

# Water Country Briefs Diagnostic Workshop

Geneva, 9 – 10 December 2010  
Prepared by the WCB Project Team

Project implemented by FAO-AQUASTAT on behalf of UN-Water  
with financial support from United States Department of State

**UN Water** is made up of the UN agencies, programmes and funds that have a significant role in tackling global water concerns. It also includes major non-UN partners who cooperate with them in advancing progress towards the water-related goals of the Decade Water for Life and Millennium Declaration. It is the official United Nations mechanism for follow-up of the water-related decisions reached at the 2002 World Summit on Sustainable Development and the Millennium Development Goals and supports Member States in their efforts to achieve water and sanitation goals and targets. Its work encompasses all aspects of freshwater, including surface and groundwater resources and the interface between fresh and sea water.

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# Contents

|  |    |
|--|----|
| Acknowledgements   | 2  |
| List Of Abbreviations  | 3  |
| Context Of The Workshop  | 5  |
| Background   | 5  |
| Workshop Objectives And Expected Outputs   | 5  |
| Participating Agencies   | 5  |
| Agenda   | 6  |
| Presentations  | 7  |
| Summary Of Discussions   | 8  |
| Objectives   | 8  |
| Scope, Conceptual Framework And Methodology  | 8  |
| Outputs  | 8  |
| Target Audience  | 8  |
| Country Selection  | 9  |
| Contributions By Unw Members   | 9  |
| Indicators   | 9  |
| Project Steering Committee   | 9  |
| Communication Strategy   | 9  |
| Conclusions And Next Steps   | 11 |
| Annex 1: List Of Participants  | 12 |
| Annex 2: Workshop Agenda   | 13 |
| Annex 3: Presentations   | 15 |
| FAO: AQUASTAT - Products, Indicators, Challenges   | 15 |
| FAO: Federated Water Monitoring System and Key Water Indicator Portal project                            | 18 |
| FAO: WCB Implementation Strategy   | 20 |
| GWP: (I)WRM Indicators: A GWP Perspective  | 23 |
| IAEA: Water Resources at the IAEA and Some Recent Initiatives  | 25 |
| IAH: Groundwater   | 27 |
| Ramsar: Indicators of Effectiveness of the Implementation of the Ramsar Convention                       | 29 |
| SIWI: Status of Implementation of CSD -13 Policy Actions on Water and Sanitation; a Country Level Survey | 33 |
| UN-Water: Water Country Briefs: Introduction & Background  | 36 |
| UNEP-DHI: Delivering the UN-Water Status Report on Water Resources Management for the Rio+20 Conference  | 40 |
| WHO / UNICEF: Joint Monitoring Programme (JMP) for Water Supply & Sanitation                             | 42 |
| UNISDR: UNISDR Monitoring of Progress in Reducing Risk to Water Related Disasters                        | 44 |
| WBCSD: Global Water Tool   | 47 |
| WHO: Overview of UN-Water GLAAS  | 52 |
| WWAP: UNTF-IMR Basic List of Indicators  | 55 |

# Acknowledgements

The project team extends its deep gratitude to WHO, co-host of the WCB Diagnostic Workshop, and to the workshop participants for their substantive inputs and fertile deliberations. A special mention must also be made to the UN-Water Technical Secretariat and FAO colleagues for their resolute support.

# Abbreviations and Acronyms

|        |   |
|--------|---|
| DESA   | Department of Economic and Social Affairs                             |
| FAO    | Food and Agriculture Organization of the United Nations               |
| FWMS   | Federated Water Monitoring System                                     |
| GDP    | Gross Domestic Product  |
| GLAAS  | UN-Water Global Annual Assessment of Sanitation and Drinking Water    |
| HDI    | Human Development Index   |
| IAEA   | International Atomic Energy Agency                                    |
| IAH    | International Association of Hydrogeologists                          |
| ILO    | International Labour Organization                                     |
| JMP    | WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation |
| KWIP   | Key Water Indicators Portal   |
| MDG    | Millennium Development Goal   |
| PSC    | Project Steering Committee  |
| RO     | Reporting Officer   |
| SIWI   | Swedish International Water Institute                                 |
| UNCSD  | United Nations Commission on Sustainable Development                  |
| UNEP   | United Nations Environment Programme                                  |
| UNICEF | United Nations Children's Fund  |
| UNISDR | United Nations International Strategy for Disaster Reduction          |
| UNOPS  | United Nations Office for Project Services                            |
| UNSD   | United Nations Statistics Division                                    |
| USDS   | United States Department of State                                     |
| UNW    | UN-Water  |
| WASH   | Water, Sanitation and Hygiene Programme                               |
| WB     | World Bank  |
| WBCSD  | World Business Council for Sustainable Development                    |
| WCB    | Water Country Briefs  |
| WHO    | World Health Organization   |
| WWAP   | World Water Assessment Programme                                      |
| WWDR   | World Water Development Report  |
| WWF    | World Water Forum   |
| WWW    | World Water Week  |



# Context of the workshop

## BACKGROUND

The overall objectives of the Water Country Briefs (WCB) project are to better visualize the critical importance of “investments in water” for human and economic development. The intention is to foster increased political momentum for stronger interventions on water-related issues by policy makers, dealing with peace and security, infrastructure investments, agricultural, health, education and environmental issues, as well as macro- and micro-economic perspectives. An ultimate goal is to mobilize increased financial and institutional investments directed to water-related interventions, to serve as a tool for advocacy on water issues in more general terms and as decision support tools in policy processes. The primary target group is national governments, but major civil society organizations and private sector actors, and the media are also examples of key stakeholders.

Given the available budget this initial project will generate WCBs for a 10-15 countries at the most. As the main purpose of this project is to define the methodology and develop the template and framework and apply it to a limited number of countries, considerable time and resources will be dedicated to develop such a template and methodology for these WCBs. The intention for producing this framework is that it can then be readily applied to a larger number of countries, once additional financial resources are available.

The WCBs are intended to send a powerful message about the urgent challenges on water issues that are stifling human and national development, and to prompt donors, governments and other key actors to raise these issues on the political agenda and increase investments. They will frame water issues within the larger development equation



within a country as a way to stimulate further political attention and investments in water.

The Diagnostic Workshop was a critical component of the ongoing preparatory activities for the project, and was held by the WCB project team from FAO and co-hosted by WHO, at WHO Headquarters in Geneva, 9-10<sup>th</sup> December 2010.

## WORKSHOP OBJECTIVES AND EXPECTED OUTPUTS

The diagnostic workshop's *objectives* were to:

- decide on target audiences;
- decide on the exact outputs and outcomes of the project (including indicators);
- decide on countries and political processes;
- identify what data and information are required;
- consider the main monitoring and data mechanisms to build understanding, commitment and ownership of this activity among key stakeholders, clarifying their roles and specific working processes and engagement with the main global monitoring mechanisms;
- initiate the discussion on the launch and communications strategy;
- set up steering committee.

*Output:* Workshop report summarizing the major decisions reached during the workshop.

## PARTICIPATING AGENCIES

Representatives from the following agencies participated in the meeting and/or submitted their presentations (cf. list of participants in Annex 1):

- Food and Agriculture Organization of the United Nations (FAO);
- Global Water Partnership (GWP);
- International Association of Hydrogeologists (IAH);

- International Atomic Energy Agency (IAEA);
- International Labour Organization (ILO);
- Stockholm International Water Institute (SIWI);
- The Ramsar Convention on Wetlands (Ramsar);
- The World Bank (WB);
- UNEP-DHI Centre for Water and Environment;
- United Nations International Strategy for Disaster Reduction (UNISDR);
- UN-Water Technical Secretariat;
- World Business Council on Sustainable Development (WBCSD);
- World Health Organization (WHO);
- World Water Assessment Programme (WWAP).

## AGENDA

(cf. detailed work programme in Annex 2)

Thursday, 9 December 2010

### Agenda Item 1: Opening of the meeting

The Workshop's co-host, WHO, welcomed participants with a short opening statement. The workshop's Chair was appointed, identified in the representative of IAEA for the morning session and the representative of IAH for the afternoon sessions of 9<sup>th</sup> December; and the 10<sup>th</sup> December session was chaired by WHO. The UN-Water Technical Secretariat was Rapporteur on 9<sup>th</sup> December and the WCB Project Team on 10<sup>th</sup> December. A round table of presentations and expectations from the meeting followed and launched the substantive work of the WCB diagnostic workshop meeting.

### Agenda Item 2: Background and update on WCB Project

The UN-Water Technical Committee briefly introduced the project and its background.

### Agenda Item 3: Assessment of data availability

Participants presented on a voluntary basis their water-related initiatives, which might be of relevance to the WCB.

So as to focus ensuing discussions, presentations had been previously requested to follow this format:

- Slide 1 & 2: Name and short description of your project/  
database/study
- Slide 3: Main indicators, messages
- Slide 4: What policy questions does your work target?
- Slide 5: What is the conceptual framework and data collection methodology?

Slide 6: What are the data gaps/opportunities/barriers which you encounter?

Slide 7: Information on national water-related investment needs in targeted sectors?

Slide 8: Recommendations and contributions to Water Country Briefs project

### Agenda Item 4: Implementation strategy

Following a presentation by the WCB Senior Project Coordinator outlining the various elements of the implementation strategy, participants discussed issues of target audience, conceptual framework, output, country selection, among others.

### Agenda Item 5: Review of potential water indicators

Following a presentation by the WCB Senior Supervisor on another UN-Water project implemented by FAO-AQUASTAT, the Federated Water Monitoring System and Key Water Indicator Portal (FWMS&KWIP) project, workshop participants discussed various elements pertaining to challenges and opportunities surrounding indicators and methodologies, and contributing insights, opportunities and experiences, while outlining challenges and limits.

### Agenda Item 6: Steering committee

Participants discussed the purpose of the steering committee for this project and also offered possible options.

Friday, 10 December 2010

Summary of previous day: The Senior Project Coordinator briefly summarized how work had well advanced through the discussions of the previous day.

### Agenda Item 7: Launch and communication strategy

Following the WCB Communication Manager's initial remarks, participants discussed the objective and form that the launch and communication strategy could take on for this project, proposing some initial leads for thought.

### Agenda Item 8: Other matters

A few mainly housekeeping issues were shared on this item.

### Agenda Item 9: Closure of the meeting

The co-hosts thanked participants for their attendance and input to the substantive discussions, as well as expressed their gratitude to the technical staff for the seamless logistical support, and the Chair pronounced the meeting closed.



# Presentations

The following presentations were made, listed in alphabetical order of the agency (cf. all presentations in Annex 3):

- FAO: AQUASTAT - Products, Indicators, Challenges;
- FAO: Federated Water Monitoring System and Key Water Indicator Portal Project;
- FAO: WCB Implementation Strategy;
- IAEA: Water Resources at the IAEA and Some Recent Initiatives;
- IAH: Groundwater;
- Ramsar: Indicators of Effectiveness of the Implementation of the Ramsar Convention;
- SIWI: Status of Implementation of CSD -13 Policy Actions on Water and Sanitation; a Country Level Survey;
- UN-Water: Water Country Briefs: Introduction & Background
- UNEP-DHI: Delivering the UN-Water Status Report on Water Resources Management for the Rio+20 Conference;
- WHO / UNICEF: Joint Monitoring Programme (JMP) for Water Supply & Sanitation;
- UNISDR: UNISDR Monitoring of Progress in Reducing Risk to Water Related Disasters;
- WBCSD: Global Water Tool;
- WHO: UN-Water GLAAS.

Hardcopies of the following presentations were distributed (since the presenter was not able to reach the location due to bad weather conditions):

- GWP: (I)WRM Indicators: A GWP Perspective;
- WWAP: UNTF-IMR Basic List of Indicators.

All the presentations are available for download on the UN-Water website (<http://www.unwater.org/watercountrybriefs.html>)

# Summary of discussions

## OBJECTIVES

It was assessed that there were two complementary objectives for the WCBs: 1) one linked to UN entities, and related to the result of bringing further cooperation among them, enhancing the data availability while highlighting gaps in many countries' data; 2) the second addressing direct benefits to the countries such as enabling decision makers to address development issues to respond to countries' needs with sound financial actions targeting specific sectors; to help them mobilize resources and investments.

It was discussed that the WCB project should produce a bold output resulting from active collaboration and cooperation among UN entities and partners, and aiming to reach outside the "water box" and tying into high-level political processes at the national, regional and international levels.

## SCOPE, CONCEPTUAL FRAMEWORK AND METHODOLOGY

The wealth of knowledge, experience and data available among the partners will be crucial to decide on the methodology and the indicators to be used, and the participants started to map out the ongoing initiatives within the UN-Water network (at the national, regional and international level); an exercise which it was agreed would be completed by the project team.

