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**Meeting of the Parties to the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes**

**Working Group on Water and Health**
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Information paper 3

# REPORT

# PROJECT TECHNICAL MEETING: MONITORING OF WATER SUPPLY AND SANITATION, BONN, GERMANY, 10-11 JULY 2012

## 1. Introduction and objectives

The right to water and sanitation has been recognized as a basic human right by the United Nations General Assembly. The World Health Organization, in co-operation with UNICEF, monitors the access to water and sanitation at global level through the Joint Monitoring Programme (JMP). Data concerning access to water in urban and rural areas are collected bi-annually. However, several countries[1] are submitting either no data or only incomplete data.

Countries of the WHO European region which joined the Protocol on Water and Health have legal obligations to set targets for sustainable management of water resources, improving access to safe water and sanitation and reducing burden of water-related diseases. These countries also have to monitor and report progress towards these targets. The development and management of adequate monitoring systems in different domains as specified in Article 6 Para 2 of the Protocol on Water and Health remains a challenge in some countries.

[1] Armenia, Azerbaijan, Belarus, Kyrgyzstan, Latvia, Lithuania, Montenegro, Republic of Moldova, Romania, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Montenegro, Turkey, Turkmenistan and Uzbekistan.

The Ministers of Environment and Health of all Member States of the WHO European Region adopted the Parma Declaration on Environment and Health and Commitment to Act, which includes the commitments to use the approach and provisions of the Protocol on Water and Health to develop integrated policies on water management and health, and to ensure access to safe water and sanitation in homes and children's facilities. The Parma Declaration also identified the European Environment and Health Information System (ENHIS) as a main tool for monitoring progress towards regional priority goals (RPGs) set in Parma. RPG I aims at preventing and significantly reducing morbidity and mortality arising from gastrointestinal disorders and other health effects, by ensuring that adequate measures are taken to improve access by all children to safe and affordable water and adequate sanitation.

Furthermore, there is an evolution at the global level through WHO initiatives such as the development of monitoring framework for the post-2015 period and the Global Annual Assessment of Sanitation and Drinking-water (GLAAS). There is an urgent need to assist countries in overcoming the challenges that currently prevent them from participating in global and regional monitoring programmes and to develop information systems that would provide access to harmonized and comparable national data.

The WHO European Centre for Environment and Health (ECEH) in Bonn supports efforts of Member States to disseminate information on water and health through the implementation of a project on "*Monitoring Water Supply and Sanitation in the European region*", which is supported by the Government of Germany. The project aims to capture currently available data on water supply and sanitation, combine these with current national reporting systems on water-related diseases and develop an interactive system that will allow informing decision-makers on possible priorities for improvement action.

The Atlas on Water and Health is a data management tool using Geographic Information System (GIS). Its aim is to serve as a one-stop-shop for information on sustainable use of water resources and reduction of water-related disease.

The project preparatory meeting was organized at the ECEH on 10-11 July 2012 in Bonn, Germany. The meeting was attended by the technical experts specialized in the application of geographic information systems (GIS) from the Institute of Hygiene and Public Health (IHPH), Rheinische Friedrich-Wilhelm Universität Bonn which also serves as the WHO Collaborating Centre for Health Promoting Water Management and Risk Communication, staff from WHO headquarter responsible for the WHO/UNICEF Joint Monitoring Programme and GLAAS, and Tufts University.

*The objectives of the meeting were:*

- To evaluate the methods currently used in the Atlas on Water and Health in light of new demands;
- To discuss the current content of the Atlas and its suggested modifications, and identify data sources;
- To identify possible synergies and linkage between the Atlas and other information systems (ENHIS, WHO Health for All, etc.) and discuss necessary measures to harmonize data presentation in these systems taking into account new developments in monitoring of Water and Sanitation.

## 2. Presentations and main highlights

Mr Roger Aertgeerts, Programme Manager, Natural Resources, Water and Sanitation introduced the objectives and provided a detailed overview of expected outcomes of the technical meeting.

### 2.1. Proposed adaptation of the Atlas on Water and Health

The proposed development of the Atlas on Water and Health was presented by Mr Christoph Höse, WHO CC at the University of Bonn. The speaker highlighted that the current version of the Atlas allows cross-sectional presentation of the data; and need to be further updated to display temporal trends. There is also a need to agree on procedures for updating the Atlas data and develop a database supporting new functionalities of the Atlas.

Mr Höse introduced the road map for further developing the Atlas and presented a summary of the rapid needs assessment which was conducted through an online questionnaire survey in June 2012.

The new version of the Atlas intends to:

- include links with other monitoring programmes and information systems, such as ENHIS, JMP, GLAAS, and OECD;
- rely on existing international data sources which have plans for updating their data for next years;
- display temporal trends;
- provide visual data together with well defined explanation text, thus gaining interest of new audiences as well as supporting decision making.

The visualization technique will make use of software tools *statistic eXplorer*, which has been used by OECD (http://stats.oecd.org/OECDregionalstatistics/). It can display animated data over time and produce various types of charts, enabling visualizations of multivariate content.

