

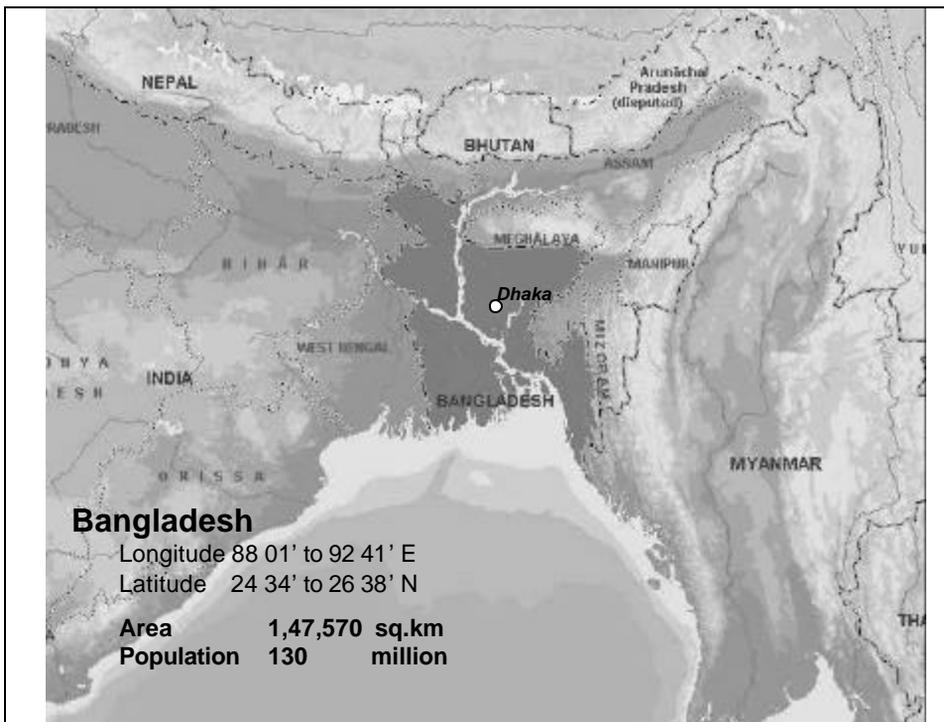
# Dhaka WASA



## Water Utility Services in Dhaka City: Present and Future

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Capacity Building Workshop on Partnerships for Improving the Performance of  
Water Utilities in the Asia and Pacific Region  
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## Millennium Development Goals

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

**Safe & sufficient  
drinking water**

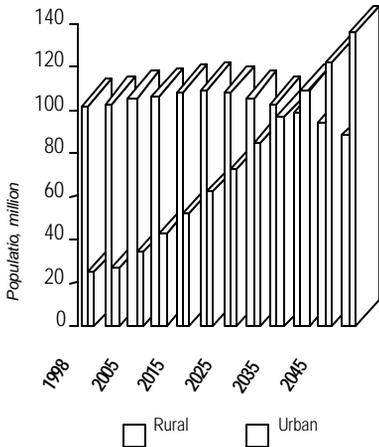
**Sanitation and good  
hygienic condition**

**Efficient  
storm-water drainage**

## National Policy for Safe Drinking Water and Sanitation, 1998 Specific Goals:

- Making safe drinking water available to each household in the urban areas
- Ensuring sanitary latrine within easy access of every urban household through technology options ranging from pit latrines to water borne sewerage.
- Ensuring supply of quality water through observance of accepted quality standards
- Taking measures in urban areas for removal of solid and liquid waste and their use in various purposes. Ensuring the use of waste for the production of organic fertilizer (compost) in the rural areas.

