Unilever pure | 2030 Water Resources Group | HOSTED BY WORLD BANK GROUP Water | BASIS | বাংলাদেশ কম্পিউটার সমিতি BANGLADESH COMPUTER SAMITY | WASA | a2i innovate for all

Discussion flow- Webinar 02

No	Organization of Webinar No 02	Delivered by
1	Setting the Stage of Water Situation and Paradox of Water Scarcity	2030 WRG
2	Why 2030 WRG, BW-MSP and the WICC 2021	2030 WRG
7	Brief on the Problem Statements	2030 WRG
8	Tools and Techniques of Right Messaging (Presentation of Data) to Promote Value and Responsible Use of Water	Hasan Benaul Islam Founder and Story Coach Benaul The Piper
9	Q&A	

Global Water

Salt Water **96.5%**

Fresh Water **3.5%**

Breakdown of Earth's Water (%)

Oceans	**96.5**
Permanent Ice & Snow	**1.7**
Groundwater	**1.7**
Lakes & Rivers	**0.014**
Atmosphere	**0.0001**

Breakdown of Fresh Water (%)

Permanent Ice & Snow	**68.7**
Groundwater	**30.1**
Lakes & Rivers	**0.3**

Source: USGS

Bangladesh River Network: The GBM Basin

Bangladesh Water System

Bangladesh River System
Lower most riparian country in the Ganges-Brahmaputra-Meghna (GBM) river system – 3rd in the world in terms of water volume caried after Amazon and Congo river.
Crisscrossed by around 700 rivers including 57 trans boundary rivers, shares its trans boundary water resources with the upper riparian countries like Bhutan, China, India and Nepal.

World's biggest and most populated delta, a riverine floodplain that makes up around 80% of the country's total land area.
In total 26,000 Km of waterways are available.

Rainfall
Mean Annual Rainfall: min of 1,110 mm (W) per year - max 5,690 mm (NW)
Dhaka experiences around 2000mm/y

Groundwater
Groundwater supplies 79% of the water demand for irrigation, livestock, household, and industrial usages.

Bangladesh Water Challenges

Withdrawal of Water by Upper Riparian Countries
Due to increasing demand Water being extracted from most of the shared 57 rivers

Climate Change
One third of the country stands lower than 5 meters.

Salinity in the South
high salinity in groundwater makes the water unusable for Agriculture and household use.

Arsenic Contamination
Almost a quarter of the country's population exposed
leading to cancers, cardiovascular disease, developmental and cognitive problems in children, and death. An estimated 43,000 people die each year from arsenic-related illness in Bangladesh.

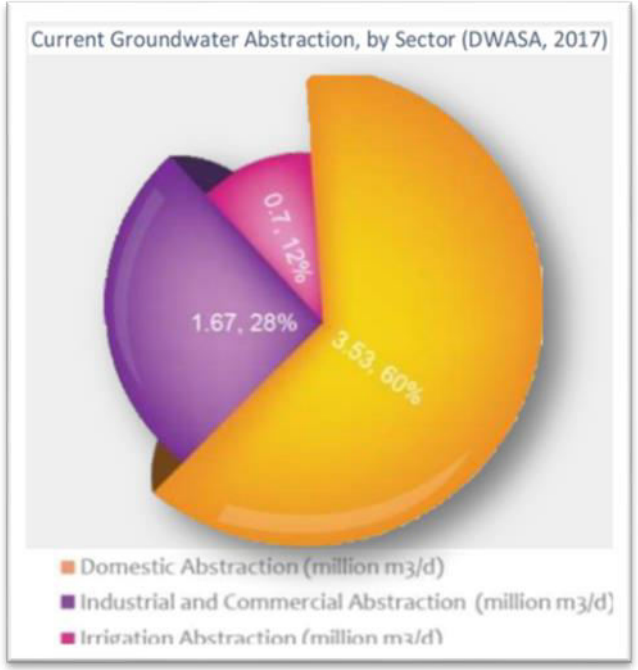
Pollution
80% or more wastewater flows back into the ecosystem without being treated or reused

