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Outline

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Unit	Торіс
1	Introduction to River Basin Management
2	Clear Governance and Coordination Structure
	Governance (legal aspects and framework)
	Basin Coordination Structures (basin institutions and stakeholder engagement)
3	Basin Characterisation
	DPSIR Assessment
4	Determining Basin Vision and Objectives
5	Design/ Adaptation of Monitoring Networks and Programmes
6	Assessment of Water Quality and Quantity
7	Implementation of RBM
	River Basin Plans and Programme of Measures (PoM), Financing and Review of PoM
8	Solutions through Exchange, Information Flow and Cooperation
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INDIA-EU WATER PARTNERSHIP

2 Clear Governance and Coordination Structure

2.1 Governance and Legal Framework2.2 Basin Coordination Structures











The River Basin Planning and Management Cycle



Clear Governance and Coordination Structure



The United Nations recommends:

- Enabling the environment
- Clear administrative structures and competence distribution
- Management instruments
- Infrastructure development
- Capacity Building

Infrastructure Europe, provisions of Directive 2000/60EC in force:

- River basin as management unit determined and water body as the smallest subunit in the basin
- Concept of a "competent authority" was introduced
- Quality status goals for coastal waters, rivers, lakes and Groundwater are set



What is Governance?

- Water governance is "the set of administrative systems, with a core focus on formal institutions (laws, official policies) and information institutions (power relations and practices) as well as organisational structures and their efficiency." (Water Governance in OECD Countries, A Multi-level Approach, OECD)
- Water governance refers to the 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' (Rogers and Hall, 2003)

\rightarrow It is a set of principles, norms, rules and procedures that:

- Define overall objectives for water resources/basin management
- Establish norms and aspiration how and with which aim to manage water resources
- Defines rights and obligations of different actors/users
- Establishes mechanisms for continuous actor cooperation and negotiation





2 Clear Governance and Coordination Structure

2.1 Governance and Legal Framework 2.2 Basin Coordination Structures









Water Governance

According to the authors of the UN World Water Development Report 2, water governance has four dimensions:

- A social dimension concerned with 'equitable use';
- An economic dimension concerned with 'efficient use';
- An **environmental** dimension concerned with 'sustainable use'; and
- A **political** dimension concerned with 'equal democratic opportunities'.

Each of these dimensions is 'anchored in governance systems across three levels: government, civil society and the private sector'

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UN Checklist for Effective Governance

To realise 'effective governance', the UN World Water Development Report proposes a checklist that includes the following:

- Participation;
- Transparency;
- Equity;
- Effectiveness and efficiency;
- Rule of Law.

The absence of some or all of these practices has resulted in 'bad' or 'poor' governance, a simple definition of which is the inability and/or unwillingness to alter patterns of resource allocation, use and management despite clear evidence of resource degradation, uneconomic behaviour and abiding poverty and social inequality (UN, 2006:49)

Source: World Water Development Report 2, 2006





Group Exercise (optional)

- A Discuss in a small group the following question:
- What does (water) governance mean to you?
- **B** Water governance rating for India
- Try to create a ranking according to the criteria of the UN Checklist for Effective Governance





UN Checklist for Effective Governance (optional)

Group work (2-3 persons per group)

Try to rate the country or region according to the criteria of the checklist – from 1 to 5, with 1 being weak and 5 being very good.

Please discuss at first your understanding of the different terms. Write this on cards. Then rate and discuss the reasons for your rating.

After the rating, please discuss one or two **recommendations** to improve the situation for RBM. When you have reached a consensus on the recommendations, write them on cards. (UN, 2006)

	weal	k			good
Criteria	1	2	3	4	5
Participation					
Transparency					
Equity					
Effectiveness and efficiency					
Rule of law					
Accountability					
Coherency					
Responsiveness					
Integration					
Ethical considerations					



Water law – The basics

What is law?