## National Water Management Plan

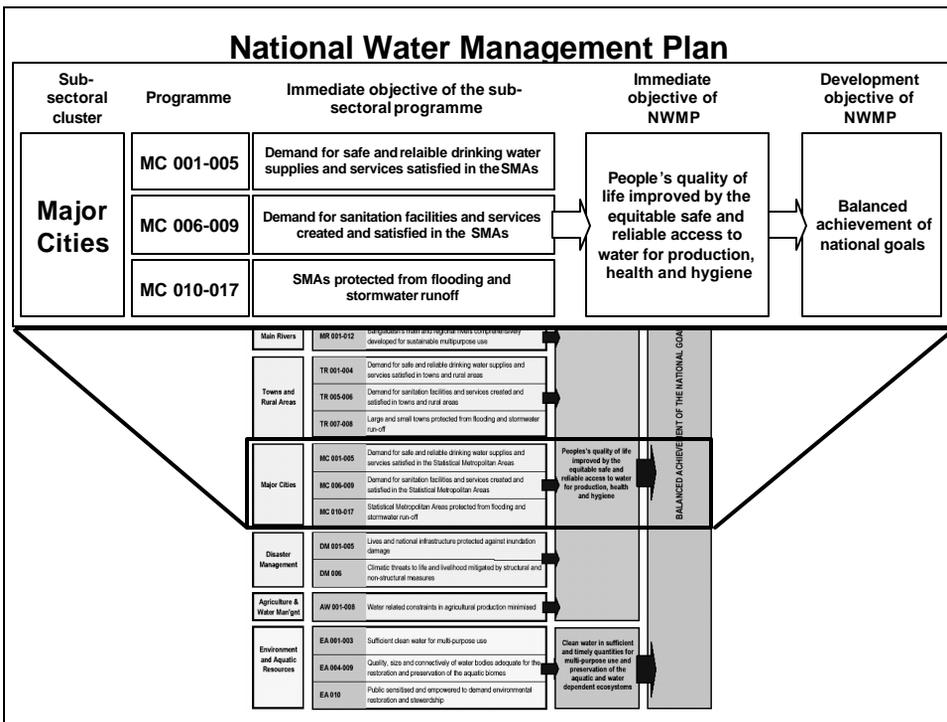


Total population will increase from 129 million to 181 million by 2025, and 224 million by 2050.

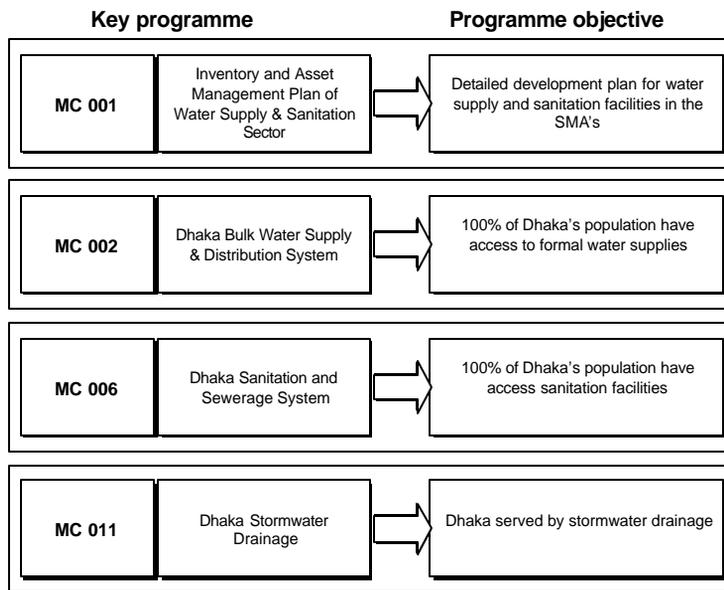
Urban population will increase to 73 million by 2025, and 136 million by 2050. Major migration to Dhaka city and adjoining areas

