



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

INTERNATIONAL WORKSHOP ON WATER SCARCITY: Taking action in trans-boundary basins and reducing health impacts

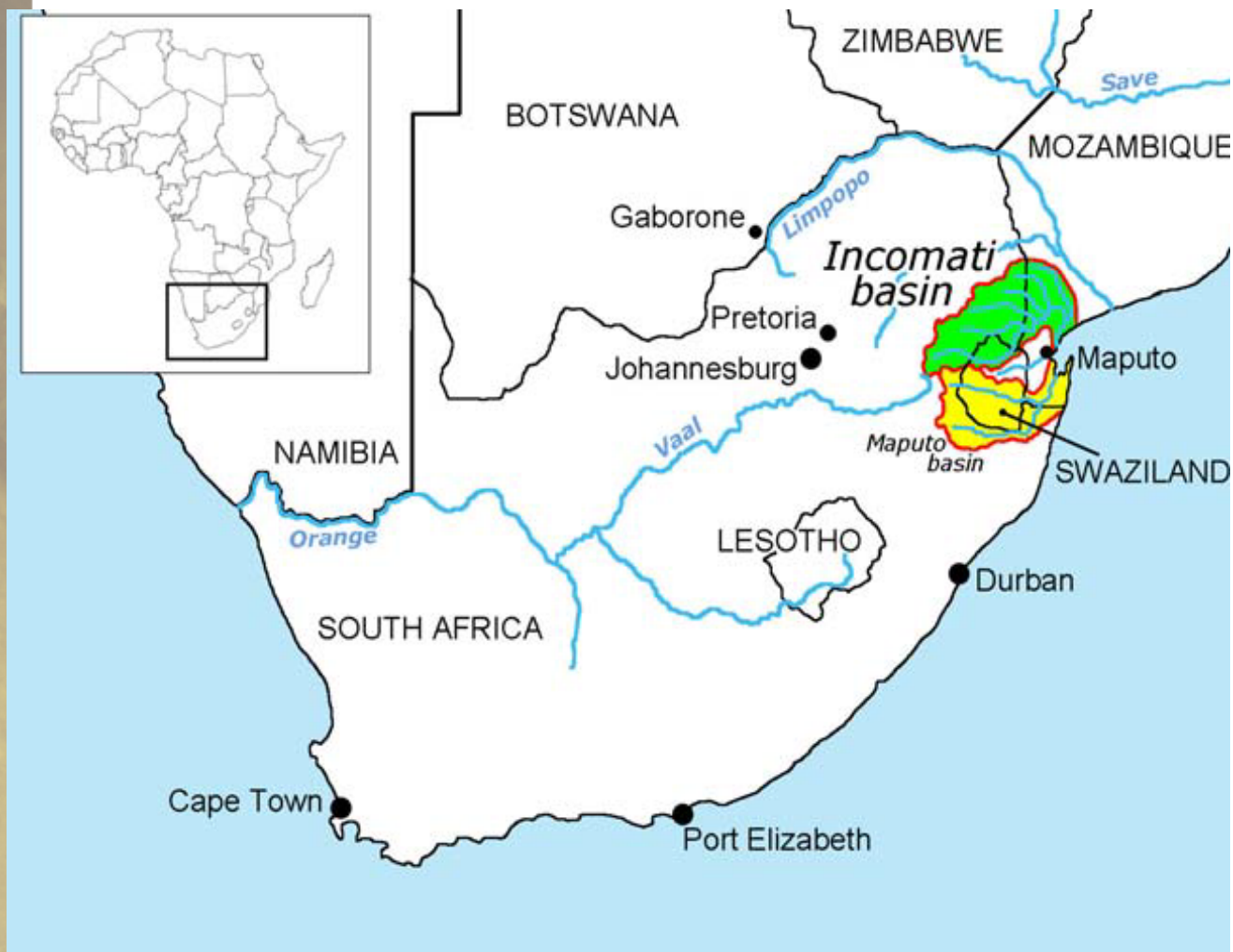
Not letting boundaries to hinder water resources systems development for effective utilization of the trans-boundary IncoMaputo system

