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The 4th Cambodian Water Conference & Exhibition

Proceeding of The 4th Cambodian Water Conference & Exhibition (November 29-30, 2022) Phnom Penh Cambodia

Organized By Cambodian Water Supply Association (CWA) and Ministry of Industry, Science, Technology, and Innovation (MISTI)

In Collaboration with:



4th Conference and Exhibition Proceedings

Acknowledgment

On behalf of the CWA Board and CWA, I am pleased to offer readers the proceedings of the 4th Cambodian Water Conference and Exhibition, held on November 29-30, 2022 gathered more than 600 representatives from government institutions/ministries, British Embassy, national and international partners, private sector, Private Water Operators (PWO), academic researchers, university students and consultants to share experiences, lessons learned, challenges as well as plans, priorities, newly developed technologies to promote and accelerate water supply service delivery for the country. The proceedings report captured key discussions during the 2-day event and are now disseminated to all stakeholders and the general public for the continued efforts in accelerating the country's water supply service access in Cambodia.

The 4th Cambodian Water Conference and Exhibition were held under the theme "Valuing water, don't wait for the last drop, let's secure our water future!" and focused very strongly on how to apply lessons learned in the country and overseas, past progress and efforts, newly developed technologies to exponentially expand good quality water supply service to the general population in the whole Cambodia. We all recognized that without accelerating our efforts, investing more resources, and adapting new approaches and newly developed technologies, reaching our intended CSDG targets for universal water supply service access by 2030 will be problematic.

The success of this 4th Cambodian Water Conference and Exhibition was a joint effort of all stakeholders: MISTI, MRD, development partners, AWA, NGOs, CSOs, our private company partners in the water supply sector, academia, CWA, and last but not least the participation of CWA members who had come from all locations around the country. I hope we all enjoyed and appreciated this recent gathering and learned from one another to further succeed in our path to reach CSDG in water supply service delivery and will continue to stay in the network for such sharing of common goals in the future.

I would like to take this opportunity to thank you all for your support and trust in CWA for this event organization and looking forward to your continued close cooperation and support in the future. CWA is strongly committed to adapting its strategies, and approaches and focuses on delivering better results in water supply service delivery and its members around the country. Nonetheless, we do need your further advice, support, and partnership to be able to do so. Thank you.

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Leng Kheav, CWA Board Chair

Summary Report Abstract

The 2-day 4th Cambodian Water Conference and Exhibition, November 29-30, 2022 gathered more than 600 representatives from government's institutions/ministries, British Embassy, national and international partners, private sector, Private Water Operators (PWO), academic researchers, university' students and consultants to share experiences, lessons learned, challenges as well as plans, priorities, new and appropriate technologies to promote and accelerate water supply service access for the country. Intended programs went as scheduled while thematic agenda was in-depth discussed.

Methodology of the 4th Cambodian Water Conference & Exhibition was both collaborative and participatory, and designed to encourage optimum interaction and discussion among the participants in order to receive quality inputs for concrete priority plans aiming to achieve the ambitious CSDG targets by 2030. It was organized into three main sessions: (1) the opening session, technical sessions which include presentations, intervention speeches, parallel/group thematic sessions and panel discussions, and the closing session. Apart from this, the event also organized parallel exhibitions of water-related services and productions by different service providers over the two-day event, so that water supply service providers have an opportunity to interact with the target audience and participants to learn and acquire knowledge on new technologies in the piped water supply business.

All stakeholders at the event agreed that if CSDG targets on water supply needs to be met by 2030, strategies, procedures, mechanisms and working modes had to be changed and improved. Improvements will have to be in terms of human resources, financial resources, systems and environment enabling all stakeholders to work together in terms of information exchange/access, service provision, supplies etc. Policy, strategies and regulatory instruments need to be developed, reviewed and adopted. Concrete recommendations of the 4th Cambodian Water Conference and Exhibition include:

- 1. Policy, strategy and planning
 - Information with regard to water supply and management law should be shared at the sub-national level, especially with service providers
 - Strengthening and improving implementation of policy and regulatory frameworks through harmonized actions of relevant stakeholders
- 2. Institutional arrangements and capacity and sector leadership
 - Strengthening capacity development to PWOs on financial management, marketing and operation and maintenance systems
 - Strengthening the capacity of local authorities and districts to lead water supply services
- 3. Coordination and integration
 - Promoting multiple-stakeholder collaboration, collective action/impact e.g. through the PPP model

- 4. Financing
 - Finalizing and implementing water development fund and sector financing
 - Increasing budget allocation and mobilizing resources from government and nongovernment actors for water supply services
 - Improving effectiveness and efficiency of investment
- 5. Service delivery and behavior change
 - Strengthening awareness raising and education on behavior change and benefit of water services
 - Promoting and scaling up the innovative, appropriative and adorable technologies and models
 - Strengthening and improving supporting mechanisms to support and enable marginalized people to access water supply services
 - Aggregation and context-specific based solution models (ie. Bulk water sale service where water sources and PWO's production capacity are an issue, and context-specific based solution models for complementarity between piped and bottled water in challenging situations/areas-areas where pipe connection is problematic or too costly)
- 6. Monitoring, research, and learning
 - Promoting more research, learning, documentation and publication to inform planning, decision-making and generation innovations
 - Improving opening and harmonized data management information systems
- 7. Accountability and regulation
 - Promoting and strengthening accountability feedback mechanisms (service providers. and service users)
 - Enabling opportunities and spaces that encourage and empower marginalized people to be part of planning and decision-making processes
- 8. Gender and social inclusion and active and empowered people and communities
 - Supporting mechanism to ensure underserved groups access to water supply service (i.e., Pro-poor support)
- 9. Climate-resilient, environment and water resources
 - Promoting and strengthening implement the guideline on Drought and Flood Resilient Measurement for Water Supply
 - Building capacity to communities, local authorities and water operators to adopt and resilient the climate change
 - Promoting and investing more on information management, research, learning and documentation to promote climate-resilient innovating models/technologies

In his closing speech, H.E. Tan Sokchea, Director General of the General Department of Portable Water, MISTI also made some specific suggestions to concerned stakeholders as follows:

- The organizing committee to report results of this event for concrete actions;
- Banks and MFIs to soften loan conditions, enabling more finance to flow into the sector;
- DPs and support agencies can report and ask for coordination and guidance from MISTI, so that their implementation activities could be harmonized and expedited;
- All PWOs provide feedback and suggestions with evidence. e.g. with regard to why taxing business of water supply since it's public service, but as well work closely to understand issues of taxation;
- PWOs need to adhere to conditions set in the given license (until now 352 licensed 320 operational in about 8,000 villages. If, for instance, PWOs expand according to plan/license, water service coverage would have reached more villages. Lack of funding has always been the reason, but PWOs need also to find money;
- All stakeholders/participants to use local products. If so, ownership and independence will be coming along and promoting local companies and experts.