It was said to be also important to check the different mechanisms currently in place for sharing water-related information within a country. Many initiatives on country profiles, factsheets, snapshots and briefs are in existence and the project should ensure coherence and added-value.

It was noted that an added value of this project lied in the fact that it would consider all water-related sectors, to complement most existing country briefs which tend to focus on one sector at a time (drinking water, agriculture, environment, etc.).

It was agreed that the wealth of knowledge, experience and data available among the UN-Water members and partners would be sought to help determine the methodology and indicators.

It was discussed that the WCBs needed to demonstrate how water related to development challenges and to show where the linkages were, based on solid data and analysis. It was also mentioned that, from experience (e.g. Economics of Sanitation Initiative, GLAAS, Sanitation and Water for All), the most effective arguments were built around demonstrating the opportunity costs and quantifying the costs to GDP.

## OUTPUTS

There was general consensus that the WCBs should enable governments to improve usage of their shrinking resources. And that in this respect it would be useful to understand what documents were considered useful by governments to guide their investments in water.

The question, of which mechanism could be put in place to contribute to governments' improved decision making, was raised.

The WCBs, in the form of concise, clear, attractive fact-sheets of 4 to 6 pages were deemed a chance to offer bold messages, in a visually-attractive form: stripped of UN jargon, they should convey key messages that should not give room for misinterpretation nor casual considerations. The general WCBs (targeting the national-level policy-makers) in particular, should be a practical tool to frame problems and offer solutions to these problems and to outline specific benefits for each investment.

Some participants suggested that perhaps producing a "reduced" number of WCBs, but with an exhaustive content, could be used to prove to donors the usefulness of the product. Some participants suggested to also produce some WCBs on data-poor countries, outlining the data gaps, which could help make the case for the need for greater investments in data acquisition.

## TARGET AUDIENCE

There seemed to be consensus regarding the need to address finance ministers, as a prime target for the WCBs. Since the briefs should be action-oriented and problem-solving they should "talk" to people who are in a position to drive investments and national financial resources. Addressing directly GDP, showing how this is threatened by lack of investment, could trigger specific actions.

During the workshop it was noted that the identified target audience is the same as the Sanitation and Water for All partnership, which many UN-Water Members and Partners are members of. Sanitation and Water for All has already successfully engaged with the Ministers of Finance (e.g. High Level Meeting, 23 April 2010, World Bank/IMF Spring Meetings, Washington DC) and developed political and communications strategies. It is therefore critical to liaise with Sanitation and Water for All to avoid duplication and look for synergies.

## COUNTRY SELECTION

No unanimous decision was reached on the selection criteria for choosing the countries for the project. Although it was mentioned that there would be an advantage in choosing the 'One UN' countries (Albania, Cape Verde, Mozambique, Pakistan, Rwanda, Tanzania, Uruguay, Viet Nam), it was also pointed out that the UN agencies in these countries were already overloaded with work due to the fact that these countries were part of the 'One UN' reform.

Regional representation was considered to be important as well as having a mix of countries with good and with bad data availability and quality.

An additional complexity, when dealing with water issues, is the country boundaries versus basin boundaries, and the question on how exactly to deal with this, while raised, has yet to be answered.

It was suggested to circulate a questionnaire amongst the agencies and basin authorities to find out which would be the countries with best/worst data availability and in which countries the project could benefit from synergies with other related activities (e.g. the choice of India was pointed to as one country which could have synergies to one of the participant's current projects).

Other criteria proposed, besides that of the 'One UN' countries, for selecting countries were the Human Development Index (HDI) ranking, the progress on meeting MDG targets, GDP, and small islands.

In practice, a mix or a combination of the above criteria are also possible.

The questions of when and how to involve the countries selected were also raised.

## CONTRIBUTIONS BY UNW NETWORK

Experience in various aspects, data provision, methodologies, information, facilitating the political dialogues and inclusion

in agendas, presence in the countries are among the contributions that would be provided by the participating entities.

The most important contribution of the project to participants is the fact that it will provide an overall, rather than compartmentalized or sectoral, view of water issues. This will amongst others aim to improve synergy, avoid competition, be more cost-effective, and contribute to global processes.

## INDICATORS

Several issues related to the indicators were considered. The group discussed how the 15 key water indicators decided by the UN-Water Task Force on Indicators, Monitoring and Reporting, coordinated by WWAP, could be used in the project. No clear recommendation could be made, since the key indicators are very technical and it was mentioned that they may not convey the message to the WCB's target audience. The need to select workable indicators which can be "populated" on a regular basis was also mentioned. The issue of trends was also raised, which is a general problem since for many countries no complete time series exist. The issue of the granularity of the data was mentioned as being a problem for clients using national level data, which is not sufficiently refined to be useful at sub-national levels.

## PROJECT STEERING COMMITTEE

Three groups were deemed to be important for the project: (1) the project team, which will provide updates every six months; (2) all UN-Water members and partners; (3) a Project Steering Committee (PSC).

Discussions took place about the composition of the PSC. The following were mentioned as potential members during a brainstorming session: the target audience (mainly Ministers of Finance), current donor (USDS), potential donors for second phase, regional development banks, key partners, somebody with in-depth knowledge (for example a retired Minister of Finance), somebody with research or academic background, representative of the government of the country selected, private sector (as observer), someone of the Water and Sanitation PSC, Bill and Melinda Gates Foundation or Engineers without Borders, etc.

## COMMUNICATION STRATEGY

Two different country briefs are to be prepared by the project:

1. A succinct 4-6 page, visually-attractive country-level overview of challenges related to water resource development and management and/or access to water and sanitation services, with a specific focus

on making the economic case for water-related investments and linking water issues to wider economic, environmental and social considerations, pending the availability of data.

2. A 2-4 page succinct and visually-attractive presentation of water related challenges viewed from a specific perspective of and relevant to an event with intergovernmental relevance.

After a short explanation of these two different types of country briefs, the discussion centered on the following points:

- countries should be involved right from the start to be demand-driven, but the challenge of country selection and country buy-in should not be underestimated;
- the content of the briefs can only be decided after the countries have been selected and should be adjusted to the specific country situation and problems;
- the briefs should be structured along the line of what is

important for the country, for example the cost to GDP;

- it is important to formulate strong key messages catered to the audience;
- the opportunities to link the launch of the briefs with high-level events, and to reach beyond the usual water community by building on the UN's networks and outreach capacity;
- the advantage of this project is that it is a joint effort of all agencies;
- communication is important but should also be flexible in order to be effective;
- there is a preference to rename the UN-Water 'Water Country Briefs' to UN-Water 'Country Briefs'.

While it was still too early to determine the final communication strategy, it was deemed useful to have initiated the discussion on communication from the onset and that the above points ought to be taken into consideration from the beginning.

## Conclusions and next steps

The workshop helped to advance the project, namely by starting to map out what was available within the UN-Water system in terms of tools, data, methodologies, products, etc.

Another important achievement was the input and support pledged from participants. The project team emphasized how UN-Water partners and members' participation would be essential going forward to ensure the success of this project. The project team commits to reporting on the progress of the project to UN-Water members and partners every 6 months.

Next steps to be taken:

- make a detailed inventory of ongoing initiatives on water-related country briefs, snapshots, factsheets, profiles, etc.;
- prepare a questionnaire and send it to UN-Water members and partners to find out which would be the countries with best/worst data availability and in which countries the project could benefit from synergies with other related activities;
- prepare an inception report, based on the workshop report, including an updated work plan of the project;
- select the countries;
- select/refine the indicators.



Participants discussed the timing of the project and a proposition to launch the first WCBs in 2012 was considered.

While no firm decisions were taken with regards to the project's various components, the workshop was successful in bringing UN-Water members and partners together, triggering collaborative support for the project, and raising substantive questions. Complex questions regarding methodology, indicators, choice of countries, and more, were discussed and require much more thought and discussion before they can be fully answered to advance the project.

## Annex 1: List of Participants

|                                   |   |
|-----------------------------------|---|
| Mr. Didier Allély-Fermé           | World Health Organization   |
| Ms. Violaine Berger               | World Business Council for Sustainable Development                        |
| Ms. Julia Bucknall                | World Bank (participated through Skype)                                   |
| Mr. Antonio Chambel               | International Association of Hydrogeologists                              |
| Ms. Alexia Dufour                 | Ramsar  |
| Mr. Mats Eriksson                 | Swedish International Water Institute                                     |
| Ms. Nicoletta Forlano             | UN-Water Technical Secretariat  |
| Ms. Karen Frenken                 | Food and Agriculture Organization (AQUASTAT)<br>Senior Project Supervisor |
| Mr. John Harding                  | United Nations International Strategy for Disaster Reduction              |
| Mr. Peter Koefoed Bjørnsen        | United Nations Environment Programme                                      |
| Ms. Catherine Jung                | World Health Organization   |
| Mr. Dominique Maison              | World Health Organization   |
| Ms. Rita Mazzanti                 | International Atomic Energy Agency  |
| Mr. Frederik Pischke              | UN-Water Technical Secretariat  |
| Mr. Federico Properzi             | World Health Organization (GLAAS)   |
| Ms. Clara Ramirez Saravia         | International Labour Organization   |
| Mr. Abdou Savadogo                | World Health Organization (JMP)   |
| Ms. Marisha Wojciechowska-Shibuya | Food and Agriculture Organization<br>Senior Project Coordinator           |

## Annex 2: Workshop Agenda

| THURSDAY, 9 DECEMBER 2010 |   |   |
|---------------------------|---|---|
| 9:00-9:20                 | <b>Agenda item 1: Opening of the meeting</b>  |   |
|                           | Opening statement   | <i>Federico Properzi, WHO</i>             |
|                           | Tour-de-table, approval of the agenda and WCB Workshop  | <i>Karen Frenken, FAO</i>                 |
|                           | Programme, election of workshop chair and rapporteurs   | <i>Marisha Wojciechowska-Shibuya, FAO</i> |
| 9:20-9:40                 | <b>Agenda item 2: Background and update on Water Country Briefs project</b>                     |   |
|                           | Presentation: Background and overview of WCB Project  | <i>Frederik Pischke, UN-Water</i>         |
| 9:40-10:20                | <b>Agenda item 3: Assessment of data availability</b>   |   |
|                           | Presentations (TBC):  |   |
|                           | • Indicators of effectiveness of the Ramsar Convention on Wetlands                              | <i>Ramsar</i>                             |
|                           | • Global Water Tool   | <i>WBCSD</i>                              |
|                           | • Recent IAEA Initiatives in Water Resource Assessment and Management                           | <i>IAEA</i>                               |
|                           | • UNISDR Monitoring of Progress in Reducing Risk to Water Related Disasters                     | <i>UNISDR</i>                             |
| 10:20-10:40               | <b>Break</b>  |   |
| 10:40-12:30               | <b>Agenda item 3 (continued): Assessment of data availability</b>                               |   |
|                           | • Delivering the UN Water Status Report on Water Resources Management for the Rio+20 Conference | <i>UNEP-DHI</i>                           |
|                           | • Groundwater   | <i>IAH</i>                                |
|                           | • UN-Water GLAAS  | <i>WHO</i>                                |
|                           | • JMP   | <i>WHO/UNICEF</i>                         |
|                           | • AQUASTAT  | <i>FAO</i>                                |
|                           | Discussion  |   |
| 12:30-13:30               | <b>Lunch</b>  |   |
| 13:30-15:00               | <b>Agenda item 6: Implementation strategy</b>   |   |
|                           | Presentation: WCB Implementation Plan   | <i>Marisha Wojciechowska-Shibuya, FAO</i> |
|                           | Discussion  |   |
| 15:00-16:00               | <b>Agenda item 5: Review of potential water indicators</b>                                      |   |
|                           | Presentations:  |   |
|                           | Overview of initiatives   | <i>Karen Frenken, FAO</i>                 |
|                           | Key UN-Water Indicators & Federated Water Monitoring System                                     |   |
|                           | Discussion  |   |

|             |  |   |
|-------------|--|---|
| 16:00-16:20 | <b>Break</b>   |   |
| 16:20-17:30 | <b>Agenda item 5: Review of potential water indicators (continued)</b> |   |
|             | Discussion   |   |
| 17:30-18:00 | <b>Agenda item 6: Steering committee</b>                               |   |
|             | Brainstorming: Steering Committee                                      | <i>Marisha Wojciechowska-Shibuya, FAO</i> |

| <b>FRIDAY, 10 DECEMBER 2010</b> |   |   |
|---------------------------------|---|---|
| 9:00-9:10                       | <b>Summary of previous day</b>                          | <i>Marisha Wojciechowska-Shibuya, FAO</i> |
| 9:10-10:15                      | <b>Agenda item 7: Launch and communication strategy</b> |   |
|                                 | Brainstorming: WCB launch and communication plan        | <i>Nicoletta Forlano, UN-Water</i>        |
| 10:15-10:25                     | <b>Agenda item 8: Other matters</b>                     | <i>Marisha Wojciechowska-Shibuya, FAO</i> |
| 10:25-10:30                     | <b>Agenda item 9: Closure of the meeting</b>            | <i>Karen Frenken, FAO</i>                 |



