Report of the Inaugural Meeting of the International Network of Drinking-water Regulators
Report of the Inaugural Meeting
of the International Networks of
Drinking-water Regulators


Public Health and the Environment
Water, Sanitation, Hygiene and Health
Geneva 2008
# Table of Contents

1. **A summary of discussions and agreed actions** .................................................... 2

2. **Challenges Associated with Regulating Drinking Water** ................................. 2
   2.1 Regulations absent, incomplete and/or outdated ........................................... 3
   2.2 Lack of clarity, gaps and overlaps in institutional and regulatory frameworks... 3
   2.3 Insufficient resources and capacity to ensure appropriate development and implementation ........................................................................................................... 3
   2.4 Drinking water not viewed as a cross sectoral issue ...................................... 4
   2.5 Difficult to put in place new regulations and to improve existing ones ......... 4
   2.6 Regulations that are not applicable and appropriate with respect to context (i.e. national to community level) ................................................................. 4
   2.7 Regulations do not guarantee compliance ..................................................... 5
   2.8 Water supply is a finite resource with multiple users .................................... 5
   2.9 Corruption ........................................................................................................ 5

3. **Scope** .................................................................................................................. 5
   3.1 Source Water ..................................................................................................... 6
   3.2 Infrastructure .................................................................................................... 6
   3.3 Water treatment and delivery .......................................................................... 6
   3.4 Protection of the Public from Health Perspective ............................................ 6
   3.5 Oversight and Enforcement ............................................................................ 6
   3.6 Multi-Sectoral Elements .................................................................................. 6

4. **Strategic Direction** .............................................................................................. 7

5. **Development of a plan of action** ....................................................................... 7
   5.1 Development of an International Network on Drinking-water Regulators ...... 8
   5.2 Development of guidance ............................................................................... 10
   5.3 Development of evidence base ....................................................................... 12
   5.4 Development of tools ..................................................................................... 13

6. **Long-term Work Plan** ....................................................................................... 14

APPENDIX 1: Agenda .................................................................................................. 15
APPENDIX 2: Regulatory Map .................................................................................. 17
APPENDIX 3: Types of Regulatory Approaches ....................................................... 18
1. Summary of discussions and agreed actions

A number of developed and developing countries have raised concern about drinking-water regulation. In order to address the Millennium Development Goals (MDGs) related to water and sanitation in both developed and developing countries, the management of water supplies and the response to potential waterborne illness events and drinking water contamination events needs to be improved. Regulations are a powerful tool available to governments that can be used to address the MDGs. However, regulations are not always used to their best advantage. Specific challenges raised by country-level experts on water supply and sanitation, in particular regulators, included:

- Regulations developed from engineer and operational perspective, neglecting the health perspective, such as authorities for public health surveillance and associated response;
- Regulations that are absent, incomplete and/or outdated even in developed countries; and
- Lack of clarity regarding legal mandates and authority, including gaps and overlaps.

WHO’s Guidelines for Drinking-water Quality set guideline values for microbiological, chemical, physical and radiological parameters and provide guidance on the management of drinking water supplies, i.e. the Framework for Safe Drinking Water which includes Water Safety Plans. Guideline values are used by developing and developed countries worldwide as the basis for regulation and standard setting and, recently, a few countries have begun to incorporate Water Safety Plan approaches into their regulations. However, internationally recognized guidance has yet to be developed specifically for use by regulators to strengthen their ability to develop and implement regulations that protect public health as it relates to drinking water.

A meeting on drinking-water regulation was held in response to the above concerns. The meeting held in Geneva, Switzerland, on February 21st and 22nd, reviewed a number of country-level approached to improving drinking water supplies using regulations and their current challenges in this regard. The structure of the meeting, as detailed in the agenda (Appendix 1), was focussed around country-level presentations. Attendees were primarily those with regulatory responsibilities within their own countries (Appendix 2).

