Ministry of Water Resources

Bangladesh Water Development Board (BWDB)

Hague Academy Training Course
on
Multilevel Water Governance
(4 April - 15 April 2016)

Submitted in a group by:

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May, 2016

Dhaka, Bangladesh

1. Introduction

1.1 Background

After successful completion of the Integrated Planning for Sustainable Water Management (IPSWAM) Project in June 2011, a follow-up program named Blue Gold Program is being implemented since January 2013. The project is funded by the Embassy of the Kingdom of the Netherlands (EKN). The Blue Gold Program has been designed taking into account the lessons learnt over the past ten years specially follow up to the IPSWAM, the new insights in how to deal with the challenges created by the very dynamic rivers of Bangladesh and the new communication technologies. The Program includes activities covering many sectors and involves a great number of organizations and agencies that can play a role during implementation. The most involved departments are the Bangladesh Water and Development Board (Lead Agency), the Department of Agriculture Extension, the Department of Fisheries, the Department of Livestock Services and the Department of Cooperatives. The objective of this Program is to create sustainable development in a great number of selected polders through improved water resources management and agricultural production. The community will be the driving force for this development and their effective participation in this development is crucial. The important components of the program are Community Mobilisation and Institutional Strengthening, Water Management, Food Security and Agricultural Production, Business Development and Private Sector Involvement, Livelihood improvement and crosscutting themes, Training and Capacity Building, Program Management etc.

Training (Local and Foreign) and Capacity Building is an important element in this Program. Good governance is also part of the training. Strengthening of the principles of good governance is the most important cross-cutting theme for this Program. There is provision of foreign training of BWDB (GoB) staffs regarding Innovations, Participatory Water Management, Climate Change Adaptation, Climate Proofing, Delta Plan 2100, Value Chain development etc.

As part of foreign training, twelve (12) days training course on “Multilevel Water Governance” under the Blue Gold Program was held in the Hague Academy for Local Government from 04 April to 15 April 2016 at The Hague, the Netherlands. Total twelve (10) nos. participants (six (6) from BWDB, two (2) from MoWR, one (1) from Planning Commission and one from TA Team attended the training program. The Government of People’s Republic of Bangladesh issued a Government Order (GO) vide memo no.: MoWR/42.036.024.00.01.003.1999 (part-1)-412, dated: 17 September 2014 in regard to this training in Japan (Annex-1).

The course was attended by seventeen representatives of eight countries such as Bangladesh, Pakistan, Costarica, Zambia, Kenya, New Zeeland, Netherlands, Lebanon.

1.2 Objectives of the Training:

The training was conducted with the following major objectives:

- gain state of the art knowledge on concepts and principles of integrated, multilevel water governance;

- identify instruments for increasing social and financial accountability;
- increase insight in the legal, political and institutional framework affecting water governance;
- get acquainted with new tools and approaches for dealing with the challenges of water governance;
- broaden knowledge on international best practices in the field of multilevel water governance.
- exchange knowledge and experiences with the people involved in multilevel water governance in central, local authorities and independent administrative agency through dialogs and exchange of opinions.
- share information among the training participants through exchange of opinions and to improve network of personal contacts, and facilitate necessary collaboration.
- prepare back home action plan of each group utilizing acquired knowledge through training in the Hague Academy for Local Government

1.3 Training Participants:

Sl. #	Name	Position
1	Mr. MOSHAROF HOSSAIN	Joint Secretary, Ministry of Water Resources
2	Ms. SAJIDA KHATUN	Joint Chief, Ministry of Water Resources
3	MOHAMMAD KAMRUL ISLAM	Assistant Chief, Agriculture, Water Resources and Rural Institutional Division, Planning Commission, Dhaka
4	Mr. SUJOY CHAKMA	Director, Director Planning III, BWDB, Dhaka
5	Mr. ZULFIKAR ALI HOWLADER	Superintending Engineer, Jessore O&M Circle, BWDB, Khulna
6	Mr. MD. ABUL KAUSAR	Superintending Engineer, Design circle 4, BWDB, Dhaka
7	Mr. MOHAMMAD ASHRAF ZAMAL	Superintending Engineer, Patuakhali O&M Circle, BWDB, Patuakhali
8	Mr. MAHFUZ AHMED	Chief Water Management, BWDB, Dhaka
9	Dr. SHAMAL CHANDRA DAS	Executive Engineer, Office of the Chief Planning, BWDB
10	Mr. ABUL KASHEM	Training Specialist, Blue Gold Programme

Training Program and activities:

Week 1

	DAY 1: 04/04 **Welcome, Introduction and Setting the Context**	DAY 2: 05/04 **Stakeholder Participation, Conflict Management and Cooperation in the Water Sector**	DAY 3: 06/04 **Administrative Organisation, Study Visit Water Governance Projects**	DAY 4: 7/04 **Legal Aspects of Water Governance and Integrity and Accountability in the Water Sector**	DAY 5: 8/04 **A Systematic Approach & Water Diplomacy**
Morning	Welcome @ The Hague Academy & Introduction *Pritti Rana* Official Opening *Peter Glas*	Stakeholder Participation, Conflict Management and Cooperation in the Water Sector *Rozemarijn ter Horst*	Introduction to Administrative Organisation of Water Management *Herman Havekes* Travel to Project 'KIS'	Legal Aspects of Water Governance *Bart Teeuwen*	Planning & Management in the Water Sector *Joop de Schutter*
Afternoon	Group Brainstrom: 5 Building Blocks for Good Water Governance Introduction Dutch (water) Governance System *Maarten Hofstra* Visit Madurodam	Stakeholder Participation, Conflict Management and Cooperation in the Water Sector *Rozemarijn ter Horst* Country Presentations	Presentation about high water project *Eric Kuindersma & Max Slimmens* Guided Bus Tour *Max Slimmens*	Improving Transparency, Integrity and Accountability *Pritti Rana*	Water Diplomacy, the case of Central Asia *Joop de Schutter*

Week 2

	DAY 6: 11/04 **Building Block 3: Financial Arrangements of Water Governance**	DAY 7: 12/04 **Gender Aspects of Water Governance**	DAY 8: 13/04 **Study Visit Water Management Projects**	DAY 9: 14/04 **Change Management and Work on Back Home Action Plan**	DAY 10: 15/04 **Presentations Back home Action Plans & Closing Ceremony**
Morning	Introduction to the Financial Assessment Tool *Robert van Cleef*	Case Study Kingfisher project *Anne-Marie Tosserams*	Visit Megastructures: Maeslantkering	The OECD Principles *Oriana Romano*	Presentations of the Back Home Action Plans and Feedback from the Group *Participants* Closing Ceremony
Afternoon	Group work: Lake Naivasha Case *Robert van Cleef*	Gender Aspects of Water Governance *Qazal Jamali*	Guided Tour at Waste Water Treatment Plant AWZI Katwijk aan Zee	Change Management and The Back Home Action Plan *Pritti Rana*	

2. The Course

2.1 Day one (4 April 2016)

Learning points:

Morning session: Introduction among the participants and facilitators, setting context and briefing about the outline of the whole course, Introduction of Hague Academy, discussion about facilities and logistics, back home action plan, how to get idea of back home action plan etc.

Afternoon session: Dutch Water Governance System and Three Layer Model for Good Water Governance.

Why Water Governance? In many documents, the current water crisis, in which almost half of the world's population has no or insufficient access to clean water and sanitation, and flooding and drought appear to be an everyday occurrence is referred to as a governance crisis. That's why good water governance is a prerequisite to improve water management all over the world.

Various definition of Water Governance: Most often quoted definitions of Water Governance are-

- Global Water Partnership (2002):

"A range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society".

