

# **State of Dhaka Rivers and Governance Framework for its Improvement**

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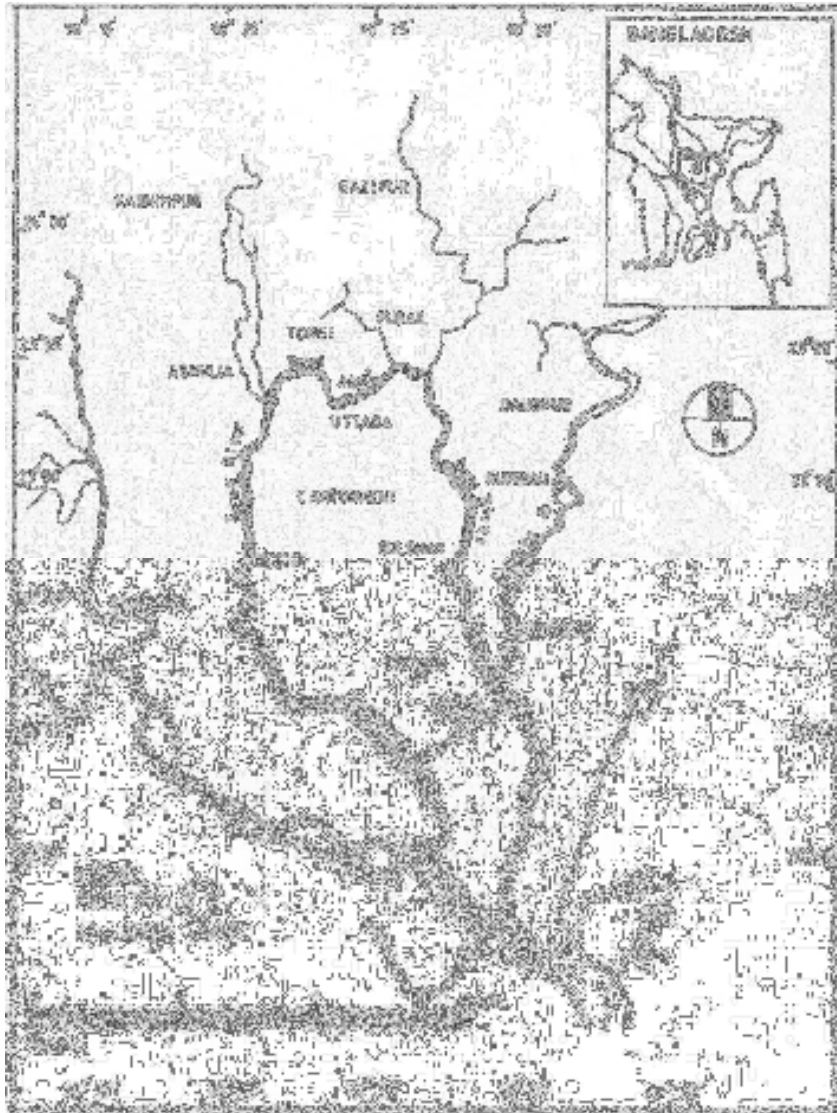
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# Introduction

- Dhaka is a mega city with a population of about 15 M.
- The City is surrounded by rivers – circular water way
- The rivers are the lifeline for the sustenance of the City
- Encroachment and pollution
- Policies, acts, rules, plans and organizations



# River System in and around Dhaka



# River System in and around Dhaka

| River      | Length (km) | Width (m) | Catchment area (km <sup>2</sup> ) | Discharge (m <sup>3</sup> /s) |
|------------|-------------|-----------|-----------------------------------|-------------------------------|
| Buriganga  | 110         | 265       | 253                               | 50-1500                       |
| Turag      | 71          | 218       | 1021                              | 124-1136                      |
| Tongi      | 17          | 60        | 35                                | 35-205                        |
| Balu       | 45          | 100       | 722                               | 60-744                        |
| Sitalakhya | 73          | 273       | 3803                              | 195-2742                      |