- The law provides the framework within which activities can be carried out in a society.
- The law attempts to create a certain amount of order in a state by developing specific rules of conduct, by upholding culture and society-specific norms, and by promoting a degree of certainty about the nature of the rules in a society (Gupta, 2005)
- The law is the total of rules and regulations to arrange human relations and bring order to human conduct in a given state on a given issue

And what is water law?

- Water law is a building block of the institutional layer needed for sound water governance
- Water law the creation, allocation and distribution of water rights and further consists of those aspects of the law that are of primary concern in the management of water resources (Goldfarb, 1988)
- Water law is made up of all the provisions which in one way or another govern the various aspects of water management, i.e. water conservation, use and administration, the control of the harmful effects of water, water pollution and so on (Caponera, 1992).





Water Rights as the Basis for Water Law

- It is a legal entitlement to use water and not a property right in the water
- It establishes a legally enforceable expectation for the holder of the right and can exclude others from use of that water
- Sources of water rights: legislation/water code but also traditional and customary water uses
- It is legally enforceable so can be claimed before a court of law against the claims of the other, including the government
- By providing security and reliability of title it supports investment
- It includes
 - Rights: abstracting surface or ground water for different purposes, free from interference and enforceable
 - Obligations: return unused water, treat wastewater, pay water charges and use water in compliance with license terms (conditions of use)
- Traditionally linked to the use of land





Legal Setting in Germany/Europe

- European Directives and Legislation originating from the European Commission.
- The Federal Water Act, federal law as framework under which the Federal States (Länder) formulate the corresponding water laws
- The Federal Water Law contains the provisions to provide the legal implementation of European Directives
- In Germany, the competence of water management issues rely with the Federal States and their competent institutions
- This results in 16 different State Water Laws in the federal system.





Governance and RBM in Germany

- Different entities for managing the environment and water resources
- River basins (at the national and the international level) - based on hydrological consideration
- Federal states (16) with own water legislation and institutions – based on legal and political considerations
- Requires complex governance mechanisms that balance different geographical, political and other dimensions
- <u>The implementation of identified measures and</u> <u>funding, remain under full responsibility of the</u> <u>corresponding state.</u>





Legal Integration of the EU WFD in Germany

- The EU WFD obliges member states to set up the RBM Plans based on the river basin as a hydrological unit → Each of Germany's 16 federal states had to comply
- 10 river basin districts were delineated as binding water management units by the Federal Water Act (FWA) → International commissions for the protection of rivers were only established in Germany for larger rivers (e.g. Rhine, Elbe, Danube)
- The provisions of the WFD which require the (uniform) formulation of River Basin Management Plans for the catchments in Europe and ambitious timelines for reporting





Legal Integration of the EU WFD in Germany

- It was necessary to amend the Federal Water Act (FWA) of Germany → This required parliamentarian consensus on the federal state level
- A federal Surface Water Ordinance and Groundwater Ordinance were established to complement the provisions of the amended FWA
- Consequently, all State Water Laws (Landeswassergesetze) had to be amended as well to implement the new federal provisions
- With this, a common base for the implementation of a standardised water management system within the federal states was established





Linkages between the EU and the German National Level







EU Support for the Introduction of the WFD

- To assist the national water management administration and competent authorities with the new elements of the WFD → Capacity building and support was provided by the European Commission (EC) through a process "Common Implementation Strategy (CIS)" (only five months after the WFD entered into force)
- CIS included for e.g. the elaboration of guiding documents on various technical aspects of implementation, additional documents and references related to different aspects of the implementation (publicly available on CIRCABC website)

Source: https://ec.europa.eu/environment/water/water-framework/facts_figures/guidance_docs_en.htm





Implementing the EU WFD in Germany

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The EU WFD: A Continuous Effort

Despite the improvement achieved in Europe's water resources which are attributed to the EU WFD, the following needs to be acknowledged:

- Europe's water resources remain under pressure → Recent figures show that 20% of surface water is at serious risk from pollution
- 60% of European cities over-exploit their groundwater resources
- 50% of wetlands are endangered
- Demand for water is continuously growing
- About 75% of Europe's residents get their supply from groundwater sources
- Nearly half the EU population lives in 'water-stressed' countries where the abstraction of water from freshwater sources is too high





The EU WFD: A Continuous Effort

Year 2015

Proportion of classified river and lake water bodies in different EU River Basin Districts holding less than good ecological status or potential



Fig. 1

Proportion of classified river and lake water bodies in different EU River Basin Districts holding less than good ecological status or potential (European Parliament <u>2015</u>)





Legal Framework for Basin Management in India

- Specific Acts as seen in the case of the Brahmaputra Board (Brahmaputra Board Act, 1980) or Damodar Valley Corporation (DVC)
- Tribunals are established under the Inter-State Water Disputes Act of 1956 as a result of existing inter-states river water disputes among riparian States
- Specific State Acts as in the case of Bhakra Beas Management Board
- Notifications as in the case of Tungabhadra Board
- MoUs between States as in the case of Upper Yamuna River Board
- Gazette notification as in the case of National Ganga River Basin Authority (NGRBA)
- Standing orders as in the case of constitution of National Council for Rejuvenation, Protection and Management of River Ganga (National Ganga Council) through the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016





Legal Framework for Basin Management in India

- 2018 draft River Basin Management Bill, under public consultation, has suggested a two-tier system of management of the River Basin Authority:
 - The Governing Council:
 - Chief Ministers of the basin States & UT.
 - State Ministers in charge of the Water Resources Departments.
 - Chairman of the Executive Board.
 - An Advisory Council assisting the Governing Council.





Legal Framework for Basin Management in India

- 2018 draft River Basin Management Bill, under public consultation, has suggested a two-tier system of management of the River Basin Authority:
 - The Executive Board:
 - Chairman,
 - Administrative Secretary of the State Water Resources Departments.
 - Administrative Secretaries of various Departments.
 - Sectoral experts in sectors such as
 - Nominees from Central Water Commission (CWC), Central Ground Water Board (CGWB), Financial Advisor etc.





Discuss in a small group the following questions:

- Will the reviewed 2018 draft River Basin Management Bill enable RBM in India?
- In your opinion, would other legal instruments be required?





2 Clear Governance and Coordination Structure

2.1 Governance and Legal Framework 2.2 Basin Coordination Structures

- Institutional set-up
- Stakeholder engagement







The Need for Basin Coordination



1. River basins lie across different administrative boundaries

2. River basins involve **different sectors** using water, therefore requiring cross-sectoral integration

→ Therefore, coordination across institutions and sectors is necessary

Source: Amarasinghe et al. (2016), Reviving the Ganges water machine: potential and challenges to meet increasing water demand in the Ganges River Basin, IWMI Research Report 167:42





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The Need for Basin Management Institutions

A legal framework for basin management does not ensure that the goals, principles and programme measures are being implemented in a continuous manner.

Therefore need to establish institutions that

- Ensure regularity of <u>meetings</u> and prepare them
- Raise newly <u>emerging issues</u> to the basin management agenda
- Prepare decisions and organise <u>decision-making</u> processes
- Engage in <u>data and information</u> sharing
- Ensure inclusion of <u>stakeholders</u>

Apart from coordination of implementation, there need to be institutions for legal enforcement (see Governance).