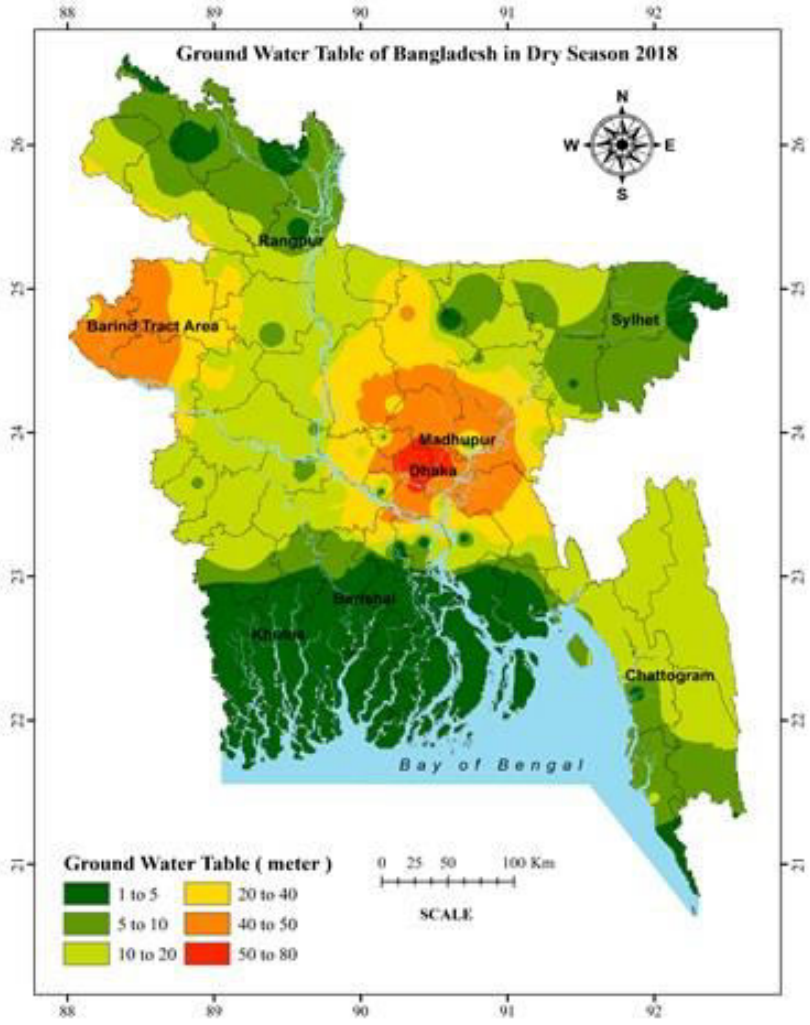
Ground Water depletion

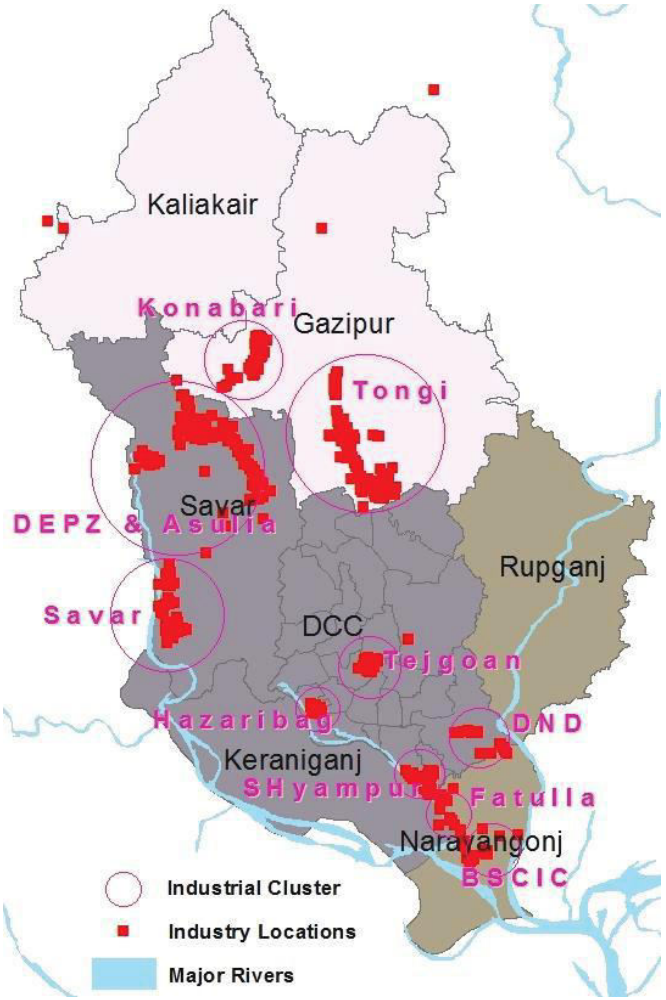
2030 Projection
It is projected that industrial water demand can increase by 109%, domestic water demand by 75%, and agricultural water demand by 43% in 2030 resulting in up to 40% water shortage in the country.