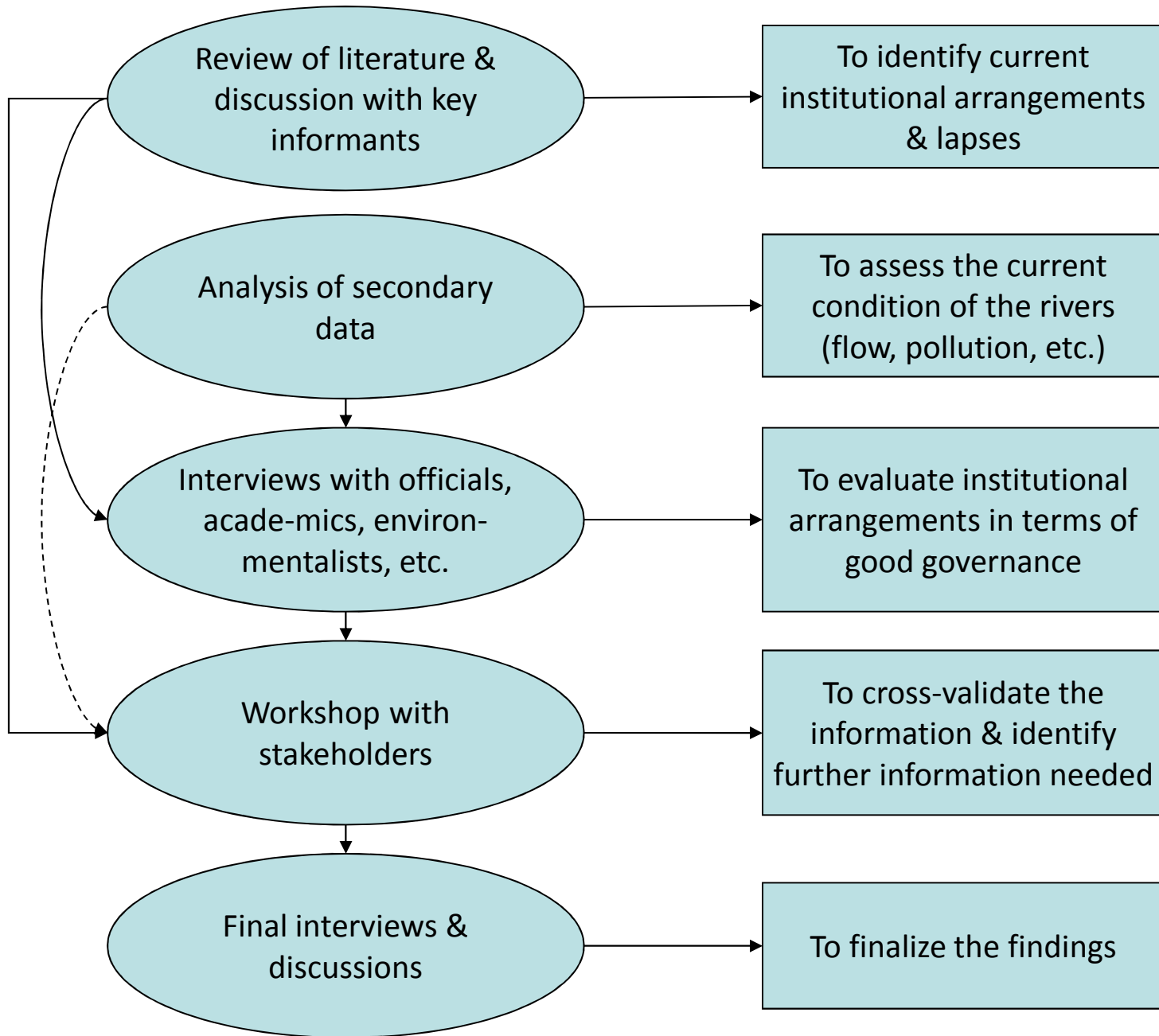
# Objectives

- Assess the present state of the rivers surrounding Dhaka City
- identify the weaknesses in the present governance regime and develop an appropriate governance framework for the rivers considering the hydrology, ecology, environment and socio-political situation of the region



