Issues of Institutional Management in Water Resources in Africa

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OUTLINE

1. Institutions within a legal framework

2. The case of regional basin organizations in Africa

3. The IWRM trap

4. A bag of mixed stories

5. Institutional responses to climate change in the water sector

Institutions within a legal framework

1. Institutions draw their legitimacy from the laws that created them.

2. (Public) institutions implement specific provisions of the law that they expand into their business through other pronouncements such as regulations.

3. The relevance of an institution can be said to be in direct proportion to the strength of the law that created it:
   - The weakness of such laws or the lack of laws reflects on the institutions
   - **Institutions demonstrate their added value by their ability to contribute to the wellbeing of society.**

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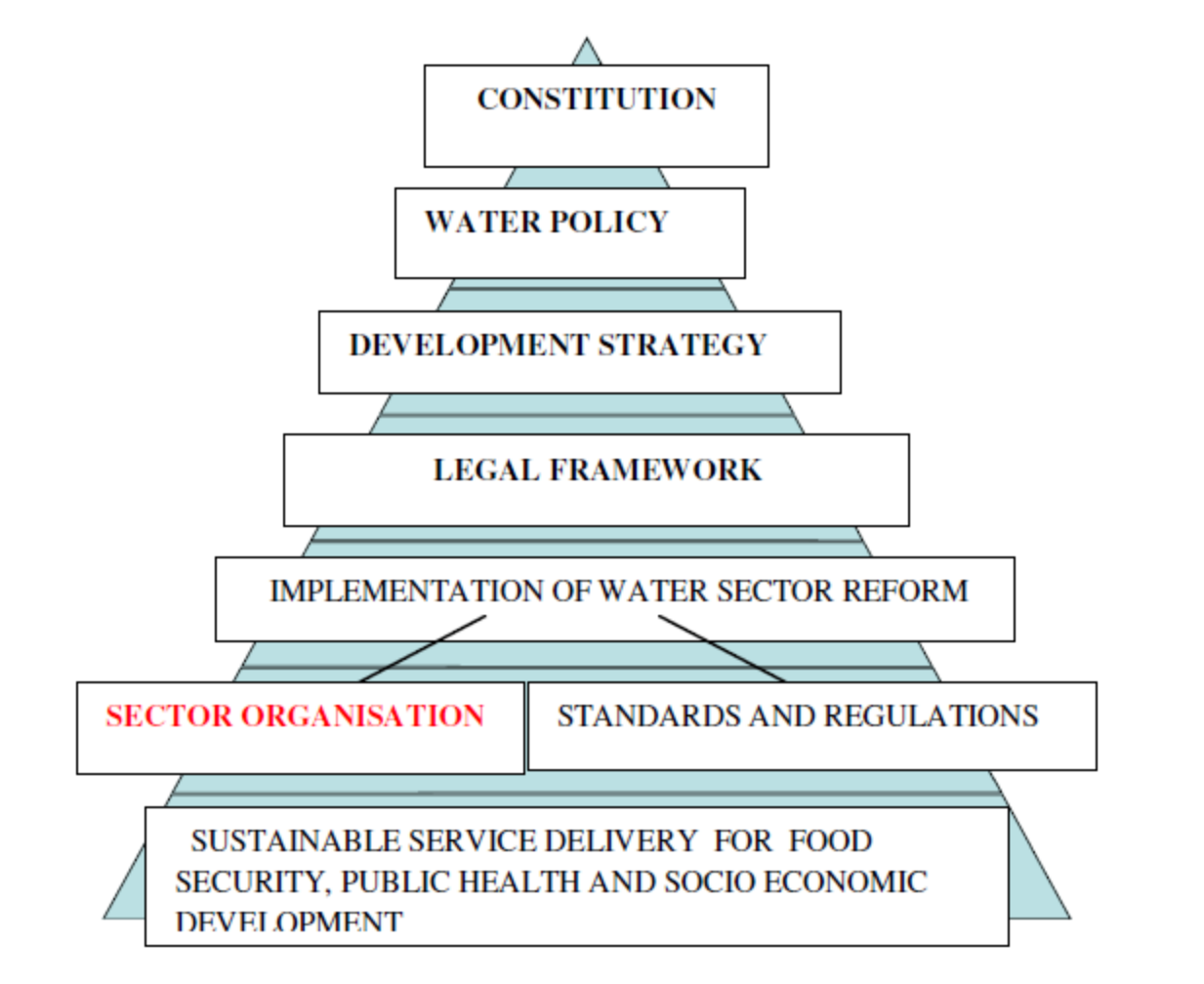
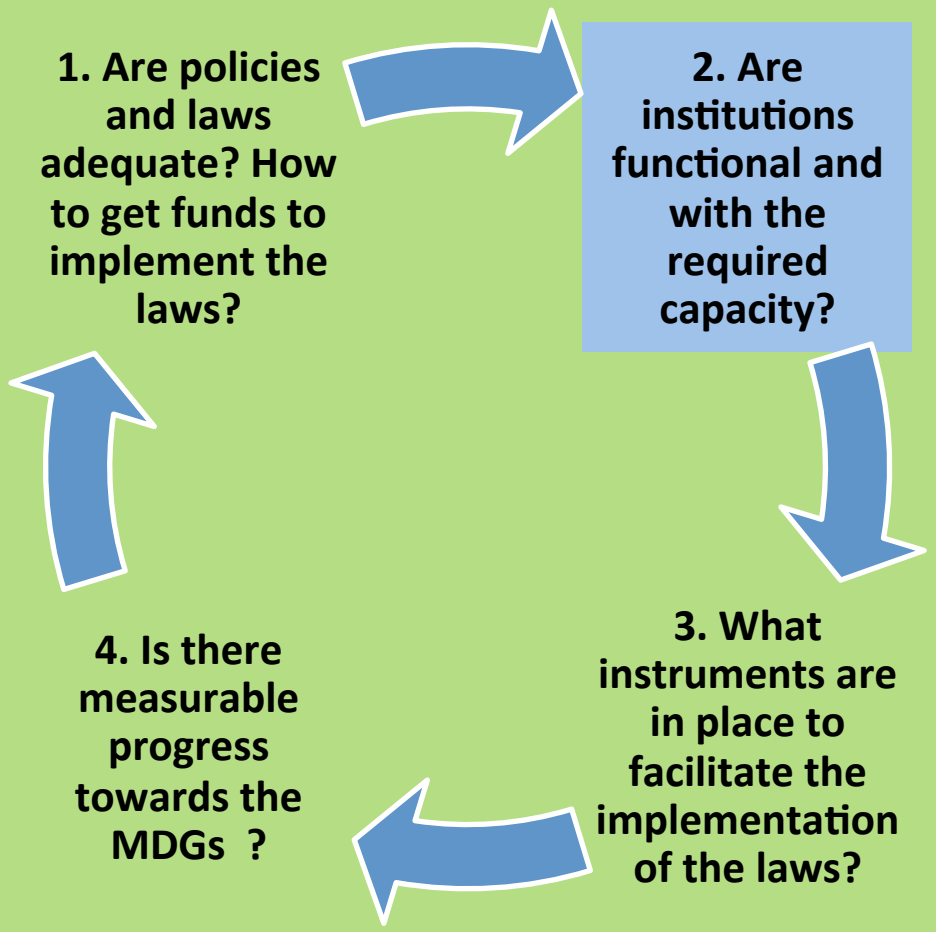
Institutions within a legal framework