Underground Water Sector Extraction

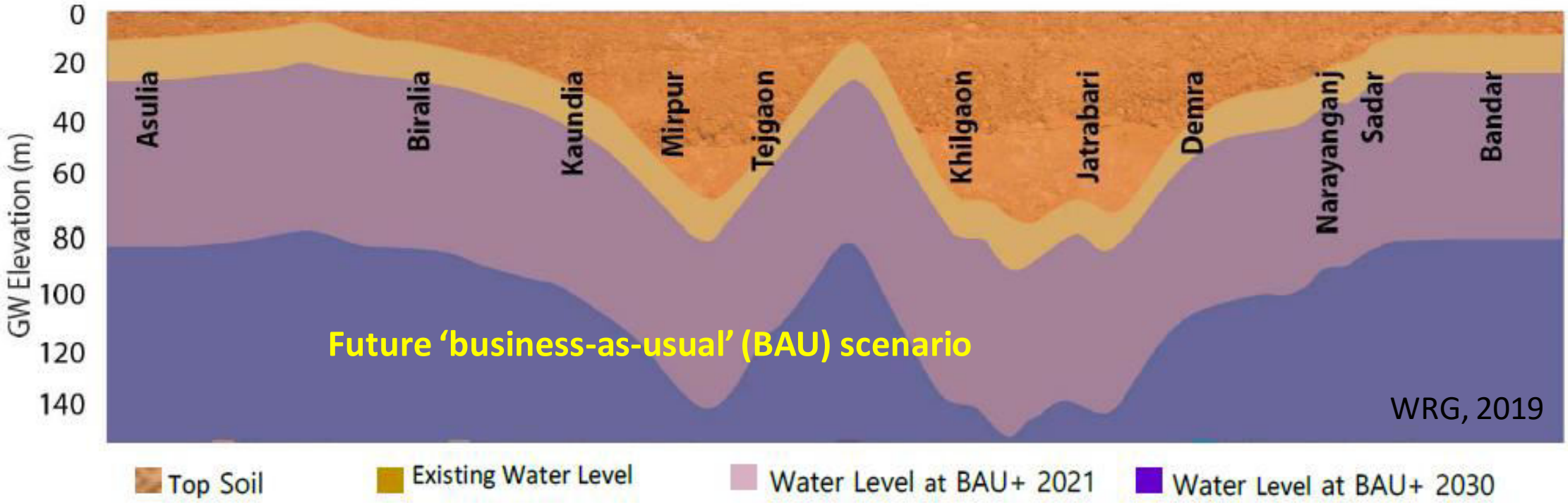
	2021	2030
Rate of Ground Water Decline	3m/y	5m/y
Ground Water Extraction	7mcm/day	8-10mcm/day
Lowest Depth of Upper Aquifier	90-100m	110m-130m
Cone of Depression		~2000 Sq Km







Ongoing Depletion of Aquifer Beneath Dhaka Megacity



2030 Water Resources Group (2030 WRG)

2030 WRG helps countries achieve water security (SDG 6) by facilitating collective action on water between government, private sector and the civil society (SDG 17) through structured Multi-Stakeholder Partnerships (MSPs) for the benefit of people, ecosystems, and economies.

