



MALÉ WATER & SEWERAGE COMPANY

PVT. LTD

A SMALL ISLAND'S SUCCESS STORY IN PROVIDING WATER AND SANITATION FROM NO RESOURCES TO SUSTAINABILITY



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Until the late seventies and early eighties, almost a decade and a half after independence, Maldives was still included among the least developed countries. Municipal services were bad and limited to the capital city – Malé. The infrastructure was poor with no provision for sustainable energy and water supply.

Starting from this time, Malé was facing an upward population growth. The growing need for clean water was becoming desperate. Underground water wells and rainwater harvesting were the main source of water utility which did not have a suitable or sustainable solution, as the average storage capacity was not adequate to last the dry season. The lack of a proper sewerage system added its share to worsen the situation.

Eventually, the ground water wells became exhausted leaving behind polluted brackish water which was unsafe for human use. It was at this critical crossroad that Malé Water & Sewerage Company (MWSC) was formed on 01st April 1995, with the Maldivian government holding 70% of the shares and 02 Danish companies holding 30% of the shares. In Malé with a population of approximately 60,000, the situation was then, disastrous.

When MWSC initially started, the Company had very limited resources. It had no technical competency and no managerial capabilities. But the Company had a huge responsibility for sorting out a way to tackle the rising water problem in the capital island of Maldives. Realizing the seriousness of the task on the shoulders of the Company, and willingness to adopt policy for private sector participation, MWSC had laid down the foundation for a system overlooking a hopeful future. The financial cost and the energy requirement involved to produce and supply such a large quantity of water were tremendously high.

Using a model that was not practiced in South East Asian region then, MWSC started a project to supply desalinated water in Malé with a production capacity of 3,000m³/day, with energy consumption of 10Kw/m³ and today with good management, innovative use of technology and good housekeeping, the Company is able to produce 10,500m³/ day with energy consumption of average 4.5Kw/m³.

Upon successful operation in Malé, MWSC extended its services in three islands; Villingili, Thilafushi & Maafushi. Each island represents a unique physical and social environment different from the other. MWSC has also expanded its operations in Hulhumalé, an artificially reclaimed island under planned development for household and industrial purpose, one which holds great potential for the future.

Figure 1: Water Demand - Malé 1997-2012

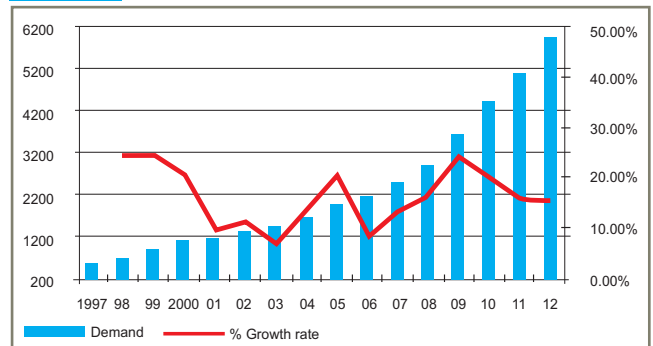


Figure 2: Water Meter Installations 2001-2012

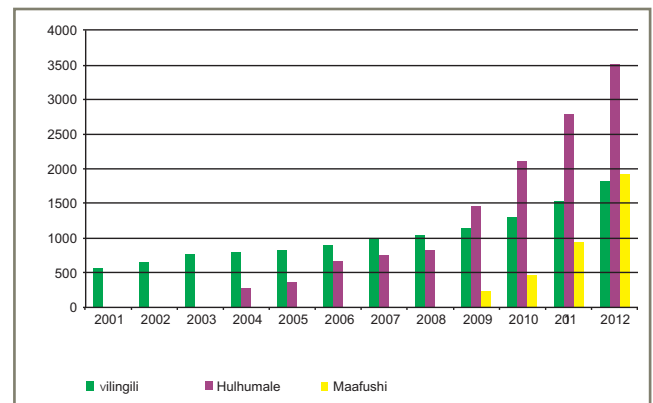
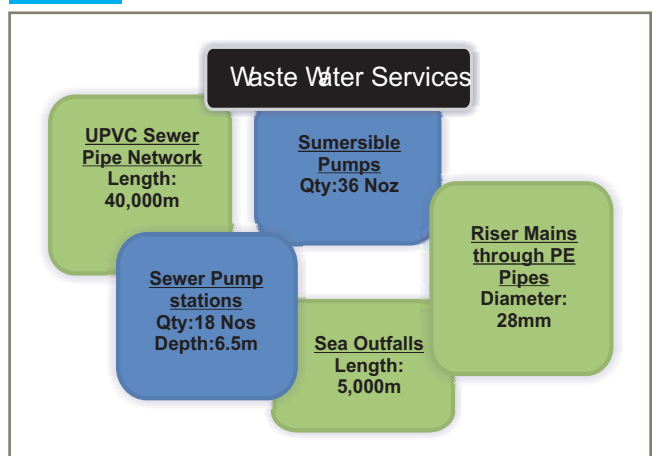


