Project Sheet

Water Reconciliation Strategy Study for the Kwazulu-Natal Coastal Metropolitan Areas

LOCATION: The KwaZulu-Natal Coastal Metropolitan Area, South Africa.

CUSTOMER: Department of Water Affairs

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STATUS: Complete **DURATION:** November 2006 – March 2010

OBJECTIVE:. The key objectives of the Study were to identify, evaluate and prioritise interventions to reconcile the water requirements with the available water resources up to the year 2030.

DESCRIPTION

The KwaZulu-Natal Coastal Metropolitan Area consists of the area from Pietermaritzburg to Durban from west to east and from Kwadukuza (Stanger) in the north to Amanzimtoti in the south. It includes the eThekwini Metropolitan and the Msunduzi and Ilembe Municipalities.

The main bulk water resources comprises the Mgeni, Mdloti, and Mvoti river systems with support by a transfer scheme sourcing water from the Mooi River. There are several large storage dams regulating the flow in the rivers: Midmar, Albert Falls, Nagle and Inanda on the Mgeni River and Hazelmere on the Mdloti River.

This metropolitan area is the third largest contributor to the national economy and has the second largest population concentration in the country. It is the economic hub of KwaZulu-Natal and is very important for the economic well being of the province. This area is experiencing rapid growth in water demand because of the influx of people from the rural areas, economic growth, and development initiatives like the Dube Trade Port.

- The key objectives of the Study were to identify, evaluate and prioritise interventions to reconcile the water requirements with the available water resources up to the year 2030 and included the following activities Detailed assessment of the population databases and the compilation of scenarios for future population projections.
- Development of water requirement and return flow scenarios with the main focus on the eThekwini and Msunduzi municipal areas.
- Assessment of the potential savings that could be achieved through the implementation of Water Conservation and Demand Management for the main urban areas.
- Assessment of the irrigation water requirements in the various catchments.
- Determination of the required intervention dates for the different water resources systems
- Identification and assessment of possible infrastructure intervention options including potential large scale water reuse options.
- Investigation on the impact of rainwater harvesting on the municipal water demand.
- Economical evaluation of the infrastructure intervention options.
- Initial indication of how the implementation of the Ecological Water Requirements (EWR) could influence the projected water balance situation was provided.
- Situation assessment of the of the water quality profiles of the major rivers in the study area.
- Identification and assessment several reconciliation options for the different water resource systems based on the water requirement scenarios and the identified augmentation options.
- In support of the above described technical work, an integrated stakeholder engagement process was followed.

RESULTS

- Updated population projection scenarios for the eThekwini and Msunduzi municipal areas.
- Water Requirements and Return Flow Database Model for the eThekwini and Msunduzi municipal areas.
- Water reconciliation strategy to reconcile the water requirements with the available water resources for the different water resource systems in the study area.