Financing water for growth in Africa

The Infrastructure Consortium for Africa
Le Consortium pour les infrastructures en Afrique

Mozambique: Build Operate Transfer urban water supply project

Summary

Maputo, capital of Mozambique has seen rapid development in the last 15 years. About seven years ago a new toll road between Maputo and South Africa was completed. Rapid development has occurred along the toll road corridor. However, development has been brought to a halt by a lack of water. A private company has taken the initiative to plan bulk supply and water treatment works. The water thus supplied will be sold on a wholesale basis to the users – both local government and industry.

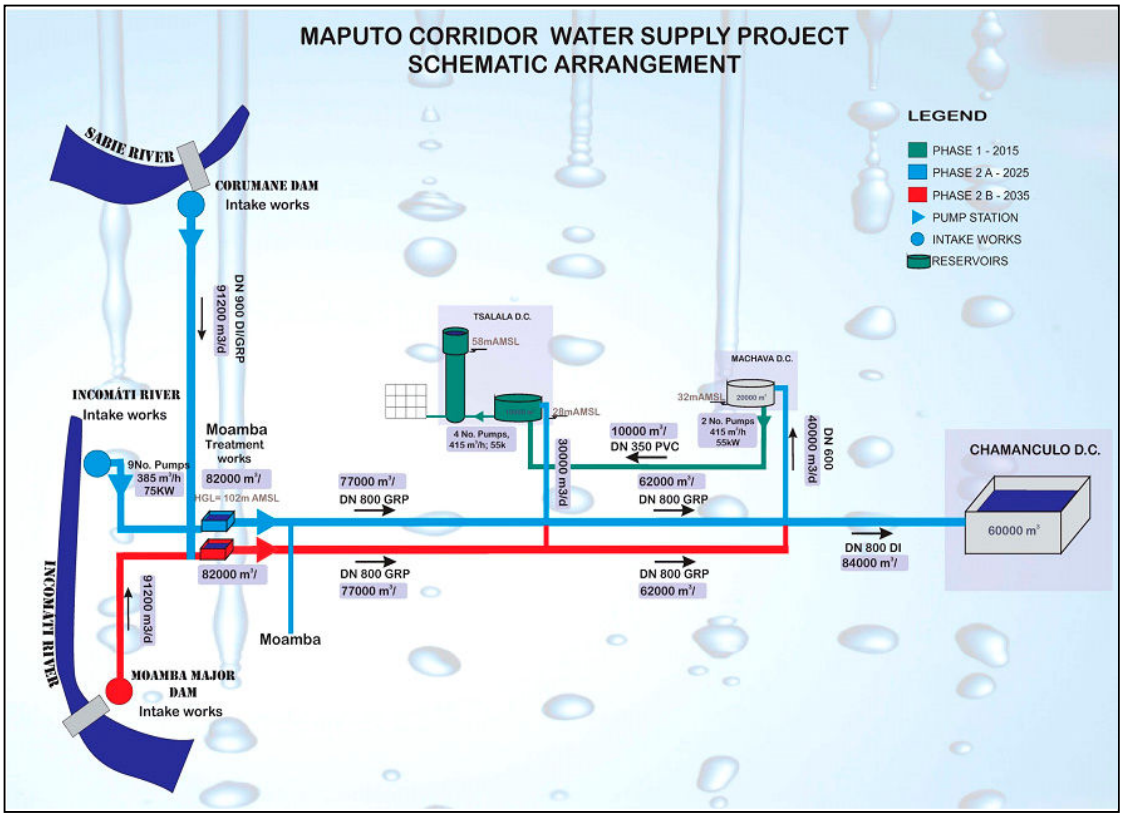
The project

Description and opportunity of the project

The project is a Build-Operate-Transfer concession based project, comprising design, financing, construction and operation of electrical and civil works of Corumane Dam, intake tower at Sabie/Corumane Dam, 45km bulk water main from the intake tower at the dam, main branches to a treatment plant and irrigation system, treatment plant in Moamaba to supply Maputo Corridor and the city of Maputo, two mains from the treatment works, water supply network for residential areas, depots laboratory and other supporting infrastructure.

