Coimbatore, the techno-city of Tamilnadu, India has been swiftly emerging on the facets of Industrialization and urbanization. The current scenario of industrialization edifies the phenomenal functioning of 5000 textile industries, 1400 electroplating industries, 300 dying units and 1000 foundries in Coimbatore. On the other facet, the exhaustive mushroom growth of Educational Institutions Universities, Professional Education Colleges, Hi-tech Medical-care Centres, Multi-Speciality Hospitals, Mechanical and IT industries is witnessed in Coimbatore. These above enunciated reasons perhaps boost up the floating population at a faster pace each day. These noteworthy transformations of the city scenario of course, pose the implied menace of degeneration / degradation of the soil properties of Coimbatore, indispensably due to improper waste management system and inadequate drainage system. Most of the solid wastes, plastics and liquid wastes are discharged directly onto the soil, and thrown on the road sides and wetlands. These wastes affect the natural water system as well as ground water level. This research in fact, aspires to curtail this environmental predicament through several studies and analysis. The prime assessment of heavy metal content in the soil and wetland in various localities of Coimbatore was
pursued. The perspective of this analysis is to investigate the levels and causes of heavy metal contamination observed in soil and prediction of the presence of heavy metals at various locations in and around Coimbatore.

Primarily, 123 soil samples were collected in and around the Coimbatore city and samples were analyzed by Atomic Absorption Spectrophotometer. Topsoil samples (0-20 cm) were taken at various locations with reference to latitude and longitude. The concentration of heavy metal Cr, Pb, Fe, As, Hg and Cd were analyzed in the Atomic Absorption spectrophotometer. Kriging model was used to predict the heavy metal at unknown points for GIS formulation. Universal Kriging model was developed with a suitable empirical semi-variogram model. Artificial neural network techniques are employed to develop a model to predict the concentration of the heavy metal in the soil such as lead, Iron, Chromium, Arsenic, Mercury and Cadmium. The developed neural networks consist of 2 input neurons for latitude and longitude, 6 hidden layers consisting of 10 to 20 neurons in each layer for training the data and 1 neuron to predict the constituents of the heavy metal in the soils are tabulated(Table 2). Presence of Lead (Pb) varies from 0 - 8.9 ppm and is found high at Velangulam Lake and Ukkadam Lake were 8.9, 8.7 ppm respectively. Presence of Cr varies from 0 to 3.6 ppm, maximum at Ganapathy and X-cut road were 3.6 & 3.5 ppm respectively because of electroplating industries. Presence of As varies from 0 to
5.6, maximum at SIDCO and it was 5.6 ppm because of electroplating industries. Presence of iron varies from 0 to 5.6 ppm, maximum at Pannimadai with 5.67 ppm. Presence of Mercury varies from 0 to 7.79, is high in Sanganur road. Presence of Cadmium is high at Sanganur and Town hall were 2.04 ppm and 1.94 ppm. Both the developed models will be useful for the prediction of the six heavy metal parameters at any location for the latitude and longitude values.