Water supply, sanitation and drainage problems will be major issues

## National Water Management Plan



## National Water Management Plan



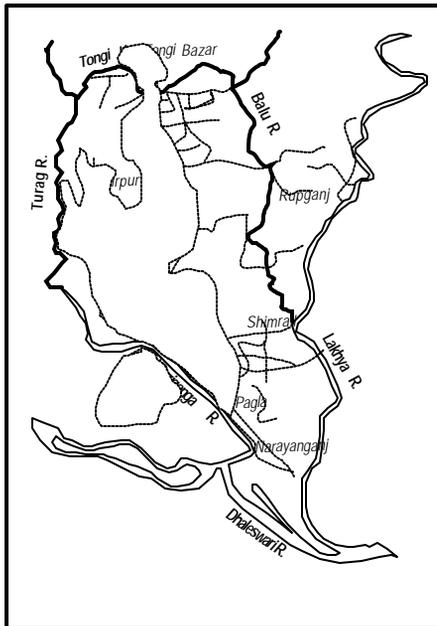
Dhaka WASA

## Mission

- ◆ Provide safe and sufficient water for drinking, industrial and commercial use
- ◆ Ensure sanitation and good hygienic condition through proper disposal of domestic and industrial sewerage
- ◆ Ensure efficient storm-water drainage

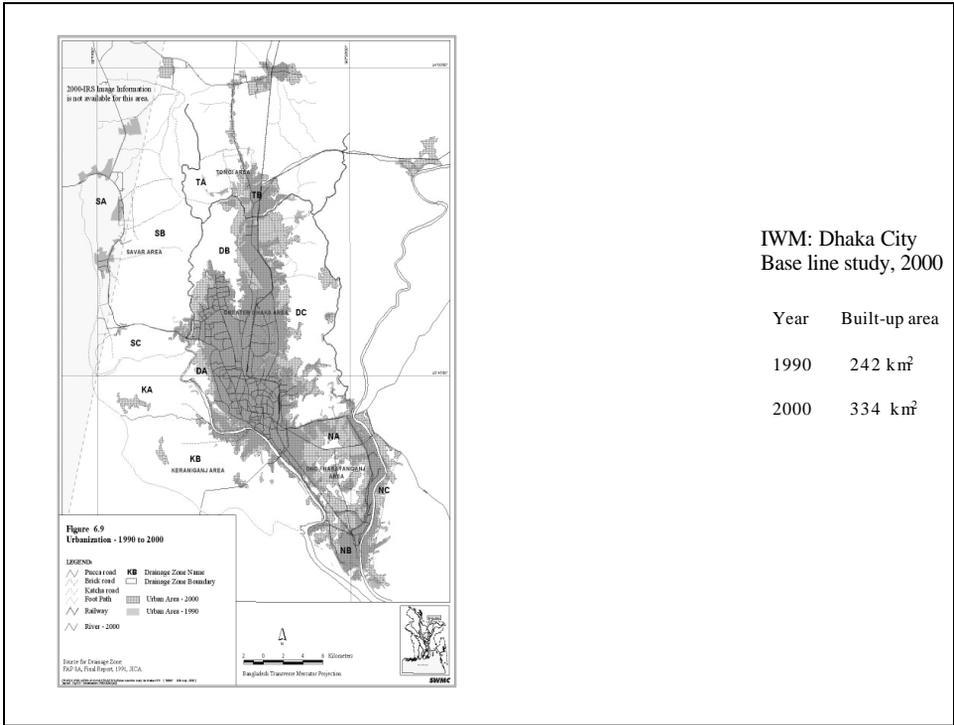
## Milestones

- 1963: DWASA started its journey with the mandate to provide water supply, disposal of domestic and industrial sewerage, storm water drainage and solid waste management (EP Ordinance No. XIX, 1963). In spite of broad mandates DWASA mainly dealt with the water supply, treatment and disposal of sewerage since its inception.
- 1989: Storm Water Drainage was transferred to DWASA
- 1996: DWASA was reorganized to introduce Corporate management under WASA Act 1996 under which mandates for water supply, treatment and disposal of domestic and industrial sewage and storm water drainage were entrusted with DWASA. Till now Re-organization is only limited to the top management.



