



Enabling Businesses. Uplifting Communities.

# Innovation in Water Resource Management

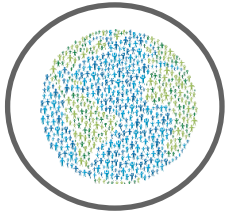
Liveable Cities Lab

*Climate-resilient Water Management: Affordable and quality water for all*

9 February 2022

Anna Lu

# Water Situation



Water scarcity affects more than **40%** of the world's population



Asia-Pacific region has the lowest per capita water availability, being home to **60%** of the world's population but only **36%** of the world's water resources



By 2050, at least **1 in 4** people will suffer recurring water shortages



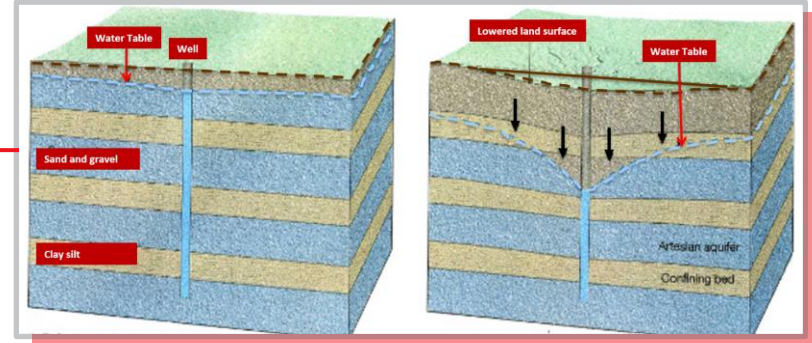
In the Philippines, **1 out of 10** people do not have access to improved water sources

# Dangers of Over-extraction

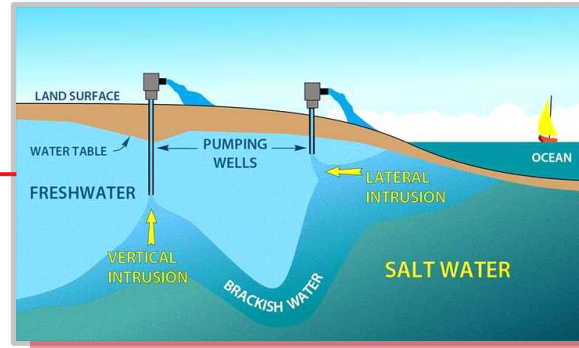
## Drying up of wells



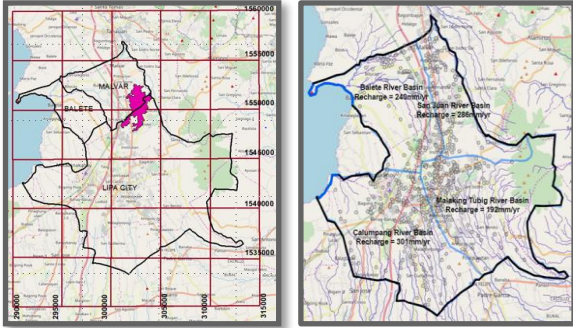
## Land subsidence



## Salt water intrusion

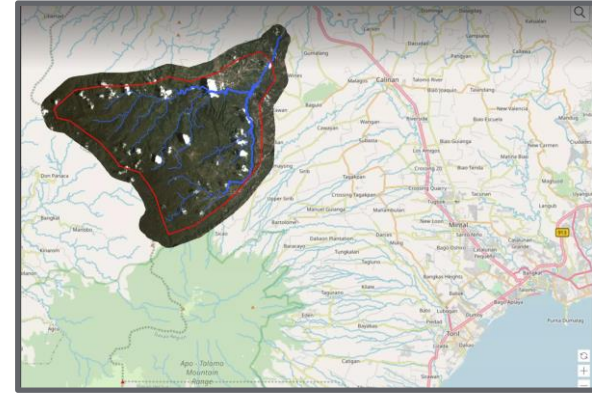


# Managing Water Resources



## Hydrology and hydrogeology studies

- Determine surface water and groundwater availability and sustainability in the area



## Watershed Management Study

- Ensure that existing water quality is maintained;
- Develop a plan to effectively mitigate contamination in the watershed area due to human activities

# Managing Water Resources

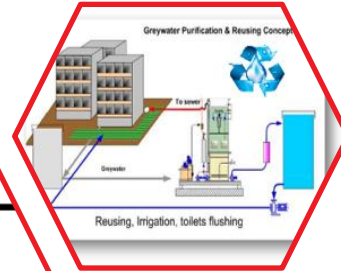
Conjunctive use of  
ground + surface water