# Methodology

- The study principally focused on the governance aspects of the five rivers surrounding Dhaka City. It evaluated the current institutional set-up in light of the characteristics of good governance: Participation, accountability, equity, effectiveness, coherence, etc.
- Though capability is not considered as a characteristic of good governance, it is a prerequisite and was considered in this study.
- Review of existing literature and data
- Discussion with relevant public line agencies, NGOs, CSOs, industrialists, Union Leaders, MP, Task Force member, etc.
- A total of 50 visits were made to different organizations to collect data and information and to hold discussion with the officials and employees.
- Ten visits were made to the river sites to see the pollution and encroachment problem physically.
- One multi-stakeholders' meeting was arranged



## Present State of the Rivers: Water Pollution



- Inflow of sewage from 9 industrial clusters
- 1.5 Mm<sup>3</sup> of effluents are generated every day and BOD for them are about 0.4 Mkg.
- Furthermore, toxic wastes of 0.06 Mm<sup>3</sup> enter the Dhaka river system every day.
- pH, EC, SAR, Cu, Fe, Mn, Cd and Ni are higher than the standard for irrigation water.



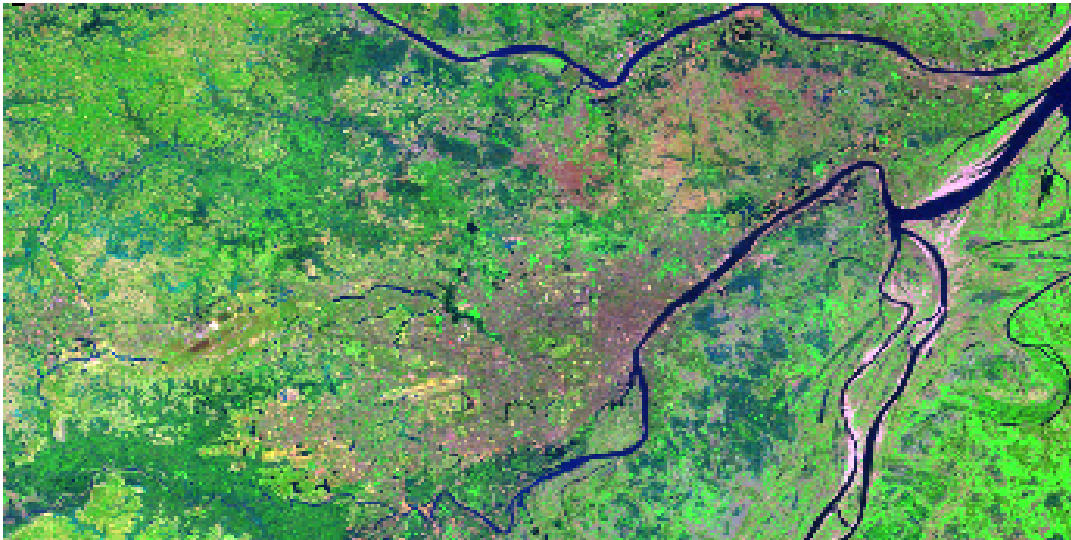


| Parameter                       | Buriganga | Turag | Balu  | Sitalakhya | Dhaleswari |
|---------------------------------|-----------|-------|-------|------------|------------|
| pH                              | 6.99      | 6.94  | 7.04  | 7.27       | 6.81       |
| NH <sub>3</sub> -N              | 0.05      | 0.01  | 0.03  | 0.01       | 0.00       |
| NH <sub>4</sub> <sup>+</sup> -N | 9.90      | 1.17  | 4.93  | 0.56       | 0.29       |
| Total NH <sub>3</sub>           | 9.95      | 1.18  | 4.96  | 0.57       | 0.29       |
| NO <sub>3</sub> -N              | 3.0       | 0.4   | 0.3   | 1.1        | 2.4        |
| TDS                             | 608       | 251   | 456   | 130        | 285        |
| TSS                             | 13        | 51    | 52    | 36         | 23         |
| PO <sub>4</sub>                 | 4.63      | 0.51  | 1.37  | 0.36       | 1.47       |
| SO <sub>4</sub>                 | 115       | 47.2  | 74.5  | 16         | 36.6       |
| BOD <sub>5</sub>                | 45        | 25    | 30    | 5          | 13         |
| COD                             | 73        | 41    | 51    | 10         | 22         |
| Al                              | 0.156     | 0.156 | 0.159 | 0.111      | 0.134      |
| Cd                              | 0.021     | 0.003 | 0.023 | 0.023      | 0.001      |
| Pb                              | <1        | 16.2  | 14.3  | <1         | <1         |
| Cr                              | 116       | 30    | 82    | 11         | 58         |

