
Singapore
19 - 20 June 2009

Public Health and Environment
Water, Sanitation, Hygiene & Health

Singapore
19 - 20 June 2009
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1. Background
A number of WHO Member States, both developed and developing countries, have raised concerns about the status of drinking-water regulation. In order to address the global drinking-water and sanitation target under Millennium Development Goal (MDG) 7, the management of water supplies and the response to potential outbreak events of waterborne illness and drinking-water contamination events need to be improved. Regulations are a powerful tool available to governments that can be used to address risk assessment and management in the context of the MDGs. Regulations are, however, not always used to their maximum potential or the best advantage of all stakeholders. Specific challenges raised by national experts on drinking-water supply and sanitation and drinking-water regulators include:

- regulations tend to be developed from an engineering and operational perspective, neglecting the health perspective, such as the exertion of authority for public health surveillance and associated responses;
- regulations may be non-existent, incomplete and/or outdated, even in some industrialized countries; and,
- there may be a lack of clarity regarding jurisdiction, legal mandates and authority, including gaps and overlaps.

The World Health Organization (WHO) International Network of Drinking-Water Regulators (RegNet) was established in response to requests from Member States to create a framework to share and discuss strategies that address the above issues and to explore and promote best practice in legislating for and regulating a variety of water quality management issues. The overall goal of RegNet is to increase access to safe drinking-water through the improvement of regulatory systems. WHO hosts this network and coordinates network activities.

There is significant attention to confidentiality in this network, in order to provide regulators with a space where they can discuss and share important issues, and where they can agree on the best way forward in particular situations, in the interest of public health. RegNet membership is currently by invitation only.

For the purpose of RegNet, a water regulator is defined as professional tasked with ensuring the safety of drinking-water by establishing and/or enforcing appropriate regulations and standards for drinking-water quality and/or providing independent surveillance of drinking-water quality at national and sub-national levels.

The network's objectives are as follows:
- provide a discussion forum to address challenges and share best practice in drinking-water regulation;
- share experiences in relation to the development and enforcement of regulatory frameworks for drinking-water quality, and of different approaches to specific issues requiring regulation;
- guide and share experiences on the role of regulators in supporting the implementation of water safety plans within a water safety framework;
- support the development of internationally recognized guidance on the regulation of drinking-water to improve public health protection;
- provide a connection with the rolling revision of the WHO Guidelines on Drinking-water Quality, from a regulatory perspective;
- provide support and guidance to regulators wishing to create, update or amend a regulatory framework; and
- advocate for the improvement of drinking-water regulations.
The inaugural meeting of RegNet was held in February 2008 in Geneva, Switzerland. The second meeting of the Network was hosted by the National Environment Agency of Singapore, 19 and 20 June 2009 and its proceedings, conclusions and recommendations are presented in this report.

The network had been managed for the past 12 months by Ms Sinead Tuite, temporarily replacing Ms Jennifer Mercer. Ms Mercer would take up the position of Technical Officer WHO/Health Canada Cooperation Agreement again on 1 January 2010 and from that date onwards she would be reachable at mercerj@who.int.

2. Introduction

The second RegNet meeting in Singapore was designed to further the work undertaken by the Network through review and validation of progress achieved to date and the identification of additional areas for activity and next steps. Drinking-water regulators from developed and developing countries from around the world were in attendance, 20 in all. Network members who were unable to attend were given the opportunity to provide inputs through the virtual forum, a web-based platform for information exchange.

The six sessions of the meeting were moderated by Ms Sinead Tuite (WHO), Mr S. Satish Appoo (Singapore), Mr Osward Chandra (Zambia), Mr Terrence Thompson (WHO), Mr Fernando Nhantumbo (Mozambique) and Mr Pranav S. Joshi (Singapore), in that order.

The meeting was hosted by the National Environment Agency of Singapore and Mr S. Satish Appoo, Director of the Environmental Health Department, opened the meeting and welcomed participants to Singapore. As a participant of the first RegNet meeting, he highlighted the usefulness of sharing best practices, experiences and challenges among regulators and from a public health perspective. Mr Robert Bos, Coordinator of Water, Sanitation, Hygiene and Health (WSH) at WHO Geneva then made a presentation on the importance of WSH in the global public health context, the WSH flagship programmes (monitoring and water quality) as well as the objectives and importance of RegNet. Given the fact that the Network had been established only recently, he emphasized that this meeting offered an important opportunity to refine the strategic directions and operations of the group.