He also stressed that if adopted, the law on water supply will be the first sector's law. MISTI has already started dissemination, so that concerned stakeholders could understand their rights and obligations. Once the law is in effect, PWOs have to report details about their operations. If wrongly reports, they will be fined. Individual and legal entities will be strictly managed under the law. PWOs need to improve the accounting system. Data is important for both, the ministry and PWOs. He also encouraged MRD and MISTI to work on overlapping service areas for better integration and harmonization of the water supply sector.

Finally, he thanked all participants, stakeholders, partners, and the organizing committee for the success of this 4th Cambodian Water Conference and Exhibition.

1 Introduction

With close collaboration with the Ministry of Industry, Science, Technology & Innovation (MISTI), CWA¹ has been organizing bi-annual Cambodian Water Supply Conference and Exhibition to offer key sector stakeholders to discuss experiences, lessons learned, challenges as well as plans, priorities, new and appropriate technologies to promote and accelerate water supply service access for the country. The previous three Cambodian Water Supply Conferences and Exhibitions were organized in 2015, 2017, and 2019. Due to the COVID-19 outbreak, the event had been cancelled during 2020-2021. In 2022 thanks to the COVID-19 Pandemic situation improvement/ease, CWA with full support from MISTI again invited representatives from relevant governmental agencies, development partners, non-governmental organizations (NGOs), researchers, and academic students, water operators (public and private), suppliers, financial institutions (bank and MFIs), and for the 4th Cambodian Water Conference and Exhibition to share their knowledge, information and innovation to improve the water supply sector in Cambodia.

This 4th Cambodian Water Conference and Exhibition were held under the theme "Valuing water, don't wait for the last drop, let's secure our water future!" at Tonle Bassac II Restaurant on November 29th-30th, 2022.

2. Objectives of the 4th Conference and Exhibition

Primary objective of the 4th Cambodian Water Conference and Exhibition is always to share experiences, lessons learned, and challenges as well as discuss plans, priorities, new and appropriate technologies to promote and accelerate water supply service access for the country. As for this event and since it is now just eight years away from CSDG's targets, this year's conference and exhibition concentrated very much on accelerated efforts of all stakeholders to reach our intended CSDG's targets "meeting universal access to water supply by 2030". It, therefore, discussed thoroughly on:

- How to accelerate collaborative efforts from all the stakeholders to meet universal access to water supply by 2030 in Cambodia?
- How to build resilience in a changing climate and respond to emerging climate risks in the water sector
- Enabling the environment for the bulk water supply business model to operate in order to solve the increasing issue of sustainable water sources for piped water infrastructure in Cambodia?
- Innovative solutions to Cambodia's key water challenges
 - Water scarcity and
 - Water quality,
 - wastewater treatment, and
 - Water recycling
- Engaging with customers to promote consumption, and connections, and to improve customer service

¹ Cambodian Water Supply Association (CWA) is a local professional association that has expertise in water service supply both in urban and rural areas of Cambodia. By September 2022, CWA has had 317 members of whom 284 are licensed private water operators, operating in 23 provinces.

- Advancements in new technologies and innovations to improve operations
- Alternative financing solutions for the Cambodian water sector

Apart from the above discussions, the event also organized parallel exhibitions of waterrelated services and productions by different service providers over the two-day event, so that water supply service providers have an opportunity to interact with target audience and participants to learn and acquire knowledge on new technologies in the piped water supply business.

3. Methodology of the 4th Conference and Exhibition

Key methodology of the 4th Cambodian Water Conference and Exhibition was both collaborative and participatory, and designed to encourage optimum interaction and discussion among the participants in order to receive quality inputs for concrete priority plans aiming to achieve the ambitious CSDG targets by 2030. In doing so, CWA, being the lead for this event organization, had worked with all concerned partners, particularly MISTI, to gather inputs in terms of themes, content and timeframe of the event. The key methodology features were as follows:

3.1 Organizing/Event Preparation Committee.

CWA reached out to all concerned stakeholders and partners about six months in advance while drafting the concept note and full program of this 4th Cambodian Water Conference and Exhibition. CWA had considered all partners and stakeholders for this event as part of the organizing committee and incorporated all their inputs in terms of themes, content, timeframe, and most importantly their support for both in terms of finance, in-kind and technical support.

3.2 Participants

In total, there were 615 participants at the event, 375 (111 women) on Day 1 and 240 (64women) on Day 2. Out of 615, 159 PWOs participated on Day 1 and 129 participated on Day 2. Other participants include representatives of:

- Ministry of Industry, Science, Technology & Innovation (MISTI)
- Ministry of Rural Development (MRD)
- Ministry of Information
- British Embassy
- World Bank
- CAP RED
- WaterAid Cambodia and WaterAid Australia
- Australian Water Association (AWA)
- Water.Org
- KOWBA
- East Meets West (EMW)
- JICA
- CSW
- AWP

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- RSK Centre for Sustainability Excellence
- ISEA
- Banks and MFIs
- Institute of Technology Cambodia (ITC), and
- 25 different Water Suppliers' Companies

3.3 Presentation and Discussion Themes

The 4th Cambodian Water Conference and Exhibition provided an opportunity to all stakeholders and partners to share their achievements and plans as well as challenges and opportunities, technologies and products through presentations and issue papers. Furthermore, the event was designed and organized for in-depth discussions on thematic topics through plenary discussions and parallel sessions (all thematic discussions are detailed in the following section.

3.4 Plenaries, Parallel Sessions/Groups and Discussions (Q&A)

The 4th Cambodian Water Conference and Exhibition were divided into three main sessions: (1) the opening session, (2) technical sessions which include presentations, intervention speeches, parallel/group thematic sessions and panel discussions, and (3) the closing session. Below are the summaries and highlights of all speeches, presentations, intervention remarks, parallel sessions, panel discussions and Q&A importance. Full speeches, presentations and other materials are provided in Section 4 of this proceedings.