During the meeting, attendees gave presentations on the regulatory and associated institutional frameworks in place within their countries/regions to protect public health as it relates to drinking water, as well as priorities and challenges in this regard. Attendees were quite specific as to what they need in order to improve their ability to develop and implement regulations in order to protect public health as it relates to drinking-water. In this regard, attendees developed and agreed upon a scope, strategic direction and a plan of action and prioritized activities.

2. Challenges Associated with Regulating Drinking Water:

The following are challenges raised by attendees at the inaugural RegNet meeting, organized by eight major priority areas. These challenges were shared by attendees in advance of the meeting and were discussed in more depth at the meeting in Geneva. The challenges are not listed in a particular order:

2.1 Regulations absent, incomplete and/or outdated

- No national water quality standards
• WHO guidelines adopted mainly for compliance but with no legal instruments for enforcement

• Direction needed on how to regulate from the perspective of WHO’s Framework for Safe Drinking Water, specifically the Water Safety Plan perspective

• National standards exist but lack regulations

• Focus on quantity, neglecting quality

• Focus on quality at consumer level neglecting associated processes.

2.2 Lack of clarity, gaps and overlaps in institutional and regulatory frameworks

• Lack of legal authority to create regulations (e.g. drinking water and/or public health acts do not yet exist)

• Roles and responsibilities only defined by policies and programs

• Unclear understanding of roles and responsibilities of Ministries, Agencies, professionals, such as Medical Offices of Health and Public Health Inspectors, etc.

• Gaps in regulation, such as no immediate follow-up when potential public health risks identified or lack of authority to enforce regulations

• Multiple or no Ministries, Agencies and other government and non-government organizations claiming responsibility

• Ministries, Agencies and other government and non-government organizations working in isolation

• Two or three sets of "national" standards

• Language barriers between stakeholders, including differences in terminology, perpetuating lack of clarity, gaps and overlaps

• Trans-boundary issues that prevent/inhibit cooperative management of boundary waterways and shared ground water resources

2.3 Insufficient resources and capacity to ensure appropriate development and implementation

• Insufficient institutional capacity to draft new or improve existing regulations

• Insufficient human and financial resources to discharge roles and responsibilities

• Insufficient laboratory equipment, vehicles, sampling equipment and test kits, and office equipment to discharge roles and responsibilities

• Insufficient water supply infrastructure and human resources to operate and manage water supplies
• Insufficient resources to identify and follow-up when potential public health risks identified

2.4 Drinking water not viewed as a cross sectoral issue

• Regulation of only allowable concentrations of microbiological, physical, radiological and chemical parameters

• Lack of source water protection regulation

• Focus is typically limited to regulating the operation and management of water supplies, at the expense of regulating from a public health perspective

• Drinking water regulations often do not include:
  • Surveillance of potential waterborne illness;
  • Education and awareness programs;
  • Source water protection;
  • Audits;
  • Verification monitoring and inspections; and
  • Emergency planning and response.

2.5 Difficult to put in place new regulations and to improve existing ones

• Difficult to obtain political support when shifting from a system without regulations to one with regulations

• Limited evidence, with a focus on economic assessments, on importance of regulating drinking-water from public health perspective

• Time consuming and resource intensive to put in place new regulation and improving existing ones (e.g. consultations)

• Political will and consumer support needed but may not exist or may wane over time.

• Competing government priorities, especially those from an economic perspective (e.g. resources generated from the mining industry seen as more economically beneficial compared to protection of source water)

• Pressure on politicians by special interest groups (e.g. industry) to not put in place new or improve existing regulations

• Insufficient institutional/organization capacity to develop regulations

• Difficult to ensure regulations facilitate the utilization of new technologies

2.6 Regulations that are not applicable and appropriate with respect to context (i.e. national to community level)

• Inter- and intra- country level differences (e.g. geography) require different regulatory approaches (e.g. small island countries can have limited fresh water and may have to address salt water incursions)
• Differences in water supply type (e.g. ground water versus surface water and individual wells versus trucked systems) require different regulatory approaches.