Presented by:

Beason Mwaka
IncoMaputo Water Commission - South Africa

Date: 11 December 2017

The IncoMaputo system comprise Incomati and Maputo River basins traversing South Africa, Swaziland and Mozambique



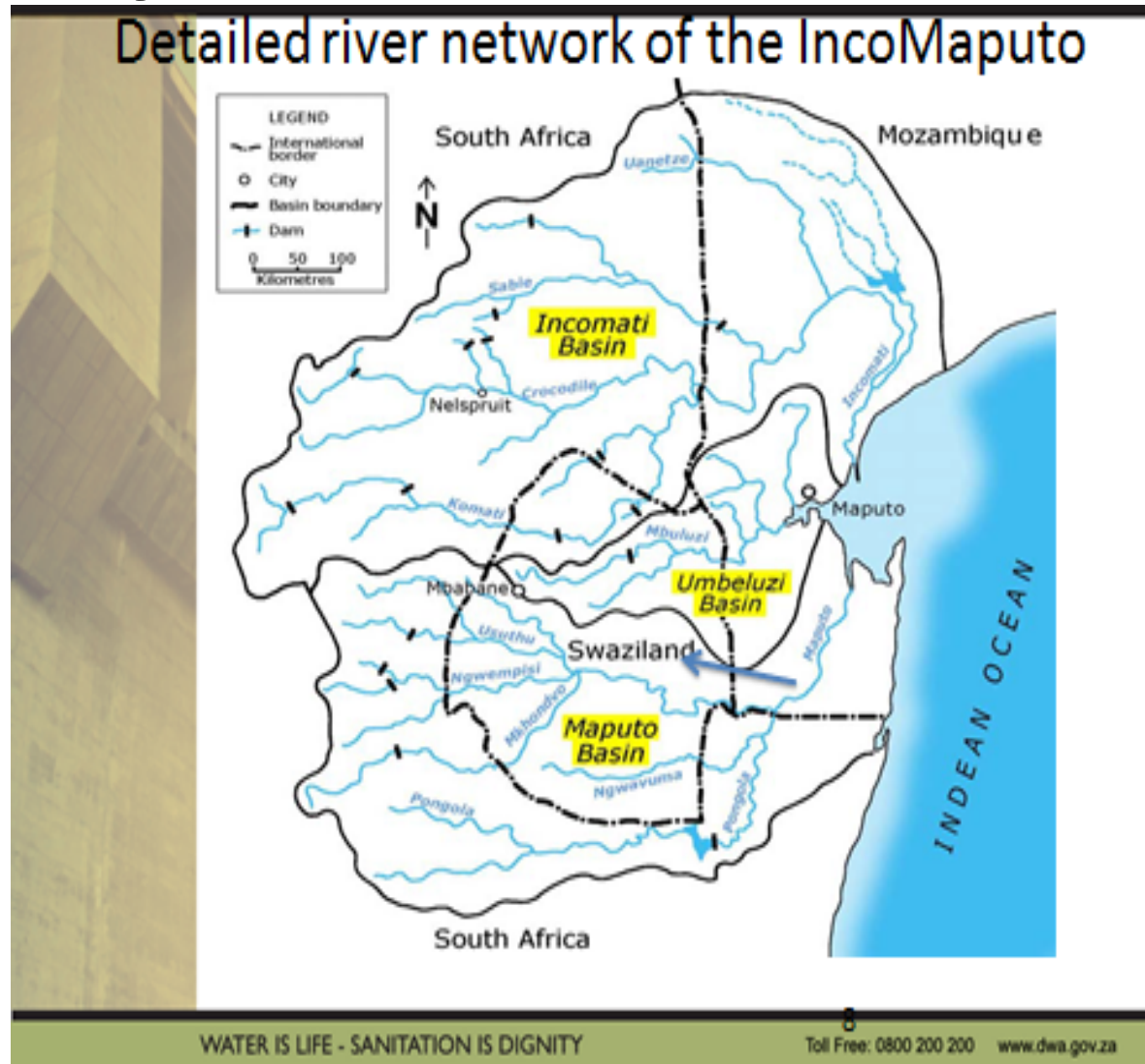
Background

- About 60% of South Africa land surface lie in in catchments shared with neighbouring countries
- River systems do not recognize international boundaries
- South Africa, Swaziland and Mozambique acknowledged this to establish the IncoMaputo commission
- The Tripartite Permanent Technical Commission (TPTC) was created in 1983 to oversee joint developments, utilization, and management of the systems for the common interest of member states.
- In 2002 during the Johannesburg World Summit on Sustainable Development the TPTC's proposed "*Interim IncoMaputo Agreement (IIMA) for Co-operation on the Protection and Sustainable Utilization of the IncoMaputo Watercourses*" was signed by the member states.

Notable features of the IncoMaputo River system

It originates in SA highlands, into Swaziland, back to SA before entering Mozambique to end in the Indian Ocean

- Most streamflows are seasonal – 5 month rainfall
- SA plains downstream Swaziland are fertile but not feasible for storage dams
- Coastal towns in Mozambique are prone to flooding
- Suitable dam sites found upstream of and in Swaziland



Principles (P) applied for water cooperation between Mozambique, Swaziland and SA

P1

- Peace, security and stability (regional integration)

P2

