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## River basin organizations in Africa: Volta, Senegal and Inco Maputo River Basin, South Africa

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### Abstract:

International river basins are covering Africa's almost 62% of land area. Long history is present in the area of transboundary water management and water law which are partially helpful to regulate rivers (Lautze and Giordano, in submission, 2005). This fact led to a range of factors that have driven transboundary water law in Africa in the post-colonial period. Internally, these factors include joint management, water development, and water sharing and division. Externally, they have included a range of factors emanating largely outside the African continent including geopolitics, the concept of hydraulic mission, cultural ties, international environment agendas, and global concern with water conflicts. The results contributed to an evolutionary change in the way these external factors have influenced African transboundary water law. More importantly, analysis of the way internal and external drivers interact suggests that both must be considered by basin states and the outside actors if either is to achieve their objectives (Lautze and Giordano & Borghese, 2005).

**Keywords:** Africa, transboundary, river basins and continent

### 1. Africa Regional Economic Communities

There are number of regional economic communities (RECs) in Africa. These include *inter alia* the following:

- Community of Sahel-Saharan States (CEN-SAD);
- Economic Community of Central African States (ECCAS);
- Common Market for Eastern and Southern Africa (COMESA);
- Intergovernmental Authority for Development (IGAD);
- Southern African Development Community (SADC);
- Arab Maghreb Union (UMA); and
- Economic Commission of West African States (ECOWAS).

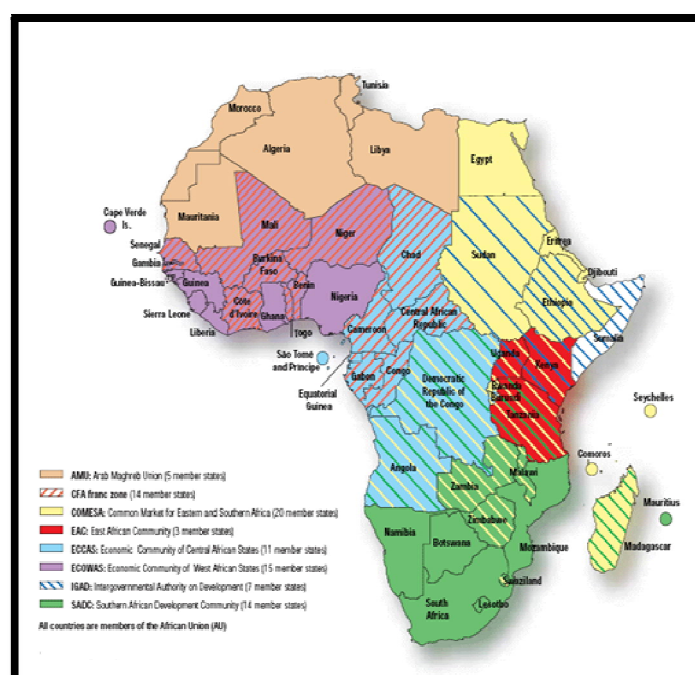


Figure 1: African Economic Regions Fostering Cooperation  
Source: UNE

## 1.1. Examples of River Basins in Africa

### 1.1.1. Volta River Basin (VBA)



Figure 2: Map of the Volta River Basin  
Source: Final Evaluation, PAGEV Project, IUCN

The Volta River Basin is located in West Africa and covers an estimated area of 400,000 km<sup>2</sup>. The basin is shared by six countries in namely Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali and Togo. The Akosombo dam is by far the most significant structure built in the basin and the Volta Lake is the largest man-made lake in the World. The basin is shared unevenly as shown in the table below

Country	Area of Basin(Km <sup>2</sup> )	% of Basin Area
Bénin	12,590	3.41
Burkina Faso	171,105	42.9
Côte d'Ivoire	9,890	2.48
Ghana	165,830	41.6
Mali	12,430	3.12
Togo	25,545	6.41
Total	398,390	100

Table 1: Riparian Countries

Environment and water resource of shared river basins of the countries in the sub-region, related decisions were made at West Africa Conference on Integrated Water Resource Management (IWRM), organized in Burkina Faso in March 1998. For both social and economic development an integrated water management of water resources have been established by the Ministers at national as well as regional level (Aboagye, 2004).

