# Smart Water Management:

Bangladesh Success Story



German 07 April, 2022



Engr. Taqsem A Khan Managing Director & CEO



Mandated for Water Supply & Sewerage in Dhaka City: According to the WASA Act 1996

**Fully autonomous body** 

**Corporate management/culture** 

**Commercial operation** 



Mirpur

Buriganga Riv

Dhaleswari River

Rupganj

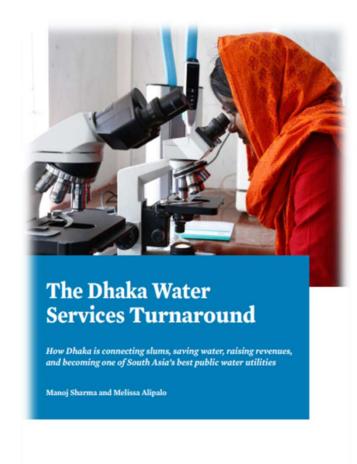
Shimrai

Pagla

Sitalakhya River

Area: 400 sqkm
Population: 20 M
100% Water Coverage
24/7 Water Supply

#### A HOLISTIC APPROACH FOR REFORM



"We were a water-crisis city. It was a very difficult period, and we needed a total turnaround."



Taqsem Khan, managing director, Dhaka Water Supply and Sewerage Authority



ASIAN DEVELOPMENT BANK



#### "DHAKA WASA TURNAROUND PROGRAM"

FOR CAPACITY BUILDING

#### **What is Turnaround**

- **1** Mind set Change
  - 2 Transparency, Accountability
- **3** Cost Effective Management
  - Customer Service Excellence
- 5 Institutional Reform for Capacity Building

#### Why Turnaround

- 1 Sustainability of DWASA
  - 2 Large Investment
- 3 Shifting Focus from GW to SW
  - Access of water to the Poor
- 5 Establish Good Governance

#### VISION....



# To be the best water utility in the public sector of South Asia

Environment friendly, Sustainable & Pro- people Water Management System

WASA

## Challenges.....

• Traditional Mind Set Bureaucratic complicacy Lack of Transparency Trade Union **Vested Interest** 

#### **Master Plan**







Dhaka Water Supply and Sewerage Authority

Dhaka Sewerage Master Plan Project (Package DS-1A)

Updating/Preparation Master Plan of Dhaka City and Preparation of Detail Design & Biddig Documents for Priority Works for Exis Sewerage System of Dhaka City

Master Plan Report

**MARCH 2013** 



Water

Prepared for: Dhaka Water Supply and Sewerage Authority (DWASA)

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#### At a Glance Achievements of Dhaka WASA

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SL. No	Subject Area	Performance of 2008	Benchmark Standard	Achievements up to 2021
1	Non Revenue Water (NRW)/System loss in General (%)	40	25	20
2	NRW in District Metered Area (DMA) (%)		15	5
3	Service Delivery Earning Recovery (revenue earning) (%)	64	95	100
4	Operating Ratio	0.95	0.65	0.64
5	Debt Age / Receivable (month)	14	3	4.4
6	Ongoing Foreign Investment (USD)	40 Million	-	3.3 Billion
7	Upcoming Foreign Investment (USD)			2.7 Billion
8	Annual Growth Rate (%)	2	7.5	11

Source: Benchmark Report, 2021



## Upcoming projects(Water) 12

Name of Project	Investment (M. US\$)	Completion Year
Network Strenghening for Padma WTP	<b>76</b>	2021
Padma (Jashaldia) WTP -II, 450 mld	600	2027
Gandharbpur WTP -II, 500 mld	700	2028
Dharla Jamitra Well field, 150 Mld	120	2023
Dhaka Int. Training and Research Institute	<b>25</b>	2023

**Total Upcoming Investment - 1520 M US\$** 

### Upcoming projects (Sewerage)

Name of Project	Investment (M. US\$)	Starting Year
Upgradation & expansion of Pagla STP (WB)	350	2020
Rayer Bazar STP (ADB)	300	2022
Mirpur STP (ADB Expected)	400	2022
Uttara STP	200	2021
Dasherkandi Sewage Collection System	245	2020