- Joint environmental management of the shared watercourse

P3

- Water for poverty eradication and economic growth

P4

- Equitable and efficient utilization of water use

P5

- Payment of water use and joint monitoring of pollution

P6

- Information sharing (stream flow, floods , drought, etc)

P7

- Decentralisation of water management to grassroots institutions - management agencies

P8

- Observe SADC Revised protocol on Shared water courses

Some highlight outcomes of the IIMA

- Concurrence by member states on:
 - Protection of the environment (Article 6 of the IIMA)
 - minimum cross-border flows (Article 9 of the IIMA)
 - drought/floods management (Article 10 of the IIMA)
 - Sustainable utilization of water resources (Annex I-Art 6 of the IIMA)
 - Water requirements of the ecosystem of the IncoMaputo (Annex I-Art 7 of the IIMA)

Specific case Example – KOBWA

- Project Objectives:
 - To optimize the utilization of water resources from the Komati system, recognizing the rights of Mozambique
 - To reduce the risk of water supply for existing commercial farmers in South Africa and Swaziland
 - Increase yield to provide additional water for new development, especially emerging (PDI) farmers
 - Ensure downstream Environmental Flow Requirements (EFR) and reserve flow to Mozambique

The project costs are shared between South Africa (60%) and Swaziland (40%)

PROJECT BENEFITS TO PARTY STATES

1. Increased utilizable water supply by 312 million m³/annum at higher assurance

- Increased irrigated land (Hectare)