TRANSFORMING VALUE CHAINS

PROMOTING CIRCULAR WATER ECONOMIES

IMPROVING RESILIENCE PLANNING

2030WRG Global Partners

WORLD ECONOMIC FORUM

Ideation, preparation and incubation

2008-2012

IFC International Finance Corporation WORLD BANK GROUP

Demonstration

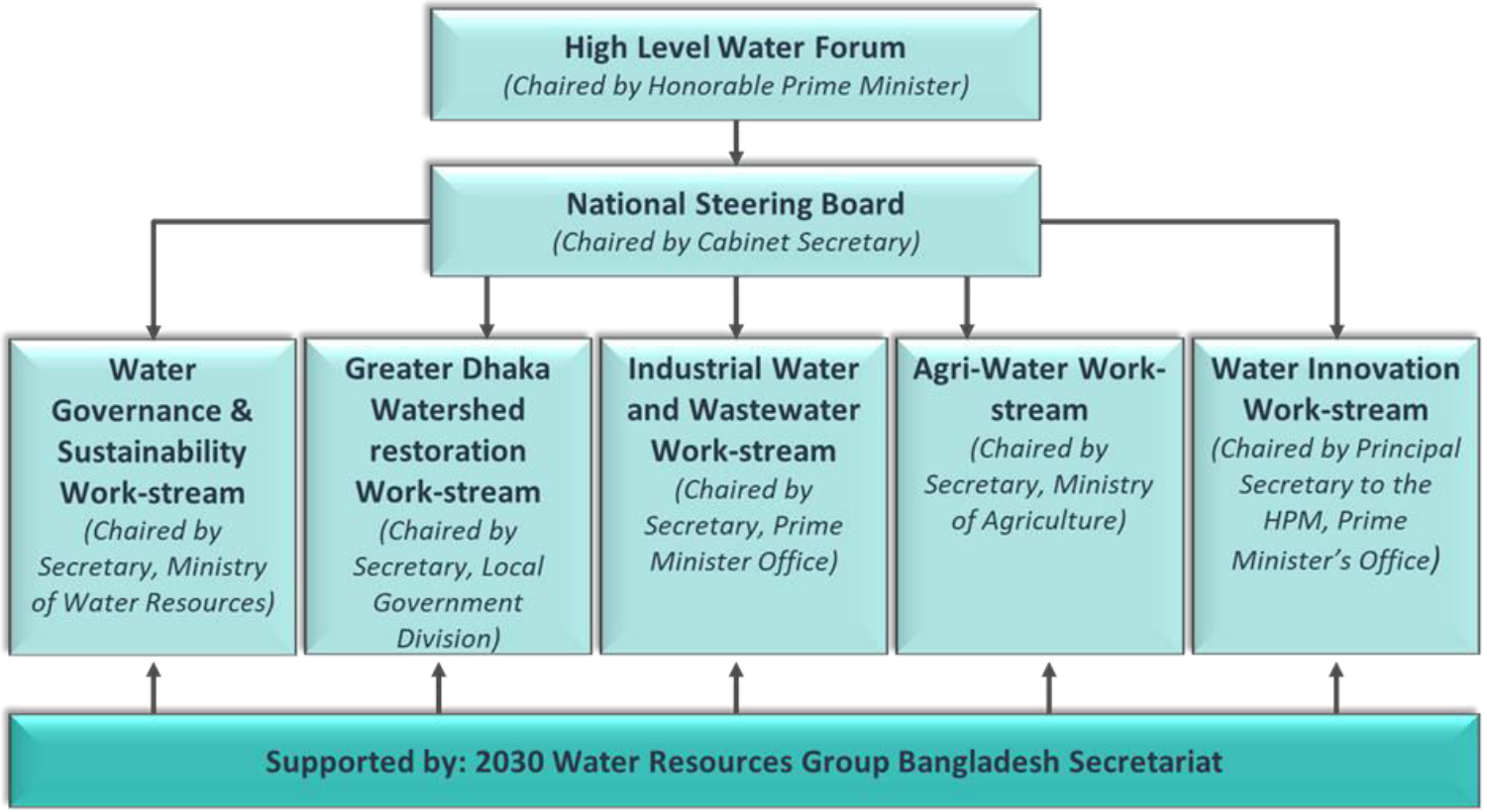
2012-2017

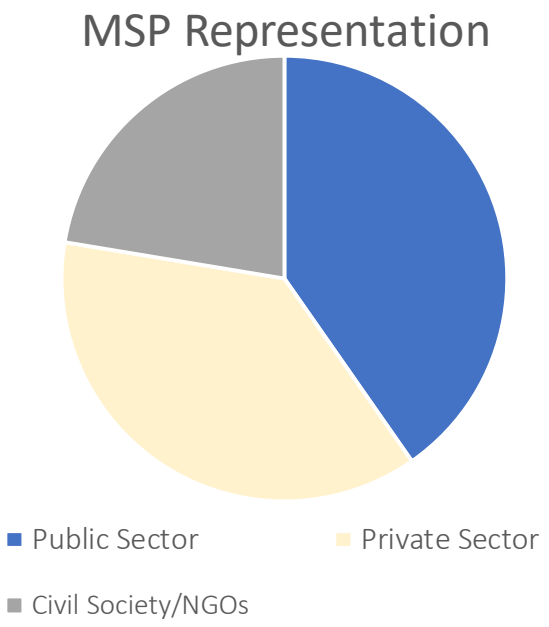
WORLD BANK GROUP Water

Getting to scale

2018-2023

Bangladesh Water Multi Stakeholder Partnership (BW-MSP) Brief





- Hon. Prime Minister approved Bangladesh Water MSP on November 17, 2015
- First National Steering Board (NSB) meeting on January 30, 2016
- High-powered NSB led by Cabinet Secretary
- Five Work-Streams
- 7th NSB Meeting on May 11, 2019 formed Work-Stream on Water Innovation

Partners

Partners:

- A2i (Aspire to Innovate): Promote, Launch, Run, Moderate
- Dhaka WASA: Knowledge Partner, Up taker for Household Water Solution Prototype
- Department of Environment (DoE): Knowledge Partner, Up taker for Industrial Water Solution Prototype
- Unilever: Financing with brand Pureit, Event support, Promotion
- 2030 WRG: Ideation, coordination, Financing
- Associations:

BASIS: Invite member companies and IT freelancers & Technology Knowledge support

BCS: Invite member companies & Technology Knowledge support

Water Innovation Challenge Competition 2021

Purpose

- Crowd-source innovative tools and platform solutions for Citizens and Industries so they can appreciate Water footprint (quantity and quality).

Goals

- Citizens need to understand quantity and quality of source Water and also impact their consumption creates on Pollution load
- Give an opportunity for Citizens to participate in reducing the Pollution load leading to public pressure to introduce systems for water recycling and reuse
- Reliable data volume from the Water Meter solution can be used for whole lot applications through Data Analytics, Data science including AI
- All the structured data volume generated will allow Government to make Informed Investment decisions for Fresh Water and Recycled Water infrastructure