The Set-up of Basin Management Institutions

"Form follows function"

- Challenges in water management/in a basin guide the set-up of institutions
 - Topical focus
 - Broad vs narrow mandate
 - Powers vis-à-vis others
- The set-up of institutions guides their design and their organisational bodies
 - Small vs large institutions
 - Number of organisational bodies and relations between them
 - Financing needs



Internal Governance of Basin Management Institutions

Rules of procedures

- Define meetings (regularity, content, preparation)
- Communication and information exchange mechanisms
- Decision-making mechanisms
- Organisational bodies and responsibilities
- Roles and responsibilities
- Financing
- Dispute-resolution mechanisms
- Involvement of other actors





Institutions for Water Management in Germany

Due to the political nature (federalism) of the German governance system, water management (thus **basin management**) is undertaken by a number of different institutions

National level

- Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
- Federal Agency for the Environment

State level (16 states)

- State Ministry for the Environment (or similar ministry)
- Regional councils

Local level

- Communities
- Districts
- Cities





Governance Structure of RBM in Germany

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The governance structure for basin management reflects the complex setup of water management issues in Germany (federal state, different competences across states, subsidiarity principle, etc.)





Setup of the (National) "Basin Community" (FGG) Rhine

The Basin Community (FGG) Rhine coordinates basin management in the Rhine River Basin between the different German states. Its organisational set-up reflects the typical two-tiered structure of basin commissions.





* 8 Federal States: Baden-Wurttemberg, Bavaria, Hesse, Lower Saxony, Northrhine Westphalia, Rhineland-Palatinate, Saarland, Thuringia



Other Institutional Forms of Basin Cooperation

Examples for International Basin Organisations

Rhine (ICPR), Danube (ICPDR), Murray-Darling (MDBA), Nile (NBI), Aral Sea (ICWC), Okavango (OKACOM), Lake Chad (LCBC), Congo-Oubangui-Sangha (CICOS), etc.

Examples for Basin Organisations

Morocco, Algeria, Namibia, Yemen – have established Basin Agencies

- Germany North-Rhine Westphalia **Water Associations** (*Ruhr, Emscher, Lippe, etc.*) Other federal states have different approaches.
- Netherlands District **Water Boards** independent local governance bodies charged with managing water barriers, waterways, water levels, water quality and sewage treatment

France Six **Water Agencies** founded in 1964, now working to implement the EU Water Framework Directive (2000)







Example: Tapi River Basin Management Plan

- Ongoing activity under the India-EU Water Partnership.
- Covers the entire Tapi River Basin: beyond administrative borders
- Tapi RBM Plan will be fully aligned to RBM Cycle
 - Blending EU with Indian approaches
- Enabling JOINT planning and management of all issues and challenges
 - Combination of all State information into one integrated RBM Plan
 - Overview on entire Tapi basin
 - Development/implementation is steered by each State based on joint aims.
- The Tapi RBM Plan covers:
 - Surface waters and groundwater (maybe coastal waters)
 - Water Quality and Water Quantity







Example: Tapi River Basin Management Plan

Institutional Set-up across Administrative Borders



Tapi River Basin Committee

- Steering the development of the joint Tapi RBM Plan
- With support of CWC, IEWP PMU and EU Experts
- Regular meetings that focus on specific tasks/results

Part A: Basin-wide level = entire river basin: Steered by <u>ALL</u> States sharing the river basinPart B: State level = state or sub-basin authorities

Part C: Sub-unit level = within states: sub-national units







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Organogram of Agencies Involved in Ganga RBM (output of Training Module 1)

PLANNING	STEERING	IMPLEMENTING	
National Ganga Council	NMCG	NMCG	
Ministry of Jal Shakti / MoJS (Department of Water Resources, River Development and Ganga Rejuvenation and Department of Drinking Water and Sanitation / DDWS	Central Water Commission / CWC		
National Mission for Clean Ganga / NMCG	Central Groundwater Board		
NITI Aayog	State Ganga Committee		
State Department of Water Resources	State Mission for Clean Ganga		
	District Ganga Committee		
Other stakeholder with crosscutting responsibilities			
Ministry of Housing and Urban Development / MoHUA	Ganga Flood Control Commission / GFCC	State Department of Irrigation	
Ministry of Agriculture and Farmers' Welfare / MoA&FW	Empowered Task Force	State Public Works Department / PWD	
Ministry of Panchayati Raj	National Institute of Hydrology (NIH), Roorkee	State Panchayati Raj Department	
Ministry of Environment, Forest and Climate Change / MoEFCC	National Water Development Agency / NWDA	State Department of Urban Development	
Central Pollution Control Board / CPCB	cGANGA	State Pollution Control Board	
Ganga Cell in CPCB	Dispute Resolution Committee / DRC	Parastatal (Jal Nigam) (Jal Jeevan Mission)	
National Water Mission (NWM)	Water Dispute Tribunal	State Forest Departments	







