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# 南アジアの巨大都市における都市化と水質特性
# Urbanization and water quality properties in South Asian Megacities

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Increased population not only converts our environment it also change the landscape. Increasing population results urbanization that includes conversion of cities to megacities. These increased pressures of expansion affects the condition of the environment in many ways, it increase the amount of impervious surfaces and the quantity and types of products that human produce, use, and discard, thereby affecting water quality. Water quality deterioration is one of the major consequences of urbanization. These occur very often in megacities of developing countries, where untreated industrial sewerage and unplanned water use affects both surface and ground water quality. Among the Asian megacities, Dhaka and Delhi expanded remarkably and degraded their water quality over the years. These two cities are partially depending on the river with ground water extraction. Over the decades water quality deterioration trend is an inconvenient truth. Within these scenarios, trend analysis is necessary for efficient water resource management. Parameter specific trend analysis can give a right way to the policy makers to formulate need based water policy. This study tries to grasp the trend of the important water quality parameters of both surface and ground water with population growth. The general approach for the current study is to highlight the results available in literature on water quality with some firsthand data. Study includes observation for uneven years since 1980 and analysis is developed within a longitudinal data. Yamuna of Delhi and Buriganga of Dhaka are checked with historical data for surface water quality. Result shows that most of the water qualities deteriorate with increase population in varying degrees. pH, DO, BOD and Fecal Coliform (FC) are strongly correlated with population for surface water and Conductivity, Cl, Mn and Fe with ground water. Most of the ground water qualities parameters have deteriorating trend. Among surface water parameters some shows opposite trend between Dhaka and Delhi scenarios. This study concludes by discussing policy implications and avenue for further research.
Keywords: urbanization, water quality, megacity, pollution, south Asia