The objectives for the meeting included:
- to review progress of RegNet’s activities as a follow-up to the February 2008 meeting in Geneva;
- to share experiences and expertise on:
  - Regulatory frameworks and good practice as they relate to ensuring drinking-water quality and protecting public health
  - Challenges faced in enforcement and administration of regulations, and practical solutions on how to deal with these challenges
  - Water safety plans (WSPs)
  - Building expertise and capabilities, and
- to establish strategic directions and a future work plan for RegNet.

Please refer to Annex I for the agenda and programme of work.

3. Proceedings of the meeting

The following topics and activities included in the agenda were discussed at the meeting.

3.1 Sharing of information, experiences and good practice

3.1.1 Country Presentations

This face-to-face meeting provided a forum for information sharing and to learn about different experiences, challenges facing drinking-water regulators in their various contexts and the good practice approaches they deploy in response.
The United States Environmental Protection Agency (USEPA), the National Water Services Commission (SPAN) of Malaysia, and the Portuguese Institute for the Regulation of Water and Solid Waste (IRAR) shared their experiences in developing and implementing drinking-water regulations. The USEPA outlined their processes for regulatory review and revision, particularly in relation to concerns over emerging contaminants. IRAR presented the development and implementation of their electronic platform for reporting and communicating with water suppliers, to ensure regulatory compliance and drinking-water quality. SPAN provided an overview of their new regulatory frameworks for drinking-water quality and tariffs (2007/8) and the challenges of system change for a new regulator.

The State of Goias, Brazil shared a draft proposal for regulation of source water abstraction and protection, which they are planning to introduce in their State legislature, with the ultimate aim of having it adopted at the Federal level.

South Africa presented their Blue Drop Certification Programme, as an example of incentive-based regulations, which use public recognition and opinion as an encouragement to water suppliers to achieve drinking-water quality goals and stimulate proactive drinking-water quality management.

Health Canada presented initiatives under way and challenges with respect to capacity building for water quality monitoring in Canadian First Nations communities, particularly at the community level. The Pacific Islands Applied Geoscience Commission (SOPAC) presented similar challenges relating to capacity building for water quality monitoring and highlighted the importance of appropriate regulations in ensuring safer drinking-water.

Following the same procedure that was adopted at the first RegNet meeting, it was agreed that all presentations would be posted on the RegNet virtual forum, as a permanent resource for regulators to consult.

The importance of tracking progress on initiatives and implementation over time was recognized. RegNet members were encouraged to provide updates on their national success stories, amendments, challenges and lessons learned on the virtual forum and at future meetings.

3.1.2 Regulatory Scan and Database of Guideline Values and WSP Initiatives

David Drury – a former RegNet member and inspector with the Drinking-Water Inspectorate of the United Kingdom – was undertaking for the WHO a scan of various country regulations and policy frameworks to determine the extent to which WHO’s Guidelines for Drinking-Water Quality were used and reflected in national standards. The work would include an examination of guideline values and WSP initiatives under way or reflected in national or local government regulations, policies or guidelines.

The first phase of the work was planned to cover approximately 50 countries and an estimated 30 countries had already provided the requested information.

The outcome of the scan would feed into a database that would become available to RegNet members through the virtual forum and, eventually, publicly through http://www.waterlawandstandards.org, a joint Food and Agriculture Organization of the United Nations (FAO)/WHO website.

RegNet members were encouraged to submit any relevant information to either David Drury at: daviddrury@ntlworld.com or Jennifer Mercer at mercerj@who.int.

Lead: Mr David Drury, on behalf of WHO.

