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**WATER INDICATORS AND DATA NEEDS:
REVISION OF THE JOINT OECD/EUROSTAT QUESTIONNAIRE
ON WATER RESOURCES, ABSTRACTION AND USE**

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Water Indicators and data needs

Summary

This is one of two papers which looks at the revision of the Joint OECD/Eurostat questionnaire (JQ) on Water. Response to the questionnaire over the years has been poor, often with more gaps than data, and definitions and methods used have led to major differences between countries which render the data impossible to compare or to aggregate in useful ways.

In recent years there has been increased political pressure within the EU for indicators to monitor how policy measures are being implemented and if the measures are having the desired effect. At the same time countries have found themselves wilting under a heavy burden of reporting on water under various directives and conventions. So, often we have the situation where a large mass of information and data is collected, but we do not have the data needed to produce the indicators the policy makers really need. A revision of the whole reporting system is overdue.

A first step has been the revision of the joint questionnaire on water statistics, to identify priority questions, and to try to harmonise definitions and methodologies with those of international conventions or EU reporting systems, so that the same data is reported to several bodies, reducing the reporting burden. Of course it has had to be borne in mind that the JQ is used also by non-EU countries, and this is reflected in the introduction of specific Eurostat tables. It is hoped that these improvements will improve response rates, particularly to the priority questions.

Introduction

Water is one of the keys issues of Sustainable Development: it is a basic element for human survival, it is an important production factor in our economy, particularly in agriculture, and it is the habitat of a wide range of biodiversity. So we have a social, an economic and an environmental dimension to the sustainability of water, and each needs basic statistical data to produce relevant indicators.

Three major areas for which indicators are needed are distinguished:

1. Water resources/supply
2. Water pollution
3. Society's response to these problems

1. Water resources/supply

Luckily water is a renewable source, so the main policy question concerning resources of water is: Are we using more than is being naturally replenished? This simple question is fundamental to policy makers, who may need to take steps such as expanding storage capacity, or introducing measures to reduce consumption, increase recycling, etc.

This first question leads to two others:

- what potential resources do we have? It is no use building new reservoirs if there is not enough rainfall or flow in rivers to fill them.
- how much water do we use, for what?

2. Water pollution

Many of the main users of water need water of a certain quality, for example, for drinking water or for the preparation of food, either in the home or in the food industry, for hygiene purposes, or for industry where contaminants can interfere with expensive processes. Therefore we need not only adequate supplies of water, but adequate supplies of water of a certain quality to meet the needs of society and the economy. Moreover, the aquatic life of our rivers and streams is very dependent on water quality, and has implications for wider biodiversity, for example birds. Thus in order to safeguard the quality of our water, the policy maker needs the answer to the questions How much of our water is polluted and What are the major sources of this pollution?

3. Responses

A third question from policy makers is Are our responses adequate? Are we cleaning up enough of our waste water to reduce the risk of pollution problems? Are our measures to reduce demand working? etc.

While the joint questionnaire cannot provide the whole answer to all these questions it can go a long way towards providing the main indicators, if completed by all countries.

Revision of the Eurostat/OECD Joint questionnaire on water –state of progress

The joint Eurostat/OECD questionnaire (JQ) on water statistics is sent out to Member States every two years. The data collected currently covers the following fields:

- resources
 - Abstraction of surface and ground water
 - use and consumption
 - wastewater collection and treatment facilities
 - production and disposal of sewage sludge
 - discharges to waste water
 - quality of surface waters

These data take on increasing importance as efforts are made to reduce the reporting burden on countries, while at the same time meeting the demand for information to monitor the implementation of European directives concerning water and the development of key environmental indicators in particular.

However the terminology and definitions used by the European Union in its directives and regulations sometimes differ appreciably from those of other organisations. Consequently the harmonisation of data is a major concern of the Commission, in particular when this information is used to produce indicators to show progress achieved.

In this context, Eurostat undertook a revision of the JQ so that the data collected would meet the needs of the users and by agreeing on common definitions, terminology and priorities with the Member States.

Therefore in November 1999 a Task Force on water statistics was set up to identify the priority data within the JQ and to propose a revision which harmonises methodologies and definitions. The Task Force was made up of representatives of Member States, the Environment DG of the European Commission, the European Environment Agency and the OECD.

The text below summarises the progress in revision of tables 1 to 3 covering resources, abstractions and uses of water.

Table 1: water resources.

This table covers the water cycle (precipitation, evapotranspiration, inflows and outflows of surface water) and groundwater resources.

The European Environment Agency (EEA), via its topic centre for internal waters (ETC/IW), submitted a proposal to incorporate into the table two types of data, namely on the one hand the currently required data, concerning the current hydrological cycle, i.e., taking account of human activities, and data concerning the natural cycle without taking account of the presence of man.