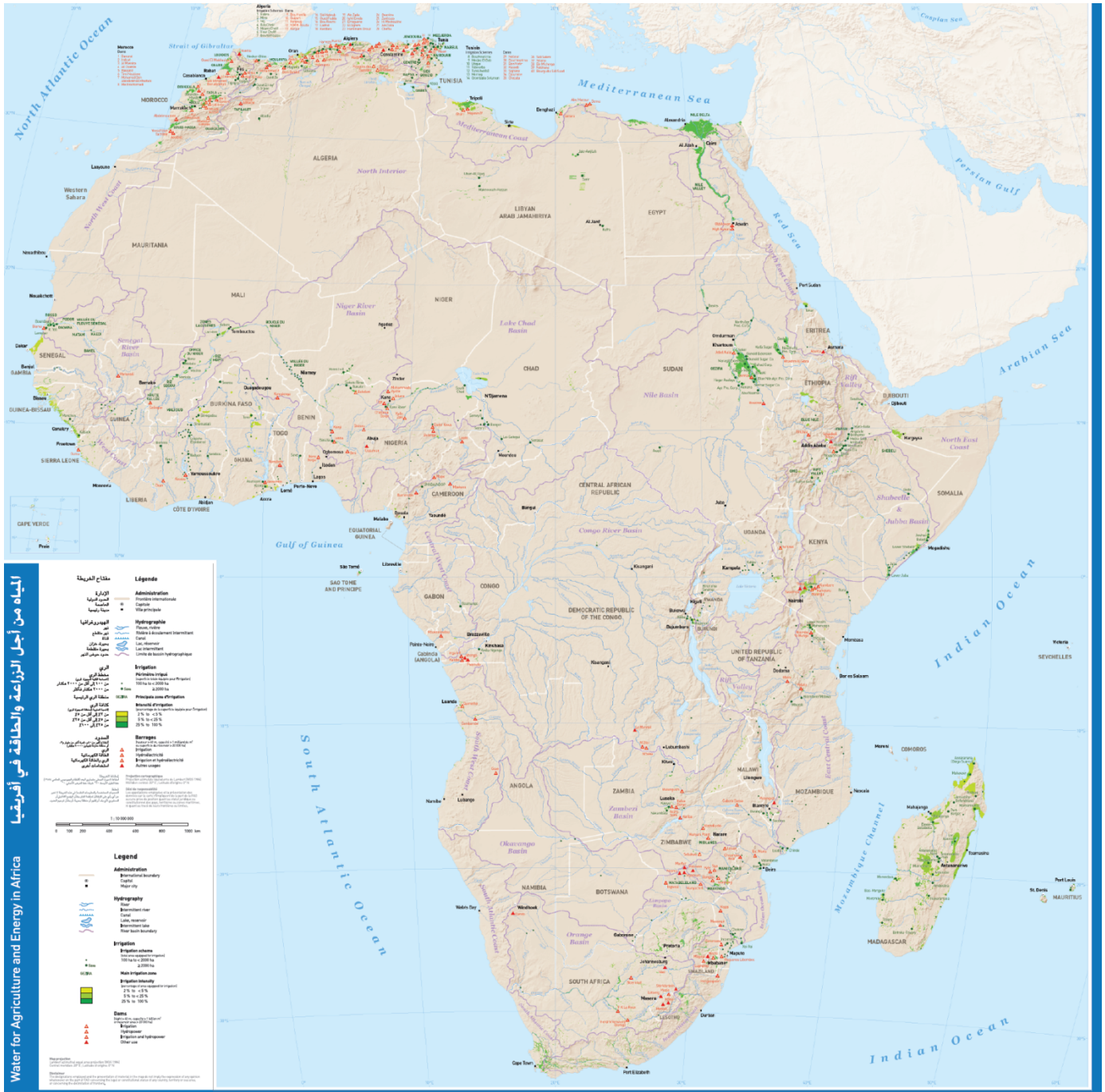
Institutions within a legal framework



OUTLINE

1. …

2. The case of River Basin Organizations in Africa


North Atlantic Ocean
Mediterranean Sea
Strait of Gibraltar
Mediterranean Coast
Persian Gulf
Red Sea
Arabian Sea
Indian Ocean
Indian Ocean
South Atlantic Ocean
Gulf of Guinea
Mozambique Channel
ALGERIA
North Interior
MOROCCO
TUNISIA
LIBYAN ARAB JAMAHIRIYA
EGYPT
Western Sahara
MAURITANIA
MALI
NIGER
CHAD
SUDAN
ERITREA
ETHIOPIA
SENEGAL
BURKINA FASO
GUINEA
BENIN
TOGO
NIGERIA
GHANA
SIERRA LEONE
LIBERIA
CÔTE D'IVOIRE
CAMEROON
CENTRAL AFRICAN REPUBLIC
EQUATORIAL GUINEA
GABON
CONGO
DEMOCRATIC REPUBLIC OF THE CONGO
UGANDA
KENYA
SOMALIA
DJIBOUTI
SAO TOME AND PRINCIPE
UNITED REPUBLIC OF TANZANIA
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH AFRICA
MADAGASCAR
COMOROS
SEYCHELLES
MAURITIUS
Niger River Basin
Lake Chad Basin
Nile Basin
Congo River Basin
Zambezi Basin
Okavango Basin
Orange Basin
Shabelle & Jubba Basin
Rift Valley
Rift Valley
North East Coast
East Central Coast
South Atlantic Coast
Senegal River Basin
Volta Basin
Cuanza Basin
Limpopo Basin
Legend
Administration
Hydrography
Irrigation
Dams
Water for Agriculture and Energy in Africa
المياه من أجل الزراعة والطاقة في أفريقيا
FAOWATER
www.fao.org/nr/water

