

Victoria Falls integrated water supply - Managing water supply for domestic use and the environment

November 29th 2007

VICTORIA FALLS – There is an urgent need to start effectively and efficiently managing our water resources. This message and demonstration of an ongoing effort in Southern Africa to manage and conserve this precious resource was conveyed to communicators and policy makers attending the Zambezi Stakeholders Forum in Victoria Falls, Zimbabwe from November 27th-29th. The World Conservation Union (IUCN), in partnership with SADC/DANIDA Awareness Creation Programme and ZACPRO 6.2 raised awareness of IWRM in action by organising a visit to the Victoria Falls town water supply system.

In the late 1980s, Victoria Falls town had significant population growth due to the booming tourism industry. This led to the need to have an efficient and economically viable water supply system that catered for the needs of different uses for both treated and untreated water. To efficiently use the treated water, the town introduced a dual water supply system which pumped treated water to domestic users and untreated water for non-domestic uses. The system was put in place by the Zimbabwe National Water Authority (ZINWA) eight years ago.

Chidakwa Mattson the regional engineering manager for the Gwayi Catchment showed policy makers and communicators where water is extracted directly from the Zambezi River through two separate intakes. One intake is for untreated water, which supplies hotels' ornamental fountains, golf courses and gardens, while the other intake is for treated water, which is used for drinking, cooking and other domestic uses.

The dual water supply system supplies the area with 25,000 m³ of treated water and 1,000 m³ of untreated water each day. The hydrological data which has been kept from 1927 on a daily basis has shown that there has been a significant reduction in the use of treated water in the town following the introduction of the dual water supply system.

Demand is still growing, however it is currently being constrained by the limited capacity of the existing infrastructure which is now being improved to increase it to a potential of 40,000m³ per day. The expansion also aims to provide water to more domestic users in the surrounding towns and there are plans to establish watering ponds (1000m³/day) for wildlife at a large scale.

The cost of building the dual water supply system was approximately USD \$750 000. However ZINWA is making significant savings in chemical treatment as chlorine costs USD 100/kg. Savings are also passed onto consumers as the cost of untreated water is USD 0.0005 per m³ and the cost of treated water ranges between 0.025 and 0.096 USD per m³ depending on income level. But, water users do need to apply and pay for an untreated water connection in addition to being supplied with treated water.

Engineer Mattson, also introduced the policy makers and communicators to the Victoria Falls treatment plant, which is able to purify up to 12 000m³/hr, which is enough to meet the needs of households and business centres in and around the Victoria Falls town. Water enters the treatment plant and mixes with aluminium sulphate to allow particles to flocculate. These flocs of debris and dirt then are removed in the settling tank. The water passes through sand filters; chlorine is then added before the water is pumped to reservoirs.

The field trip provided a unique opportunity for participants to see how IWRM can be put into practice and become a reality through innovation. The Victoria Falls dual water supply

demonstrated such innovation and how water can be efficiently used where there is a large demand for both treated and untreated water.

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