

Webinar Report on

Unpacking the linkages between WASH and climate mitigation

How Water, Sanitation and Hygiene (WASH) Sector can reduce GHG emissions

21 November 2023

14:00 to 15:15 IST

India WASH Governance Hub



CWAS CENTER
FOR WATER
AND SANITATION

CRDF CEPT RESEARCH
AND DEVELOPMENT
FOUNDATION

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Introduction and Context

Municipal WASH service chain contributes to GHG emissions around 4 – 7 % of total GHG emissions across the world (Malin Lundberg, Josh, Therese, & Lan, 2022). The sources for the emissions across the WASH services chain are emitted through various components of the value chain from user end to the disposal component. To tackle climate change and build resilient communities various initiatives are required at scale and at a rapid pace to withstand climate hazard impacts and make WASH as the emission sequester and reducer sector rather than an emission contributor sector. The initiatives can vary from household level to treatment, reuse and disposal level, and involve initiatives to address both the scope 1 and scope 2 emissions, and lead to carbon neutral WASH utilities.

As a step in this direction, and part of the India WASH governance hub the Center for Water and Sanitation (CWAS), CRDF at CEPT University along with the Stockholm International Water Institute (SIWI), organized an online webinar to discuss and unpack linkages between WASH and Climate Change. The webinar brought in sector experts through a panel discussion that explored the areas of climate mitigation, both from a global perspective and in the Indian context. The discussions were around aspects such as: increasing energy efficiency of water supply, use of renewable energies in water supply production, reduction of GHG emissions through safely managed sanitation with a focus on vulnerable communities and measuring emissions in WASH.



Panellists and Presenters

Moderator



Prof Dinesh Mehta

Center for Water and Sanitation,
CEPT University

Panellists



Prof. Jacek Małania

Gdańsk University of
Technology, Poland



Prof Meera Mehta

Center for Water and
Sanitation, CEPT University



Ms. Bijal Brahmbhatt

Mahila Housing Trust



Ms. Sahana Goswami

WRI India

Presenters



Dr. Ricard Giné-Garriga

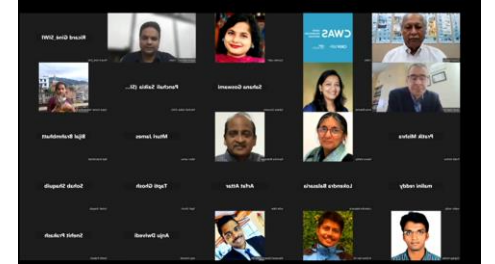
Stockholm International
Water Institute



Mr. Aasim Mansuri

Center for Water and
Sanitation, CEPT University

Attendees



120+ online participants
from domestic and foreign
organizations, joined the
webinar.

Participants were from
academic institutions,
private sector organizations,
researchers etc

Session Presentations

The webinar had two session presentations. In the first presentation the SIWI Team presented their research on ‘Mitigation measures in drinking water and sanitation services’, that described the mitigation measures for various potential adverse impacts resulting from the management of water and wastewater systems.

The presentation highlights the mitigation actions that need to be taken to reduce direct and indirect GHG emissions. It concludes with recent challenges, way forward actions to increase mitigation efforts.

The second presentation was from the CWAS team, based on the experience from three Indian cities to move towards non-fossil based / renewable energy sources for WASH operations to reduce carbon emissions, and also help cities to improve financial sustainability by reducing recurring expenditure. Apart from a focus on energy transition, the presentation also showcased aspects on climate friendly citywide inclusive sanitation approaches that have been taken to ensure that vulnerable and marginalized communities are served and women SHGs are formally engaged.