After that below mentioned events took place:

- March 2004 – A Volta Basin Technical Committee was created to prepare for the establishment of a Volta Basin organization
- 06 December 2005 – the Ministers of water resources of the riparian countries signed a Memorandum of Understanding in Ouagadougou to create a Volta Basin Authority;
- 17 July 2006 – VBA, (headquarters situated in Ouagadougou), a convention and statues were being established by Ministers in Lomé. An Interim Executive Directorate was appointed for this purpose.
- 19 January 2007 – In Ouagadougou, VBA Convention was being signed by the heads of states in the 1st Assembly.

Volta Basin Authority (VBA) was being established after the Volta Basin met in Burkina Faso on 19 January 2007. States of the riparian countries (Ghana, Togo, Mali, Benin, Corte D'ivoire and Burkina Faso) were part of the first assembly. Following are some directives by VBA-

- To develop basin, promotion of permanent consultation tools.
- Equal distribution of integrated water resources management along with its implementation.
- To create extensive impact on the water resources stakeholders as well as development of infrastructure need to be properly planned.
- Joint projects should be developed for working.
- Poverty alleviation, the sustainable development also getting accelerated between the Parties in the Volta basin,
- Better socioeconomic integration in the sub-region.

So far, the VBA is able to engage each member in consultation, implement IWRM and made attempts in sharing benefits equitably and gave birth to projects such as Volta hycos, precabs, GEF Volta, Glower Volta and IWRM Volta EU but saddled with resource constraints to fight poverty and climate change.

Sources: Aboagye, Minta A. 2004. Towards the Establishment of the Volta Basin Organisation

Source: <http://www.abv-volta.org:10000/abv2/about/pays-membres>

[http://www.iwmi.cgiar.org/assessment/files\\_new/research\\_projects/River\\_Basin\\_Development\\_and\\_Management/Volta\\_RiverBasin\\_Boubacar.pdf](http://www.iwmi.cgiar.org/assessment/files_new/research_projects/River_Basin_Development_and_Management/Volta_RiverBasin_Boubacar.pdf)