The latter would be useful to assess the impact of human activities on the water cycle but can prove difficult to obtain, either for lack of mathematical models or of natural areas in which to gather data on the natural cycle, in order to extrapolate to a drainage basin or to a territory. This is particularly true in countries with high population density.

Here is an outline of the structure of the proposed amended table:

Precipitation
Actual evapotranspiration
Internal
Flow
Actual external inflow
of which: from EU-territory
of which: from outside EU-territory
Total actual outflow
of which: into the sea
of which: into EU-territory
of which: outside EU-territory
TOTAL FRESH WATER RESOURCES
Ground water available for annual abstraction
- Recharge into the Aquifer
- Recharge minus ecological discharge
Regular freshwater resources 95 per cent time

The Environment DG suggested using the definition of groundwater resources given in the Water Framework Directive, introducing the concept of the flow required to achieve the ecological qualitative aims of the associated surface water. As this questionnaire is addressed to all OECD countries, not only the EU, it was proposed to allow countries to choose to adopt this definition or to retain the current definition (resources available 95% of the time) particularly as the definition of ecological quality of water will be the subject of future discussions.

Table 2: Water abstraction

The data requested covers the volumes abstracted, broken down by type of water (surface, underground or other) and the sectors (industrial sectors, public water supply, domestic self-supply).

The Task Force clarified the definitions of public water supply, of self-supply and of water returned without or after use, as follows:

'Public water supply': Water supply by water works. Deliveries of water from one public supply undertaking to another are excluded. Reference is made to sector 41 (NACE/ISIC): collection, purification and distribution of water (including desalting of sea water to produce water as the principal product of interest, and excluding system operation for agricultural purposes and treatment of waste water solely in order to prevent pollution)

'Self supply' : abstraction of water direct from water bodies for own final uses and not obtained from public water supply.

'Returned Water' : The quantity of water that is returned to surface water or ground water without any use, after use, or after wastewater treatment so that it becomes available for reuse.

The latter information on the water returned after use to the environment from which water is abstracted is useful to determine the real abstraction rate from a natural resource.

It was also decided to add a complementary table concerning unconventional sources of water, namely desalination, waste water recycling, water imports.

Below is an outline of the structure of the proposed amended table:

<u>Fresh surface water</u>	
Total Abstraction	
of which: (a)	(41)
* public water supply	
* Agriculture, etc... (b)	(01-05)
<i>of which: irrigation</i>	
* Mining and quarrying	(10-14)
* Manufacturing industry	(15-37)
<i>of which: industry-cooling</i>	
* Production of electricity (cooling)	(401)
* Construction	(45)
* Other activities	
* Households	
<u>Fresh ground water</u>	
Total Abstraction	
of which: (a)	(41)
* public water supply	
* Agriculture, etc... (b)	(01-05)
<i>of which: irrigation</i>	
* Mining and quarrying	(10-14)
* Manufacturing industry	(15-37)
<i>of which: industry-cooling</i>	
* Production of electricity (cooling)	(40.1)
* Construction	(45)
* Other activities	
* Households	

Table 3: consumption and uses

This table asks for data by type of supply (public supply or self supply) by sector of activity and by type of use of water.

Apart from the clarification of definitions already covered in table 2 as well as those of returned water, the only modification to this table consists of a regrouping of the various sectors of manufacturing industry, the data by detailed sector being presented in an optional table in annex. It is the same for the households sector and other non industrial activities, as it has proven difficult to obtain specific information for each one of these sectors individually. Here is an outline of the structure of the proposed amended table:

Population connected to public water supply (%)	
<u>Public water supply.</u>	
_TOTAL (a)	
of which supplied to:	(01-05)
* agriculture, forestry, fishing	
* All industrial activities	(10-45)
- Total manufacturing industries	(15-37)
of which supply for cooling purposes	
- Production and distribution of electricity	(40.1)
of which: used for cooling purposes	
- Other industrial activities	
* Domestic sector	
of which:	
- households	
- other activities	
<u>Self supply.</u>	
TOTAL	
of which supplied to:	(01-05)
* agriculture, forestry, fishing	
of which: for irrigation purposes	
* All industrial activities	(10-45)
- Total manufacturing industries	(15-37)
of which supply for cooling purposes	
- Production and distribution of electricity	(40.1)
of which: used for cooling purposes	
- Other industrial activities	
* Domestic sector	
of which:	
- households	
- other activities	
<u>Other supply.</u>	
_TOTAL	
of which supplied to:	(01-05)
* agriculture, forestry, fishing	
of which for: irrigation purposes	
<u>Water losses.</u>	
TOTAL	
* Public water supply	
* Self supply	
* Other supply	