

SUSTAINABLE INTEGRATED WATER RESOURCES AND STORMWATER MANAGEMENT

**8 TO 19 NOVEMBER 2021
VIRTUAL FORMAT**

Jointly sponsored by the

SINGAPORE COOPERATION PROGRAMME

and the

**UNITED NATIONS CHILDREN'S FUND
EAST ASIA AND PACIFIC REGIONAL OFFICE**

under the

SINGAPORE-UNICEF JOINT TRAINING PROGRAMME

to be conducted by

**PUB, SINGAPORE'S NATIONAL WATER AGENCY –
SINGAPORE WATER ACADEMY**

and

UNICEF

Singapore Cooperation Programme

Singapore has provided technical assistance to other developing countries since the 1960s. As a country whose only resource is its people, Singapore believes that human resource development is vital for economic and social progress. Singapore itself has benefited from training provided by other countries and international organisations.

In 1992, the Singapore Cooperation Programme (SCP) was established to bring together under one framework the various technical assistance programmes offered by Singapore. Through the SCP, the range and number of training programmes were increased to share Singapore's development experience with other developing countries.

To date, over 132,000 officials from more than 180 countries and territories have participated in our courses and study visits. The SCP is managed by the Technical Cooperation Directorate of the Ministry of Foreign Affairs, Singapore.

UNICEF

UNICEF works in over 190 countries and territories to save children's lives, to defend their rights, and to help them fulfil their potential, from early childhood through adolescence. UNICEF has spent 70 years working to improve the lives of children and their families. Safe water, improved sanitation and good hygiene (WASH) is a foundation for development towards health, equity, gender equality and education and is at the center of the 2030 agenda for Sustainable Development.

Goal 6 of the Sustainable Development Goals (SDGs) aims to "ensure availability and sustainable management of water and sanitation for all". UNICEF works within the framework of this new development agenda to support governments in achieving these goals. Water is a precondition to life on Earth and is essential for sustainable development. Safe drinking water and sanitation are human rights and critical for socioeconomic development, food security and healthy ecosystems.

However, the global climate change crisis is increasing variability in the water cycle. This translates into negative impacts on drinking water availability and quality, and also in negative performance of sanitation and hygiene services, with challenges to physical accessibility and impacts on affordability. Concerns for water supply include damage to infrastructure from flooding, loss of water sources due to declining rainfall and increasing demand, and changes in the quality of drinking water sources and within distribution of water. Sanitation concerns include damage and loss of services from floods and reduced carrying capacity of waters receiving wastewater.

SDG 13 aims to “take urgent action to combat climate change,” representing an important milestone which was not addressed in the previous Millennium Development Goals. It includes increasing adaptation and resilience at both the national and community levels and building capacity at all levels to respond to the impacts of Climate Change. Because the impacts of Climate Change are most commonly experienced through the medium of water, the adaptation measures required target many aspects of the Water, Sanitation and Hygiene (WASH) sector

Key actions to reduce climate risks include the integration of measures of climate resilience into water safety plans, as well as improved accounting and management of water resources. To address these growing threats to the WASH system due to changing climate, UNICEF adopts a resilient approach in its WASH programming across the countries helping governments and partners to better design and implement a Climate Resilient WASH Programme. For more information on UNICEF, please visit <https://www.unicef.org>

PUB, Singapore’s National Water Agency

PUB is the national water agency, and manages Singapore’s water supply, water catchment and used water in an integrated way. PUB has ensured a diversified and sustainable supply of water for Singapore with the Four National Taps – local catchment water, imported water, high-grade reclaimed water known as NEWater, and desalinated water. Its approach to water management can be distilled into three key strategies: collect every drop of water, reuse water endlessly, and desalinate more seawater.

For more information on PUB, please visit <https://www.pub.gov.sg>

Singapore Water Academy

To enhance capability development, PUB has set up the Singapore Water Academy, a practitioner-focused institution in urban water management.

Besides providing training for PUB staff, the Academy also trains the industry to strengthen current competencies and develop future capabilities. It also welcomes international participants to its programmes, which address engineering and operations, and business leadership & governance.

Climate Action Package

The course is part of Singapore’s Climate Action Package, a suite of courses launched in 2018 to support the efforts of other developing countries in building climate resilience and achieving their climate pledges.

Course Objective

Conducted in collaboration with UNICEF, this course discusses approaches to integrated water resources and stormwater management to deal with the extreme weather conditions brought on by climate change.

