Foundations of Water Governance: Concepts, Principles, and Best Practices

Module 3: WATER GOVERNANCE AND POLICIES

Course: Water Science, Management & Governance

Lecturer: Dr. Marirajan Thiruppathi, Professor in Sociology

Learning Outcomes

By the end of this session students should be able to:

- Define water governance
- Differentiate governance from management
- Explain principles of good water governance
- Analyse international governance models
- Explain OECD Water Governance Principles
- Evaluate governance performance using indicators

In this presentation

- **Part 1 :** Foundations of Water Governance
- **Part 2 :** Water Governance Principles and Indicator Framework
- **Part 3 :** International Best Practices and Case Studies
- **Part 4 :** Challenges, Emerging Trends, Summary,

Why Water Governance Matters

Global Water Challenges

- Population growth
- Climate change
- Urbanization
- Industrial expansion
- Agricultural water demand
- Water pollution
- Groundwater depletion
- Floods and droughts
- Ecosystem degradation

Why Governance?

- Good governance ensures:
- Equitable allocation
- Sustainable management
- Efficient service delivery
- Environmental protection
- Reduced corruption
- Conflict resolution
- Climate resilience

Case Example: Cape Town's "Day Zero" crisis illustrated that water scarcity is not only a hydrological problem but also a governance challenge involving planning, communication, demand management, and institutional coordination.

What is Water Governance?

Definition: Water governance refers to the political, social, economic, and administrative systems that determine how water resources are developed, allocated, managed, regulated, and protected.

Core Components

- Public policy
- Water legislation
- Institutional arrangements
- Financing mechanisms
- Decision-making systems
- Stakeholder participation
- Monitoring and accountability

Policies
↓
Institutions
↓
Planning
↓
Implementation
↓
Monitoring
↓
Improved Water Security

Characteristics

Good governance should be: Transparent , Accountable , Participatory , Inclusive , Efficient , Sustainable , Adaptive

Water Governance versus Water Management

Water Governance	Water Management
Strategic	Operational
Policy making	Implementation
Institutions	Daily operations
Legal framework	Infrastructure
Decision making	Service delivery
Accountability	Technical management

Components of Water Governance

According to international frameworks, water governance consists of five interconnected components.

1. Institutional Structures

Ministries

River Basin Organizations

Municipalities

NGOs

2. Legal Framework

Water Acts

Regulations

International treaties

3. Stakeholder Participation

Communities

Women

Indigenous peoples

Private sector

4. Economic Mechanisms

Water pricing

Subsidies

Public-private partnerships

Investment

5. Environmental Sustainability

IWRM

Climate adaptation

Watershed protection

Pollution control

Stakeholders in Water Governance

Public Sector

- Ministries
- Regulatory authorities
- Local governments

Private Sector

- Water companies
- Industries
- Investors

Civil Society

- NGOs
- Community organizations
- Faith-based organizations

Academia

- Universities
- Research institutes

Communities

- Farmers
- Indigenous groups
- Women
- Youth
- Consumers

Why Participation Matters

Participation:

- Improves legitimacy
- Builds ownership
- Reduces conflict
- Enhances transparency
- Improves policy quality

Principles of Good Water Governance

Core Principles

- **Transparency:** Open access to information and decision-making.
- **Accountability:** Institutions are answerable for their actions.
- **Participation:** Stakeholders actively engage in governance.
- **Effectiveness:** Policies achieve intended outcomes.
- **Efficiency:** Resources are used optimally.
- **Sustainability:** Water resources are protected for future generations.
- **Equity:** Fair distribution of benefits and responsibilities.
- **Integrity:** Ethical conduct and anti-corruption measures.
- **Trust:** Confidence among stakeholders and institutions.

Discussion Question

- **Which governance principle is currently the weakest in your country water sector? Justify your answer using evidence.**

Principles of Good Water Governance

The Organisation for Economic Co-operation and Development (OECD) developed the **12 Principles on Water Governance** to help governments design, implement, and evaluate effective governance systems. These principles are internationally recognized and are grouped into **three dimensions**:

- **Effectiveness**
- **Efficiency**
- **Trust and Engagement**

The principles provide a practical framework for strengthening institutions, improving coordination, increasing stakeholder participation, and ensuring accountability in water governance.

Dimension One: Effectiveness

Effectiveness measures whether governance institutions are capable of achieving intended policy objectives.

Effective governance answers three questions:
- Are appropriate institutions established?
- Are responsibilities clearly defined?
- Are policies implemented successfully?

Key Characteristics
- Clear institutional mandates
- Strong leadership
- Coordination among agencies
- Integrated planning
- Policy implementation
- River Basin Management

Dimension Two: Efficiency

Efficiency measures whether water resources are managed using the least possible cost while maximizing social, environmental and economic benefits

Key Indicators

- Operating Cost Coverage Ratio
- Water Pricing
- Non-Revenue Water
- Water Use Efficiency
- Infrastructure Performance
- Financial Sustainability

Dimension Three: Trust and Engagement

Trust is essential because governance depends upon public confidence.

