

UNIT 3.5

Navigating Shared Waters

Transboundary Conflicts, Treaties, and Cooperative Governance

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From Policy Implementation to Shared Waters

PREVIOUSLY — 3.4

Water Policy Implementation Case Studies

- Governance frameworks and stakeholder engagement
- How policy translates into action on the ground
- Factors behind successful vs. failed implementation

TODAY - 3.5

Transboundary Water Conflicts & Treaties

Water often transcends national borders. We examine the conflicts that arise when nations compete for shared resources, and the treaties and legal frameworks that enable cooperation — with a focused look at Southern Africa.

By the End of This Session

Participants will be able to critically analyze the complexities of transboundary water governance.

01

Define & Frame

Understand what transboundary waters are and why their governance is a critical global issue.

02

Map Treaties

Analyze major global and Southern African treaties that structure water cooperation.

03

Examine Conflicts

Explore key transboundary water conflicts and the tensions driving them.

04

Apply Strategies

Evaluate cooperative strategies for resolving and preventing water disputes.

What Are Transboundary Waters?

Freshwater resources, rivers, lakes, and aquifers are shared between two or more countries. They serve as crucial lifelines, providing drinking water, irrigation, and hydroelectric power.

WHY MANAGEMENT IS HARD

- Competing national interests
- Growing demand & population pressure
- Climate change impacts
- Uneven distribution of resources

Transboundary Water Governance Framework

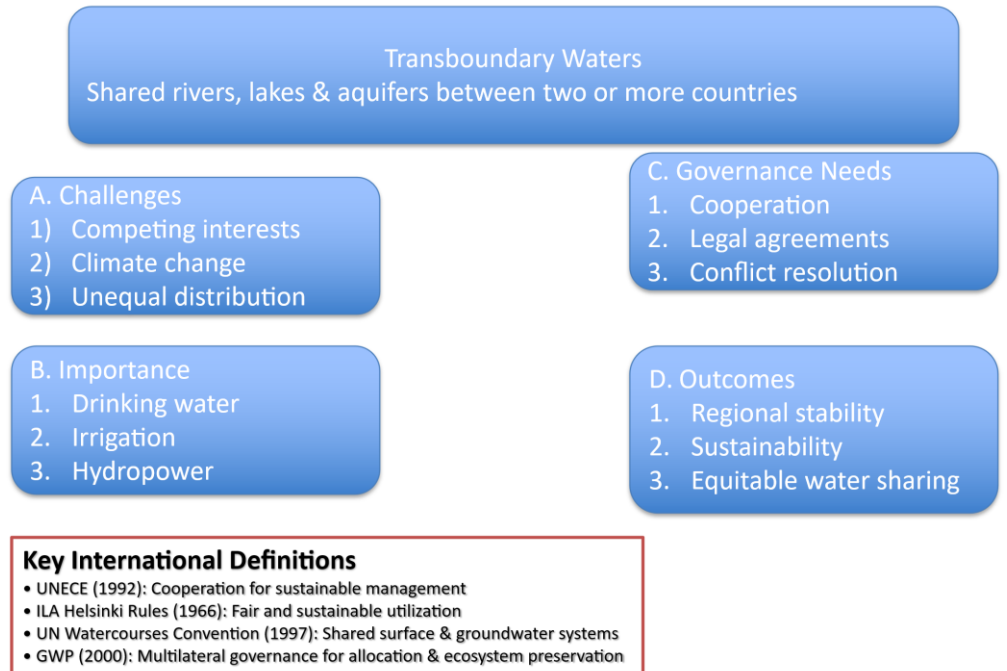


Fig. Transboundary Water Governance Framework · Source: Author-generated

3.5.1 DEFINITION

Key International Definitions

UNECE, 1992

Surface or groundwater resources that mark, cross, or lie on boundaries between two or more countries, requiring cooperation for sustainable management.

ILA Helsinki Rules, 1966

Water resources that flow across or form international boundaries, necessitating coordinated policies and governance frameworks for fair, sustainable utilization.

UN Watercourses Convention, 1997

A system of surface and underground waters constituting a unitary whole, flowing to a common terminus, shared by two or more states.