## 2. The Senegal River Basin Organisation: Organisation for the Development of Senegal River)

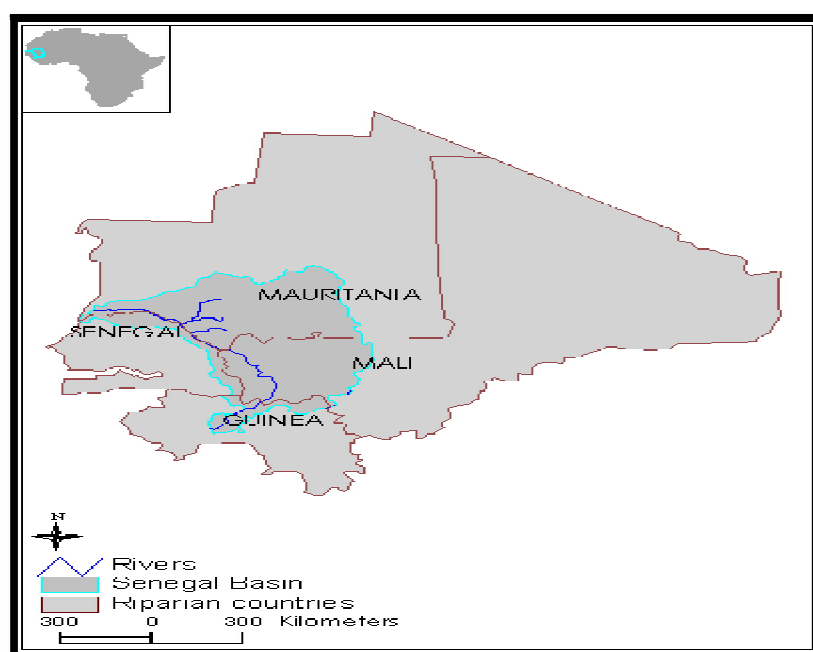


Figure 3: Map of the Senegal River Basin

Source: AWRB, Page 65

The Senegal River Basin Organisation known as Organisation for the Development of Senegal River (OMVS) which was launched in 1972 is also located in West Africa and has its administrative head office in Dakar. The riparian countries are Senegal, Mali, Guinea and Mauritania and it covers total area of 490,000km<sup>2</sup>. The basin is shared unevenly as shown in the table below:

Country	Area of Basin(Km <sup>2</sup> )	% of Basin Area
Senegal	35,200	6.08
Mali	150,800	34.59
Guinea	30,800	7.07
Mauritania	219,100	50.25
Total	435,900	100%

Table 2: Riparian Countries

OMVS came into being as a result of strong will to form a cooperation among Mali, Mauritania and Senegal due to severe drought from 1968 to 1973 so that they could make judicious use of resources (Feckoua, 2000, Lahtela, 2003, Kipping, 2003). Initially, OMVS has a lot of ambitions but was reduced to construction of Manantali Hydropower Dam on Bafing River in Mali and Dama Anti Salt Dam in Senegal by their donors. Their main donors and their contributions for development projects are: various Arab oil – exporting states or related financial institutions (48%), Germany (14%), EU (12% and France (7%) (OMVS, 2004, LeMarquand, 1986). These donors' interests of investing in the river basin cut across

maintaining and expanding political influence (former colonial masters), religious in relation to Arab donors and economic as far as France and Germany is concerned) (Kipping, 2004).

For implementing policies, OMVS has structural head(s). All kinds of policies and developmental initiatives need to be taken by them. For development, management of policies and financial discussions, implementations the council of ministers are the legal representatives. They are also accountable to finalize budget and smooth operation of rules and procedures. The administrative head of OMVS is the High Commissioner. This has four departments for admin and secretarial, Foreign associations as well as technological and provincial records.

After the poor operations of the Diamma and Manantali Dams, Environmental Impact Mitigation and Monitoring Program (PASIE), was started in 1997. This inventiveness was cordially accepted by World Bank. A funding - GEF grant was given for this.

Multifaceted water related issues, environmental squalor, poor level of engaging civil society participation, inadequate information management are some of the problems OMVS has to handle with, to strengthen decision making. Sources: UNEP, Atlas of International Fresh Water Agreement, (2001), 2. OMVS, Introducing the Senegal Development Organisation, 2003, 3. World Bank, Senegal River Basin Water and Environmental Project Appraisal Report, 2003, 4. NEPAD, Short-Term Action Plan for Infrastructure, Main Report, 2002.

