

Meeting Report

Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme (2012-2016)



24–26 June 2014
Manila, Philippines

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REPORT

MIDTERM REVIEW MEETING OF PHASE 3 OF THE WATER SAFETY PLAN PROGRAMME (2012–2016)

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WORLD HEALTH ORGANIZATION

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NOTE

The views expressed in the report are those of the participants in the Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme (2012–2016) and do not necessarily reflect the policies of the Organization.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for governments of Member States in the Region and for those who participated in the Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme (2012–2016) from 24 to 26 June 2014.

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SUMMARY

A Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme took place in Manila, Philippines from 24 to 26 June 2014. The meeting was attended by 26 participants from 13 countries and areas, six WHO temporary advisers and three observers.

The meeting provided an opportunity for participants from nine countries in the Western Pacific Region (Cambodia, Cook Islands, the Lao People's Democratic Republic, Mongolia, the Philippines, Samoa, Tonga, Vanuatu and Viet Nam) to report on progress made since July 2012 and discuss challenges to sustaining water safety plan (WSP) implementation. Lessons learnt related to the multiplier effects of mainstreaming the WSP partnership. Contributions by WHO staff and temporary advisers meant improvements were incorporated into planned activities for 2014–2016, including skills development, policy dialogue, integration of equity issues and sanitation safety plans (SSP).

Participants agreed to increase participation in the implementation of the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) processes. To ensure sustainability of a WSP Partnership beyond 2016, participants addressed the need to implement WSP in the context of national climate change adaptation plans and strategies and also as a tool to improve community health.

Participants agreed on the following priority actions for 2014–2016:

- (1) Programme management
 - (a) Implement the remaining 131 WSPs (61 urban and 70 rural) to provide an additional 13.6 million people access to safe water.
 - (b) Establish at least two national and one regional WSP training centre.
 - (c) Conduct external assessments of the impact of existing WSP.
 - (d) Conduct an external evaluation of the WSP Partnership.
- (2) Policy dialogue
 - (a) Improve capacity for WSP policy development and implementation through specific training.
 - (b) Facilitate the establishment of national institutional frameworks to coordinate WSP implementation with road maps to ensure access to safe water up to 2030.
 - (c) Strengthen development and implementation of mechanisms to enforce regulation of WSP.
- (3) Capacity-building
 - (a) Sustain national WSP training capacity by strengthening national and regional training centres of excellence, and by training a pool of regional WSP auditors.
 - (b) Organize WSP master trainers' trainings for the selected countries in 2015.
 - (c) Organize a biregional workshop on water quality surveillance in early 2015.

(4) Partnerships for sustainability

- (a) Collaborate to reduce the burden of water-related diseases, reduce maternal and neonatal deaths by improving water, sanitation and hygiene (WASH) services in health facilities and improving nutrition in schools by implementing WSP.
- (b) Encourage country budget allocation and mobilize additional funds to ensure the sustainability of national WSP programmes.
- (c) Develop efficient communication materials to showcase WSP achievements.

The Australian Government Department of Foreign Affairs and Trade (DFAT) expressed satisfaction with the results obtained so far by the WSP partnership, especially the focus on integration of WSP into policy framework, the integration of equity issues, collaboration with the Asian Development Bank (ADB) and the private sector, as well as the phase 3 focus on sustainability. DFAT and ADB also expressed commitment to continue collaboration with the WSP Partnership and with WHO in general.

1. INTRODUCTION

A Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme took place in Manila, Philippines from 24 to 26 June 2014. The meeting was organized by the WHO Regional Office for the Western Pacific and was attended by 26 participants from 13 countries and areas, six WHO temporary advisers and three observers. The list of participants is attached as Annex 1.

1.1 Background

Most of the approximately 1.5 million global annual deaths due to diarrhoeal diseases could be prevented if safe water and adequate sanitation were provided to all.¹ In 2014, the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) reported that 137 million people in the Western Pacific Region still had no access to improved drinking water sources, and 547 million had no access to improved sanitation facilities.

A water safety plan (WSP) is based on a comprehensive risk assessment and risk management approach for water supply from catchment to consumption. Deficiencies and improvements are identified at each critical step of the water supply process. The implementation of WSP is recommended in the 2004 and the 2011 editions of the *WHO Drinking Water Quality Guidelines*.

Recognizing this, the Australian Government Department of Foreign Affairs and Trade (DFAT) and WHO established the AusAID/WHO Water Quality Partnership (referred to as the Partnership) in 2005 to promote WSP in the South-East Asia and Western Pacific regions. The Partnership is managed by WHO headquarters, with coordination by WHO regional offices for South-East Asia and the Western Pacific and implementation monitoring and support from WHO country offices.

Phase 1 of the Partnership, from 2005 to 2009, focused on the development of tools and training materials, training of trainers and piloting WSP. This was successfully achieved in Cambodia, China, the Lao People's Democratic Republic and Viet Nam. Phase 2, from 2010 to 2012, focused on ways the Partnership could be expanded. Phase 3 of the Partnership, from 2012 to 2016, focuses on institutionalizing partnership approaches and mobilizing sustainable resources to support implementation, including inter-ministerial engagement and national budget allocation for WSP.

The partnership has implemented WSP rural pilots in Cambodia and Viet Nam, supported a WSP training of trainers and WSP pilots in Cook Islands, the Lao People's Democratic Republic and Mongolia. In the Philippines, staff from 167 water districts and water utilities were trained in WSP. Samoa and Vanuatu benefited from a WSP training of trainers, while in Tonga a WSP is being implemented at the village level. Water safety plan training of trainers is planned for the Western Area Health Initiative (WAHI) provinces in China and also in Malaysia. Other partners and donors include ADB, Japan International Cooperation Agency (JICA), United Nations Children's Fund (UNICEF), OPEC Fund for International Development (OFID) and the World Bank.

¹ Wolf J, Prüss-Ustün A et al. (2014). [Assessing the Impact of Drinking Water and Sanitation on Diarrheal Disease in Low- and Middle-income Settings: Systematic Review and Meta-regression](#). *JPT. Tropical Medicine & International Health* 19: 928–942. doi: 10.1111/tmi.12331

An important challenge ahead is to incorporate the implementation of WSP into national climate change adaptation plans and into strategies towards ensuring better urban health. There is also need to more closely link WSP with JMP and GLAAS.

By 2016, it is expected that at least 40 million people living in Phase 3 countries that participate in the Partnership in the Western Pacific Region will be served by approximately 200 water supply systems that will have implemented WSP.

The review meeting related to the following meetings:

- (1) Stakeholders Meeting, October 2010, Manila, Philippines.
- (2) Phase 2 Review Meeting, 11–13 April 2011, Bumthang, Bhutan.
- (3) AusAID/WHO Phase 3 Initiation Meeting, 17–18 September 2012, Manila, Philippines.

1.2 Objectives

The objectives of the meeting were:

- (1) to present progress made since July 2012 with respect to indicators and targets and also the multiplier effects of the Partnership in the countries;
- (2) to identify specific challenges to be overcome and relevant approaches;
- (3) to discuss, plan and agree on priority actions for sustaining WSP implementation and "exit strategies" beyond 2016, including synergy with other initiatives and programmes such as climate change, sanitation safety plans (SSP) WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS); and
- (4) to present and assess the progress of national and regional 2014–2015 work plans, identify challenges and determine, if needed, priority actions and strategies to ensure their successful implementation.

1.3 Opening remarks

Dr Li Ailan, Director, Division of Health Security and Emergencies, WHO Regional Office for the Western Pacific, opened the meeting on behalf of the WHO Regional Director for the Western Pacific, Dr Shin Young-soo. Dr Li reported that there are over 800 000 diarrhoea deaths globally due to poor drinking water, sanitation and hygiene (WASH) services. Dr Li noted that soil-transmitted helminths, lymphatic filariasis, schistosomiasis, trachoma and dengue all thrive in settings without WASH services, and therefore a joint approach is required. Dr Li said that it is essential to ensure that all health facilities have adequate, functioning WASH services. "Without hand-washing facilities, there cannot be effective infection control. Maternal and newborn health depends on hygiene first," she said. To verify improved water supply systems continue to function she suggested that an external assessment of the WSP Partnership be organized as soon as possible to test its sustainability. Finally, she called upon all partners to continue their support. Dr Li's opening address is attached as Annex 2.

1.4 Appointment of Chairperson, Vice-Chairperson and Rapporteur

Mr Nguyen Huy Nha was appointed as Chairperson; Mr Noupheuk Virabouth, as Vice-Chairperson and Engr. Joselito Riego de Dios as Rapporteur.

2. PROCEEDINGS

Mr Alexander von Hildebrand presented the meeting objectives and agenda. The agenda is attached as Annex 3. The programme of activities is attached as Annex 4.

2.1 Progress and challenges in phase 2 countries

2.1.1 The Lao People's Democratic Republic

Mr Noupheuk Virabouth presented the progress and challenges in the Lao People's Democratic Republic:

(a) Programme management

A team of three WHO staff provides technical support to the WSP programme in the Lao People's Democratic Republic. As of 30 June 2014, 63% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

The country has implemented 25 WSP out of 28 planned for June 2016, with 800 000 people (12% of the total population) benefitting from access to safe water. To promote community health and prevent cholera and typhoid outbreaks in two selected settings and in health-care facilities (HCFs), a WSP pilot project is being implemented to ensure functioning WASH services. Based on JMP 2012 estimates, 84% of the countries' urban population had access to improved drinking water sources and 65% to improved sanitation facilities. In rural areas, population access to these basic services was 90% for drinking water and only 50% for sanitation facilities.

(c) Water safety plan policy dialogue

The country updated the 2006 drinking-water quality standards (DWQS) in 2014. However, there is a need to develop the DWQS implementation guidelines. As of 2014, water safety plans are a legal mandatory requirement nationwide. The next step is to introduce the WSP auditing system.

(d) Water safety plan skills development

There are 20 national trainers in need of refresher courses. There is a need to: (i) improve capacity for WSP monitoring and water quality surveillance; (ii) achieve institutionalization and resource allocation for WSP training in the regular programmes of water utilities; and (iii) increase in-country study tours for WSP knowledge exchange.

(e) Water safety plan advocacy and partnerships

Awareness activities on improving the quality of drinking water in the household through treatment and safe storage (HWTS) are being carried out, in connection with WSP initiatives in rural areas, together with UNICEF, SNV Netherlands Development Organization, Plan International and the World Bank. The OPEC Fund for International Development (OFID) and the national NGO Confluence are engaged in WSP infrastructure improvements. There is a need to strengthen these alliances.

2.1.2 The Philippines

Engr. Joselito Riego de Dios presented the progress and challenges in the Philippines:

(a) Programme management

One WHO staff provides technical support to the WSP programme in the Philippines. As of 30 June 2014, 72% of phase 3 funds allocated were committed. There is a need to recruit one staff to provide additional support for the WSP programme.

(b) Water safety plan implementation

The Philippines has implemented seven WSP out of 84 WSP planned for June 2016. The seven WSP have been assessed by the national WSP review and approval committee and an independent third party. There are 21 million people (22% of total population) benefitting from access to safer water. In areas where WSP was introduced, diarrheal outbreaks are not recurring. Water safety plan principles were implemented as part of the response to Typhoon Yolanda. However, there is a need develop special WSP for emergency response to climate events. WSP as a pilot for HCFs is planned to ensure functioning of WASH services. Based on JMP 2012 estimates, urban use of drinking water sources improved by 92% and use of sanitation facilities by 91%. Rural use of drinking water sources improved by 79% and use of sanitation facilities by 64%.

(c) Water safety plan policy dialogue

Water safety plans are anchored in national law. The process to have WSP as a legal mandatory requirement nationwide is on-going. There is a need to: (i) introduce WSP auditing; (ii) develop guidelines for an accreditation/certification system; (iii) develop guidelines on how to review and approve WSP; and (iv) plan to have a Safe Drinking-Water Act before 2016.

(d) Water safety plan skills development

There are 30 national WSP trainers with approximately 1280 staff from 349 water utilities trained. Water safety plan advocacy and four training events benefitted members of 104 utilities, professional associations, universities and the private sector, at no cost to the WSP partnership. The "Big Brother" approach for 26 training events benefitted 245 water utilities. The Local Water Utilities Administration, the national public authority providing technical and financial support to all water districts, has integrated WSP as an official part of their annual training programme. However, there is a need to improve capacity for WSP monitoring and water quality surveillance for staff of the Department of Health and plan study tours for knowledge exchange on urban WSP in Australia and on rural WSP in Nepal.