# Annex 3. Presentations

Food and Agriculture Organization of the United Nations  
Land and Water Division




## AQUASTAT

FAO's global information system  
on water and agriculture

### Products, Indicators, Challenges

by  
**Karen FRENKEN**  
AQUASTAT Programme Coordinator

Water Country Briefs Project – Diagnostic Workshop  
Geneva, 9-10 December 2010



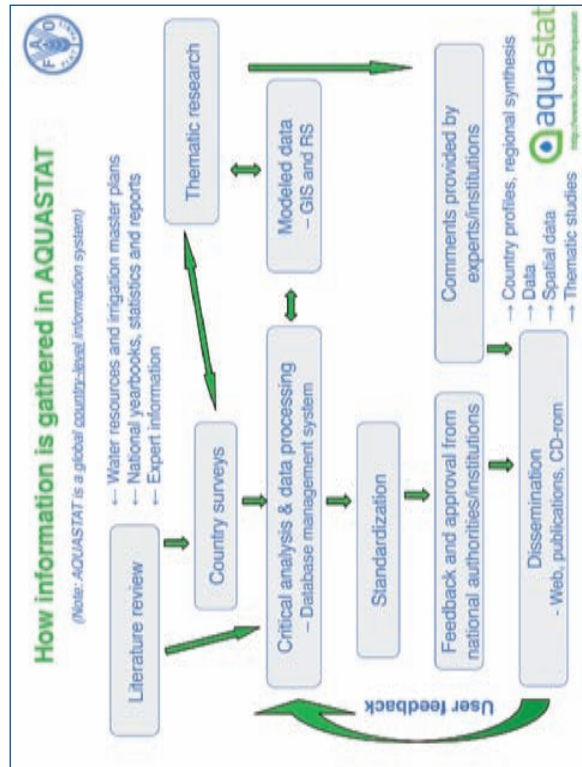

## AQUASTAT products

- **Online country database: 160 variables**  
Geography et population (15), Water resources (45), Water use (30), Irrigation et drainage (60), Environment and health (10)
- **Country profiles and fact sheets: 140 countries**  
Africa, Asia, Latin America and the Caribbean
- **Regional overviews: 5 regions**  
Africa, Western Asia (Middle East), Southern and Eastern Asia, Former Soviet Union, Latin America and the Caribbean
- **Climate information tool**  
Interactive tool to query spatial data-set containing mean monthly climate data
- **Water resources: 200 countries**  
Water resources balance sheets for all countries, containing internal, external and total renewable water resources, considering agreements
- **Agricultural water use: 200 countries**  
Irrigated crop calendar, crop water use, irrigation water withdrawal, climate information tool




## AQUASTAT products (cont.)

- **Map on surface water and groundwater irrigation areas**  
Statistical data from > 15 000 administrative units analyzed, standardized and rules applied to determine if area is irrigated by surface water or groundwater
- **Maps, tables and GIS products: wide variety**  
Global, regional and national maps and tables, geo-referenced database on dams, spatial data
- **Country water investment envelop and portfolio: Africa**  
Country surveys on investments related to water for agriculture and energy
- **Institutions: around 300**  
Addresses and links to institutions in the field of agricultural water resources management, presented by country
- **Glossary: around 300 terms**  
In Arabic, Chinese, English, French, Russian and Spanish
- **Publications: around 25**  
Around 20 publications

## Some key questions...

- ✓ Is there **enough water** to feed the world in the near future (competition with other sectors, water balance)?
- ✓ How does irrigation contribute to **food security** and the achievement of the **MDGs and WSSD targets**?
- ✓ What are the **performances** of the irrigation sector? How do they change with time?
- ✓ What is the **impact** of irrigation on the environment?
- ✓ What is the impact of **biofuel** and **climate change** on food production?



**FAO**  
aquaSTAT  
http://www.fao.org/aquastat

5

## Indicators to answer key questions

- **Competition for water between different sectors**
  - **Indicator: Percentage of renewable water resources withdrawn**
    - Little info on exploitable water resources, on where water is needed and for what versus where it is available
- **Contribution of irrigation to food production**
  - **Indicators: Production and yield of irrigated crops versus rainfed crops**
    - Little info on harvested irrigated and rainfed crops (area, yield)
- **Performance of irrigation**
  - **Indicator: Percentage of area equipped actually irrigated**
    - Little info on reasons for not irrigating important to interpret indicator
- **Environmental impact of irrigation**
  - **Indicators: Percentage of area salinized or waterlogged by irrigation**
    - Little info on area salinized or waterlogged by irrigation
- **Crops for biofuel grown under irrigation**
  - **Indicator: Degree of competition for water by crops for biofuel and food**
    - Little info for correct interpretation
- **Climate change and food production**
  - **Indicator: ...**
    - Difficult to estimate changes in need for irrigation, lack of time series, trends, etc.

**FAO**  
aquaSTAT  
http://www.fao.org/aquastat

6

## Water-related investment needs

FAO, as Chair of UN-Water for the period 2006-2009, organized a Ministerial Conference on: **Water for agriculture and energy in Africa: the challenges of climate change**, held in Sirte, December 2008.

National Investment Briefs were prepared focusing on three issues:

- **Prospects for food and energy demand** by 2015 and projections for 2030-2050
- Definition of **Investment envelopes for water for agriculture and energy** to meet current and future food and energy demand
- **Financing mechanisms and implementation strategies** for water for agriculture and energy

Similar work has started in other regions

**FAO**  
aquaSTAT  
http://www.fao.org/aquastat

7

## Challenges...

- ❖ **Discrepancies in data** for the same variable
- ❖ **Differences in definitions and methodology** used for data reported
- ❖ **Information by country** versus **river basin**
- ❖ Information located in **different institutions**, such as the ones dealing with agriculture, water resources and use, etc.
- ❖ **Insufficient** information for major indicators
- ❖ **Multipurpose use** of water
- ❖ Difficulties in obtaining **time series**
- ❖ **Differences between countries** (size, climate, development level, etc.)
- ❖ **Sustainability of the monitoring process** in relation to national water monitoring capacities
- ❖ **High cost** of information gathering

**FAO**  
aquaSTAT  
http://www.fao.org/aquastat

8



## Contribution to WCB project

In order to be able to visualize the critical importance of investments in water, issues to deal with are...

- How to deal with the fact that **water has cross-sectoral as well as cross-national importance**, but that water management and investments in water still largely sectoral and national
- How to better take into consideration the **multiple use** of water services
- How to **improve information harmonization and homogenization and reduce compartmentalized information collection, analysis and dissemination** by a multitude of organizations?
- How to **increase the availability of crucial information** needed for indicators at reasonable cost: what **new methodologies** can be used?
- How to convince donors, private sector and countries to **increase the budget** to be able to obtain reliable data on water, which are crucial for making informed decisions about investment and management

  
http://www.aquastat.org/eng/index.htm



## UN-Water Project on Federated Water Monitoring System and Key Water Indicator Portal

by  
**Amit KOHLI**  
Project Coordinator  
**Karen FRENKEN**  
Senior Project Supervisor

Water Country Briefs Project – Diagnostic Workshop  
Geneva, 9-10 December 2010



Federated Water Monitoring System  
and Key Water Indicator Portal Project

1

## UN Water data problems

- > Total Water withdrawal – Tunisia 2001  
UNSD = 2.14 km<sup>3</sup>/yr  
AQUASTAT = 2.85 km<sup>3</sup>/yr
- > Total population – Tunisia 2001  
World Bank = 9 673 600 inhabitants  
UNFPA = 9 539 000 inhabitants
- > Official water withdrawal per capita has 4 interpretations  
[221.2]; [224.3]; [294.6]; [298.7] (in m<sup>3</sup>/yr cap))

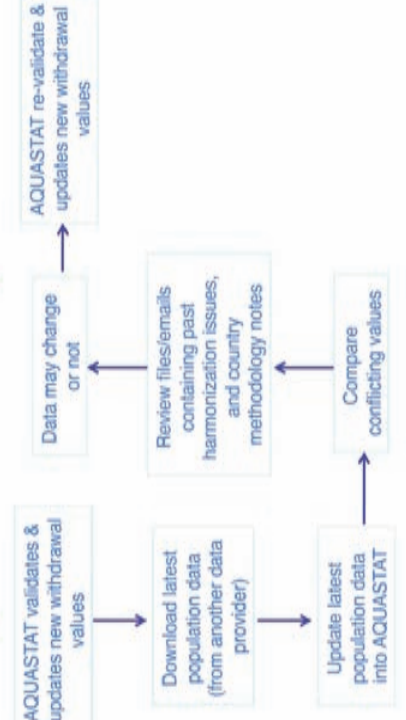
FWMS allows agreement -> All report 294.6 m<sup>3</sup>/(yr cap)  
- Or -  
FWMS allows disagreement -> 294.6 ± 70 m<sup>3</sup>/(yr cap)



Federated Water Monitoring System  
and Key Water Indicator Portal Project

2

## Data provider - *modus operandi*



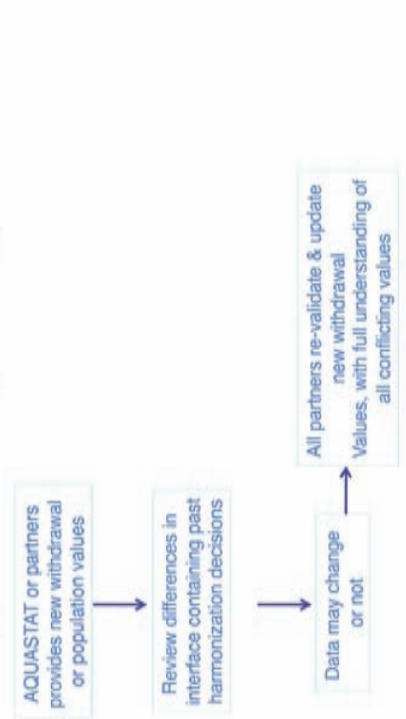
```

    graph TD
      A[AQUASTAT validates & updates new withdrawal values] --> B[Download latest population data (from another data provider)]
      B --> C[Update latest population data into AQUASTAT]
      C --> D[Compare conflicting values]
      D --> E[Review files/emails containing past harmonization issues, and country methodology notes]
      E --> F[Data may change or not]
      F --> G[AQUASTAT re-validates & updates new withdrawal values]
  
```

Federated Water Monitoring System  
and Key Water Indicator Portal Project

3

## Data provider - improved system

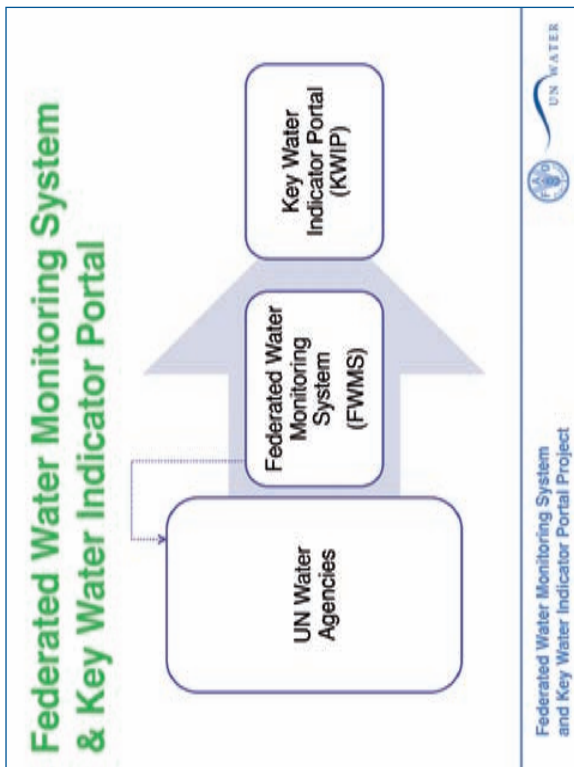


```

    graph TD
      A[AQUASTAT or partners provides new withdrawal or population values] --> B[Review differences in interface containing past harmonization decisions]
      B --> C[Data may change or not]
      C --> D[All partners re-validate & update new withdrawal values, with full understanding of all conflicting values]
  