DAY 1 : November 29th, 2022

For the opening session, Mr. Leng Kheav, Board Chairman of CWA, welcomed presiding, guests, guests of honor, and all participants by highlighting the importance of this 4th Cambodian Water Conference and Exhibition with the theme "Valuing water, don't wait for the last drop, let's secure our water future!". He also emphasized that this event could be organized because of the close cooperation of MISTI and CWA with support from all sector partners.

He expressed thanks to MISTI for the MOU and the long-term relationship between General Department of Portable Water, MISTI and CWA, and highlighted the achievements of 3rd term CWA board in terms of MOU signings with MISTI for another five years from November 2022, with AWA for two years, with KOWBA, with SME Bank, and with Plastic Product Company.

He re-emphasized that this event's objective was to update achievements and challenges and encouraged all participants to discuss the sector's present challenges and exchange ideas, knowledge, new technologies and products. Finally, he thanked MISTI, MRD and all partners for their support for this event organization and sharing their knowledge, skills, experience and new technologies at this 4th Cambodian Water Conference and Exhibition.



Figure #1 Mr. Leng Kheav Board Chairman of CWA, welcomed presiding guests and participants

In his opening remarks, Dr. David Ray, Facility Program Director of Cambodia Australia Partnership for Resilient Economic Development Program (CAP RED) welcomed all sector's participants with encouragement for all to share experiences, discuss challenges and opportunities, showcase new technology and innovation, and to expand professional networks. He also informed the event about CAP RED total DFAT funding of 87 million and its components in which policy and investment support for the development of piped water supply to support achievement of SDG6 are key. He also explained about CAP RED approach and its flexibility during its implementation, and commitment to strategically boost technical improvements of the sector through adoption of better suited technology and improved business practices.



Figure #2 Dr. David Ray Facility Program Director of CAP RED provided welcome's remarks

Mr. Phon Sokun, Owner of Tbeng Khpos PWO shared his storyand experience of his water business at the opening session. He explained how typical PWO had started this business from selling raw water before transforming to PWO selling treated water. It has only been possible with support from local government (commune chief), CWA, development partners (DP), NGOs, in his case DFAT 3i, AWA, Stone Family Foundation, GRET, EMW, WaterAid, HALO Trust etc., and not least the provincial department and ministry of industry, science, technology & innovation (PDISTI and MISTI).

He as well shared his experiences in terms of problem solving and awareness raising activities in the communities, through commune and village meetings, school's campaign and water study visits. Finally, he highlighted the importance of water quality testing being

and tool to raise the confidence of users and promote public health for populations in the service areas.

H.E. Sim Sitha, Secretary of State, on behalf of H.E. Kitti Settha Pandita CHAM Prasidh, Senior Minister and Minister of MISTI, welcomed all participants at the 4th Cambodian Water Conference and Exhibition with the theme "Valuing water, don't wait for the last drop, let's secure our water future!" and called for all stakeholder's efforts in the context of climate change to valuing water ensuring future water sustainability. In this respect, he informed the event about MISTI's ongoing efforts to formulate the water supply law and hoped that once it is adopted would solve many of PWO's challenges. He took this opportunity to thank all ministries and stakeholders, DPs, especially JICA for the inputs into the drafted law on "water supply management" which would be, when enacted, for the first time in Cambodia.

He stressed that water is one of four pillars of the 6th mandated RGC's priorities that include people, roads, electricity and water. He also re-emphasized that water supply must be provided in accordance with four principles "quality, safety, sustainability and acceptable price" and to meet the needs of people's daily life, promoting public health and the needs of business and services of all sectors. Water supply development is also key to raise confidence and encouragement of national and international sector investments into Cambodia.

In his opening speech, RGC under the leadership of Samdech Akkak Moha Sena Padei Dekcho HUN SEN, Prime Minister of the Kingdom of Cambodia had supported mottos/slogans, namely "water for all and water supply for multiple purposes". In this regard, he called for all stakeholders at all administrative levels including users to work towards "clean water supply reaches 100% of urban population by 2025 and universal access to clean water supply with equity by 2030".

He also praised the advancement and achievements of Phnom Penh Water Supply Authority for achieving 90% of piped water supply coverage in Phnom Penh and Takmao Town ahead of the timeline. He said this result had encouraged MISTI to scale up more efforts and support from DPs to other locations in the countries. Meanwhile, he acknowledged that there are still many challenges ahead and that the management of water supply businesses had not been able to bring up to MISTI' set standards, especially in terms of water quality testing.

With the present 34% of people's access to piped water supply in the whole country, he called for CWA and PWOs to work together in terms of PWO's capacity building in terms of water quality, filling financial gaps, water source access, bulk water purchase, usage and acquisition of newly developed technologies, etc. He referred CWA and PWOs to work with GD/WAT and ION Exchange companies for different modes of procurement of these new technologies and equipment.

He, being the head of presiding guests, announced the event opening with thanks and four Buddha's wishes to all participants.



Figure #3 H.E. Sim Sitha, Secretary of State, of MISTI, Cutting Ribbon for the Opening

After the opening session, presiding guests and the organizing committee exchanged souvenirs, flowers and toured the exhibition of water supply products and financing/lending institution's displays for newly developed technologies and lending policies and products. The event was also able to produce photos of presiding guests with all participants during these sessions.

The plenaries were reconvened after the first event coffee break and exhibition tour under the facilitation of CWA Executive Director, Mr. Lim Minh. It kicked off with remarks from Ms. Louise Dudley, AWA President followed by four presentations of other key partners.

Ms. Dudley acknowledged speeches of previous speakers, especially the opening speech of MISTI and shared her background and experiences being CEO of the 4th largest water supply utility before becoming the chair of AWA. She went on to explain AWA path to become today's AWA with about 5,000 members to serve about 20 million customers. She encouraged all stakeholders to promote innovations and information sharing being the most critical and necessary elements in their journey.



Figure #4 Ms. Dudley AWA President, acknowledged speeches and encouraged more cooperations

Mr. Kov Phyrum, WB Senior Water Supply and Sanitation Specialist, presented WB project being formulated to accelerate the safely managed water supply in Cambodia. He started by calling on all to adapt their approaches and methodologies if water supply targets to be achieved by 2030, and because the status-quo approach could eventually only make Cambodia reach universal access to safely managed water supply by 2150.