Session presentation on Mitigation measures in drinking-water and sanitation services

- **Lack of data** hampers evidence-based climate action
- **Poor representation of WASH** in the climate policy debate
- WASH projects rarely estimate their potential for emissions reduction, hampering **climate finance**

- **Increase evidence** | More and better data and reporting of actual GHG emissions
- **Enhance policymaking** | Available knowledge and evidence informing climate policies and strategies, and the formulation of response plans
- **Incentivize investment** | Expand and enhance drinking-water and sanitation management at scale, through climate-resilient WASH solutions
- **Gather momentum** | Establishment of climate platforms to strengthen cooperation among climate and WASH stakeholders

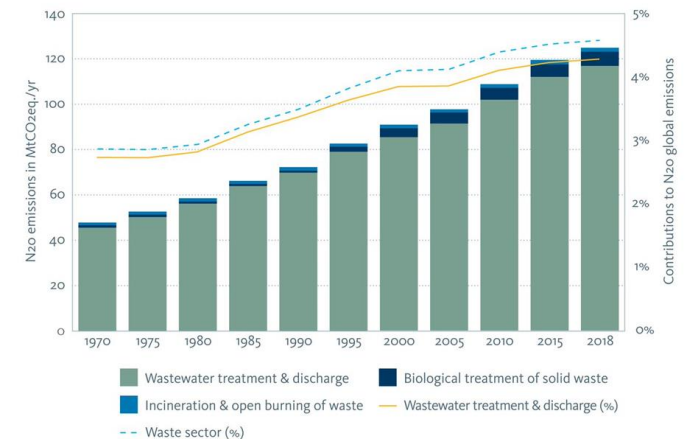
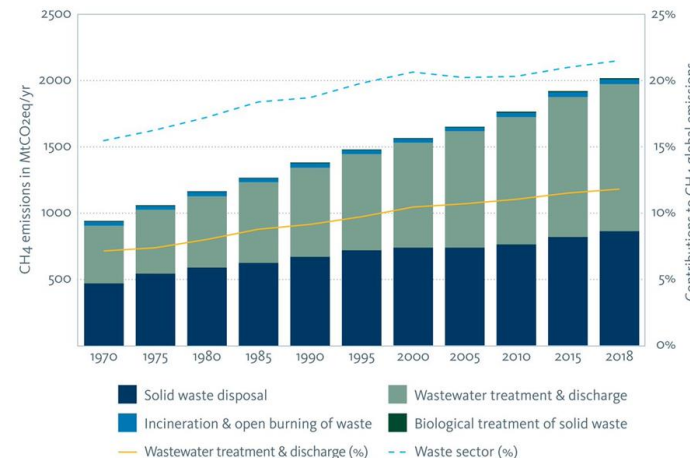
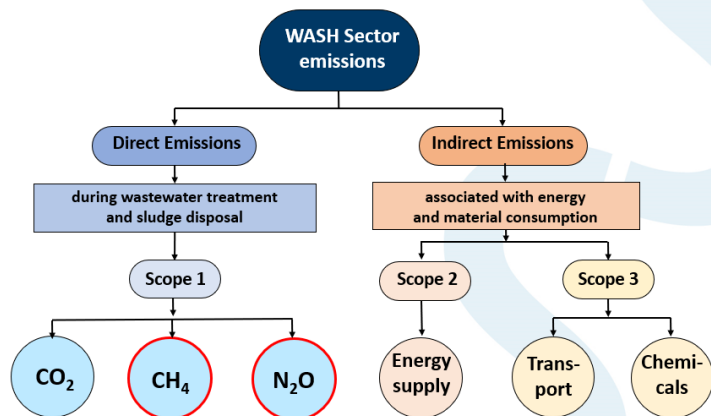


Dr. Ricard Giné-Garriga

Stockholm International Water Institute

“To effectively contribute to global mitigation efforts, the WASH sector needs to generate robust evidence, translate it into policy-making, and then make sure that policy recommendations are adequately implemented, not only expanding centralised water and wastewater systems, but also securing access to basic services with mitigation opportunities considered”

GHG emissions from drinking-water and sanitation



Session presentation on Moving towards Carbon Neutral cities through WASH activities – Case of cities from Maharashtra, India