It was agreed that the option of including of explanatory text should be carefully discussed further as it might require clearance of the text and coordination within WHO, participating countries and NGOs.

### 2.2. Current and post-2015 JMP and linkage with the Atlas on Water and Health

Mr Rifat Hossain, WHO HQ presented an overview of the current and the post 2015 JMP program. He highlighted the rationale for developing the new JMP data collection plans for the post-2015 period and introduced the road map of this process.

Current indicators on access are insufficiently detailed; there is a need to broaden the indicator set to allow for more comprehensive monitoring, addressing the human rights criteria and equity, reflecting different standards in rural and urban areas, characterizing intra-urban disparities and ensuring consistency with the current set of indicators

The four working groups (WGs) at WHO HQ have been established with participation of developing countries to prepare post-2015 development targets and indicators. The joint meeting of the WGs will be held in December 2012 to consolidate findings. The consolidated proposal for post-2015 monitoring will be submitted to UN General Assembly in September 2013.

The participants discussed possible synergies and linkages between JMP and Atlas and agreed on the need to harmonize the Atlas with post 2015 JMP monitoring process and use updated indicators and targets (e.g. gender disparities; access stratified by wealth quintile and drinking water quality parameters, such as compliance with E. coli standards).

It was noted that while JMP reports country data on access to "improved water and sanitation" and by types of sources, in the European region presenting country data on the use of improved drinking-water sources by "piped on premises" is a more suitable approach.

Global Information Management System (GIMS) is under development by WHO HQ. It is a web-enabled (Web2.0) comprehensive data management system designed for data analysis and dissemination. It will also incorporate an early warning system for water-borne diseases.The prototype version includes JMP data on access to water (data from household surveys) and climate-related data (spatial data from Group on Earth Observations (GEO). The GIMS is seen to become an excellent data source for the new Atlas on Water and Health.

### 2.3. GLAAS and possible linkage with the Atlas on Water and Health

The presentation on GLAAS was given by Mr Rifat Hossain. He explained that GLAAS includes data on self-assessed national capacities to deliver drinking water and sanitation services. The GLAAS reports are published every two years. The main objective is to identify drivers and bottlenecks to progress towards MDG 7 target C and to serve as a repository of global data for decision makers.

GLAAS addresses the following:

- Sources of funding and cash flows
- Allocation of funding
- Human resources (adequacy, sufficiency, gender)
- Equity and Human Rights
- Policy planning and coordination
- External support
    - Access to water and sanitation in schools
    - WASH in health care

GLAAS provides added value to sanitation and drinking-water monitoring efforts towards achieving the MDG target by collecting and assessing data on policy frameworks, institutional arrangements, human resource base and international and national finance streams in support of sanitation and drinking-water.

The second GLAAS report was released in April 2012; its data could be integrated into the Atlas on Water and Health. GLAAS relies on pre-existing data sets (e.g. JMP), and also performs detailed surveys of countries through WHO regional offices and regional facilitators. It also uses detailed survey data from external aid organizations.

The 2012 GLAAS report showed that challenges remain to reduce disparities and increase sanitation coverage. It also revealed a lack of robust data particularly, concerning financial flows, which is a major constraint to progress.

A review and evaluation process of GLAAS has been initiated with an external evaluation meeting is planned in September 2012 in Bern.

The working groups will be formed to advise on topical themes, data collection approaches, questionnaire improvements, and country linkages.

### 2.4. ENHIS and linkage with the Atlas on Water and Health

The European Environment and Health Information System (ENHIS) was presented by Andrey Egorov (ECEH). The main objective of ENHIS is to monitor progress towards goals set in the Parma declaration. The ENHIS uses existing data from international sources, such as JMP, EEA and EUROSTAT, and existing national data. There are plans to collaborate with Tufts University on improving characterization of inequalities in housing and sanitation through more in-depth analysis of raw EUROSTAT data.

ENHIS currently includes several indicators, which are related to the content of the Atlas: outbreaks of water borne diseases, access to public water supply at homes, access to improved sanitation and wastewater treatment (JMP data) and bathing water quality (EEA data).

It is envisioned that ENHIS will also serve as a data warehouse for the planned new WHO-coordinated survey in schools to assess access to sanitation and hygiene practices, as well as exposures to other environmental hazards in pupils in the WHO European Region. The survey has been pilot tested in 14 schools in Albania and Croatia; its full-scale implementation is planned in 2013-2014. A new interactive IT platform and relational database for ENHIS are currently under development.

Some of the content in the Atlas is closely linked with the water and sanitation indicators in ENHIS. The utilization of the ENHIS database for visualization techniques of the proposed Atlas is highly important. Emphasis was put on the fact that it is necessary to assure harmonization of data collection and analysis methodologies in the Atlas and ENHIS. As an interactive IT platform is developed within the ENHIS, it should be possible to establish direct links with the Atlas. This will ensure consistency and improve access to information for the users of these two systems

The participants recognized the need for an integrated approach to leverage these two information systems and improve coordination/interoperability between ENHIS and the Atlas on Water and Health.