Total Investment - 1495 M. US\$

# At Present Total Foreign Investment In DWASA



about USD 3.3 Billion



#### National/International Partners 16





#### Government of Bangladesh



**ADB** 



EDCF, Korea



World Bank



FIB



DANIDA



China Exim Bank



AFD



AIIB



KFW





Bangalore Water Supply and Sewerage Board ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ







Bengaluru Water
Supply and Sewerage
Board,
India

Sewerage Project at Jalandhar, Punjab, India

Rajastan Urban Water Sewerage Project, India

Delhi Jal Board, India

# Water Operator Partnership



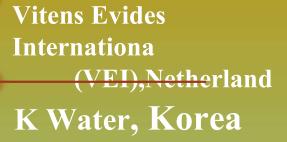












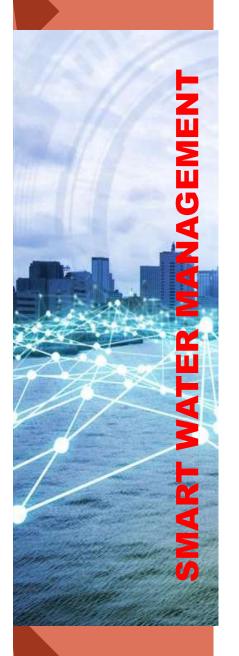
KUKL, Nepal

BUDAPEST
Waterworks
Metropolitan Water
Works Authority

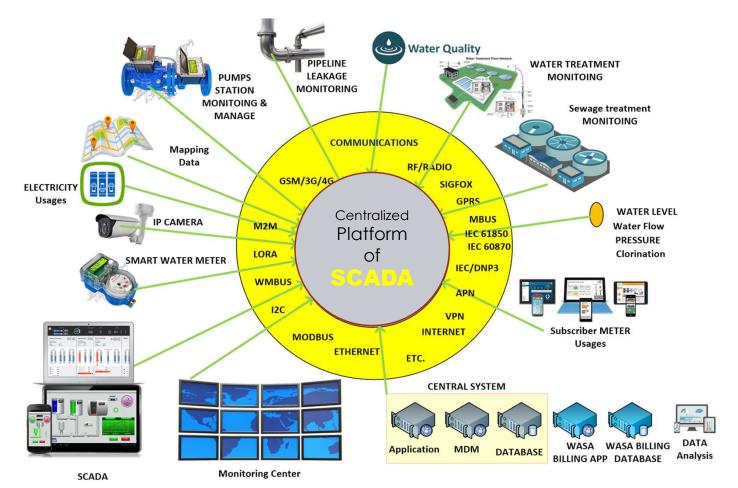
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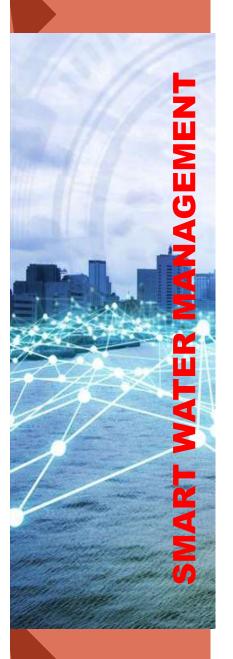




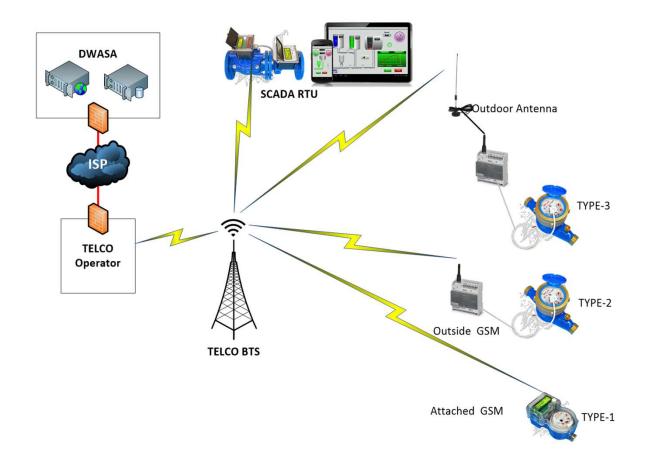


## Smart Water management : SCADA





## Smart Water management : e-Meter







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e-Recruitement e-Connection

e-GP e-Nothi (Filing)