Timeline: First phase of database to be complete and made available to RegNet members by December 2009, and published publicly on www.waterlawandstandards.org early in 2010.
3.1.3 RegNet Questionnaire
A questionnaire had been developed for completion by RegNet members to gather information on their respective laws and regulations. Completed questionnaires were posted to the virtual forum as a resource for Network members and to facilitate information sharing. All RegNet members were asked to complete a questionnaire. To date questionnaires had been completed and posted by seven RegNet members.

Existing and new RegNet members would continue to be encouraged to complete and post their questionnaire.

Singapore would lead a review of the questionnaire format, to ensure that it captures information on the areas of most interest and relevance to RegNet members.

Lead: Dr Pranav S. Joshi, Singapore.


3.2 Supporting the implementation of water safety plans (WSPs)

3.2.1 Experiences in translating WSPs into regulations
Mr Terrence Thompson (WHO Regional Office for the Western Pacific – WPRO) provided an overview of WSPs and initiatives under way at the international level to promote and support WSP formulation and implementation.

The United Kingdom and State of Victoria, Australia presented their experiences in incorporating WSPs into regulations, including the lessons learned. The presentation by the representative of the United Kingdom highlighted the challenges, from a regulator’s perspective, of receiving different reporting formats and addressing different “risk assessment” methodologies, as well as the range of risk management actions – from education, dialogue, encouraging cross-sectoral and stakeholder linkages, connections to financial planning/tariffs through improved business models and mandated remedial actions – required for working with water suppliers to address issues identified through the risk assessment process. The representative of the State of Victoria, Australia outlined its regulatory framework for drinking-water quality, including the mandatory components of “risk management plans” and the use of third party auditors and public reporting to ensure compliance. The experience in Victoria also highlighted the future challenges, both from a regulator’s perspective and for water suppliers, of responding to the impacts of climate change and potential alternative water sources. Both presentations identified the challenge of embedding the WSP approach within the management and operation of water supply services and the accompanying potential for non-compliance with the water safety plan when it does not become part of the overall water supply culture; the importance of dialogue and communications between the regulator and water supply operators to ensure WSP take-up and appropriate implementation/reporting; and, the potential of public communication and reporting as a tool to encourage regulatory compliance and collaboration across stakeholders with responsibility for ensuring drinking-water quality from catchment to consumer.

Portugal shared information on a pilot project under development with seven “representative” water suppliers, to develop and implement WSPs by 2010. These experiences would then allow IRAR to provide technical guidance to the rest of the sector for WSP implementation. The challenge identified was that of developing WSPs not only for individual water supplies/storage, but also from catchment to consumer, even with the involvement of multiple players at different stages throughout the chain of events.

The Philippines provided information on WSP capacity building and training under way. In the Philippines the WSP approach was now the approach of choice for water suppliers. The importance of
developing resources on WSPs from the perspectives of training, HR, financial management and laboratories was highlighted and there was an urgent need to tailor training and awareness materials to the specific audiences/stakeholders.

Ghana outlined the comprehensive pilot undertaken with the main water supply company in Accra to develop and implement a WSP, publicly supported at the ministerial level and expanding to a rollout to 82 water suppliers with World Bank support. Challenges were identified in obtaining people’s buy-in, especially where water supplies were irregular. The importance of active communication was emphasized, with all stakeholders from politicians to consumers to build awareness and support for implementation.

Zambia shared the challenges faced in implementing WSPs to address pollution from copper mines to source waters. By collaborating with regulatory stakeholders across the departments of health, environment and natural resources, the government had been able to present a united front. Publicity and awareness creation originating at the ministerial level had resulted in responsive actions by the mining companies and provision of an alternate water source while pollution issues were being addressed. The Zambian representative also explained the country’s system of “part-time” inspectors in various towns, which allowed for spot checks to verify information/results provided by water suppliers and regulatory compliance, which worked well in the limited resource/capacity context of the country.

Singapore also had identified the common challenge of convincing ministers and politicians of the value of WSPs. They had attempted to overcome this hurdle by forming an independent technical expert committee which had recommended the implementation of WSPs through regulations. The committee provided independent strategic advice, which could then be accepted by politicians and implemented by the Ministry. Singapore’s experience was that WSPs gave the regulator an excellent sense of suppliers’ operations and were a valuable tool for Ministry officials, new staff and auditors/inspectors.