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Exercise: Key Features of Basin Management Organisations

Discuss in a small group the following questions:

- What are the key characteristics of basin management organisations, including:
 - Which functions should the organisation fulfil?
 - Who needs to be involved?
 - How should the organisation be set-up?
 - Is the NMCG an RBO/ can it become an RBO?





2 Clear Governance and Coordination Structure

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- Institutional set-up

- Stakeholder engagement







Stakeholder Involvement at Different Stages of Basin Management



Why is Stakeholder Engagement Important for Basin Management?

Water resources management and basin management affect many different individuals, user groups, sectors and other groups, e.g.

- Every person requiring drinking water and water for other human uses
- Farmers and their interests in irrigation
- Cities in charge of water supply and wastewater management
- Electricity companies generating electricity through hydropower
- Navigation sector and shipping industry
- Tourism sector relying on water bodies for recreational purposes

All these interests are affected by basin management decisions, but also affect basin management themselves.

Moreover, often these interests and not compatible or have potentially negative impacts on each other.









Coordination Structures: Stakeholder Analysis

 To understand involved institutions and organisations together with their roles and responsibilities, it can be helpful to do a stakeholder analysis

"Stakeholder management is critical to the success of every project in every organisation I have ever worked with. By engaging the right people in the right way in your project, you can make a big difference to its success... and to your career."

– Rachel Thompson, Mind Tools.

 Since stakeholder management is crucial to project success, a stakeholder analysis is an important part of strategy development





Stakeholder Analysis

Aims at defining:

- What stakeholders are involved in a certain basin and the respective management activities in the basin
- What their interests in the use, the development and/or the protection in the basin's water resources are
- Whether and to what extent these different interests are compatible (or even mutually beneficial)
- What the origins and root causes of incompatible or conflictive interests are
- How strong each interest group's/stakeholder's position is with regard to finding a compromise











Different Ways of Doing Stakeholder Analyses

Most important is that an analysis is done, and that the approach used meets the needs for whom the analysis is done

Can be:

- Very general and broad, providing an overall snapshot of the situation only
- Very in-depth, providing detailed insights into each stakeholder's interests and position
- Focus on specific pre-defined stakeholders only (for political or strategic reasons)
- Can focus on stakeholders' interests in water use
- Can focus on strategic position of stakeholders via-à-vis basin plan





Steps of a Stakeholder Analysis

- 1. Formulate the key question
- 2. Identify the stakeholders
- 3. Choose the form of graphic depiction (onion; rainbow)
- 4. Visualise the stakeholders
- 5. Visualise the relations between stakeholders
- 6. Evaluate the results
 - Is the picture showing the reality?
 - Are all relevant stakeholders included?
 - What do we notice? What is the impact of the picture?
 - What are consequences for the strategy/ plan/ project?