• Smaller water supplies require different regulatory approaches to address their challenges, typically remote, with limited capacity and poor transportation facilities

2.7 Regulations do not guarantee compliance

• Still many incidences of non-compliance

• Penalties can be too low to ensure compliance

• Enforcement is often seen as the only way to ensure compliance, ignoring other regulatory tools such as training, education and incentives

• If resources are insufficient then non-compliance is inevitable

• Compliance can be especially difficult when regulations are new

• Political sensitivities can prevent/inhibit information sharing by state and privately-owned companies

2.8 Water supply is a finite resource with multiple users

• Competing water uses

• Recycled water not considered acceptable by consumers for cultural and/or religious reasons

• "Misuse" of water resources, e.g. contamination by agriculture, direct effluent discharge by industry

2.9 Corruption

• In some extreme cases staff may not even receive salary on time and - when it is received - it is insufficient to cover the costs of living

• Enforcers with a vested interest in the outcome are disinclined to discharge their responsibilities appropriately

3. Scope

The scope of the guidance to be provided to regulators was reviewed and commented upon in advance of the inaugural meeting of RegNet. Scope was terms as being ‘core elements’. As agreed to by attendees, the core elements will be used as the basis for the development of internationally accepted guidance.
To facilitate a review of the draft core elements, Dr. Joshi presented a regulatory map based on the core elements, as attached in Appendix 3. The revised core elements were reviewed and modified, as follows:

3.1 Source Water

- Source water protection from pollution and from depletion, including catchments
- Water withdrawal and use, including, as an example, conservation at tap

3.2 Infrastructure

- Drinking water materials (e.g. types of pipes, household treatment devices, consumables such as chlorine)
- Commissioning and decommissioning of wells
- Commissioning and decommissioning of water treatment facilities
- Construction of water treatment facilities and plumbing systems, including environmental impact assessments
- Bulk transportation (e.g. trucks and cisterns)

3.3 Water treatment and delivery

- Operation and maintenance
- Minimum treatment standards for drinking water, including private supplies
- Occupational health and safety

3.4 Protection of the Public from Health Perspective

- Consideration of and/or reference to WHO's Guidelines for Drinking Water Quality
- Adequacy of supply (i.e. quality, quantity, accessibility, affordability and continuity), including drinking water quality standards
- Authorities for public health surveillance

3.5 Oversight and Enforcement

- Operational and verification monitoring (e.g. testing by a national laboratory)
- Third party audits and inspections of, e.g. drinking water supplies and installations
- Enforcement powers (e.g. quarantine in event of illness outbreak, fines if regulations not followed)

3.6 Multi-Sectoral Elements

- Record keeping and information sharing
- Training and/or certification (e.g. operator, plumbers, and inspectors, and other public health professionals)
- Emergency planning and response (e.g. disasters, surge response, exceedences, waterborne illnesses)

These core elements are to be used to guide the identification of strategic direction and prioritized Network activities.
4. **Strategic Direction**

According to the direction provided by meeting attendees on content, outputs of RegNet should recommend:

- That regulations be used as a tool to protect public health;
- An adaptive risk assessment and management approach;
- Incremental improvements over time where resources and capacity are lacking;
- A multi-barrier approach, from source to consumer
- A multi-sectoral approach, e.g. the regulation of surveillance, water treatment, industry;
- Sustainable development, maintaining a balance between economics, health, etc.;
- The engagement of the public in the development and implementation of regulations;
- A mix of regulatory and non-regulatory approaches;
- The need for policy and program support, including associated resources and capacity;
- Collaboration of regulatory bodies within and between regions;
- The development of regulations that are applicable and appropriate to different types of water supplies (e.g. water scarce versus water rich and rural versus urban);
- That regulators have the appropriate powers to intervene and enforce as needed; and
- That the integrity and independence of regulators and those that develop regulations be maintained.