South Africa shared that in its experiences with WSP development in nine municipalities, four had become just “paper” documents while five had demonstrated real progress in integrating the WSP approach into the drinking-water supply culture. The Blue Drop Certification Programme was expected to encourage WSP scale up. Capacity building and specific training (such as the Rand water training programme which not only taught how to draft a WSP, but resulted in a supply specific WSP at the end of the training programme) were identified as key elements to ensure successful implementation, with the quality of the developed WSP reflecting the capacity of the water supplier.

This sharing of experiences highlighted the challenges in ensuring that WSPs are formulated and integrated as part of the regular water supply operations, with the result that a fundamental change in the approach to water supply operation from catchment to consumer was achieved. The need to expand awareness of WSPs beyond water supply treatment and distribution and to engage, communicate and work collaboratively with a range of stakeholders outside of the “usual suspects” was identified as crucial to successful uptake and implementation of WSPs. Finally, the importance of awareness creation, training and capacity building (including policy formulation and institution strengthening) on an ongoing basis with all stakeholders was identified by all participants as critical for successful implementation.

The importance of including wastewater in the WSP process was highlighted by a number of Network members, who recommended WHO consider how this could be integrated and promoted within WSP roll out efforts. To consolidate and further share details on the experiences and lessons learned by regulators on incorporating and implementing WSPs in regulations, the preparation of a series of case studies was suggested.

Ms Sinead Tuite, WHO and Dr Annabelle May, DWI, United Kingdom agreed to develop a template for countries to present these case studies.
The United Kingdom volunteered to provide case studies from England and Scotland.

Singapore volunteered to provide a case study on their experience.

Zambia, Ghana and South Africa offered to provide case studies.
  - WHO will coordinate with IWA, African Regional Office to ensure consistency and coordinated approach to gathering case studies.

New Zealand had previously indicated their interest electronically.

Portugal and Australia will check and confirm potential case studies in their countries.

WHO will also approach Iceland regarding a potential case study.

Lead: WHO and DWI, United Kingdom to develop a template for case studies

Case studies to be completed and shared by April 2010, and on an ongoing basis.

3.2.2 WSP Assessment Tool
WHO has been working with the IWA and other stakeholders on the development of a WSP quality assurance tool (“the tool”), to support water suppliers or similar entities in their implementation of the WSP approach. It is closely aligned with the WHO Guidelines for Drinking-Water Quality and Water Safety Plan Manual. The objective of the tool is that it will show areas where real progress is being made as a result of WSP implementation and those areas that require more attention.

It is intended that the tool will enable a supplier to establish progress in WSP implementation by self-appraisal and to benchmark against other, similar suppliers. It can be used all the way from setting out on the WSP approach to full implementation. The impact of the tool is expected to be optimal when used regularly at intervals dictated by the pace of WSP implementation.

RegNet members reviewed the tool, expressed their interest in its further development and provided the following observations and comments:

RegNet members recognized the need for this type of tool, agreeing that an international tool would have to be generic and that not all questions would be applicable in all situations – the tool would have to be adapted to specific scenarios and contexts. It was recommended to keep both the content and technological presentation simple, to facilitate its adaptation to different contexts, particularly in developing countries that could use it as for both capacity building and WSP implementation purposes.

The Portuguese representative expressed interest in exploring the possibility of adapting the tool to its local context. It was also recommended that RegNet and the Small Community Water Supply Network may want to develop a “simplified” tool for small supplies/suppliers with low base capacity.

It was suggested that as the tool was adapted and developed, experiences should be shared among RegNet members and posted on the virtual forum.

Network members recommended clearly defining the target audience of the tool and to promote it as supporting capacity building and WSP implementation. Presenting it as a “checklist” rather than a quality assurance tool might encourage this promotion.

Members supported the use of quantitative numbers, either through absolute scores along a range or ratios, to encourage and track progress among and between water supplies. However, the subjective nature of the scoring (inherent to self-appraisal) and the possibility of scoring fatigue were highlighted as potential challenges.