# Present State of the Rivers: Encroachment

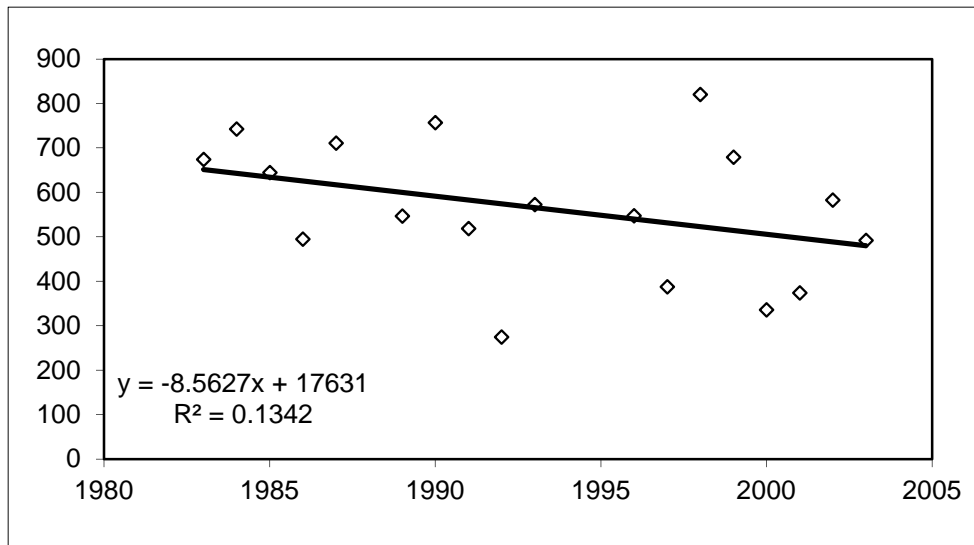
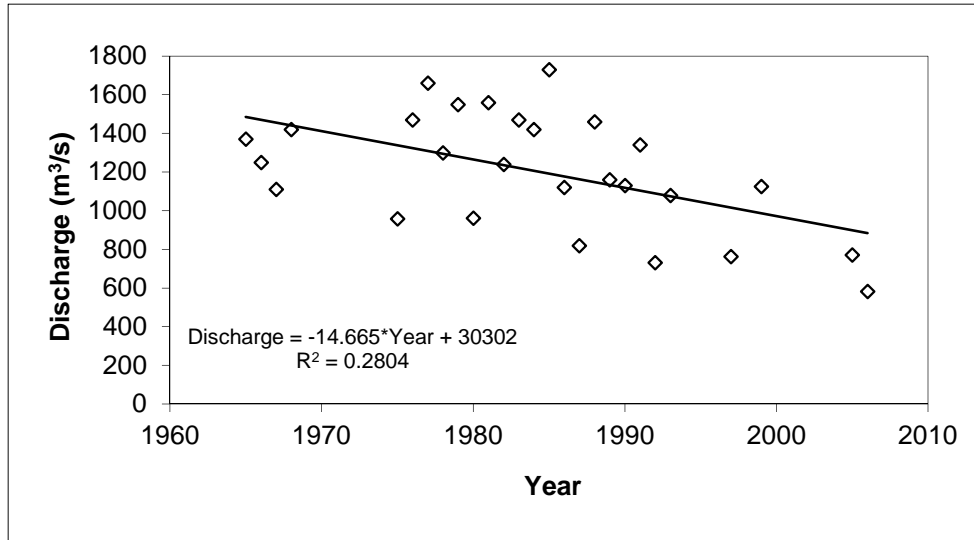
- Encroachment occurred at more than 3000 locations of the rivers
- BIWTA identified 7154 individuals and organizations as encroachers
- The occupiers are usually the influential section of the society and use their political and monetary power to manage the government machineries.
- Their network has infiltrated deep into the governance system and a section of the public institutions help facilitate such occupation through preparation of fake documents, without taking any action, etc.