e-Supply Chain Management SCADA









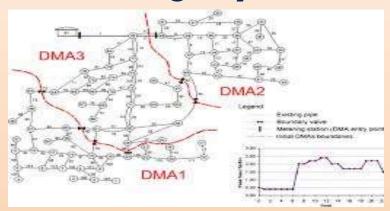
24/7 Water Supply



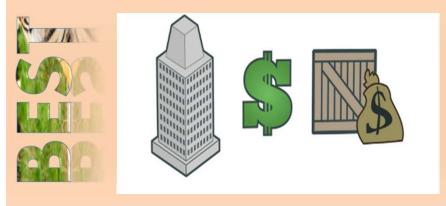
Water & Sewerage system in LIC



**Non-Revenue Water** 



**District Metered Area** 



**Operating Ratio** 



**Water ATM** 





## "DYSFUNCTIONAL UTILITY ONE OF SOUTH ASIA'S **LEADING PUBLIC UTILITIES"**

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## Presenting the Book "The Dhaka Water Services Turnaround" To Hon'ble Prime Minister Sheikh Hasina



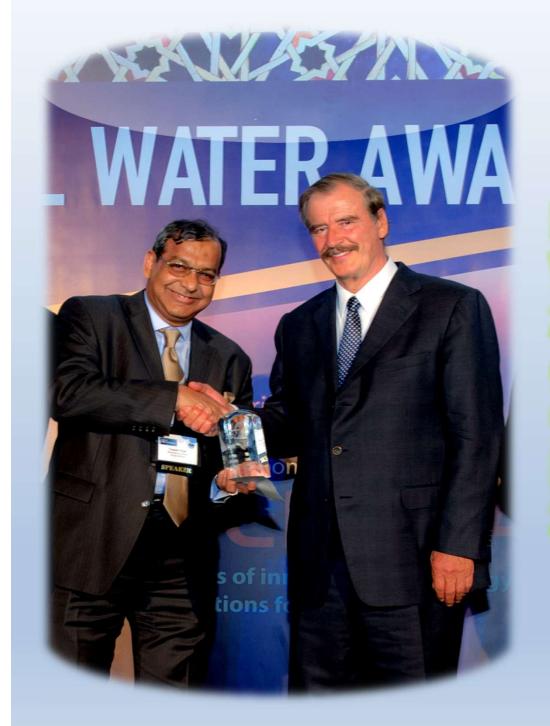


Managing Director & CEO of Dhaka WASA, Engr. Taqsem A Khan with President of Asian Development Bank (ADB) Mr. Takehiko Nakao at ADB HQ, Manila, on October, 2018.





Dhaka WASA achieved a Global award as 'Water performer of the Year' At Berlin Summit, 19 April, 2011



Dhaka WASA achieved Water Leaders' Awards-2013 with a cash prize of 10,000 US\$ at the Global Water Summit held In Seville, Spain, 23 April, 2013

THE TIMES OF INDIA

INCLUDES 6 PAGES OF BANGALORE TIMES

TEAM INDIA REST IN-FORM VIRAT KOHLI FOR T20 SERIES AGAINST SRI LANKA 19

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PM'S TOTAL ASSETS OVER ₹1 CRORE; HAS JUST ₹4.7K IN HAND 11



UNION MINISTER RAM VILAS PASWAN BATS FOR QUOTA IN PVT SECTOR JOBS 12

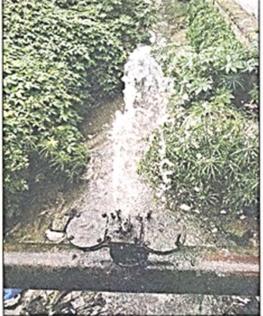
#### Learn from Dhaka to reduce water loss

#### George Promises Action, But Fixes No Deadline

TIMES NEWS NETWORK

Bengaluru: The Bangalore Water Supply and Sewerage Board (BWSSB) which loses 44% of its water to pilferage and leakages, has a lot to learn from Dhaka. For, the Bangladesh capital has reduced losses and achieved exemplary water management by simply replacing old pipes.