- Rogers and Hall (2003):

"Governance aspects overlap with the technical and economic aspects of water, but governance points us to the political and administrative elements of solving a problem or exploiting an opportunity"

- Water Governance Centre (WGC project document, 2009)

"Water governance encompasses the following disciplines: law, economics and regional economics, population administration, policy and social science, spatial/regional planning and finance"

- The Organization for Economic Cooperation and Development (OECD, 2015)

"The range of political, institutional and administrative rules, practices and processes (formal and informal) through which decisions are taken and implemented, stakeholders can articulate their interests and have their concerns considered, and decision-makers are held accountable for water management" (OECD, 2015)

Concept and Principles of Water Governance:

The OECD has developed **6 (six) elementary Building Blocks** for good water governance; these are:

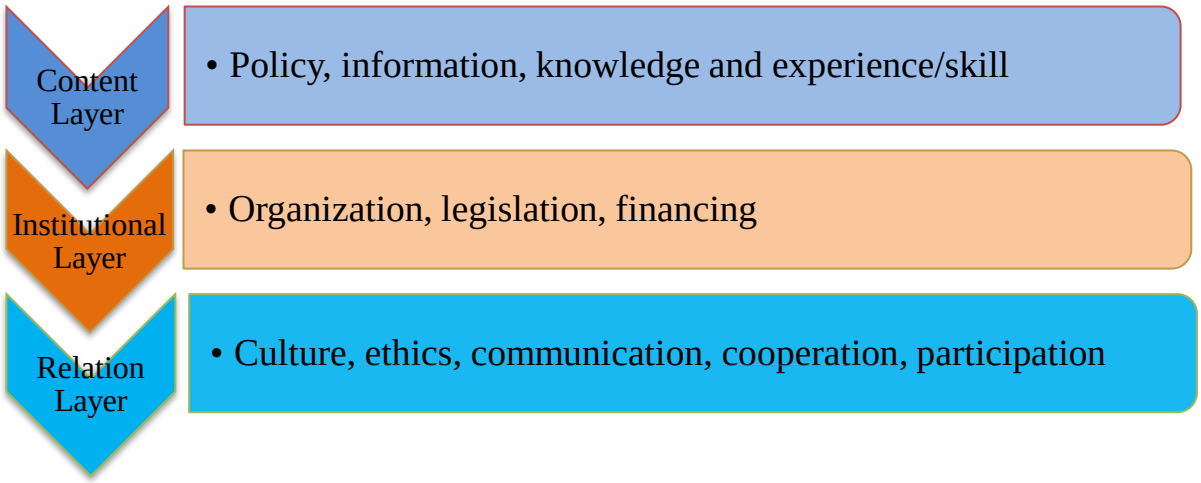
- A powerful administrative organization of water management;
- Legal aspect of water governance and integrity and accountability in the water sector;
- An adequate financing system;
- A systematic planning approach and water diplomacy;
- Stakeholder participation;
- Conflict management and cooperation in the water sector.

The above 6 (six) elementary Building Blocks for good water governance can be done in 3-Layer Model of Water Governance as a framework.

To make things simple the speaker used “The three layer model of water governance” as a way to make clear what relevant elements of water governance can be distinguished and how they are interrelated.

The Three Layer Model of Water Governance:

Core element of this approach is that Good water management comprises three layers- a Content layer, an institutional layer and a relation layer.



A Content layer

While knowledge of the water system and of the nature of the problems is essential as well as experience and skills to be able to solve problems. Also it is important to dispose of the necessary data and information.

The Institutional layer

An adequate organizational framework together with necessary (legal) instruments and good financing structure are fundamental requirements for successful integrated water resources management.

Relation layer

For successfully solving persistent water problems attention to what is called the Relation layer is required. Important elements of this layer are communication and coordination between different actors and the public, stakeholder participation, transparency and trust. Water governance focuses most explicitly on the institutional and relational layer, without overlooking the importance of and relations with content layer.

Visit to Maduraidam:

Visit Maduraidam- which is called the Mini-Netherlands. Madurodam was established in 1952 as a war memorial to war hero and resistance fighter George Maduro, who died at the Dachau concentration camp on February 19 1945. The parents of George Maduro provided the initial capital for Madurodam. Madurodam was founded to support charities. Up to 1964 all proceeds were donated to the Netherlands Students Sanatorium in Laren. This enabled students suffering from Tuberculosis to continue their study while they were recovering. Madurodam annually donates its

sale proceeds 600,000 – I million Euros to charities active in the Netherlands for children, focuses on discovering developing talent in children of primary school age. Madurodam is the destination where you can discover what makes a small country great. The park is based on true Dutch stories that are related through miniatures, which are 25 times smaller and enlarged objects, which are 25 times bigger than their real life counterparts. Discover in the Water World how the Netherlands deals with water as friend and foe. Experience the hustle and bustle of the port of Rotterdam or check out the workings of a watermill. You can even operate the locks of the Oosterschelder barrier. Innovation Island shows the international success of entrepreneurial spirit of the Netherlands.

2.2 Day two (5 April 2016)

Building Block 5+6-: Stakeholder Participation, Conflict Management and Cooperation in the Water Sector

Here we have learned why a participatory approach, what is a stakeholder, methods for Stakeholder analysis, how to involve stakeholders and increase their participation in the water sector. The speaker discussed about conflict management and cooperation in the water sector.

Why Participation:

- Balancing interests;
- Ownership development;
- More information on needs and opportunities (improve quality & sustainability);
- Effective implementation;
- Leads to more Transparency, Integrity, Accountability.

Different ways to involve stakeholders:

- Who should participate?
- What is the timing for participation?
- Which participatory method should be used?
- Which competencies should the participants have?
- What sort of information will the participants have access to?
- What are the financial costs involved

What is a stakeholder?

“any group or individuals who **can affect or is affected** by the achievement of the organization’s objectives” (Freeman (1984) in Bryson (2003)

“Any person, group, or organization that **can place a claim** on the organization’s attention, resource or our put, **or is affected** by the output” (Bryson, 1995 in Bryson 2003)

“people or small group with the **power** to respond to, negotiate with, and change the strategic future of the organization” (Eden and Ackermann, 1998 in Bryson 2003)

All non-governmental groups, organizations and companies that have a stake or interest, because they are **affected by, or have influence** on a decision (used in Building blocks for good water governance)

Analysis:

Identify stakeholder level:

- Primary: Direct involved
- Secondary: Indirect involved
- Tertiary: Not involved but have influence

Level of involvement:

- Information
- Consultation
- Active involvement

Ranking the stakeholder:

According to their importance, influence, power classification of weak-strong-supporter-opposition stakeholders.

Then the presenter discussed about Dutch Examples and participants examples (analysis our own case).

Conflict management and cooperation in the water sector:

Ingredients for water conflict:

- Water is vital, finite, fugitive: tragedy of the commons
- Water asymmetry
- Number of actors/borders involved: Countries, Businesses, Communities, nature
- Power relations (stakeholder analysis): Overall, Who controls the water (and changes in who controls what)
- What is at stake? Who loses, who gains?
- Background: Economy, history, social, overall stability
- What rules apply, and can they be enforced? (Governance of commons)

Key Ingredient: How much water is there to share: Now, and in the future?

Settling and avoiding conflict:

- By legal institutions
- By creating permanent platforms for discussion
- River Basin Organisations, Water Users Associations
- Create level playing field
- Create a safe environment
- Discuss in advance which rules apply – and ensure everyone agrees (easiest before conflict arises)
- Independent facilitator
- Independent or joint fact finding
- Tools: Role play, simulations – to identify smart solutions, create understanding

Conflict resolution:

- Litigation
- Arbitration
- Mediation
- Negotiation

Cooperation:

Cooperation within the broader context of good governance as essential element of integrated water resources management.