As an over-arching principle, it was agreed that regulations should enable the proactive identification, assessment and mitigation of potential risks to public health as it relates to drinking water.

5. **Development of a Plan of Action**

In keeping with the challenges, scope and strategic direction, it was agreed that there is an opportunity to strengthen regulators’ ability to mobilize the use of regulations in order to best protect public health as it relates to drinking-water as a means of accelerating progress towards the MDGs related to water and sanitation.

As identified by attendees, the plan of action developed by attendees focused on four main areas, the first of which was to establish a network of regulators that would support the other three areas, specifically to develop guidance, evidence base and tools. It was agreed that a long-term work plan needs to be developed in order to cover the outstanding items from RegNet’s objectives, such as advocacy.

Both in advance of and at the meeting in Geneva, regulators highlighted the importance of providing guidance, geared directly towards regulators, on how to apply the *Guidelines for Drinking-water Quality*, including the Water Safety Plan Approach.

At the meeting a Plan of Action was drawn up and agreed to, as detailed below:
5.1 Development of an International Network on Drinking-water Regulators (RegNet)

It was agreed that regulators require a space to discuss and share important issues between themselves and to decide the best way forward in their particular situation in the interests of public health.

Objectives and Scope of RegNet:

With the goal of improving the development and implementation of regulations associated with drinking water in order to protect public health, the objectives of RegNet, as agreed to in Geneva, are to:

• Support the development of international-recognized guidance on the regulation of drinking-water to improve public health protection;

• Advocate for the improvement of regulations;

• Provide support to regulators wishing to establish, update or amend regulatory frameworks;

• Provide advice on the rolling revision of the WHO Guidelines on Drinking-water Quality, from a regulatory perspective;

• Provide a discussion forum to address challenges and share good practice.

The scope of RegNet includes the protection of public health as it relates to drinking water. At this point, RegNet's scope does not include areas wastewater, sanitation and hygiene. However, once RegNet has achieved substantive progress with respect to drinking water, it may consider widening its scope. International standards for bottled drinking water are already being addressed through CODEX Alimentarius.

Membership and Participation in RegNet:

In order to give regulators a space to discuss and share important issues between themselves, and to decide the best way forward in particular situation in the interests of public health, regulators requested that there be significant attention to confidentiality. Membership is by WHO invitation only. For this purpose, it was agreed that a regulator is defined as someone who is tasked with ensuring the safety of drinking-water production and quality through:

• Setting and/or enforcing appropriate regulations and standards; and/or

• Independent surveillance at national and sub-national levels.

RegNet membership is not open to individuals or institutions that do not have the formal powers to intervene and take action in this domain.

Those with membership in RegNet will be given access to its virtual forum and will be invited to attend RegNet meetings. As deemed appropriate, others may be invited to participate and provide technical assistance in activities undertaken by RegNet and attend RegNet meetings.
As participation is not limited by those who can regularly attend meetings, those who were not sure they could attend were also asked to respond so that they could contribute to the work of RegNet.

Forum for communication and coordination

Attendees reviewed the virtual forum that had been prepared in advance of the meeting and agreed to use it as a work space. Access to and participation in the virtual forum is restricted to RegNet members and managed by Ms. Mercer. The virtual forum enables the Members to post announcements (e.g. future meetings or upcoming deadlines), create libraries of information (e.g. presentation from and report on the inaugural meeting) and initiate and participate in discussions on its boards. It was emphasized that the virtual forum should provide a private space for regulators to discuss essential issues amongst themselves. The virtual forum can be accessed by RegNet members, and RegNet members only, wherever they have internet access.

Lead: Ms. Mercer
Timeline: Enable a virtual forum - Done

Second and future meetings on drinking-water regulation

Discussions were also held on who might be able to host future meetings in order to address longer-term action items.

