

**Greater Mekong Subregion (GMS)
Fifth Meeting of the GMS Urban Development Working Group
(via web-based conferencing)**

23 February 2022

Summary Proceedings

I. Introduction

1. The Fifth Meeting of the GMS Urban Development Working Group (UDWG) was held via web-based conferencing (Zoom) on the 23 February 2022 with the Government of Lao PDR as host (via the Ministry of Public Works and Transport [MPWT]).

2. The primary objective of the meeting was to discuss emerging information and communications technology (ICT) and the role of unified communications and digital solutions and highlight to water service providers in GMS countries new, transformative opportunities for (i) more efficient water management, and (ii) improved customer services. The group discussed impacts on strengthened water security, enhanced service delivery, and more profound resilience against the impacts of climate change, public health, and water-related disasters. The discussions considered the application to water management via 'smart water'. In the GMS context, it is believed that adoption of smart water principles can improve the resilience of and equitable access to urban water.

3. The meeting also provided briefings by the GMS Secretariat on (i) the GMS Strategic Framework 2030 (GMS-2030) and its relevance to urban development, (ii) the GMS COVID-19 Response and Recovery Plan and its relevance to urban development, (iii) steps towards developing a Results Framework of GMS-2030 to be approved in 2022, and (iv) steps towards developing a new GMS Urban Development Strategic Framework (2023-2030) to be approved in 2022-2023.

4. The meeting was chaired by Mr. Sengdara DOUANGMYXAY, Deputy Director General of Department of Housing and Urban Planning, MPWT, Lao PDR and was co-chaired by Mr. Alan Baird, Principal Urban Development Specialist and Mr. Antonio Ressano-Garcia, Principal Regional Cooperation Specialist, both from Asian Development Bank (ADB). GMS UDWG members and their representatives participated in the event. The meeting agenda is **attachment 1**; the list of meeting participants is **attachment 2**; and presentations from Sessions 1, 2 and 3 are **attachments 3, 4 and 5**, respectively.

II. Opening Session

5. The Chair, as meeting host, welcomed all participants. He noted that the COVID-19 pandemic situation had once again required that the meeting be held online, but looked forward to a productive meeting to discuss the topic of smart water utilities in our cities of the future.

6. The Co-Chairs thanked the Chair for introducing and providing context of the meeting. Mr. Alan Baird provided an outline of the first two sessions, discussing emerging ICT solutions that will enable the transformation of water service providers in the region to smart water utilities. Mr.

Antonio Ressano-Garcia provided an outline of the third session, intended to provide an update on the GMS strategic framework 2030 and other key documents related to the GMS Program.

7. The Chair invited GMS country delegations to introduce themselves and provide introductory remarks. Delegation leaders from all countries provided brief opening remarks.

8. Co-Chair, Mr. Alan Baird, provided a brief recap of the 4th UDWG Meeting, held in December 2020. That meeting was chaired by Mr. Xu Jianping, Director General, Department of Regional Opening-up, National Development and Reform Commission (NDRC) of the People's Republic of China (PRC). GMS UDWG members participated in the event. There were three sessions, the first discussing Urban Management and Provision of Basic Public Utility Services under COVID-19; the second session discussed the Development of Smart Cities and opportunities for digital solutions to address the challenges of COVID-19; and the third session discussed updates on the GMS Program, particularly on the proposed new GMS Economic Cooperation Program Strategic Framework 2030 (GMS 2030), the GMS COVID19 Response and Recovery Plan 2021-2023 and the recently endorsed Regional Investment Framework (RIF) 2022. Although the meeting was conducted virtually, the active participation of everyone in the meeting was highly appreciated and delivered stimulating dialogue and sharing of knowledge.

III. Session 1: Smart solutions for building urban water system resilience

9. Dr. Greg Ryan, Director Business Excellence for the Water Services Association of Australia (WSAA) provided a keynote speech titled "Digital Transformation of the Australian Urban Water Sector". The WSAA was formed in 1995 as the peak industry body representing the urban water sector. The organization retains strong links with policy makers and legislative bodies and their influencers, to monitor emerging issues of importance to the urban water industry and to promote sustainable water resource management.