Aspects:

- Shared ambition & joint vision/strategy
- Knowledge & skills
- Roles & responsibilities
- Trust & control
- Cultural aspects

The Collaboration Ladder:

The collaboration ladder shown below makes clear that for building trust as a basis for fruitful collaboration.

- **Know**- Know what the other does
- **Understand**- Know how others think and look at things
- **Appreciate**- Consider the input and the opinion of another important
- **Trust**-Dare to leave it to another
- **Cooperation**- Together achieve a better result and experience job satisfaction

2.3 Day Three (6 April 2016) Administrative Organization, Study Visit Water Governance Projects

The speaker discussed about administrative organization of water management (on the scale of entire river basin), differences in the administrative organization, trends in the administrative organization, advantage of decentralization, condition of decentralization and also discussed some important Decentralization cases: The Netherlands and South Africa, principles for the administrative organization, Water Governance Gaps etc. In the afternoon we have seen a Dutch example of water governance through a visit to the Kinderdijk, the Hoogwaterbeschermings Project, which falls within the Hoogwaterbeschermings project.

Administrative Organization of water management

Water management in a broad sense:

- Water system (water safety, water quantity and water quality, surface water and groundwater) and
- Water chain (drinking water supply, sewage and waste water treatment).

The water system and water chain are closely interrelated.

Differences in the Administrative Organization

- Centralized vs. Decentralized

- All-encompassing vs. Functional authorities
- Exclusevely Public vs. Private parties

Trends in the Administrative Organization

Establishing (public) organizations on the scale of entire river basins, the River Basin Approach, which makes it easier to manage all the relevant aspects of water management;

Decentralization of water management, which awards responsibilities and powers to regional and local authorities and makes it easier to involve local interest groups of farmers, businesses, fishermen, nature conservation organizations, citizens in the work.

Despite this trend national government plays always an important role.

Advantages of Decentralization are:

- Decrease of bureaucracy, increase of efficiency
- Distribution of administrative powers
- Close to the involved stakeholders, who are part of the decision-making process
- Use of local knowledge
- Better checks and balances, more control opportunities

Conditions for Decentralization:

For making decentralization fruitful and successful, experiences of Dutch RWAs learn that it only works when decentralized authorities have:

- sufficient scale, staff, skills and knowledge
- an adequate financial position (own tax income)
- a range of administrative powers (ordinances, permits, enforcement)
- a strong relation with important stakeholders

Principles for the Administrative organizations:

- Absolute clarity on which authority is responsible for which water task
- The authorities must have sufficient staff, skill and knowledge
- The competent authority must have adequate (legal) powers
- The authority must have adequate access to sufficient financial resources (like subsidies, but in preference own income)
- The authority must foster Transparency, Participation and Accountability (information for the public, stakeholder involvement, financial reports and integrity)
- Because of the multiple character of water governance, the authorities must have the capacity and willingness to coordinate and cooperate with other involved authorities, inside and outside water management. Sometimes the solution for water problems is in the other policy fields.

Water Governance Gaps:

- Policy gap (overlapping, unclear allocation of roles and responsibilities, fragmentation across ministries and agencies)
- Administrative gap (geographical “mismatch” between hydrological and administrative boundaries)
- Information gap (asymmetries of information between central and sub-national governments, between different stakeholders)
- Capacity gap (lack of technical capacity, staff, time, knowledge and infrastructure,

insufficient capacity of local actors to implement water policies as well as relevant strategies)

- Funding gap (unstable or insufficient revenues undermining effective implementation of water responsibilities at sub-national level, cross sectoral policies and investment required)
- Objective gap (intensive competition between different ministries different rationales creating obstacles for adopting convergent targets)
- Accountability gap (lack of citizen concern about water policy and low involvement of water users associations)

The 17 participating member states of OECD identified the **funding gap** and the **capacity gap** as those which have the greatest practical influence in their countries

Dutch Water Governance

The water management is undertaken at all levels of government i.e central government (Ministry of Infrastructure and the Environment), provinces, regional water authorities, municipalities.

The Central Government: is responsible for national water policy via Rijkswaterstaat-the national agency and also responsible for managing hydrological main system consisting of the North Sea, the Ijsselmeer lake, the Wadden Sea, the Eems-Dollard estuary, the Zeeland Delta Water, the major rivers and a number of canals. The Central Government also bears responsibility for the coastline and is manager of three major flood defence structures (the Afsluitdijk, Eastern Scheldt, Maeslant barriers) and manages main navigation channels.

Provinces: The 12 nos provinces are responsible for regional water policy and issuing of permits for ground water extraction (drinking, industrial, geo-thermal energy).

Municipalities: The 390 municipalities are responsible for managing sewerage system. They also have legal duties of care for rainwater run-off and urban groundwater levels.

Regional Water Authorities: The 23 Regional Water Authorities are responsible for water safety, manage water quantity and quality, flood protection, control of muskrats and coypu.

Water Board officials briefed the participants about the formation and functions of the Water Board and jointly visited some dykes.

Water Board is the elected Executive body of the Water Authorities as briefed. Board members are represented the residents, Land owners, Nature protection organizations, Business/Industries. Its president is nominated by the King. Now there are 23 Water Authorities, but there were 2,500 in 1950. Water Authorities are the oldest democratic institutions in the Netherlands. Water Authorities deals with surface water.

Main functions of the Water Authorities are:

- Flood control
- Water management
- Water quality
- Musk rates
- Collection of tax and levies

- Quality test of dykes conduct every six years and take initiatives for re-enforcement/strengthening of the dykes
- Now they are constructing climate dykes, which are stronger and durable.

Study visit Water Governance Projects at Lehdijk KIS (kinderdijk- Schoonhovenseveer)

The Hoogwaterbeschermings Project is the large scale water management project is being implemented to safeguard people in the Dutch hinderlands from excessive flooding. It is located close to Kinderdijk areas where a series of beautiful windmills cover the landscape to keep the country dry. During this we have have seen the implications of large scale water management projects in practice, in particular measures to address high water levels, dyke management, increase flood safety constructing **climate dike** and to improve overall environmental quality.

2.4 Day Four (7 April 2016) Legal Aspects of Water Governance; and Integrity and Accountability in the Water Sector

Here the speaker discussed about institutional and legal aspects of water resource management and the necessity of laws and regulations for an integrated water resource management. He also discussed examples and challenges for an integrated approach from water legislation cases in the Netherlands and the (South) Asian countries. Afterwards, participants focus on one aspect of bad governance; corruption. We have learned and actively discussed about corruption in our own context and learned about the causes, the impacts and ways to reduce it.

Legal Aspects of Water Governance

For functioning of Administrative Organization there must have access to adequate legal and financial instruments. The importance of a coherent legal framework of the National Implementation of IWRM

Outlines:

- IWRM principles;
- Waves and features of Dutch water legislation
- Water legislation in EU member states
- Water legislation in developing countries.

