

TERMS OF REFERENCE FOR A DIRECTED WRC PROJECT

THEME:	Water Use
TITLE	Assess the effectiveness and sustainability of water infrastructure investments made by in South Africa
TOR NUMBER	1010017

Rationale

Achieving global water security in the context of climate change demands accelerating water investments by increasing both public and private investments and using innovative financing instruments. To evaluate investment opportunities, a formal economic and financial analysis must be carried out. There is a need in evaluating water-related investments matters and for whom, compare financial and economic analysis, introduce the key concepts used to calculate returns on investments, and provides an overview of standard investment evaluation frameworks including Benefit-Cost Analysis, Cost-Effective Analysis, and Financial Evaluation.

Uncertainties are a key issue for long-term capital investment planning in asset intensive organizations. Amongst the sources of uncertainty are the quality and accuracy of readily available data and the assumptions underlying the several estimations involved in capital investment plans, namely those related to renewals, replacements and expansion costs and the useful lives of the assets. Impact evaluation (IE) of large infrastructure presents numerous challenges, and investments in urban piped water and sanitation are no exception.

Financial evaluation is carried out from the perspective of the project and considers incremental cash flows (both revenues and costs) generated by the project. The purpose of financial evaluation is to assess the ability of the project to generate adequate incremental cash flows to recover its financial costs (capital and recurrent costs) without external support.

On the other hand, economic analysis is carried out from the perspective of the entire economy, and it assesses the overall impact of a project on the welfare of all the citizens of the country concerned. The purpose of project economic analysis is to assess whether a project is economically viable for the country from a macroeconomic standpoint. Economic analysis, unlike financial one, takes externalities into account and applies economic prices excluding taxes, tariffs and subsidies to reflect the value to society. For example, when the government introduces a tax to reduce water production (i.e., to correct for external environmental cost), this will be considered part of the economic cost. External costs of a project are often represented by environmental costs, thus making it worth integrating environmental assessment to economic

evaluation. The analysis can be extended further to include demand evaluation, institutional assessment, socioeconomic survey, as well as sensitivity and risk analysis .

Objectives

1. Develop novel methodology for assessing effectiveness of long-term investment planning in water infrastructure
2. Determine the effect of uncertainties in the investment strategies
3. Show how systematic assessment of the implications of such interventions, discussing tradeoffs between validity, relevance and practicality that arise.
4. clearly illustrate the many issues that typically arise in such impact evaluations

Expected Deliverables:

1. A high level evidence based position paper
2. Any specific guidelines and recommendation which may be required
3. Methodology and framework

Total Budget: R 600 000.00 (Including VAT)

Year 1: R 300 000.00 (Including VAT)

Duration: 14 months