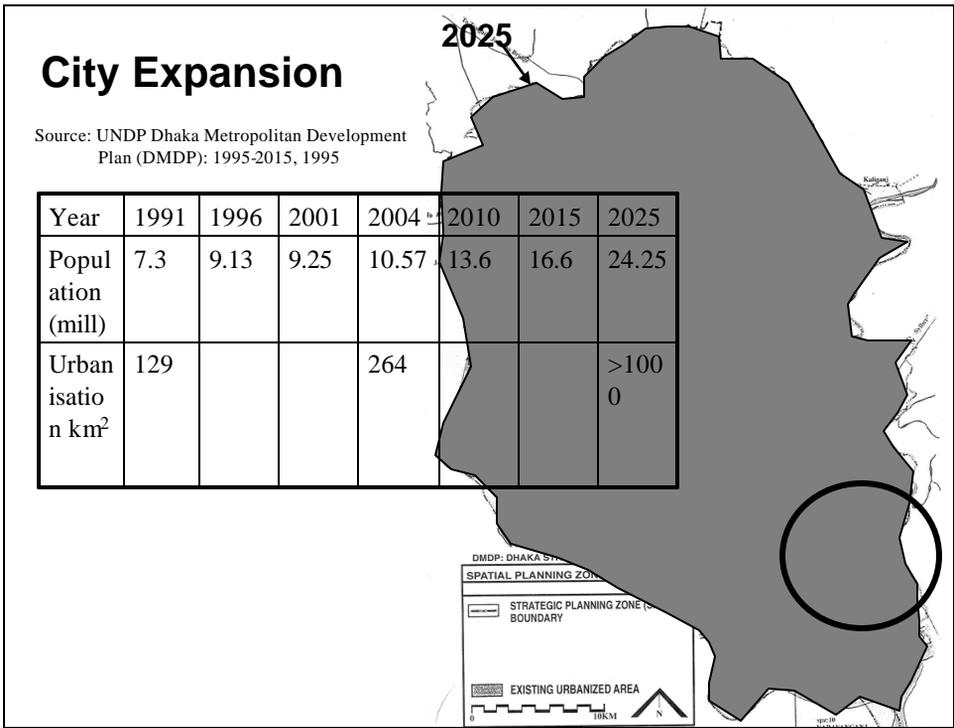
### **Evolution of Dhaka City**

Moghul period  
 British period  
 Pakistan period  
 Bangladesh period



IWM: Dhaka City  
Base line study, 2000

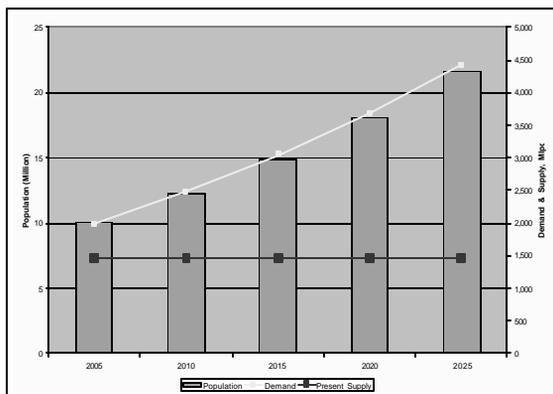
Year	Built-up area
1990	242 km <sup>2</sup>
2000	334 km <sup>2</sup>



## Coverage

◆ Water Supply	:DCC area	-	360 sq.km
	:Outside DCC area	-	90 sq.km
	:Narayanganj	-	20 sq.km
	:Total	-	470 sq.km
◆ Sewerage	:DCC area	-	110 sq.km (30% of DCC)
◆ Drainage	:DCC area	-	140 sq.km (38% of DCC)

## Water Supply Demand & Supply



*Present and Future Water Supply and Demand Scenario*

## Historical Water Supply Situation

Year	Supply (MLD)	DTW
1963	130	30
1970	180	47
1980	300	87
1990	510	140
1996	810	216
1997	870	225
1998	930	237
1999	1070	277
2000	1130	308
2001	1220	336
2002	1550	394
2004	1437	382
2005	1460	423