Problem Statements

- **Household Water Footprint (Citizens' Water Tool Analytics):** Citizens' Water Tool Analytics and Peer-to-Peer Comparison Platform, linked with Billing system, for Data Access and Visualization of Urban Users' Water Footprint in both Quantity and Quality perspective to create behavioral change among citizens, leading to an overall reduction in water usage.

- **Industry Water Footprint (Industry Water Accounting):** Online Analytics, Peer-to-Peer comparison Platform & Dashboard for monitoring, tracking quality and quantity of Industrial Ground Water use, reuse and recycle to raise accountability and transparency thus reducing pressure on Ground water usage and ensure industry sustainability.

Household Water Footprint (Citizens' Water Tool Analytics)

Defining the Problem:

Citizens are unable to really understand water use, efficiency, and water quality

-Lack of accurate water use data contributes to perception that Water is an unlimited resource

-Confusion regarding Water quality between Water Provider and Civil society

Structural challenges in plumbing practice

-Existing water plumbing practice for buildings gives no single point of entry to the apartments

-Bulk water metering – household based instead of apartment/family based

Existing Analog Metering systems

-Possibility of error and malpractice in manual meter reading and manual data input to system

-Hence inability to offer Tiered billing model, which may incent more efficient use and conservation

Technology Challenges:

- Low Power (high battery life) consumption and appropriate Wireless Network access technology
- Modular Architecture (Sensor, storage, display, battery, transmission), Open-source Technology and interoperable architecture

Other Challenges:

- Cost effective, realistic. Technology possibly tested in other countries

The Solution:

Intelligent IoT based Wireless Metering connected to Cloud storage and Analytics, Data visualization, Reporting platform for,