### 3. Incomaputo River Basin

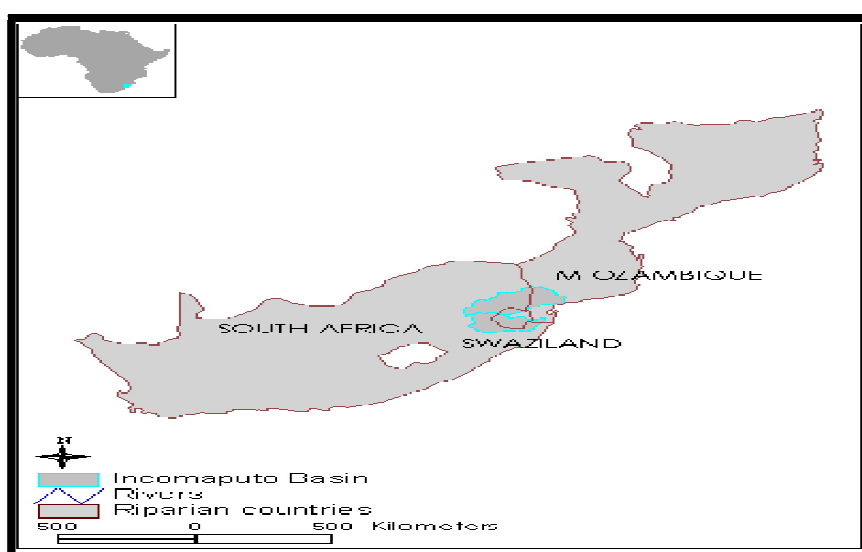


Figure 4: Map of the Inco Maputo River Basin

To cover the Incomati and Maputo Rivers, joint body has been established the Tripartite Permanent Technical Committee (TPTC) in 1983. It is an alliance between South Africa, Mozambique and Swaziland- three SADC member states which covers Total Area of 46,740 km<sup>2</sup>. The TPTC resolute to include the Maputo River system. A Joint Maputo Basin Study was being conducted and getting completed in 2001. This decision facilitated the memo instead of only focusing on the Incomati River. In 2002, the ministers of the riparian states made and approved the ministers of the riparian state's settlement. For Maputo city it was an achievement in the area of water management/environmental measures and a water sharing formula including secure water supply. The riparian states settled on previous dubious hydrological data.

Without any executive power, the Interim IncoMaputo Agreement re-established the TPTC. Technical, legal, administrative suggestions were provided by this body. All this advices related to the expansion and organization of the Incomati and Maputo watercourse systems. This was remaining intact before any formation of other water agreement. Execution of the Interim IncoMaputo Agreement was based on a list of "Reference Projects". On the basis of formative criteria, Reference Projects are undertaken by Mozambique, South Africa and Swaziland. This settlement also specifies that any conflict will be dissolved harmoniously through proper discussion. Any dispute if not dissolved even after one year from the date on which it was initiated can be sent for adjudication by any one or both the parties. In case the parties are not satisfying on the result, the adjudication committee can conclude it by following norms.

### 4. Policies Pursued by the River Basins Organisations to Improve Lives and Properties of Its People

Being established in the year of 1980 all the three river basin organisations are now a member of African Water Association (AfWA). Presently, it has eighty water and sanitation utilities members along with the following purposes:

- Synchronize the investigate for information and the most recent developmental initiatives in the technical, legal and economic fields for drinking water manufacture, contribute and sanitation
- Change in methods, processes and actions of drinking water production and supply and sanitation to upholdswitch over of information
- Commence, support and upholdsupport and connections in professional training

AfWA executed the aforesaid objectives by providing research findings to all its members, maintain close ties with all regional, national and international agencies and provided seminars, workshops and technical sessions for the members. In 1996, Water Utility Partnership was formed to increase coverage of water supply and sanitation services, and improve investment and reforms of utility in member states. This policy was adopted by the three river basins organisations so as to better lives people in trans boundary catchment areas.

## 5. Challenges

Komati Basin Water Authority (KOBWA) is responsible to manage inadequate flows, dam operations, environmental concerns, funding related issues. Phase 1 of the Komati River Basin Development Project is under the KOBWA, established by both South Africa and Swaziland. It is responsible for operation as well as maintenance. Joint Water Commission (JWC) is the apex body for KOBWA. For two governments (South Africa and Swaziland), JWC is the technical body who gives advices. JWC consists of three members from each of the country. Representatives from each country create Tripartite Permanent Technical Committee (TPTC), which deals matters when water situation touches on Mozambique. At least once a year and at least once every two months meetings are held for TPTC and JWC respectively.

Country	Area of Basin(Km <sup>2</sup> )	% of Basin Area
Mozambique	16 100	20. 80
South Africa	47 7000	61. 63
Swaziland	13 600	17. 57
Total	77 400	100

Table 3: Riparian Countries

## 6. Conclusions

Numerous agreements were signed by the above stated river basin organisations that led to water and projected development as pertains to international standards, measures are also put in place to resolve conflicts amongst the various states and knowledge is also shared among local and international partners as far as transboundary water cooperation and laws are concerned.

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