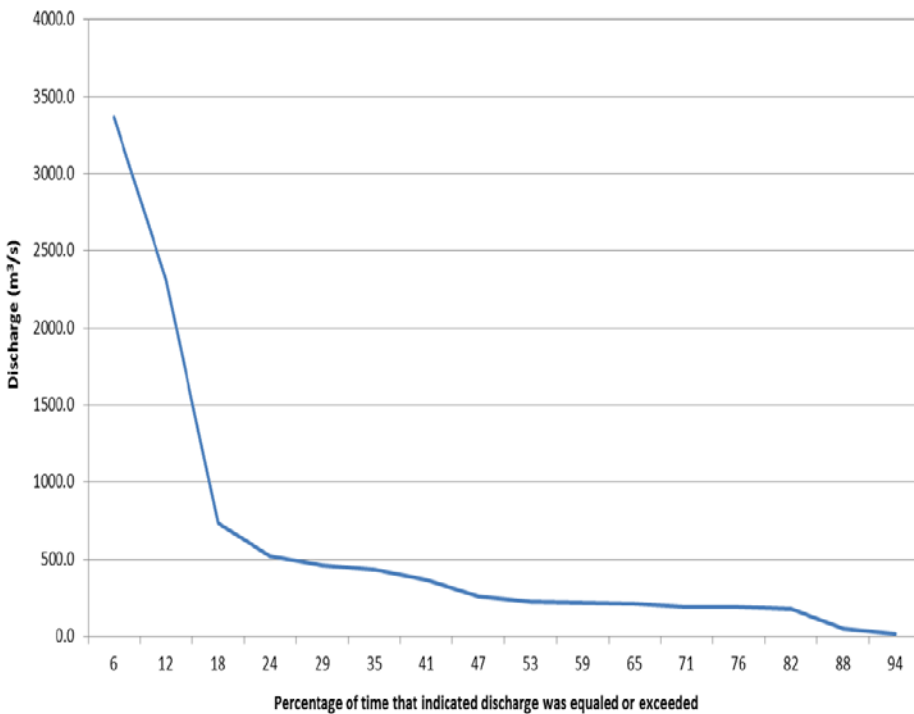
	SA	SD	TOTAL (Ha)
– Existing irrigation	20 000	13 500	33 500
– New irrigation	10 000	6 000	16 000

- Increased productivity of existing irrigated agriculture:
US 14.5 million p.a.
- Value of production on new land
US 45.0 million p.a.
- Mitigated flood damages to property and life in downstream Mozambique
- Livelihood and environment sustained by ensuring river does not dry

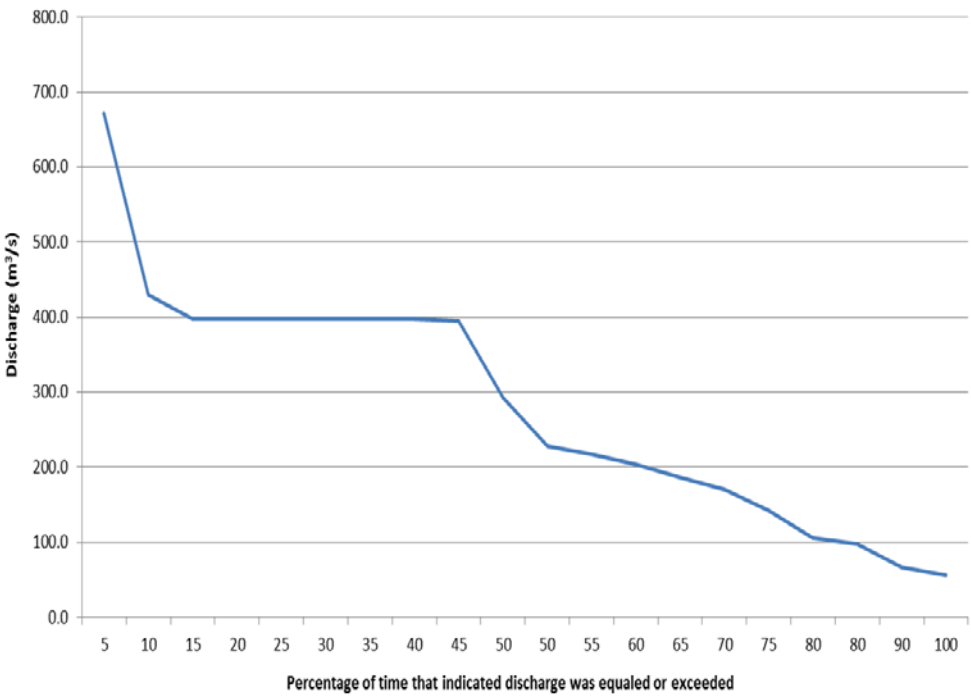
Flow duration curves showing characteristics of Incomati River flows at Mozambique border - before and after KOBWA developments