Legal aspects of water governance in The Netherlands:

- Waves and features of Dutch water legislation
- Water legislation countries of participants
- A legally embedded system of water management

Water Legislation Countries of Participants

Country	Old Legislation	New IWRM Legislation
Bangladesh		Water Act 2013 Draft Water Rules August 2015
Costa Rica		Water Act 2014
Jordan	Several secotoral acts	
Lebanon		Law 221/2000 5 Reg. Water Authorities
Kenya		Water Act 2002
Pakistan	Federal acts and State acts - Canal/Drainage Act 1873 - Water/Power Dev. Act 1958 - Indus R.S. Authority Act 1992	
Zambia		WRM Act 2011
New Zealand		Resource Management Act 1991

Corruption in the water sector:

Learning Objectives:

- Introduction to corruption in the water sector
- Understanding different forms of corruption
- How to fight corruption
- What is integrity
- Integrity Tools

Corruption: a definition

- "Corruption is the abuse of public office for personal gain." (World Bank, 1998)
- "Corruption is the abuse of entrusted power for private gain." (Transparency International)

Types of corruption

- Petty & grand corruption
- Individual & systemic

Common forms of Corruption:

- Bribery
- Collusion
- Embezzlement & theft
- Fraud
- Extortion
- Abuse of discretion
- Favoritism, nepotism & clientelism

Driving forces of Corruption:

Individual choice: Need, greed, opportunity
Institutions: Klitgaards Corruption Formula
C = M + D – A

Where,
C= Corruption equals
M= Monopoly of power minus Accountability
D= Discretion by officials
A= accountability

Impacts of corruption

- Slow down economic growth
- Reduction local and foreign investment
- Lower levels of trust in institutions, safety
- Affects the poor
- Increased income inequalities
- Increased cost of service delivery;
  - -Increased construction, operation and maintenance costs
  - -Social cost

How to fight corruption: Follow the Klitgaards Corruption Formula

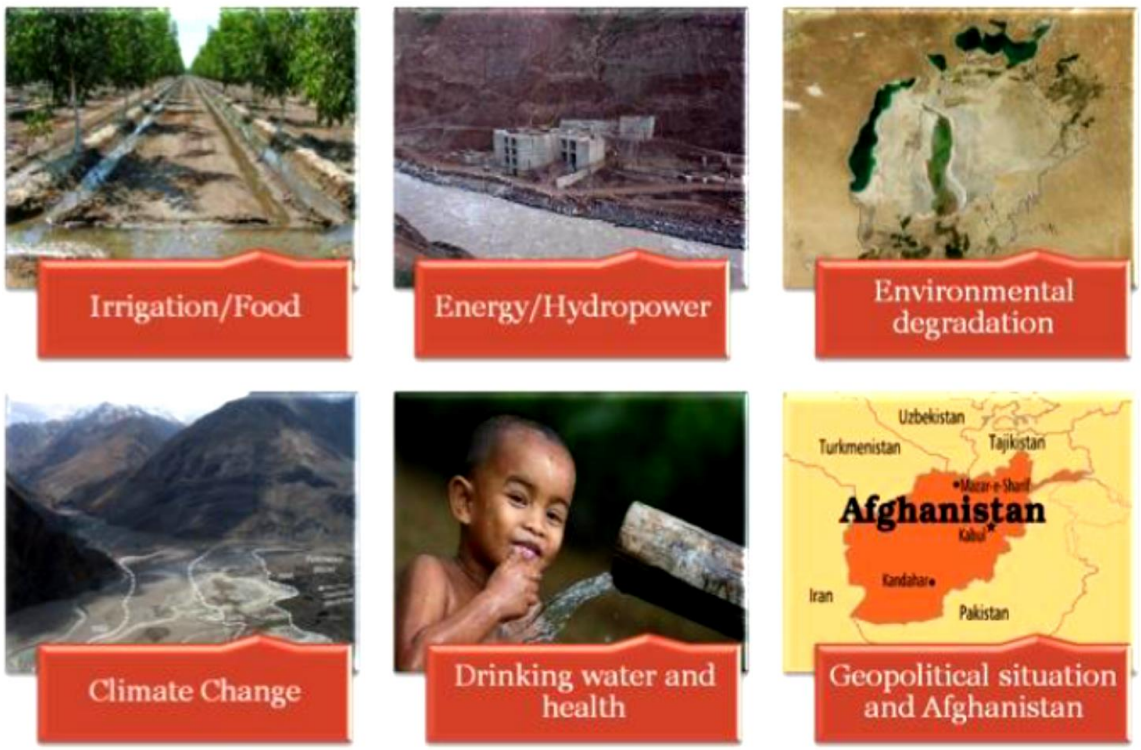
- Reduce monopoly
- Clarify discretion
- Enhance accountability and transparency

2.5 Day Five (8 April 2016) : A Systematic Approach & Water Diplomacy

Learning objectives:

Various aspects of planning and management in water sector
Work with a River basin model
Water diplomacy with special focus on a case in Central Asia and its future challenges.

Water Scenarios



Scenarios: the Concept

With reference to the assumed changes to the functioning of a water system, **a story telling kind of description of a causally connected sequence of events or of measures taken and influenced by internal or external drivers can be used.**

Scenario Development

Development of scenarios is a fundamental issue in planning processes. It is usually very sensitive because dealing with a uncertain future starting from a situation that has become day to day practice and that now will be changed. Open communication is essential in order to avoid negative political consequences or even stagnation of a decision process at all.

Scenarios and the Water System

Dealing with a water system is a multi actor, multi sector integration exercise. Key issues are:

- Integration over sectors (e.g. water, food, energy nexus)
- Integration over surface water and groundwater
- Integration over upstream downstream interests
- Climate Change
- Integration over government levels and structures
- Etc.

Scenarios in the Planning Process

Scenario's play a role in planning and decision making processes. The are applied to the analysis of the functioning of a (water) system with the aim to investigate consequences for the performance of a system as a result of endogenous and exogenous drivers. A framework for analysis provides a basis to structure the process.

Analytical Framework (what is the project / plan / idea)

- Problem analysis - and exploratory solution analysis
- Identification of planning objectives and criteria for evaluation
- Scenarios (endogenous and exogenous future developments)
- Strategies (measures proposed to solve the problem)
- Cases (selection of combinations of strategies and scenarios)
- Analysis of cases (calculation and analysis of decision criteria under different planning options
- Evaluation and weighing of options for decision making (ranking of cases)

Computational Framework (how does the project / plan work)

An (integrated) set of databases and models for calculating how design and decision criteria change as a result of changing scenario's and strategies

We also have acquainted with the following things

- Scenario Planning and Evaluation Tools
- Scenario Building Process
- Scenarios: objectives and possible use
- Scenarios: designing the process
- Scenarios and the Water Resources System
- Scenario Structures
- **Central Asia Waters Scenario Development**
- **Aral Sea Basin System Performance Indicators**
- Etc.

The speaker has also discussed on Transboundary Water Management-case study Central Asia (Aral Sea Basin), how to deliver idea and set management in Transboundary River Basin Planning (TRBP), Integrated River Basin Management (IRBM), how the ecosystem works in IRBM, Water Diplomacy, way forward etc.

Integrated River Basin Management

Integrated River Basin Management rests on the principle that naturally functioning river basin ecosystems, including accompanying wetland and groundwater systems, are the common source of freshwater. Therefore, management of river basins must include maintaining ecosystem functioning in the same level of importance than production functions such as hydropower and irrigated agriculture. This integrated (nexus) approach is the central theme for policy analysis for water management in river basins. Seven principles apply to an approach where ecosystems functions are central:

- A long-term vision for the river basin, agreed to by all the major stakeholders.
- Integration of policies, decisions and costs across sectoral interests such as industry, agriculture, urban development, navigation, fisheries management and conservation, including through poverty reduction strategies.
- Strategic decision-making at the river basin scale, which guides actions at sub-basin or local levels.
- Effective timing, taking advantage of opportunities as they arise while working within a strategic framework.
- Active participation by all relevant stakeholders in well-informed and transparent planning and decision-making.
- Adequate investment by governments, the private sector, and civil society organisations in capacity for river basin planning and participation processes.
- A solid foundation of knowledge of the river basin and the natural and socio-economic forces that influence it.