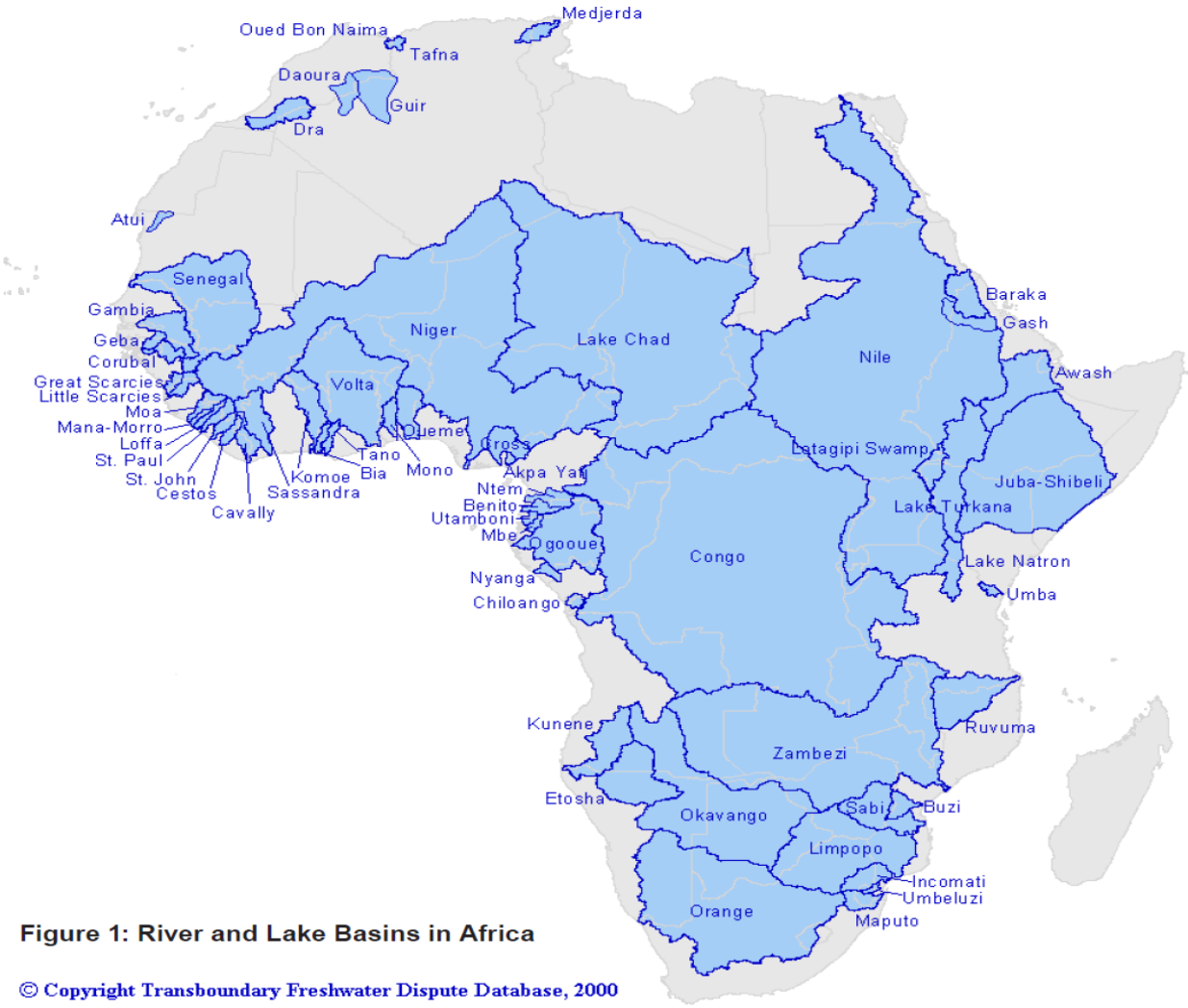
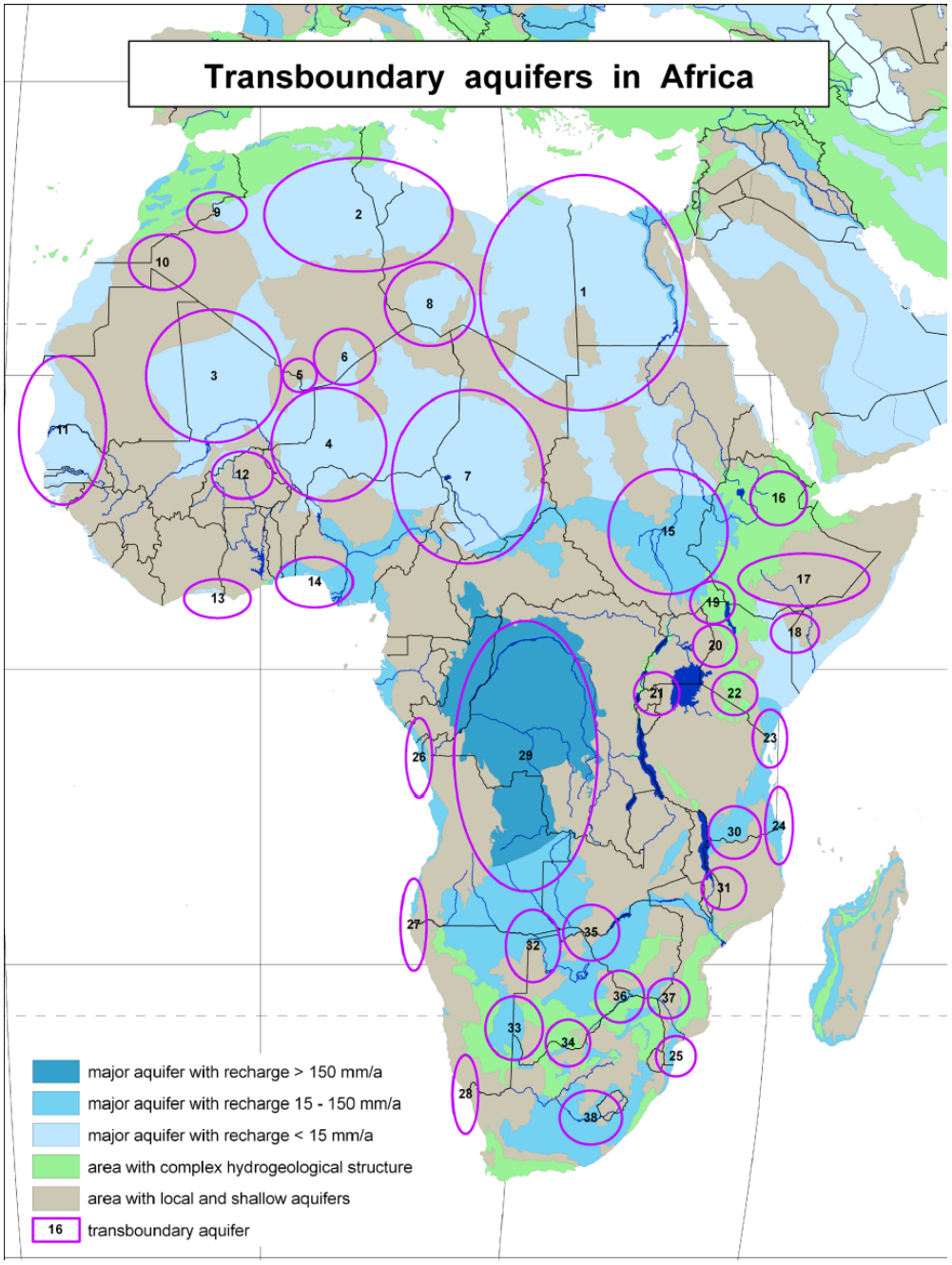