```

Federated Water Monitoring System  
and Key Water Indicator Portal Project

4



Federated Water Monitoring System and Key Water Indicator Portal Project

5

## Key Water Indicator Portal

**Purpose of KWIP**

- **One-stop location to find constantly updated key data**
- **Transparently denote data differences**

UN WATER

Federated Water Monitoring System and Key Water Indicator Portal Project

6

## Key Water Indicator

| Theme                        | Indicator   | Formal data provider |
|------------------------------|---|----------------------|
| Water Availability           | 1 - Total actual water renewable resources per capita   | AQUASTAT             |
|                              | 2 - Storage capacity per capita   | AQUASTAT             |
|                              | 3 - Importance of national expenditure for water supply and sanitation as a % of total budget | none identified      |
| Intensity of water usage     | 4 - Total water withdrawals over total actual renewable water resources                       | AQUASTAT             |
|                              | 5 - Sectoral withdrawals as a percent of total withdrawal                                     | AQUASTAT             |
|                              | 6 - Comparison of evolution of inland fish catch (capture)                                    | none identified      |
|                              | 7 - Share of blue, green, virtual water used to produce food in a country                     | none identified      |
|                              | 8 - % of population with access to improved water sources                                     | JMP                  |
| Effectiveness of water usage | 9 - % of population with access to improved sanitation (JMP)                                  | JMP                  |
|                              | 10 - Change in water productivity in irrigated agriculture                                    | none identified      |
| Environmental Performance    | 11 - Water productivity in industrial sector  | none identified      |
|                              | 12 - Change in hydropower productivity  | none identified      |
|                              | 13 - Change of quality of freshwater systems  | none identified      |
|                              | 14 - Urban wastewater treatment connection rates  | none identified      |
|                              | 15 - Threatened freshwater species  | none identified      |

UN WATER

Federated Water Monitoring System and Key Water Indicator Portal Project

7

## Key Water Indicator gaps

- **Water Availability (2/3 indicators)**
  - How can we measure ability to invest in sustainable water management?
- **Intensity of water usage (2/4 indicators)**
  - What importance can be assigned to on-stream direct use of freshwater services?
  - What is the relationship between trade and water use?
- **Effectiveness of water usage (2/5 indicators)**
  - What is the water productivity in the industrial and agricultural sectors ?
- **Environmental Performance (0/3 indicators)**
  - How to quantify environmental performance and the repercussions to health, economy, and environment?


UN WATER

Federated Water Monitoring System and Key Water Indicator Portal Project

8

**Water Country Briefs**  
**Diagnostic Workshop**  
 WHO, Geneva, 9-10 December 2010

**Implementation Plan - Brainstorming**



  
 UN WATER

Water Country Briefs Project

1

**Objective**

- The overall objectives of the project on Water Country Briefs (WCB) are to better visualize the critical importance of "investments in water" for human and economic development. (Water in this proposal encompasses water resources development and management as well as drinking water supply and sanitation.)
- The intention is to foster increased political momentum for stronger interventions on water-related issues by policy makers, dealing with peace and security, infrastructure investments, agricultural, health, education and environmental issues, as well as macro- and micro-economic perspectives.
- An ultimate goal is to mobilize increased financial and institutional investments directed to water-related interventions, serve as a tool for advocacy on water issues in more general terms, and as decision support tools in policy processes.


  
 UN WATER

Water Country Briefs Project


2

**Conceptual Plan: Output, audience, conceptual framework, countries**

**Output**

The project will produce two different examples of Water Country Briefs:

- Example 1* (general WCB): A succinct 4-6 page for the target audience.
- Example 2* (targeted WCB): A 2-4 page relevant to an intergovernmental event.


  
 UN WATER


Water Country Briefs Project

3

**Target Audiences**

The primary target group is national governments, but major civil society organizations and private sector actors, and the media are also examples of key stakeholders.

➤ **Technical or political, or both?**


  
 UN WATER

Water Country Briefs Project

4



**Conceptual Framework**


*Policy Relevance*

Relevance to policy-makers dealing with peace and security, infrastructure investments, agricultural, health, education and environmental issues, as well as macro- and micro-economic perspectives.

- **Different audience, different needs?**

**Definitions: Water security, etc.**

- **What is applicable to WCB to appeal to target audience?**

Water Country Briefs Project 

5

**Conceptual Framework**

*Indicators & Databases*

- Key UN-Water
- WWAP
- JMP
- GLAAS
- AQUASTAT
- WSP
- AWDO
- Etc.

- **Which indicators do we choose? What data do we have? What new data do we collect?**

Water Country Briefs Project 


6

**Countries (10-15)**

*Criteria for selecting pilot countries?*

- (i) regional representation while at the same time including a number of countries sharing the same river basin
- (ii) whether country development is expected to be significantly impeded by water and sanitation challenges
- (iii) political will is seen as a key barrier to addressing the water and sanitation challenges
- (iv) taking into consideration the pilot countries of the "One UN" reform program (Albania, Cape Verde, Mozambique, Pakistan, Rwanda, Tanzania, Uruguay, Viet Nam)
- (v) others: access to data, access to consultants, diverse representation of water issues, etc.

- **Which countries do we choose?**

Water Country Briefs Project 

7

**Operational Plan: Data collection, communication, advocacy, organizational, administrative**

**Data Collection Mechanics**

**Consultants (1-2/country)**


- **How do we find them? For what?**

**Foreseeable gaps**

- **Which data do we not have? How do we collect it?**

**Roles & responsibilities**

- **Which UN-Water entity contributes what (harmonization)?**

Water Country Briefs Project 

8

|   |
|---|
| <p><b>Communication &amp; Advocacy</b></p> <p><b>Opportunities</b></p> <ul style="list-style-type: none"><li>➤ How do we leverage UN-Water &amp; other channels?</li><li>➤ Where do we find our target audience (ie: event/s)? International/regional?</li></ul> <p><b>Organizational</b></p> <p><b>Groups: Steering Committee, UN-Water, etc.</b></p> <ul style="list-style-type: none"><li>➤ Who? When? How? For what?</li></ul> <p><b>Administrative</b></p> <p><b>Reporting, finances, etc.</b></p> <ul style="list-style-type: none"><li>➤ Who? When? How?</li></ul> <p>Water Country Briefs Project</p>  |
|---|



Global Water Partnership

**(I)WRM indicators  
A GWP PERSPECTIVE**

*Water Country Briefs Project Diagnostic Workshop,  
Geneva, December 2010*

www.gwpforum.org

Mike Muller : GWP-TEC



1

**Global Water Partnership (GWP)**

- International network created to foster
- Integrated Water Resources Management (IWRM), which
  - aims to ensure the co-ordinated development and management of water, land, and related resources, by
  - maximising economic and social welfare without compromising sustainability of environmental systems.
- Promotes IWRM by creating global, regional, and national fora to support stakeholders in practical implementation
- Only IGO with primary focus on WRM?

www.gwpforum.org

Global Water Partnership



2

**Key messages, indicators**

- Effective, intensified, management a critical response to growing pressures on water resources
- Appropriate management approaches are context determined
- Broad principles of integrated management an important guide
- "Optimal", sustainable, water use is the overarching goal
- Governance indicators always a challenge
- Distinguish between
  - Process indicators
  - Intermediate data and indicators
  - Outcome indicators

www.gwpforum.org

Global Water Partnership



3

**Policy questions targeted?**

- Is WRM contributing to national goals,
  - Social?
  - Economic?
  - Environmental?
- Who benefits from water use (which sectors, social groups)
- Are there conflicts over water?
- Does water availability or quality constrain economic activity?
- Is current water use sustainable?
- Are current water use trends sustainable?

www.gwpforum.org

Global Water Partnership



4

## Conceptual framework?

### Process focus

- **Promotion of IWRM**
  - (Normative framework)
- **Preparation of IWRM plans**
- **Implementation of IWRM plan**
- **Evaluation of IWRM plan process**
  - (against normative framework)

• **Advantages:** clear targets; short time; tickbox; comparable

• **Disadvantages:** short time; not outcome related; normatives correct?

### Outcome focus

- **Review WRM context & priorities**
  - (baseline & goals)
- **i.d. Strategic WRM interventions**
- **Implementation of interventions**
- **Evaluate impacts of WRM**
  - (against baseline & goals)

• **Advantages:** outcome oriented

• **Disadvantages:** long time frame; difficult to evaluate; data drought; causation? comparability?

www.gwplforum.org



5

## Data gaps/opportunities/barriers

- **Process indicators**
  - Clear, agreed, definition of process and goals?
  - Data interpretation and evaluation
  - Opportunities for peer review processes
- **Intermediate data/Indicators**
  - Data drought (on water use and state of resource)
  - Limited data on management institutions (e.g. Budgets!)
  - Remote sensing and related opportunities
- **Outcome indicators**
  - Data drought ....
  - Methodology to identify causality and trends
  - Opportunities to channel climate and sustainability agenda support

www.gwplforum.org



6

## National water-related investment needs?

- **Process/intermediate indicators**
  - Limited knowledge of WRM expenditure
  - Thus not possible to determine trends
  - Emphasise need to monitor intensification of water management
- **Outcome indicators**
  - Not monitoring decadal trends in water availability
  - Limited data on water use
  - Difficult to assess "water productivity"
  - Environmental state good indicator, needs systematic monitoring
- Action to address recognised need for more intensive data collection to support monitoring of water resource management performance

www.gwplforum.org



7

## Recommendations to WCB project

**Must include reflections on water resource management**

1. **Process indicators**
  1. IWRM plans, limited utility, appropriateness difficult to evaluate
  2. Peer-review type approaches useful but not globally comparable
2. **Intermediate indicators**
  1. Institutions and legislation
  2. Financial allocations to WRM
3. **Outcome indicators**
  1. Water "productivity"
  2. State of and trends in water environment
  3. Extent of disputes and conflicts
  4. Economic and social impact of extremes, droughts and floods

**Highlight data & resource drought, complexity & importance of challenge**

www.gwplforum.org



8



# Water resources at the IAEA and some recent initiatives





1

## Programme Context

The Programme – responds to scientific aspects of the water agenda, stated in (for example) Millennium Development Goals  
 World Summit on Sustainable Development  
 3<sup>rd</sup> WWF-Kyoto  
 5<sup>th</sup> WWF-Istanbul

provides support for:

- Improved understanding of the water cycle
- Sustainable exploitation of water resources
- Improved data and capacity for monitoring the quantity and quality of water resources
- Better mapping and assessment of water resources
- Leading-edge research in sustainable use and management of water resources



2

## Supporting Technical Cooperation

The Programme – supports over 80 active projects (funding ~ \$8M/cycle) in Asia, Africa, Europe, and Latin America

works to develop infrastructure & human resource capacity, and apply isotope methods to address specific water problems through National and Regional projects






3

## Technical Cooperation Themes

- Assessment of groundwater resources (origin, dynamics)
- Assessment of surface waters (dynamics, baseflow, etc.)
- Investigation of groundwater-surface water interactions
- Inter-sectoral themes (management of aquifers, river basins, coastal zones transboundary systems, wetlands, etc.)
- Investigation of groundwater-dependent ecosystems
- Adapting to Climate Change
- Others (geothermal, dam safety, etc.)



4

## Importance of Data – Isotope monitoring programmes and other compilations

- Global Network of Isotopes in Precipitation (GNIP) since 1961; data used for hydrology and climate change
- Global Network of Isotopes in Rivers (GNIR) since 2002; for hydrology of river basins and impacts of land use/climate
- Atlases of Isotope Hydrology (Africa, Asia, Latin America) Used for groundwater assessments



## Water Availability Enhancement Project (IWAVE Project)

The IAEA's WAVE Project is intended to assist Member States in fully assessing the availability and quality of water resources.