It was advised that some questions could be consolidated and simplified/shortened. Also, some questions were identified as overly theoretical. A worked-through, real-world example to test and refine the questions was recommended.
Network members were asked to provide any additional, detailed comments on the tool and the specific questions electronically by 31 July 2009.

Lead: Ms Jennifer De France, WHO (defrancej@who.int)

Timeline: RegNet members to provide electronic comments by 31 July 2009

Future versions of the tool and roll-out plans to be shared with RegNet members, as they become available

3.3 Development of Internationally Recognized Guidance

Issue sheets have been developed on the defined priority areas of:
- Key principles of drinking-water regulations.
- Regulating drinking-water from a public health perspective (core elements of drinking-water regulation).
- Source water protection.

The World Plumbing Council is continuing to develop an issue sheet on regulating plumbing from a health perspective, which will be shared with RegNet members for comments at a future date.

The issue sheets have been designed to provide high level guidance on key issues of importance to RegNet, evolving as needed based on new information or developments.

The documents have been formatted to explain:
- What the issue is
- Why it’s important
- How to address it
- Key references and further reading

RegNet members were asked to review the issue sheets and to provide written comments electronically, either through the virtual forum or to Ms Sinead Tuite at: tuites@who.int by 31 July 2009.

RegNet members identified the need for an issue sheet on Water Safety Plans, and WHO offered to lead the development process.

Singapore and Canada also volunteered to develop an issue sheet on compliance and enforcement options, based on research they have both conducted for the development of regulatory regimes in their countries.

Lead: Sinead Tuite, WHO to lead development of an issue sheet on WSPs

Pranav Joshi, Singapore and Jamie LaFontaine, Canada to lead development of an issue sheet on compliance and enforcement options

Timeline: Drafts for RegNet review and comment, January 2010

3.4 Tools to support regulatory activities

Health Canada compiled a database of existing international and domestic guidance documents and materials in a number of areas, including:
• Public awareness
• Water supply management
• Small community supplies
• Water Safety Plans
• Risk assessments

The types of materials ranged from interactive DVD programs, to guidance documents published by governmental agencies, to course manuals published by training organizations and are available predominantly in English, but also contained some publications in French, Spanish and Arabic.

RegNet members were encouraged to provide any additional materials from their jurisdictions, and the database will be updated on a regular basis, in the virtual forum.

Network members were also encouraged to specifically share any materials they had pertaining to WSP training, as Malaysia was interested in gathering information on what other countries are doing in this area.

4. Strategic objectives and operations of RegNet

RegNet members used the opportunity to discuss and refine the objectives and operations of the Network from a strategic perspective.

Mission statement: RegNet members expressed the desire to include the concepts of promoting regulatory excellence and the overall objective of ensuring both safe and sustainable drinking-water in a mission statement for the Network.

Scope: It was confirmed that the scope does not currently include bottled water (which is addressed by the FAO/WHO Codex Alimentarius), or wastewater, sanitation and hygiene. However, once RegNet has achieved substantive progress with respect to drinking-water, it may consider widening its scope. It was recommended that the reference to drinking-water in RegNet’s scope be defined to include quality, quantity, accessibility, affordability, sustainability and continuity of drinking-water supply.

Objectives: to be further refined electronically.

Operations: Challenges to communications through the virtual forum were identified and Ms Sinead Tuite (WHO) was asked to follow up with WHO IT support and provide instructions on registration and notification preferences to RegNet members.

Meetings: It was recommended that future face-to-face meetings should be designed around themes of interest to RegNet members. Some suggestions for consideration include: climate change, financing, general regulatory lessons and lessons from other sectors.

Members agreed that the Network should endeavour to host face-to-face meetings approximately once a year, potentially in conjunction with other meetings or events (such as the Stockholm World Water Week or other WHO meetings in Geneva) to minimize travel and other costs.

RegNet members are encouraged to consider hosting future meetings and to contact Ms Sinead Tuite or, after 1 January 2010, Ms Jennifer Mercer in this regard.