Global Water Partnership, 2000

Freshwater systems rivers, lakes, and groundwater are shared between countries, requiring multilateral governance for allocation, quality, and ecosystem preservation.

Why Transboundary Treaties Matter

As water scarcity intensifies due to climate change, population growth, and economic development, international agreements serve as essential frameworks for sustainable and equitable water distribution.



Legal Principles

Establish binding norms for equitable, reasonable use of shared waters.



Governance Structures

Create commissions and bodies for ongoing joint management.



Dispute Resolution

Provide mechanisms — mediation, arbitration — before tensions escalate.

Global Treaties (Part I)

INDUS WATERS TREATY

India – Pakistan, 1960

Brokered by the World Bank. Allocates the eastern rivers (Sutlej, Beas, Ravi) to India and the western rivers (Indus, Jhelum, Chenab) to Pakistan. Includes the Permanent Indus Commission for dispute resolution. In force for over six decades despite periodic tensions.

NILE BASIN INITIATIVE

Nile River Countries, 1999

A cooperative framework among 10 riparian countries pursuing equitable use, regional development, and environmental sustainability. Disagreements persist over Ethiopia's Grand Ethiopian Renaissance Dam (GERD) and its downstream impact on Egypt and Sudan.

Global Treaties (Part II)

1

Mekong River Agreement

Cambodia, Laos, Thailand, Vietnam · 1995

Established the Mekong River Commission for sustainable water management. Rising hydropower activity upstream (China, Laos) strains downstream agriculture and fisheries.

2

Colorado River Compact

United States – Mexico · 1922 / 1944

Allocated water among 7 U.S. states in 1922; extended a fixed annual allocation of 1.5M acre-feet to Mexico in 1944. Drought and over-extraction now require renegotiation.

3

The Helsinki Rules

International Law Association · 1966

A non-binding but highly influential legal framework for equitable water-sharing, shaping the 1997 UN Watercourses Convention's principles of fair use and harm prevention.