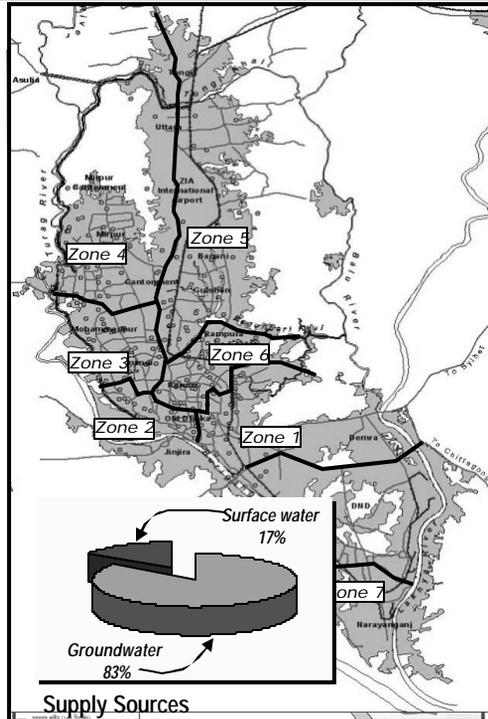
### Coverage & Production

Coverage: 470 sq.km  
 Connections: 212,543

Surface water:  
 Sayedabad 225 mld  
 Chadnighat 39 mld  
 Narayanganj 46 mld  
 Total production 310 mld

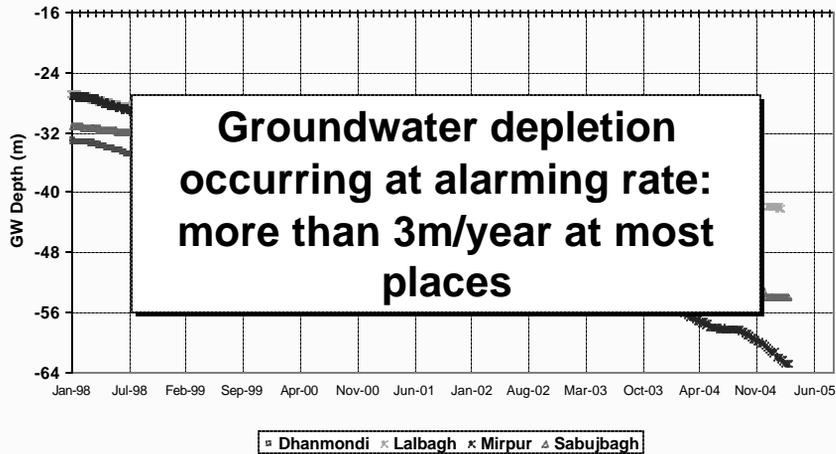
Groundwater:  
 Existing DTW 441  
 Total production: 1500 mld

Pipeline: 2500(appx.) km



Dhaka WASA

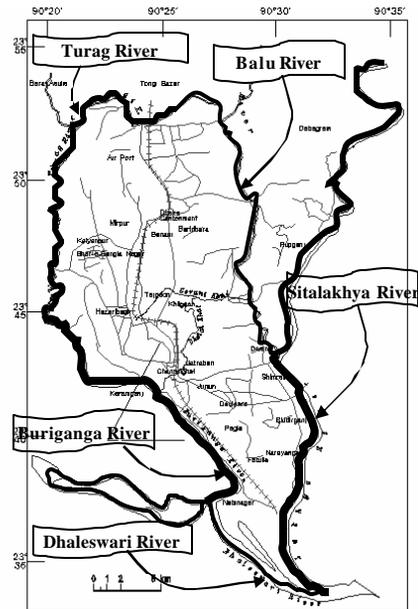
Source condition: Groundwater



## Peripheral Rivers of Dhaka City

- Tongi Khal / Turag River
- Balu River
- Shitalakhya River
- Buriganga River
- Dhaleshwari River

The water quality situation would further deteriorate if no pollution control measures in Dhaka watershed is undertaken