(d) Water safety plan advocacy and partnerships

WSP is implemented in collaboration with ADB, a grant from the people of Japan, USAID and Spain Aid. However, greater partner support is required for rural WSP implementation. A national WSP conference is planned in early 2015.

2.1.3 Viet Nam

Mr Ton Tuan Nghia presented the progress and challenges in Viet Nam.

(a) Programme management

Work since 2006 has involved four key partners and has resulted in a process which is leading to the creation of a national water safety programme under a single lead agency. As of 30 June 2014, 54% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

Viet Nam has implemented 15 WSP out of 44 planned for June 2016. There are 12 million people (13% of total population) benefitting from access to safer water. Twelve urban water utilities implementing WSP have reduced non-revenue water use from more than 30% to less than 15%. WSP improvement plans are seen as an opportunity for investment in the reduction of non-revenue water use. Based on JMP 2012 estimates, urban use of drinking water sources improved by 98% and use of sanitation facilities by 94%. Rural use of drinking water sources improved by 93% and use of sanitation facilities by 67%.

(c) Water safety plan dialogue

Water safety plans are compulsory for urban water suppliers (Circular 8). Ongoing activities include developing a draft WSP circular for rural areas and a WSP institutional arrangement to ensure WSP sustainability after June 2016. This effort is led by the Ministry of Construction, in close coordination with the Ministry of Health, as the national regulatory authority; the Ministry of Agriculture and Rural Development, responsible for water supply in rural areas; and the Vietnam Water Supply and Sewerage Association (VWSSA), representing public/private water companies. The draft 2014–2030 road map aims to reduce waterborne diseases via WSP and enact a Drinking-water Law by 2017. Further efforts are needed to: (i) develop a strategy to enforce compliance with Circular 8; (ii) establish a WSP requirement to allow changes in local water tariffs; (iii) improve the efficiency of intersectoral coordination to integrate WSP into water resources management and address water source protection issues; and (iv) create an independent auditing entity and introduce auditing processes.

(d) Water safety plan skills development

Operational and management personnel in all 68 water utilities in urban areas have been trained in WSP principles, but only 12 utilities are implementing WSP due to difficulties in coordinating action to protect water quality in catchment areas. The WSP investment plan tool has been developed and integrated as part of the WHO guidance for WSP establishment based on a cost-benefit analysis. It allows selecting the best qualified control measure with the highest impact on risk reduction. Improved capacity for water quality surveillance and laboratory capability is needed.

(e) Water safety plan advocacy and partnerships

The World Bank and UNICEF are supporting rural WSP implementation. However, more partners are needed in rural areas.

2.2 Progress and challenges in new phase 3 countries

2.2.1 Cambodia

Ms Sophary Phan presented the progress and challenges in Cambodia.

(a) Programme management

Two WHO staff provide technical support for the WSP programme in Cambodia. As of 30 June 2014, 83% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

Eight WSP have been implemented of nine planned for June 2016. About 89 000 of the 14 million people are benefitting from access to safer water. There is strong community commitment to WSP in rural areas that has led to significant behaviour change (e.g. family-built and relocated latrines, clean-up around water sources and household compounds). Utilizing the “seeing-is-believing” water testing kits, such as the H2S, has brought about behaviour change. Based on JMP 2012 estimates, urban use of drinking water sources improved by 91% and use of sanitation facilities by 63%. Rural use of drinking water sources rose by 80% and use of sanitation facilities by 24%.

(c) Water safety plan dialogue

Drinking water quality standards are still in draft due to a high turnover of government decision-making staff. Perception of WSP remains focused only on infrastructure improvements which are seen as a cost burden, hindering governmental WSP ownership. There is need to: (i) have more efficient intersectoral coordination to integrate WSP into water resources management and address source protection issues; (ii) develop a strategy to procure a WSP friendly policy environment; and (iii) develop a scheme to audit urban and rural WSP that includes third party verification.

(d) Water safety plan skills development

There have been 40 urban and rural training of trainers workshops. There is a need to: (i) have refresher courses for national WSP trainers to deepen knowledge on risk management and to understand WSP as an investment tool to reduce costs, beyond infrastructure improvement alone; (ii) develop WSP auditing capacity; and (iii) improve capacity for water quality surveillance and laboratory capability.

(e) Water safety plan advocacy and partnerships

ADB, JICA, the World Bank, UNICEF, UN-Habitat and SNV Netherlands Development Organization are supporting WSP implementation in rural areas. There is a need for better coordination among agencies, especially in peri-urban settings.

2.2.2 Mongolia

Dr Delgermaa Vanya presented the progress and challenges in Mongolia.

(a) Programme management

One WHO staff provides technical support to the WSP programme of Mongolia. As of 30 June 2014, 87% of the phase 3 funds allocated were committed. Country ownership of WSP has been high from the outset.

(b) Water safety plan implementation

Two urban and five rural WSP have been implemented of seven planned by July 2016. The model WSP of Ulaanbaatar City Waterworks Authority (USUG) is being shared with cities in all 21 provinces. Based on JMP 2012 estimates, access to an urban drinking water source improved by 95% and access to a sanitation facility improved by 61%. Access to a rural drinking-water source improved by 65% and access to a sanitation facility rose by 35%.

(c) Water safety plan policy dialogue

The 2010 DWQS will be revised in 2015. In 2014, WSP will become mandatory national policy and be included in the national water programme as a national strategic objective. Developed together with the drinking-water supply company USUG, the WSP three year investment plan has been submitted for approval by the Ulaanbaatar City Council.

(d) Water safety plan skills development

Since July 2012, 420 staff have been trained in WSP. The study tour on urban WSP in Australia engaged policy-makers and implementers of the WSP initiative and resulted in obtaining decisive political support for WSP. Mongolia has initiated WSP awareness building with 28 River Basin Administrates of the Ministry of Environment, responsible for implementing policy on Integrated Water Resources Management. In terms of sustainability, WSP and DWQS are part of an academic training programme at the University of Ulaanbaatar. National environmental health standards for HCFs have been developed, 21 WSP related standard operating procedures drafted and five WSP national training manuals prepared. There is a need to: (i) develop a WSP model for HCFs; (ii) provide more training, technical support and national manuals on WSP to scale up urban and rural WSP; and (iv) conduct a study tour to Bhutan and Nepal for operational staff for urban drinking water suppliers implementing WSP.

(e) Water safety plan advocacy and partnerships

The WSP programme has been integrated with household water treatment and storage (HWTS) and other WASH related activities and climate change issues, working together with UNICEF, World Vision and other partners in six rural *soums* in six provinces.

2.2.3 Pacific island countries and areas

Dr Rokho Kim presented the progress and challenges in Cook Islands, Samoa, Tonga and Vanuatu.

2.2.3.1 Cook Islands

(a) Programme management

The Division of Pacific Technical Support (DPS) in Fiji coordinates the WSP programme with the support of a consultancy firm. Implementation of WSP would benefit greatly from a focal point to maintain impetus and to strengthen the Ministry of Health in taking a lead role for WSP implementation. As of 30 June 2014, 63% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

Cook Islands has not yet implemented WSP. One WSP (Aitiutaki) of two planned before June 2016 is in the process of being established. Based on JMP 2012 estimates, urban use of drinking water sources improved by 100% and use of sanitation facilities improved by 100%. Rural use of drinking water sources improved by 92% and use of sanitation facilities rose by 92%.

(c) Water safety plan dialogue

A national DWQS does not exist. In May 2014, the sector working group (SWG) was re-established replacing the one established in 2006. The SWG now comprises: the Ministry of Health; the Policy Division in the Office of the Prime Minister; the Ministry of Agriculture; the Ministry of Marine Resources; the Ministry of Infrastructure; the National Environmental Services; the Ministry of Finance Economic Management; the National Council of Women; the Cook Islands Red Cross; the Chamber of Commerce; the Cook Islands Investment Corporation; the Ministry of Foreign Affairs and Trade, New Zealand; and the China Civil Engineering Construction Corporation. The Secretary of Health chairs the SWG.

(d) Water safety plan skills development

In November 2013, rainwater harvesting training, with participation of representative of all outer island communities, reintroduced the concept of community-based monitoring using H₂S tests. In January 2014, the laboratory capacity review recommended the establishment of a single central laboratory and called for better coordination and more efficient use of existing resources. A community-based water quality monitoring initiative will be supported by sourcing H₂S kits from the University of the South Pacific in Fiji, with the goal of creating local H₂S kit productivity capacity.

(e) Water safety plan advocacy and partnerships

The Te Mato Vai Project, a US\$ 80 million water supply initiative on the main islands funded by China, offers an ideal opportunity to implement WSP for the main islands, to the benefit of 11 000 inhabitants and numerous tourist resorts.

2.2.3.2 Samoa

(a) Programme management

The WSP programme is coordinated by DPS, Fiji in collaboration with the WHO Representative Office in Samoa. As of 30 June 2014, 59% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

Five of 11 planned WSP have been implemented with 1000 people benefitting from access to safer water. Based on JMP 2012 estimates, urban use of drinking water sources improved by 97% and use of sanitation facilities improved by 99%. Rural use of drinking water sources improved by 93% and use of sanitation facilities rose by 91%.

(c) Water safety plan policy dialogue

The 2008 DWQS will be revised in 2015. There is an effective institutional framework for development of the water sector through the National Water Sector Steering Committee. The committee is comprised of: chief executive officers of the Ministry of Health; the Ministry of Women, Community and Social Development; the Ministry of Works, Infrastructure and Transport; the Ministry of Agriculture; the Electric Power Corporation; the Land Transport Authority (LTA); the Ministry of Finance's Planning and Policy and its Aid Management and Coordination Divisions; the Chamber of Commerce; the Independent Water Schemes Association (IWSA); the European Union; and ADB and other invited donor agencies. There is the Strategy for the Development of Samoa (2012–2013) that identifies sustainable access to safe drinking water and basic sanitation as key priority outcomes.

(d) Water safety plans skills development

Contracted by WHO, the Independent Water Schemes Association facilitated the capacity-building of at least eight villages resulting in four WSP currently under development. It will also coordinate WHO funding of selected improvements identified by the four WSP in 2014.

(e) Water safety plan advocacy and partnerships

ADB and the European Union will be approached more proactively to fund major infrastructure improvements required at some rural water supply schemes.

2.2.3.4 Tonga

(a) Programme management

The WHO Country Liaison Office in Tonga leads technical cooperation with support DPS in Fiji to coordinate the WSP programme. As of 30 June 2014, 19% of phase 3 allocated funds were committed.

(b) Water safety plan policy dialogue

Of the seven planned WSP one has been implemented. Based on JMP 2012 estimates, urban use of drinking water sources improved by 99% and use of sanitation facilities improved by 99%. Rural use of drinking water sources improved by 99% and use of sanitation facilities by 89%.

(c) Water safety plan policy dialogue

Neither a specific policy or WSP legislation exists.

(d) Water safety plan skills development

There are no local WSP experts. Approximately 70 people attended a rural WSP training in August 2013.

(e) Water safety plan advocacy and partnerships

There is a lack of understanding across communities about the public health risks of unsafe drinking water. There is a need for more active participation from the WHO country office.

2.2.3.5 Vanuatu

(a) Programme management

The WHO Country Liaison Office in Vanuatu leads technical cooperation with support from DPS in Fiji to coordinate the WSP programme. As of 30 June 2014, 48% of phase 3 funds allocated were committed.

(b) Water safety plan implementation

Of eight planned WSP one has been implemented. Based on JMP 2012 estimates, urban use of drinking water sources improved by 98% and use of sanitation facilities by 88%. Rural use of drinking water sources improved by 65% and use of sanitation facilities by 55%.

(c) Water safety plan policy dialogue

A draft national DWQS has been developed but the Government is considering impacts before it can be enforced. There is lack of a clear policy, legislative and/or regulatory, on a WSP framework.

(d) Water safety plan skills development

Water safety plan capacity-building is carried out by the Ministry of Health, the Department of Geology Mines and Water Resources, and the Public Works Department. The strong relationship between staff of these agencies is an advantage. A WSP training of trainers held in 2013 was attended by 15 participants from government and NGOs. A workshop in August 2013 to pilot test translated training material at the village level was attended by 25 participants. Seven villages representing four provinces will be trained in WSP development with the goal of seven operational WSP by 2016. Representatives of each major NGO in Vanuatu have been actively involved in WSP training workshops. A WSP partnership between WHO and UNICEF on integration of WSP approach to the Human Security project implemented by UNICEF in 12 Vanuatu communities. Live & Learn, a local NGO, has also assisted the government in translating WSP awareness and education materials in Bislama language.