Ideally, hosts for future meetings will be identified at least two years in advance. These meetings will be held as needed to assist in moving work stream items forward and facilitating dialogue on work accomplished to date and future direction of RegNet. The host for the next meeting has been tentatively identified. The month of February 2009 is currently under consideration. RegNet members are encouraged to consider hosting future meetings and to contact Ms. Mercer in this regard.

Lead: Ms. Mercer
Timeline: Identify hosts for next face to face meeting - August 2008

Meeting reports

Meeting hosts will be responsible for preparing an initial draft of meeting reports for review by WHO, RegNet members and, as appropriate, meeting attendees. Once reviewed, all reports then go through WHO's formal approval process. The reports will be posted into the virtual forum. Reports will only be shared with others if deemed appropriate on a case by case basis.

Lead: Ms. Mercer
Timeline: Develop meeting report for inaugural meeting - March 2008
Solidify support of network objectives

In order to be sustainable, RegNet requires support in order to meet its objectives. The type of support that can be provided include but are not limited to:

- Modest but regular contributions to support general activities of RegNet;
- Hosting and/or cost-hosting future meetings of the Network;
- Contributions to support specific activities; and/or
- Expert advice and guidance.

There are a number of activities that do not yet have a lead identified. This represents an opportunity for current RegNet members to undertake a leadership role before membership starts to increase.

To solidify support of Network objectives, Ms. Mercer will gradually and carefully expand RegNet Membership to include other governments, while maintaining the agreed structure.

Lead: Ms. Mercer

Timeline: Report on support of activities - February 2009

Identification of candidates for possible membership in RegNet by current RegNet Members - October 2008

5.2 Development of Guidance

Map out core elements for the regulation of drinking water to protect public health

The core elements and associated mapping are being developed to serve as a framework on the regulation of drinking water from a public health perspective. The long term objective is to build on this work in order to provide more substantive guidance to strengthen regulators ability to protect public health as it relates to drinking water. It was suggested that this might take the form of an additional volume to the Guidelines for Drinking-water Quality.

Lead: Mr. Satish and Dr. Pranav with support from Drs Cooper, Chanda and Drury.

Timeline: Draft ready for review by RegNet - mid to late May 2008
Develop issue paper on key principles

A draft of an issue paper on key principles for the regulation of drinking water from a public health perspective has been posted into RegNet's virtual forum for review and comment.

Lead: Ms. Mercer
Timeline: Draft for review by RegNet - Done

Develop issue paper on the use of regulations for source water protection

The underlying work for this issue paper was begun by Dr. Yamada during his secondment to Geneva in Autumn, 2007. Dr. Yamada's work is focussing on source water protection in Asian countries. In this regard, he is 1) evaluating past and current practices and 2) compiling and identifying legal frameworks to protect drinking water sources. Given the overlap with the objectives of RegNet, he committed to developing an issue paper based on his analysis and highlighting the lessons learned.

Lead: Dr. Yamada
Timeline: Share draft with RegNet - June 2008

Develop issue paper on plumbing regulations

World Plumbing Council has appointed John McBride as a liaison officer to collaborate with the World Health Organization on a series of related projects, including the development of an issue paper for use by regulators on plumbing regulations. A draft has been prepared by Mr. McBride and it will be reviewed by representatives of the World Plumbing Council in April 2008, following which it will be reviewed by WHO.

Lead: Mr. McBride, World Plumbing Council
Timeline: Share draft with RegNet - May 2008

Develop issue paper on regulatory approaches

When the agenda for the inaugural meeting was reviewed it was suggested that a discussion on the different types of regulatory approaches be added. To facilitate this discussion, a table on regulatory approaches, prepared by the World Plumbing Council as part of their position paper, was shared and discussed with attendees (Appendix 4). It was agreed that the World Plumbing Council will continue its work as it relates to plumbing, following which the section on regulatory approaches will be expanded to encompass a broader perspective, i.e. more than just plumbing.