Figure 3: Waste Water Services



The experience and expertise gained from these developments had opened a doorway to venture into a more competitive business environment. The Tsunami disaster in the year 2004, had brought devastation to the Maldives which obliged the government to respond to this calamity immediately. MWSC being the leader in the water business for a decade then, and a Company that has always understood the needs of the public found itself responsible to contribute its share to refurbish the crisis. The construction projects to the effected islands that were tendered constantly by the Government of Maldives unwrapped an opportunity for MWSC to further venture in the business. The successful experiences gained from these projects geared up MWSC in this field and thus, decided to re-establish as an Engineering Company.

Investments are to be made towards efficient and cheaper power production system as MWSC's power production contributes to more than 16% of the cost of production. Together with HPT, and its advanced technologies, researches will be carried out to find out the most suitable solution for the Company in the future.

and waste water collection & disposal system, including laying of Water pipe lines, Construction of storage water tanks, Building of pumping systems, Laying of sewer lines, construction of Catch pits, Manholes in Malé, Hulhumalé & Villingili and other islands of the Maldives.

MWSC has a good experience of laying PE pipe works. It has carried out so far, Laying of PE pipes required for water distribution in its entire works. MWSC has also provided more than 27,000 water connections to the individual households, including water meters for the billing purpose.

In order to kick start projects early, MWSC maintains sufficient stock of materials like Pipes, Pipe fittings, PE manholes, Valves, Pumps etc.

Under the authorization of WAVIN, FLYGT & AVK, MWSC can provide ultimate wastewater solutions which ranges from supplying of Sewage Pumps/ Pump stations, best quality pipes & fittings and valve arrangements required for Sewer systems.

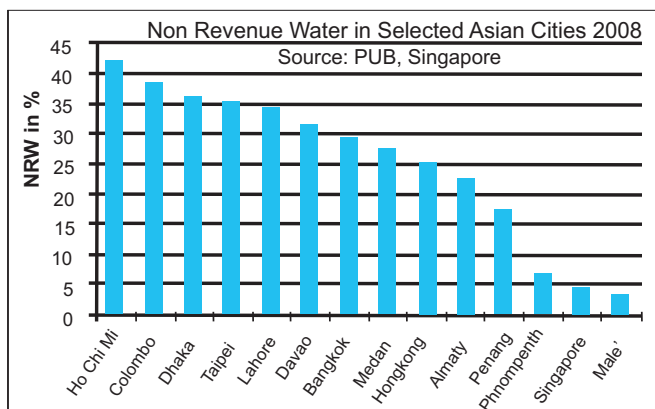
MWSC comprises of an in-house technical department, with qualified and experienced team of Civil,

Mechanical and Electrical Engineers. The Company also has well equipped Butt and Electro fusion welding machines, excavators, compactors, pipe testing equipments etc. In the past years, MWSC has built up a good image on private sector as well as in the public, making strong relationships with reliable sub-contractors and specialists in different disciplines.

Private Companies such as Malé International Airport, Bandos Island Resort and Kanuhura Resort's trust in building their Water and Sewerage infrastructure through MWSC is evidence for the confidence that MWSC is capable as the most experienced Company in the field.