(e) Water safety plan advocacy and partnerships

There is a need to strengthen collaboration between NGOs to conduct WSP training.

2.3 Regional and global progress and challenges on water safety plans implementation

2.3.1 WHO Regional Office for the Western Pacific

Mr von Hildebrand presented the progress in the Western Pacific countries supported by the Regional Office.

(a) Efficient programme management leading to performance in delivery

- Of the 200 WSP to be established by June 2016, 69 have been implemented: 47 in urban areas (44% of those planned) and 22 in rural settings (24% of those planned).
- As a result of WSP implementation in nine countries, an estimated 35.7 million people have regular access to safer water – 6.4 million more than at the start of Phase 3, in July 2012.
- The WSP Partnership is very good value for money at an estimated cost of less than 50 cents (US\$) per beneficiary.

(b) Policy dialogue resulting in national institutionalization and ownership of WSP

- Stakeholder water safety programme.
- All nine countries have legislation in place or in process, ensuring national institutionalization of water safety planning. Expectations are that by 2020, institutional frameworks will be in place to allow the large majority of populations in these nine countries access to safe water.
- The Lao People's Democratic Republic, Mongolia, the Philippines and Viet Nam will have established WSP as legally compulsory for drinking water suppliers by end of 2014.
- There is an increasing understanding that management of water resources needs to be linked to the protection of human health and must be part of an integrated framework.
- In Cambodia, the Lao People's Democratic Republic and the Philippines, WSP teams are collaborating with other departments within ministries of health responsible for improving community health – maternal and child health, control of NTDs (schistosomiasis, helminthiasis, trachoma and dengue) in households, schools and HCFs. In all countries, collaboration is ongoing with non-health sectors, including agriculture, environment, construction, industry and energy, and education.
- Increasingly, WSP is seen as an adaptation tool to protect water resources and human health from climate change impact.

(c) Increased national capacity for water safety planning

- With over 65 WSP training sessions held since June 2012, more than 2000 national professionals have learned about WSP principles and implementation.
- Exchanges of WSP knowledge and experiences through organized study tours has been very positive. Visits to water utilities in Australia were decisive in obtaining political commitment for WSP in Mongolia. In the Lao People's Democratic Republic, Ministry of Health decision-makers, community leaders and other key stakeholders benefitted greatly from the knowledge of a WSP expert from Bhutan in rural WSP.
- The WSP Asia Pacific Network, a unique online platform coordinated by WHO, enhances sharing of WSP experiences based on case studies, the dissemination of WSP knowledge and training tools, and offers an opportunity to learn from WSP-related policy dialogue.

(d) Effective advocacy resulting in performing WSP partnerships

- Although not officially part of the Phase 3 countries, China, Fiji, Malaysia and Solomon Islands are benefitting from the WSP Partnership. Brunei Darussalam and Singapore have proposed options for closer collaboration with the WSP Partnership. The WSP Partnership collaboration agreements with 18 development partners have led to the enactment of 30 national and local cooperation agreements.

(e) Technical support to Western Pacific Region Phase 3 countries

Upon official request from ministries of health, WHO has provided:

- support to the Philippines in WSP assessment and certification processes.
- recommendations to the Lao People's Democratic Republic for follow-up of actions in the framework of the OFID support and for implementation of the national Phase 3 programme.
- collaboration in the process to re-orient the national Water Safety Plan Programme in Viet Nam, including key contributions to the proposed 2014–2030 road map towards water quality for all and inputs to achieve the establishment of the planned 44 WSP by mid-2016.
- following flash floods in Solomon Islands, WASH needs were assessed in all affected health facilities, with special attention to waste disposal. An action plan was developed to improve WASH services in the National Referral Hospital.
- assistance to the national WSP steering committee in Cook Islands to become operative and plan activities for 2014–2015 including support to prepare the water management policy. Phase 3 budget implementation rate is expected to rise from 11% to over 65% by June 2014.
- Review of Mongolia's Phase 3 work plan 2012–2016 and advice on the policy framework for water safety planning and drinking water quality surveillance. Phase 3 budget implementation rate is expected to rise from 50% to over 80% by June 2014.
- Support the Lao PDR and Mongolia's delegation in the WHO workshop "Fundamental need for water, sanitation and hygiene services in health facilities (HCF)", held in Madrid, Spain, 2014. A regional plan was developed to conduct national "snapshot" assessments of WASH services in HCF, and related policies, and to integrate monitoring mechanisms.
- Participated in the 2014 Singapore International Water Week; the WSP Network Participants Symposium; the WHO Meeting on the Guidelines for Drinking-Water Quality; Microbial Working Group Meeting; and Chemical Mixtures Meeting, Singapore, 2014.

2.3.2 WHO Regional Office for South-East Asia

Ms Payden presented the progress and challenges on water safety plans in their Region. Progress included more and more stakeholders being trained and an increasing number of WSP implemented. There is high demand for WSP training and advice in India and Sri Lanka. WSP are being mainstreamed in rural WASH programmes and linked to other utility asset management activities. Excellent model WSP are now in place in Phase 2 countries: Bangladesh, Bhutan and Nepal.

Areas for improvement include: greater understanding that WSP cover all aspects of WASH and not only water quality, and that WSP should build on existing activities. Documentation is weak, posing the risk that many examples of good WSP may not be shared. Water quality surveillance systems and impact assessment of WSP need to be developed.

A total of 107 urban and 387 rural WSP are in place or under development with 13 urban and 141 rural WSP established since June 2012. In addition, 11 WSP were established in India and Sri Lanka. To date, 35 WSP in Bangladesh means 53% of the population have access to safer water. Bhutan's 147 WSP benefit close to 20% of its inhabitants, while in Nepal 85 WSP serve 41% of the population.

Table 1: Overview of the WSP policy framework in countries in South-East Asia									
No	Country	National WSP policy officially approved		National model WSP officially approved		National institutional WSP framework		National framework for monitoring /accrediting / regulating WSP	
		June 2012	To date	June 2012	To date	June 2012	To date	June 2012	To date
1.	Bangladesh	Yes	Yes	No	Yes	Yes	Yes	No	Yes
2.	Bhutan	Yes	Yes	No	Yes	No	No	No	No
3.	Indonesia	No	Yes	No	No	Yes	No	No	No
4.	Myanmar	No	No	No	No	No	No	No	No
5.	Nepal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6.	Timor Leste	No	No	No	No	No	No	No	Yes

Continued advocacy and efforts to mobilize additional resources to support infrastructure improvements identified through WSP were fruitful: ADB supported WSP in Bangladesh and nine towns in Bhutan benefitted from the ADB Urban Environment Project, which included all WSP control measures in the ADB project design. Further, OPEC funds were mobilized to support another three WSP in Bhutan. In Nepal, the Finish Government is implementing WSP in several villages and funding improvements. In the city of Nagpur, the Indian Government is investing in water quality improvements. In Sri Lanka, the National Water Supply and Drainage Board has committed funding for WSP development. A new United Kingdom's Department for International Development (DFID) funded project to increase climate resilience in Nepal and in Bangladesh has the implementation of WSP as a core function.

The biggest areas of added value and multiplier effects are towns with model WSP that are already acting as "Big Brother" to many other water suppliers, which provides an added training resource free of cost for the WSP Partnership. Other add-ons are the WHO Regional Office for South-East Asia contributions to the WHO equity study with case studies done in Bangladesh (urban and rural) and Nepal (rural). Draft guidance for incorporating equity issues is being prepared. As mentioned earlier, resource mobilization for WSP is also an important additional achievement.

Lessons learnt from rural WSP include that sanitation, a clean environment (including solid waste management), HWTS and hand-washing have been accepted as control measures. Introducing WSP may not require any additional control measures – existing WASH interventions may already be addressing the most significant hazards or else require only small additions and WSP provide an opportunity to review and consider emerging new hazards. The lessons learnt from implementing WSP in urban areas show that where investment is already secured WSP can add essential value and sustainability and that successful WSP can attract investments. As with rural WSP, introducing WSP may not require any additional control measures but may lead to improved management of existing controls and add a new

perspective to current actions. As WSP can easily be introduced at any stage of current work there is no need to start from scratch.

Among priority actions for 2014–2016 are holding WSP Master Training and certification workshops and the development and distribution of regionally specific urban and rural training materials. Specific guidance will be prepared for auditing/review, for drinking water quality surveillance and for WSP impact assessment. Programmatically, applying WSP will focus within the context of clean environments (at home, in schools, health centres and communities) and as a tool to respond to climate change threats.

2.3.3 WHO headquarters

Ms Angella Rinehold presented the achievements to date in Phase 3. WHO headquarters is responsible for the overall coordination of the WSP Partnership, specifically:

- Successfully ensuring efficient and timely delivery of the WSP Partnership by coordinating and monitoring the implementation of planned activities, ensuring the management of the budget, preparing the quarterly and six-monthly reports and liaising with DFAT and other WSP partners at the global level.
- Providing technical advisory services, developing guidelines and tools, supporting WSP advocacy, establishing linkages between WSP and other relevant programmes and initiatives (e.g. HWTS and investment planning), and promoting systematic integration of equity considerations in WSP and make a significant contribution to reducing the burden of disease related to unsafe water, poor sanitation and lack of hygiene.

The achievements to date in Phase 3 are as follows:

- Coordination for the preparation and timely delivery of all activity reports and continuous monitoring of activities in close coordination with WHO regional offices. Lessons learnt from Phase 2 have fully realized. The quality of WSP in Phase 2 countries has been improved significantly and the new Phase 3 countries have benefitted from this by focusing from the outset on quality assurance.
- Upon request and according to available resources, WHO headquarters delivers technical advice to regional offices and country offices on specific issues and participates in WSP related meetings and country visits.
- Resource mobilization for WSP initiatives in countries: US \$150 000 was mobilized from the OPEC Fund for International Development (OFID) as a matching grant to improve infrastructure in Bhutan and the Lao People's Democratic Republic.
- A WSP-HWTS workshop was held in Nagpur, India in November 2014 to discuss and strengthen linkages between WSP and HWTS.
- An update on surveillance and control in small drinking water supplies – a component of the 1997 Third Edition of the *WHO Guidelines for Drinking Water Quality*, - is currently being prepared. The updated version will include a field guide containing updated sanitary inspection forms and guidance on water quality sampling/testing and WSP auditing/assessment.
- A computer-based tool to carry out risk assessments has been developed and will be piloted, in parallel, and a paper version is being prepared.
- A global WSP survey was conducted to gauge the number of WSP established, policy and regulatory instruments in place, auditing tools developed, WSP benefits and challenges. With 106 countries responding, a report will be available before the end of 2014.

- A set of indicators to assess water quality and health impacts as well as financial, operational, institutional and policy outcomes of WSP is under development. A data collection tool will be used in the second part of 2014 to start the process of WSP impact assessments. This process will require agreement on, inter alia, which WSP elements need to be assessed, and with what frequency follow-up assessments should be carried out. An independent study on WSP impact assessments is also being discussed.
- Technical support was provided to strengthen the water quality surveillance programme under development in the Lao People's Democratic Republic through the development of implementation guidelines. The comprehensive national surveillance programme and implementation guidelines are expected to provide an example for other countries and will be shared at the planned biregional water quality surveillance workshop to be held in the second quarter of 2015 in Bangkok.
- A guidance document on how to address climate change risks to water quality and quantity through the WSP process to protect human health was presented at a workshop in Ethiopia in May 2014 and is currently being revised with the goal of piloting it before end 2014.
- Responding to the set target on integrating equity into water safety planning, a target derived from WHO's and DFAT's commitments to prioritize the most vulnerable populations and to respect access to safe water and sanitation as a human right, WHO headquarters coordinated a study to establish how WSP influence equity. Case studies from Bangladesh, Nepal and the Philippines allowed the development of specific guidance for WSP coordinators and for WSP teams to ensure the systematic integration of equity into WSP planning and practice. The equity guidance will be piloted in selected countries before end 2014.
- A WSP auditing guidance document has been drafted and is undergoing revision. The document provides guidance on WSP audit scheme development and implementation and covers such aspects as audit aims and objectives, timing and frequency, recommended auditor characteristics and training, example checklists and tools and case studies. The guidance document is expected to be completed by Q4 2014.

