Abstract

Kathmandu valley faces numerous environmental problems due to the rapid urban growth and unplanned settlement. The rapid and haphazard urban growth is exerting immense pressure on urban environment and municipal mangers often do not have sufficient expertise and resources to deal with the rapid growth. In this context, urban sanitation has become a major challenge for municipalities and small towns in Nepal

The majority of urban areas do not have access to sewerage networks except for three cities in the Kathmandu Valley. Most of the domestic as well as industrial wastewater generated from these cities is discharged into the local rivers without any treatment. Out of the total urban population only 76 % have access to toilets while the remaining use opens spaces, riverbanks for defecation. More than 60% of urban wastewater is directly deposited in tributaries in the Bagmati River in the Kathmandu Valley. This is one of the most pressing problems of Kathmandu. Existing wastewater treatment systems are becoming antiquated while urban growth has rapidly increased the number of people requiring new services. In most cases, sewer and sewage treatment systems are lacking or not functioning, or operating at far below the capacity and standards required for municipalities. In addition, many towns in the country are unable to operate schemes in a financially viable manner while providing the quality of service necessary to satisfy customers' expectations.

The main objective of this study is to evaluate the performance in terms of operation and maintenance, financial viability, environmental quality and regulations from the concerned authorities of the two separate wastewater treatment plants, Bagmati Area Sewerage Treatment Plant (BASP) and Sunga Wastewater Treatment Plant (SWTP) in the Kathmandu valley.

The performance of the two wastewater treatment plants is studied, focusing on four main indicators. In-order to find the present scenario and problems about the wastewater treatment systems, the study was carried out by literature reviewed, interviews with 24 key informants, 54 numbers of households and 19 of the industries in BASP area, and 5 of households in Sunga community.

Two different systems has been observed, one is the conventional centralize wastewater treatment plant and the other a community based wastewater treatment plant (reed bed). The performance of the cluster or community based wastewater treatment plants seems rather better although the coverage area is minimal. The study recommended some preventive measure of the problems and recommendation for the further study about the problem of wastewater treatment plants in Kathmandu valley.

Keywords:
Sewerage Treatment System, Operation and Maintenance Financial Viable, Quality, Conventional wastewater treatment plant, Community based wastewater treatment plant.

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