Water Diplomacy: mitigating conflicts / promoting security

The Water Diplomacy Consortium (WDC) defines water diplomacy broadly and to include **all measures that can be undertaken to prevent or peacefully resolve conflicts related to water availability, allocation or use between and within states and major stakeholders**. Among these measures are early warning of potential conflict, conflict prevention through better water governance and water management, Track-II facilitation, more formal mediation and arbitration, legal procedures, training and capacity building, knowledge development, and good practice documentation.

River Basins and Water Management and Diplomacy

Research and development work is ongoing in many river basins around the world. The research in all cases tries to combine technical water management principles with socio-economic and legal and governance aspects in order to support planning and decision processes between stakeholders in national and international water management systems. Most river basins have a "more or less" strong central basin institution to manage the process.

- Mekong Basin Commission
- http://www.mrcmekong.org/
- International Commission for Protection of the Rhine Basin
- http://www.iksr.org/en/index.html

- Indus Basin Initiative
- http://www.icimod.org/indus
- Nile Basin Initiative
- http://www.africanwater.org/nile.htm
- Etc.

River Basins and Water Diplomacy / International Conventions

Two conventions are particularly important and urgent for governments to promote and accelerate transboundary water resources management:

- **the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses** (UN Watercourses Convention) In 1997, more than 100 nations gathered to adopt the UN Watercourses Convention – a flexible and overarching global legal framework that establishes basic standards and rules for cooperation between watercourse states on the use, management, and protection of international watercourses.; and
- **the 2003 Amendment to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes** (UNECE Water Convention). The UNECE Water Convention promotes joint management and conservation of shared freshwater ecosystems in Europe and neighbouring regions. In 2003, agreement was reached, in principle, for the UNECE Water Convention to be opened up to non-UNECE member states. Now, that decision must be followed by a formal approval from the European Community and all the 33 individual states that were parties to the Convention at the time. Only then will its decision-making body start considering requests by countries outside the UNECE region to join. At this time, 23 parties have accepted the 2003 Amendments.

River Basins and Capacity Development for Water Diplomacy (1)

- UNESCO-IHP PCCP Program
- http://webworld.unesco.org/water/wwap/pccp/pubs/case_studies.shtml
- http://www.unesco.org/new/en/natural-sciences/environment/water/ihp/ihp-programmes/

The UNESCO-IHP PCCP program is using **selected case studies to draw lessons from both the root causes of conflicts as well as from examples of successful cooperation in trans-boundary water resources management**. They provide an important summary of data related to the hydrology of the river basins in addition to substantial information on the historical management and monitoring of the water resources. The legal, political and economic aspects, which make every case unique are also analyzed and assessed.

Case studies, some originating from the UNESCO HELP (Hydrology for the Environment, Life and Policy) and FRIEND (Flow Regimes from International Experimental and Network Data) programs, are presented from Europe, Asia, Africa, Middle East and The Americas. The objectives of these PCCP case studies are to **(a) foster cooperation among the riparian states concerned, and (b) increase the degree of knowledge about the basin**. This is achieved through the involvement of high-level players, governmental advisers and a host of experts and stakeholders, who were invited to prepare a consensus document reflecting the status on conflict and/or cooperation in the selected water body.

River Basins and Capacity Development for Water Diplomacy (2)

- Water Diplomacy and Conflict Management International Education Programs
- https://www.unesco-ihe.org/msc-programmes/specialization/water-conflict-management
- http://www.dundee.ac.uk/water/

The aim of water diplomacy related education is to **study the management of water resources conflicts, focusing on negotiation, mediation and decision-making processes, in order to prevent, manage and resolve water conflicts**. All this based on sound integrated knowledge and analysis. The key disciplines involved are policy analysis and international water law. Both tailor made short courses and master courses are available.

Courses are designed for water managers as well as for institutional, legal and international relations experts interested in local, national and international water management. Examples are courses in water diplomacy and water conflict management organized in cooperation between the UNESCO-IHP PCCP program, the UNESCO-IHE and the UNESCO Category 2 Centre for Water Law, Policy and Science in Dundee, Scotland

River Basins and Water Diplomacy Research and Advocacy

- Water Diplomacy Consortium
- http://www.thehagueinstituteforglobaljustice.org/projects/water-diplomacy-consortium/

Transboundary Water Resources Management and the fair distribution of water is an issue of rapidly growing importance on the international agenda. Especially **the water, food, energy nexus** problem is dominant in many transboundary water management discussions.

Building on the internationally available expertise in water technology, water governance, conflict resolution, and legal systems, The Hague Institute for Global Justice has joined forces with the Netherlands Institute for International Relations “Clingendael,” UNESCO-IHE Institute for Water Education, and the UPEACE Center The Hague to form a Water Diplomacy Consortium (WDC). The consortium aspires both to be a knowledge hub for water diplomacy, governance, and law, and to contribute to conflict prevention and conflict resolution in relation to water management across and within national borders. The WDC is involved in research and education projects as well as actual support to river basin committees worldwide, one example of which is the “Geneva Initiative” dealing with the Jordan Basin.

The Way Forward: integrated research and development program for water diplomacy in Central Asia

Scientific water diplomacy can play a role to restore trust and enable better cooperation between CARs. The region requires effective partnerships between scientists, policymakers and diplomats.

A strategy towards development and application of new principles for a transboundary water dialogue in Central Asia should start with a cooperative (among all stakeholders) program that will use research, training, demonstration and joint learning as its main elements.

Such Integrated Research and Development Program for Water Diplomacy in Central Asia should seek to promote the regional water dialogue through providing a multi stakeholder platform to meet, learn and understand each other’s interests and priorities and search for mutually

acceptable scenarios and development options using all available information and learning capacity (data, monitoring and modeling tools, scientific research and analysis, legal principles, etc.).

2.6 Day Six (11 April 2016): Financing System and Water Management

Learning objectives:

Different arrangements and frameworks for financing of water systems

- Financial Assessment Tool (FAT)
- Develop and implement the financing of water management efficiently using FAT and applied the tool in our own situation

Adequate Financing System:

Adequate funding is at present perhaps the most important bottleneck worldwide in terms of water management. Sufficient funds will have to be available for the necessary investments, annual management and maintenance and governance costs. This money can only be obtained if introducing the principle of cost recovery for water services, including the polluter pays principle and the beneficiary pays principle successfully.

The financing system refers to the various fundraising tools governments and private organizations rely on to pay for the costs of water management.

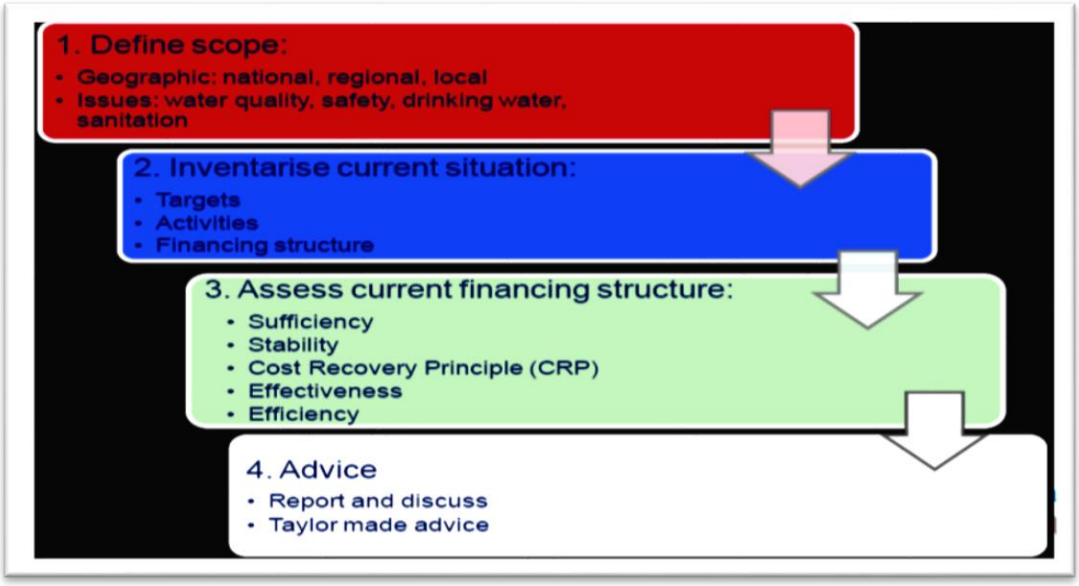
The process of collecting resources and allocating these resources to pay for water management activities.

