

# **An investigation of the significant relationship between human health and open dumps of Municipal solid waste in Sri Lanka**

## **(A case study: Badulla Municipal Council Area)**

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“Municipal Solid Wastes (MSW)”, the most acute environmental issue in urban Sri Lanka, is a result of rapid urbanization, industrialization and population growth. Its effect on human health is a severe problem associated with MSW dumpsites. The weightage of the effects differs according to distance from the dumpsites.

The Badulla Municipal Council (BMC) dumps 30 tons of solid waste per day, collected from the municipality area (1036 ha). The open dumping and open burning of solid waste are the present disposal methods of the BMC, which create numerous environmental problems such as land and surface water pollution, spreading of vector borne and communicable diseases, emission of toxic gases and leachate, odor, damaging the aesthetic beauty of the area. This creates social disparity among the community.

Considering the above, the study is designed with the prime objective of investigating the relationship between human health impacts and MSW dumpsites, identifying the variability of human health effects according to the distance from the MSW dumpsite and to recommend a solid waste management plan to safeguard human health and surrounding environment in a sustainable manner.

The data were collected through a questionnaire survey, observations, formal interviews and discussions with individuals and officials of the area. The study area was divided into three strata, based on the distance from the MSW dumpsites. The samples of households were selected randomly from each strata. The stratified random sampling technique was used to collect household information. Secondary data also were used for the study.

Results obtained from the study indicated that different varieties of health issues have been seen in the first strata (**64%**) and a gradually decreasing trend in the second (**28.5 %**) and third strata (**7.5%**). These inhabitants had been mostly affected by stomach pain, headache, skin rashes, burning eyes, cough, fever & phlegm, breathing difficulties, wheezing, sore throat and urinary infection. Accordingly, the first strata is extremely unsuitable for human living.

Environmental issues which have been caused by human activities cannot be stopped completely, but could be managed and controlled at a middle level with the implementation of viable strategic plans pertaining to the MSW disposal and management with the involvement of different stakeholders.

**Key words:** Municipal solid waste, Open dumps, Environmental issues, Human health