It was recognized that, as the Network expands, meetings may be planned on a regional/thematic focus staggered with global meetings.
Membership:
RegNet is open to drinking-water regulators, upon confirmation by WHO. Other organizations and institutions may be invited to participate based on their activities and ability to contribute on a technical/project basis. Members participate as representatives of their organizations, and organizations should choose 2 – 3 individuals to be RegNet members, providing information to and liaising with their colleagues as appropriate.

Previously operating by invitation only, it was recommended that RegNet publicize its existence through an announcement on WHO’s website, allowing other DW regulators to self-identify their interest in joining the Network. RegNet members were also encouraged to forward any recommendations for additional members to WHO.

The need to balance membership expansion with the objectives of ensuring diversity and geographical spread, as well as the capacity of the Network to meet the expectations of new members, was noted.

WHO will circulate a draft document for further RegNet review and input to refine the mission statement, scope, objectives and operations of the Network.

Lead: (1) Ms Sinead Tuite, WHO to lead development of a RegNet “overview” document, for RegNet review and comment, (2) WHO to post announcement on WHO website re: RegNet

Timeline: (1) October 2009, (2) by January 2010

5. Work plan

The following activities were identified by RegNet for the forthcoming year:

Regulatory scan and database of guideline values and WSP initiatives
RegNet members are encouraged to submit any relevant information to either David Drury at: daviddrury@ntlworld.com or Sinead Tuite at tuites@who.int

Lead: Mr David Drury, on behalf of WHO
Timeline: First phase of database to be complete and made available to RegNet members by December 2009, and published publicly on www.waterlawandstandards.org early in 2010

RegNet Questionnaire
Existing and new RegNet members will continue to be encouraged to complete and post their questionnaire.

Singapore will lead a review of the questionnaire format, to ensure that it captures information on the areas of most interest and relevance to RegNet members.

Lead: Dr Pranav Joshi, Singapore
Timeline: Update for RegNet members by January 2010

WSP Case Studies
To consolidate and further share details on the experiences and lessons learnt by regulators on incorporating and implementing WSPs in regulations.

Ms Sinead Tuite, WHO and Dr Annabelle May, DWI United Kingdom will develop a template for countries to present these case studies.

- The United Kingdom volunteered to provide case studies from England and Scotland.
• Singapore volunteered to provide a case study on their experience
• Zambia, Ghana and South Africa offered to provide case studies.
  o WHO will coordinate with IWA, African Regional Office to ensure consistency and
    coordinated approach to gathering case studies.
• New Zealand had previously indicated their interest electronically.
• Portugal and Australia will check and confirm potential case studies in their countries.
• WHO will also approach Iceland regarding a potential case study.

Lead: WHO and the United Kingdom to develop a template for case studies
Timeline: Draft for RegNet review by August 2009; case studies to be completed and shared by April
2010, and on an ongoing basis.

WSP Assessment Tool
Network members will provide any additional, detailed comments on the tool and the specific questions
electronically by 31 July 2009.

Lead: Ms Jennifer De France, WHO (defrancej@who.int)
Timeline: RegNet members to provide electronic comments by 31 July 2009. Future versions of the
tool and roll-out plans to be shared with RegNet members, as they become available

Key Issue Papers
RegNet members will review the existing issue papers on key principles; core regulatory elements; and
source water protection; and provide comments electronically, either to Ms Sinead Tuite at
tuites@who.int or through the virtual forum, by 31 July 2009.

The World Plumbing Council will continue to develop an issue sheet on regulating plumbing from a
health perspective, which will be shared with RegNet members for comments at a future date.

Additional issue sheets on WSPs and compliance and enforcement were also proposed.

Lead: Ms Sinead Tuite, WHO to lead development of an issue sheet on WSPs
Dr Pranav Joshi, Singapore and Mr. Jamie LaFontaine, Canada to lead development of an issue
sheet on compliance and enforcement options
Timeline: Drafts for RegNet review and comment, January 2010

Tools to Support Regulatory Activities
RegNet members are encouraged to provide any additional materials from their jurisdictions to WHO,
and the database will be updated on a regular basis, through the virtual forum.

Network members are also encouraged to specifically share any materials they had pertaining to WSP
training.

