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The present study is concerned about "Studies on Pollution of River Varuna Water at Varuna" and was carried out in the Varanasi district. The thesis contains the results of studies performed about identification of domestic wastes, being discharged into the river Varuna, physico-chemical parameters viz. temperature, pH, alkalinity, DO, BOD, COD, chloride, Nitrate-N, phosphate and heavy metal content chromium, cadmium of sewage nallas, river water. Beside all this, nutrient movement and enrichment into the river water has also been studied.

Rapid population growth, increasing industrialization with wide sphere of human activities have resulted into the greater exploitation of river corridors. Enormous amount of untreated sewage ;and industrial effluents flow down into the river Varuna, which contains a number of useful and harmful pollutants affecting primary producers. The disposal of domestic wastes into the river over a prolonged period may contaminate the river water and may change the physico-chemical characteristics of water.

First of all, four different study sites facing variety of domestic wastes were selected along the Varuna river corridor namely Varanasi Jaunpur Railway Bridge, Chaukaghat Drain, Konia Sewage Pumping Station Drain, Varuna before meeting to river Ganga. Variety of domestic wastes were identified and four characteristic nallas were selected for analysis.
of domestic wastes. The domestic wastes were in the form of soaps, detergents, solid wastes, organic matter, pesticides, herbicides, industrial effluents and household sewage. The sewage analysis indicates that in general the values of chloride (Cl'), biochemical oxygen demand (BOD), chemical oxygen demand (COD) and heavy metal content show higher values at site S-4. Out of heavy metals present in the sewage, cadmium was found to be highest as (0.44 mg/l) at site S4 and minimum as (0.01 mg./l) at site S1 in the month of December.

The river temperature was recorded to be minimum as 17°C in the month of January at the control site S-3 and maximum as 35°C at site S-4 & S-3 in the month of July year 2002. The hydrogen ion concentration was found to be lowest at the control site (S-1). The total alkalinity, BOD, COD, Cl', NO₃-N, Phosphate, Cd & Cr to be higher from WHO limit at site S-4 & S-3.