This objective will be achieved

- by identifying gaps in hydrologic information and understanding,
- by improving the collection, management, and interpretation of water-resources data, and
- by using advanced techniques to simulate hydrologic systems for resource management

*A hands-on, on-the-ground project to increase national capacity to conduct comprehensive water-resources assessments*

## IWAVE Project – NATIONAL assessment of water resources

- Focus on gaps in hydrological data and knowledge
- To build on, and complement, other international, regional, and national initiatives
- With extra-budgetary funding from the US Department of State to the IAEA's Peaceful Uses Initiative, the project will launch a proof-of-concept or pilot study in the Philippines in 2011
- The IAEA Director General has declared Water to be a priority area of IAEA's work in 2011 and the IWAVE project is one of the major themes of this initiative




The WorldWide Groundwater Organisation

# GROUNDWATER

António Chambel  
Vice-President of IAH

International Association of Hydrogeologists

1




The WorldWide Groundwater Organisation

## Description

- IAH is an international scientific and educational organisation whose aims are to promote research into and understanding of the proper management and protection of groundwater for the common good throughout the world.
- IAH has over 3800 members in 135 countries. The main focus of the organisation is, between others:
  - To represent the hydrogeologists all around the world
  - To publish the Hydrogeology Journal, with papers and reports from GW works
  - To maintain the international contacts with the organizations related with water in all the world
  - To promote international meetings in order to improve the GW knowledge and change of experiences between scientists
  - To support the GW development issues in less developed countries

GROUNDWATER

06/10-12-2020 2




The WorldWide Groundwater Organisation

## Groundwater, Main Indicators

- Main indicators:
  - Presence of Nitrates
  - Electric Conductivity (as an easy approach of GW mineralisation and salinity)
  - Presence of Bacteriological Contamination
  - Presence of Radiation (for specific sites only)
  - Presence of Arsenic
  - Presence of Heavy Metals (at least once)
  - Presence of Pesticides (just in case of agriculture fields using pesticides)

GROUNDWATER

06/10-12-2020 3



The WorldWide Groundwater Organisation

## What policy questions does your work target?

- Policy:
  - European Union Water Framework Directives
  - Transboundary aquifers legislation
  - To support some of these issues, IAH is technically and scientifically responsible by:
    - The creation of the Hydrogeologic Map of the World
    - The creation of the Map of the Transboundary Aquifers of the World
    - The creation of the Map of the Saline Aquifers of the World (in preparation)

GROUNDWATER

06/10-12-2020 4

2

4

1

3



The WorldWide Groundwater Organisation

## What is the conceptual framework and data collection methodology?

- Framework and methodology:
- Regular in situ measurements of EC, pH, T (EC is the most important)
- Collection of water samples on a regular basis (once per month would be good) to analyse the nitrates, bacteriological contamination and some other eventual contaminants in the area (artificial or natural, like heavy metals, arsenic or hydrocarbons)
- Create conditions in the countries to make the essential analysis in the country
- Create brigades with transport and equipment to do the tasks, including refrigeration during longtime transport
- Create a data base with all the results, which can be accessible for investigation/management

09/10-12-2020

CIRCULARWATER

5

The WorldWide Groundwater Organisation

## Data gaps/opportunities/barriers

- Groundwater:
- Generalised lack of data, mainly in less developed countries (hydrogeologic maps, quality data, quantity data, abstraction data)
- In some countries, difficult to access data (maps, aerial photos, etc., some considered confidential)
- Transboundary aquifers
- War areas
- Corruption
- Strong appetite for experts in GW in these countries to receive support from more experienced experts
- The excellent work of NGOs in some countries

09/10-12-2020

CIRCULARWATER

6

The WorldWide Groundwater Organisation

## Information on national water-related investment needs in targeted sectors?

- Water-related investment needs in targeted sectors :
- Well Prospecting (better prospecting techniques, use of geophysics, remote detection, etc.)
- Well Construction (better construction, better vertical protection)
- Protection of the Groundwater near the Wells (horizontal protection, definition of protection zones)
- Groundwater Monitoring in the Wells (better monitoring, better solutions)
- Water Treatment (natural and chemical treatment)
- Water Availability (distance to the users, transport conditions, etc.)

09/10-12-2020

CIRCULARWATER

7

The WorldWide Groundwater Organisation

## Recommendations and contributions to Water Country Briefs project

- Recommendations and contributions:
- Better knowledge (maps, monitoring, etc.)
- Better Prospecting
- Better Construction of the Wells
- Better Location of the Wells
- Better Protection of the Wells
- Better Protection of the Aquifers
- Use of Easy Mechanisms to Get Water from Wells
- Better Sanitary Conditions for the Population
- Education and technical skills

09/10-12-2020

CIRCULARWATER

8

40  
40th Anniversary  
1971-2011

# Indicators of effectiveness of the implementation of the Ramsar Convention

Water Country Briefs workshop, 9-10 December 2010



Alexia Dufour, PhD  
Regional Affairs Officer  
Ramsar Secretariat



1

40  
40th Anniversary  
1971-2011

# Promoting conservation wetlands

1971

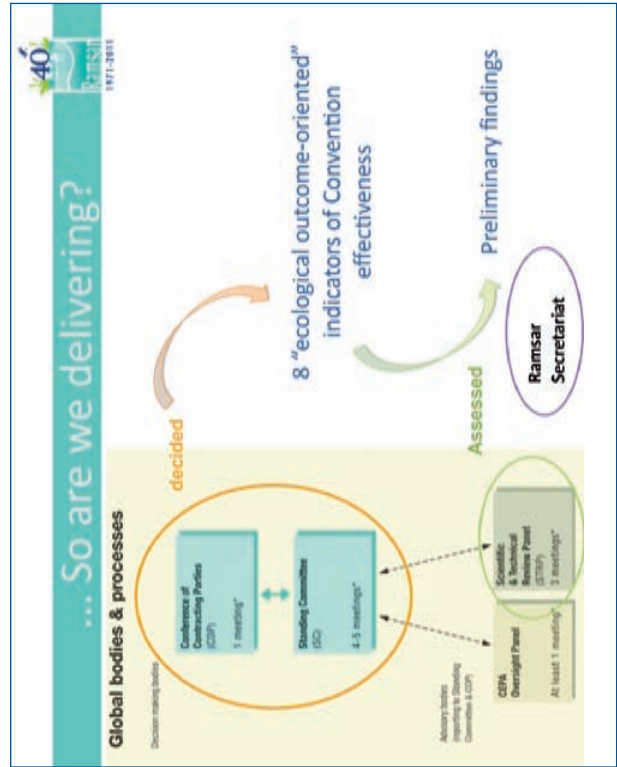
From the mountains to the sea...



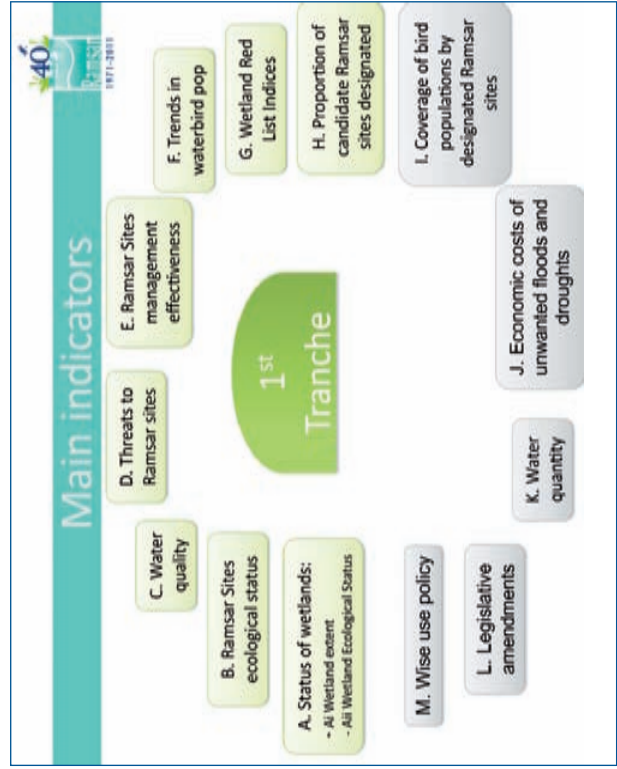
160 Contracting Parties

1905 Sites Ramsar  
186,594,459 hectares

2



3



4





**Information on national water-related investment needs**

Water-related questions from the national report format

Watershed/Basins

- Have wetland issues been incorporated into national strategies for including water resources management and water efficiency plans? (1.2.3/1.3.2)
- Have the quantity and quality of water available to, and required by wetlands been assessed? (1.2.4)
- Have wise use wetland programmes contributing to water security plans been implemented? (1.3.2/1.4.2)
- Has the Convention's water-related guidance been applied in decision-making related to water resource planning and management? (1.4.1/1.7.1)
- Does your country's water governance and management treat wetlands as natural water infrastructure integral to water resource management at the scale of river basins? (1.7.2)
- Has your country formulated plans/projects to sustain and enhance the role of wetlands and water in supporting and maintaining viable farming systems? (1.7.6)
- Is a national Ramsar/wetlands cross-sectoral committee in place? (4.8.2/4.1.7)

Ecosystem Approach

Cross-sectoral approach

9

**No wetland... no water**

**Wetlands ecological character**

**ECOLOGICAL COMPONENTS**

- Main species present
- Water regime
- Nutrients in water
- Area

**ECOLOGICAL PROCESSES**

- Notable species interactions
- Carbon cycling
- Notable aspects of migration

**ECOSYSTEM SERVICES**

- Drinking water
- Flood control
- Food
- Storm protection

Water quality and quantity

10

**Join us in celebrating the 40th Anniversary of the Ramsar Convention!**

Visit [www.ramsar.org](http://www.ramsar.org)

11

**What for?**

**NATIONAL REPORTS**  
Official and public information of the Convention

A tool for the Parties to be accountable against their obligation

STRP: Effectiveness measure of Convention implementation

Convention implementation Monitoring and assessment during the triennium

Future actions/priorities

Planning at the national level

New Convention processes/tools

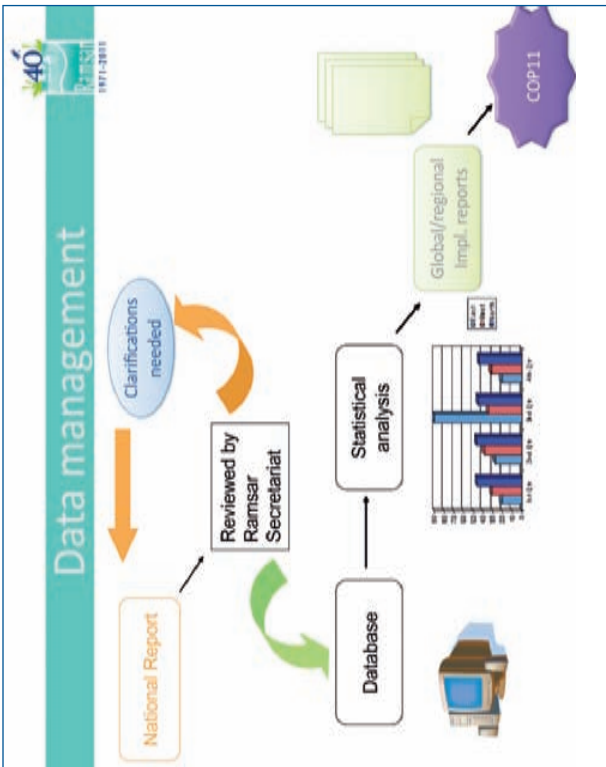
Capture lessons and identify:

- Good experiences
- Emerging issues
- Implementation challenges

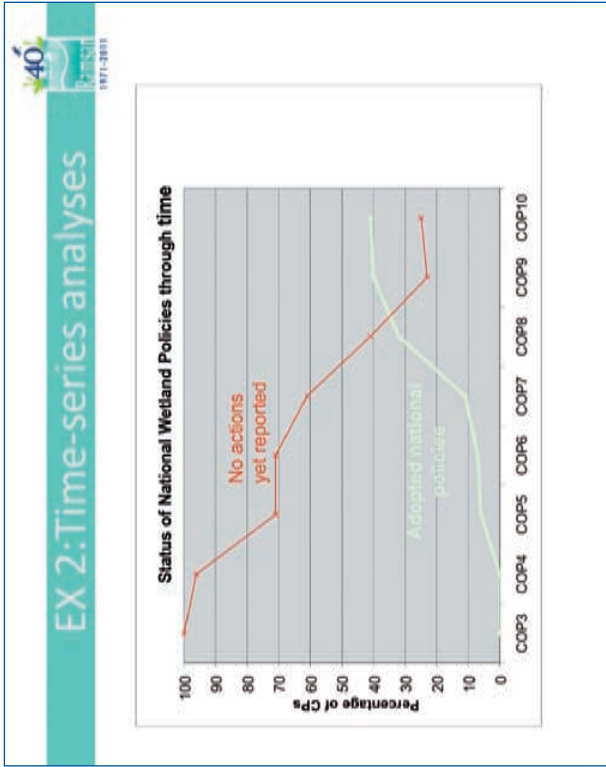
Achievements

Problems encountered

12



13



14





15

# Status of Implementation of CSD -13 Policy Actions on Water and Sanitation; A Country Level Survey

**Mats Eriksson, SIWI**  
**Frederik Pischke, UN-Water based at UN DESA**

Report prepared by the Stockholm International Water Institute (SIWI) for the United Nations Department of Economic and Social Affairs (UN DESA) under the auspices of "Global Initiative for Rationalizing Water Information (GIRWI) Project