## Prediction of Population and Water Demand in Dhaka Urban Area

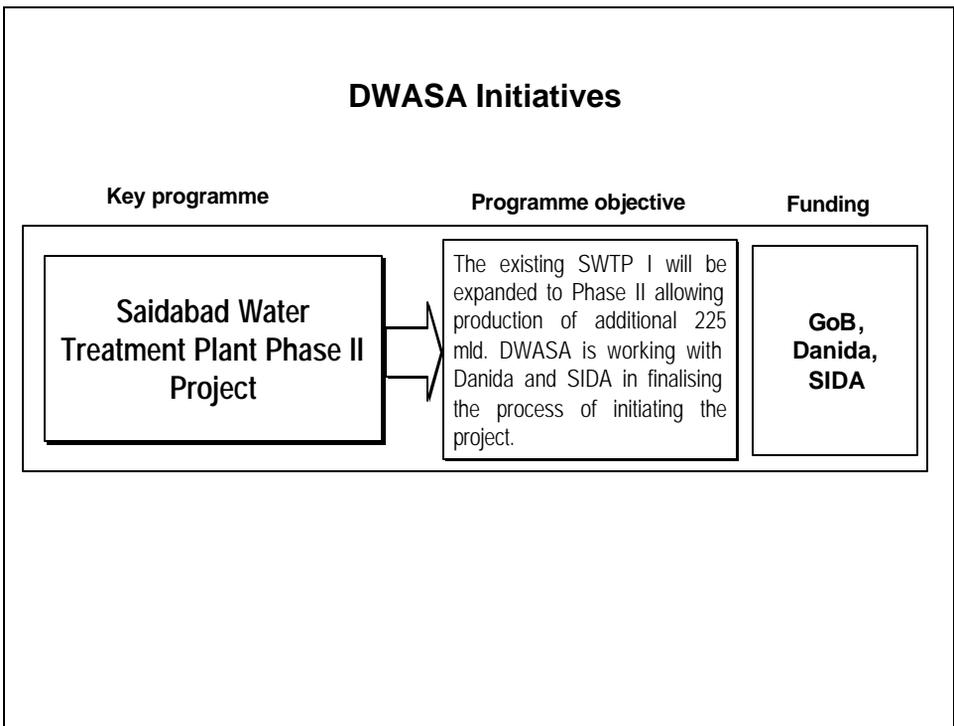
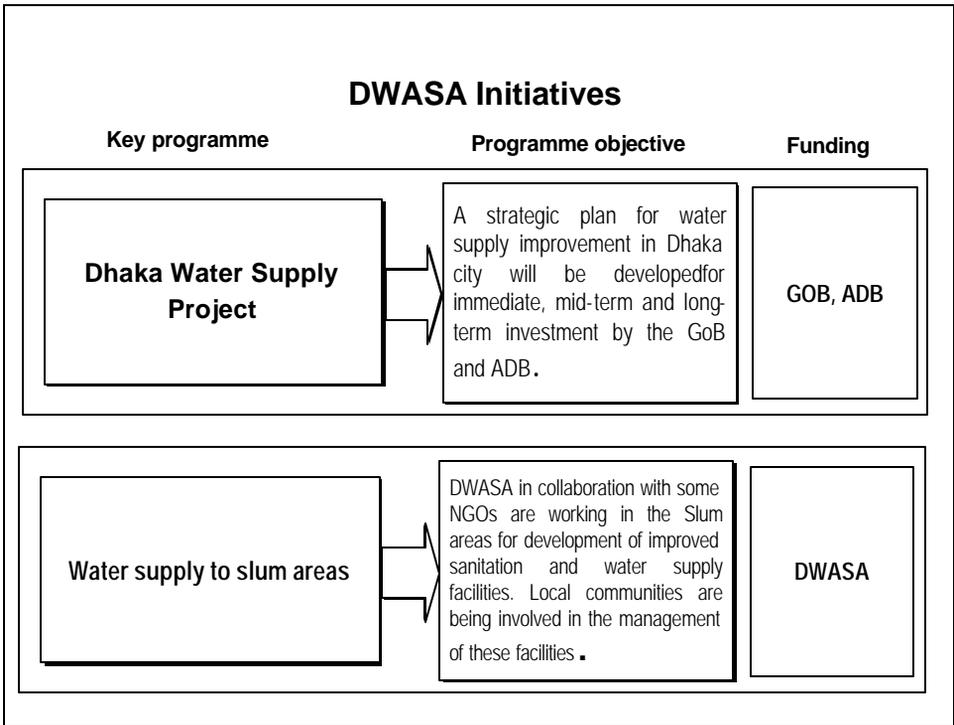
Year	Population (million)	Water Demand (mld)	Shortfall (mld) in comparison with present water supply (1500 mld)
2005	10.06	1999	499
2010	12.27	2485	985
2015	14.93	3050	1550
2020	18.04	3686	2186
2025	21.63	4419	2919