2.4 Multiplier effects of the WHO/AusAID Partnership on water safety plan mainstreaming

2.4.1 Water safety investment plan in Viet Nam

Mr Ton Tuan Nghia presented the progress to develop a water safety investment plan (WSIP) in Viet Nam. It consists of an excel spreadsheet for water supply companies (WSCs) to make decisions and justify investments for control measures contained in improvement plans. Use of such a tool was recommended in the Phase 2 evaluation. The tool uses cost/benefit analysis and should be integrated into the WSP guidelines with a focus on Step 3 to 5. The key steps of analysis are in Step 4, in particular Step 4.2 and 4.3 where WSCs are required to evaluate quantitatively the effectiveness of investment in terms of reducing identified risks. It allows selecting the best qualified control measure with highest impact on risk reduction. The WSIP tool still needs greater precision in the assessment of the effectiveness of investment in relation to its impact of volume of drinking water produced.

A national workshop will be organized to disseminate the WSIP. Although WSIP is a useful tool it should be linked to the entire investment plan process and guide water supply companies on how to access donors' funding sources to invest into WSP implementation. More effort is needed to set up the investment process nationally.

2.4.2 Microbial contamination in rural drinking water in Cambodia

Mr Andrew Shantz presented the complexities associated with measuring access to water supply. He compared national water access figures to findings from a recent study on point-of-consumption water quality. He summarized the components that define water access, including quality (safety and aesthetic acceptability), quantity (20 litres per person per day), accessibility (distance to source and time spent collecting water) and around-the-clock reliability regarding use as drinking water, domestic and other uses. Water source selection may vary in terms of location, seasonal changes and whether it is delivered by primary, secondary or tertiary supplies. From a public health perspective, exposure to disease-causing pathogens occurs most at the point of consumption. Therefore, assessment of drinking water quality is important (i.e. at the source, in tanks, jars, household containers or at point-of consumption). WHO/UNICEF JMP post-2015 indicators define “improved” supplies as based on quality, but only in terms of the presence or absence of microbial contamination. There is no indicator for chemical water quality, quantity, reliability, accessibility or quality at point of consumption. A recent assessment in Cambodia of 984 samples of drinking water at point of consumption representative of rural areas, indicated that only 23% of households met the national drinking water quality standard for E. coli, while over 80% came from improved water supplies during the wet season.

The inclusion of water quality indicators in the 2030 SDG targets is highly recommended as are rapid drinking water quality assessments at point of consumption. Such studies – if nationally representative – provide a more accurate picture of risks to public health with which progress can be measured. Such knowledge is relevant to the design of monitoring and evaluation of water safety plan programmes.

2.4.3 Integrated water safety plan in Mongolia

Dr Oyuntogos Lkhasuren presented the integrated water safety plan approach to address climate change-related water scarcity, water quality and low access to safe drinking water in Dornogobi province in Mongolia.

The National Meteorological Service reports that ambient temperature has risen rapidly in last 30 years in some areas in Mongolia and increased dryness and decreased precipitation have been reported in Mongolian forest-steppe regions. Close to 80% of the total pasture lands are, as such, in desertified land. An estimated 82% of the water supply comes from groundwater. Climate change vulnerability assessment indicates the highest levels in the South Gobi region in the Province of Dornogobi, a region that also shows a low level of compliance with national drinking water quality requirements. Populations there are vulnerable to water-related diseases and to the natural presence of heavy metals and radioactive compounds (arsenic, molybdenum, uranium) in water. WSP development and implementation by a water supplier enterprise in Saishand, Dornogobi Province commenced in 2013 as a pilot. Identified risks are water scarcity, presence of natural chemical contaminants, and bacterial contamination for human source. Control measures include alternative water sourcing, expansion of the network of water distribution kiosks and drinking water distribution pipelines. Where no alternative water sources were found, arsenic absorbent technologies were identified. WSP principles offer an integrated framework to address climate change threats to human health.

2.4.4 OPEC in Bhutan and the Lao People's Democratic Republic

Ms Angella Rinehold presented the outcomes of the OPEC funding for international development support for water safety plans initiative. WHO headquarters mobilized US \$150,000 for drinking water suppliers in Bhutan and the Lao People's Democratic Republic in WSP that most effectively demonstrated effective system management and a need for infrastructure improvement. These funds were matched by

DFAT funds allocated for WSP capacity building. Three water suppliers were chosen by a selection committee which reviewed all proposals sent by each country, a participative process that involved national WSP authorities.

This initiative was highly appreciated by local beneficiaries and had a significant impact by showing the potential for WSP to serve as a catalyst for lasting improvements to water supply system operation, management and safety. It also indicated that WSP implementation can trigger mobilization of international funds.

2.4.5 Rural water safety plans in Bhutan

Mr Karma presented the rural water safety plans in Bhutan.

The national Rural Water Supply programme started in 1974. By 2012, over 4500 schemes had been developed enabling access to drinking water for over 94% of the population. However, a rapid assessment of rural drinking water quality in 2012 indicated that only 17% of stream water and 28% of spring water was safe for drinking. These low figures prompted the Government to implement national WSP. Through the WSP Partnership, 147 WSP have been established, to the benefit of 20% of the Bhutanese people. Another 150 WSPs are planned before 2016.

There is vast experience in Bhutan related to participative WSP planning workshops conducted in rural communities. Most, if not all, training materials are visual and encourage active participation. All participants join the scheme survey walk from the water source to consumer. Household visits allow participants to observe and discuss storage and handling practices. During this survey walk, participants collectively complete the System Hazard Survey Form and collect water samples for testing and measure yield at the source. The Hazard Analysis and the identification of control measures exercises are followed by creating participatory community management plans, defining caretaker roles and responsibilities for monitoring and maintenance. A water quality monitoring plan and an emergency response plan are agreed upon. Log sheets are prepared to collect information on maintenance and improvement works and on training and education needs. A system of before and after photos is set up to document the process.

A user friendly Rural Water Supply MIS tool was developed on an Excel spreadsheet to collect authentic local coverage and functionality of WSP, for monitoring and planning purposes. All health assistants in the 20 districts were trained in report generation using this tool to ensure that the same Rural Water Supply information is used at Blocks/BHU, districts and at the national level. There are challenges in resolving the need for flexible planning adapted to the convenience of communities with donor's fixed reporting time. To ensure a quality WSP, local language skills and technical knowledge are essential. Additional funding for WSP identified improvements is compulsory. National support for this programme should be scaled up.

The establishment of WSP in rural areas in Bhutan is a good example to share with the countries of the Western Pacific Region.

2.4.6 Water quality surveillance

Dr David Sutherland shared the importance of drinking water quality surveillance (DWQS). Drinking water quality surveillance is understood to be "the continuous vigilance of public health assessment and review of the safety and acceptability of drinking water supplies". Generally, the assessment activities are undertaken by the supplier with third party auditing for verification. At the same

time, it is expected that the national surveillance agency, usually the health authority, carries out independent testing of water supplies. Although DWQS has been included in most national WSP frameworks, most countries still face challenges and need support in this area.

A survey on DWQs policy and responsibilities, and resource allocation will be undertaken and results used as input for the planned biregional DWQS workshop to be held in Bangkok, Thailand, in the second quarter of 2015.

2.4.7 Safe sanitation plans

Mr Darryl Jackson presented a short overview on safe sanitation plans (SSP). Sanitation safety plans focus on the safe reuse of wastewater and wastewater products in agriculture and aquaculture. It encompasses ensuring safety in all steps from wastewater generation and treatment to the final reuse product and its consumption. Sanitation safety plans are based on the 2006 *WHO guidelines for the safe use of wastewater, excreta and greywater*. These guidelines are extensive and SSP provides simple practical field guidance for their implementation. This will be an increasing challenge given the increased use of wastewaters for agricultural production, especially in peri-urban areas, and in augmenting water scarce regions. Sanitation safety plans aim to reduce the potential adverse health impact and increase the benefit of wastewater use in agriculture and aquaculture. Several SSP trials in various continents are ongoing. The WSP Partnership will start SSP pilots, upon official request, in the Philippines, in collaboration with ADB, and in Malaysia in 2014, in collaboration with UN-Habitat.

Sanitation safety plans and WSP complement each other. While they are similar, they do differ as WSP focuses on DWQ from source to consumer and SSP on the safe use of wastewater and wastewater products in agricultural and aquacultural production and the safety of final food products.

2.4.8 Update on the Asia Pacific Water Safety Plan Network

Ms Rose Lang presented the developments of the Asia Pacific Water Safety Plan Network (AP WSP Network).

This network began operations in 2011 as part of a communication effort of the WSP Partnership, with the participation of the International Water Association (IWA), Public Utilities Board (PUB) Singapore, the Southeast Asian Ministers of Education Organization Tropical Medicine and Public Health Network (SEAMEO TROPMED), the United Nations Human Settlements Programme (UN-Habitat) and the USAID's Environmental Cooperation-Asia (ECO-Asia).

The goal of the AP WSP Network is to promote the widespread implementation of water safety plans in urban and rural settings in the Asia Pacific region, as an effective way to reduce the health burden from waterborne diseases. It aims to contribute achieving reliable, consistent and equitable supplies of safe drinking water, through information dissemination, knowledge sharing and support for capacity building. Today, the AP WSP Network is coordinated by WHO and IWA, with support from the WSP Partnership. The AP WSP Network runs a website combined with other regional WSP networks, such as the Latin America and Caribbean Water Safety Plan Network, and the Africa Water Safety Plan Network, sharing the same URL address as: www.wsportal.org.

Accomplishments of the AP WSP Network's operational activities to date include: setting up and regular updating the network's website; preparation, editing and publication of 12 Quarterly Newsletters; uploaded 54 WSP case studies; uploaded five WSP tools; organized the 2013 WSP training workshop in Antipolo, Philippines; organized the 2014 Network's Participants WSP Symposium in Singapore; and

registered over 600 Network participants.

The Network Secretariat, currently coordinated by Mr von Hildebrand, proposed the draft plan of action for 2014–2016:

Vision: the implementation of water safety plans can reduce the water-related burden of disease in the Asia Pacific region in a sustainable manner and contribute significantly towards achieving universal health coverage.

Mission: to contribute to a significant reduction in the waterborne disease burden and achieve reliable, consistent and equitable supplies of safe drinking water in the Asia Pacific region countries by promoting WSP.

Goal: to promote the widespread implementation of WSP in urban and in rural settings in the Asia Pacific region as an effective way to reduce the health burden from waterborne diseases.

Objectives

- (1) Policy dialogue and advocacy – Advocate engaging countries to promote the WSP approach as part of national water related policy, institutional frameworks and strategies and support their implementation.
- (2) Communication – to be a forum to exchange information and knowledge about the implementation of WSP.
- (3) Research – to share research findings, in order to further promote, support and monitor the WSP implementation, and to evaluate the impacts of the WSP on the supply of the safe drinking water.
- (4) Implementation – to increase WSP awareness/implementation and expansion through facilitating WSP partnerships, resource and knowledge sharing.

Targets by 2016:

- Policy and advocacy: the network will be represented annually in at least two major water supply events in the region;
- Communication: 800 participants will have joined the network and 10 virtual newsletters will have been published on the network's website;
- Research: the network will have facilitated the completion of one study on the impact of water safety plans;
- Implementation: the network will have uploaded 10 more case studies on the development and implementation of WSP.

Regarding the operational framework the Network coordinator (WHO) is a reference point for the Network to lead main communications and activities, and is in charge of bringing Network Strategic Partners together annually, which includes international, regional and national institutions, organizations, agencies, water companies and programmes that facilitate/enhance the implementation of the WSP. The Secretariat (IWA) administers and updates the website and online communications; collects and disseminates information on regional WSP specific information, news, case studies and events; supports the organization of the Strategic Partner's annual meetings; organizes an informal network of Strategic Partners who participate actively in the annual meetings and agreed follow-up activities, at their own cost. The AP WSP Network Participants are national institutions, organizations, agencies and programmes, or

individuals that are concerned with and actively promoting water quality issues in their respective countries.

The AP WSP Network is an ideal platform for widespread implementation of WSP by continuously supporting the scale up WSP in the Asia Pacific region. Water companies and consumers can learn, for example, about WSP policy dialogue and advocacy, communication, research and implementation. The Network's knowledge (e. g. practical case studies) can subsequently grow and be regarded from different angles, speaking to more actors involved in drinking water safety management.