A Timeline of Global Water Treaties

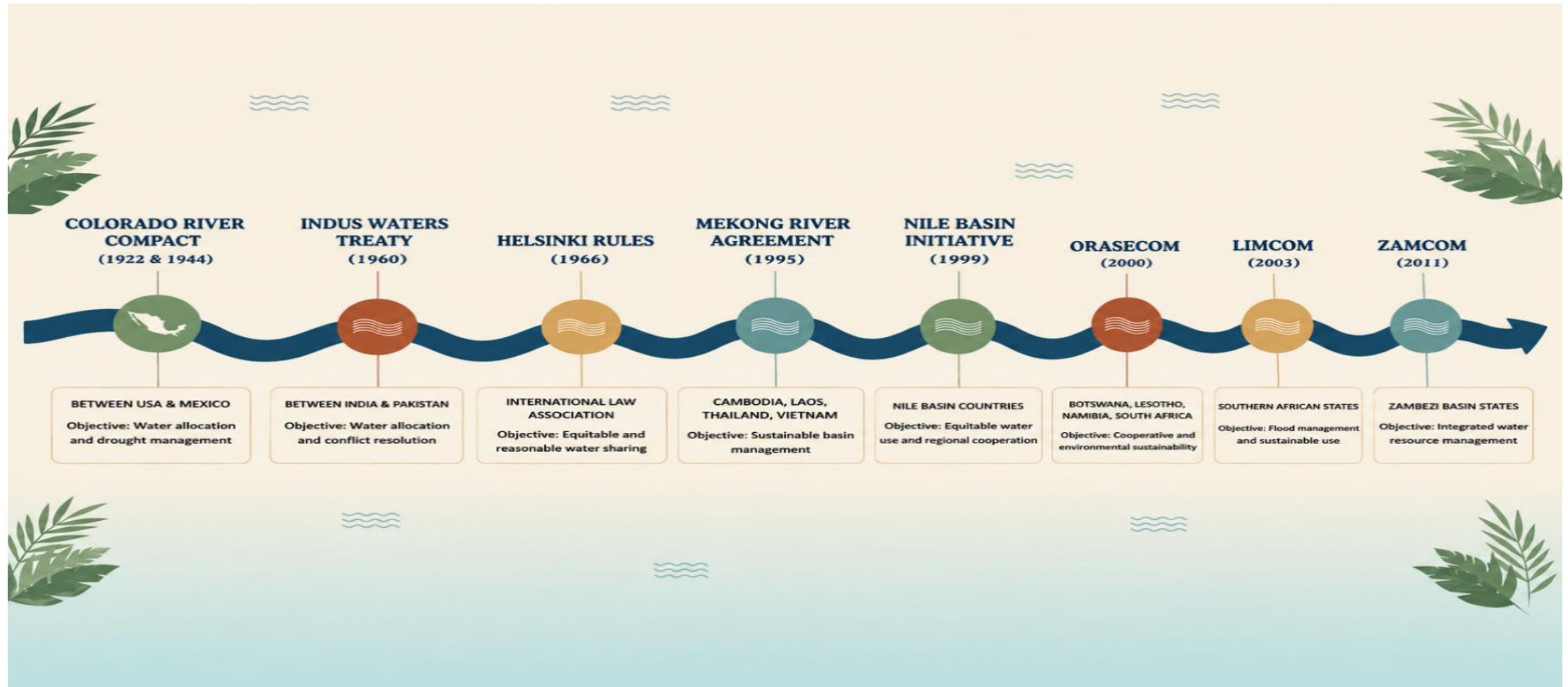


Fig. Historical timeline of transboundary water treaties, 1922–2011 · Source: Author-generated; Rieu-Clarke (2025)

Southern African Transboundary Treaties

Southern Africa's shared river basins are vital for regional water security, economic activity, and ecosystem sustainability — governed through dedicated river-basin commissions.



ORASECOM

Orange-Senqu River Commission · 2000

Botswana, Lesotho, Namibia, South Africa

Water allocation, environmental sustainability, hydropower development. Mechanisms for data-sharing, monitoring, and stakeholder engagement.



ZAMCOM

Zambezi Watercourse Commission · 2011

Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe

Promotes integrated water resource management (IWRM) and joint decision-making on dams, irrigation, and hydropower.



LIMCOM

Limpopo Watercourse Commission · 2003

South Africa, Botswana, Zimbabwe, Mozambique

Joint management and dispute resolution; sustainable water use, flood management, cross-border cooperation.

Major Transboundary Water Conflicts

Despite treaties, conflicts persist due to political disputes, resource demands, and climate change impacts.

1

Israel – Palestine

Jordan River & Mountain Aquifer

Unequal control of water infrastructure has deepened socio-economic disparities and political tension; mediation efforts continue amid instability.

2

GERD – Nile Basin

Ethiopia, Egypt, Sudan

Egypt relies on the Nile for 90% of freshwater needs. AU and UN mediation has yet to secure a binding agreement on dam operations.

3

Aral Sea Disaster

Amu Darya & Syr Darya, Central Asia

Excessive irrigation diversion shrank a once-vast inland sea, causing desertification, lost fisheries, and health crises across 5 nations.

Southern African Water Conflicts

Shared river systems, hydropower demands, and competing agricultural needs drive several regional disputes.

1

Incomati & Maputo Rivers

South Africa, Mozambique, Eswatini

Critical for agriculture, drinking water, and industry. The Tripartite Interim Agreement (TIA) governs fair allocation amid differing national priorities.

2

Kunene River

Angola – Namibia

Namibia's proposed hydropower dams and diversion schemes raise Angolan concerns over ecological and social impact on downstream communities.

3

Zambezi River Basin

Zambia, Zimbabwe, Mozambique, Malawi

Supports 40M+ people. Disputes over extraction, dam operations (e.g. Kariba Dam), and conservation persist despite ZAMCOM's cooperative mandate.