10. Dr. Ryan gave an overview of the drivers, enablers and barriers to the digital transformation journey of the Australian water sector over the period 2010-2022. By 2010, most water utilities had well established asset management systems, with discrete business systems covering customers, operations, and GIS. Over the next 10 years, technology was used to integrate enterprise systems to increase the focus on the customer.

11. Dr. Ryan provided two digital utility case studies from utilities in Australia. South East Water had always been an early adopter of digital technology and had developed the competence to test and implement large scale digital technologies across the utility. SA Water is another utility that has implemented advanced digital systems to meet requirements of customer for leak detection, and to keep its staff safe with vehicle monitoring. The graphic at appendix 1 provides a useful summary of elements of Dr Ryan's presentation.

12. From Cambodia, Excellency Vong Pisith, Under Secretary of State at Ministry of Public Works and Transport presented about urban issues in Cambodia, with increasing population growth, and environmental degradation. Over the past 20 years, Cambodia has seen considerable construction of new water supply, wastewater, and solid waste infrastructure to deal with the urban growth. There remain challenges with master planning throughout the country, and more work is required on institutional and capacity development. There will continue to be an ongoing requirement for more infrastructure development, and Cambodia is exploring how the private sector can become more involved.

13. From the PRC, Deputy Director Xu Huiwei from the Ministry of Housing and Urban-Rural Development presented on the application of intelligent management in the PRC's water supply. In PRC, urban pollution water control regulations, urban water quality provisions and drinking water standards have continued to evolve over the past 30 years. This mirrors the development of new technology in the water sector. Before 1978, water supply was used conventional treatment plants, with no ICT applications. From 1979 to 2006, there was considerable investment in new infrastructure, with some investment in automation, for example for filter backwashing. From 2006 to 2020, information, automation, digitization, and intelligent technologies started to play a more important role in the micromanagement of water supply networks, including zoning metering management, SCADA system, application of real-time hydraulic water quality model, etc. From 2021, the journey moves to a new phase, with a call to implement intelligent construction, transformation, and management of municipal infrastructure such as urban water supply to improve operational efficiency and safety performance. The PRC gave an example of the Shaoxing City in Zhejiang Province, where this integrated approach had helped reduce leakage from 20% to 5%. Finally, the PRC outlined some examples of international cooperation in scientific and technological products to promote regional and international mutual benefit and sharing.

14. From Lao PDR, Director Saysana Saphakdy from the Ministry of Public Works and Transportation presented on the opportunities for smart water in the Lao water sector. In Lao PDR, the water supply sector is generally underdeveloped, especially in the provinces, where most cities and towns have only received modern water supply systems since 2000. The emphasis so far, therefore, has been on implementing systems using appropriate, robust, and proven technologies, with limited technical support services for O&M of hi-tech equipment. There has been considerable focus on capacity development and improving the financial sustainability of utilities. More recent infrastructure projects have included more automated components. All recent water supply systems have electronic master water meters at treatment plants and distribution networks with District Metered Areas single supply with a water meter for effective monitoring and management of Non-Revenue Water (NRW). Some state-owned enterprises now allow payment of water bills by mobile phone. Future smart water initiatives include (i) water meters and equipment linked to billing systems; (ii) introducing SCADA systems on some of the larger and more complex water supply systems (iii) working closer with tertiary education institutes to produce graduates more suitable for the sector; and (iv) developing new GIS solutions for asset management and maintenance.

15. The Chair expressed his sincere thanks to Dr. Ryan for his presentation, thanked the country delegations from Cambodia, PRC, and Lao PDR for their presentations, and congratulated everyone on the productive discussion during the session.