### 2.5. Possible collaboration with Tufts University

Prof Elena Naumova from the School of Engineering, Nutrition and Medicine, Tufts University gave a presentation on the current research of her group. One of the objectives of their research is investigating seasonality and spatiotemporal associations between environmental parameters, enteric infectious diseases and weather.
The participants acknowledged usefulness of this topic, however noted that data on seasonal patterns of outbreaks of water-related diseases are not included in the current version of the Atlas. It was recommended to further explore possibility of collaboration with Tufts University on outbreak detection and analysis of data on water related diseases under the Task force on Water related Disease Surveillance of the Protocol on Water and Health.

**3. Discussion and Outcomes of the meeting**

The focus of the discussion was to agree on a clear and substantiated vision of the added value of the Atlas, evaluate currently available data/sources, specify required new data, define steps towards integration with existing programmes such as ENHIS, JMP and GLAAS and outline the way forward. The main outcomes are summarized below.

i) The Atlas has to be seen in the context of support of the Ministerial Conference on Environment and Health, the Protocol on Water and Health and Rio +20 follow-up. The participants agreed that the updated Atlas will provide an added value in the monitoring of implementation of the Parma commitments (RPG1), the Protocol on Water and Health and the global monitoring programme through effective linkages with ENHIS, JMP and GLAAS.

ii) The Atlas could serve as a good tool to communicate and present the achievement of targets set by the countries under the Protocol on Water and Health. It is recommended to strengthen synergies of work on the Atlas with the Task Force on Target Setting and Reporting under the Protocol

iii) The Atlas is not a data collection and data generation tool; it is a tool for analysis, interpretation and presentation of available data. The proposed updated Atlas provides tools to visualize trends and progress and it allows the comparison of different WHO regions at once.

iv) The data sets for the Atlas need to comply with the following requirements:

- Spatial resolution: national level (no sub-national data are envisioned at the current stage);
- Temporal resolution: 1 year (participants noted potential usefulness of displaying monthly data on infectious diseases and proposed to explore possibilities to include such data in the future).

v) Linkage with existing and new data sets: The participants agreed that for the updated Atlas version, the following data subsets from existing programs will be used:

- JMP: current indicators with incorporation of post-2015 indicators when they become available;
- GLAAS: through supporting broader participation of Member States in the GLAAS survey'
- ENHIS: data on number of waterborne outbreaks obtained from member states; in the future, potentially data on access to sanitation in schools and hygiene practices in pupils;
- WHO Europe Health for All database;
- WHO Europe CISID database.

There are a few new datasets expected to appear which require further integration with the Atlas.

- Global Information Management System (WHO HQ);
- Rotavirus surveillance network data (WHO EURO);
- Age specific Hepatitis A data (ENHIS).

New surveys or data gathering directly from member states are not in the scope of this project.

vi) The meeting recognized the need to improve coordination between ENHIS and recommended organizing a joint regional technical meeting in October 2012. The participants discussed initial scope and purpose of the proposed meeting which includes: reviewing the content and design of the proposed update for the Atlas; assessment of information needs; harmonization and linkages with other information systems, data management, data sharing, etc.

vii) Outbreak detection and monitoring, geographic and time-based analysis of outbreak data is technically a very specific topic. It was recommended to include this issue in the agenda of the meeting of the Task Force on Water-related Disease Surveillance scheduled in the end of November 2012 in Moscow, Russia.

**4. Way forward:**

- WHO ECEH will prepare a scope and purpose of a regional event for joint ENHIS and Atlas on Water and Health by end of July 2012. The suggested participants would be the representatives of Member States of WHO European Region, the focal points on Protocol on Water and Health, participants to the Task Force on Water-related Disease Surveillance and the Task Force on Target Setting and Reporting, WHO HQ experts on JMP, GLAAS and other relevant partners.

- The WHO CC at the University of Bonn will prepare a detailed list of data sources and parameters to be included in the Atlas. The list will be distributed to the technical meeting participants for feedback.

- In consultation with WHO ECEH, the WHO CC at the University of Bonn will revise the questionnaire for needs assessment. The needs assessment will be carried out during the meeting in October 2012.

- The WHO CC at the University of Bonn will prepare a final proposal for updated Atlas and a technical summary in English. This will be translated into Russian (it was agreed that at this stage no other languages will be used) for the Regional meeting in October.

- The proposed Atlas shall be presented at the Regional meeting planned for29-30 October 2012 at the WHO ECEH Bonn and finalized based on feedback from the representatives of Member States and technical experts.

- The meeting recommended to report progress of work on the Atlas on Water and Health to the WHO ECEH milestone events in 2012 such as meeting of the Working Group on Water and Health; 9-11 October, Geneva; Regional meeting on ENHIS and Atlas, 29-30 October, WHO ECEH Bonn, Task force meeting on Water -related diseases surveillance; Moscow, November (tentative), and 2nd consultation on Post 2015 MDG, December, The Hague and when appropriate ensure participation of the WHO CC at the University of Bonn.