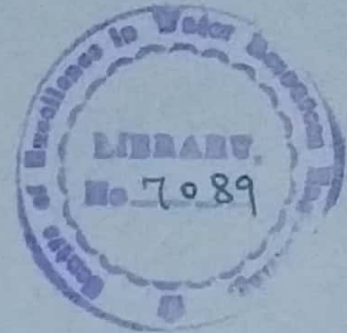


THESIS

**IMPACT OF URBANIZATION ON RAWAL LAKE
INFLOWS AND WATER QUALITY**



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ABSTRACT

Importance of Water for the livelihood of human beings is inevitable. This study is carried out to perceive the impact of ever increasing urbanization in the catchment of Rawal Lake on flows and quality of Water. Rawal Lake is constructed on Korang River and supplies water for domestic use to Rawalpindi city and Cantonment Area.

To envisage the impact of urbanization numerous types of data is collected from different public sector organizations and is analyzed quantitatively and qualitatively. Urbanization data comprises of population and land use/ land cover. Population's estimation is based on statistical technique. Rainfall in the catchment is analyzed whether or not it supplements the flows. The quality of water is determined by sampling and is tested for physical chemical and microbiological parameters in the Laboratory. Sediment is also considered as a water quality parameter and its quantity in suspension is measured for low flow and high flow seasons using US-DH-48 hand sampler. The concentration of suspended sediment on ppm by weight basis is worked out for the reservoir using conversion factors.

The results argues that the urbanization in the catchment is increasing with a very high percentage specially the population in the last eleven years has increased up to 85% at a growth rate of 5.7%, while the built up land has increased 9%. On the other hand area under forest has decreased up to 10%. As a result of enhance in urbanization flows have decreased even though there is no major transform noticed in rainfall which is evident that urbanization has decreased the flows. Urbanization also has an adverse effect on quality of water which is found biologically unfit for human consumption. It has also contributed to the amount of suspended sediment in the flows.