The project will provide water supply to the developing area along the Maputo Corridor, and augment the bulk water supply to the whole Maputo urban area. It is planned to supply 60 million cubic metres from the dam, and provide an addition 111,000m^3/day to Matola, and 5,000m^3/day to Moama.

The project will be implemented as a joint venture between the public and private sectors. The intake tower at the dam and the bulk pipeline from the dam are expected to be financed by an IDA credit. The



on-site retail residential supplies will be operated by Matola Municipality.

Technical features

The plan at the base of the previous page shows the range of different features in the project. It includes large diameter bulk water mains from the Corumane Dam, pumping stations, treatment works, urban reservoirs and distribution mains.

The project is to be developed in three phases. Detailed design has not yet started. It is expected that it will either be undertaken as a turnkey contract with the construction, or may be undertaken by consulting engineers employed by the management company and then put out to tender. Many large civil engineering contractors have already expressed interest in the work.

Phase 1, expected to be completed in 2015, will cost about US$ 5.7 million. Phase 2A, expected to be completed in 2025, will cost about US$ 63.7 million. Phase 2B, expected to be completed in 2035, will cost about US$49 million.

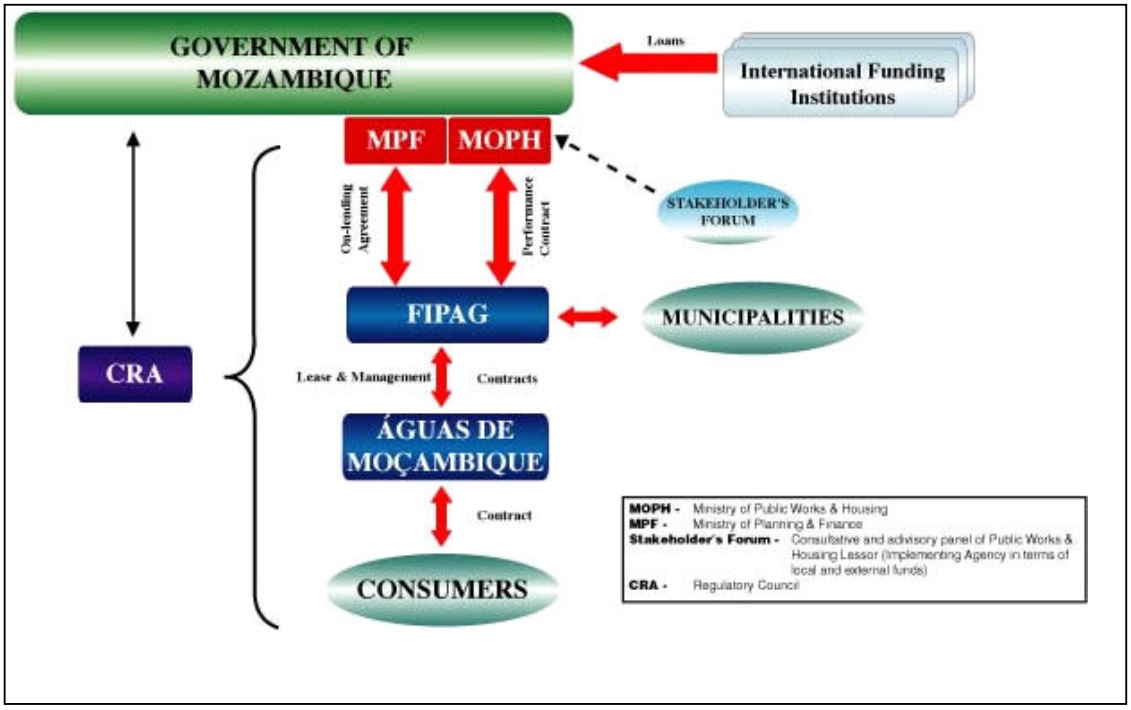
Social impact

In greater Maputo – with a population of about 1,700,000 – only about 40% are served with a piped water system, and many areas are affected by low pressure and spasmodic supplies. Currently only 35% of the population of Matola have access to treated water or sanitation services. The project will assist greater Maputo by increasing the bulk supply from the Corumane Dam, and Matola by supply of new mains to serve residential areas within the municipality.