Lead: Draft with focus on plumbing - As above
5.3 Development of evidence base

The need for databases, tools for use in evidence-based decision making, was identified. A decision was taken to address this need both publicly, at www.waterlawandstandards.org, and for use only by RegNet members, within RegNet's virtual forum.

The need for evidence based on economic assessments was highlighted but an action item in this regard has not yet been identified.

Sharing of existing regulations

Regulations to be posted for at http://faolex.fao.org/faolex/ will be passed on to Ms. Mercer, by sending them directly to Ms. Mercer. Where possible, the website link to the regulations will be provided. If the regulations are not available on-line, then they will be either sent in PDF format or mailed, wherein Ms. Mercer will have them converted to PDF. FAO, the Food and Agriculture Organization of the United Nations, maintains the above mentioned website and will upload regulations shared into their database.

Lead: All RegNet members

Timeline: Sharing of regulations by RegNet members - August 2008

Database on standards for chemical, physical, microbiological and radiological parameters at (www.waterlawandstandards.org)

It was agreed that this web-enabled database on existing regulations was a useful tool and that RegNet should assist in developing it further from a drinking water perspective, focusing on comparing maximum and minimum allowable concentration. The sharing of regulations by RegNet members, as mentioned previously, will help facilitate the development of this type of the database. Countries that do not yet have regulations will need to provide the appropriate standards and guidelines for entry into this database. As the database is designed to facilitate comparisons, caveats are needed to explain to the general public the reason why there are differences between and among countries.

Ms. Mercer will develop the appropriate caveats and facilitate the provision of WHO expertise to set up the info-structure needed in the web-enabled database. In terms of the raw data for filling out the database, support for assembling the raw data in a spreadsheet format has yet to be identified. Support could be provided by way of a contribution to engage someone on a short-term contract or by making available staff time.
Lead: To Be Determined

Timeline: Compiling of raw data in spreadsheet format - following sharing of regulations by RegNet members, as detailed above

**Database on regulations within RegNet's virtual forum**

A draft questionnaire was developed based on feedback from RegNet members on the core elements needed in regulatory systems to best protect public health it relates to drinking water. The intent of the questionnaire is to use the information then gathered from RegNet members for use by RegNet members to facilitate their development of regulations at national and sub-national levels and the development of WHO guidance designed to strengthen regulators ability to protect public health as it relates to drinking water.

Lead: To Be Determined

Timelines: Ms. Mercer to post questionnaire into virtual forum - Done

Review of questionnaire by RegNet members - April 2008

Completion of questionnaire by RegNet members - September 2008

Ms. Mercer to web-enable - October 2008

Review by RegNet members - November 2008

**5.4 Development of tools**

The Health and Environment Lexicon was identified as a useful tool for RegNet members. However, at this time, attendees did not identify a way in which they would like to contribute to its development.

A presentation on possible funding available through the Strategic Approach to International Chemicals Management's (SAICM) Quick Start Programme (QSP) prompted a discussion on possible applications that could be submitted by Members of RegNet. Suggestions for possible proposals that might meet SAICM QSP's and RegNet's objectives included:

1) Position paper, from an international perspective, on how to best regulate health and safety associated with the operation and management of water treatment facilities, such as the handling of chemicals. This would include assessing workplace risks and identifying how those risks could be mitigated through the use of regulations; and

2) Country-level surveys of drinking-water sources to identify which chemical parameters should be put into standards, guidelines and regulations.
Ms. Onyon emphasized that applicants must be governments and consistent with national priorities but that joint proposals submitted by multiple countries had a greater chance of success as one of the aims is to increase cooperation. Both Ms. Onyon and Ms. Mercer offered to assist in putting together such a proposal. The opportunity to do so remains open.