MWSC has attained remarkable achievements over the past 15 years, including international awards. It became an ISO 9001 Certified Company in July 2006, on the basis of its good management of waste water from the sewerage system and the system for providing water in a sustainable manner. Its

Figure 4: Non Revenue Water in Asian Countries



Today, MWSC is a multi-disciplinary Engineering Organization, dealing contracts involved in Civil, Mechanical and Electrical Engineering. MWSC has provided its own water supply

record for limiting the amount of water wasted to less than 2% is far ahead of other countries in the region.

With the nation moving towards being the first carbon neutral country in the world, MWSC seeks to contribute towards achieving the goal in setting its strategies. With the assistance of new technological advancements in Operations, Sales and Administration, MWSC aims to deliver sustainable and environment friendly services to all customers.

Utilization of natural resources has always been important to MWSC. To this end, MWSC is carrying out research to find ways to use rain water more efficiently. Furthermore, the Company is trying to look into alternative power sources to generate the electricity needed to produce clean water.

Working 24 hours a day, the Company provides several convenient avenues for customers to obtain its services. Among the many modern conveniences introduced to facilitate payment of water bills is the e-bill solution, which is environmentally friendly, convenient and fast. The MWSC website enables customers to view bill details and calculate their expenses easily. MWSC is the first Company in the Maldives to use the resource planning software, Systems Applications Process (SAP) to plan its resources efficiently. Booster pumps are made available to high rise buildings, where water pressure is usually low.

To provide a total solution to the customers and to achieve efficiency in delivering the services, a system to record meter reading automatically through Smart Metering Solution is being developed by the Company. This system will allow monitoring of water consumption, leakages, disconnections and meter reading remotely.

Table 1: Plant locations and their capacities

Plant location	Water production	Power generation
Malé	10500 cbm/day	5.5 Megawatt
Villingili	1500 cbm/day	350 kilowatt
Hulhumalé	500 cbm/day	880 kilowatt
Maafushi	525 cbm/day	100 kilowatt
Thilafushi	50 cbm/day	80 kilowatt

Hitachi Plant Technologies Ltd, (HPT) a Japanese Organization that supports infrastructure with Environmental and Energy saving technologies now holds 20% shares of MWSC. It offers total solutions for social and industrial infrastructure. The Company sees this new partnership as an avenue for future development, by sharing the technological advancements with the Company through new experiences and fresh ideas that will shape the business. Furthermore, Investments are to be made towards efficient and cheaper power production system as MWSC's power production contributes to more than 16% of the cost of production. Together with HPT, and its advanced technologies, researches will be carried out to find out the most suitable solution for the Company in the future.

Continuing to push past the frontiers of knowledge into uncharted areas lies at the heart of continuous improvement. Making efforts to improve can yield revolutionary results. Nevertheless, the future is challenging. MWSC is all geared up and committed to serve the community better. The best is yet to come. ■

MWSC CELEBRATES 15 YEARS OF DEDICATED SERVICE TO THE NATION

Early 80's



Old & Young line up to fetch water in the capital city, when fresh water was scarce



1988



Land mark Water tower used from 1988-1996. This tank provided pressure to households at ground level only.

1985-1988



1985-1988



Government initiates project of laying sewer lines in the capital city to combat disease



1995



Establishment of MWSC on 01st April 1995 to provide safe water and sewerage facilities for everyone, always



Water Quality Control - A business taken seriously

1996



MWSC initiates laying of Water network in the capital city



1997



Official Inauguration of release of water at the door step making "bandiya" obsolete



Individual metered connections to every household in the capital city



His Excellency President Maumoon Abdul Gayyoom meets MWSC management team

2003



Next major project after capital city - to provide water & sewer to Hulhumalé - a reclaimed island

2003



Trading activities - Booster pump system to provide high pressure water above 4th floor in high rise buildings



Introduction to Technological advancements such as total turnkey solutions of water & wastewater



2007-2009



Venturing into Construction of Sewerage facilities in other islands of the Maldives
The famous 03 Island Project of Rasdhoo Felidhoo & Dhidhdhoo

2008



Inauguration of Sewerage Facilities in North Maldives
Haa Dhaal, Kulhudhuffushi



2010



MWSC joins hands with Hitachi Plant Technologies - Japan



2010



Provision of water services to the people of K. Maafushi



TOWARDS FUTURE



Achievement can be limitless for those who strive. We are in pursuit



Smart Metering Solutions



Renewable Energy