The social impact of clean water includes improved health, improved productivity and therefore incomes, a reduction of expenditure on health and a reduction of time spent by householders on collection of water. Also, piped water typically reduces household expenditure on water as water vendors are made redundant.

Environmental impact

The project is expected to have minimum environmental impact, with the exception of the extraction point from the Corumane Dam. In addition, along the route of the proposed bulk water supply from the dam there is likely to be some destruction of habitat for a strip of around 20m. Environmental impact assessments will be undertaken and impact mitigation measures will be adopted.



Feasibility

Legal, institutional and regulatory environment

Since 1988 Mozambique has encouraged Public Private Partnerships in the provision of infrastructure. There is thus a supportive legal and regulatory environment for the proposed project. The Government has established FIPAG, a fund for investment in water supply and services; a regulatory council for water services, CRA; and a private company which is already managing water services in Maputo under a 15 year concession (Aguas de Moçambique) (AdeM). The Dutch government has assisted in the creation of autonomous PPP sustainable water companies in four other cities. This project will therefore be in line with current practice in the country.

The Chart above shows the relationships between the agencies, and the level of interdependence between public and private entities.

Business environment

Moçambique is recognized as a business-friendly environment, though the governmental machinery is not always as responsive as the policies would suggest. This means that although there is a generally favourable climate, decisions can be slow.

Economic and Financial analysis

Capital costs. The present estimated capital cost is $105 million, excluding the costs of the Corumane Dam. Current plans are for the costs to be met from three sources. Is it likely that the intake structure and the pipeline and pumping stations from the Corumane Dam, as well as the necessary EIA, will be funded by a credit from the International Development Association. International funders may also contribute if a suitable funding vehicle is identified: these include DANIDA, FDA, JBIC, EIB, IFC and Development Bank of Southern Africa.

Detailed costs for Phase 1 are given in the table below.

Operating costs. The operating costs have not been calculated in detail, but it is expected that in light of the current great shortage of water, especially for the industrial users, that commercially viable water tariffs will be chargeable. Preliminary estimates are US $0.6/m^3 for Phase 1 and $0.105/m^3 for Phase 2.

Rate of return

Rate of return calculations have not been undertaken.

