INVESTING IN TRANSBOUNDARY BASIN MANAGEMENT, IT PAYS BACK: SUSTAINABLE FUNDING OF TBM AND COMMON INFRASTRUCTURES

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Summary

1. Missions and activities basins

2. Exemple of OMVS

3. Challenges of investment
Missions and activities

• Economic Development and Integration through water uses
  – Agriculture
  – Hydropower
  – Navigation
  – Others
Water resources use Sectors

- Agriculture
- Energy
- Navigation
- Other (AEP, fisheries, livestock, environment)
2. Exemple Of OMVS

UN COURS D’EAU, QUATRE ETATS, UN DESTIN

Fleuve Sénégal - Répartition des Apports

- Autres affluents: 50%
- Falémé: 25%
- Bakoye: 20%
- MANANTALI: 50%
- Bafing
Missions of OMVS

- Creation on March 11, 1972 of the OMVS River Basin Organization between Mali, Mauritania and Senegal but Guinea joined in on 17 March 2006

- Missions:
  - Ensure food security for basin populations;
    - Reduce OMVS’ member states economic vulnerability against climatic risks and external factors;
  - Speed up economic development within the Member-states;
  - Preserve the balance of ecosystems within the Basin and in the sub-region;
  - Secure and improve the incomes of populations in the valley
Specific features: Joint management, solidarity

- Joint management of the river basin
- Joint management of common infrastructures and assets
- Joint Investments
- Consensus-based decisions: no vote
- Inclusive programs that take account of the interests of countries upstream and downstream
Legal framework

• 2 conventions:
  – One signed on 21 December 1978 on the legal status of jointly-owned infrastructures built on the Senegal River (including dams and navigation structures) and some roads;

  – the other signed on 12 May 1982 on the financing modalities of such jointly-owned infrastructures.
Specific features: Joint management, solidarity

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DIAMA
Fresh water for agriculture and safe drinking water

Year-round provision of enough fresh water
Development of agricultural activities
Restoration of natural environment
FELOU DAM ON THE SENEGAL RIVER

- **LOCATION:** on the Senegal river, 15 km upstream from Kayes.

- **Brief description:** run of the river dam; length: 945 meters. Maximum height: 2 m T.N. Number of generator units: 3. Type: bulb. Maxi head height: 13.8 meters. Installed capacity: 70 MW.

- **AVERAGE PRODUCTION:** 320 to 350 GWH/YEAR

- **CONSTRUCTION COST:** About 100 million Euros

- **Opened in December 2013.**
Manantali Dam

**Storage capacity:** 11,3 billions m³

**Energy Production:** 800 GWh/year

**River flow regulation:** 300 m³/s at Bakel station

**Irrigation capacity:** 255 000 ha combined with DIAMA Dam

**Artificial flooding** (recession agriculture - Environment, ....)

**Year-round navigability** of the River from Saint-Louis (Senegal) to Ambidédi (Mali);

**Control of eventual Flood**
225kV power grid

MANANTALI ENERGY PROJECT

Mise sous tension
le 9 juin 2001

Premiers kWh
le 19 juillet 2002

Premiers kWh
le 15 novembre 2002

Premiers kWh
le 7 octobre 2001

Nouakchott
Dakar
Manantali
Bamako
Manantali FELOU

Operation Agreement: 15 years, renewable one time
SEMAF created in recent months

Power purchase agreement
with the National Electricity Companies (SdE)
based on hydropower sharing (« costs and benefits distribution key »)

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<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
<th>Notes</th>
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<tbody>
<tr>
<td>MALI (EDM - SA)</td>
<td>52 %</td>
<td></td>
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<tr>
<td>MAURITANIE (SOMELEC)</td>
<td>45 %</td>
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<td>SENEGAL (SENELEC)</td>
<td>33 %</td>
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<td></td>
<td>15 %</td>
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<td>25 %</td>
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**LOCATION:** on the Senegal River, 80 km upstream from Kayes

**BRIEF DESCRIPTION:** run of the river dam; Normal reservoir level: 75 meters; length: 1230 meters; head height: about 23.5 meters; number of generator units: 3; type: Kaplan; Installed capacity: 140 MW

**AVERAGE PRODUCTION:** 570 to 620 GWh/year

**State of progress:** Technical feasibility study was completed in 2004 and the additional environmental study in 2006. The project Coordinator has been appointed.

**COST OF CONSTRUCTION:** 181.4 million EUROS

**On-going works:** Foundation stone laid in December 2013
Important hydropower potential

- électrique : 7278 MW

Guinea : 6000 MW
Mali : 1150 MW
Sénégal : 128 MW

For this potential, only 240 MW are operated
After completion of the so-called first generation infrastructures, OMVS has planned for the gradual implementation of other hydroelectric projects.
Dams planned or under construction: Félou and Gouina
Dams under study:
Gourbassi, Bouréya and Koukoutamba

BARRAGES EN PROJET (PHASE ETUDE)

Légende

Barrage existant
Barrage en construction : Féloou
Barrage en voie de construction : Gouina
Barrage en projet
Capitale
Réseau hydrographique
Limite bassin versant
Pays

Source et réalisation : OMVS 2012
Transportation

The OMVS Multimodal Transport Integrated System known as SITRAM has the purpose to achieve:

· Consistency of OMVS’ comprehensive programme;
· Development of the river’s natural function;
· Strengthening egional integration through intensification of movements and exchanges;
· Opening up production and consumption areas in the basin, sites of existing dams and sites of contemplated hydraulic structures;
· Strengthening of productive and trade sectors (agriculture, livestock, fisheries, mining, handicraft, and tourism);
· To create the conditions required for sustainable economic growth;

· To put in place a sound social and environmental framework (reduction of carbon dioxide).
SCHEMA ILLUSTRATIF DE LA PREMIERE PHASE DU SITRAM-OMVS
SCHEMA ILLUSTRATIF DE LA PREMIERE PHASE DU SITRAM-OMVS

MAURITANIE

DIAMA

Saint Louis

DAKAR

NAVIGATION MARITIME

SENEGAL

Mali

NAVIGATION MARITIME

Guinée

Guinée Bissau

CONAKRY

Nouakchott

Senegal

Gambie

Dakar

Mali

Guinée

Navigation Maritime
3. CHALLENGES

• The hydropower sector is very profitable. But funding to achieve the dams are difficult to mobilize.

• The cost of hydroelectricity is low compared to other forms of energy such as heat.

• Everything that is produced will be immediately sold and the production is not enough to cover the needs.

• But problem of funding
Navigation

• Investments for dredging and construction of docks and ports are important
• And countries have low investment capacity and low debt capacity
• The sector is profitable and economically viable but mobilizing financing is difficult
CONCLUSION

• Benefits
  – Exchange of best practices and experience sharing on major issues;
  – Sharing of resources and means

• Challenges
  – Financial
  – Technical
  – Political instability
THANK YOU FOR YOUR ATTENTION