He explained three components of the being-formulated WB project would address: (1) Innovation in Mobilizing Finance; (2) Strengthening Regulatory Framework; and (3) adapting efficient, inclusive and resilient service delivery. He presented data related to challenges of these three areas of the projects and highlighted how important, PWOs could help the country to reach universal access to safely managed water supply targets.

Following Mr. Kov's presentation, **Deputy Director General of MISTI Portable Water General Department, Mr. Kim Thunsamnang** presented MISTI strategies to accelerate CSDG universal access of portable water targets. He started by explaining what universal access to portable water means. He went on to explain the three MISTI' strategies: (1) Service coverage expansion; (2) Water supply connection promotion; and (3) M&E on water supply service delivery and water quality. He emphasized about the needs and actions of RGC in terms of finance to implement each of the strategies as well as efforts to enable business environment such as prolonging service license from 3 years to 20 years etc.

He went on to explain that the water development fund being included in the draft water supply management law would also cover issues related to promote connections for HH-poor 1 and poor 2, and called for all partners to join forces in this effort. Finally, he insisted

that PWOs have to work closely with PDISTI being the delegated entity of MISTI in terms of M&E, especially in terms of water quality testing and service quality for the people.

H.E Srin Poutthy, MRD Advisor and Director of Rural Water Supply Department, MRD, presented MRD's achievements and future plans as part of joint efforts to accelerate universal access to portable water targets. He started by explaining the structure of the department, financial resources from both, RGC and partners including major DPs and NGOs. He highlighted the importance of past collaborations between MRD and partners and achievement's details.

In terms of future plans and priorities, Mr. Srin brought to participant's attention of past and present challenges before emphasizing the importance of continuing to mobilize resources from all sources, partners including NGOs and DPs and further promote collaborations. He also highlighted the needs to gather data relevant to rural water supply and ensure quality of the water.

Dr. Bun Baret from the Institute of Technology of Cambodia (ITC), being the last presenter of the 1st morning plenary session, explained in details on how ITC has transformed and placed priorities on education and research & development (R&D) on water and environmental engineering. He shared information about HR resources and courses that ITC had offered to students and researchers. He went on to explain about the Faculty of Hydrology and Water Resources Engineering (HRE), its majors and curriculums as well as different grades (graduates and post-graduates) being offered by ITC and HRE.

After lunch's break on Day 1, the 4th Cambodian Water Conference and Exhibition reconvened with a panel discussion on possible bulk water supply business model. Five panelists were invited to the discussion facilitated by Mr. Hoeun Ratanak, Investment Manager of CAP RED. The panelists included: (1) Mrs. Preap Botumseila, PWO from Takeo Province; (2) Mr. Ky Veasna, PWO from Kampot Province; (3) Mr. Lim Bunhok, Executive Director of SOMA-KOBELCO; (4) Peang Pharath, CEO of Pharathvattank, PWO; and (5) Mr. Souy Vounny, Director of Department of Portable Water Regulation MISTI.

The panel discussed a core question "what is the enabling environment for the bulk water supply business model to operate in order to solve the increasing issue of sustainable water sources for piped water infrastructure in Cambodia" with some followed up questions in terms of opportunity in introducing this model to accelerate universal access to water supply.

Answers from the panelists were very positive to welcome this bulk water supply business model to solve the problems of lack of water source and limited capacity of treated water production. The panelists went on to bring examples of their operations being put on hold due to using water lakes/ponds that affected by droughts, climate change and other local development works. Some PWOs already bought bulk water supply from other PWO due to bad quality of their water source.

Despite that all PWO welcomed the model, they also expressed their concerns with regard to price/tariff of bulk water sales and payment modes, issues of old pipe system with the

new ones to be installed when bulk water supply is implemented, unavailability of bulk water supply due to high investment costs, the on-going pipe damages by road and other local infrastructure developments, distance of bulk water supply and PWO's retail network, eventual bankruptcy of bulk and retail sale partners etc.

To answer the question of how these concerns could be addressed, **Mr. Souy Vounny**, **Director of Department of Portable Water Regulation s**uggested that MISTI would further develop relevant legal instruments which include law, sub-degree, Prakas etc. and develop scenarios for bulk water supply through close cooperation with DPs as already implemented in Angsnoul, Kampong Speu, Chhum Kiri and Siem Reap. He also called on PWOs to adhere to MISTI's guidance, conditions set forth in the license and other legal instruments.

Following the panel discussion, representatives of different water supply companies presented about their companies and technology products. TEM Company explained about equipment for pipe network, pumps, water meters and solar system using Wi-Fi technology whereas WPC presented equipment and materials for pipe network, connections and leakage solutions and newly developed materials to replace water treatment sand etc.

After coffee break, the Day-1 afternoon plenary was divided into two parallel sessions:

Parallel Session 1: Facilitated by Mr. Mok Sokha, WaterAid's Program Manager held in the Grand Ball Room to discuss on how to build resilience in a changing climate and respond to emerging risks in the water sector

This parallel session discussed six presentations, started with "Impact Climate Change on PWO – by Mr. Riel Vira, CWA Program Manager". Mr. Riel presented the impacts of climate change on PWOs. He explained serval causes of climate change and its hazardous impacts in Cambodia in terms of water sources, infrastructure, income activity and water users. He went on to bring to attentions about the implementation of MISTI's guidelines such as the Climate-Resilient Water Safety Plan, drought and flood's resilience measurements and rationales & importance of these guide's implementations.

In the 2nd presentation for this theme parallel session, Mr. Pich Sambath Rattanak again explained in details in terms of objectives, reasons and usefulness of the guidelines on flood's resilience measurements. He said that tools and measures to implement prior, during and after the floods had been provided. Furthermore, he emphasized the importance in formulating rehabilitation plan of this flood disaster.

Miss. Chan Mom, WaterAid Cambodia also shared experiences on WASH Climate Change Project called "Water Security and Climate Resilience WASH" implemented in Samaki Meanchey District, Kampong Chhnang Province. The project intended to pilot its first water secure district in Cambodia. It focused on improved drinking water quality at point-of consumption, sustainable water resources, benefiting people with disability, poor households, and female-headed households, other marginalized groups, and women groups. It has also been the first district to become a learning hub for other local actors to learn about WRM in practice. Fraser Goff, WaterAid Regional Technical Lead, Australia presented on systems strengthening approaches to climate -resilient WASH. He explained in terms of water source situation assessment, how climate change impacts water sources, water supply equipment and materials etc.