Global Water Conflict Zones at a Glance

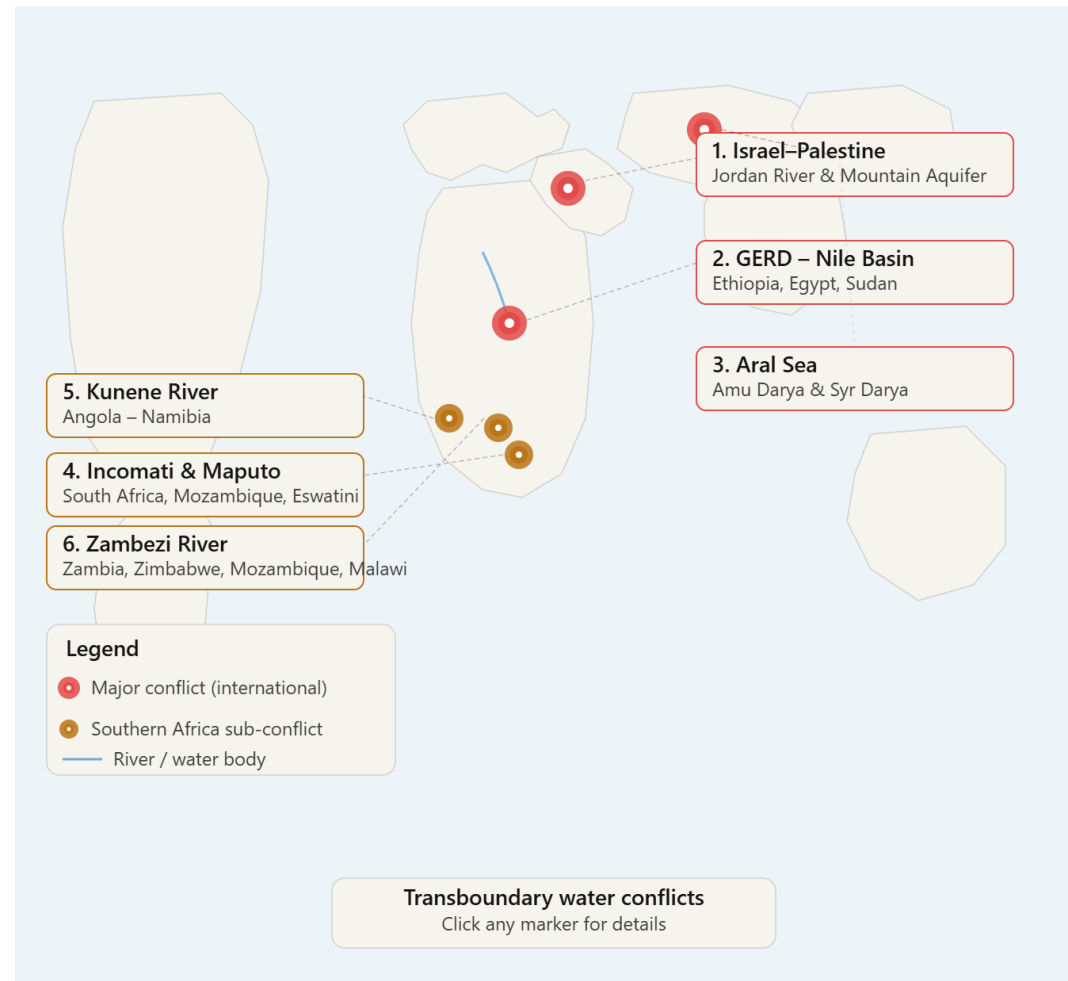


Fig. Six water conflict zones — three major international disputes (red) and three Southern African sub-conflicts (amber).

Conflict Resolution & Cooperative Strategies

Managing transboundary conflicts effectively means moving beyond rigid legalities to shared human and ecological realities of a connected river basin. A diverse toolkit of diplomatic, legal, and institutional strategies has evolved to balance competing national interests with the need for sustainable use.

Strengthen Regional Cooperation

Resilient institutions like ORASECOM, ZAMCOM, and LIMCOM give riparian states a reliable space to negotiate.