Participating in the International Water Loss Summit 2016 being held in the city, Taqsem A Khan, MD and CEO of Dhaka Water Supply and Sewerage Authority (WASA) on Monday said: "We replaced 47% of the old pipelines in the network with the first phase of funding from international agencies. With that, we could reduce the water loss to 29% from 53% between 2003 and 2010 and further to 22% by 2015. We have reduced the loss due to pilferage to 15%. By 2021, we have set a target



NOT UP TO MARK: BWSSB loses 44% of water to pilferage and leakages

to treat all ground water and surface water as environmentally sustainable."

The three-day summit is organized by the International Water Association.

Tagsem said the company would be legalizing/authorizing

#### TIMES VIEW

It's a strange predicament that the India's IT powerhouse is struggling to reduce water loss due to pilferage and leakage and still persisting with decades-old pipelines. While Dhaka took a step in the right direction over a decade ago by replacing old pipelines, Bengaluru seems to be in mood to look at that move, which is a sureshot way to reduce leakage. The main problem is knee-jerk reactions and sudden announcements by the authorities and politicians without looking at permanent solutions. Bengaluru minister George, who said the loss would be reduced to 30%, should at scientific systems of water management that will help the city in the decades to come.

water supply in slums that house about 25% of Dhaka residents by 2016. The city has further computerized the entire water supply network except reading of meters and aims to reduce manual labour on that too shortly. He attributed the achievements to political will

and bootstrapping finances.

Here in Bengaluru, the BWSSB loses 44% of water to pilferage and leakages in the system. Besides, the board has yet not been able to cater to the entire city and serve only 95 lakh consumers.

Bengaluru development minister KJ George announced that the BWSSB would reduce its water loss to 30% but fixed no deadline for the board to achieve the target. He rather blamed the city's population and economic growth. "We could not cope with the pace of the city growth and that is why the water board is still to supply water to all and manage water as is being done in many cities that have water scarcity," he said.

MN Thippeswamy, member of the scientific community of IWA, said, "Nothing has been done to create awareness on saving water. Imagine if 58 lakh vehicles in the city are wasting 30 MLD of fresh water in a month on an average! There is no mandate from the municipality that a new layout or building will be permitted only if it has treatment plant and uses grey water for non-potable purposes," he told TOI. February 2, 2016

## \*The Indian EXPRESS

DAILY FROM: AHMEDABAD, CHANDIGARH, DELHI, JAIPUR, KOLKATA, LUCHNOW, MUMBAI, NAGPUR, PUNE, VACODARA JOURNALISM OF COURAGE

### Ripples of reform in Dhaka

Bangladesh capital's transformation of the water services sector, that connects the urban poor to the piped network, has lessons for cities in India



Even more than technology, what has made a difference is leadership. Taqsem Khan was brought in to head DWASA from the private sector in 2009. As managing director, he has been able to transform the utility by improving its systems, processes and the manner of interactions with the residents while not losing focus on the infrastructure improvements. DWASA has built a state-of-the art training facility to organise regular training programmes for its staff to use smart water technologies to sustain the efficiency gains.

As with megacities in India, highly inadequate drainage and sewerage networks, and lack of sewage treatment continue to pose major challenges - 70 per cent of the city has no form of sewerage and there is little sewage treatment. As DWASA's efforts have gathered momentum, a number of other donors have stepped forth to be a part of the movement. The World Bank is currently engaged in supporting work on sewerage and sewage treatment for Dhaka. Finally, the shift from groundwater to surface water will have to be planned and implemented. It will be a long haul, but as Lao Tzu, the Chinese philosopher, put it, "a journey of a thousand miles begins with a single step".