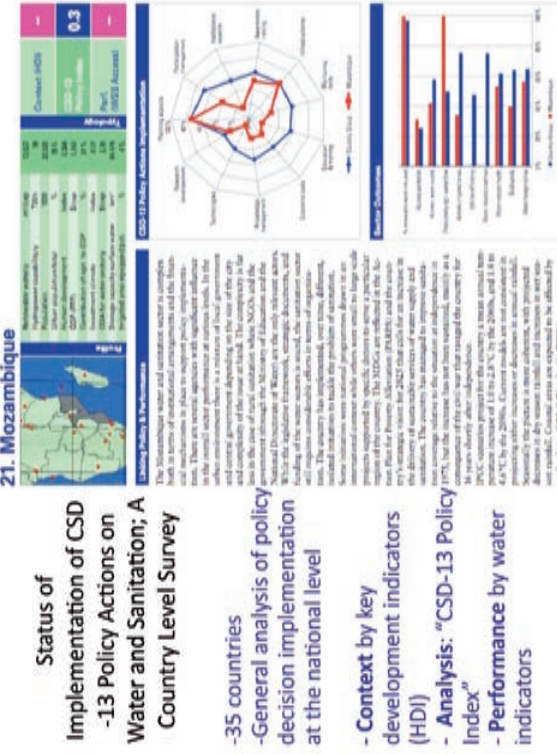



1

## 21. Mozambique

### Status of CSD -13 Policy Actions on Water and Sanitation; A Country Level Survey

- 35 countries
- General analysis of policy decision implementation at the national level
- Context by key development indicators (HDI)
- Analysis: "CSD-13 Policy Index"
- Performance by water indicators



**Key findings:** Mozambique shows significant progress in water and sanitation, particularly in the area of water supply. However, challenges remain in the areas of sanitation and wastewater management. The country's performance is generally lower than that of other countries in the region, particularly in the area of water supply.

2

## Analytical Framework

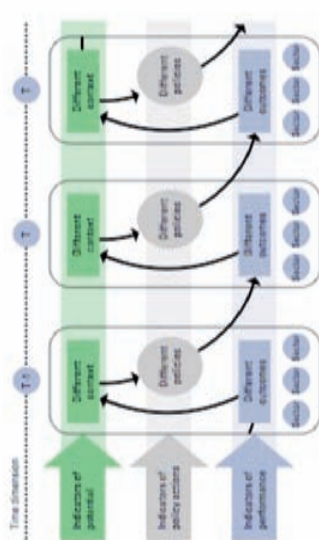


```

    graph TD
        A[Indicators of context] --> B[Different context]
        B --> C[Different policies]
        C --> D[Different outcomes]
    
```

3

## Analytical Framework over Time



```

    graph LR
        subgraph T1
            A1[Indicators of context] --> B1[Different context]
            B1 --> C1[Different policies]
            C1 --> D1[Different outcomes]
        end
        subgraph T2
            A2[Indicators of context] --> B2[Different context]
            B2 --> C2[Different policies]
            C2 --> D2[Different outcomes]
        end
        subgraph T3
            A3[Indicators of context] --> B3[Different context]
            B3 --> C3[Different policies]
            C3 --> D3[Different outcomes]
        end
        A1 --> A2 --> A3
        B1 --> B2 --> B3
        C1 --> C2 --> C3
        D1 --> D2 --> D3
    
```

4

### 35 countries selected



|                         |   |
|-------------------------|---|
| Central Africa          | Chad, Congo, Rwanda                           |
| Eastern Africa          | Ethiopia, Tanzania                            |
| North Africa            | Egypt, Morocco                                |
| Southern Africa         | Botswana, Madagascar, Mozambique, Zambia      |
| West Africa             | Burkina Faso, Cape Verde, Mauritania, Senegal |
| Central Asia            | Kyrgyzstan, Tajikistan                        |
| South Asia              | Bangladesh, Pakistan, Sri Lanka               |
| Southeast Asia          | Laos, PDR, Philippines, Viet Nam              |
| West Asia               | Iran, Jordan, Yemen                           |
| Eastern Europe          | Poland, Bulgaria                              |
| Latin & Central America | Costa Rica, Guatemala                         |
| South America           | Bolivia, Colombia, Uruguay                    |
| Pacific                 | Samoa   |

5

### Five attributes of policy implementation

- I Existence of policy measures (e.g. training courses, strategies, subsidy-schemes)
- II Quality of the measures in place (e.g. through clear objectives)
- III Range of target area (level of participation and range of management functions considered)
- IV Scale of implementation (from pilot project level to countrywide implementation)
- V Sustainability (as it relates to national institutionalization and financing only)

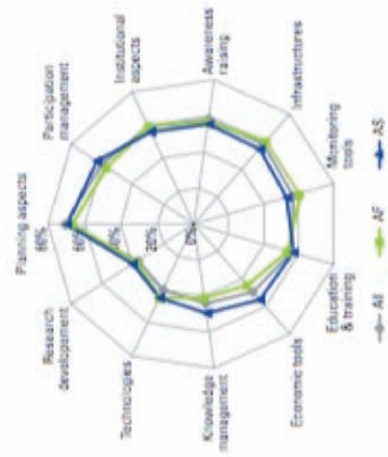
7

### Categories of Policy Option of CSD-13

| Main category blocks | Policy categories           |
|----------------------|-----------------------------|
| Capacity             | 1. Awareness raising        |
|                      | 2. Education and training   |
|                      | 3. Participation management |
| Knowledge            | 4. Knowledge management     |
|                      | 5. Research development     |
| Hardware             | 6. Technologies             |
|                      | 7. Infrastructure           |
| Governance           | 8. Monitoring tools         |
|                      | 9. Economic tools           |
|                      | 10. Institutional aspects   |
|                      | 11. Planning aspects        |

6

### Analysis



8



## Policy Implementation and WSS Performance

**Second Quadrant**

- High level of relative performance
- Low level of policy actions implementation

**First Quadrant**

- High level of relative performance
- High level of policy actions implementation

**Third Quadrant**

- Low level of relative performance
- Low level of policy actions implementation

**Fourth Quadrant**

- Low level of relative performance
- High level of policy actions implementation

9

## Mapping Policy Implementation and WSS Performance

10

### 21. Mozambique

**21. Mozambique**

The country's economic growth is primarily linked to terms of international engagement and the flow of investments in order to support public infrastructure. The country's economic growth is primarily linked to terms of international engagement and the flow of investments in order to support public infrastructure. The country's economic growth is primarily linked to terms of international engagement and the flow of investments in order to support public infrastructure.

**Key Challenges**

- High unemployment rate
- Low level of relative performance
- Low level of policy actions implementation

11







## How to reach “outside” the “water box”?

- ✓ Relevant for minister of finance, agriculture, health
- ✓ Quantify impacts of addressing water challenges on other “sectors” / the issues that matter (agriculture, industry, transport, health, education, jobs, ...)
- ✓ Not only drinking water supply and sanitation services but also what is lumped under “water resources management”

UN WATER [www.unwater.org](http://www.unwater.org)

9

## Challenges of this PILOT project on Water Country Briefs

- ✓ Primary Data
  - Evidence based (quantitative) vs. Perception based (qualitative) data
- ✓ What level?
  - Country Level! But what about watershed level data on water resources (challenge of integration of data)?
- ✓ Conceptual framework
  - ✓ which data to collect where?
  - ✓ what to do in a ‘perfect’ world, i.e. a world with all the data that can realistically be obtained?

UN WATER [www.unwater.org](http://www.unwater.org)

10

## Opportunities of this PILOT project: Water Country Briefs

- Make the case of water “outside the box”
- Strengthen evidence base at the country level
- Be able to tell “our” side of the story - the water side to the decision-makers at the country level
- Support / Build onto other initiatives
- Bring actors together - inside and outside the UN system
- Show clearly what the data gaps are
- Progress on the 15 UN-Water key indicators
- Generate funding for a continuation of this project / related initiatives (?)

UN WATER [www.unwater.org](http://www.unwater.org)

11

## What do we have?

- ✓ Support from the USA - but also a clear indication that they want the UN system to lead and shape the WCB
- ✓ Experience from other similar exercises
- ✓ Experts and practitioners willing to contribute
- ✓ A committed project team at FAO Aquastat, with support from the UN-Water Technical Secretariat


UN WATER [www.unwater.org](http://www.unwater.org)

12



## What do we need?

- ✓ Commitment from you to contribute with ideas, expertise and time
- ✓ Steering Committee of Water Country Brief project
- ✓ Decisions at this diagnostic workshop
  - ✓ Which 10-15 countries to pilot in
  - ✓ Conceptual framework to “make the case” to decision makers
  - ✓ Which event to target in roll-out of briefs in 2012/2013?



[www.unwater.org](http://www.unwater.org)

13

## 2012 will be a busy year...

- ✓ 4th World Water Development Report 03/2012
- ✓ 6th World Water Forum 03/2012
- ✓ JMP
- ✓ GLAAS 03/2012
- ✓ SWA High Level Meeting 04/2012
- ✓ Water Resources Management Progress Report 06/2012
- ✓ UNCSD 2012 (Rio+20) 06/2012
- ✓ Water Country Briefs (?)



[www.unwater.org](http://www.unwater.org)

14

## Thank You



[www.unwater.org](http://www.unwater.org)



[www.unwater.org](http://www.unwater.org)


15



## Delivering the UN Water Status Report on Water Resources Management for the Rio+20 Conference

Peter Koefoed Bjornsen  
Director of UNEP-DHI Centre  
WCB Diagnostic Workshop  
WHO, Geneva  
December 9-10th 2010


1



## Background

- **Recognised failures in WRM led to:**
  - Agenda 21 from UNCED in Rio in 1992
  - Article 25 from WSSD in Johannesburg in 2002
  - Decision E4 from CSD-13 in New York in 2005 (need for status reporting to UNCSD in 2008 and 2012)
- **Report at UNCSD in 2008:** Status on progress towards implementation of actions (done)
- **Report at UNCSD in 2012 (Rio+20):** UNEP mandated by UN-Water to lead the process (to do)

2




## Goal and purpose

**Goal:** To support countries in the sustainable development and management of water resources

**Purpose:** To assess progress and outcomes on “the application of integrated approaches to the development, management and use of water resources”, and to develop a long term monitoring and reporting framework for water resources  
(Quotation from UNCED Agenda 21, Chapter 18)

3



## Methodology: Stratified approach

**Level 1:**

- All countries
- Questionnaire that is quick and easy to complete
- Based on CSD16 indicators on WRM status + additional results-based indicators

= A detailed comparison with CSD16 report with additional outcomes and impacts

**Level 2:**

- 25-30 selected countries
- Same indicators as Level 1 + questions on changes in resource and management challenges over the past 20 years (i.e. since Rio 1992)

+ more in-depth case reporting on key challenges, actions and results, as well as input on relevant national indicators

= A deeper situational understanding and input to a future reporting framework

4

## Indicators Types

- **Priority water resource challenge areas**  
(e.g. Water for food, water for energy, floods and droughts)
- **Priority water management challenge areas**  
(e.g. legislation, financing, institutional capacity and data access)
- **Status, outcome and impact of key enabling instruments**  
(e.g. water policy, national agricultural plan, and transboundary agreements)
- **Status, outcome and impact of measures undertaken**  
(e.g. WR development, use, monitoring, stakeholder participation and financing)

5

## Roll out and roll in process

1. **UN-DESA facilitates the roll out of the questionnaires**
  - Official covering letter
  - Assistance in identification of country contacts
2. **UN mission representatives in New York send questionnaires** to identified individuals in government ministries
3. **Follow up:**
  - UNDP Country Office Resident Reps
  - Global Water Partnership's Country Water Partnership reps
  - Others? (as required)
4. **Help hotline to assist countries**
5. **Countries send completed questionnaires**

6

## 5 Challenge areas

1. **Identifying operational survey baseline/s**  
e.g. 1992, 2002, 2005, and/or 2008
2. **Ensuring that the perfect instrument is not the enemy of the good**  
e.g. Agreeing what to put in and what to leave out
3. **Response quality**  
e.g. Self-assessment, subjective responses
4. **Ensuring high response rates**  
e.g. Previous experience suggests the efforts required for "roll-in" should not be under-estimated
5. **Defining a future monitoring and evaluation framework**  
e.g. How should it function? How does it/should it relate to other similar initiatives?