Ms. Louise Dudley went on to share experiences about how to build resilience in a changing climate and respond to emerging climate risks in the water sector in Brisbane, Australia. She explained on climate change impacts and the importance and meaning of resilience through three main activities: Mitigation, Adaptation and Social Resilience. She highlighted how these components had been implemented and resulted in Brisbane, Australia.

The final presentation for this parallel session was from Dr. Pen Sytharith on "relationship between climate change and water sector". He looked into water sector and climate in Cambodia. He explained about estimated volumes of surface and groundwater and the needs from both sources. He went on to draw to attentions of climate change and its impacts in different locations.

Parallel Session 2: Facilitated by Mr. Lim Minh, CWA ED in Lotus Room to discuss on Innovative Solutions to Cambodia's water challenges in water scarcity, quality, and wastewater treatment and recycling

Five presentations (the last presentation of KWS PWO had been cancelled) were also discussed for this Parallel Session's Theme. It started with the presentation of Ms. Suneetha Kacker, WB Consultant, on how to utilize sector approach to address these challenges. She drew attention on the importance of PWOs' service coverage versus public utilities/works and how to use sector-wide approach in terms of investment support, technical assistance and regulatory reform incentivizing PWOs for improved performance.



Figure #5 Ms. Suneetha Kacker, WB Consultant, Presentation on how to utilize sector approach to address challenges

After this first presentation, parallel-group members exchanged ideas on PWO's capacity strengthening with regard to financial and operational reporting, technical capacity on data collection and water quality and high costs of PWO's business operation. The group also agreed that public utility/works had operated in low-cost finance and high-revenue mode whereas PWOs operate in low-revenue, but high-cost finance mode. In this regard, RGC has to step in and enable adequate environment for PWOs to scale up service access coverage and improve service quality accordingly.

Miss. Vat Nimol, a Master Degree Student, presented her master's thesis on Tonle Sap Lake water quality. Her research showed findings on how residents in one commune in the Tonle Sap Lake area had consumed water directly from the lake that contains heath-hazardous elements. Her study, therefore, strongly recommended that Tonle Sap Lake water needs to be treated before drinking, cooking and household's daily consumption. The group also agreed and suggested that this research findings need to be disseminated widely and actions taken to stop people from using raw water from the lake for daily consumption.

CWA presented on how to engage customers to use safely managed water supply by PWO and tools to generate piped water supply demands. Mr. Lim Minh and Ms. Toch Sokunthea of CWA explained in details on how customers' demand generation should be done by respective PWO. Their presentations highlighted the importance of these marketing activities and engagement of local/sub-national administrations and customers to actively participate in PWO's water supply businesses.

Mrs. Sim Siemny, Owner of Chamka Leu PWO, showed and demonstrated real results in terms of her water supply's marketing actions to reach today' remarkable connection targets. She explained about the situation at the start of her business in a place where people had many options in terms of water sources. Her marketing approach has been to proof to people at door-steps on qualities of different water sources. Her efforts were both staff's efforts, time consuming as well as enable by strong sub-national administration' support.

DAY 2 : November 30th, 2022

Similar to Day 1, technical session in terms of plenary presentations kicked off from 08:30. The first theme of Day 2 was to discuss alternative financial solutions for Cambodia water sector and was facilitated by Ms. Toch Sokunthea, program coordinator of CWA.

Ms. Gay Santos, Regional Director of Water.Org Southeast Asia, explained how Water.Org had worked with MFI's partners, PWOs and customers on micro-credits to promote WASH service coverage. Through this effort and different capacity building programs, Water.Org was able to contribute significant achievements, particularly in terms of sanitation access through latrine's construction loans

Mr. Min Muny discussed WaterAid draft proposal called "Accelerating District Water Supply Service Delivery – ADWSSD" to engage district and municipal administrations in resource mobilization into water sector through RGC's National Program for Sub-National Democratic Development (NP-SNDD) Phase II, 2021-2030. He said 203 districts, municipalities and Khan in Cambodia had received these functions along with over 50 other functions over the past two years together with human resources. They are critical partner to accelerate water supply service delivery in the effort to reach CSDG6.

Mr. Pok Chan, Director of Department of Planning and Data Management, presented key features of Water Supply Fund being proposed in the draft Water Supply Management Law. He stressed that once the draft law is enacted, finances from different sources including from RGC, multilateral and bilateral partners, donations, contributions and other legal sources would be mobilized to fill financial gaps for water supply in Cambodia estimated at about USD150 million annually. He went on to explain on how this fund would be operationalized and the status of the draft law formulation process.

Water.Org Senior Business Manager, Mr. Mel Sokim presented about Water.Org Program in Cambodia in detail. He highlighted two program components of Water.Org Cambodia: (1) WaterCredit; and (2) WaterConnect. The former provides links MFIs directly with water customers whereas the latter, PWOs benefiting directly.

Mr. Neav Sokun of SME Bank highlighted the short-term establishment and achievements of the bank by directly lending to SMEs and/or through co-SME financing schemes with lending partners, SME Bank has recently developed various lending products and is now one of leading lending institutions offering favorable loan terms and conditions, particularly to SMEs led and run by women.

Mr. Chhim Tit Cresna, Project Manager of STONE Family Foundation, presented the history of this foundation and its program in Cambodia. It worked with selected PWOs aiming to reaching 100% of customers in their service coverage areas.

Following the above rich presentations, two water supply companies namely, TCU and Phnom Penh Plastic Product, showed their products with improved quality and technology and encouraged all PWOs and interested partners to visit their booths at the event as well as to contact them for further information.

Immediately after the morning coffee break, Mr. Hiroshi Hirowatari, KOWBA Coordinator, presented the history and roles and responsibilities of KOWBA, its works and achievements in Japan. He highlighted importance of private-public partnership as well as advanced technology in the sector achievement and encourage all participants at the event to work together in applying these advanced technologies.

Mr. Thomas Allen, Head of Digital Water Services presented about RSK's digital water technology and innovation in improving water supply operation. RSK is a consortium of 175 companies in safe water supply business based in UK and operated in over 40 different countries. He explained about opportunity for RSK in Cambodia to offer services and encourage close working together for filling out the skills gaps, automation for rural operations and new cost models.

