

Water Management Scheme: Panacea to Development Using Nigeria's University of Ibadan Water Supply Scheme as a Case Study

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Abstract : The supply of potable water at least is a very important index in national development. Water tariffs depend on the treatment cost which carries the highest percentage of the total operation cost in any water supply scheme. In order to keep water tariffs as low as possible, treatment costs have to be minimized. The University of Ibadan, Nigeria, water supply scheme consists of a treatment plant with three distribution stations (Amina way, Kurumi and Lander) and two raw water supply sources (Awba dam and Eleyele dam). An operational study of the scheme was carried out to ascertain the efficiency of the supply of potable water on the campus to justify the need for water supply schemes in tertiary institutions. The study involved regular collection, processing and analysis of periodic operational data. Data collected include supply reading (water production on daily basis) and consumers metered reading for a period of 22 months (October 2013 - July 2015), and also collected, were the operating hours of both plants and human beings. Applying the required mathematical equations, total loss was determined for the distribution system, which was translated into monetary terms. Adequacies of the operational functions were also determined. The study revealed that water supply scheme is justified in tertiary institutions. It was also found that approximately 10.7 million Nigerian naira (<strike>N</strike>) is lost to leakages during the 22-month study period; the system's storage capacity is no longer adequate, especially for peak water production. The capacity of the system as a whole is insufficient for the present university population and that the existing water supply system is not being operated in an optimal manner especially due to personnel, power and system ageing constraints.

Keywords : development, panacea, supply, water

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