7

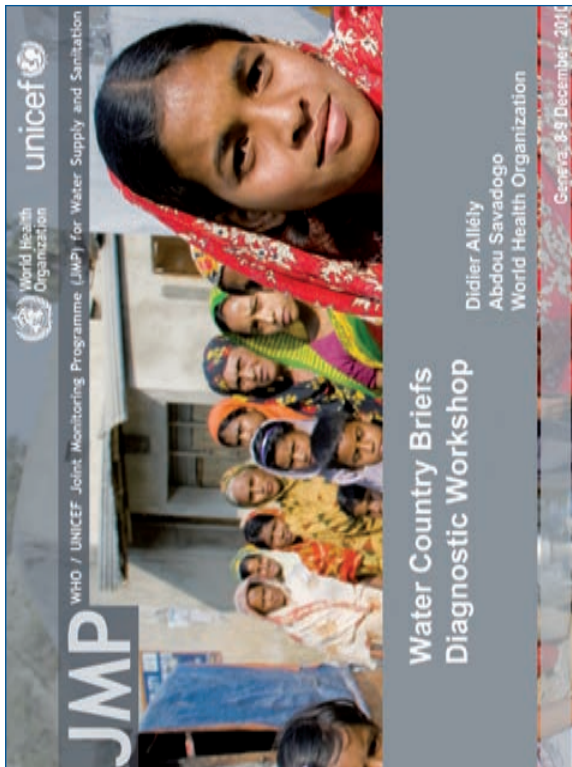
## Synergies with the WCB project?

Tentative suggestions:

1. **Level 2: Testing early indicator ideas or assessing information availability?**
2. **Future framework: Ensure synergies and complementarity among ongoing assessments, develop unified permanent reporting mechanism with country ownership**
3. **Others? Suggestions welcome!**

8





**JMP** WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation

World Health Organization **unicef**

**Water Country Briefs  
Diagnostic Workshop**

Didier Allély  
Abdou Savadogo  
World Health Organization

Geneva, 8-9 December 2011

1

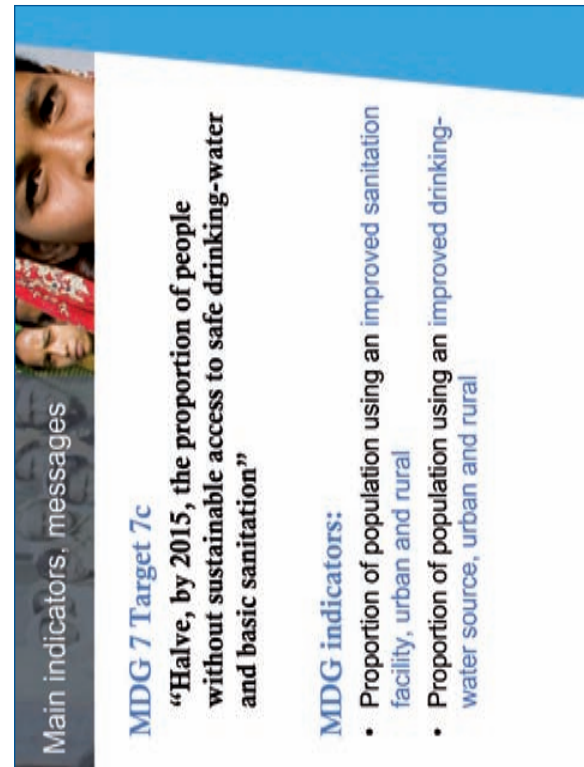


Joint Monitoring Programme  
Introduction

**The WHO / UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)**

- A joint programme between WHO and UNICEF
- Established in 1990 to monitor progress and trends of access to drinking-water and sanitation
- Official UN mechanism to monitor MDG Target 7c

2



Main indicators, messages

**MDG 7 Target 7c**

**“Halve, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation”**

**MDG indicators:**

- Proportion of population using an improved sanitation facility, urban and rural
- Proportion of population using an improved drinking-water source, urban and rural

3



Joint Monitoring Programme  
Strategic priorities

Maintaining JMP data  
data compilation and analysis

Disseminating JMP data and estimates  
(Reports, website)

Country Outreach  
(Workshops, data reconciliation, harmonization etc.)

Fulfilling JMP's normative role  
(indicator development etc.)

4

### Policy questions raised

JMP's contribution for policy and decision makers:

- Assess status and progress towards the MDG and **highlights gaps and disparities** (between water and sanitation, regions, urban / rural)
- **Raise equity issues** (gender, poverty) and level of access (time to source, infrastructure ladder)

5

### Data gaps and barriers

- Difficulty to collect all surveys and censuses available
- Different definitions/approaches used at national level and between national and JMP,
- Lack of harmonization between surveys/insufficient disaggregation
- Lack of harmonization/coherence between national monitoring actors
- Some countries do not carry regularly HHS or censuses
- Poor definition of Urban/rural boundaries

6

### Opportunities

- JMP benefits from national data **already available** and nationally representative (Around 1 200 national data sets for over 200 countries/territories: 729 nationally representative household surveys, 152 national censuses, 318 administratively reported data)
- **More and more surveys** available (now every 2 to 5 years) and improvement of data quality
- **Data reconciliation processes** are being conducted in approximately 60 countries to improve mutual understanding and monitoring methods.
- **Improving connections with NSOs and other sector agencies**
- **Connection with other international monitoring agencies** (IHSN) and other initiatives (GLAAS, CSO)
- **New collaborations** developing to improve national monitoring (WaterAid, GTZ, WSP...)

7

### Potential collaboration with the WCB

- Our **country files** with all available data in the public domain
- Our **country summary sheets**
- **Regional snapshots**

**JMP Web Site:**  
[www.wssinfo.org](http://www.wssinfo.org)

8

## UNISDR Monitoring of Progress in Reducing Risk to Water Related Disasters

Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December



1

## Conceptual framework

### Hyogo Framework for Action 2005-2015: *Building the resilience of nations and communities to disasters*

- Integrating disaster risk reduction into sustainable development.
- Stronger institutions, mechanisms and capacities to build resilience.
- Risk reduction in emergency preparedness, response and recovery.

Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December



2

## Description

1. Evidence base for risk reduction
  - Assessing global risk
  - Monitoring progress in Hyogo Framework
  - Analyzing and guiding decision making

Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December



3

### The Global Risk Analysis is...

...one of the important component of ISDR work. It focused on intensive mortality and economical risk from natural hazards world-wide.

It aims to address the following questions:

- Spatial distribution of seven natural hazards (not all fully modeled) and associated human and economical exposure
- Identification of risk/vulnerability drivers
- Spatial risk distribution patterns (human and economical)
- Index for comparing countries at risk
- Risk trend analysis
- Provide full access to data for end users

Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December



4



## Progress reported by 102 countries

**Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December**

5

## Main indicators/messages

**Usual**

- Impacts of disasters
- Levels of risk
- Climate change trends on extremes and risk

**Emerging**

- Effectiveness of investments in reducing risk (cost/benefit)

**Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December**

6

## Main questions

- Decisions taken every day in the water sector can increase or reduce risk to natural hazards and climate change
- Addressing water related hazard risk requires a broad set of actions (institutional, risk assessment, early warning, awareness, risk sharing/insurance, preparedness and response) reflected in the disaster risk reduction framework

**Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December**

7

## Data gaps/opportunities/barriers

- Lack of information on infrastructure at risk to disasters
- Lack of data, from water sector, on water related disasters impacts (socio/economic) and risk

**Water Country Briefs Project Diagnostic Workshop, at WHO, 9-10th December**

8

## National water-related investment needs

- Investment required to reduce risk to natural hazards
  - Water storage and distribution
- Investments required to reduce risk of floods and droughts by water sector

Water Country Briefs Project Diagnostic Workshop, at WHO, 9–10th December



9

## Recommendations and contributions to Water Country Briefs project

- Definition of level of risk of water sector operations regarding different natural hazards. i.e. use of cost/benefit for retrofitting existing installations and additional cost of new ones
- Review water sectors responsibilities regarding flood and drought risk, effective assessment of risk, engagement with other national actors....

Water Country Briefs Project Diagnostic Workshop, at WHO, 9–10th December



10






Global Water Audit tool

Water country brief diagnostic workshop  
9-10 December 2010



World Business Council for Sustainable Development

1




Global Water tool

Short description

- A free and easy-to-use tool for companies and organizations to map their water use and assess risks relative to their global operations and supply chains.
- For companies and any other stakeholders who need to better understand the water issues in their operations and that of their extended supply chain.

*"The tool is a significant step in addressing world water issues... it's the first of its kind available in the public domain"*  
PepsiCo International



World Business Council for Sustainable Development

2



Global Water tool

Short description

Since launch in 2007, the GWT has been...

- Downloaded over 10'000 times
- Used by 300+ companies (estimate)
- Increasingly recognized as the best available approach for companies to assess corporate water-related risks, improve decision-making, shape water management plans, and strengthen communications with internal and external stakeholders on water issues.
- Endorsed by the GRI



Global Reporting Initiative

Applauded by the Carbon Disclosure Project



CARBON DISCLOSURE PROJECT



World Business Council for Sustainable Development

3



Global Water tool

Short description

The GWT ...

- Provides an automatic link between a company's global operations and key external water data
- Allows companies to establish relative water risks in their portfolios to prioritize action
- Enables creation of GRI Indicators, inventories, risk and performance metrics and geographic mapping
- Ensures a standard approach and common set of data for global assessments



World Business Council for Sustainable Development



Check and Improve

4



### Main datasets

- Dataset owners gave permission to WBCSD for use in tool
- Original datasets have not been modified (except for access in some developed countries, with WHO/UNICEF's approval).
- The datasets
  - Have global coverage
  - Are available in the public domain
  - Are considered valid by the global community of water stakeholders
  - Are recent
  - Will be updated

|  |   |  |                                 |   |                                    |
|--|---|--|---------------------------------|---|------------------------------------|
| Food and Agriculture Organization (FAO) AQUASTAT | World Health Organization & UNICEF Joint Monitoring Program (JMP) | University of New Hampshire (UNH), USA | World Resources Institute (WRI) | International Water Management Institute (IWMI) | United Nations Population Division |
|--|---|--|---------------------------------|---|------------------------------------|



5




### Main datasets

- At country level
  - Total renewable water resources per person (FAO) + Projections for 2025 and 2050
  - Total water withdrawal per person (FAO)
  - Dependency ratio (FAO)
  - Industrial water withdrawal as par of total (FAO)
  - Population served with improved water (WHO / UNICEF)
  - Population served with improved sanitation (WHO / UNICEF)
- At watershed level
  - Annual renewable water supply per person (1995 and 2025) (WRI)
  - Mean annual relative water stress index (UNH)
  - Environmental water scarcity index (IWMI)
  - Physical and economic water scarcity (IWMI)




6




### Data gaps/opportunities

- Country based datasets might hide some important regional variations in terms of water availability
- Tool not appropriate for analyses at local and river basin level: resolution may be too coarse for accurate estimates.
  - Need to check results with a more local/national data source that would have better data
- Climate change impacts not included in the FAO total renewable per person projections to 2025 and 2050




7




### Increased pressure to report

- More and more requests from business to have reporting standards
- Higher data quality will help companies to commit in reduction targets that are differentiated by the level of water stress facing specific facilities.




8



**Contributions and recommendations**

- **Contributions**
  - Customization of the tool to different sectors
    - Scoping: oil and gas sector, electricity utility sector
  - Adapt the Tool to country level
    - Scoping: India
  - Regular update of the tool
- **Recommendation**
  - More accurate and granular data to help decision making



9




Global Water tool




World Business Council for Sustainable Development

10



**APPENDIX**



11



More external data in Excel sheet, incl.