2.4.9 Assessing water safety plans

Mr Asoka Jayaratne introduced and explained the need to define in a country and regional context reviewing, assessing, approving, auditing and certifying WSP. He provided some basic definitions used in Australia since the implementation of water safety plans in 1999. He provided examples from successfully implemented existing regulatory water quality frameworks since 2003 in Victoria, Australia. The Victorian Safe Drinking Water Act 2003, and the more recent Queensland Safe Drinking Water Act and the South Australian Safe Drinking Water Act, require all drinking water suppliers to develop and implement WSP in their management plans. These plans are subject to internal and external revision processes, including formal regulatory audits aimed at identifying gaps and at promoting continuous improvements. Reviews are carried out on a routine basis, after an incident, or after an audit. Reviews differ from assessments, which are a comprehensive check typically carried out by an external, official auditor, to verify compliance with the WSP requirements, and in some instances, for regulatory approval. Reviews can be a simple internal review or as required for the final WSP approval. Audits can be internal and external, are not a comprehensive check, and focus on specific well-defined criteria, to meet regulatory standards. Certification of WSP has neither a formal standard nor a body that carries them out.

WSPs in the Western Pacific Region are not yet at a stage where they can be certified. Countries may wish, for now, to focus on WSP development and review for approval and monitoring the implementation of improvement plans.

2.4.10 Master training and certifications

Dr David Sutherland presented a proposal to develop internationally recognized and officially certified WSP expertise in the South East Asia region. The need for accredited Master's Training is based on the demand for deeper WSP knowledge and for future WSP auditors. Master training would provide the best suited expert candidates selected according to stringent criteria to be agreed upon: comprehensive training in hazard identification, risk assessment, control measure identification and operational monitoring.

Criteria for master trainers would include: proven experience in either training or implementing WSP (preferably in urban contexts) or both; the potential to develop a thorough understanding of WSP (the WSP process, the science and engineering involved in hazard identification, selection of appropriate control measures, and monitoring processes); show genuine potential as effective trainers; have a good understanding of and fluency in English; and be eligible/available to carry out training and review in the short- to medium-term following completion of course and future proposed certification.

The WSP Master Training initiative would also develop and promote centres of excellence for future training and would need to work with international institutions to establish the certification programme. The first WSP Master Training will be organized in two sessions: September 2014, in Bangkok, Thailand, to provide in-depth understanding of WSP, provide adult learning knowledge,

increase ability to use the urban WSP training package; and November 2014 in Nagpur, India, to assess the technical knowledge and training and audit skills of the candidates and to prepare them for the certification programme.

On the basis of experience at the Regional Office for South-East Asia, the Western Pacific Regional Office will organize a WSP training programme in 2015.

2.4.11 WHO/UNICEF JMP and goals beyond 2015

Mr Bruce Gordon presented the latest developments in MDG monitoring and the post-2015 Sustainable Development Goals (SDG) political dialogue. He showed the WHO/UNICEF Joint Monitoring of Water and Sanitation new data on global progress 1990–2012. He noted the drinking water MDG target has been met at 88%, with the drinking water coverage in 2012 standing at 89% and 116 countries meeting the MDG target. The MDG sanitation coverage target of 75% has not yet been met. The sanitation coverage in 2012 was 64%. Only 77 countries have met the sanitation MDG target. He informed the audience that the Joint Monitoring Programme convened process had proposed the following targets for the SDG 2030:

- to eliminate open defecation;
- to achieve universal access to basic drinking water, sanitation and hygiene for households, schools and health facilities;
- to halve the proportion of the population without access at home to safely managed drinking water and sanitation services; and
- to progressively eliminate inequalities in access.

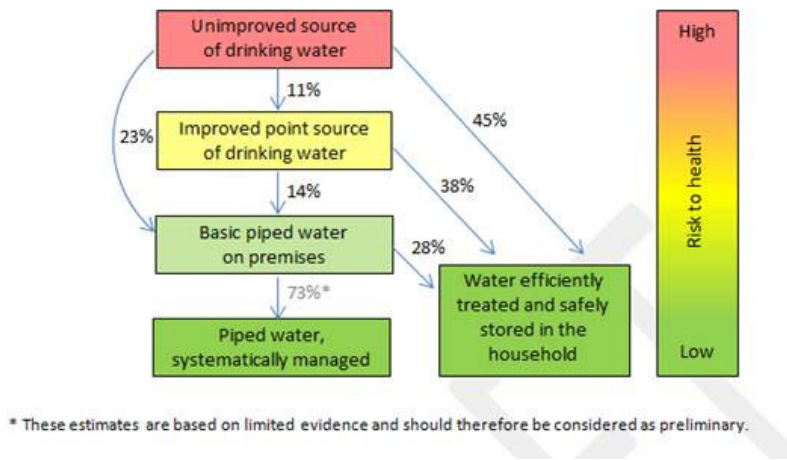
He pointed out that this target is a proposal and the four working groups mandated to prepare the proposal conducted wide consultations and developed a series of sequential targets for drinking water, sanitation, hygiene and the elimination of inequalities which were subsequently consolidated into a single composite target.

One of the proposed indicators of the target – to halve the proportion of the population without access at home to safely managed drinking water and sanitation services – is the percentage of population using a safely managed drinking water service.

Whereby it is suggested that the percentage of population using an improved drinking water source on premises accessible to all members of the household, which delivers sufficient water to meet domestic needs (non-functional \leq 2 days in the last 2 weeks), meets WHO guideline values for E.coli, fluoride and arsenic, and is subject to a verified risk management plan.

With regard to safely managed services, in addition to achieving basic access, there is a need to improve service levels and ensure services are sustainable. The term “safely managed” is proposed to describe a higher threshold of service. For sanitation this includes measures for safe management of excreta, especially for the urban poor living in densely populated slums, whereas for water, this includes measures for protecting supplies and ensuring water is safe to drink. This target is applicable to all countries post-2015. He mentioned the results of a recent WHO study on water-related burden of disease, that showed that while the use of drinking water from unimproved sources is correlated with high health risk, treating and storing this water correctly at the household level, lowers this risk very significantly, up to by 45% (see figure below) and that weaker evidence suggests that moving to a higher level of service (regulated piped water) shows the most significant health gains.

Figure 1: Correlation between use of drinking water from unimproved sources and health risk



He concluded that post-2015 monitoring for drinking water should include water quality monitoring and risk management.

He reported progress on supporting Member States in the establishment of WSP has become a key success indicator for WHO, with 58 of 104 countries having a documented national strategy established to scale up WSP implementation. Thirty-three countries have policies and regulations and 12 report actively enforcing regulations. On the WHO Guidelines on Drinking Water Quality, he confirmed the timely inputs for rolling revisions and that the fifth edition of the guidelines will be published in 2020) with updates that include: vulnerable groups, alternative disinfection, , etc. On Water Safety Plans, he informed participants about the expanding work from Asia to Sub-Saharan Africa and on the current development of techniques to audit WSP. He mentioned progress made by drinking water quality networks such as the WHO/UNICEF International Network on Household Water Treatment and Safe Storage.

The 2030 SDG target “to halve the proportion of the population without access at home to safely managed drinking water and sanitation services” has the following indicator: “Percentage of population using a safely managed sanitation service. This means the percentage of people who; (1) use an adequate sanitation facility; and (2) whose excreta is safely transported to a designated disposal/treatment site, or treated in situ before being re-used or returned to the environment. Related to this, he mentioned again the results of the WHO study on water-related burden of disease, showing how the use of community sanitation or sewer connections can lower the health risks linked to unimproved sanitation by as much as 69%

The SDG 2030 target: “to progressively eliminate inequalities in access” has the proposed indicator: “data will be disaggregated by the four population groups (rich and poor, urban and rural, slums and formal urban settlements, disadvantaged groups and the general population)”. By measuring the rate of progress for both the worst-off and better-off and comparing these, various elements can be assessed: (1) progress towards meeting the target; (2) rate of progress against the target for each population group; and (3) reduction of inequalities.

On progress of the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) 2013–2014, he explained that JMP findings describe WASH coverage and

status across countries and regions of the world. GLAAS provides a description of the reasons for these levels of coverage and provides understanding on what needs to be done. The latest GLAAS information available for 90 countries is catalysing in-country dialogue and providing information on WASH to enhance the understanding of linkages among water, sanitation, and economic growth, and has promoted a culture of mutual accountability, WSP partnership and shared responsibility. The results are being used to help governments formulate specific, achievable, measurable, and time-bound commitments in preparation of the Sanitation and Water for All (SWA) High-Level Meeting (HLM). GLAAS provides Finance and Water Sector Ministers, along with Ministers of Development Cooperation, with information that allows them to make more informed investment decisions to extend and sustain service provision. It underscores to ministries of health that adopting a primary prevention approach to reduce disease is a cost-effective and equitable approach to improving the lives of millions.

To influence international processes in support of WSP programmes, we need to underscore the need for preventive risk management (WSP and SSP); service provision in schools and health facilities; plan WSP implementation to reduce inequality; improve targeting of funding; and follow-up with robust monitoring.

2.5 Sustaining water safety plan

2.5.1 Future development of Australian support for water, sanitation and hygiene

Ms Geraldine Daniels presented the main features of the new DFAT aid policy. Through the two lenses of “WASH and Economic Growth”, DFAT prioritizes the following: building enabling infrastructure and services to support economic growth; role of the private sector in WASH (including through market-based approaches); increasing productivity by reducing absences from work and reducing the time taken to access water; and reducing health costs and premature death. Therefore, DFAT’s contributions by improving WASH aim to achieve the following health outcomes: decrease in waterborne diseases such as diarrhoea; reduction in under-nutrition and stunting (which can lead to cognitive impairment); reduction in maternal and child deaths; lower incidence of infection (and re-infection) of neglected tropical diseases; and reduction in vector-borne diseases (dengue, malaria). To this end, DFAT will support WASH interventions such as: addressing water quality; improved hygiene (hand washing and food preparation practices); improved sanitation and hygiene to prevent neglected tropical diseases (trachoma, gastrointestinal helminths); and improved water storage management and vector control.

With a general focus on enabling sustainability, DFAT will promote capacity-building and using appropriate technology to build support mechanisms for community managed systems, and specifically, to build institutional support for WASH systems. Ensuring all members of the community have a voice, DFAT will monitor to ensure that the provision and access to WASH services is equitable. While its strategic engagement with the United Nations and multilateral organizations will continue, DFAT will prioritize bilateral aid agreements with countries.

Ms Daniels expressed her satisfaction with the results achieved so far by the WSP Partnership. Her appreciation went in particular towards the Phase 3 focus on sustainability with a successful integration of WSP in national policy frameworks, the ongoing effort to ensure that equity issues become part of water safety planning, and the increasing WHO collaboration with ADB and the private sector.

The potential perspectives to continue cooperation with DFAT on WASH issues beyond July 2016 would mainly be for Pacific island countries and areas. The WHO Regional Office for the Western

Pacific is in a good position to support these countries negotiate additional cooperation agreements with DFAT to sustain the achieved outcomes.

Please refer to Australia's aid program at: <http://aid.dfat.gov.au/aidpolicy/Pages/home.aspx> and 2014-15 budget highlights: http://www.dfat.gov.au/dept/budget/2014_2015_highlights/

Ms Pritha Cawrse supported the work done by the WSP Partnership, in particular the ongoing ADB/WHO WSP joint initiative in Bhutan. ADB is interested in collaboration to further integrate WSP as a planning tool for investments in the water sector. She confirmed the commitment of ADB to develop a joint WSP guidance document for ADB clients. In the mid-term, ADB aims to include WSP as part of ADB's policies relative to loans and grants awarded to improve drinking water supplies, in particular in countries where WSP implementation is legally compulsory.

2.5.2 Securing safe water and sanitation in Brunei Darussalam

Mr Rahman Hj Abu Bakar, presented Brunei Darussalam's water quality management.