IV. Session 2: Smart solutions for reducing non-revenue water

16. Mr. Cor Merks, Non-Revenue Water Expert from the Netherlands, provided a technical keynote speech, addressing the topic of Smart Solutions for Non-Revenue Water (NRW). NRW represents the volume of the distributed drinking water that is never invoiced to the customers, due to leakage, reservoir overflow, deteriorating infrastructure, deficient customer registration, inaccurate metering, inaccurate billing systems, and possibly illegal connections and theft. NRW reduction is a big challenge for countries in the GMS, and it is widely acknowledged that new technology has an important role in addressing the problem.

17. Mr. Merks presented an accepted framework for digital solutions to reduce NRW to reduce economic losses. A variety of proven technology solutions were presented, covering asset maintenance, pressure management, leakage control and repairs. Mr. Merks observed that real-world and digital representation of the real-world are becoming identical, with the digital twin concept. This is a transformation that takes place at an accelerating pace. Water service providers and innovators are increasingly working together on advancements in digital technology to be used, but various technologies are proven and readily available. Integrated digital solutions can be used for planning, design, operation, maintenance, and rehabilitation of water distribution networks worldwide. Integrated digital solutions help balance cost, risk, and performance.

18. From Myanmar, Assistant Director Ms. Yu Yu Hla Baw from Yangon City Development Committee presented on the plans for the Yangon water supply system, and the application of smart water solutions to address NRW challenges. The 2040 future water strategy for Yangon includes the development of new surface water resources to deliver a reliable drinking water supply system with capacity of 543 MGD. NRW is an important issue within Yangon, due to the age of the water supply network. Yangon has implemented several NRW pilot reduction projects that have been very successful.

19. From Thailand, Assistant Director Mr. Pongsak Diewwilai from Provincial Water Authority (PWA) presented on the NRW water challenge within Thailand. PWA experienced water losses higher than 30% but has set a target to reduce to 20% by 2027. This will reduce costs and postpone construction of new water resources. Mr. Diewwilai provided some current examples of advanced technologies used to reduce real losses via pressure management and leak detections. He also outlined a meter monitoring system used to reduce apparent losses by improving data quality and identifying abnormalities.

20. From Viet Nam, Ms. Nguyen Thi Hong Khan, Deputy Head of Water Supply at the Ministry of Construction presented on Smart Solutions in Management and Development of Viet Nam's Water Supply. In Viet Nam, information technology supports in all stages of water supply activities including raw water extraction, treatment at water plants, transmission, and distribution of clean water to consumers as well as in resource management, link and provide services. Smart water supply management requires a dynamic balance between supply (to make the best use of increasingly scarce water resources) and demand (to improve the efficiency of the entire clean water production and business process to meet needs of the people). This enables water utilities to make decisions based on information. Viet Nam has a national roadmap to further the implementation of IT applications in the water sector. This national-wide approach is built on a foundation of research and solid industry standards, supported by capacity building. There are several national policies intended to assist with water supply development. These include the building of an online monitoring website on water supply index and clean water quality of water supply systems, due to be implemented in the period 2021-2025.

21. After a short opportunity for discussion on the presentations, the Facilitator Mr. Antony Gibson provided a summary of the presentations from Sessions 1 and 2. The Chair once again thanked Mr. Merks, and the country delegations from Myanmar, Thailand, and Viet Nam for their presentations.

V. Session 3: Updates on the GMS Program

22. Mr. Antonio Ressano-Garcia, Principal Regional Cooperation Specialist, Regional Cooperation and Operations Coordination Division, Southeast Asia Regional Department,, ADB

briefed the UDWG members on: (i) the GMS Strategic Framework 2030 (GMS-2030) and the GMS COVID-19 Response and Recovery Plan and highlighted their relevance to urban development; (iii) the new GMS RIF 2023-2025, which will include new screening criteria and selection processes of projects (working groups are to play a key role), as well as new monitoring mechanisms; (iv) steps towards developing a Results Framework of GMS-2030 to be approved in 2022, which will include performance indicators at the sector level, including urban development; and (v) steps towards developing a new GMS Urban Development Strategic Framework (2023-2030) to be approved in 2022-2023 (the first step proposed being the undertaking of a rapid assessment of the current strategic framework).