- **FAO AQUASTAT**
  - Total internal renewable per person (IRWR/person)
  - Total external renewable (actual)
  - Agricultural, domestic and industrial water withdrawal as part of total
  - Desalinated water produced
- **WHO/UNICEF Joint Monitoring Programme**
  - Population (incl. rural and urban)
  - Proportion of rural & urban population served with improved water & sanitation
- **United Nations Population Division**
  - Urban annual growth rate



12



### Output: Graphs ("Combined Metrics Country") – downloadable

- Total renewable water resources per person (FAO) + Projections for 2025 and 2050
- Total water withdrawal per person (FAO)
- Dependency ratio (FAO)
- Industrial water withdrawal as par of total (FAO)
- Population served with improved water (WHO / UNICEF)
- Population served with improved sanitation (WHO / UNICEF)

Data by n° of sites, workers or suppliers

13

### Output: Graphs ("Combined Metrics Watershed") – downloadable

- Annual renewable water supply per person (1995 and 2025) (WRI)
- Mean annual relative water stress index (UNH)

Data by n° of sites, workers or suppliers

14

### Country maps (1/2)

- Total renewable water per person 2008 (FAO)
- Projected total renewable water per person 2025 (FAO)
- Projected total renewable water per person 2050 (FAO)
- Water withdrawal per person (FAO)
- Industrial water withdrawal as par of total (FAO)

15

### Country maps (2/2)

- Dependency ratio (FAO)
- Population served with improved water (WHO / UNICEF)
- Population served with improved sanitation (WHO / UNICEF)

16

**Global Water Tool** Watershed maps



The figure displays four global maps illustrating water supply and stress indices. The top-left map shows Annual Renewable Water Supply per person in 1995 (WRI). The top-right map shows Projected Annual Renewable Water Supply per person in 2025 (WRI). The bottom-left map shows the Environmental Water Scarcity Index (IWMI). The bottom-right map shows the Mean Annual Relative Water Stress Index (UNH). Each map includes a legend and a scale bar.

- Annual renewable water supply per person 1995 (WRI)
- Projected annual renewable water supply per person 2025 (WRI)
- Environmental water scarcity index (IWMI)
- Mean annual relative water stress index (UNH)
- Physical and economic water scarcity (IWMI)

17



**Water Country Briefs diagnostic workshop**  
9-10 December 2010  
Geneva

**UN-Water GLAAS**

Federico Properi  
UN-Water GLAAS Project Manager  
[properi@who.int](mailto:properi@who.int)

World Health Organization

3 | UN-Water Global Annual Assessment of Sanitation and Drinking Water

1

**Purpose of GLAAS**



- Analysis of the evidence to make informed decisions in sanitation and drinking-water

World Health Organization

2 | UN-Water Global Annual Assessment of Sanitation and Drinking Water

2

**Main categories of indicators**



1. Health impacts, economic benefits, and prioritization
2. Coverage/service levels and national situation
3. Policy and institutions
4. Human resources
5. Financing, planning, and resources

World Health Organization

3 | UN-Water Global Annual Assessment of Sanitation and Drinking Water

3

**What policy questions does your work target?**



- What works?
- What has to happen to accelerate and sustain progress?
- How can successful initiatives be scaled up?

World Health Organization

4 | UN-Water Global Annual Assessment of Sanitation and Drinking Water

4



### What is the conceptual framework and data collection methodology?



- Global analysis
  - of available relevant data/information (e.g. JMP, OECD, World Bank)
  - filling in critical information gaps through surveys and thematic studies
  - identifying trends
- Focus is on drinking-water and sanitation only
- Donors and recipient countries both part of the analysis

5 | UN Water Global Annual Assessment of Sanitation and Drinking Water



5

### What are the data gaps/opportunities/barriers which you encounter?



- Data are available, but not accessible
  - Monitoring of financing is the biggest data gap
- Reporting weariness
- Coordination comes at a cost

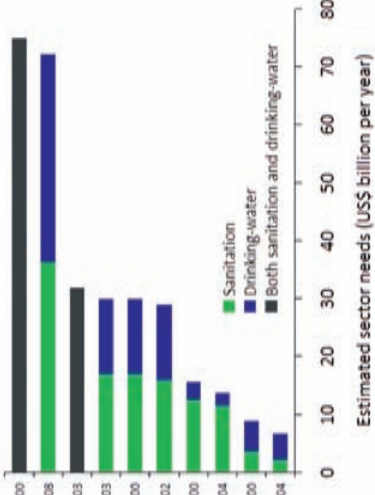
6 | UN Water Global Annual Assessment of Sanitation and Drinking Water



6

### Information on national water-related investment needs in targeted sectors?

#### Needs for what target and with what level of service?



| Study                                       | Sanitization (US\$ billion/year) | Drinking-water (US\$ billion/year) | Both (US\$ billion/year) |
|---|----------------------------------|------------------------------------|--------------------------|
| Cosgrove & Rijseman, 2000                   | ~15                              | ~15                                | ~30                      |
| Hutton & Barram, 2008                       | ~15                              | ~15                                | ~30                      |
| Smets, 2003                                 | ~15                              | ~15                                | ~30                      |
| Wingpeny, 2003                              | ~15                              | ~15                                | ~30                      |
| GVMP, 2000                                  | ~15                              | ~15                                | ~30                      |
| Devarajan, Miller & Swanson 2002            | ~15                              | ~15                                | ~30                      |
| WHO/UNICEF, 2000                            | ~15                              | ~15                                | ~30                      |
| Evans, Hutton & Haller, 2004                | ~15                              | ~15                                | ~30                      |
| WSSCC, 2000                                 | ~15                              | ~15                                | ~30                      |
| UN Task Force on Water and Sanitation, 2004 | ~15                              | ~15                                | ~30                      |

7

### Recommendations and contributions to Water Country Briefs project



- Recommendations
  - Build on what is already available
  - Avoid duplication, especially at country level
- Contributions
  - Lessons learned
  - Method
  - GLAAS outputs (e.g. reports, but also draft country snapshots)

8 | UN Water Global Annual Assessment of Sanitation and Drinking Water



8

**UN WATER**

**THANK YOU**


Federico Properi  
UN-Water GLAAS Project Manager  
[properi@who.int](mailto:properi@who.int)

[www.who.int/water\\_sanitation\\_health/glaas](http://www.who.int/water_sanitation_health/glaas)  
[glaas@who.int](mailto:glaas@who.int)

**World Health Organization**

3 | UN-Water: Global Annual Assessment of Sanitation and Drinking Water

Photo: UN-Water



**WWAP**  
**UNTF-IMR Basic List of Indicators**  
 Mike Muller  
 Water Country Briefs  
 Diagnostic Workshop  
 Geneva, December, 2010

United Nations Educational, Scientific and Cultural Organization  
 World Water Assessment Programme  
**UN WATER**

The United Nations World Water Assessment Programme

1



**WWAP's Mandate**

**UN system-wide effort to**

- develop better understanding of the processes, management practices and policies that will help improve the supply and quality of global freshwater resources.
- assess and report on state, use and management of world's freshwater resources and demands on these resources, define critical problems and assess ability of nations to cope with water-related stress and conflict

**Specific Objectives**

- Help countries develop their own assessment capacity;
- Raise awareness on current and future water related challenges to influence the global water agenda;
- Learn and respond to the needs of decision makers and water resource managers;
- Promote gender and cultural balance;
- Measure progress towards achieving sustainable use of water resources through robust indicators; and
- Support anticipatory decision-making on the global water system including identification of alternative futures

2



**Main messages, indicators**

Many indicators have been defined  
 However, cannot be "populated"

Data inadequate to provide systematic overview of  
 - State of the resource, of water use and, in particular, of trends

Challenges include

- Complexity and cost of monitoring state and use of water resources
- Limited institutional and financial resources for data collection
- Deterioration in some countries of networks
- Unwillingness, in some cases, to share data internationally, institutionally
- Failure to mobilise innovative approaches to data collection

UN Water well placed to promote remedial action  
 Country Water Briefs could be a vehicle to do this

3



**UN-Water "key indicators"**

| Issue                    | Indicator   | Source   |
|--------------------------|---|--|
| <b>Water</b>             | 1-TARWR/cap   | Main data source (+ other for improved monitoring)<br>AQUASTAT (+ WMO, IGRAC, countries) |
| <b>Context</b>           | 2-% national expenditure for water sector (WSS, ...) over total expenditure   | UNSD (+ WHO/GUAS)  |
| <b>Climate change</b>    | 3-Total storage (SW & GW) / Total Internal water (SW & GW)                    | AQUASTAT (+ ICOLD, IGRAC, countries)   |
| <b>Pressure on Water</b> | 4-Total withdrawals/TARWR   | AQUASTAT (+ UN-Habitat, IWA, UNIDO, countries)   |
| <b>Use off stream</b>    | 5-Share of agricultural, domestic, Industrial withdrawals / Total withdrawals | AQUASTAT (+ UN-Habitat, IWA, UNIDO, countries)   |
| <b>Use On stream</b>     | 6-Evolution of inland fish catch (capture) and production (aquaculture)       | FAO-Fishstat   |
| <b>Use &amp; Trade</b>   | 7-Share of blue, green, virtual water used to produce food in a country       | FAO, AQUASTAT; UNESCO/IHE-Delft,   |

Legend:   
 green : available data ; orange: challenge to follow trends but data improving  
 red: important issue but incomplete data

4



### Conceptual framework data collection methodology

- WWAP's role
  - clearing house, collation, analysis
  - not data generation
- UN Water institutions and partners, national governments,
  - to provide data
- Resources and prioritisation?



6

### UN-Water "key indicators"

| Issue               | Indicator   | Main data source                                      |
|---------------------|---|---|
| Water supply        | 8-% population with access to improved water supply   | JMP (+ UN-Habitat for data at city level)             |
| Sanitation          | 9-% of population with access with improved sanitation facilities   | JMP (+ UN-Habitat for data at city level)             |
| Food production     | 10-change in water productivity in irrigated agriculture  | FAO-AQUASTAT (+FAO, ICID for irrigation scheme level) |
| Industry production | 11-Change in water productivity in industry   | UNIDO (+ IWA, WBCSD for industry level)               |
| Energy production   | 12-Change in hydropower productivity (production/ potential)  | IEA   |
| Water quality       | 13-Change of quality of freshwater systems (% of samples meeting standards/ limits for nutrients in freshwater, salt in aquifers) | UNEP-GEMS water, IGRAC                                |
| pollution           | 14-Urban waste treatment connection rates   | OECD, EUROSTAT  |
| Freshwater systems  | 15-Change in wetlands health status (inc. threatened freshwater species %)  | Ramsar (+ WWF, UNEP)                                  |



5

### Outcomes

EG-IMD

**Set of Key Indicators**


**RESOURCE:** TARWR, Storage, Environmental Quality

**USES:** Abstraction by sector, by source, instream uses

**GOVERNANCE AND PERFORMANCE:** Spending, WRM assessment, cost of water supply, etc.

**Availability of reliable, repeatable data ?**

**Different "users" want different indicators**



8


### Outcomes

EG-IMD

**Three Dimensions**

- Status of the resource (quantity/availability and quality)
- Different uses of water
- Governance system\*

\*An early conclusion was that the assessment of governance requires a substantially different methodology to that for the other areas. This is currently being addressed through a separate process of collaboration between WWAP and the GWP.




7



Outcomes

**Key Recommendation**

"Since WWAP is a neutral platform, its output should be sufficiently generic that it can be used to provide a range of indicators relevant to the many different interest groups that seek to track trends in water resources. A focus on the production of core "data items", in addition to the core indicators that WWAP itself uses, would achieve this purpose."



9

**Data gaps/opportunities/barriers**

**In the domain of water resource availability:**

- TARWR via 30 year moving average (new; RS + synthesised)
- Storage (Available man-made storage capacity, 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)

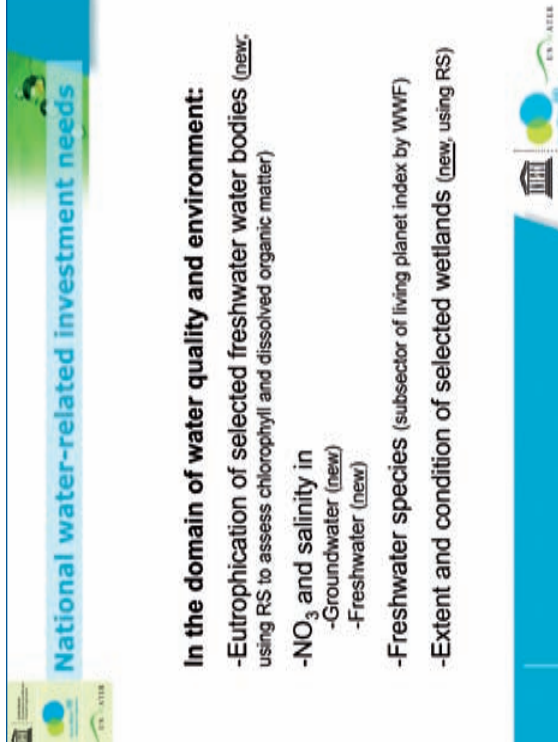


10

**National water-related investment needs**

**In the domain of water quality and environment:**

- Eutrophication of selected freshwater water bodies (new, using RS to assess chlorophyll and dissolved organic matter)
- NO<sub>3</sub> 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)



11

**Recommendations to WCP Project**

**In the domain of water use**

Water use by sector (existing classifications)

- Agriculture
- Industry
- Domestic
- Energy



12

