



Every Drop Counts - Story from Colombo City Water Loss Management

KAMAL DAHANAYAKE

Asian Development Bank

Sri Lanka Resident Mission



**WATER
& WASH** 2023
FUTURES

Achieving SDG6 in a Changing Climate



#WaWF23

Water Losses in the Colombo City

- Over 100 years old water distribution network
- No zoning in the system. No accurate GIS Data
- Direct transmission tapings to feed high elevated areas.
- Intermittent water supply & negative pressure.
- High head loss due to undersized pipes to meet the increasing demand.



THE COLOMBO CITY WATER SUPPLY SYSTEM AT A GLANCE



600,000
Population



400,000
Floating
Population



1,571 Tenement
Gardens (56,000
Housing units)



140,000 Service
Connections



300,000
Cu. M per day
Water Supply

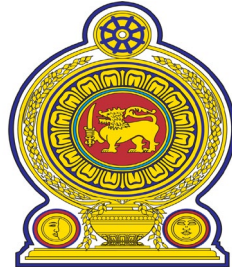


1,000km Existing
pipe length

THE PROJECT



202 Mn



73 Mn

Total cost - USD 275 Mn



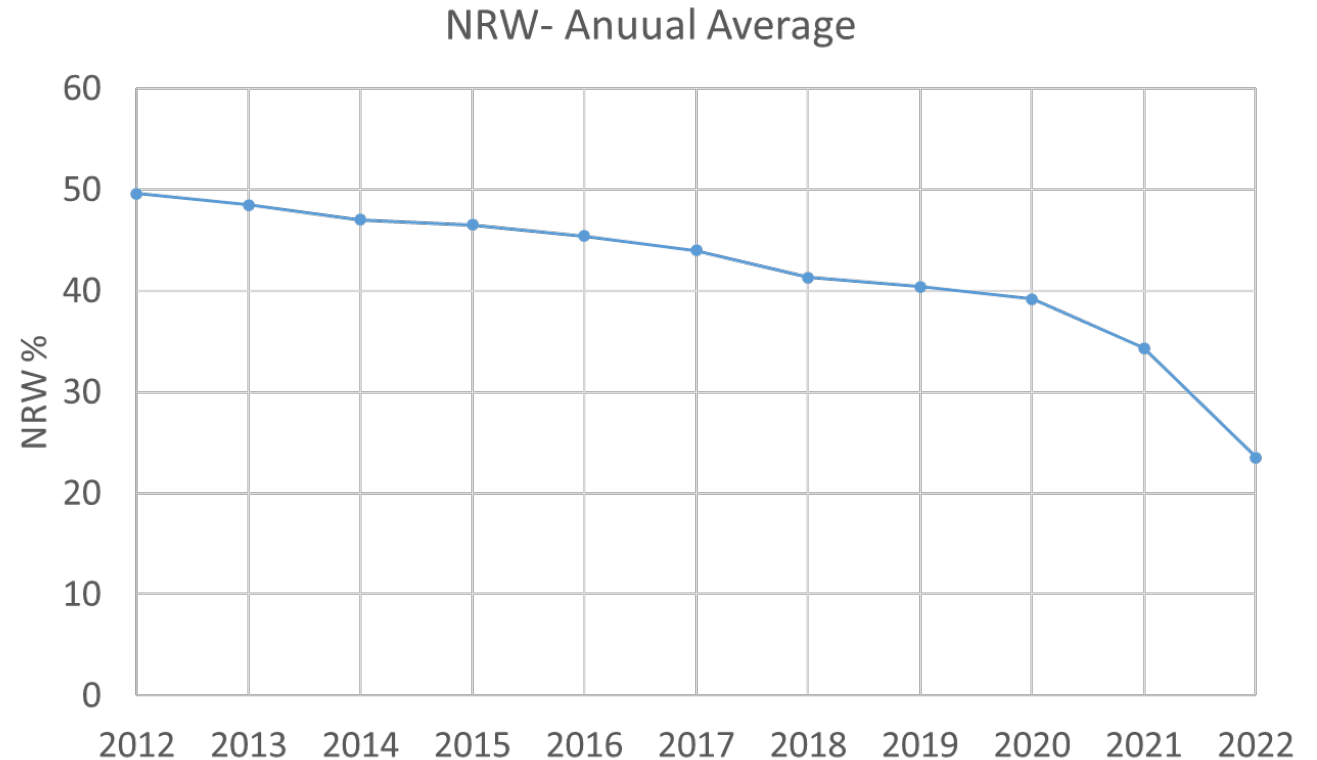
2013 to 2022

Main Objectives

- ✓ To increase water supply availability and efficiency
- ✓ To reduce water losses from 49% to below 18% by the year 2022
- ✓ To establish a long-term mechanism to reduce water losses