## Present State of the Rivers: Water Flow

- The discharge of the rivers surrounding Dhaka City are reducing gradually with time.
- This is due to the closure of the spill channels of the Jamuna because of siltation.
- Sediments from different sources enter the canal and river system causing reduction of the normal depth, storage and conveyance capacity of the rivers.
- BIWTA has implemented a circular waterway project with limited success
- Recently, the Authority implemented a river cleaning project



# Impact of Water Pollution

- Natural resources – fish, aquatic life
- Social life
- Skin diseases, diarrhea, dysentery
- Income loss
- Water Treatment Plant – relocation, treatment cost, financial burden by users
- GW contamination – EC, Cd, Cr, Hg
- Soil & agriculture – rice quality and farm income





# Present Institutional Set-up

- There are a number of policies, acts and rules related directly or indirectly to the governance of the rivers.
- Some of these are for pollution control, some for regulation of development activities and some for control of river encroachments.
- The pollution control comes under the purview of the environment policy, environment conservation act and rules, environment court act and water body conservation act. The last act has hardly been utilized.

# Present Institutional Set-up

- Maintenance of waterway navigability and eviction of illegal occupation from river banks and beds fall under the port act and rules.
- DCC, DWASA, and RAJUK are run by their respective acts and it is not clear if the environment conservation act and rules can regulate those activities linked to water pollution of these organizations.

# Policy, Act, Rules

- Environment Policy
- Environment Conservation Act
- Environment Conservation Rules
- Environment Court Act
- Water Body Conservation Act
- Dhaka Metropolitan Development Plan
- Port Act
- Port Rules
- National Land Use Policy
- National Agriculture Policy
- National Water Policy

# Present Institutional Set-up : Line Agencies



# Present Institutional Set-up : Line Ministries



## Weakness in Present Institutional Set-up

- Coherence and common vision
  - The organizations work in isolation & with their narrow organizational mandates
  - They do not have a shared vision for environmental quality improvement, ecosystem sustenance & sustainable development.
  - Institutional thrust is often based on a segregated & sectoral approach, & is not based on a holistic integrated approach.

## Weakness in Present Institutional Set-up

- Policy and strategic direction
  - It is not clear about the broad objective of development – is the vision economic development with poor river condition, healthy river with limited economic development, or a tradeoff between ecosystem health and economic development?
  - This basic question needs to be adequately addressed so that the implementing organizations have clear and unambiguous target in front of them.
  - Pollution vs. employment
  - Environmentalists/academics vs. industrialists



# Weakness in Present Institutional Set-up

- Effective
  - Performance of the institutions
  - DoE for pollution control
  - RAJUK for regulation of development activities
  - DCC & DWASA contribute about 40% to the pollution
  - BIWTA and District Administrations to check encroachments
  - DLRS is to maintain ownership of lands

# Weakness in Present Institutional Set-up

- Accountable
  - Transparency, responsiveness and compliance.
  - In none of these yardsticks, the institutions can be considered accountable. The institutions are not complying with their mandates, they are neither responsive to the public concerns and sufferings nor transparent about their activities and actions.
  - Information available to the public is limited
  - Most of the public servants, and thus the institutions as a whole in general, are driven by self interest and personal gain.
  - Personal accountability
  - Environment Protection Act of India
  - High Court verdict