Coordination with  
stakeholders



Greywater Reuse

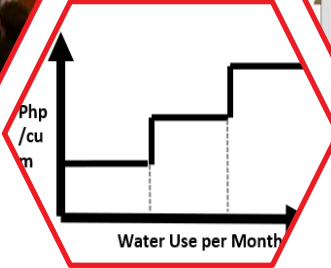


Rainwater harvesting



NRW < 5%

NRW management

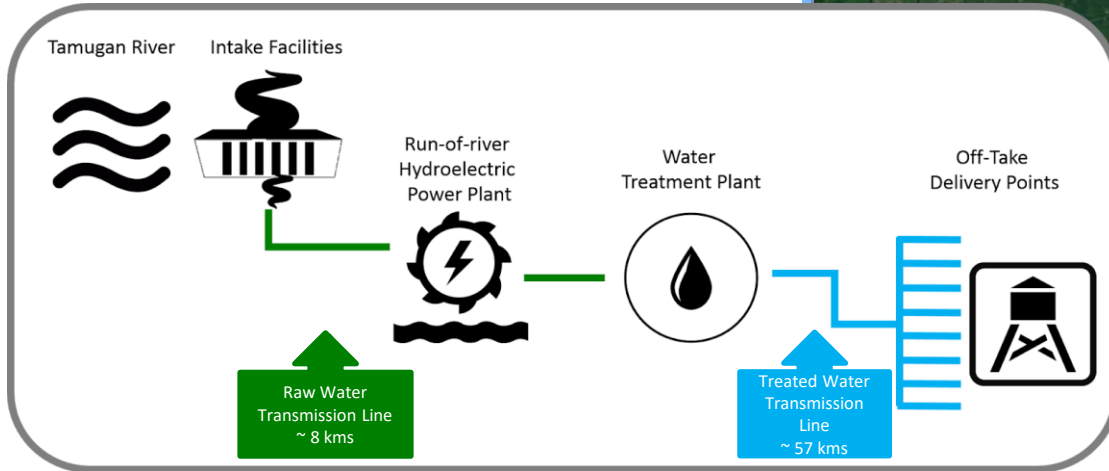
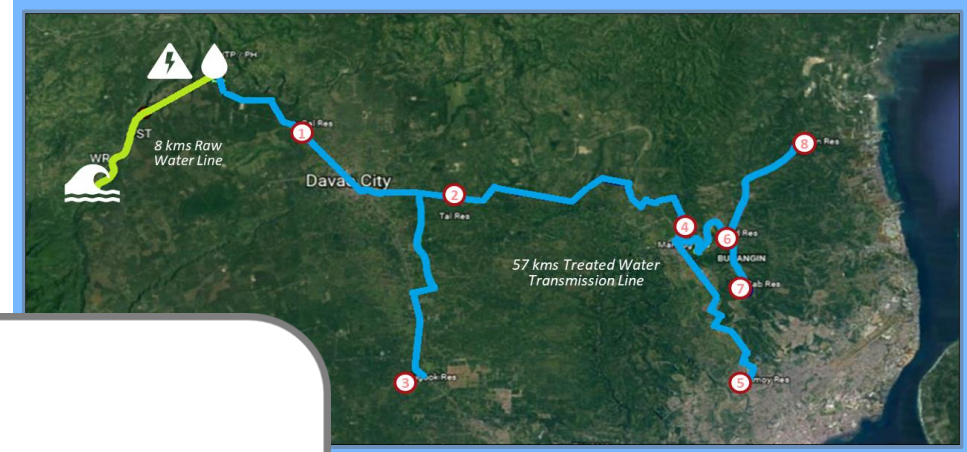


Progressive water  
pricing

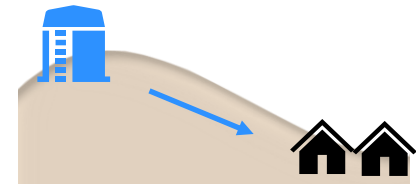
# Water – Energy Nexus



- Powered by renewable, self-generated energy



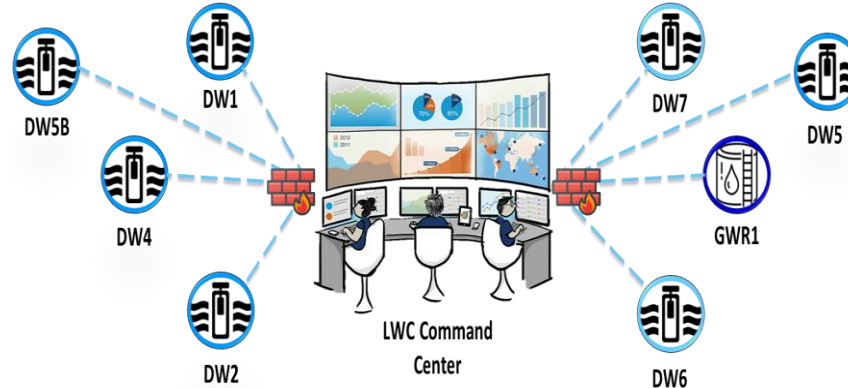
- Gravity flow distribution



# Smart Water Network

## Capabilities

- Water Quality and Quantity Monitoring System
- Pressure Control and Leakage Detection
- Interconnected and automated operations
- Realtime notification of equipment/facility abnormality
- Remote monitoring and control



## Benefits

- ✓ Enhanced Planning and Network Operations
- ✓ Minimized Non Revenue Water
- ✓ Improved resource optimization and operational efficiency
- ✓ Better facility uptime or reliability
- ✓ Agile and adaptable system

# Taking Action

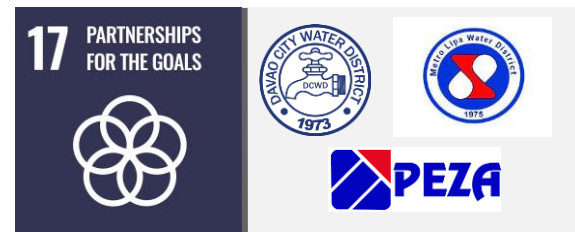
## SUSTAINABLE DEVELOPMENT GOALS



- Implement innovative water solutions



- Establish government policies to safeguard our water resources



- Pursue partnerships with the private sector to finance projects and develop new technology





Sustainable water across generations.



Water made smarter.



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