



Water in Africa: Hydro-Pessimism or Hydro-Optimism?

Água em África: Hidro-pessimismo ou Hidro-optimismo

Centro de Estudos Africanos da Universidade do Porto
Porto, Portugal, 2-3 October 2008



Water in Africa:

Hydro-Pessimism or Hydro-Optimism?

Centre of African Studies - Porto, Portugal

2-3 October 2008

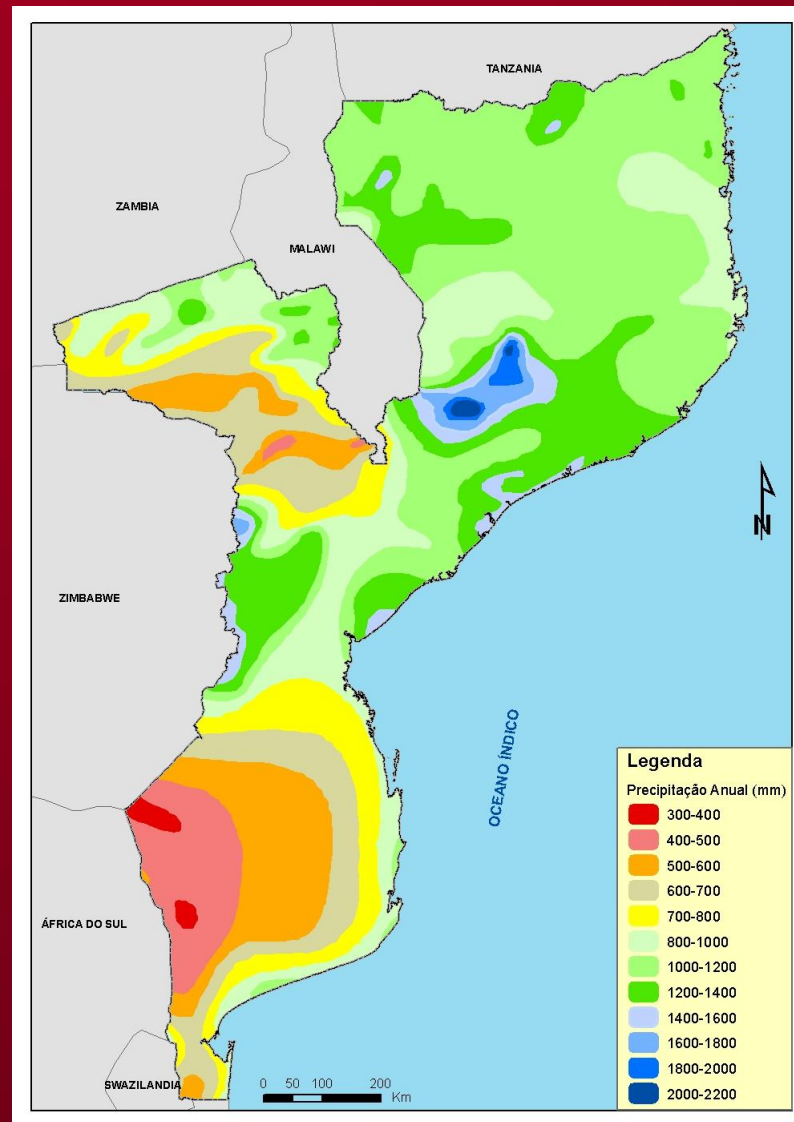
WATER RESOURCES DEVELOPMENT IN MOZAMBIQUE IN A REGIONAL PERSPECTIVE

ÁLVARO CARMO VAZ

Professor, Eduardo Mondlane University

Director, CONSULTEC Lda.

Distribution of mean annual rainfall



Importance to Mozambique of shared river basins

- 50% of the country is included within shared river basins
- More than 50% of the natural flows are cross-border flows
- Mozambique is involved in 9 shared river basins; in 8 it is at the downstream end – less water, more pollution
- Critical situation in the South region – semi-arid, some large rivers intensively used upstream, large water uses in Mozambique (Maputo urban, irrigation, industries)

Main areas for water development

- Rural water supply
- Urban water supply
 - Domestic
 - Industrial
 - Public and commercial
- Irrigation
- Hydropower

Rural water supply

- Still far from achieving the MDGs
- Mostly based on groundwater
- Main problems:
 - Community involvement and organisation
 - Investment
 - Maintenance capacity

Urban water supply

- Large investments being made with external support
- Main cities – concession or contract management to private operators; regulator
- Main problems
 - Cost of water in peri-urban areas
 - High water losses
 - Still not enough investment

Maputo water supply

- Largest urban consumer (domestic and industrial)
- Looking for new water sources – a regional negotiation (South Africa, Swaziland); perspectives for the near future
- Potential conflict between the main operator (concessionaire) and small private operators in peri-urban areas

Irrigation

- By far the major water user in Mozambique
- Large potential (soil, water, climatic conditions) in the center and north of the country
- Commercial farming: sugar cane, food crops, bio-fuels (new developments)
- Present irrigated area still quite small (about 100,000 ha)

Irrigation – 2

- Most irrigated areas located in the south (close to Maputo and South Africa)
- The south region has the most difficult conditions for expansion of irrigation
 - Low rainfall
 - Intensive water use in major rivers (Limpopo, Incomati, Umbeluzi) in upstream countries (South Africa, Zimbabwe, Swaziland)

Hydropower

- Mozambique – good potential for hydropower, particularly Zambezi basin
 - Cahora Bassa 2075 MW, potential more 1250
 - Mpanda Uncua 1500 MW (ready 2016)
 - Total in Mozambique about 13,000 MW
- Linked to large coal and natural gas reserves, thermal power stations
- Mozambique – net exporter of electricity, main consumer – South Africa
- Southern Africa Power Pool

Large water transfers

- Electricity is (relatively) easy to move around – what about water?
- South Africa is increasingly water stressed
- Situation of water stress spreading to other countries (Zimbabwe, Malawi, Swaziland) besides Botswana, Namibia (arid)
- Mega-projects for water transfers to the south from the Zambezi and Congo rivers – what impacts?

Sharing water in international river basins

- Equitable allocation of water in international river basins – difficult when water resources are scarce to satisfy growing demand (Limpopo, Incomati, Umbeluzi in Mozambique)
- SADC Protocol on shared watercourse systems – excellent principles and guidelines, what results after 13 (8) years?

Mozambique shared river basins

- IncoMaputo agreement signed in 2002 – so complex that, after 6 years, still studies on how to implement
- Joint studies seem a good way forward, create a common objective knowledge base and understanding (Umbeluzi, Pungwe)
- ...but no agreements yet resulting from it

No water conflicts inside Mozambique?

- Priority to domestic / urban water supply over irrigation in periods of drought
- Potential conflicts requiring negotiations and compromise:
 - Development of large dams, social and environmental impacts to be mitigated
 - Hydropower vs flood mitigation
 - Flood control vs conservation of wetlands (the case of the Zambezi delta)