Course Outline

The course would cover topics such as:

- Singapore’s approach and strategies towards enhance climate resilience;
- Coastal protection for climate resilience;
- Water sustainability and circular economy in Singapore;
- Stormwater management strategies;
- Active, Beautiful and Clean Waters (ABC Waters) Programme;
- PPP approach for water in Singapore;
- Climate resilient for water, sanitation and hygiene (WASH) Framework.
- Risk Assessment Tools for Climate Change impacts to Water and Sanitation systems
- Appraising and identifying appropriate Climate resilient options and solutions for resilient WASH systems

Methodology

The course will be conducted in English through a mix of lectures, discussions, and practical exercises with the aim of maximising engagement and exchange of experience among participants. Zoom platform will be used for online lectures and discussions (polls, chat, and Q&A). Videos and learning materials will be assessed via mobile learning platform for self-study. Participants will also have adequate opportunity to share their experiences, learning points and challenges in an online discussion forum.

Regulations

Participants are required to comply with the following:

- Strictly observe course schedule and not miss training sessions, and;
- Carry out instructions and abide by conditions as may be stipulated by the nominating Authority or Government, the Government of Singapore, UNICEF and SgWA, with respect to the course.

Course Duration

The webinars will be held on 8 to 11, 15 to 19 November 2021, from 14:00 – 17:30 (**Singapore time; UTC+08:00**) on each of these days. Please see Annex for the draft programme (subject to changes).

Application Information

Applicants should be:

- Nominated by their Government;
- Mid- to senior-level government officials involved in integrated water resources and stormwater management;
- Able to attend all the synchronous e-learning sessions. Applicants will require an internet-enabled device with Zoom installed, and an internet-enabled device with functioning webcam, microphone and audio;
- Proficient in both spoken and written English as the course is conducted fully in English without translation; and
- In good health.

Terms of Award

The course is jointly sponsored by the Government of Singapore and the UNICEF under the Singapore-UNICEF Joint Training Programme.

Application Procedure

(Closing date for nomination: **15 October 2021**)

The Government of Singapore and UNICEF are pleased to invite the respective National Focal Point for Technical Assistance to nominate **one (1)** suitable applicant. Selection of candidates will be based on merit. Should there be more applicants than training places, the Government of Singapore seeks the understanding of the respective National Focal Point for Technical Assistance in the event that its nominee(s) is not selected.

All nominees are to submit their applications online at <https://go.gov.sg/unicef2021> by **Friday, 15 October 2021**. All application forms must also be **endorsed** by the respective Ministry of Foreign Affairs or National Focal Point for Technical Assistance via email links. Instructions and FAQs for Applicants and NFPs can be found at the links below:

- Applicants: <https://go.gov.sg/start-guide>
- NFPs: <https://go.gov.sg/start-nfp>

Note:

- Participants who attend 66% of 'live' e-learning sessions, will receive an electronic certificate of completion from the SCP.
- Applicants should refrain from making telephone and email inquiries on the status of their applications.
- The **Ministry of Foreign Affairs, Singapore** will inform all applicants of the outcome of their applications. The NFP will also be informed directly or through Singapore's diplomatic representations in the nominating country.

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- Facebook: www.facebook.com/SCPFriends

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DRAFT PROGRAMME (AS OF 13 SEPTEMBER 2021)

Singapore – UNICEF CAP Partnership, 8-11, 15-18 November 21 (Virtual Programme)

