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EXPERT GROUP SYNTHESIS MEETING: OUTCOMES AND KEY CONCLUSIONS

Paper prepared by World Water Assessment Programme (WWAP)

The World Water Assessment Programme's (WWAP) Expert Group on Indicators, Monitoring and Databases (EG-IMD)

Expert Group Synthesis Meeting: Outcomes and Key Conclusions

(June 1-2, 2009, Copenhagen, Denmark)

The Expert Group's original mandate was to identify a set of core indicators for use in the WWDR.

It was recognised from the outset that the availability of data would be a factor in the choice of useful indicators which could be reliably and systematically reproduced and compared over time.

In the process, it was demonstrated that certain key data sets were incomplete (discontinuous time series, gaps in geographical coverage) and/or unavailable (not publicly accessible, requiring first order treatment). As a result, very few useful indicators could be calculated in a reliable fashion because of the lack of reliable and repeatable information about certain key "variables" or "data items". This had been recognized earlier, as part of the assessment process of the WWDR and recently UN-Water Task Force on Monitoring (2006).

The process therefore concluded that the priority was to identify a set of key "data items" and then to focus on the actions needed to produce them reliably. A list of recommended key indicators will still be provided based on discussions at the first two EG meetings.

The focus on the "data items" will however allow a range of indicators to be calculated, both those that could be considered "core" to the users of the WWDR but also a range of others that may be useful to subsets of users. Indeed, it became clear in the process that some "users" sought indicators for use in advocacy, or to support different information systems and frames of analysis from which indicators can be derived. To the extent that WWAP is a neutral platform, it is appropriate that its output should be more generic so that it can be used to provide a range of indicators relevant to these different interest groups.

The meeting recognized that the SEEAW provides a useful statistical framework to integrate hydrological, environmental and economic information. The SEEAW should thus be considered as the reference framework for all water-related information. Efforts should be made to standardize definitions and classifications with those of the SEEAW to allow the integration of the data items in the system and thus the derivation of a broad set of indicators.

In parallel, the meeting saw value in the WWAP Pilot Study on Indicators (PSI), which has demonstrated the potential of such an integrated system, in this particular case, of utilizing

operational Earth system science data sets to monitor key elements of the global water resource base. The framework is being configured to incorporate both operational and survey data. The meeting established the need to continue development of the PSI.

Some of the "data items" proposed are new, and most of these are to be derived from remote sensing (RS) supported, where necessary, by modelling. Those identified included:-

In the domain of water resource availability:

- TARWR (new, 30 year moving average; replacing fixed 1960-1990 data) (RS + synthesised)
- Available man-made storage capacity and long-term changes in surface and groundwater storage
- Long term (30 year) average precipitation (new, to match new TARWR series)
    - Basic indicators of variability
        - Frequency of specific extremes (new)
        - Values of specific extremes (new)

(It was noted by the WMO nominated expert that the production of these "data items" will require reference to daily precipitation data as well as sufficient information about river discharge and storages. In addition, the treatment of variability will require further elaboration.)

In the domain of water quality and environment

- Eutrophication of selected freshwater water bodies (new, using RS to assess chlorophyll and dissolved organic matter)
- NO3 and salinity in
    - Groundwater (new)
    - Freshwater (new)
- Freshwater species (subsector of living planet index by WWF)
- Extent and condition of selected wetlands (new, using RS)

In the domain of water use

- Water use by sector (existing classifications)
    - Agriculture
    - Industry
    - Urban

(Although "governance" and performance indicators are being considered through a separate process, it was noted that the availability of data about water resources and water use are in themselves powerful indicators of the quality of water governance).

Application of "data items" in the indicator realm

The data items will be interesting in themselves to provide, for instance:-

- Trends in precipitation (including extremes of drought or excessive precipitation)
- Trends in TARWR
- Trends in species, wetland condition and water quality

If the identified "data items" are determined, they can be combined with socio economic data sets (such as population and livelihoods as well as national and regional GDP) to calculate a wide range of indicators. These would include standard items such as:-

- TARWR as a proportion of precipitation ("conversion ratio")
- Water availability per capita
- GDP per unit water (for economy as a whole and for specific sectors) ("water productivity")
- employment per unit water (for economy as a whole and for specific sectors)
- Available potential storage as a proportion of TARWR
- Water use as a proportion of TARWR (water use intensity)

It will also be possible to produce "combination indicators" such as

- Trends in water quality in relation to trends in water use intensity
- Water productivity in agriculture in relation to rainfall variability
- Trends in water use intensity in relation to GDP

While WWAP would still choose which indicators are the most important to support its key messages (and the EG will make recommendations in this regard), this approach will also enable the production of interactive data sets enabling potential users to determine their own relationships between data items. This will greatly expand its usefulness and potential application.

Future development requirements

In order to enable the maximum value to be extracted from, in particular, water use data items, it is important that these be collected in a manner which is compatible with structures used in national accounts and other statistics. Achieving this will require a major programme of work on the water use data items. It is also critical to create an integrated data and analysis framework.

A set of specific activities have been agreed to develop and produce the other new data items. This will be presented in detailed form.

This phase of the WWAP Expert Group ended with the Synthesis meeting and the preparation of these outcomes. Although the future role and structure of the expert group remains to be determined, the outcomes of this process included the recognition that WWAP is uniquely positioned within the UN framework to lead a continuation of this process forward in some form or another. For example, the possibility of creating sub-groups for different domains and/or data items was proposed. The list of core participants in each of the specific activities could form the basis from which some sub-group could develop.