23. The Chair, on behalf of the Lao PDR delegation, appreciated the presentation and noted the strategic directions set forth in GMS 2030 and COVID-19 Plan, including relevance to urban development. They fully support these GMS directions specially because they are very much aligned with Lao PDR's national development strategies and priorities. In terms of reaching out to GMS countries to consult and generate inputs for the new RIF, GMS Results Framework and new Urban Development Strategic Framework, Lao PDR recommended that inputs be best coordinated through the GMS National Coordinator from the Ministry of Planning and Investment, Lao PDR. This is considering the multisector nature of urban development which involves several agencies beyond the Ministry of Public Works and Transport.

24. PRC representative (Ms. Li Qinfang of NDRC) gave the following recommendations as regards the implementation of the GMS 2030 and COVID-19 Plan strategic documents: (i) ADB and GMS countries to work on the key policies and major projects for GMS cooperation through coordination mechanisms including GMS Senior Officials' Meeting, Ministerial Conferences, and Task Force/Working Group Meetings; (ii) mobilize active local participation and explore new mechanisms and modes of cooperation such as "paired cities" and open platforms for infrastructure development in the border areas that harness unique local strengths; and (iii) establish monitoring mechanism with defined indicators and timelines, for timely progress reporting and resolution of issues, if any, on GMS strategy implementation.

25. Moreover, PRC agreed to develop a new urban development strategic document that will promote GMS urban development in the new era and suggested to learn from a comprehensive assessment of the existing strategy 2015-2022 which was also proposed by the GMS Secretariat as a first step.

26. Regarding the GMS RIF, PRC suggested that key demonstration urban development projects be selected for inclusion in new RIF and concentrate resources to support these. These key projects may result from technical assistance (TA) projects such as the ADB approved, Leveraging Greater Mekong Subregion Cooperation Mechanisms for the County-Level Sustainable Urbanization—Cases of Guangxi and Yunnan. The said TA project will focus on promoting the county-level urbanization in China's southwestern border areas in Yunnan and Guangxi through the cooperation with GMS member countries. PRC requested ADB to work with GMS countries in strengthening research/study on major challenges in GMS urban development and in developing more projects that will support urban development in the GMS.

27. Mr. Ressano-Garcia (Co-Chair) appreciated the comments and advice of countries, namely the agreement to take steps to prepare the new GMS Urban Development Strategic Framework and the new RIF 2023-2025. The GMS Secretariat will consult throughout 2022 with the GMS countries, including the UDWG, on the preparation of new RIF 2023-2025, the Results Framework of GMS 2030 and a new GMS Urban Development Strategic Framework.