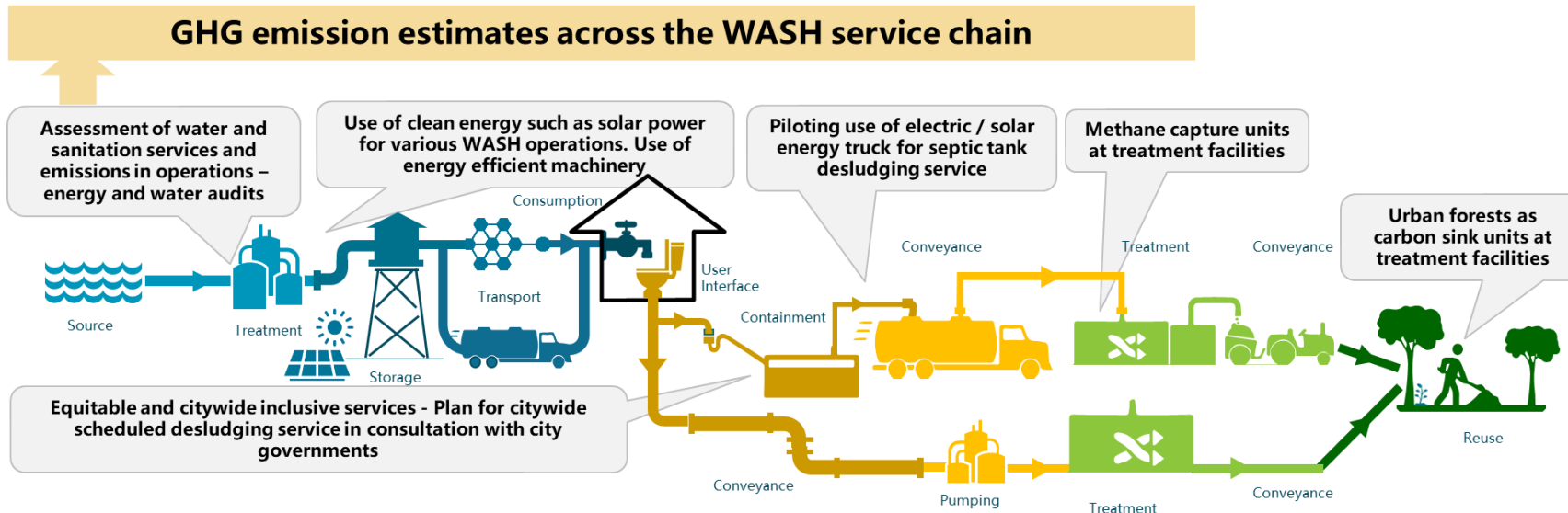


Mr. Aasim Mansuri

Center for Water and Sanitation,
CEPT University

- The presentation was made by Mr Aasim Mansuri on the work done on climate change by CWAS with support from local governments in the 6 cities.
- The presentation depicted the interventions undertaken in the cities on sanitation and climate change such as implementation scheduled desludging of septic tanks, treatment of fecal sludge, reuse of treated used water for Urban forest.
- Research and assessment of GHG emissions across the WASH service chain, use of solar energy for WASH operations, methane capture units at treatment facilities were explained and how these help in reduction of GHG emissions.

“Climate change initiatives in WASH can be localized on-ground level through a piecemeal approach yet these solutions need to be scalable for a win-win situation. To create an ecosystem of all stakeholders, players and institutions to address climate mitigation and adaptation issues is the need of the hour.”