Under the provision of the Water Supply Act (1984) the Department of Water Services acts as the Water Authority in Brunei Darussalam, responsible for the provision and regulation of the potable water supply. Almost 100% of the overall population is served with potable piped water, with a small portion in rural communities served by a localized slow-sand filtration system. Public water supply relies solely on surface water resources and is distributed through three water supply systems. Consumption per capita is about 420 litres per day and water losses amount to about 15% due to leakages in the water supply system. Water quality complies with WHO Guidelines for Drinking Water Quality (2004). The continuous monitoring of water quality is done at an ISO 17025 accredited centralized laboratory. Water storage reservoirs are fenced and water storage tanks are flushed and cleaned twice yearly. CCTV is installed at some water storage reservoirs. Vents and overflow pipes protected by grills to prevent entry of rain, birds, insects etc. Future implementation of online water quality monitoring for terminal and water storage service reservoirs is planned. The protected water catchment area lies within a nature reserve. Collaboration with other government agencies such as the Agriculture Department, Land Department and Town and Country Planning ensures that development in the vicinity is limited and controlled. Challenges include prolonged drought, increased water demand and limited water resources. Although Brunei Darussalam has not yet institutionalized WSP as policy, it is already implementing most WSP principles.

2.5.3 Implementing water, sanitation and hygiene in Malaysia

Mr Engku Azman Tuan Mat presented the status of WSP in Malaysia

The National DWQS was first implemented in 1986. Although the Services Industry Act (WSIA) was enacted in 2006 to develop and manage the water industry, little emphasis was given to WSP. In 2008, the Ministry of Health adopted WSP as the main tool to manage drinking water and began developing WSP through awareness and training sessions in 2010 with help of WHO. WSP training manuals are available in national languages, for various types of water supply schemes. A rural WSP was launched in 2012 and by June 2014, 78 rural WSP documents had been registered. Sanitation safety plans will be introduced in 2014. A new Safe Drinking Water Bill (called an Act once approved) is expected to be gazetted by 2015. Once approved, the Act will require WSP to be carried out by a qualified person for all water supply systems and submitted to the Director General of Health. Failure to carry out and maintain the WSP will be punishable with a fine and/or imprisonment. The scope of the WSP goes beyond the responsibilities of the Ministry of Health and means that water will be managed in an

integrated manner in Malaysia. Although not part of the WHO/DFAT WSP Partnership Phase 3 countries, Malaysia has been implementing WSP successfully.

2.5.4 Securing safe water in Singapore

Mr Phen Wei Chue presented how the Ministry of the Environment and Water Resources, Singapore's national water agency the National Water Agency and National Environment Agency (NEA), the Environmental Protection and Public Health Agency, work together to provide safe drinking water.

Under the Environmental Public Health (Quality of Piped Drinking Water) Regulations, piped drinking water suppliers are required to: (1) prepare water safety and sampling plans in accordance with the Code of Practice on Piped Drinking Water Sampling and Safety Plans; (2) seek approval from the Director-General of Public Health, and implement the plans; (3) review the water safety plan at least once a year, and (4) seek approval if the plan is to be amended. Piped drinking water suppliers are also required to: (1) comply with water quality standards; (2) carry out testing of water in accordance with approved water sampling plan; (3) submit test results to NEA; (4) in case of failure to comply with standards – notify NEA; (5) take remedial actions; and (6) implement record keeping practices.

PUB manages the complete water cycle, from sourcing, collection, purification and supply of drinking water, to treatment of used water and turning it into “NEWater” and drainage of storm water. Source water protection is based on protected water catchment where only non-pollutive activities are allowed and on unprotected water catchment where housing developments and non-pollutive industries are allowed, with stringent pollution control measures.

Sampling frequency is as follows: indicator of bacteriological quality in drinking water, *E. coli*/total coliforms – daily; chemicals of health significance including inorganic constituents – daily/monthly/6-monthly; organic constituents – 6-monthly; pesticides – 6-monthly/annually; disinfectants – online/2-hourly; disinfection by-products – monthly/annually.

Source water is monitored manually and via online sampling. Treatment plants and service reservoirs are monitored real-time online and through manual monitoring at critical control points in the process. Network is monitored through manual sampling and real-time online monitoring; random manual sampling is at consumer's taps.

The audit of the waterworks and is carried out by NEA (regulator). The waterworks have an Integrated Management System that is made up of ISO 9000, ISO 14000, ISO 18000 and Hazard Analysis and Critical Control Points or HACCP. In addition to audits by the national regulator, PUB is also subjected to audits separately conducted by an Internal Audit Panel and an External Audit Panel.

2.5.5 Delivering safe drinking-water and sanitation in the Republic of Korea

Dr Hyen-Mi Chung and Kynghae Ahn presented the characteristics of the Republic of Korea.

In the Republic of Korea, 50 638 000 people – 98% of the population – are served with drinking water delivered from 518 public water treatment plants and 19 052 small water facilities, with a capacity of 30 893 000 m³/day and delivering 335 l/day/capita. Sewage is accessible to 91% of the population via 3363 facilities with over 118 329 km of pipelines. Water supply management falls under the Water Supply & Water Installation Act, drinking water management under the Drinking Water Management Act, and sewage management under the Sewage Act. The national DWQS Standards consist of 59 items,

up from 29 in 1963. The first waterworks were constructed in Seoul in 1907 and culminated in 2007 with the opening of the Multiregional Waterworks Integrated Operation Center. Internal challenges include a low public supply rate in rural areas (67.6%), drought and emergency management, aging infrastructure of >30 years including plants and pipelines elevates production cost not reflected in water price with non-revenue level at 21.3% in 2012. Plans include expanding rural water supply, advance treatment process and building an urban sewage system that can deal with climate change challenges. The Republic of Korea has experienced a temperature rise of 1.5°C, twice the global average. Precipitation is also on the rise. In Seoul, the temperature has risen 2.4°C. Annual precipitation has increased 27% over last century. Rainfall intensity has significantly increased. Heavy rains, defined as 50 mm or more per hour, occurred eight times in the 1960s, and 111 times in the 2000s. An important characteristic of K-water WSP is the development of a Water Safety Index (WSI), a very useful indicator for understanding weak points in the drinking water safety level.

2.5.6 Water safety plans impact assessment

Mr David Sutherland presented what is meant by assessment in the context of WSP. Assessment is intrinsic within WSP in operational and verification monitoring (auditing, compliance monitoring and customer satisfaction) and in the periodic review process. External to WSP are surveillance, auditing and direct assessment, and impact and outcome assessment. WSP implementation involves continuous improvement to enhance sustainability. For the regulator, public health control and financier/donor, such assessments bring reassurance and/or evidence on the performance of WSP.

Direct assessment asks how complete is the WSP. Direct assessment does not consider effectiveness or impact. Assessment tools include: the Quality Assurance Tool and checklists to evaluate completeness. An example based on the Pacific Audit model and based on a checklist, was presented. It allows assessment of outcomes, that is, what changes happened because of a WSP. Also, the approach allows checking whether the WSP had the desired impact. The document presents a set of seven baseline impact indicators to measure the regulatory, policy, operational, financial, water supply, health and equity impact. The information gathered will be used to conduct an impact assessment study (specific targeted retrospective randomly controlled evaluation or retrospective studies) and develop a methodology and large-scale monitoring as part of the WSP programme activities.

2.6 Main challenges and priority actions for 2014–2016

2.6.1 Working group results

Group 1: Water policy and institutional frameworks for WSP

This working group deepened the understanding of water policy development and implementation. It established how policies set out the framework for the water sector and, once adopted politically, provides the mandate for the civil service to implement the policy. Policies are highly country dependent and need to be designed and instituted locally with the full participation of all parties. While water resource management policy and water supply policy are closely related, many countries prefer to develop them as separate policies. The main points are as follows:

- (1) Although policy requires development of technical expertise, it also requires political will to implement. If policy is to be effectively implemented it should be as broadly accepted as possible. The planning of a policy formulation process should be carefully undertaken. The principles of transparency, accountability and genuine participation should be built into the design. A clear policy formulation programme should be drawn up which provides clear targets,

dates, outputs and points of interaction with all stakeholders. Out-of-country expertise should be utilized but such inputs should not be permitted to control or manipulate the formulation of domestic policy.

- (2) Policy is often confused with implementing strategies. It is important that policy is developed and adopted first and thereafter existing implementation plans should be reviewed in the light of new policy developments.
- (3) Policy should also not be confused with legislation. Once a policy has been developed and adopted, the legislation needs to be examined to see where amendments and changes are needed so that the policy can be implemented. It is important that during any policy development process, continuous consideration is given to the legal implications of the proposed policy and to consistency between the emerging water policy and the related policies of other sectors. A law or act on drinking water standards should mention clearly roles and responsibilities and also indicate the human right of access to safe drinking water. Group members also mentioned that in many countries, such as Cambodia, Viet Nam and the Lao People's Democratic Republic, there is no legislation on sanitation.
- (4) Policy is needed regarding the institutional framework of the water sector. The roles of different levels of government should be clearly set out – central or federal government, provincial or state government and local or municipal government. Interaction among stakeholders, especially for the protection of the water catchment, requires an appropriate institutional arrangement. In some countries the National Steering Committee plays an important role in development and scaling up of WSP. However, in some countries, this arrangement is not effective. In some cases, roles and responsibilities are not defined clearly for the National Responsible Authority, leading to weak enforcement capacity as in Viet Nam where WSP regulation is issued by the Ministry of Construction.
- (5) The principle of appropriate National Responsible Authority and functions being devolved to the lowest possible level is increasingly being regarded as best practice and most likely to result in sustainable development. This is to reduce the risk of fragmentation in regulation. The institutional arrangements should be consistent with other government policies such as decentralization. The role of the private sector, public utility or semi-public organizations, informal providers, universities, research institutes, professional and trade associations, NGOs, international bilateral and multilateral aid development agencies and financing institutions, should all be clarified. It should be clearly stated that all such organizations should function in terms of the sector policy only.

All group members agreed that a consultation meeting on the development of water policy should be conducted, with focus on support to countries where such policy is weak or lacking.

Group 2: Equity and water safety planning

Recognizing the primary role of women in drinking water management across many communities, the working group members considered that water safety planning must explicitly consider and engage women and dynamics shaping the role of women and men in drinking water management and more broadly within the community. WHO has committed to prioritize approaches that impact positively on women, children and the most vulnerable and poorest groups in society. The main points are as follows:

- (1) WSPs are a core approach to ensuring the right to drinking water without discrimination. Intentional efforts need to be made to ensure equity in WSP. Because disadvantaged groups are

the most vulnerable to unsafe water, WSP should recognize and integrate the diverse needs and interests of women and girls in water management.

- (2) WHO Geneva is preparing a document to provide clear guidance to water safety planning coordinators and teams on how to integrate equity considerations into the various steps of the water safety planning process. This guidance will have three aims: (1) to ensure equitable realization of WSP and access to safe drinking water; (2) to minimize (inadvertent) discrimination through a WSP process; and (3) to strengthen WSP effectiveness through an inclusive WSP approach. For this guidance material, equity is used as an overarching term referring to the dismantling of unjust differences of all groups of people, including women and girls, men and boys.

Group members agreed on the need to integrate equity and consider the diverse needs of drinking water users throughout the WSP process, as it will also make the WSP more effective. The final version of the guidance document is not yet completed.

Group 3: WSP: Opportunities to improve community health, by implementing WSP

- (1) WASH and Neglected Tropical Diseases (NTDs)

The working group agreed that WASH teams are familiar with household water treatment and storage (HWTS) measures, monitoring and evaluation and implementation challenges in terms of health education. Best HTWS practices generally result reduced infection risks by improving hygiene and eliminating breeding sites of dengue and malaria vectors. WASH teams always look for opportunities to reduce the burden of water-related ill health. The main points are as follows:

- (a) Improving water quality and management, sanitation and promoting hygiene at the household level can help break the transmission cycle of many water-related diseases. This includes neglected tropical diseases (NTDs). NTD programmes, limited to high prevalence areas, have focused on mass drug administration (MDA). WASH interventions are perceived as complex, expensive and infrastructure-based activities that require long-term investment. MDA schemes have offered immediate and measurable results. MDAs often benefits from drug donations of transnational pharmaceutical companies. But MDA alone is not a sustainable solution to eliminate NTDs.
- (b) There is need to shift from vertical MDA projects to holistic horizontal programmes that effectively integrate WASH activities. This allows a comprehensive approach for the sustained prevention and control of NTDs. In regions where trachoma is prevalent, face-washing of children with clean water can be decisive in reducing the population of disease-transmitting flies. The provision of safe water and proper sanitation facilities can break the cycle of soil-transmitted helminths. WASH interventions are crucial to achieve the planned elimination of schistosomiasis by 2020. These examples are opportunities to scale up and integrate NTD activities in HTWS.
- (c) To develop joint effective integrated WASH/NTD partnerships, WASH teams and partners battling water-related diseases need to exchange disease burden data and characteristics. This includes social vulnerability, and to map prioritized action needs. The teams should exchange information on the impact of past, ongoing and planned actions to reduce these diseases.
- (d) Through programmes such as Community-Led Total Sanitation, valuable lessons have been learnt. These can lead to integrated WASH/NTD programmes. With most short-term drug-based treatment approaches, achieving sustainability is the main challenge. Provision of subsidized latrine hardware alone is not sustainable. Such supply-driven programmes often fail because unwanted latrines go unused.