Source of Financing: Tax, Tariff, Transfer, Trade, Levy, Pricing
Allocation: Drinking water, Sanitation, Water resources.

Towards a financing assessment tool: questions to understand the impact of financing systems

- What are the guiding principles;
- Who pays and who receives;
- How do transactions take place;
- How much;
- How often;
- At what scale;
- In what way is behavior influenced?

Financing System Assessment Tools (FAT):



Assessment of variables

Sufficiency: describes whether there is enough money for water management?
Stability: describes whether this money be counted on year after year

These two criteria give a picture of how solid and mature a financing system is.

Efficiency: a level of performance that describes a process that uses the lowest amount of inputs to create the greatest amount of outputs
Effectiveness: describes to what extent the goals that are set for water management are met?

These two criteria give more insight in how a financing system works.

Guiding Principles:

- ***The polluter pays principle;***
  This principle creates conditions to make pollution a costly activity, to alleviate pollution, and compensate for welfare loss;
- ***Cost recovery system;***
  This principle strives for recovering the costs that were made by the supplier of water service through the user of this water service (Article 9, Water framework directive).
- ***Equity;***
  Equity is often invoked to address affordability or competitiveness issues, when water bills are disproportionate with users' capacity to pay;
- ***Coherence.***
  Coherence between policies that affect water resources is essential to ensure that policies are mutually supportive and do not work against each other.

Conclusions

Financing systems do influence the effectiveness and efficiency of water management
Assessment tool resulting in a proper advice has added value.

2.7 Day Seven (12 April 2016): the King Fisher Project in South Africa (Case study) and Gender aspect of Water Governance

The water governance project of the King Fisher Project in South Africa (Case study)

Kingfisher Program: a Multilevel Water Governance Program in South Africa. The program assisted by Dutch Water Governance. The program started on 2012-13 and to be end on 2015-16

Overall objective:

Improved functioning of 9 CMAs (Catchment Management Agencies) in their water management and regulatory role.

Providing integrated water resources management and sustainable socio-economic development.

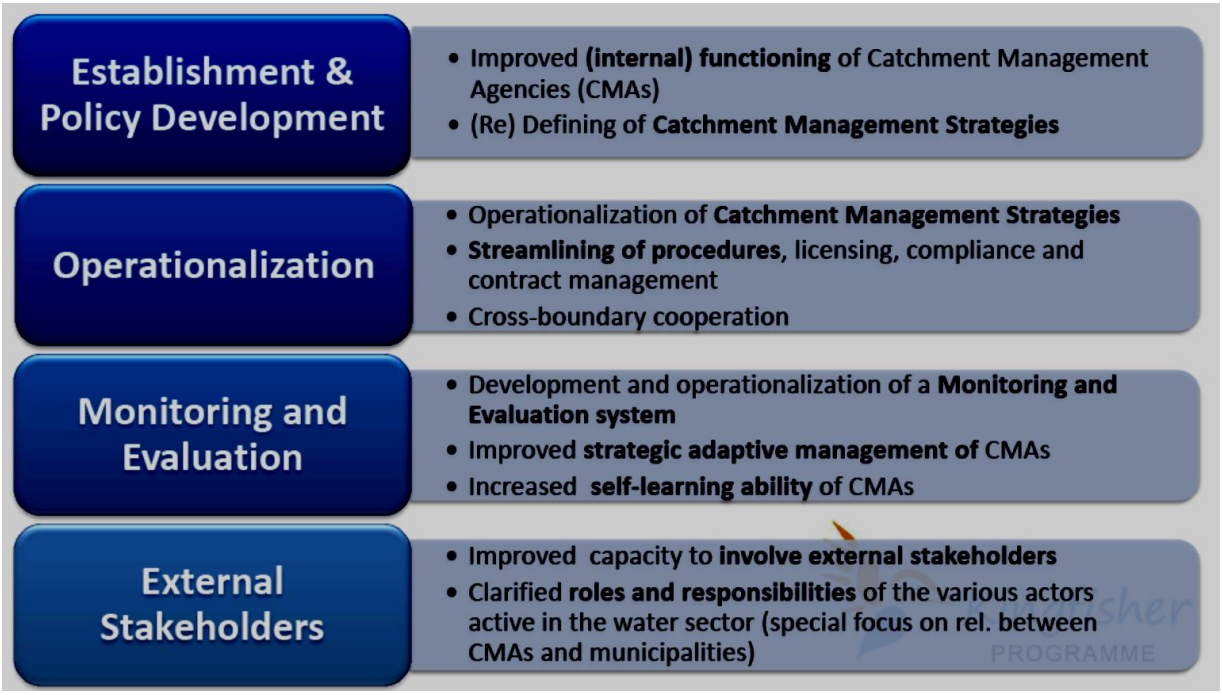
Purpose: Support the roll-out of 9 CMAs

- Establishment, Organizational development, Operationalize and stakeholder engagement.

Water Resources use in South Africa:

Item	Use %	Item	Use %
Irrigation	60%	Urban	24%
Rural	5%	Mining	3%
Industries	3%	Power Generation	2%
Afforestation	3%		

Project Component:



Activities:

Program level activity:

- Starter pack for CMAs 2013
- Dev. Of local govt. & CMAs framework 2014
- Workshop on roles & responsibilities between CMAs & DWS 2014
- Revised guidelines for CM strategies
- WISA conference 2016

Peer to peer professional exchange:

- CMS
- Licensing & enforcement
- Water quality
- Transboundary cooperation
- Interaction with Municipalities
- Capacity development board

Challenges encountered

- Process of establishment is prolonged therefore stakeholder fatigue
- Department introducing changes and additional studies therefore delaying the process
- Lack of policy and guidelines to assist in the establishment process e.g. Transporting of stakeholders, no standard of bench marking
- No consistency, regions have different approaches to establishment

- Local government played a minimal role, focus on services
- Diverse profiles of stakeholders therefore different levels of understanding
- Sectors are biased and promote their own interest
- Stakeholders lack understanding of water resources management
- Cultural and traditional influences
- Political influence

Success Factor of Kingfisher:

- Added value for operational governance
- Mutual benefit
- Political commitment in both countries
- Professional engagement
- Building of trust between partners
- Clustering into one program
- Project organization, budget
- Broad impact

Approach:

International exchange of experiences between South Africa and Dutch Water Management Institutions and Local Governments.

Gender aspects of water governance:

Learning objectives:

- Understanding the importance and relevance of a gender approach in all work
- Creating sensitization about the underlying power dynamics and structural barriers that reinforce gender inequalities.
- Applying strategies and tools in addressing gender inequalities in water management

Sex versus Gender:

Sex	**Gender**
Biological Differences between women and men Chromosomal and physical differences	Social interpretations and values given to being a woman, man, boy or girl The way behavior and identities are determined through the process of socialization

Characteristics of gender

Gender is

- Relational
- Hierarchical
- Changes over time
- Intersectionality
- Institutional

Gender equity: is the process of allocating resources, programs, and decision making fairly to both males and females and addressing any imbalances in the benefits available to males and females.