# Weakness in Present Institutional Set-up

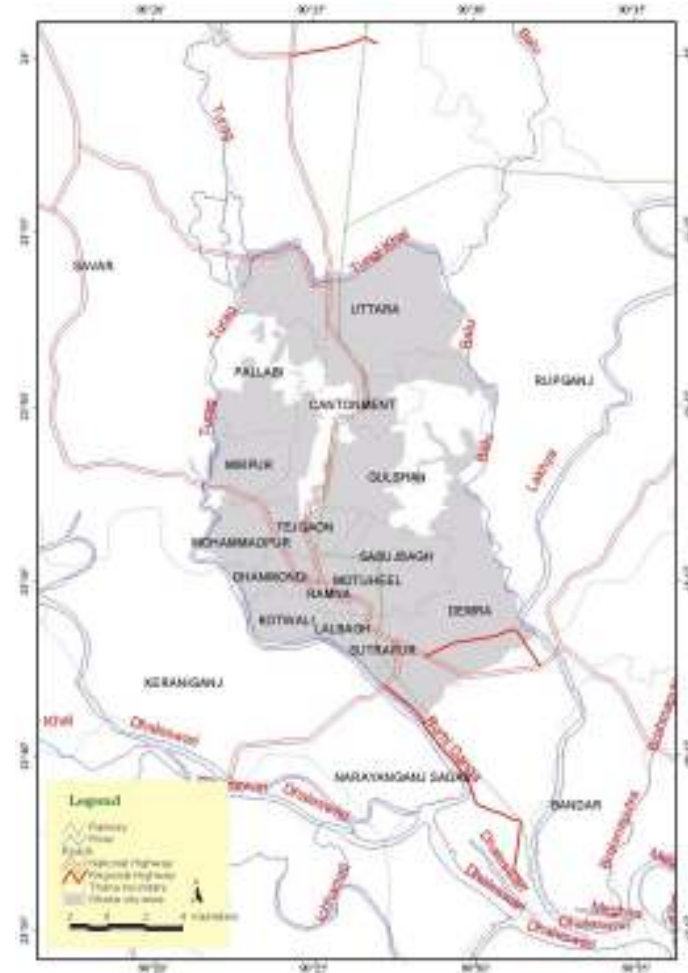
- Participatory framework
  - top-down, command and control approach
  - Space for users, NGOs, CSOs, etc. is limited
  - No X-agency representation

# Weakness in Present Institutional Set-up

- Institutional capacity
  - DoE
  - BIWTA
  - DWASA
  - DCC

# Towards a New Institutional Framework

- CSOs, NGOs, Media have been playing a commendable role
- High Court
- Political regime
- Formation of a Task Force
- National River Commission



# River Commission

- Functions
  - To provide policy and planning framework to government for integrated management of rivers and allied systems
  - To integrate the development efforts of different agencies and enterprises for sustainable development in Dhaka watershed
  - To coordinate and regulate the activities of government and non-government agencies and officials
  - To establish a platform for dialogue of stakeholders to share their views
  - To undertake action and advocacy programs through existing agencies or itself to conserve river health and ecosystem
  - To facilitate research and development in Dhaka watershed by maintaining liaison between the donors, government, IGOs, etc.

# River Commission

- Functions
  - To maintain records of rivers including the demarcation of rivers and their tributaries and distributaries
  - To approve the river centric projects and activities

# River Commission

- Structure and Authority
  - Independent; free from government influence
  - High authority like the EC, ACC
  - Smaller in size
  - Participation of different stakeholders; voices to be reflected
  - The Commission should comprise people from the following background:
    - Technical/economic, legal/public administration/social science, ecology/environment
  - Commissioners should have wider views; neutral politically; good background profiles; no record of corruption



# Beyond Water

- ✓ ACC act: dual rules; government permission; accountable to the President
- ✓ Comptroller and Auditor General
- ✓ Public Service Rules: Personal accountability
- ✓ Politics-business nexus
- ✓ Parliament: law making, local governance, duty free car import, tendering
- ✓ Merit-based personnel appointment; freedom of work

**THANK YOU**