The working group agreed that water safety planning offers opportunities for collaboration with other health departments, sectors and partners, to reduce the burden of water-related diseases affecting local communities. Promoting safe water and proper sanitation in households and in schools will also improve nutrition, especially among children.

(2) WASH in health care facilities

Health-care facilities (HCFs) require basic water, sanitation, hygiene and adequate environmental conditions to effectively treat and prevent disease. Globally, WHO estimates 15% of patients in low-income countries develop one or more infections during a hospital stay and inadequate WASH is a contributor to the infection rate. Infections account for a third of the 3.6 million neonatal deaths each year and for 15% of maternal deaths. In 2012 poor hygiene caused 50% of registered diarrhoea deaths attributable to poor WASH conditions in Cambodia, the Lao People's Democratic Republic, Mongolia, the Philippines and Viet Nam. The main points are as follows.

- (a) Available data and evidence suggest that many HCFs have inadequate WASH and environmental conditions. There has been no previous review of national and subnational datasets for comparison.
- (b) The 2013 UN-Water GLAAS study shows that national WASH in HCFs policies and plans are weak and no targets have been established to achieve WASH coverage in all HCF settings.
- (c) Integrated health services encompass management and delivery of quality and safe health services. This means people receive a continuum of health promotion, disease prevention, diagnosis, treatment, management, rehabilitation and palliative care, through different levels and sites of care within the health system. Care should be provided according to people's needs throughout the life-course. Access to safe water and improved sanitation in HCFs promotes community action to combat water-related diseases, as does hand-washing with soap.

The working group agreed to collect data on the status of WASH in HCF, describe monitoring initiatives, identify gaps in the evidence base, and review the status of national WASH in HCF policies and plans. Survey-based HCF assessments and an online questionnaire, developed in line with *WHO Guidelines for Essential Environmental Health in Health Care* (WHO, 2008), will be sent for completion to all HCFs. Selected settings will be visited and health staff interviewed to confirm findings. WSP principles applied to community HCFs could help diminish maternal and neonatal deaths by improving WASH services. The provision of WASH services in HCFs is a pre-condition for integrated health services and for achieving universal health coverage.

Group 4: Training and Capacity building for WSP

The experience of the many WSP training sessions conducted nationally and regionally confirms the sector-wide approach is effective, but there is scope for improvement. The main points are as follows:

- (1) Since July 2012, over 165 WSP training sessions were undertaken benefitting more than 2000 national professionals. The number of experts now trained to become WSP trainers is estimated to be 175. Countries should compile a complete list of WSP trainers and a WSP training schedule, ideally available online.
- (2) Exchanges on urban and rural WSP knowledge and experiences, through WSP study tours, has been positive. A regular exchange, as trainers or assessors of WSP, between countries and regions would be beneficial, especially for work in rural areas. Participants pointed out that WSP training for rural settings is more challenging. It includes community knowledge, a need to adapt to local

ways of learning and language barriers. This also offers opportunities for strong community engagement and for development of WSP knowledge by school children. The WSP Asia Pacific Network should undertake an intercountry review to assess rural WSP awareness and training materials. Training materials could be made available online and regularly updated.

- (3) Knowledge on development and implementation of WSP-related policy needs improvement. A training option to broaden knowledge on drinking-water surveillance was recommended.
- (4) There is need to develop the curriculum of a WSP master training. Beyond WSP operational, management and administration aspects, the training would include WSP auditing and assessment methodology, policy dialogue management facilitation skills. There is need to institutionalize an official framework to certify WSP trainers and WSP auditors. Certification of WSP trainers will ensure training quality; improve the institutional and individual capacity; improve job opportunities and recognition of WSP training institutions.
- (5) Online WSP training options made available in different languages could be developed to support face-to-face training. Online training could focus on specific verification/control measures, specialist, operator and refresher training.
- (6) First experiences in integrating WSP as part of university curricula water supply teaching subjects, are highly appreciated and should be enhanced. Also, development of short-term WSP courses, including distance learning courses tapping international academic institutions such as the Water Institute. Suitable universities or institutes could be good candidates for development as national/regional WSP training centres.

The WSP Partnership should support the development and implementation of a WSP Master Training Course, a biregional drinking water surveillance workshop and a workshop on WSP policy development, and facilitate integrating WSP as part of in university curricula.

3. CLOSING

In the closing address, the WHO Regional Director for the Western Pacific, Dr Shin Young-soo, congratulated the participants for their hard work. By the end of this Partnership in 2016, he hopes to see many more millions of people enjoying access to safe water as a basic human right. He said that policy dialogue has come a long way, with many countries now having policies in place that make the implementation of water safety plans mandatory for all water suppliers. He encouraged the national programme managers to ensure that the positive impact of the WSP programme also contributes to the improvement of community health in a sustained manner. “Achieving sustainability must remain at the heart of our efforts over the next two years” he said. The closing remarks are attached as Annex 5.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The main multiplier effects obtained by the Phase 3 countries of the WSP Partnership are:

- the Water Safety Investment Plan (WSIP) developed by Viet Nam, which can be integrated into WSP manuals in future.
- Cambodia's inputs on the need to broaden our understanding on the way performance monitoring of drinking water quality is carried out.

- Mongolia's experience in looking at WSP as an adaptation tool to reduce adverse health impact from climate change.
- Bhutan's experience developing a user friendly computer-based tool to collect data on the performance of rural WSP.

WHO colleagues signalled positive results from fund mobilization to facilitate infrastructure improvements in Bhutan and The Lao People's Democratic Republic. Further, initial elements and pilots were presented referring to key issues such as drinking water quality surveillance and safe sanitation plans. Finally, guidance was provided on how to integrate equity into WSP processes.

Specific programme challenges include the need for consultation on the development of water policy, the need to integrate equity and to consider the diverse needs of drinking water users. Opportunities for collaboration with other health departments, sectors and partners should be sought out to reduce the burden of water-related diseases, including NTDs, which affect local communities, and to improve WASH services in HCFs. Finally, development of a WSP Master Training Course, a biregional drinking water surveillance workshop a workshop on WSP policy development and integration of WSP as part of university curricula are all recommended. An assessment of progress to achieve targets was completed. Priority actions to improve WSP Partnership performance were discussed and agreed upon. Participants proposed several approaches and actions, including exit strategies for sustaining WSP implementation beyond 2016. This includes synergy with other initiatives on climate change, sanitation safety plans, WHO/UNICEF JMP for Water Supply and Sanitation and GLAAS.

4.2 Recommendations

The main recommendation is to implement the agreed key priority actions for 2014–2016.

4.2.1 Priority actions for 2014–2016

(1) Programme management:

- implement the remaining 131 WSP (61 urban and 70 rural);
- ensure another 13.6 million people have access to safe water;
- at least two national and one regional WST training centres established and functioning;
- update all national DWQS;
- establish WSP as compulsory for drinking water suppliers;
- a functioning institutional framework in the Lao People's Democratic Republic, the Philippines and Viet Nam to monitor and accredit WSP;
- equity considered as a key element of WSP in all countries;
- create a tool to conduct a WSP impact assessment;
- establish a water quality monitoring system;
- set the establishment of WSP as a key tool to reach the SDG 2030 targets;
- conduct an external evaluation of the WSP Partnership;
- ensure a timely match between funds allocation and funds implementation.

(2) Policy dialogue - reinforce an enabling WSP policy environment:

- improve capacity for WSP policy development and implementation through specific training;
- facilitate the establishment of national institutional frameworks to coordinate WSP implementation with roadmaps to ensure access to safe water up to 2030;
- further anchor WSP in the legal framework integrating equity issues;

- (d) require WSP to become compulsory;
- (e) strengthen development and implementation of mechanisms to enforce regulation of WSP.

(3) Capacity-building – improve national WSP skills development:

- (a) sustain national WSP training capacity by strengthening centres of excellence, and by training a pool of regional WSP experts also to serve as WSP auditors;
- (b) organize WSP Master Trainers trainings for the nine countries in 2015;
- (c) organize a biregional workshop on water quality surveillance in early 2015;
- (d) assess the impact of WSP;
- (e) prioritize training on linking WSP with HWTS and with the safe reuse of wastewater for agriculture and aquaculture within a framework of integrated water resources management;
- (f) review and develop improved national WSP training resources with focus on specific settings and specific groups: knowledge and skills development in HCFs, schools and homes, with community participation;
- (g) develop interactive WSP training resources and upload cases of established WSP on the website of the AP WSP Network;
- (h) explore options for online WSP training videos on specific verification/control measures;
- (i) develop WSP curriculum to be included in academic teaching and review and assess criteria used by national systems to certify water engineers;

(4) Partnerships for sustainability –collaborate with other health departments to improve community health:

- (a) collaborate to reduce the burden of water-related diseases (dengue, schistosomiasis, trachoma, soil-transmitted helminths, yaws and lymphatic filariasis) affecting local communities by implementing WSP;
- (b) contribute to reducing maternal and neonatal deaths by improving HCF WASH services;
- (c) cooperate in improving nutrition in schools and households, as part of health promotion;
- (d) encourage country budget allocation and mobilize additional funds to ensure the sustainability of national WSP programmes;
- (e) liaise with partners to sustain results and prepare for attaining the 2030 SDG targets; and
- (f) develop efficient communication materials to showcase WSP achievements and potential.

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REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

MIDTERM REVIEW MEETING OF PHASE 3
OF THE WATER SAFETY PLAN PROGRAMME
(2012-2016)

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Opening Address

by

Dr Shin Young-soo, WHO Regional Director

Western Pacific Region

at the

Midterm Review Meeting of Phase 3 of the Water Safety Plan Programme

Manila, Philippines, 24–15 June 2014

(to be delivered by Dr Li Ailan on behalf of the Regional Director)

[VIP NAMES WILL BE PROVIDED HERE]

REPRESENTATIVES, DISTINGUISHED DELEGATES,

LADIES AND GENTLEMEN,

It is my pleasure to welcome all of you in the WHO Regional Office for the Western Pacific, especially those who have come from abroad to participate in this important meeting.

I wish to specially greet the Representative from Department of Foreign Affairs and Trade, Australia, our partner in implementing the Water Quality Partnership, now in its third phase.

I also welcome our guests from the WHO Regional Office for South-East Asia and WHO headquarters, with whom we have shared this partnership since its launching in 2007, and representatives from the Asian Development Bank and the International Water Association.

We know that water and sanitation are human rights that play a vital role in attaining the highest standard of health for all. Indeed, health, water, sanitation and hygiene are intrinsically related. They must be recognized as both preconditions for and outcomes of sustainable and effective Universal Health Coverage.

We recognize that the provision of water and sanitation services must be done in the context of sustainable, integrated water resource management. Water safety plans—the most effective means of maintaining a safe supply of drinking water to the public—offer precisely this, and at low cost with great returns for human health.

We still have too many millions of people with no access to improved sources of drinking water, and even more that lack basic sanitation. The health impact is staggering. The most recent data indicates that in 2012, 502 000 diarrhoea deaths were estimated to be caused by inadequate drinking water and 297 000 deaths by inadequate sanitation.

Despite being easily preventable, diarrhoea remains a leading cause of childhood mortality: in 2012, 5.5% of deaths in children under 5 years old were estimated to be caused by the lack of access to adequate WASH services. As a consequence, stunting can have a lasting impact on health and well-being throughout life. Pneumonia, the leading childhood killer globally, can be reduced by better hygiene practices. The impact of the lack of WASH extends far beyond child mortality.

WASH-related infections—such as soil-transmitted helminths, lymphatic filariasis, schistosomiasis and trachoma—can lead to chronic disease and disability. We know about the links with malaria, dengue and other vector-borne diseases that thrive in settings without WASH services.

A recent WHO review of data from 40 developing countries found that only 46% of health-care facilities have access to water services. This statistic is frightening.

