process and timetable for preparation of IRWS

12. UNSD has embarked on the drafting of the IRWS as part of its regular work programme. In preparing the IRWS, the UNSD will cooperate closely with the London Group on Environmental Accounting, and in particular with the former members of the sub-group on water accounts which was dissolved upon completion of the SEEAW, the ISWGES as well as experts from countries and international agencies.

13. A reference group consisting of experts in water statistics and water accounting will be invited to provide comments on the first draft of Parts I and II of IRWS during the period July-August 2008. Members of the reference group will include experts from the national statistical offices, water ministries and international organisations⁴.

14. The comments of the reference group will be addressed and a second draft of the IRWS prepared. This draft will be available on the UNSD website 4 weeks before the expert group meeting, currently planned to be held in the end of October 2008 in New York. The expert group meeting will be attended by experts on water statistics and water accounts from countries and international organisations, including those represented in the London Group and the ISWGES.

15. The new draft of the IRWS including the recommendations of the expert group will be circulated for world-wide consultation to ensure universal relevance, applicability and feasibility of implementation of the international recommendations. A summary of the results of the world-wide consultation will be submitted to the United Nations Statistical Commission as a background document. The UNSD will be asked to approve of the process of preparation of the IRWS. The final draft including the comments received through the world-wide consultation will be submitted to the UNCEEA for its approval and subsequently upon its approval, the UNCEEA will request the adoption of the IRWS by the Bureau of the UNSC.

16. The timetable for the development and adoption of the IRWS is outlined in the table below.

⁴ Countries: Australia, Austria, Brazil, Canada, Chile, China, Dominican Republic, Denmark, Guatemala, Hungary, Mexico, Netherlands, South Africa. International organisations: ECLAC, ESCWA, EEA, Eurostat, FAO, OECD, UNEP.

Table 1. Timetable for the preparation of the IRWS

	2008						2009		
	January-February	March-April	May-June	July-August	September-October	November - December	January-February	March-April	May
Drafting	Drafting of chapters 4-5	Completed first draft chapters 4-5 Drafting of Chapter 1-3	Completed first draft Chapters 1-5 Drafting Chapters 6-9	Finalise second draft of IRWS based on comments from reference group		New draft on the basis of the recommendations of the Expert Group		Complete final draft IRWS including comments from world-wide consultation	
Consultation			Progress report on IRWS to the UNCEEA	Chapters 1-5 are sent to the reference group and Chapters 6-9 are sent progressively	IRWS draft is discussed by an Expert Group Meeting (October)	World-wide global consultation for IRWS (Dec. – Jan)	Summary of comments received from the world-wide consultation UNSC approves process	Final draft of IRWS is approved by the UNCEEA	
Final draft IRWS									UNSC Bureau adopts IRWS

D. Questions to the UNCEEA

17. The UNCEEA may wish to express its views on the following questions:
- 1) *Does the UNCEEA agree with the proposed scope and coverage of the IRWS [Section B]?*
 - 2) *Does the UNCEEA agree with the proposed structure of the IRWS into 2 parts, Part I, covering the international recommendations and Part II providing implementation guidelines on data sources, data quality, data collection strategies, data storage, data editing and dissemination [para 7 and Annex I]?*
 - 3) *Does the UNCEEA agree with the proposed process for the completion of the IRWS [Section C]?*
 - 4) *Does the UNCEEA agree with the proposed time schedule for the completion and adoption of the IRWS [Table 1]?*

Annex I

Draft Annotated Outline

International Recommendations for Water Statistics (IRWS)

Chapter 1: Introduction. This chapter will introduce the objectives of the IRWS, describe the target audience, present its relevance for integrated water resource management (IWRM), and describe the structure of the publication.

PART I

Chapter 2: Main concepts and the SEEAW. This chapter will briefly describe the main concepts of economic, environment and population statistics needed to place water statistics into a broader statistical context. It will provide an explanation of the SEEAW and its relationship to the SNA and the SEEA accounting frameworks. It will also cover the issue of spatial and temporal references for water statistics because these references will often not be consistent between economic data, which typically uses administrative boundaries (e.g. states and provinces), and environmental data, which uses ‘natural’ boundaries (e.g. river basins).