Lead: Ms Sinead Tuite, WHO
Timeline: Ongoing

Network Objectives and Operations
WHO will circulate a draft document for further RegNet review and input to refine the mission
statement, scope, objectives and operations of the Network.

Lead: (1) Ms Sinead Tuite, WHO to lead development of a RegNet “overview” document, for RegNet
review and comment; (2) Ms Sinead Tuite, WHO to follow up with WHO IT support and provide
instructions on registration and notification preferences to RegNet members, (3)WHO to post
announcement on WHO website re: RegNet
Timeline: (1) October 2009, (2) by September 2009, (3) by January 2010
Annex 1

2nd Meeting of the International Network of Drinking-Water Regulators
Singapore, 19 - 20 June, 2009

Agenda and programme of work

Day 1: Friday, June 19, 2009

08:30 - 09:00 Registration
09:00 – 09:45 Opening Ceremony [joint with PPCP meeting]
09:45 – 10:15 Tea Reception

SESSION 1
Moderator: Ms Sinead Tuite, WHO
10:15 – 10:30 Welcome – Mr S. Satish Appoo, Singapore
  Purpose of meeting and expected outcomes - Mr Robert Bos, WHO
10:30 – 10:45 Introduction of participants – Mr S. Satish Appoo, Singapore
10:45 - 12:00 Update and Discussion on Key Deliverables from Previous Meetings –
  Ms Sinead Tuite, WHO
  - Questionnaires
  - Scan of regulations
  - Key principles of regulation
  - Core regulatory elements
  - Source water protection
  - Plumbing

12:00 - 13:00 Lunch
13:00 – 14:00 Tour of Research Facilities

SESSION 2
Moderator: Mr S. Satish Appoo, Singapore
14:00 - 14:30 Country Presentation – Dr Ed Ohanian, USA
14:30 - 15:00 Country Presentation – Mr Marzuki bin Mohamad, Malaysia
15:00 - 15:30 Country Presentation – Dr Luis Simas, Portugal
15:30 - 16:00 Discussion of common themes and challenges – Facilitated by Mr S. Satish
  Appoo, Singapore
16:00 – 16:30 Coffee Break

SESSION 3
Moderator: Mr Oswald Chandra, Zambia
16:30 - 17:30 Presentation on compliance and enforcement: experiences with incentive
  based regulations – Mr Leonardo Manus, South Africa (followed by discussion
  and input)
Day 2 - Saturday, June 20, 2009

SESSION 4
Moderator: Mr. Terrence Thompson, WHO/WPRO
09:00 - 10:00 Presentation on Lessons Learnt from Incorporating Water Safety Plans into Regulations – Dr. Annabelle May, Dr. Jim Foster, UK and Ms. Jan Bowman, Australia
10:00 - 10:30 Moderated discussion and sharing of experiences on incorporating water safety plans into regulations – Facilitated by Mr. Terrence Thompson
10:30 – 11:00 Coffee Break
11:00 – 12:00 Translating WSPs into Regulations: next steps - Facilitated by Mr. Terrence Thompson
12:00 - 13:00 Lunch Break

SESSION 5
Moderator: Mr. Fernando Nhantumbo, Mozambique
13:00 - 13:30 Presentation on experiences building expertise and capacity – Mr. Jamie LaFontaine, Canada
13:30 – 14:00 Presentation on experiences building expertise and capacity – Mr. Tasleem Hassan, Pacific
14:00 - 15:00 Presentation on and Discussion of Water Safety Plan assessment / compliance tool – Dr. Annabelle May, UK / Ms Sinead Tuite, WHO
15:00 - 15:30 Coffee Break

SESSION 6
Moderator: Dr Pranav S. Joshi, Singapore
1530 – 1600 Update on outcome of working group meeting on Pharmaceuticals and Personal Care Products in drinking-water, as an emerging regulatory challenge
16:00 - 17:00 Facilitated group discussion on objectives and operations of RegNet: - Facilitated by Dr Pranav S. Joshi, Singapore
17:00 – 17:30 Define RegNet’s work plan and next steps
    Facilitated by Ms Sinead Tuite, World Health Organization
17:30 – 17:45 Closing Remarks – Mr S. Satish Appoo, Singapore