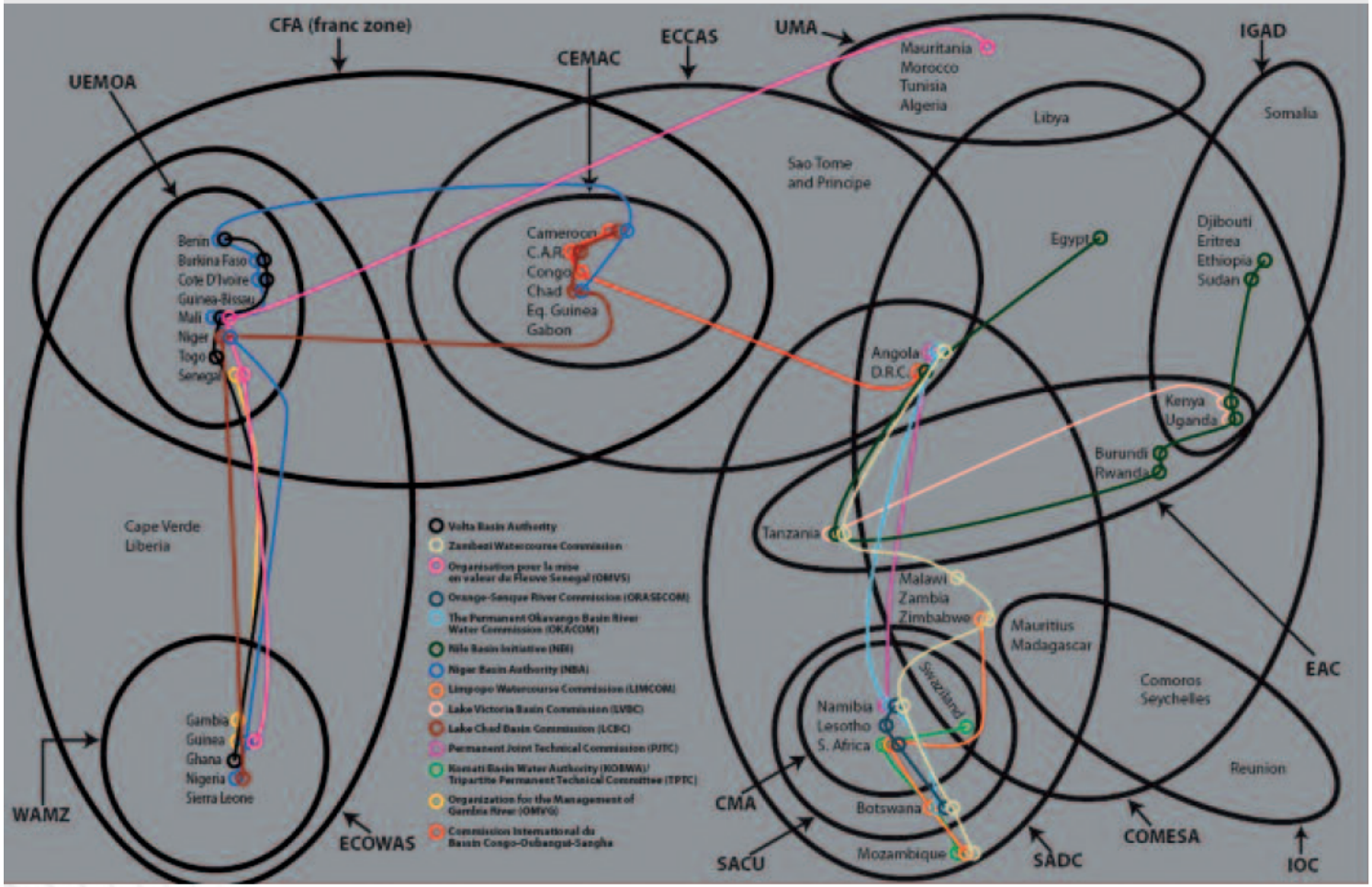