Chapter 3: Economic units. This chapter will cover the definition, characteristics and the classification of units within the economy. This will include a description of enterprises, establishments and households and the classification of economic units by the International Standard Industrial Classification of All Economic Activities (ISIC). It will identify and briefly describe the main industries of importance for water statistics. It will also draw attention to some of the differences in the definitions and terminology used in economic, environment and population statistics.

Chapter 4: Data items. This chapter will contain the water-related data items that are recommended to be compiled by countries. Data items cover physical and monetary data items as well as selected items on the social aspect. These will be presented as a tabulated list. Each data item will have a unique alpha numeric code, an agreed definition and, where necessary, a discussion of the relevant issues related to its compilation.

The data items are grouped under the following headings:

- Physical data items
 - Inland water resource stocks
 - Flows of water into and out of the territory
 - Natural transfers between inland water resources
 - Flows of water from the environment to the economy
 - Flows of water within the economy
 - Flows of water from the economy to the environment
 - Losses in distribution
 - Flows of waterborne emissions within the economy
 - Flows of waterborne emissions from the economy to the environment
- Monetary data items
 - Economic flows related to water supply and sewerage

- Water supply and sewerage infrastructure
- Cost of water supply and sewerage (for own use)
- Tariffs and charges for water supply and sewerage
- Population data items
 - Type of water supply
 - Type of toilet and sewerage disposal
 - Population killed or affected by flooding

A list of supplementary data items will also be included as Annex 1. The data items will be linked to the SEEAW standard tables and to commonly used water indicators by concordance tables which will be included in Annexes 2 and 3, respectively.

PART II

Chapter 5: Indicators. This chapter will provide general guidance on the characteristics, construction and use of indicators. The chapter will highlight the links to the SEEAW as well as to the data items of Chapter 4 and the Annexes 2 and 3.

Chapter 6: Data sources, compilation methods, and processing. This chapter will cover statistical data sources (i.e. survey data and administrative data) as well as hydrological/meteorological and research data sources. It will examine the different types of data, their availability from various agencies and the likely advantages and disadvantages of using data from different sources. It will also discuss the most relevant data sources for the various data items recommended in Chapter 4. It will cover general issues of imputations, weighting (or grossing-up) and aggregation of data.

Chapter 7: Data collection strategy. This chapter will address the problems presented by multiple data sources, including incomplete or poor quality data from multiple sources. It will provide guidance on how to assess the scope, availability and quality of existing data and survey frames to support water statistics. It will examine the different options for collecting new data to address data gaps or quality concerns. For example, it will address the issues of frequency and timing of data availability, geographic and industry coverage.

Chapter 8: Data quality and metadata. This will describe the dimensions of data quality (prerequisites, relevance, credibility, accuracy, timeliness, methodological soundness, coherence and accessibility). Some of the existing frameworks for the assessment of data quality will be outlined. This will be tied to a suggested data quality assessment framework for water (Annex 4). The terminology and intent of metadata will also be described together with the metadata needed for water statistics.

Chapter 9: Dissemination. This chapter will address the issues of confidentiality, equality (of access) and objectivity of water statistics. Some formats for dissemination (e.g. via water accounts and indicators) and international reporting will also be discussed.

Annex 1: Supplementary data items. This annex will list a number of additional data items not included in the chapters, but which may be useful for some countries to compile. Possible disaggregations and alternative breakdowns of the data items will also be presented.

Annex 2: Link between the data items and SEEAW. This annex will present a concordance table between the SEEAW standard tables and the IRWS data items.

Annex 3: Link between data items and water-related indicators. This annex will present a concordance table between the most commonly used water indicators and the IRWS data items. It will also provide general guidance on the characteristics and construction of indicators.

Annex 4: Data quality assessment framework. This annex will propose a data quality assessment framework for water statistics, based on existing data quality frameworks.

Glossary: A glossary of terms and definitions used in IRWS will be included.