Forms of Stakeholder Analyses (1)



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Stakeholder	Ally	Neutral	Opponent
Stakeholder 1			
Stakeholder 2			
Stakeholder 3			
Stakeholder 4			
Stakeholder 5			
Stakeholder 6			
Stakeholder 7			
Stakeholder 8			
Sta <mark>keholder 9</mark>			
Stakeholder 10			



Forms of Stakeholder Analyses (2)



	Low interest	High interest
High power	Ministry of Water Resources Ministry of Emergency	Ministry of Energy Ministry of Nature Protection Chamber of Commerce & Industry
Low power	Livestock Recreation	Urban Local Body WUA Fishers Health centres

Example of a group exercise implemented with stakeholders in Uzbekistan



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Approaches for Stakeholder Engagement in Basin Management

Stakeholders can be involved in basin management all along the basin management cycle and through different approaches, depending on

- Stage of the management cycle
- Legal and political framework for water resources management and stakeholder engagement
- Technical, human and financial capacities of concerned actors

This can consist of

- Information sharing
- Consultation
- Participation in meetings
- Participation in decision-making
- Establishment of partnerships
- Involvement in scientific processes and the link between science and policy





Participation Forms: The Ladder of Citizen Participation

- From the perspective of more effective water management, information, consultation and placation can lead to relevant results
- The objective is normally not empowerment, but to better reach sectoral goals, e.g. water efficiency
- In this regard, participation is an instrument chosen purposefully to respond to particular challenges



Source: Adapted from Arnstein, S.R. (1969) A ladder of citizen participation. p217.





Approaches for Stakeholder Engagement in Basin Management

Information sharing and awareness raising

- Regular publication of key documents (e.g. on websites such as MRC Data Portal)
- Engagement with local media (e.g. NBI engagement with Nile media through media award, etc.)

Consultation

- Consultations for river basin management plans (e.g. public consultations for Orange Management Plan)
- Consultation processes for specific projects (e.g. consultations in context of MRC's PNPCA process)

Meeting participation

- Participation of NGOs in governance meetings (e.g. NGO participation in LVFO's Executive Committee)
- Pre-governance meeting consultations with stakeholders (e.g. Elbe annual NGO meetings)





Approaches for Stakeholder Engagement in Basin Management

Direct inclusion in the decision-making process

- Granting of observer status to NGOs and other institutions (e.g. observers in ICPDR governance structure)
- Hearing of stakeholder inputs/opinions in decision-making on specific matters (e.g. Lake Constance AWBR)

Establishment of partnerships

- MoUs with specific institutions, associations, etc. (e.g. MoU between ICPR and CHR and CCNR)
- Partnerships with private businesses for joint activities (e.g. Danube partnership with Coca Cola)

Establishment of science-policy linkages

- Involvement of epistemic community in analyses of the basin (e.g. involvement of CHR in Rhine climate study)
- Formalisation of scientific input (e.g. MoUs between LVBC and IUCN, WWF, etc.)





Stakeholder Involvement at Different Stages of Basin Management



Stakeholder Engagement under the EU WFD

Legal requirement for water management authorities to involve the public in water resources management and planning

- Art 14 EUWFD
- Art 9, 10 EFD

Public must be given opportunity to raise its concerns during 3 different stages of planning process

Concerns all governance levels (with different mechanisms being used for engagement)

- Basin-wide/roof level
- National level
- Local level







Stakeholder Engagement in the Danube River Basin (ICPDR)

ICPDR supports the active engagement of stakeholders (including civil society and NGOs, private sector, business interest groups, scientific institutions, other regional/international organisations, etc.) through

- official observer status/involvement in decision-making and implementation
- formal MoUs establishing specific cooperation (e.g. with the BSC)
- formalised consultation processes on specific issues (e.g. basin management plan)
- public awareness events (e.g. Danube Day, Danube Art Master)
- collaboration on education (e.g. Danube Box)
- partnerships on specific issues (e.g. with Borealis, VERBUND, Coca Cola)









Exercise: Involving Stakeholders in Basin Management

Discuss in your group:

• Which stakeholders would you involve in the management for your (sub-) basin?

Select one objective of the Basin Plan to reduce the list of involved stakeholders (to 8).

- Arrange the stakeholders in a diagram of a stakeholder analysis.
- What are their roles and interests? Who should take which responsibility? What about their power and influence?
- Describe how and when you would involve those stakeholders in the overall basin management process.





Continued engagement pre and post webinar

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