Figure 1: River and Lake Basins in Africa


Transboundary aquifers in Africa
major aquifer with recharge > 150 mm/a
major aquifer with recharge 15 - 150 mm/a
major aquifer with recharge < 15 mm/a
area with complex hydrogeological structure
area with local and shallow aquifers
16 transboundary aquifer

1. Spaghetti of African RECs and River Basin Organizations (source: WWC)

Figure 1: The overlapping institutional "spaghetti" of Africa's Regional Economic Communities (RECs) and River Basin Organisations (RBOs)



Adapted from UNCTAD (2009) and other sources

OUTLINE

1. …
2. …
3. The IWRM trap

The IWRM trap

1. Post Rio de Janeiro (1992), the concept of ‘ Integrated Water Resources Management (IWRM) was coined in 1996

2. One of the pillars of IWRM is ‘ **Institutional Roles**’

3. The management unit is ‘ the catchment’

4. There is a need to deliver on the 3Es: Ecosystem Sustainability, Economic Efficiency and Social Equity

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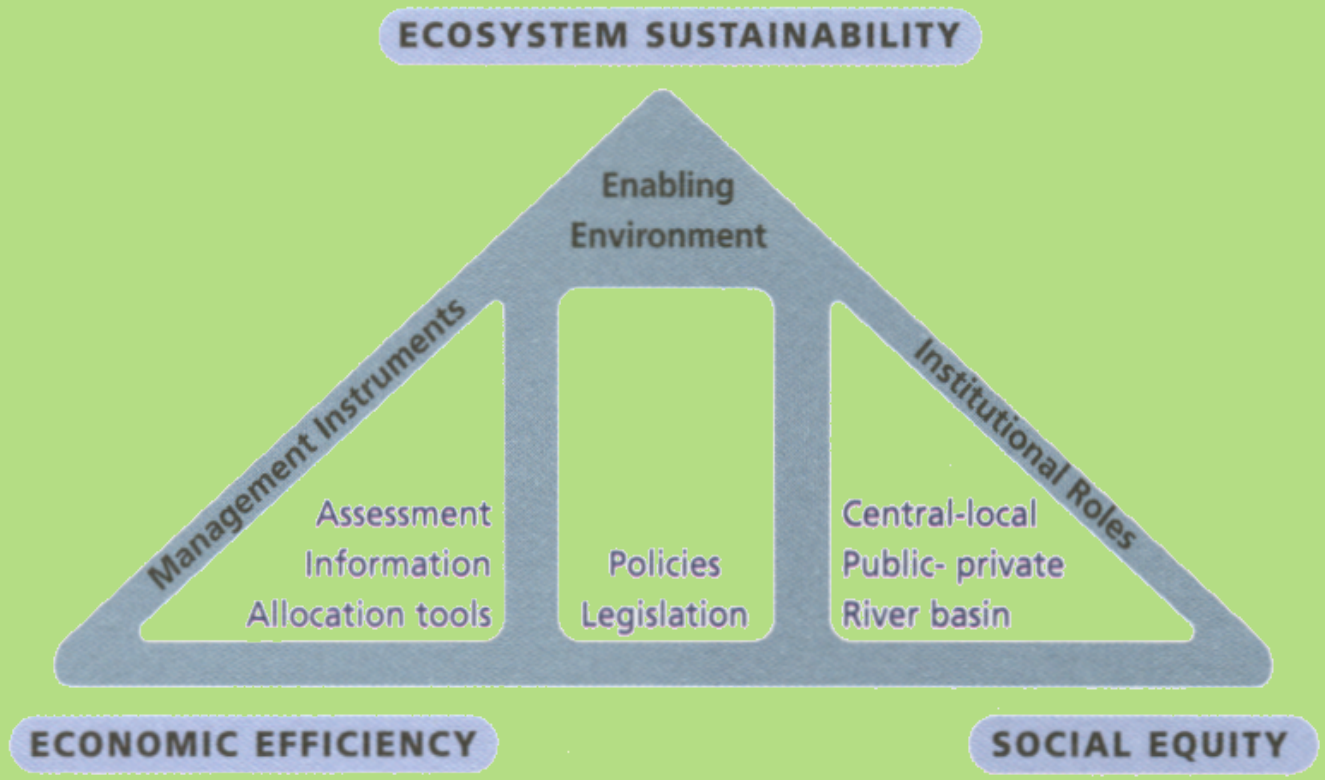
The IWRM Trap



The IWRM trap

- In the process of embracing the IWRM concept, many African countries reformed their water laws and created new water institutions called catchment management agencies, Catchment Councils, Basin Committees, etc.

- Some countries have gone as far as at tertiary catchment level.

- This is the trap: it is the funding and the human capacity required to make these new institutions functional and effective!

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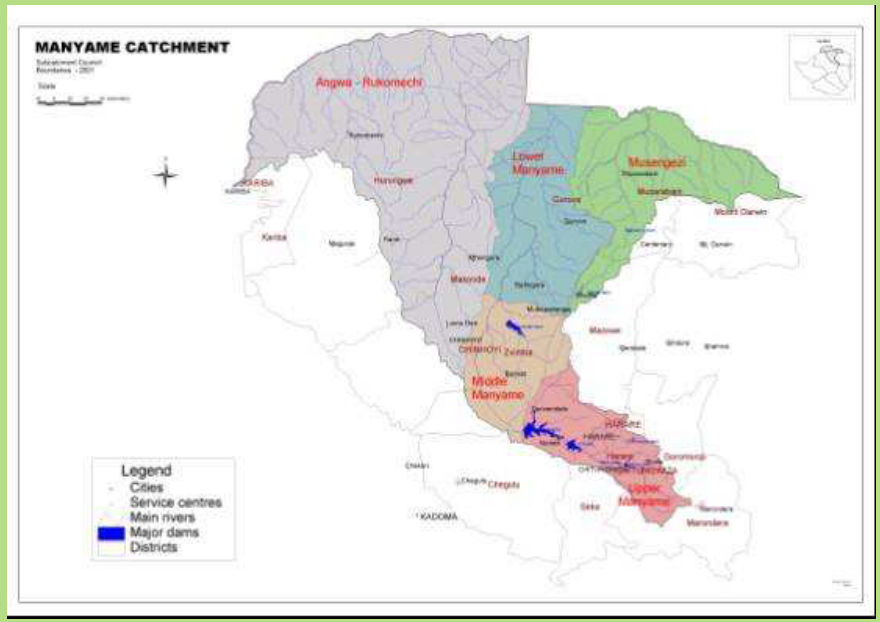
4. A mixed bag of stories

Lower Manyame SCC, Zimbabwe

New water Act in Zimbabwe (1998):
7 catchments councils of which the Manyame Catchment Council which has 5 sub catchment councils of which the Lower Manyame sub catchment council (LMSCC) (>26 000 km^2).

From 2002-2005: piloting an IWRM planning process in the LMSCC with 60 000USD.