Indeed, limited water supply not only reduces the likelihood of health-care facilities remaining hygienic, the lack of clean cups and drinking water in health-care facilities can also reduce individuals' ability to safely take medicines. Without hand-washing facilities, there cannot be effective infection control. Maternal and newborn health depends on hygiene, first. We need to act.

I am very satisfied that this is exactly what our national partners for water quality are doing, in the field and based on clearly stated country needs.

I understand that the main target of Phase 3, which is to provide safer water to 20 million people in Asia, has already been achieved, two years in advance.

We also have important results in terms of policies and institutional frameworks established to facilitate the implementation of water safety plans, in the nine participating countries of the Western Pacific Region. Also, a significant number of professionals have now learnt how to provide safer water, thanks to our partnership. My sincere congratulations to all, for these successes!

The challenge is now to maintain the improved water supply systems functioning in a durable manner. To that end, I would like to recommend that we organize an external assessment of our partnership programme, to test its sustainability as soon as possible.

The multidisciplinary nature of the national partners implementing this programme is deeply appreciated. It shows how working in silos cannot and does not work.

For diseases associated with poor water and sanitation, a health agency such as WHO can issue international guidelines for water quality and provide numerous practical instruments for improving water and sanitation services.

But the health sector cannot implement these tools and instruments on its own. We depend on you, our partners. And I thank you all!

I wish you a very fruitful meeting!

**WORLD HEALTH
ORGANIZATION**



**ORGANISATION MONDIALE
DE LA SANTE**

**REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL**

**MIDTERM REVIEW MEETING OF PHASE 3
OF THE WATER SAFETY PLAN PROGRAMME
(2012-2016)**

**WPR/DHP/ENH(01)/2014/1
5 June 2014**

**Manila, Philippines
24–26 June 2014**

ENGLISH ONLY

PROVISIONAL AGENDA

1. Opening
2. Presentation of objectives and agenda
3. Progress made since July 2012 with respect to indicators and targets
4. Multiplier effects of the WHO/AusAID Partnership on water safety plan mainstreaming
5. Sustaining water safety plan implementation in time
6. Main challenges and priority actions for 2014–2016
7. Summary and concluding remarks



REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

MIDTERM REVIEW MEETING OF PHASE 3
OF THE WATER SAFETY PLAN PROGRAMME
(2012-2016)

WPR/DHP/ENH(01)/2014/1a
18 June 2014

Manila, Philippines
24–26 June 2014

ENGLISH ONLY

PROGRAMME OF ACTIVITIES

Tuesday, 24 June 2014

<u>Time</u>	<u>Activities</u>	<u>Responsible person</u>
08:30-09:00	Registration	
09:00-09:30	Welcome remarks	Dr Nasir Hassan , Team Leader, Environmental Health, WHO Regional Office for the Western Pacific
	(1) Opening address	Dr Li Ailan , Director, Division of Health Security & Emergencies, WHO Regional Office for the Western Pacific
	(Self-introduction of participants, nomination of Chair and Vice-Chair of the meeting and appointment of Rapporteur)	
09:30-10:00	Group photo and mobility break	
10:00-10:30	(2) Presentation of objectives and agenda	Mr Alexander von Hildebrand , Technical Officer, Environmental Health, Regional Office for the Western Pacific
10:30-12:00	(3) Progress made since July 2012 with respect to the indicators and targets	
	3.1 Progress and challenges in phase 2 countries	
	Lao People's Democratic Republic (20 min.)	Mr Noupheuak Virabouth , Deputy Director General, Department of Housing and Urban Planning, Ministry of Public Works and Transport, Lao People's Democratic Republic/ Mr Soulivanh Souksavath , Technical Officer, Environmental Health, WHO Office in the Lao People's Democratic Republic

<u>Time</u>	<u>Activities</u>	<u>Responsible person</u>
	(3) Progress made since July 2012 with respect to the indicators and targets (cont.)	
	Philippines (20 min.)	Mr Joselito Riego de Dios , Chief Health Programme Officer, Environmental and Occupational Health Office, National Centre for Disease Prevention and Control, Department of Health, Philippines/ Mr Bonifacio Magtibay , Technical Officer, Environmental and Occupational Health, WHO Office in the Philippines
	Viet Nam (20 min.)	Mr Nguyen Huy Nga , Director General, Vietnam Health Environment Management Agency, Viet Nam/ Mr Ton Tuan Nghia , Technical Officer, Environmental Health, WHO Office in Viet Nam
	Open forum (30 min.)	
12:00-13:00	Lunch break	
13:00-14:30	3.2 Progress and challenges in new phase 3 countries	
	Cambodia (20 min.)	Mr Nuon Pichnimith , Deputy Director Department of Rural Water Supply, Ministry of Rural Development, Cambodia/ Ms Sophary Phan , Technical Officer, Environmental Health, WHO Office in Cambodia
	Mongolia (20 min.)	Dr Urantsetseg Shagdar , Officer-in-Charge, Policy Implementation and Coordination for Environmental Health, Ministry of Health, Mongolia/ Dr Delgermaa Vanya , Technical Officer, Environmental Health, WHO Office in Mongolia
	Pacific Islands (20 min.)	Dr Rokho Kim , Environmental Specialist, WHO Office in the South Pacific
	Open Forum (30 min.)	

<u>Time</u>	<u>Activities</u>	<u>Responsible person</u>
14:30-16:00	3.3 Progress and challenges on water safety plans	
	WHO Regional Office for the Western Pacific (20 min.)	Mr Alexander von Hildebrand
	WHO Regional Office for South-East Asia (20 min.)	Mrs Payden , Regional Adviser, Water, Sanitation and Health, WHO Regional Office for South-East Asia/ Dr David Sutherland , Technical Officer, Water, Sanitation and Health, WHO Regional Office for South-East Asia
	WHO headquarters (20 min.)	Ms Angella Rinehold , WHO Temporary Adviser
	Open Forum (30 min.)	
16:00-16:30	<i>Mobility break</i>	
16:30-18:20	(4) Multiplier effects of the WHO/AusAID Partnership on water safety plan mainstreaming	
	4.1 Investment planning tool in Viet Nam (20 min.)	Mr Ton Tuan Nghia
	4.2 Microbial contamination in rural drinking water in Cambodia (20 min.)	Mr Andrew Shantz, WHO Consultant
	4.3 Integrated water safety plan approach to address climate change related water scarcity, water quality and low access to safe drinking water in Dornogobi province Mongolia (20 min.)	Dr Delgermaa Vanya
	4.4 OPEC Funding for International Development support to water safety plans in Bhutan and the Lao People's Democratic Republic (20 min.)	Ms Angella Rinehold
	Open forum (30 min.)	
18:20-18:40	Wrap up of the day	
18:40	Dinner reception	

Wednesday, 25 June 2014

Time	Activities	Responsible person
09:00-10:20	(4) Multiplier effects of the WHO/AusAID Partnership on water safety plan mainstreaming (continued)	
	4.5 Rural water safety plan in Bhutan (20 min.)	Mr Karma , Executive Engineer, Ministry of Health, Bhutan
	4.6 Master training and certification (20 min.)	Dr David Sutherland
	4.7 Planning for safe sanitation (20 min.)	Dr Darryl Jackson , WHO Temporary Adviser
	4.8 Update on the Asia Pacific Water Safety Plan Network (20 min.)	Ms Rose Lang , Advisor, International Water Association
10:20-10:50	<i>Mobility break</i>	
10:50-12:20	4.9 Assessing water safety plans (20 min.)	Mr Asoka Jayaratne , WHO Temporary Adviser
	4.10 Water quality surveillance (20 min.)	Dr David Sutherland
	4.11 WHO/UNICEF Joint Monitoring Programme, UN-Water Global Analysis and Assessment of Sanitation and Drinking-water and Sustainable Development Goal 2030 (20 min.)	Mr Bruce Gordon , Coordinator, Water, Sanitation, Hygiene and Health, Department of Public Health and Environment, WHO headquarters
	Open forum (30 min.)	
12:20-13:20	<i>Lunch break</i>	
13:20-15:50	(5) Sustaining water safety plan implementation in time	
	5.1 Future development of Australian support for water, sanitation and hygiene (20 min.)	Ms Gerardine Daniels , Senior Policy Adviser, Department of Foreign Affairs and Trade, Australia
	5.2 Securing safe water and sanitation in Brunei Darussalam (20 min.)	Ms Lim sui Kau Alice , Acting Director, Department of Water Services, Ministry of Development, Brunei Darussalam
	5.3 Auditing water safety plans (20 min.)	Ms Asoka Jayaratne
	5.4 Implementing WASH in Malaysia (20 min.)	Mr Engku Azman Tuan Mat , Senior Deputy Director, Engineering Services Division, Ministry of Health, Malaysia

Time	Activities	Responsible person
	5.5 Securing safe water in Singapore (20 min.)	Mr Phen Wei Chue , Chemist PUB Singapore
	5.6 Delivering safe drinking water and sanitation in the Republic of Korea (20 min.)	Dr Hyen-mi Chung , Director, Water Supply and Sewerage Research Division, National Institute of Environmental Research, Ministry of Environment, Republic of Korea
	5.7 Water safety plans impact assessment (20 min.)	Dr David Sutherland
	Open forum (30 min.)	
15:50-16:20	<i>Mobility break</i>	
16:20-16:45	Guidance for group work preparation on Day 3	
16:45	Wrap up of the day	

Thursday, 26 June 2014

Time	Activities	Responsible person
	(6) Main challenges and priority actions for 2014-2016	
08:30-10:00	Working groups	
10:00-10:30	<i>Mobility break</i>	
10:30-11:30	Group presentations	
11:30-12:00	Open forum and conclusions	
	(7) Summary on the way forward and concluding remarks	

CLOSING REMARKS AT THE MIDTERM REVIEW MEETING
OF PHASE 3 OF THE WATER SAFETY PROGRAMME (2012-2016)

24-26 JUNE 2014, MANILA, PHILIPPINES

COLLEAGUES, LADIES AND GENTLEMEN,

I am pleased to make a few closing remarks on behalf of the WHO Regional Director for the Western Pacific Dr Shin Young-soo. He could not be here due to a previous commitment, but sends his warmest regards.

I have been following the progress of this programme with keen interest and would like to express my satisfaction with its success in facilitating the implementation of water safety plans that have helped bring access to safe water to almost 35 million people in our Region. And prospects are good that by the end of Phase 3 of the programme, we shall see many millions more enjoy this basic human right. Indeed, four of the nine participating countries now have policies in place that make the implementation of water safety plans mandatory for all water suppliers.

At this midterm review you have all presented your achievements, discussed how to overcome challenges, confirmed action plans for the next two years and addressed budget issues. Important decisions were made on how to improve skills development; strengthen policy dialogue; integrate equity dimensions; and ensure that the impact of the programme continues to contribute to community health coverage in a sustained manner.

Allow me to say a few words about sustainability. I understand sustainability has been central to your discussions: sustainability of skills and experience through strengthened training and support for water safety

plan programmes; sustainability of operations through policy directives, effective and regular assessments, audits, and supportive oversight; and sustainability of funding through outreach and engagement with committed additional partners. Sustainability must remain at the heart of our efforts over the next two years.

With the Millennium Development Goals drawing to a close, we must redouble our efforts to tackle unfinished business. We must ensure that all people, especially the most vulnerable, can access clean water. And we must end open defecation and ensure that all have access to basic sanitation.

We must be mindful of the desire of all people to improve their health and living situations. This is reflected in the emerging political dialogue linked to the post-2015 development agenda. It is also reflected in the UN-Water proposal on targets and indicators for a possible Sustainable Development Goal on water.

Calls for accelerated action towards "safely-managed water services" as a higher-level service is underpinned by associated health benefits confirmed by WHO's latest evidence on burden of disease and effectiveness of water and sanitation interventions.

At this important meeting, we have seen the active participation of representatives and WHO colleagues from 12 Member States in the Western Pacific Region as well as colleagues from the WHO South-East Asia Region and our headquarters in Geneva.

I greatly appreciate the participation of our main partner, the Australian Government Department of Foreign Affairs and Trade and representatives from the Asian Development Bank. I would also like to

acknowledge the important participation of four motivated international Water Safety Plan expert consultants.

I thank you all for having taken time from your busy schedules to contribute to our joint effort to bring better health to all people in the Asia Pacific region.



World Health
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Western Pacific Region

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