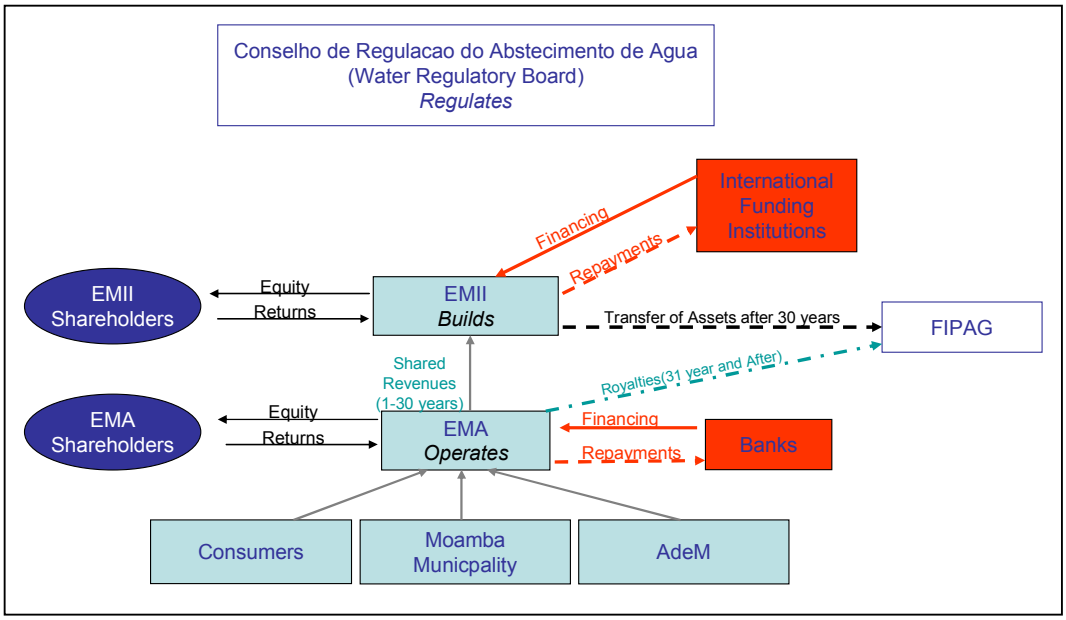
Component	Capital expenditure (US $)				Remarks
	Phase 1	Phase 2	Phase 3	Total	
Buildings	336,200	590,000		926,200	Buildings and site works
Distribution network	2,157,526	318,203		2,475,729	Distribution pipeworks
Furniture and equipment					
Motor vehicles					
Movable machinery	240,140	1,766,578	930,780	2,937,498	Includes pumps and electrical works
Transmission pipelines	740,974	33,251,023	25,344,275	59,336,271	Transmission pipelines
Water reservoirs and tanks	997,019	13,475,610	11,812,415	26,285,044	Intake, treatment, reservoirs, ect
Various					
Contingency	447,186	4,940,141	3,808,747	9,196,074	Physical/Financial Contingencies
Project Development	368,928	4,075,617	3,142,216	7,586,761	Engineering Services
Training					
TOTAL	**5,287,973**	**58,417,171**	**45,038,433**	**108,743,578**	

Summary Capital Expenditure Estimates, (excluding project development and operational costs)

Preparation of Financing Plan.

DNA and Moza Business Corporation are jointly mobilizing the necessary funds for the electrical and civil works at the Corumane Dam. The World Bank's IDA is funding the dam itself.

The remainder of the project is expected to be financed through a special purpose vehicle, the Empresa Moçambicana de Investimento em Infra-estruturas (EMII) (the Mozambican Infrastructure Investment Company). The EMII will combine three different types of funding: equity investment, donor funds, and debt.



EMII will take responsibility for construction, but will not operate the system. For this purpose, a distribution firm will be created EMA Moçambicana de Águas (Mozambican Water Company). EMA will provide bulk water to the Municipalities involved, AdeM and other institutions through contractual arrangements.

Development status

Detailed feasibility studies were undertaken for an earlier version of the project in March 2007. They indicated a very strong case for proceeding with the project, but there was an insufficiently reliable and adequate bulk supply of water.

Since then, the Corumane Dam has been identified as the most economical and efficient source of additional bulk water supply, and the World Bank has expressed interest in funding the project. Meanwhile other international donors have expressed interest in participating.

Risk factors

Political risk: The next Presidential and parliamentary elections are due in December 2009. The project has been designed to operate within the current Mozambique Government policy and practice, and based on assumptions regarding public sector support for projects in the field of water supply, including advantageous loan terms, tax incentives and subsidies. Changes to the regulatory framework and criteria for setting water tariffs could affect the viability of the project.

Water Supply: Water supply is affected by the climate which is not consistent: thus all major water sources within Southern Africa are vulnerable to drought.

Cost recovery: The original project featured retail supply, and was therefore vulnerable to social and political pressures. Because of the risks of non-payment, this aspect was dropped, and the project now only provides bulk water. Nevertheless there is a risk of non-payment.

Next steps

Moza Business Corporation is driving the process, and aims to build a consortium to finance the project.

Project contacts

Ernesto Nhavalo,
Managing Director,
Moza Business Corporation, Lda
Phone +258 21 40 22 69
Fax +258 21 40 22 79
e-mail: enhavoto@moza.co.mz

Right: aerial view of part of the site