Equality & Equity: Equality focuses on creating the same starting line for everyone. Equity has the goal of providing everyone with the full range of opportunities and benefits – the same finish line.

Gender mainstreaming – A strategy

Strategy to ensure women's and men's concerns and experiences are included in the design, implementation and evaluation of policies and programs

Goal: achieving gender equality

Objectives:
Make gender more visible
Transform institutions
Ensure that power and resources are deployed equitably er

Conclusion:

- Gender is not equal to sex and gender does not mean women
- Gender mainstreaming is an established tool to address gender inequality
- Everyone can do a gender analysis
- Project outcomes should also address strategic gender needs
- Working with gender equality approach (gender glasses) means your work is efficient, sustainable and fair

2.8Day Eight (13 April 2016): Study Visit Water Management Projects

Learning objectives:

Dutch example of water governance through a visit at various sites.

- The implications of large scale water management projects in practice to address high water levels, dyke management, increase flood safety and to improve overall environmental quality.

Maeslantkering: Mega structure

Delta works under the Delta project is the crowning achievement in the Netherlands. The Maeslantkering is the part of Delta works. It is a storm surge barrier largest hydraulic engineering work in the Netherlands and the pinnacle of technical innovation. The storm surge barrier protected world famous Rotterdam Port from tidal surge and also protected Zuid Holland against high tide. When sea flood threatens (+ 3m NAP), the two huge curved gates close the Nieuwe waterweg waterway which is 360m wide. The construction of the barrier started in 1991 & ended im 1997. This unique storm surge barrier is longer than the Eiffel Tower is high and even weighs four times as much.

Waste Water Treatment Plant AWZI Katwijk:

A wastewater treatment plant is a water treatment plant where domestic and industrial waste water is purified so that it can be discharged into surface water. In fact, the wastewater plant imitates the natural decomposition process that takes place in the surface at an accelerated pace. The microbiological purification takes place in a oxidation ditch either in a carousel or in a trickling filter.

2.1 Day Nine (14 April 2016): Water Governance: an OECD Perspective, Change Management and Work on Back Home Action Plan

Learning objectives:

- OECD principles on water governance
- Introduce to the ways of designing and formulating water policy including setting priorities and formulating strategies to solve the problems
- How to achieve a systemic approach to water policy based on the OECD report on multi-level water governance
- The ins and outs of change management
- Develop a strategy to implement some of ideas on Multi-level water management when participants are back home, using the six building blocks which have been studied in the previous days.

An OECD (The Organization for Economic Cooperation and Development) Perspective:

Member of OECD Countries (Total: 34 in which 18 of EU) all together have been established OECD in Paris to address the necessity for good water governance and formulated specific principles in this field.

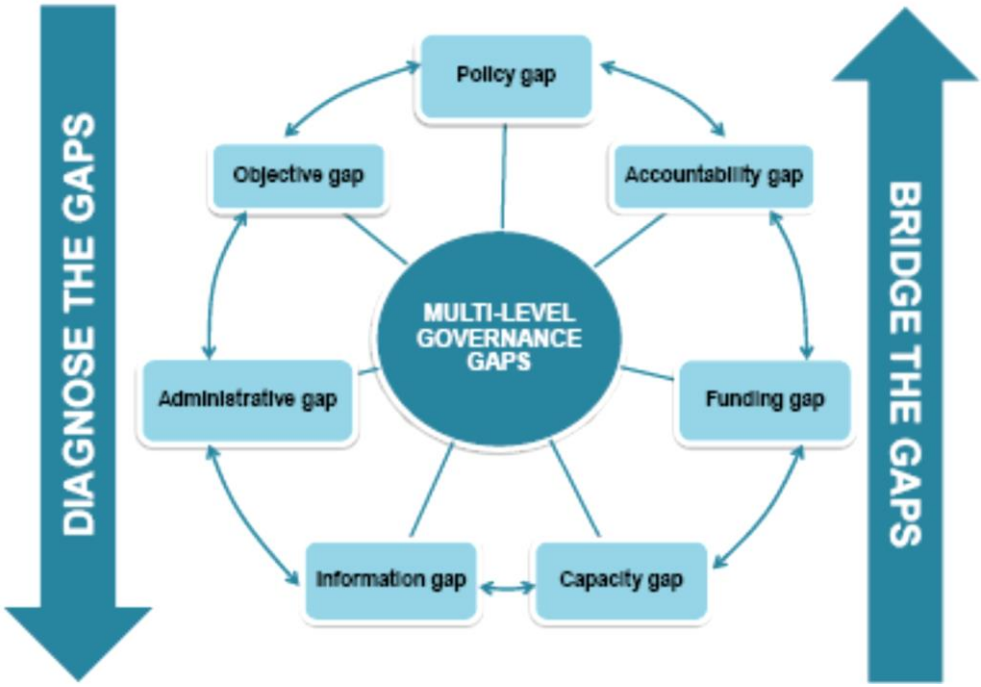
Why OECD Principle of Water Governance?

- SDG 6 “Ensure availability and sustainable management of water and sanitation for all”
- Water demand will increase by 55% globally by 2050
- 4 billion people will be living in water-stressed areas by 2050
- More than 240 million people are expected to be without access to an improved water source by 2050
- The global pressures on water and related sectors around the world which requires doing better with less
- The water sector holds intrinsic characteristics that make it highly sensitive to and dependent on multi-level governance.
- Coping with future water challenges raises not only the question of “what to do?” but also “who does what?”, “why?”, “at which level of government?” and “how?”
- Policy responses will only be viable if they are coherent, if stakeholders are properly engaged, if well-designed regulatory frameworks are in place, if there is adequate and accessible information, and if there is sufficient capacity, integrity and transparency
- To fit for the future, institutions need to adapt to changing circumstances, and political will and policy continuity are key in the transition towards more inclusive and sustainable practices

Water Crises are often Primarily “Governance” crises

The **"OECD Multi-level Governance Framework: Mind the Gaps, Bridge the Gaps"** was developed as an analytical framework and tool for policymakers to identify and bridge governance challenges that affect, to a greater or lesser extent, all countries, regardless of their institutional setting, water availability or degree of decentralization.

Multi-level Governance Framework: Mind the Gaps, Bridge the Gaps



Principles: The OECD principles on Water Governance intend to contribute to tangible and outcome oriented public policies based **on three mutually reinforcing and complementary dimensions of water governance**;

Effectiveness: relates to the contribution of governance to define clear the sustainable water policy goals and targets at all levels of government to implement those policy goals and meet expected targets. More specific relates to followings:

- Policy Coherence
- Clear roles & responsibilities
- Appropriate scales within basin system
- Capacity