6. Long-term Work Plan

**Develop a work plan for developing WHO guidance on drinking-water regulation**

It was agreed that internationally recognized guidance on how to develop and implement regulations to protect public health as it relates to drinking water need to be developed. The above-mentioned activities that are being undertaken by RegNet are a good start. To assist in long-term strategic planning by WHO and RegNet Members, a more substantive work plan needs to be developed. Activities for inclusion are:

- Building the evidence base, such as for the benefits associated with new and/or improved regulations from an economic perspective;
- Advocacy, such as building political support at country and regional levels through the use of country/regional-level advocates; and
- Strengthening the capacity of regulators, including the institutional capacity needed to initiate the development of regulations.

**Lead:** Jennifer Mercer

**Timeline:** Develop draft work plan for review by RegNet members - November 2008
First Meeting of the International Network for Water Regulators
21st and 22nd, February 2008
Room E110, World Health Organization

Day 1: Thursday, February 21st, 2008

SESSION 1
Moderator: Mr. Terry Thompson, World Health Organization

0900 – 0930 Welcome
   Purpose of meeting and expected outcomes
   Ms. Jennifer Mercer, World Health Organization

0930 – 0945 Introduction of participants

0945 – 1015 Presentation from Zambia and discussion
   Dr. Osward Chanda
   Director, National Water Supply and Sanitation Council

1015 – 1045 Coffee break

1045 – 1115 Presentation on Mozambique and discussion
   Mr. Fernando Nhantumbo
   Executive Secretary, Water Regulatory Council

1115 – 1145 Presentation on Japan and Discussion
   Mr. Yoshiya Kubo
   Deputy Director, Ministry of Health, Labour and Welfare

1145 - 1300 Lunch

SESSION 2
Moderator: Mr. Fernando Nhantumbo, Mozambique

1300 - 1330 Discussion: Objectives and Scope of the Network
   Facilitated by Jennifer Mercer, World Health Organization

1330 - 1400 Presentation on Philippines and Discussion
   Dr. Joselito Riego de Dios
   Environmental / Occupational Health Office

1400 - 1430 Presentation on Brazil and Discussion
   Mr. Gustavo Faleiros
   Director of Water and Sanitation

1430 - 1500 Tea

1500 - 1530 Discussion: Identification of challenges that should be addressed as a priority
   (Incorporating information shared in advance of the meeting)
   Facilitated by Jennifer Mercer, World Health Organization

1530 - 1600 Presentation on England and Wales and Discussion
   Dr. David Drury
   Drinking Water Science Manager, Drinking Water Inspectorate

1600 - 1630 Presentation on Singapore and Discussion
   Dr. Pranav Joshi
   Senior Manager, Drinking Water Unit
Day 2 - Friday, February 22nd, 2008

SESSION 3:
Moderator: Dr. David Drury, United Kingdom

0900 - 0930 Discussion: Identify strategic direction and prioritized activities, building on core elements and objectives of RegNet
    Facilitated by Jennifer Mercer, World Health Organization

0930 – 1000 Presentation on WHO's Regional Office for the Eastern Mediterranean and Discussion
    Dr. Riyad Musa
    World Health Organization Representative

1000 - 1030 Presentation from the Pacific region and Discussion
    Mr. Tasleem Hasan
    Programme Officer, SOPAC

1030 – 1100 Coffee Break

1100 – 1130 Presentation on the Association of Water Regulators of the Americas with a focus on Latin America and Discussion
    Dr. Alejo Molinari
    Quality Services Manager, ETOSS

1130 – 1200 Presentation on Canada and Discussion
    Dr. John Cooper
    Director, Water, Air and Climate Change Bureau

1200 - 1315 Lunch

SESSION 4
Moderator: Dr. Alejo Molinari, Argentina

1315 - 1345 Discussion: Revisit challenges that should be addressed as a priority
    Facilitated by Jennifer Mercer
    World Health Organization Representative

1345 - 1415 Strategic Approach to International Chemicals Managements
    Lesley Onyon, World Health Organization