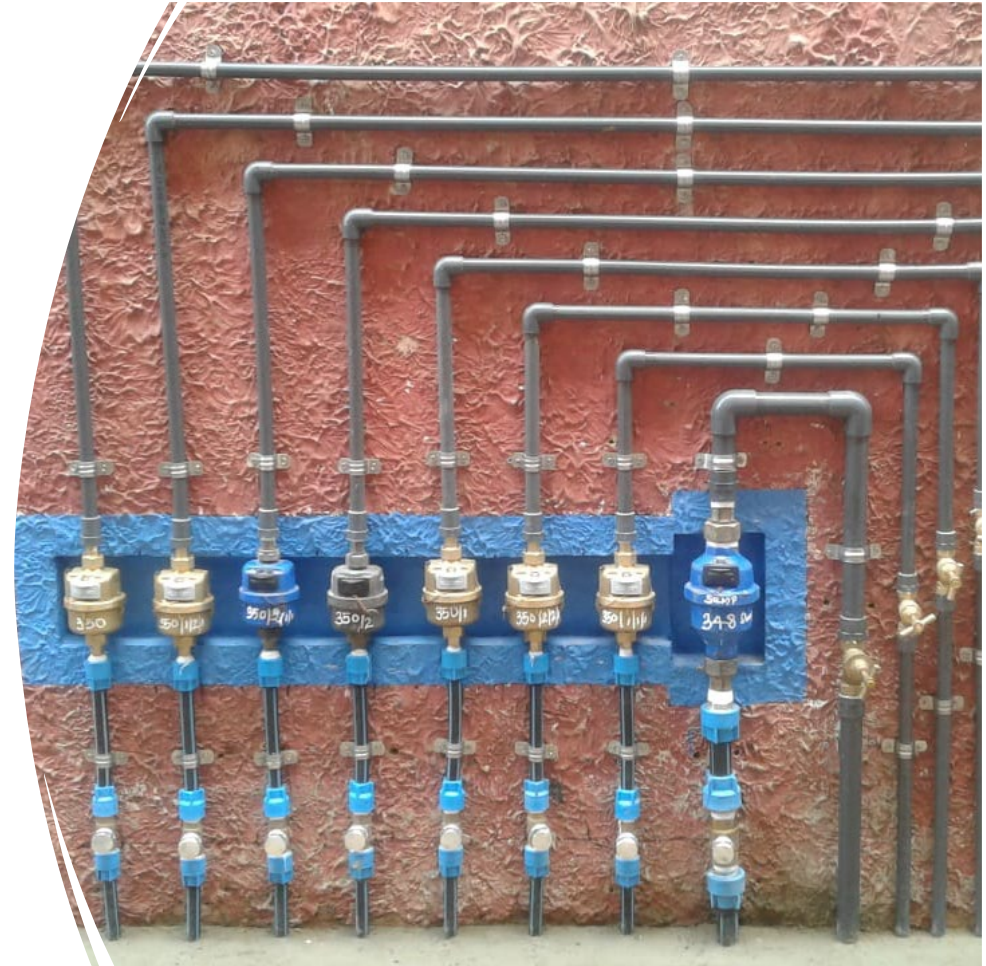
Project Outcomes as of 31 December 2022

- Out of 78 District Metering Areas (DMA), 53 DMAs completed and commissioned
- Overall NRW has been reduced to 21%
- Average NRW in completed DMAs is 14%
- Overall reduction in water supply to Colombo city is 90,000 Cubic Meters per day.