Link to the Video Story of Sinnar city presented during the session presentation:
<https://www.youtube.com/watch?v=uzcFGy-aVoQ>

Reflections from panel discussions



Prof. Jacek Mąkinia

Gdańsk University of
Technology, Poland

Prof Makinia stressed on the fact that most modern centralized sanitation systems produce which are typical for Europe are highly energy intensive and could be responsive for almost 4% of the overall electricity consumption. The term energy neutrality which is also called self sufficiency in waste water treatment plant is the state in which the energy produced is equal for exceeds they consume, and this can reduce the operational cost. He shared that there are two ways to reduce this imbalance the fist one is that the energy consumption could be reduced, and it can be done by operationalizing the process that are less energy intensive for wastewater treatment though a process called anammox. On the other hand, the energy balance could also be improved through recovery of waste especially chemical energy has a great potential for recovery. There are very few wastewater treatment plants that have achieved energy neutrality.



Prof Meera Mehta

Center for Water and
Sanitation, CEPT University

Prof Meera Mehta stressed on the fact that when energy neutrality in the WASH sector is talked about there is a need to look beyond utility level and also considered household level energy consumption. Hence a holistic approach needs to be adopted which looks at a city as a whole ecosystem and not just treatment facilities and other infrastructure. Hence there is a need to pursue changes and improvement for use of clean energy mainly at the HHs level. Climate finance need to be looked in silos but needs to be integrated with public finance for WASH. In majority of the developing countries funding comes through public finance and the focus should be on how to make that finance climate resilient. There is also a need to leverage public finance to bring on more finance through public private partnership (PPP), credit facilities etc.

Reflections from panel discussions



Ms. Bijal Brahmbhatt

Mahila Housing Trust

Vulnerable communities are more focused on problems addressing to basic WASH services than climate change. Hence MHT through their work in small and medium towns in Gujarat and Maharashtra have been focusing on climate change determinants like heat and water scarcity in the WASH space. Climate change and WASH are interlinked due to the built environment that is existing in Indian cities. During the Initial stages of work on climate change, the communities were not able to understand the terminology of climate change but could relate to basic needs of finance, water supply and sanitation. Climate determinants which were obvious like heat, water scarcity which is closely connected to sanitation, flooding and vector borne diseases were related to the communities to understand climate change. It was important to demystify the concept of climate change when interacting with communities' techniques such as gamification, explaining about water quality and rise in water table due to interventions such well rejuvenation etc were useful. More efforts at HH level towards climate change.



Ms. Sahana Goswami

WRI India

Ms Sahana shared her experience on the Mumbai climate action plan that WRI has supported MCGM to prepare as one of the technical partners. She talked about the standards, methodology that was adopted, city reporting inventories tools etc. Carbon emission reduction for WASH even if its contribution to direct carbon emission is less than eg transport, energy etc. but it should be considered as a pathway towards an interlinked holistic approach to achieving carbon neutrality. The inventory method, adopted in the ongoing Mumbai climate action plan makes it possible to assess options across different solutions and types. Need to look at treatment technologies not only from how much energy reduction is happening but also what other benefits are achieved and that is where a citywide approach is required.

Way forward as part of the India WASH Governance Hub

- This webinar was organized as part of the Wash governance hub. CWAS in partnership with Stockholm International Water Institute, Sweden and National Institute of Urban Affairs, India has formed the WASH Governance Hub.
- This webinar is part of the larger objectives of the activities of the India WASH Governance Hub on learning and knowledge sharing.
- As a way ahead to this, a second webinar of this series is planned which is focused on good practices and evidence on climate adaptation and mitigation measures implemented by the WASH sector.
- The case studies presented will explore the areas of increasing the energy efficiency of water supply, use of renewable energies in water supply production, reduction of GHG emissions through safely managed sanitation, measuring emissions in WASH, among others.



India WASH Governance Hub



THANK YOU

cwas@cept.ac.in

About us

The Center for Water and Sanitation (CWAS) is a part of CEPT Research and Development Foundation (CRDF) at CEPT University. CWAS undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation. Acting as a thought catalyst and facilitator, CWAS works closely with all levels of governments - national, state and local to support them in delivering water and sanitation services in an efficient, effective and equitable manner.

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