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Demographic Impact on Wastewater: A Systemic Analysis of Human Impact on Wastewater Quality in Dhaka, Bangladesh

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Abstract : At present, wastewater treatment has become essential to maintain a constant supply of safe water as well as to protect the environment. Due to overpopulation and overconsumption, the water quality from various surface water sources is degrading every day. Being one of the megacities in the world, Dhaka City, is going through rapid industrialization and urbanization. The effluents from these industries and factories are mostly discharged directly into the rivers without any treatment. As such, the quality of water of Buriganga is being afflicted with a noisome problem of pollution. The water of the Buriganga River has become detrimental to humans, animals, and the environment. It has become crucial to conserve the environment so that we can save both ourselves and the environment. The first step towards it should be analyzing the wastewater to decide the further steps of the treatment process. Increased population and increased consumption both contribute to water pollution. Mohammadpur is a developing area of Dhaka City, and Kamrangirchar is one of the largest slum areas in Dhaka City. The total study area is 6.13 sq. Km of Dhaka city with a population of 4,73,310 people. Of them, 86.47% had their own latrine, 47% were directly connected to the drain, 55% had septic tanks, and 70.09% of them cleaned their septic tank once a year. The pH, Dissolved Oxygen, Chemical Oxygen Demand, Biochemical Oxygen Demand, Total Dissolved Solid, Total Suspended and total coliforms of wastewater from two samples of both Mohammadpur and Kamrangirchar was analyzed. The DO level from the water bodies of Kamrangirchar was found very low, making the water bodies inhabitable for aquatic plants and animals. The BOD and COD level was extremely high from samples collected from Mohammadpur. The total coliforms count was found too high during the wet season, making it a potential health concern in the wet season in these two areas.

Keywords : Dhaka, environmental conservation rule, sanitation, wastewater
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