Before, about 15% of time flows above 1000m³/s (floods) and about 10% of time no flow entering Mozambique

Flow Duration Curve 1982-1997



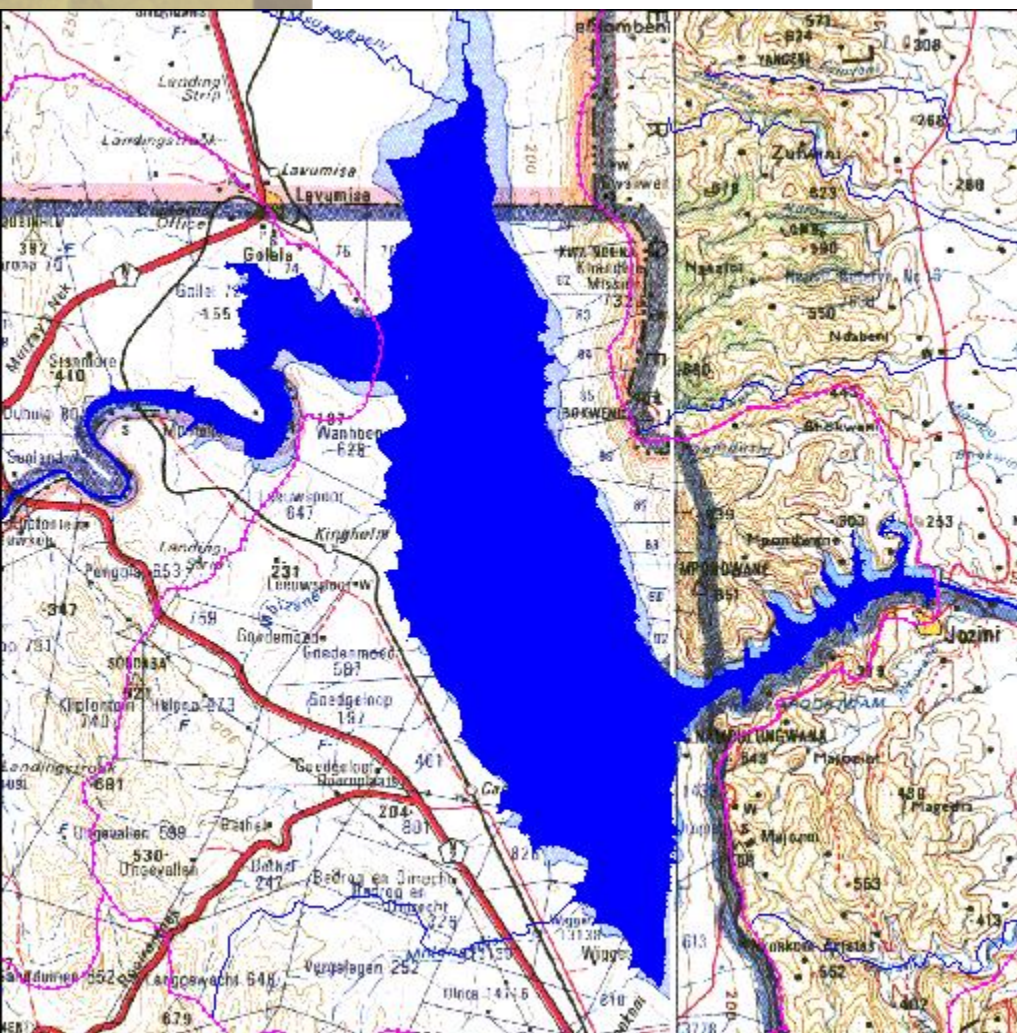
Flow Duration Curve 1998-2017



Case Example 2. – Pongola Dam

Main purposes:

For water supply to South Africa and Swaziland
Avoid flooding in months of Feb – April, which would result uncontrollable malaria outbreak on downstream floodplains in South Africa and Mozambique



The King of Swaziland and President of SA jointly Commissioning a KOBWA project