Components

- Transparency
- Integrity
- Participation
- Stakeholder Engagement
- Public Accountability
- Complaint Resolution
- Social Audits

Indicators

- Public consultation frequency
- Public access to information
- Community participation
- Response to complaints
- Anti-corruption mechanisms

Water Governance Indicator Framework

Why Indicators?

- Governance cannot improve unless it is measured.
- Indicators help governments
- assess performance
- identify weaknesses
- compare progress
- improve accountability
- support evidence-based policy

OECD Framework Measures

- Institutional Capacity
- Regulatory Effectiveness
- Participation
- Economic Sustainability
- Environmental Sustainability

Institutional and Regulatory Indicators

Institutional Indicators

- Measure
- Leadership
- Capacity
- Coordination
- Human Resources
- Technical Competence
- Governance Structures

Regulatory Indicators

- Evaluate
- Water Acts
- Compliance
- Licensing
- Inspection
- Monitoring
- Conflict Resolution

Economic, Financial and Environmental Indicators

Economic Indicators	Environmental Indicators
Investment	Watershed Health
Cost Recovery	Water Quality
Tariff Structure	Pollution Control
Infrastructure Financing	Climate Resilience
PPP	Biodiversity
Subsidies	Ecosystem Protection

Water Governance Framework in Practice

Integrating Governance Components

- Institutional Structures
- Legal Framework
- Stakeholder Participation
- Economic Instruments
- Environmental Sustainability
- These five components interact continuously and collectively determine governance performance.

International Examples

- SG Singapore
  Integrated national water agency with advanced technology.
- CA Canada
  Decentralized governance with Indigenous participation.
- KE Kenya
  Community-based Water Resource Users Associations.
- EU European Union
  River Basin Management under the Water Framework Directive.

International Best Practices in Water Governance

What Constitutes Best Practice?

- Best practice refers to governance approaches that consistently achieve:
- Sustainable water resource management
- Equitable access to water
- Efficient allocation of water resources
- Strong stakeholder participation
- Transparent decision-making
- Climate resilience
- Long-term institutional sustainability
- Successful governance systems share common characteristics despite differences in geography and political systems.

International Best Practices in Water Governance

Common Success Factors

- Strong legal framework
- Clear institutional responsibilities
- Integrated Water Resources Management (IWRM)
- Stakeholder participation
- Financial sustainability
- Continuous monitoring and evaluation
- Evidence-based decision-making
- Adaptive governance

Case Study 1: Australia's National Water Policy

Australia is one of the world's driest inhabited continents. Frequent droughts and competing demands led to the **National Water Initiative (NWI)** in 2004, providing a comprehensive framework for sustainable water governance.

Achievements

- Improved water-use efficiency
- Better allocation during droughts
- Enhanced agricultural productivity
- Increased environmental flows
- Transparent water accounting

Key Features

- Water access entitlements
- Water trading (market-based allocation)
- River basin planning
- Environmental water allocations
- Strong scientific monitoring
- Cross-jurisdictional coordination

Challenges

- Climate change
- Balancing agricultural and environmental needs
- Indigenous water rights
- Maintaining ecosystem health

Case Study 2: Water Policy Reforms in India

Background

India faces increasing water stress due to:

- Population growth
- Rapid urbanization
- Industrial expansion
- Groundwater depletion
- Climate variability

The **National Water Policy (2012)** promotes Integrated Water Resources Management and prioritizes drinking water, sanitation, and food security.

Major Reforms

- Participatory irrigation management
- Demand-side water management
- Rainwater harvesting
- Groundwater regulation
- Wastewater reuse
- Community participation
- Promotion of efficient irrigation technologies

Continuing Challenges

- River pollution
- Inter-state water disputes
- Groundwater over-extraction
- Institutional fragmentation
- Unequal water access

Lessons Learned

- Policies require strong implementation.
- Community participation improves sustainability.
- Traditional knowledge complements modern technologies.

NGOs and Water Governance in Latin America

Role of NGOs

Where government capacity is limited, NGOs contribute to:

- Community mobilization
- Water and sanitation projects
- Capacity building
- Hygiene education
- Advocacy for water rights
- Infrastructure development
- Environmental conservation

Examples

Argentina

- Advocacy against water privatization
- Promotion of water as a public good

Central America

- Community water systems
- Rural sanitation
- Climate resilience projects
- Community training

Success Factors

- Local ownership
- Community participation
- Partnerships with governments
- Capacity development

Challenges

- Limited funding
- Political resistance
- Sustainability after donor support
- Institutional coordination

Thank You