1415 - 1500 Discussion: Review of questionnaire for www.waterlawandstandards.org and identification of next steps
    Facilitated by Dr. David Drury
    Drinking Water Science Manager, Drinking Water Inspectorate

1530 - 1600 Tea

1600 - 1630 Discussion: Review of core elements and identification of next steps
    Facilitated by Dr. Pranav Joshi
    Senior Manager, Drinking Water Unit

1630 - 1700 Discussion: Define RegNet's work plan and next steps
    Facilitated by Dr. John Cooper
    Director, Water, Air and Climate Change Bureau

1700 Closure
Appendix 2: Regulatory map

OVERVIEW OF DRINKING WATER ELEMENTS – REGULATORY AND NON-REGULATORY

Tools
Legislation and enforcement, self-regulation, contractual obligations between consumers and water suppliers, policies and programs that uphold good governance.

Goal:
1. Ensure that an efficient and sustainable system is in place for adequacy, quantity, accessibility, affordability and continuity of drinking water supply to the communities.
2. Ensure water is safe to drink and its consumption is healthful.

Water Suppliers
- Implement good industry practices and preventive measures including water safety plans and protocols to manage risk.
- Implement operational and maintenance practice (e.g., testing by accredited laboratories).
- Ensure that materials used for contact with water are of acceptable quality and are maintained adequately.
- Investigate water quality incidents and unaccounted water quantity, and carry out corrective actions.
- Implement staff training programs including those in the area of occupational health and safety.
- Implement sound risk and waste management practices.
- Build knowledge base and expertise, and carry out strategic R & D.

Regulatory authorities
- Establish regulations and standards relating to protection of catchment basins, and production, supply, and distribution of drinking water, and ensure that they are enforced effectively.
- Establish mechanisms for cooperation with non-government and external agencies.
- Implement appropriate legislation and policing of drinking water suppliers, testing laboratories and pharmacies (water service industry staff training)
- Carry out public health surveillance and establish response plans to manage outbreak situations.
- Build knowledge base and expertise, through collaborations and staff training.

Water Delivery System
- Distribution to service reservoirs
- Supply through main mains
- Supply through building’sMC system
- Supply through transport of drinking water transport (tankers, ships, etc.)

Water Treatment
- Quality control and surveillance
- Monitoring and analysis
- Treatment and disinfection
- Distribution and storage

Catchment Areas and Source Water
- Underground water – aquifers, wells, boreholes
- Surface water – storm water channels, reservoirs, lakes, rivers, seawater

Safe Disposal
- Recycling
- Unintended ingress

Waste Water
- Legislation and enforcement
- Self-regulation
- Contractual obligations between consumers and water suppliers
- Policies and programs that uphold good governance

Water Use
- Legislation and enforcement
- Self-regulation
- Contractual obligations between consumers and water suppliers
- Policies and programs that uphold good governance

Safe Disposal
### Types of Regulatory Approaches

<table>
<thead>
<tr>
<th>Types of Regulatory Approach</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi Regulatory Approach</td>
<td>- Practice notes&lt;br&gt;- Guides of practice&lt;br&gt;- Industry driven best practice guides</td>
</tr>
<tr>
<td>Prescriptive Regulatory Approach</td>
<td>- Mandatory technical provisions&lt;br&gt;- Fixed legislative requirements&lt;br&gt;- Compliance to a set of specifications</td>
</tr>
<tr>
<td>Performance Based Only Regulatory Approach</td>
<td>- Base Objectives&lt;br&gt;- Functional statements&lt;br&gt;- Performance requirements&lt;br&gt;- Verification methods</td>
</tr>
<tr>
<td>Mix of Performance and Deemed to Comply Regulatory Approach</td>
<td>- Deemed to satisfy provisions&lt;br&gt;- Base Objectives&lt;br&gt;- Functional statements&lt;br&gt;- Performance requirements&lt;br&gt;- Verification methods</td>
</tr>
</tbody>
</table>