

# Management issues associated with soil degradation in a tropical city

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## Abstract:

Soil degradation of is one of the major challenges in urban development, especially in developing countries with rapid urbanization, increasing urban population and escalating demands for land and water. Cities in India lack efficient treatment mechanisms for domestic waste and industries located in city limits. Recent census of India shows the rising trend in urbanization and also the uncontrolled migration to cities. Largest impact on urbanization is on soil and water. In the south-western coastal State of Kerala, such issues lead to severe environmental, social, economic and political crises. In the major metropolitan city of Kochi, the problems are multi-faced. The city is not well planned. Inadequate waste disposal system creates flooding in rainfall season, contaminating soil and thus the water resources. The city lies in the lower reaches of river Periyar on the banks of which several factories are running. The river carries tremendous amounts of domestic, industrial and agricultural pollutants to the urban area. Fertilizers, chemicals, detergents and many synthetic materials are absorbed by the soil and leak into the groundwater. In most of the domestic open wells, water quality is far below safety limits. Large-scale land reclamation and sand quarrying in the city limits and suburban area result in the removal of topsoil and also change the soil quality continuously. Overdraft of groundwater invites salinity intrusion far inland. The city is still growing in size and population, worsening existing problems and initiating new ones. There are rules and regulations and land and water policies at national and state levels to protect water and urban environment. But, effective implementation is difficult because of various social and political problems. Slow government machinery and lack of coordination among different agencies involved, together with the lack of adequate finance interrupts projects for environmental protection. In short, soil quality deterioration makes life in the city inhospitable and the issue is worsening with population growth and development activities. In this paper, a detailed assessment of the issues associated with soil and water degradation in the city of Kochi in a changing environment is made. Efficiency of the various institutions involved, and appropriateness of existing regulations and policy are analyzed. Suggestions for an appropriate and better policy for the urban environment are provided.

Keywords: soil degradation, Kochi, urbanization, increasing population, water degradation

Topic: B. Impacts of urbanization on soil resources

Sub-topic: C3. Urban soils and hydrology

Presentation type: *unpresented*

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