

MALDIVES

SEWAGE AND SOLID WASTE TREATMENT AND DISPOSAL MALE'

Location

Male'

Client

Government of the Republic of Maldives, Male'

Financing

German Financial Cooperation / KfW

Period

1989 - 1990

Value of Services

1.000 million US\$



Project Description

Environmental assessment study and proposals for improvements for the island of Male'.

After previous construction of a sewer system with 4 sea outfalls on Male' (70,000 inhabitants on less than 2 km² island area), the effects of the system were to be monitored and assessed: Increased water consumption put a strain on the freshwater resources of the island; the efficiency of the main treatment process of the sewage had to be monitored; an increasing solid waste disposal problem needed solutions.

The study extended over one year to collect data of an annual cycle, covering the island itself and the surrounding reefs and waters. Proposals were made for physical improvements to the sea outfall pipes, concepts were elaborated for optimisation and extension of freshwater resources, and a pre-design for solid waste disposal on a neighbouring reef was provided.

Scope of Services

Oceanographic Study:

- Measurement of currents by flow meters installed at various coastal positions
- Modelling of water movement around Male'
- Recording of existing marine flora and fauna and of biological water quality
- Description of ecological impact of sewage disposal and of coastal pollution by solid waste and ship movements

Water Resources:

- Measurement of variations of freshwater lens by installing automatic data loggers in bore-holes
- Assessment of rainwater harvesting facilities and potential
- Water consumption survey, divided into fresh water and non-drinking water
- Water quality analysis and salinity determination
- Water demand forecast and cost of future water production alternatives

Solid Waste Disposal:

- Analysis of composition of commercial and domestic waste
- Production forecast and alternative disposal solutions (disposal, incineration, composting and re-use) with special regard to very limited land availability