Department of Demography
Faculty of Arts
University of Colombo

POPULATION DYNAMICS AND SUSTAINABLE DEVELOPMENT

Annual Research Symposium
08 December 2016

PROCEEDINGS

Water pollution and its effects on population in Kurunegala Municipal Council Area

MIF Aneesa[1], Fareena Ruzaik[2]

Water contamination is one of the critical issues in the Kurunegala MC area (11.32 Km^2). This is the result due to the rapid urbanization, industrialization, infrastructure development, population growth and the increasing trend of floating population approximately 200,000 people. Waste water discharged to the city is 4,620 m^3/day; including the liquid waste of 758m^3 discharged from the Kurunegala General Hospital. Further, solid waste disposal was estimated to be an average of 50 MT/day. Due to these reasons, Beu Ela and Wan Ela canals were negatively impacted (Alexendra, 2007). The prime objective of this study is to identify the causes and effects of water contamination in the Kurunegala MC area. Representing the total MC area, 7 water samples were selected from 12 Grama Niladhari (GN) Divisions in the Kurunegala city limit and recorded the results at desirable levels of acidity of the water. The pH value of water sample of Northern city area was 5.967. Similarly, the pH value of water samples selected from the Northeast and Western city area were recorded as 6.386 and 6.054 respectively. Further, this study tested the pH value of water sample from Theliyagonna (6.481 and 5.754), Illupugedara (6.213) and Udawalpola (5.306) too. In addition, Electric Conductivity (EC) of 5 water samples were tested and results of western city was 1,167 and 1,552 µs/cm, Illupugedara 1,156 and 1,521 µs/cm and northern part of Kurunegala city 1,073 µs/cm. This study found different health issues that affected the general public and farmers, due to the contamination of water in Kurunegala MC Area. Those are Diarrhoea-16.6 per cent, (prevalence in April and August), Typhoid-18.2 per cent (25 per cent of patients were recorded in April), Hepatitis-11 per cent (February and May), Malaria-14 per cent (10 per cent in July), Dengue -27.2 per cent (14.9 per cent in January) and Leptospirosis-14.1per cent. Further, acidic water affects the aquatic lives and exceeded levels of EC in water provides room for growing invasive (algae) plants, which will suppress the surface of the water bodies and eradicate the water eco-system. These fast growing uncontrollable plants in the cultivated land area damaged approximately 73 per cent of crop growth and yield in MC area. Therefore, it is recommended to formulate a proper management system to safeguard the water bodies to enhance maximum utilization and productivity. Water contamination caused by human activities cannot be eliminated completely, but it can be controlled and managed to a certain extent by implementing proper management practices, public awareness programs and strict implementation of related laws and obtaining stakeholders' support.

Key words: *Contamination, electric conductivity, health issues and stakeholders*

[1] MA student, Department of Geography, University of Colombo, [2] Department of Geography, University of Colombo