Start 14:00 SGT	Day 1 (8 Nov) Monday	Day 2 (9 Nov) Tuesday	Day 3 (10 Nov) Wednesday	Day 4 (11 Nov) Thursday	Day 5 (12 Nov) Friday
14:00 - 14:15 SGT	Session 1.1a: (Joint Module) Welcome, Opening – Welcome & Opening Remarks and Photo Session via online platform	Session 2.1a: Recap of Day 1	Session 3.1a: Recap of Day 2	Session 4.1a: Recap of Day 3	Rest Day
14:15 – 15:00 SGT	Session 1.1b: Familiarising and Navigating Through SgWA Mobile Learning Platform Mr Yap Wai Kit, Sr. Training Specialist, Singapore Water Academy, PUB Self-introduction by Participants	Session 2.2a: (PUB Module) From Scarcity to Sustainability: Integrated Water Resources Management in Singapore Mr Chan Yoon Kum, Senior Consultant, PUB	Session 3.1b: (PUB Module) Singapore's Approach to Sustainable Stormwater Management Mr Tan Nguan Sen, Senior Consultant, PUB	Session 4.1b: (PUB Module) Active, Beautiful and Clean (ABC) Waters Programme Ms Cheng Geok Ling, Deputy Director, Catchments & Waterways, PUB	
15:00 – 15:45 SGT	Session 1.1c: (PUB Module) The Singapore Green Plan 2030 Ministry of Sustainability and the Environment (MSE), Singapore			Session 4.1c: (PUB Site Briefing) ABC Waters projects along Kallang River Ms Liu Huei Lyn, Sr. Landscape Architect, Catchments & Waterways, PUB	
15:45-16:00 SGT	Tea Break	Tea Break	Tea Break	Tea Break	
16:00 – 17:30 SGT	Session 1.2b: (PUB Module) PUB's Approach and Strategies towards Water Sustainability and Climate Resilience Dr Elaine Quek, Deputy Director, Policy & Planning Department, PUB	Session 2.1c: (PUB Module) Implementing Circular Economy - Case Study of Tuas Nexus Mr Mark Wong, Chief Engineer, Deep Tunnel Sewerage System 2 Department, PUB Session 2.1b: (PUB Module) Towards Water Sustainability and Climate Resilience – Coastal Protection Mr Chang Chian Wui, Senior Consultant, PUB	Session 3.2a: (PUB Site Briefing) Stamford Detention Tank Mr Muhammad Zaki Bin Mohamedzen, Senior Engineer, Drainage Operations Division, Catchment and Waterways Department, PUB Session 3.2b: (PUB Site Briefing) Marina Barrage Mr Khairil Anwar Bin Makktom, Principal Engineer, Reservoir Management Division, Catchment and Waterways Department, PUB	Session 4.2: (UNICEF Module) Introduction to Climate Resilient WASH and a Strategic Framework Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA	
17:30 SGT	End of Day 1 Programme	End of Day 2 Programme	End of Day 3 Programme	End of Day 4 Programme	

Singapore – UNICEF CAP Partnership, 8-11, 15-18 November 21 (Virtual Programme)					
Start 14:00 SGT	Day 5 (15 Nov) Monday	Day 6 (16 Nov) Tuesday	Day 7 (17 Nov) Wednesday	Day 8 (18 Nov) Thursday	Day 9 (19 Nov) Friday
14:00-14:15 SGT	Session 5.1a: Recap of Day 4	Session 6.1a: Recap of Day 5	Session 7.1a: Recap of Day 6	Session 8.1a: Recap of Day 7	Session 9.1a: Recap of Day 8
14:15-15:45 SGT	Session: (UNICEF Module) Climate Risk Analysis for WASH Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP	Session: (UNICEF Module) Delivering Solutions Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser (Climate) GWP	Session: (UNICEF Module) WASH & Climate Financing Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP	Session: (PUB Module) Industry sharing Ms Winnie Tan, Senior Asst. Director, Industry and Technology Collaboration Department, PUB	Session 9.1b: (Joint Module) Facilitated Group Work for Action Planning Mr Evariste Kouassi- Komlan, Regional Adviser WASH, UNICEF Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP
15:45-16:00 SGT	Tea Break	Tea Break	Tea Break	Tea Break	Tea Break
16:00-17:30 SGT	Session: (UNICEF Module) Identifying and Appraising Options Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP	Session: (PUB Module) PPP Approach for Water Infrastructure Projects Mr Ong Key Wee, Head, Public Private Partnership Management, PUB Session 5.2b: (PUB Site Briefing) Marina East Desalination Plant (MEDP) Mr Jason Wong, Head (Water Plants), Water Services, Keppel Seghers Engineering Singapore Pte Ltd	Session: (UNICEF Module) Monitoring Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP	Session: (Joint Module) Facilitated Group Work for Action Planning Mr Evariste Kouassi- Komlan, Regional Adviser WASH, UNICEF Ms Silvia Gaya, Senior Adviser, Water and Environment, UNICEF NY, USA Mr Jose Gestí Antonio Canuto, Principal Adviser, Climate, GWP	Session 9.2a: (Joint Module) Sharing and Presentations for Action Planning Closing remarks
17:30 SGT	End of Day 5 Programme	End of Day 6 Programme	End of Day 7 Programme	End of Day 8 Programme	Session 9.2b: Closing and Photo Session via Online Platform