Just before Lunch's break of this 2nd day, Mr. Ork Vanda, FTB Head of SME & Consumer Banking Department highlighted about FTB, its financial services & products, past

achievements and future plans. Most interestingly, FTB has been working as one of RGC's partners on SME Co-Financing Scheme with SME Bank and on loan guarantees with Credit Guarantee Cooperation of Cambodia (CGCC) to offer favorable loan terms and conditions to SMEs in recent years.

After Lunch Break session kicked off with a certificate handover ceremony for water supply companies that have been financially supporting the Cambodia Water Exhibition and Conference followed by four presentations on "how to mainstream water supply services at the grassroots level under the government's policy". This session was facilitated by Mr. Chrin Phat, CWA Senior Water Engineer.



Figure #6 Mr. Leng Kheav handover appreciation certificate to companies who support the Conference.

Mr. Tang Sochetra, Deputy Director General of Portable Water General Department, MISTI, presented to the participants on relevant policies on water supply enacted since 2003. This policy covered both water and sanitation, and its formulation had taken a long time for approval. On water supply, this policy laid out six important features including the participation of private service providers & different modalities for cooperation's, water supply service by autonomous utilities, water regulators & tariffs and poor household subsidies etc. According to him, this policy needs an update through a process that everyone could provide inputs for improvements.

Miss Mut Sina, Program Officer of WaterAid Cambodia presented WaterAid's experience in promoting water supply services accountability in two districts in Kampong Chhnang Province. She discussed details of these experiences and highlighted importance of participation of different actors such as PDRD, PDISTI, sub-national administration representatives and private service providers in this experiment and that they are all

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accountable for this public service since they have the mandate of water supply service provision. She went on to explain about satisfaction of all stakeholders in this exercise and concrete results this tool had brought to the people in the target areas.

Finally on the support to poor households, two PWOs Mr. Heak Englay of Kamchay Mear PWO, Prey Veng Province and Mrs. Sep Chantha of Marin Pichsa PWO, Takeo Province shared their experiences on how to subsidize poor households and enable them to connect to piped water supply. The success of this effort has been through combination of three main sources, PWO' share of connection costs, contribution of respective households and subsidies from supported partners. Nonetheless, all stakeholders at the event agreed that these kinds of responsibilities and support should continue whereas PWO's commitment and flexibility in payment modalities for the poor are key in reaching out to them.

Before the last afternoon break, all participants received a report summary of the event, 4th Cambodian Water Conference and Exhibition from Mr. Sokkung Sou, WaterAid Cambodia's Program Director. Mr. Sou summarized for the plenary about participation numbers from government's institutions/ministries, national and international partners, private sector, PWOs, academic researchers, university' students and consultants, and thanked them for experiences & lessons learned sharing, challenge addressing as well in sharing plans, priorities, new and appropriate technologies to promote and accelerate water supply service access for Cambodia. He assessed that the 4th Cambodian Water Conference and Exhibition had gone as scheduled while thematic agenda was in-depth discussed.

In terms of achievements of the event, Mr. Sou categorized and summarized as follows:

Sector building block	Progresses, challenges and learnings	Opportunities and actions (moving forward)
Policy, strategy and planning	 Developed, reviewed and updated existing policies, guideline and procedures 	 Developing water management law – will be launched next year
	 Drafted water management law – qualified, safe, sustainable and affordable price 	 Strengthening and improving implementation of policy and regulatory frameworks
	Challenges:	Widely inducing regulatory by service providers
	Less degree of autonomy	
	 Constraint in capacity, tools and resources 	
	 Focused only on service aspect and not on water source 	
Institutional arrangements and capacity and sector leadership	 Provided technical training and capacity developments for piped water operators Challenges: 	 Strengthening capacity development to PWOs on financial management, marketing and operation and maintenance systems
	Constraint in capacity, tools and resources	 Strengthening capacity of local authorities and decentralized districts to drive water services
Coordination and integration	 Sector coordination and supporting mechanism Unwell coordination between all relevant stakeholders led to affect the piped system (i.e. road construction.) 	 Promoting multiple-stakeholder collaboration, collective action/impact – PPP model
Financing	 Discussed and formulated Water Development Fund 	 Finalizing and implementing water development fund and sector financing

Activities, discussions, results and opportunities presented at the event:

	 Supported financial support to PWOs Limited financial investment for water supply services especially from public budget (\$92 M is needed annually over ten-year period to reach universal access) Cost of finance is higher for private operators 	 Increasing budget allocation and mobilizing resources from government and non-government actors for water supply services Improving effectiveness and efficiency of investment
Service delivery and behavior change	 Around 34% of Cambodian populations access to piped water supply services Communities are still not well-valued and understand the importance of water supply services leading to low participations and less connect to piped water supply Operating and testing some technology for water supply service models Piloting buck water service models Challenges: Focused only on service aspect and not on water source Areas covered by operators are less urbanized Private operators operate in poorer areas Limited water quality and quantity monitoring and testing 	 Strengthening awareness raising and education on behavior change and benefit of water services Promoting and scaling up the innovative, appropriative and adorable technologies and models Strengthening and improving supporting mechanisms to support and enable marginalized people to access to water supply services Aggregation and context-specific based solution models (ie. Buck water service, complementarity between piped and bottled water in challenging situations/areas)
Monitoring, research and learning	 Conducted field monitoring and technical support Limited water quality and quantity monitoring and 	 Promoting more research, learning, documentation and publication to inform planning, decision-making and

	 testing Limited sector wide research study and sector learning Limited opening and harmonized data management systems 	 generation innovations Improving opening and harmonized data management information systems
Accountability and regulation Gender and social inclusion and active and empowered people and communities	 Promoted service provider accountability to delivery water supply service Limited accountability feedback mechanisms (service providers and service users) Supported some poor households to access to water supply services 	 Promoting and strengthening accountability feedback mechanisms (service providers and service users) Enabling opportunities and spaces that encourage and empower marginalized people to be part of planning and decision-making processes Supporting mechanism to ensure underserved groups access to water supply service (ie. Pro-poor support)
Climate resilient, environment and water resources	 Developed, reviewed and implemented drought and flood SOP for PWOs Climate change provided impacts and vulnerabilities to the water supply services Limited harmonized strategic plan for water resource management 	 Promoting and strengthening implementation of drought and flood SOP Building capacity to communities, local authorities and water operators to adopt and resilient the climate change Promoting and investing more on information management, research, learning and documentation to promote climate resilient innovating models/technologies

For the Closing Session, the 4th Cambodian Water Conference and Exhibition organized a final panel discussion on ways forward to meet CSDG 2030. This session was facilitated by Mr. Min Muny, freelance consultant and participated by six panelists namely (1) H.E. Sreng Sokvong, MISTI's Advisor and Director of Technics & Data Management; (2) Mr. Kov Phyrum, Senior WB's WASH; (3) Ms. Hor Lalyn, MRD's Project and Planning Office Head of Rural Water Supply Department; (4) Mr. Hoeun Ratanak, CAP REP Investment Manager; (5) Mr. Neav Sokun, SME Bank Chief Operating Officer; and (6) Mr. Lim Minh, CWA Executive Director.