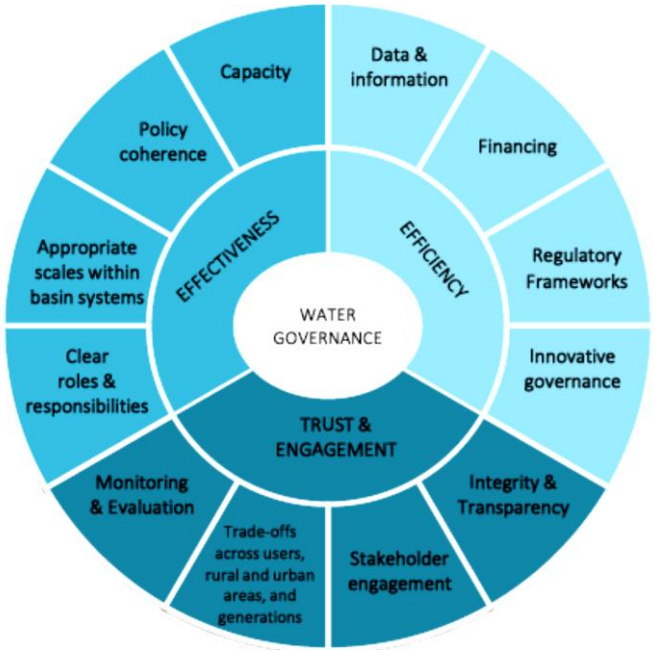
Efficiency: relates to the contribution of governance to maximize the benefits of sustainable water management and welfare at least cost of society. More specific relates to followings:

- Data & information
- Financing
- Regulatory frameworks
- Innovative governance

Trust & Engagement: relates to the contribution of governance to building public confidence and ensuring inclusiveness of stakeholders through democratic legitimacy and fairness for society at large. More specific relates to followings:

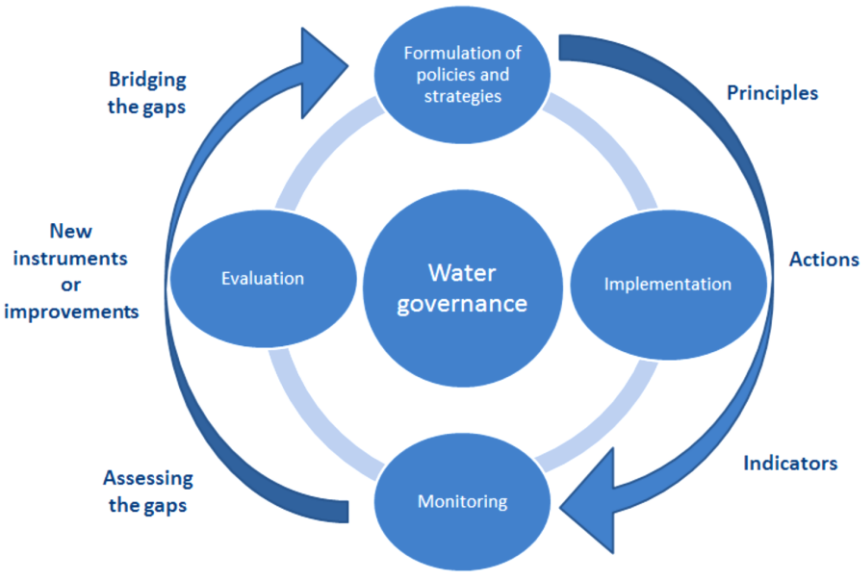
- Stakeholder engagement
- Integrity & transparency
- Trade-offs across users, rural-urban areas and generations
- Monitoring & Evaluation

Overview of OECD Principles on Water Governance



The OECD Principles on Water Governance are expected to contribute to improving the "Water Governance Cycle" from policy design to implementation.

The Water Governance Cycle:



Change Management

Learning objectives

- **Understanding the concept of change**
- **Designing an action plan for when you arrive back home:**
  - Technical side: Your plan, assumptions and preconditions for change
  - People side: stimulating willingness and managing resistance to change

What is meant by "change management"?

A structural process and comprehensive set of tools for leading the people-side of change to achieve the desired results.

How do we motivate people to change their behaviour?

How do we motivate people to change their behavior? ADKAR model

- **Awareness building:** what is the nature of change? Why change? Risk of not changing?
- **Desire creation:** Personal motivation to support change. Organisational/societal drivers.
- **Knowledge development:** Knowledge, skills and behaviours required during and after the change. Understanding how to change.
- **Ability fostering:** Demonstrated ability to implement the change. Barriers that may inhibit implementing the change.
- **Reinforce changes:** Mechanisms to keep the change in place. Recognition, rewards, incentives, celebrate successes.

Success factors in managing change:

- Active and visible role of leadership/champions
- Frequent and open communications
- Dedicated resources for change management
- Structured change management approach
- Stakeholder participation and engagement

Motivation: Some need to be pushed more than others...

Participants were briefed about the change management and implementing the Back Home Action Plan

2.1 Day Ten (15 April 2016): *Presentation of Back Home Action Plan and Closing*

Participants presented their Back Home Action Plans.

Conclusions:

Recent studies show that almost half of the world's population has no or insufficient access to clean water and sanitation. Disasters like flooding and drought appear to be an everyday occurrence. OECD projections show that 40% of the world's population currently lives in water-

stressed river basins and that water demand will rise by 55% by 2050. 240 million people are expected to remain without access to clean water and 1.4 billion without access to basic sanitation by 2050. This current water crisis is referred to as a governance crisis. That's why good water governance is a prerequisite to improve water management all over the world.

Worldwide water is a public matter and often there are different public authorities involved on a national, regional and local scale. So water governance is multilevel governance and coordination and cooperation between the different authorities is extremely important.

A powerful administrative organization, water law, financing system (and economic analysis), systematic planning approach, stakeholder participation and cooperation in the water sector are inevitable for sound water management. The three-layer model of water governance is introduced and explained. This model is an extremely useful tool for assessing water governance. There are no blueprints, but important principles have been distinguished and presented. Furthermore OECDs seven gap method, which can help to assess the water governance of countries and regions, is presented. Moreover, a number of examples from international water management practice are also presented. All these principles, model, OECDs seven gaps, international examples and Dutch examples of water governance through filed visit at various sites may help manage too much, too little and too polluted water in a sustainable, integrated and inclusive way at an acceptable cost, in a reasonable time frame.

Recommendations:

To establish good governance, river wise, basin wise, regional, national and international planning is essential. In the Bangladesh most of the main rivers catchment outside the border. So, transboundary planning is a big challenge. In this context, involvement of Policy makers, Decision makers, Key personnel's of public and private organizations, key water professionals are to be needed. Decentralization one of the best idea to ensure good governance in water sector. The training program can be more effective to disseminate the concept of Multilevel Water Governance to Policy makers, Decision makers, Key personnel's of public and private organizations, key water professionals and achieve the objective of Water Governance at desired level in Bangladesh.

Recently enacted the 2013 Water Act is the latest and most important water policy in Bangladesh and best example of good governance. There are also a number of additional policies that overlap and connect to the present Water Act. Still have some aspects unclear and very little enforcement of policies and laws. Lack of coordination, lack of information, shortage of manpower & financial resources, lack of professional skillness, decentralisation are major institutional challenges. Similarly monitoring and penalty systems are not functioning well and absent of monitoring powers to local public representatives to improve implementation are also major challenges in implementation. Moreover implementation activities are not done as per the Government Policies, stakeholders are not properly aware about the guidelines, rules and acts related to water sectors, stakeholders are not involved at all stages of project cycles, lack of coordination among the stakeholders are challenges for sustainable water resources management. The knowledge acquired in this training programme can help to overcome the challenges in water resources and establish good water governance in Bangladesh.

There are around 405 rivers in Bangladesh of which 57 are transboundary out of which 54 are shared with India and the remaining three with Myanmar. Therefore, river-basin-scale planning is essential for securing supplies of water resources in Bangladesh. River-basin-scale management can help better exchange of data and information between riparian countries in the region. In this context, involvement of Policy makers, Decision makers, Key personnel's of

public and private organizations, key water professionals are to be needed. Decentralization one of the best idea to ensure good governance in water sector. The training program can be more effective to disseminate the concept of Multilevel Water Governance to Policy makers, Decision makers, Key personnel's of public and private organizations, key water professionals and achieve the objective of Water Governance at desired level in Bangladesh.