1. Water Quantity variables - Volume, Pressure, Speed etc
2. Water Quality variables - chemical property parameters

Intended Benefits:

- Build awareness via accurate real time data on water usage at apartment / family level
- Empower citizens to compare Water usage (footprint) with each other or standard
- Provide analytics, Data visualization and Reporting platform with user defined KPIs (key performance indicators)
- Identify Water leakage and misuse
- Appreciate Water quantity and quality of supplied water and pollution load

Solution Beneficiary:

- Different data sets collected can be used to feed citizens dashboard and government water modelling and decision support system.
- Support for SDG 6 indicators (6.1 safe drinking water, 6.3 better water quality, 6.4 more efficient water use)

Industry Water Footprint (Industrial Water Accounting)

Defining the Problem:

Industry and civil society need to better understand how water quantity and quality in the environment is impacted by industrial use

-Unregulated extraction of groundwater, inefficient use at different stages of production, significant wastewater generation

-Meters are challenging, given high costs and possibility of inaccurate data and tampering with results

-Inability of environmental regulation monitoring; Manpower shortage to inspect at regular intervals across thousands of factories

-Makes achieving current and future National and International water compliance a sizable challenge for Industry

Technology Challenges:

- Low Power (high battery life) consumption and appropriate Wireless Network access technology
- Modular Architecture (Sensor, storage, display, battery, transmission), Open-source Technology and interoperable architecture

Other Challenges:

- Cost effective, realistic. Technology possibly tested in other countries

The Solution:

Intelligent IoT based Wireless Metering connected to Cloud storage and Analytics, Data visualization, Reporting platform for,

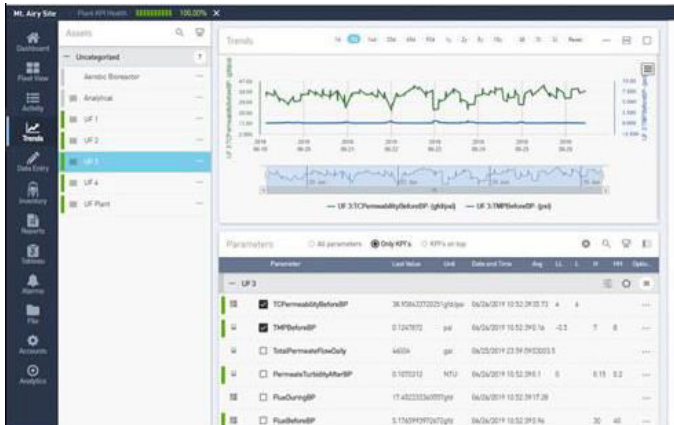
1. Water Quantity variables - Volume, Pressure, Speed, Temperature etc
2. Water Quality variables - chemical property parameters

Intended Benefits:

- Deliver accurate real time data on underground water extraction
- Enable accurate data on water usage and refuse at different stages of production in plants/units/floors
- Allow comparability of different Chemicals used in factory plants/units/floors
- Provide analytics, Data visualization, Reporting platform with user defined KPIs

Solution Beneficiary:

- Industry - Attain more efficiency in Water and chemical usage
- Government – More efficient, accurate monitoring of industries with less human resource
- Environment – Less pressure on Ground water and reduced effluent generation



Agenda

What will be discussed:
Guide the Innovators towards proper web-based Data (collected from developed meters for households and industry) analysis and presentation in a desired manner that will help in

1. behavior change in citizens towards water efficiency
2. inspire industries to be champions in water efficiency & pollution reduction measures
3. help Government in taking water resource preservation policies

Ultimate objective will be so all quarters appreciate access to water, value water, participate in water conservation ways and help project Bangladesh, known for her rivers and emotional connection to the water bodies, as a country that gives proper emotional, material value of water and celebrate water

Water Innovation Challenge Competition 2021

WEBINAR #02

Tools and Techniques of Right Messaging (Presentation of Data) to Promote Value and Responsible Use of Water

Apr 8, 2021 (Thursday) | 07:00 - 08:30 PM

zoom : 884 4922 0038

http://challenge.gov.bd/WICC

Presenter

Hasan Benaul Islam
Founder and Story Coach
Benaul The Piper

Thank you