From the start, Mr. Min encouraged panelists to reveal their concrete plans and actions to accelerate safely managed water supply service coverage/access meeting CSDG 2030. He referred to WB Presentation on Day 1 which called all stakeholders to take "business as unusual steps" to reach out to the remaining population presently without safely managed water supply service.

H.E. Sreng of MISTI emphasized that to reach water supply CSDG, PWOs receiving 20-year license need to comply according to the terms of the license. In this compliance, MISTI has PDISTI and technical assistance to support whereas the General Department of Portable Water, MISTI, is always ready to facilitate and cooperate, not only with PWOs, but with DP's and other partners to progress the sector to the utmost satisfactory level.

Mr. Kov stressed that to reach 2030 CSDG on water supply, there are needs in terms of human & financial resources, clear policy, and legal instruments, active participation/involvement from water supply service users, new technology and innovation in water source protection, pipe network protection, mechanisms to engage service providers and receivers at the sub-national level. He maintained WB's position in supporting the sector and opened for any innovative ideas to accelerate the sector's progress.

Ms. Hor of MRD mentioned the mandate of MRD on soft and hard components for rural water supply and called for attention to sustainable water use, water quality, and climate change to ensure water source protection, water quality, safety, and sanitation for users. Answering the question from the floor with regard to adapting the water well support in the PWO's license area and replacing it with piped water connection subsidy for the poor, she positively accepted that Cambodia's economic situation had been improved and that MRD was studying on piped water supply in the rural area as well.

Mr. Hoeun of CAP RED reaffirmed that this DFAT Support project had \$87 million for water supply, SME, and agriculture sectors. He also informed that CAP RED would provide grants up to 60% of capital investment to selected PWOs and strengthen their capacity for license application. He echoed the calls of WB in considering the improvement in terms of human & financial resources, clear policy and legal instruments, active participation/involvements from water supply service users, new technology and innovation for the sector.

Mr. Neav of SME Bank hoped that with SME Bank favorable loan terms and conditions, PWOs would receive more loans for water supply business. He referred to his earlier presentation on SME Bank policy, financial products and loan terms, and emphasized that

SME Bank's annual interest of 5.5% for women's SME leaders had been new and that SME Bank would continue monitoring this development closely. He said SME Bank would be willing to adapt for more favorable terms and conditions according to evolved situation and also encouraged other lenders to join this effort.

Mr. Minh, CWA ED, on behalf of CWA and PWOs being CWA member committed that they would build their capacity and business operation to expand piped water service coverage and continue strengthening relations with international and national partners and apply advanced technology & innovation. He also brought to the attention of CWA and their member's recent effort in Kampong Speu and Takeo Provinces in terms of capacity building on understanding about obligations and rights of taxpayers concerning PWO's water business.

After all panelists expressed their commitment and action plans to accelerate water supply service delivery, the plenary took the chance to explicitly request that tax on water supply business should be lifted since it is a public service and suggested that MEF could be invited for next event.

PWO in Siem Reap also requested that CAP RED expand its target and support activity to the province and if possible, to all provinces in Cambodia.

Another request from the floor was addressed to MRD for consideration to switch from water well support to support for water supply pipe connection. MRD took this recommendation and agreed that situation is now appropriate for piped water supply service to also be considered for rural population.



Figure #7 Panel Discussion on way toward meeting CSDG 2030.

As for the closing speech, H.E Tan Sokchea, Director General of MISTI General Department of Portable Water **on behalf of H.E. Kitti Settha Pandita CHAM Prasidh, Senior Minister and Minister of MISTI**, thanked all participants from government's institutions/ministries, national and international partners, private water supply companies, PWOs and all guests for their participation and support for the event support. Once again, he expressed MISTI's ready-stand to coordinate and facilitate for smoothening partner's support project/program in the sector.



Figure #7 H.E Tan Sokchea, Director General, General Department of Portable Water, for closing remarks.

On water supply management law, he said once adopted, would be the first sector's law. MISTI has already started dissemination to generate understanding for implementation and compliance. He referred to 2 drafted articles, once adopted. PWOs have to report details about its operation. If wrongly reports, there would be fines imposed by law. Individual and legal entities/companies will be strictly managed. PWOs need to improve accounting systems and data management. In the draft law, data is important for both, ministry and PWOs.

On behalf of MISTI, he recommended six following points:

- The organizing committee to report the results of this event for concrete actions;
- Banks and MFIs to soften loan conditions, enabling more finance to flow into the sector;
- DPs and support agencies can report and ask for coordination and guidance from MISTI, so that their implementation activities could be harmonized and expedited;

- All PWOs provide feedback and suggestions with evidence. E.g. with regard to why taxing business of water supply since it's public service, but as well work closely to understand issues of taxation;
- PWOs need to adhere to conditions set in the given license (until now 352 licensed 320 operational in about 8,000 villages. If, for instance, PWOs expand according to plan/license, water service coverage would have reached more villages. Lack of funding has always been the reason, but PWOs need also to find money;
- All stakeholders/participants to use local products. If so, ownership, and independence will be coming along and promoting local companies and experts.

Finally, he re-emphasized that MISTI and MRD who are mandated for this water supply sector will have to work closely together under key words "integration & harmonization" for overlapping water supply service areas aiming to reach upmost satisfactory results. He thanked all participants and announced the 4th Cambodian Water Conference and Exhibition closed on November 30, 2022, at 17:15.

The 4th Cambodian Water Conference and Exhibition, November 29-30, 2022 was officially ended with the respect to Cambodia's National Anthem and followed by a Samaki Gala Dinner hosted by CWA for their PWO members and guests on the same evening.