VI. Closing Session

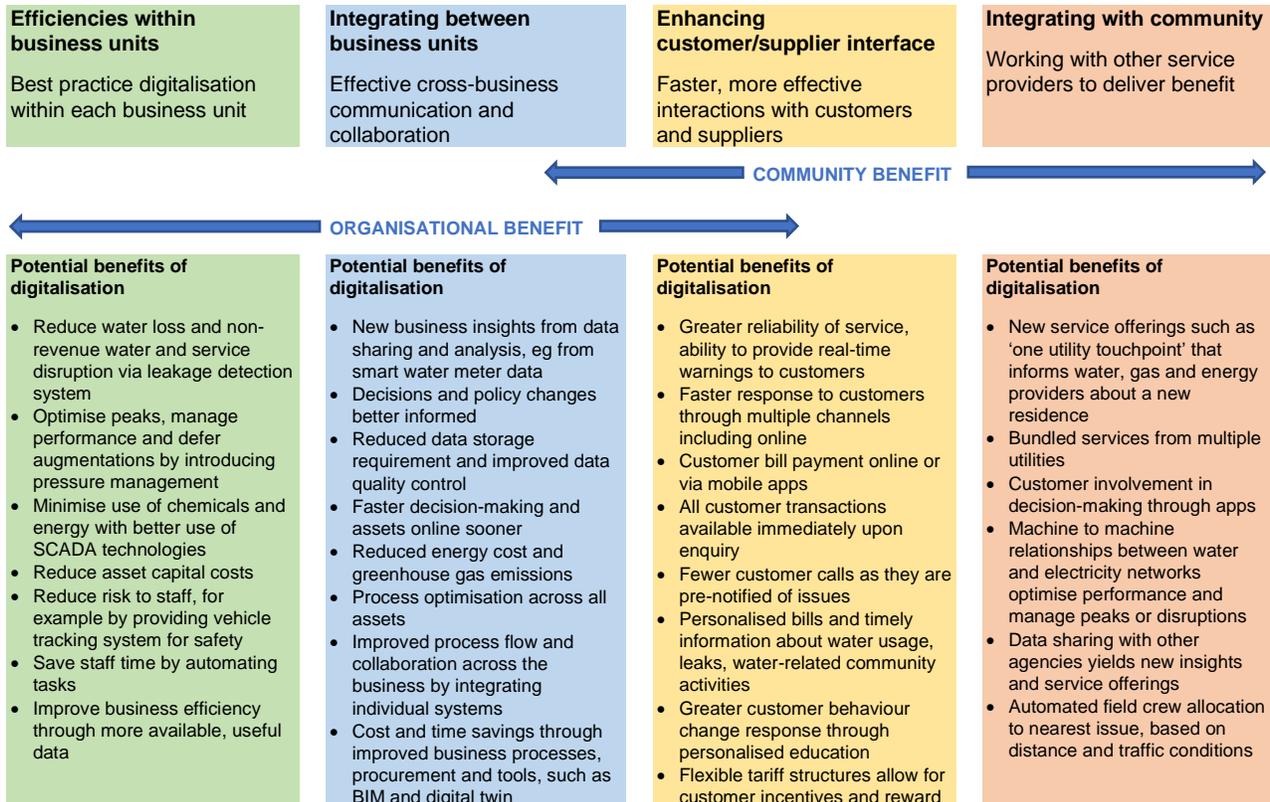
28. The Co-chair, Mr. Alan Baird, thanked everyone for their participation and expressed his appreciation to the host Lao PDR for organizing this successful GMS urban working group meeting.

29. The Chair then provided final concluding remarks, reflecting that although this is the second time that this meeting has been held virtually, it had been productive and successful. The Chair expressed a view that one of the lessons is that that institutional and policy reform helps to harness an effective corporate management, while sophisticated technologies in ICT play the core functions in assets and water losses management. He also noted with great satisfaction the key recent achievements of GMS cooperation. He noted participants had the chance to discuss the very important documents, GMS-2030, which will guide and ensure the continued relevance and effectiveness of our cooperation program in the coming decade. The Chair stated in summary that it is very useful to have a deep discussion of the potential for smart water to improve our urban areas. He recounted that water is one of our most precious resources and it is exciting to see new ideas and technologies being applied to improve the availability, quality, and resilience of our urban water systems. The Chair then declared the Fifth Meeting of the Greater Mekong Sub-region Urban Development Working Group closed.

Appendix 1: Key Benefits – Smart Water Management

The workshop provided a wide range of emerging ICT and digital solutions that present water service providers with new, transformative opportunities for (i) more efficient water management, and (ii) improved customer services.

The following table provides a summary of some of the potential benefits. The framework is adapted from “Harnessing the Digital Economy”, a Discussion Paper prepared by WSAA available online [here](#).



Some guiding principles to help utilities on their smart water journey:

1. Make a start, but initially start small and fail fast
2. As the acceptance of digital integration increases develop a whole of business digital strategic approach aligned with business needs and direction
3. Don't get distracted by new technology, focus on the technology that addresses key business needs and problems
4. Good data is paramount.