Indicators of success:

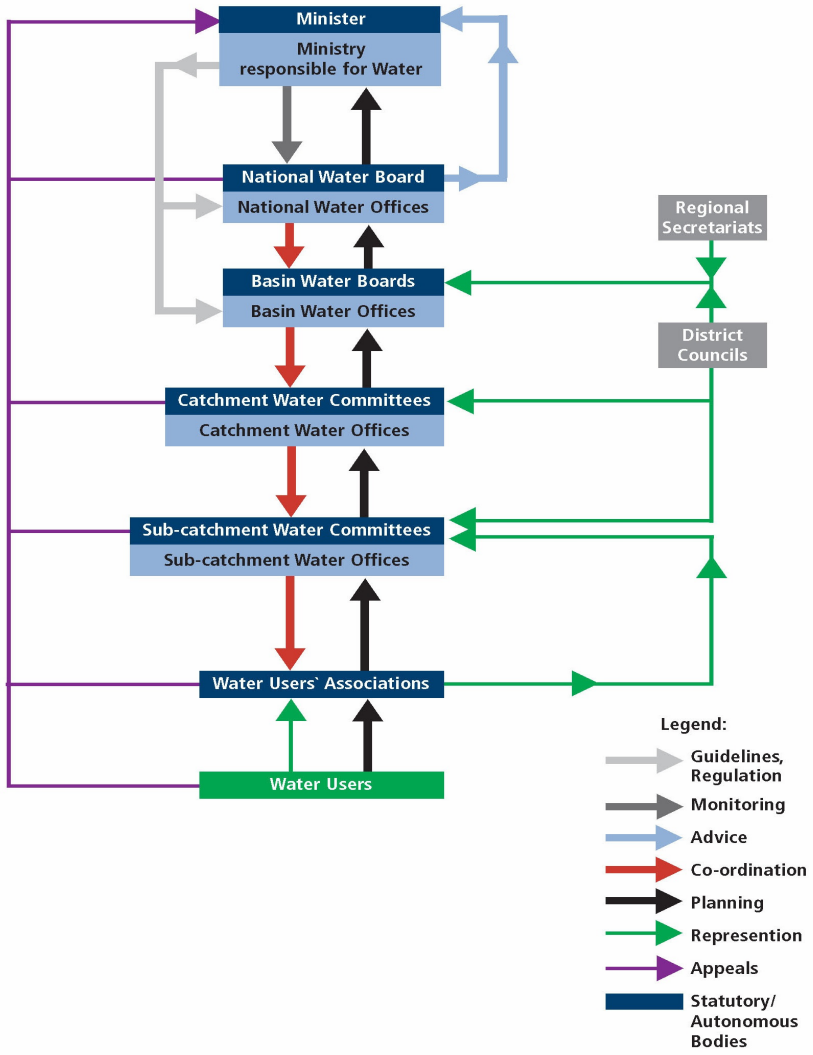
- LMSCC generates its own revenue to date and is running smoothly.
- Model adopted by the Manyame Catchment Council (at higher level)

Contributing factors of success:

1. Educated stakeholders/councillors
2. Committed stakeholders (in-kind contributions)

The case of Tanzania: 5 levels

FIGURE 3.1: NEW INSTITUTIONAL FRAMEWORK FOR WATER RESOURCES MANAGEMENT



Warning:

1. Human resources?
2. Funding?

The CMAs in South Africa

New water Act in South Africa (1997):
19 Catchment Management Areas with provision for the establishment of Catchment Management Agencies (CMA).

0n 2012, only two CMAs are functional.

Indicators of slow progress:

- CMAs are not established as institutions despite transitional arrangements and availability of funding

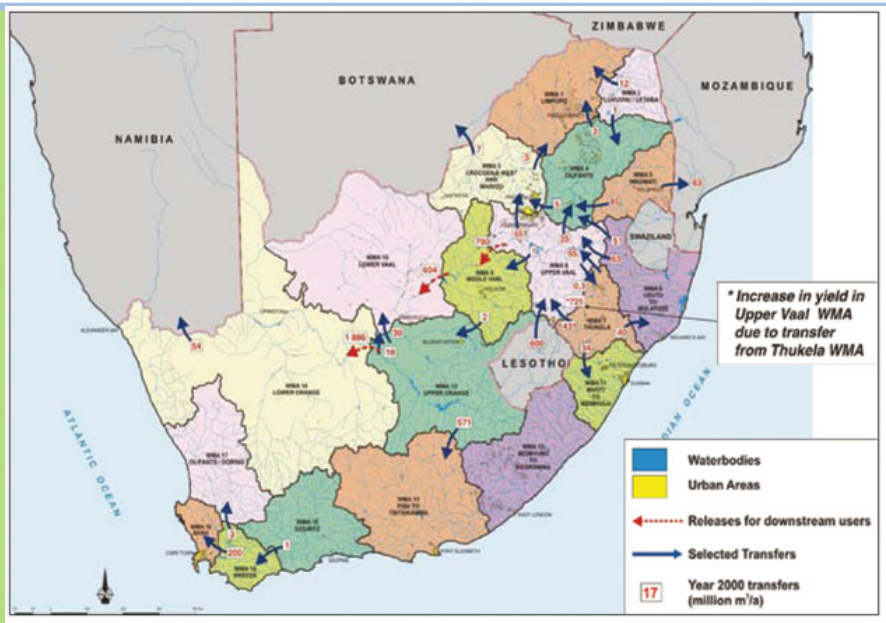


Figure 1
Map of South Africa showing the 19 water management areas (WMAs). Note that the amalgamation of these into between 7 and 9 WMAs is under consideration. Arrows indicate inter-basin transfers.

Factor contributing to slow progress:

1. Limited institutional capacity

2. Slow institutional realignment and reform
3. Financial oversight of the responsible department over the CMAs

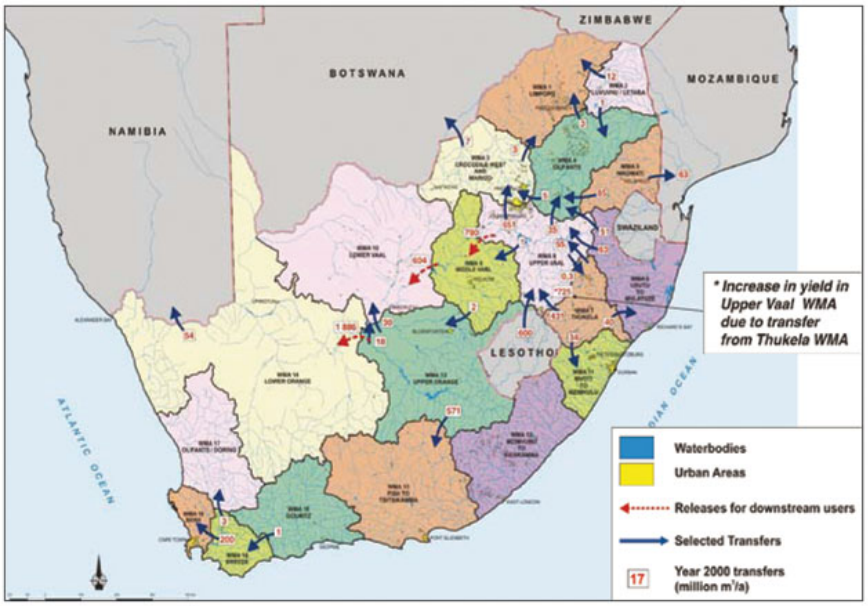


Figure 1

Map of South Africa showing the 19 water management areas (WMAs). Note that the amalgamation of these into between 7 and 9 WMAs is under consideration. Arrows indicate inter-basin transfers.