4 Appendixes

Day 1

4.1 Opening Session

4.1.1 Welcome Speech by Mr. Kheav LENG, President of CWA Board Directors

4.1.2 Welcome Remark by Dr. David RAY, Program Director of CAP-RED

4.1.3 Slides on Story of Private Water Operator in Cambodia, by **Mr. Sokun PHON**, Owner of Tbeng Khpos PWO

4.1.4 Opening Remarks by H.E Sim Sitha, MISTI Secretary of State of MISTI

4.2 Technical Session

SESSION 1: How to accelerate collaborative efforts from all the stakeholders to meet universal access to water supply by 2030 in Cambodia

4.2.1 Keynote Speech of Mrs. Louise DUDLEY, President of AWA

4.2.2 Slides on "Accelerating water supply access: what does it take?" Presented by Mr. Phyum KOV, Senior Water Supply and Sanitation Specialist

4.2.3 Slides on accelerated strategy to achieve CSDG by 2030 by Mr. Thunsamnang KIM, Deputy of Director General of the General Department of Potable Water, MISTI

4.2.4 Slides on how does MRD accelerate access to reach SDG 2030?

By **H.E Poutthy SRIN**, MRD's Advisor & Director of Department of Rural Water Supply, MRD 4.2.5 Slides on education and Research &Development on Water and Environmental Engineering at the Institute of Technology of Cambodia (ITC). Presented **by Dr. Saret BUN** 4.2.6 Presentation Slides on Pump, Water Meter, and Solar System by **Mr. Depak RA**, Sales Supervisor, TEM

4.2.7 Presentation Slides on Product and Technology on Clean Water by Mr. Panha LEANG, CEO of Water Partner

4.2.8 Presentation Slides on the future of piping and tubing technology-HTS HDPE 112 pipes by **Mr. Vutha PHAL**, Business Development Manager, KCRI/HTS

SESSION 2: How to build resilience in a changing climate and respond to emerging climate risks in the water sector

4.2.9 Slides on Impact Climate Change on PWO by Mr. Vira RIEL, Program Manager, CWA/UNICEF

4.2.10 Slides on Guideline on Drought and Flood Resilient Measurement for Water Supply by **Mr. Sambattrattanak PICH,** Deputy Director of the Department of Technics and Data Management

4.2.11 Slides on WaterAid – Climate Resilience WASH by Mr. Tith NHIM, Water Resource Management Specialist

4.2.12 Slides on Systems Strengthening approaches to climate-resilient WASH by Fraser GOFF, Regional Technical Lead on WASH System Strengthening, WaterAid Australia

4.2.13 Slides on Relationship between Climate change and water sector in Cambodia by Dr. Sytharith PEN

4.2.14 Slides on Sharing Australian experience on "How to build resilience in a changing climate and respond to emerging climate risks in the water sector" by **Mrs. Louise DUDLEY**, President of AWA

SESSION 3: Innovative solutions to Cambodia's water challenges in

- Water scarcity
- Water quality
- Wastewater treatment, and
- Water recycling

4.2.15 Slides on Addressing challenges by taking a sector approach by Ms. Suneetha KACKER, Consultant, the World Bank

4.2.16 Slides on Water Quality Assessment of Tonle Sap Lake, Chnok Tru Commune, Cambodia as Alternative water supply by Ms. Nimol VAT, Master Student

SESSION 4: Engaging with customers to safely manage (connections and to improve customer service)

4.2.17 Slides on Demand Generation by **Mrs. Sokunthea TOCH**, Program Coordinator, CWA 4.2.18 Slides on Sharing Marketing Activities to accelerate connection by **Mrs. Siemny SIM**, Owner of Chamka Leu PWO

DAY 2

4.2.19 Alternative financing solutions for the Cambodian water sector facilitated by Mrs. Sokunthea TOCH, Program Coordinator, CWA

4.2.20 Slides on Enhancing the responsible Inclusive Finance by Ms. Gay SANTOS, Regional Director, Southeast Asia-Water.org

4.2.21 Slides on Decentralization and financing for Water Supply Services by Mr. Muny MIN, Consultant, WaterAid

4.2.22 Slides on Water Development Fund by **Mr. Chan POK**, Director of the Department of Planning and Data Management, MISTI

4.2.23 Slides on Water.org Program in Cambodia by Mr. Sokim MEL, Senior Business Manager SE Asia & Cambodia Country Manager

4.2.24 Slides on SME Bank by Mr. Sokun NEAV, Chief Operating Officer, SME

4.2.25 Slides on Cambodia Revenue Finance Facility by Mr. Tit Cresna CHHIM, Project Manager, Stone Family Foundation

4.2.26 Presentation on TCU Production by Mr. Soth KOK, Chief of Sales, TCU

4.2.27 Presentation on Quality of HDPE Pipe of Phnom Penh Plastic Product by **Mr. Mengsry HIENG**, Chief of Sales

SESSION 1: Advancements in new technologies and innovations to improve operations

4.2.28 Slides on Role and Responsibility of KOWBA, and Japanese Advanced Technology by **Mr. Hiroshi HIROWATARI**, Coordinator Secretariat, KOWBA

4.2.29 Slides on DSK's digital water technology and new technology and innovation to improve the water sector in Cambodia by **Thomas ALLEN**, Head of the Digital Water Services 4.2.30 Presentation on Product of **Foreign Trade Bank of Cambodia (FTB)** by **Mr. Vanda ORK**, Head of SME& Consumer Banking Department FTB

SESSION 2: Mainstreaming water supply service at the grassroots level using governmental policy

4.2.31 Slides on Policy related to water supply by **Mr. Sochetra TANG**, Deputy Director General of the General Department

4.2.32 Slides on Accountability Water Supply Services by Ms. Sina MUT, Program Officer, WaterAid

4.2.33 Slides on sharing the success stories by Mr. Englay HEAK, Owner of Kamchay Mear PWO and Mrs. Chantha SEP, Owner of Marin Pichsa PWO

4.3 Closing Session

Closing Speech of H.E Tan Sokchea, Director General of MISTI General Department of Portable Water on behalf of H.E. Kitti Settha Pandita CHAM Prasidh, Senior Minister and Minister of MISTI

4.4. Participant Lists

4.5 Concept Note and Program Agenda