## Historical Perspectives

- Considering the rapid expansion of the city with the high rate of population growth and other infrastructure developments, there would be huge demand for piped water in near future.
- Increasing demand for water supply cannot be met as the ground water abstraction is showing strong signs of rapid depletion.
- A water supply Master plan for the Dhaka city was prepared in 1992 for an area of about 360 sq. km, which has now become redundant as the prediction on population and water demand has been surpassed by huge margin.
- Some ad-hoc measures have been undertaken to meet the growing demand of water supply, mainly dependent on abstraction of ground water which has already reached its optimum level. It appears that no further abstraction is possible as the recharge of ground water is declining very fast.

## DWASA Initiatives

Key programme	Programme objective	Funding
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <b>Study on Resource Assessment and Monitoring of Water Supply Sources for Dhaka City</b> </div>	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;">                     The study will assess all available sources for water supply to the city in terms of water availability and quality. Long-term sustainability of the sources would also be assessed.                 </div>	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <b>DWASA Research Fund</b> </div>
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <b>Development of GIS based MIS, Network Analysis and System Metering</b> </div>	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;">                     A comprehensive database of all utility services will be developed. All system information will be mapped. A water distribution system model of Dhaka city will be developed.                 </div>	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <b>DWASA Research Fund</b> </div>



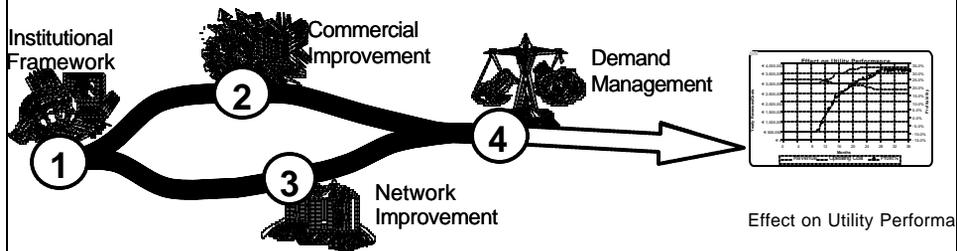
## DWASA Initiatives

DWASA is currently executing projects with support from the World Bank in Pollution Control.

These projects are:

- (i) Industrial Environmental Compliance and Pollution Control in Greater Dhaka,
- (ii) Development Sewerage System Master Plan

## Proposed Corporate Plan



## Summary

- Since 1971, Dhaka is rapid growing in area and population. The tend will continue in the future. It is a great challenge for DWASA to ensure water of adequate quantity and quality round the year.
- The peripheral rivers have undergone major pollution due to indiscriminate discharge of domestic waste water and industrial effluent.
- The groundwater table is rapidly declining due to large scale abstraction. Therefore, GW is no longer a viable option.
- The peripheral rivers are definitely good source of water if pollution control measures could be implemented. DWASA is working with the support from the World Bank to find ways and means of pollution control in the Dhaka water shed.

## Summary

- There is a prime need for a comprehensive study in assessment of water resources, in the present and the future. The water resources assessment is in the final stage. Soon DWASA would formulate in immediate, mid-term and long-term strategy based on the resources assessment.
- Another important area is computerising all system information and development of model for system analysis. DWASA is developing a GIS based MIS on computer where all information would be available and archived. DWASA is also developing a water distribution system model of the city area. This will greatly enhance DWASAs capacity for system evaluation, operation and planning.

## **Summary**

- DWASA is working in close partnership with NGOs and Community Organisation is managing the water supply situation in the Slum areas. Such cooperation would be extended to other parts of the city.
- A plan for converting Dhaka WASA as a fully corporate body is under active consideration of the government. This would make this organisation a more dynamic entity.

**Thank You**