The Minister decided to reduce the number of CMAs to nine from the original proposal of 19 CMAs. This is due to a number of reasons including the technical capacity required to staff CMAs, and the challenges such a large number of institutions poses to the Department of Water Affairs (DWA) in regulating their performance.

On 30 March 2012,
The Minister decided to reduce the number of CMAs from 19 to 9

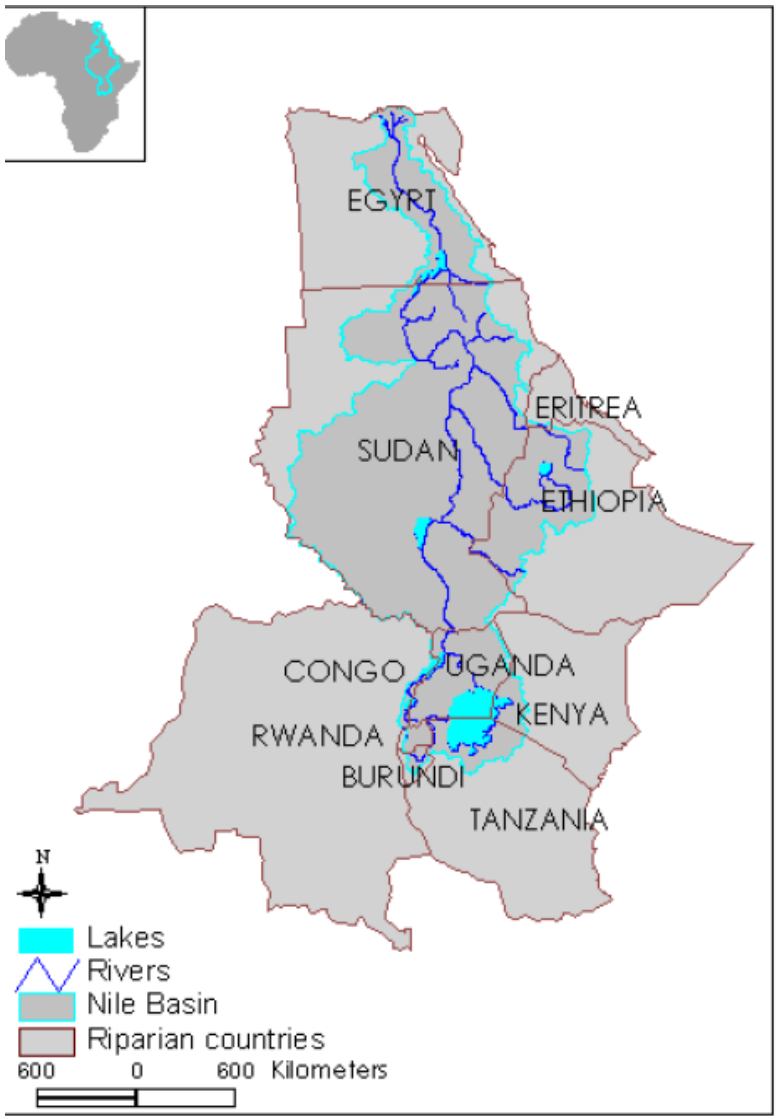
The Densu River Catchment, Ghana

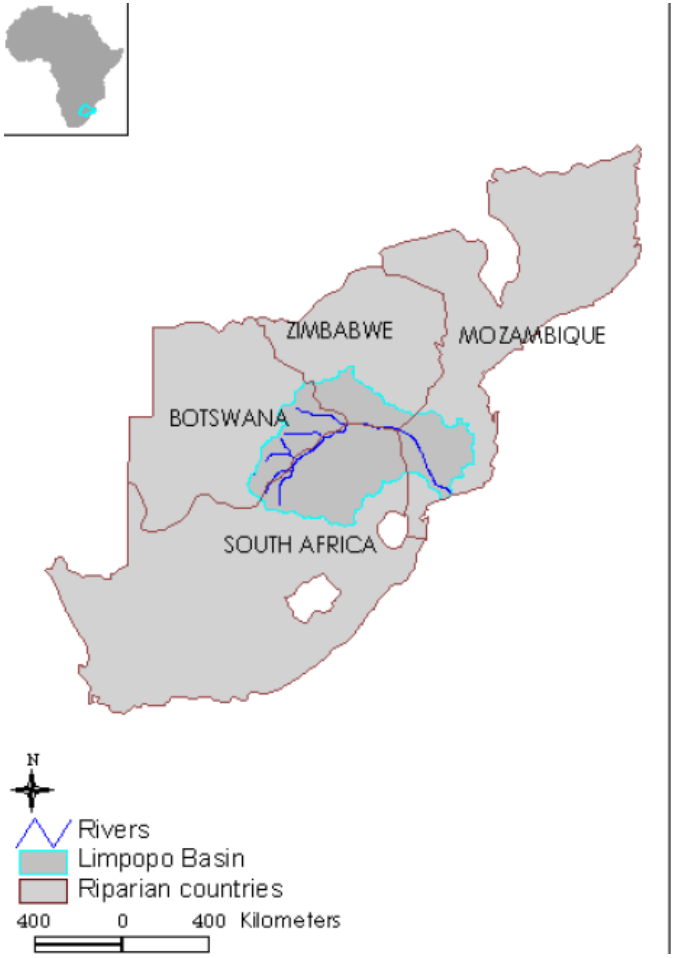
River Basin IWRM plans development with the view of integrated them into a National IWRM Plan…

IWRM plan implemented in the context of mining and urban settlements, the Densu River Catchment has 2600 km^2 with a density of 387 hab/km^2.

Focus on reducing pollution, and a tree planting upstream in a participatory process involving stakeholders in the catchment

One outcome: Improved water quality in the Densu River, with as a consequence reduced costs of treatment of water at the Weija Reservoir by the Ghana Water Company.