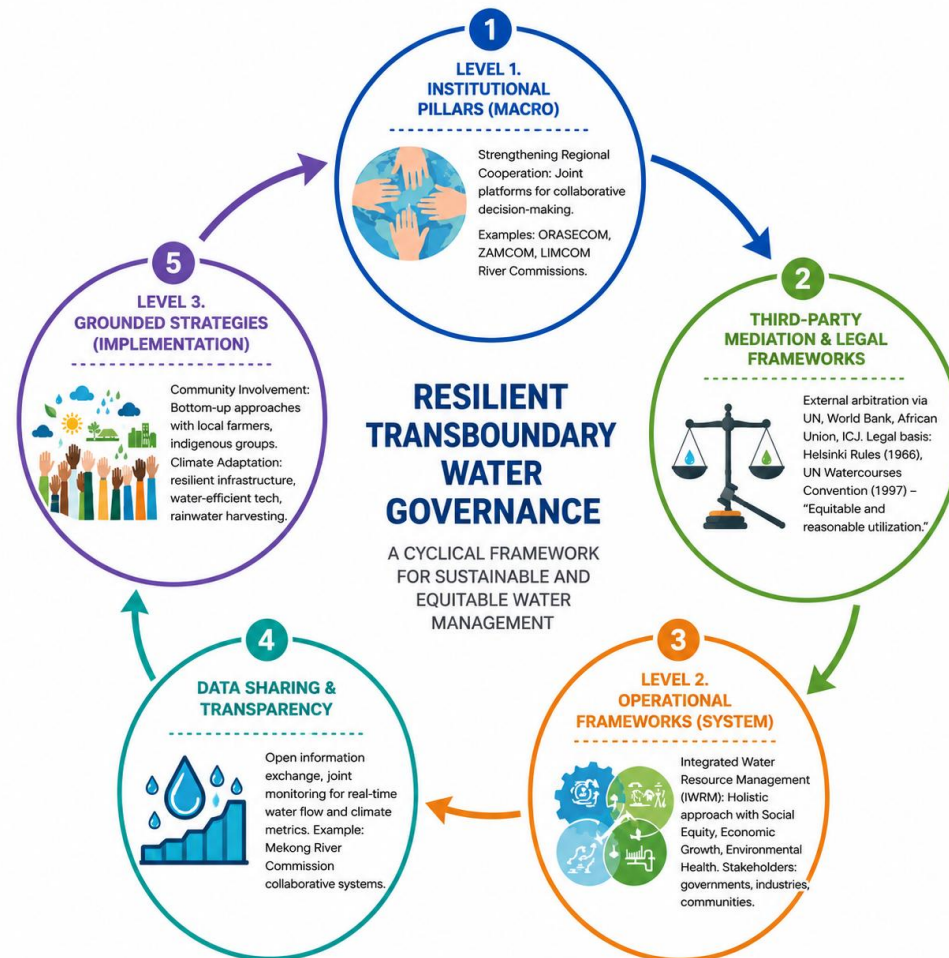
Integrated Water Resource Management

Treats water governance holistically — balancing social equity, economic growth, and environmental health.

Third-Party Mediation & Legal Frameworks

Neutral actors (UN, World Bank, AU, ICJ) apply the Helsinki Rules and UN Watercourses Convention.

A Cyclical Framework for Resilient Governance



4

Data Sharing & Transparency

Joint monitoring of real-time water flow and climate data builds trust. The Mekong River Commission exemplifies this.

5

Community & Stakeholder Engagement

Bottom-up approaches involving local farmers and communities ensure agreements are realistic and durable.

6

Climate Change Adaptation

Water-efficient technology, resilient infrastructure, and rainwater harvesting reduce dependency on contested flows.

From Friction to Cooperation

Transboundary water conflicts persist not because we lack treaties, but because of underlying power imbalances, political friction, and weak enforcement.

- 1 Transboundary waters demand collaborative governance across borders, not unilateral control.
- 2 Treaties like the Indus Waters Treaty and ZAMCOM show cooperation is achievable and durable.
- 3 Conflicts from GERD to the Aral Sea reveal that legal text alone cannot resolve power asymmetries.
- 4 Transparent data, community engagement, and climate-resilient institutions turn rivers from friction points into bridges for regional stability.

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