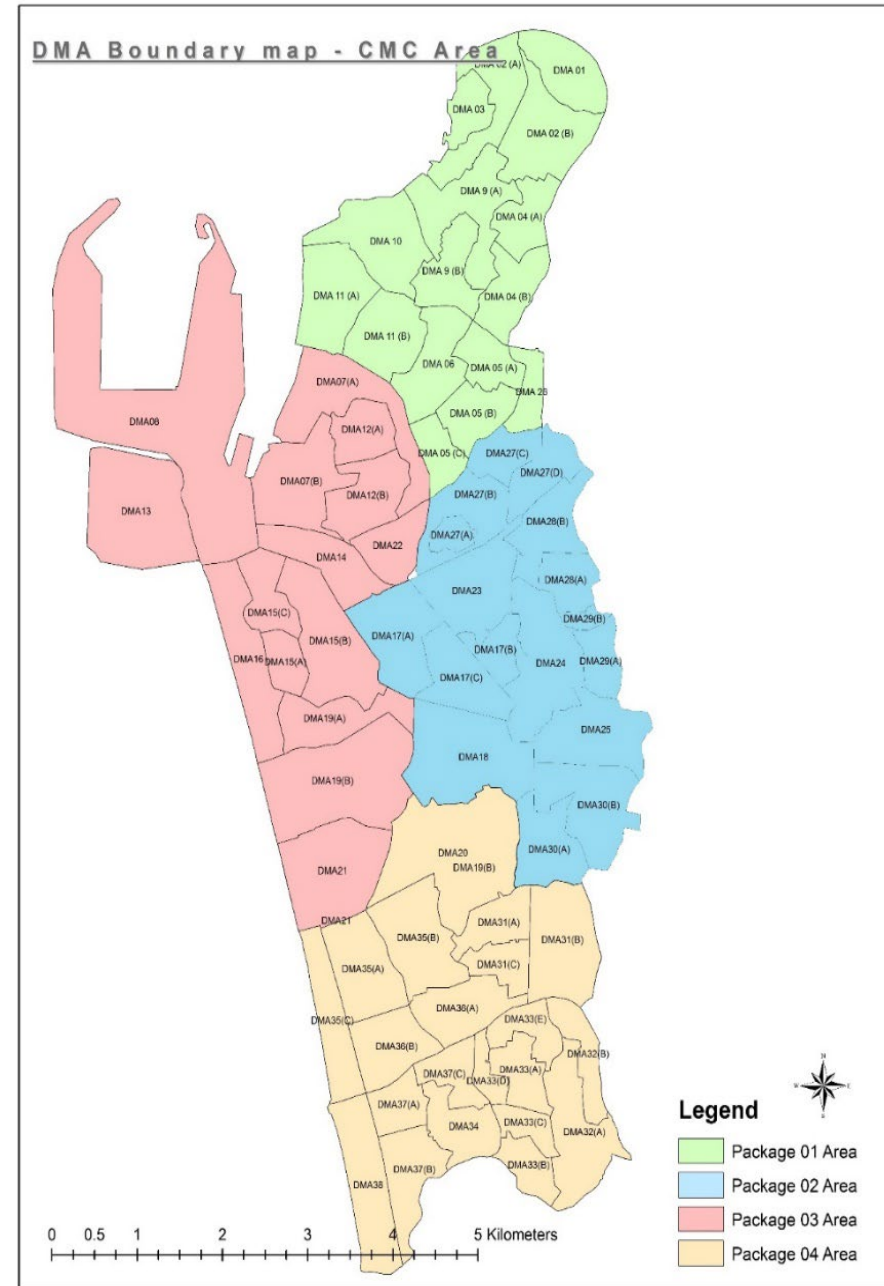
Network Improvement Approach

- Planned to replace 560Km of pipes. Actual Replacement is 806km
- 85,000 water meters replaced



Contract Mode

- Lack of accurate data on the pipe network
- Minimize contractor's risk
- Performance based vs. BOQ type contracts
- Number of contract packages
- Procurement Method – Single envelop vs. Two envelops



Construction Challenges

- Maintaining water services
- Traffic Management and Security
- Maintaining city activities during the daytime
- Labor shortages
- Covid – 19 Pandemic
- Economic Crisis



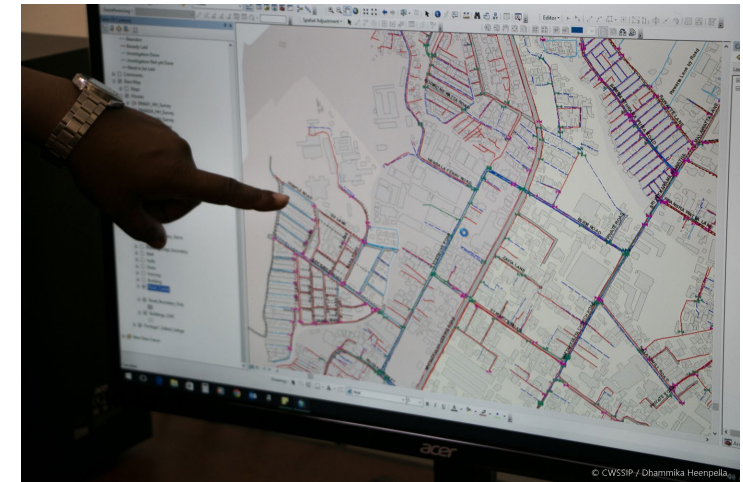
Public Awareness and Complaint Management

- NGO recruited for Community Mobilization for WASH activities / Behavioral Changes
- Advertising Company hired to Conduct a Public Awareness Campaign
- Complaint Management was managed by the client, National Water Supply and Drainage Board (NWSDB) (1645/1646 complaint were resolved)



NRW Management

- Training of Operation and Maintenance Staff on NRW Management
- NRW Management Centre
- GIS base Assets Management system
- Active Leak Detection & Control
- Apparent losses and Real losses reduction / Meter testing and replacement



The successful implementation of a city NRW reduction program is not just an engineering task. It highly depend on the proper understanding of the city water system behavior and effective user community participation.

Kamal Dahanayake

Senior Project officer (Urban and Water)

Asian Development Bank

kdahanayake@adb.org

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