EGYPT
ERITREA
SUDAN
ETHIOPIA
CONGO
UGANDA
KENYA
RWANDA
BURUNDI
TANZANIA
N
Lakes
Rivers
Nile Basin
Riparian countries
600 0 600 Kilometers


ZIMBABWE
MOZAMBIQUE
BOTSWANA
SOUTH AFRICA
N
Rivers
Limpopo Basin
Riparian countries
400 0 400 Kilometers

OUTLINE

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4. …
5. Institutional responses to climate change in the water sector

Some common problems to remember

1) Different geographical boundaries between Water Resources Management (Catchment agencies) and Water Services institutions and functions (typically local authorities)

2) Conflicting laws and regulations – example: flood plains have a high ecological value for the Ministry of Environment while they are considered as prime land for the Ministry of agriculture

3) Silo mentality with little consultation or coordination, with unclear mandates, especially in the face of climate change – an emerging issue for which many governments are ill prepared and which does not receive sufficient attention apart from the requirement to participate in global events.

4) Lack of strategy for institutional memory and for data collection to guide decision making

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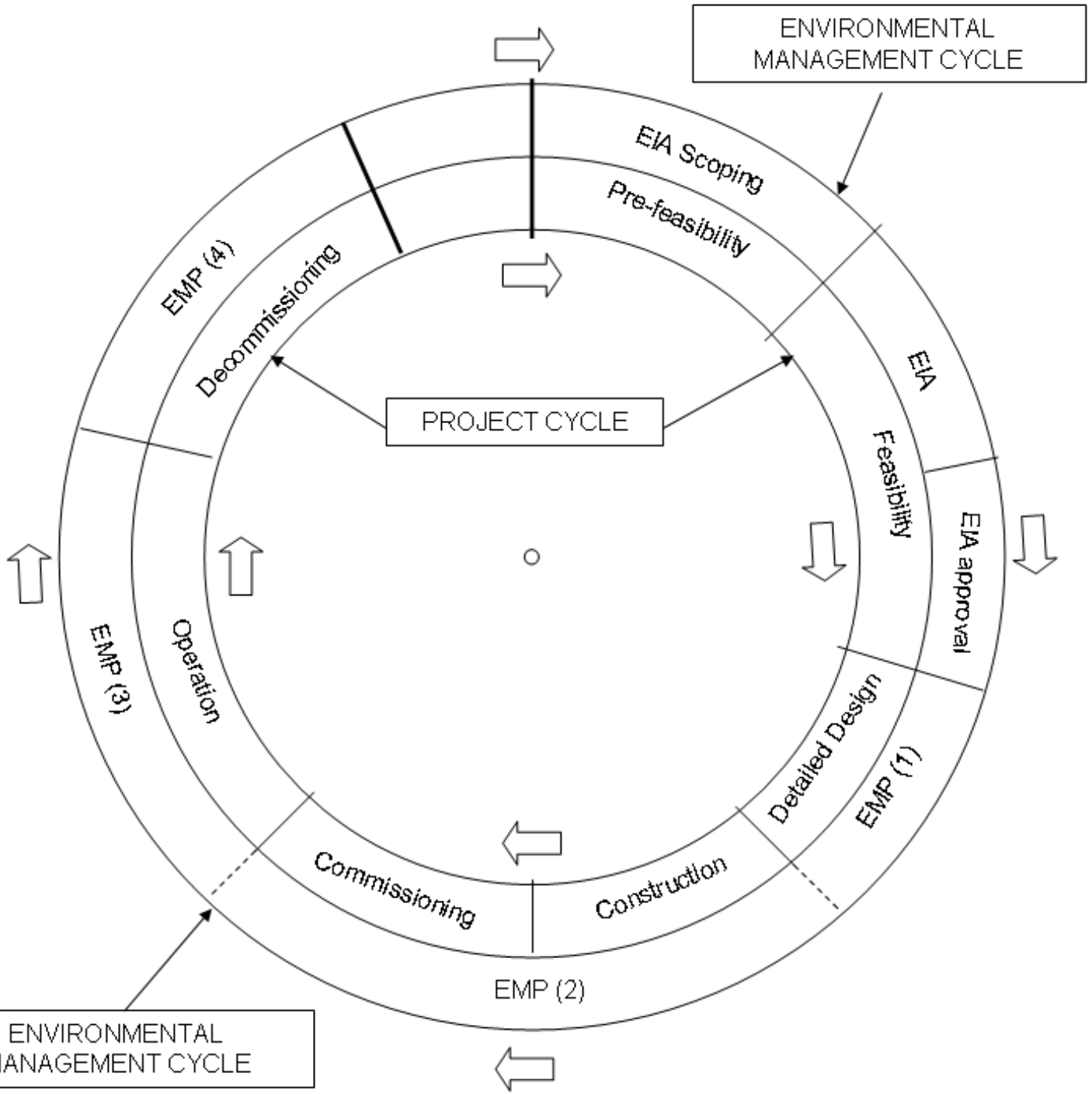
THE PROJECT CYCLE AND ENVIRONMENTAL MANAGEMENT



Elasticity of demand

1) Population growth might not follow the expected projections, thus deferring (HIV?Aids?) / accelerating (rapid urban migration) the need for a new scheme?

2) Change in market conditions: price of commodities (typically mining) with the need of a lead time to plan for the infrastructure

3) Time horizons to go through the first stages of project cycle (until construction is completed and commissioning takes place: 8 to 20 years?

Options for financing water infrastructure

1) Financing institutions: World Bank, African Development Bank, with a mixture of loans and grants…

2) Development Agencies …/ NGOs (small scale infrastructure).

3) Government through Treasury (As part of the planning cycle (MTEF or else)

4) Private Sector (mining?) or PPP (?) – Need to clarify ownership and responsibility for O&M…

Responses to climate change could include

- Decentralization of decision making processes: separation of regulatory and implementation roles: well under way…
- Empowerment of local communities and local authorities so that they are able to take their destiny in charge,
- Provide multiple sources of supply of basic commodities (water and energy) including multiple/alternative access routes to increase resilience,

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Responses to climate change could include

- Policies that are tested on the ground for adoption and ownership and an appropriate implementation mechanism/approach.

- Mechanisms of cost recovery that enhance/promote the economic value of water to ensure that infrastructure investments are sustained by the users who would be able to cover for their O&M.
-
- Provide appropriate capacity building, and tools at all levels, including access to global funding mechanisms…and tailored to the challenges.. (i.e. FAO's approach to climate change: climate smart agriculture (www.fao.org/climatechange/climatesmart

- Translating/package science into usable and practical knowledge and tools for institutions

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In conclusion, indicators of success could be:

In the face of and despite climate change, functional institutions still facilitate:

- Increased resilience and preparedness to climate change (Mozambique?)
- Progress towards the achievement of the MDGs especially on hunger and poverty reduction, and access to safe drinking water and adequate sanitation (in rural and urban areas)
- Economic growth…as measured by GDP.

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THANK YOU
FOR YOUR ATTENTION