

EFFECT OF MUNICIPAL SOLID WASTE ON SOIL AND GROUNDWATER IN MANGALORE

A PROJECT REPORT

Submitted to

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ABSTRACT

Solid waste management is a polite term for garbage management. When the cities began to be more concentrated, however, solid waste management became a serious issue. Houses that did not have room to bury their garbage would throw it into the streets, making a stroll to the corner store an unpleasant prospect. In response, many cities started to set up municipal garbage collection, in the form of rag and bone men who would buy useful garbage from people and recycle it, or waste collection teams which would dispose of unusable garbage.

This project was carried out with an objective to find the Effect of Municipal solid waste on soil and ground water in Mangalore city landfill site. The official dumping ground of Mangalore is Vamanjoor where in the total dumping area is about 6 acres. The city produces nearly 250 tonnes of waste which is dumped in Vamanjoor every day.

Hence a detailed study was carried out for both Soil and Groundwater collected from solid waste dumping yard, Mangalore. The soil samples were analysed for various physical and chemical parameters such as insitu density, Water content, Specific Gravity, Grain size analysis, Atterberg limit, Compaction Properties, Permeability test, Consolidation test, Shear parameters, pH, Electrical conductivity, Calcium Carbonate and Sodium. The water samples were collected from nearby areas of landfill site and were analysed for the parameters like pH, EC, TDS, Turbidity, Total Alkalinity, Chloride, Calcium, Magnesium, Sulphate, Sodium, DO and BOD.

From the comparative results it is found that the experimental value for the physical and chemical parameters of soil varied for the soil samples which were collected from the area that are highly exposed to Municipal Solid Waste. From the water analysis it is revealed that few water samples collected from the nearby areas of the dumping yard are highly polluted. Thus it is noticed that there is an increase in concentration levels of contamination in soil and water in the areas which are radially near to the dumping yard.