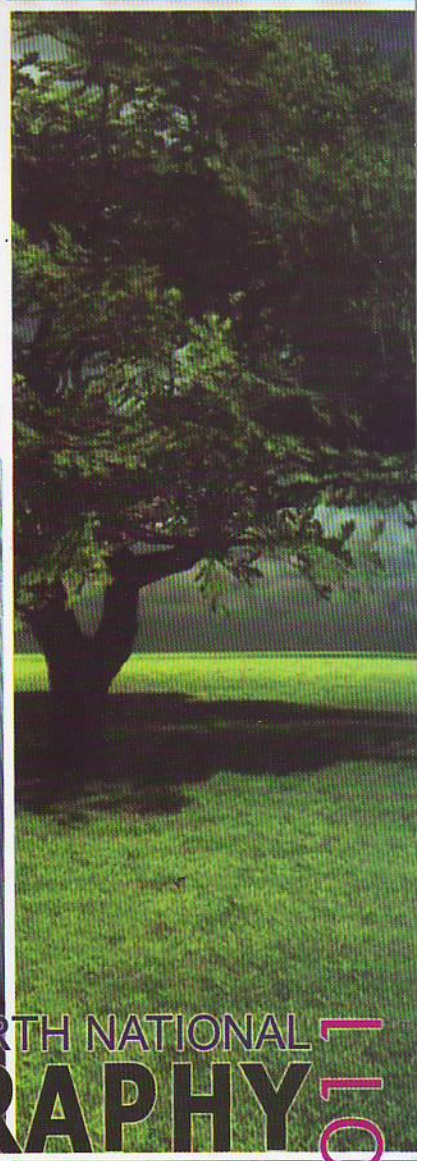
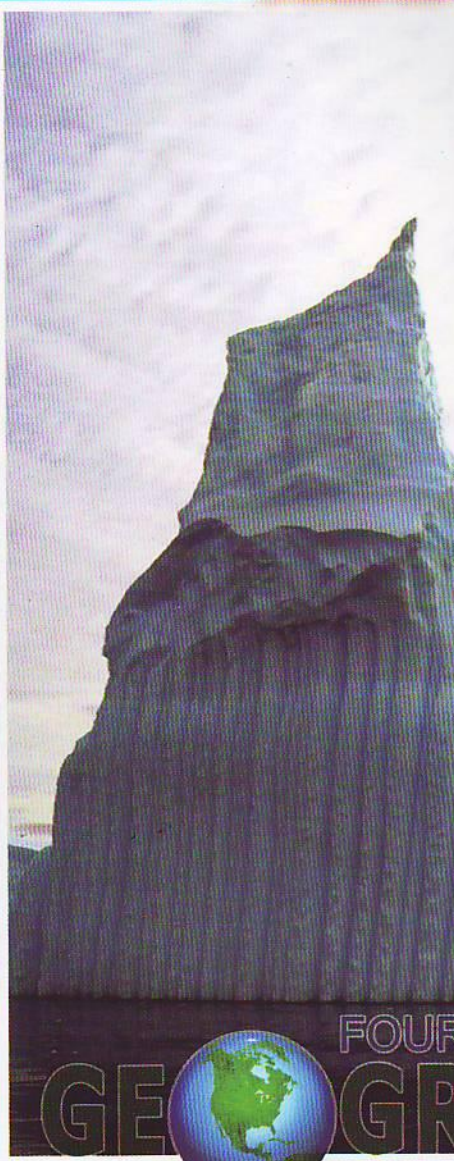





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# ABSTRACTS



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## **Spatial and temporal pattern of dengue in Maharagama Area in Sri Lanka**

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Dengue is a mosquito-borne infection that has become an international public health concern in the recent decades. Dengue could be found in tropical and sub-tropical climates. In Sri Lanka, the pattern of dengue has been changing since 1989 with an exponential increase in relation to dengue hemorrhagic fever, DHF. Therefore, dengue has been declared as one of the national health threats to the public, mostly and predominantly in urban and semi-urban areas, especially in the west and south of Sri Lanka.

The study area, Maharagama area, particularly within its Divisional Secretariat Division has been declared as a high-risk area of dengue and several dengue controlling programs and awareness programs have been conducted by governmental and non-governmental authorities in 2010. With this brief preamble, firstly this study aims at understanding the relationship between rainfall pattern and dengue outbreaks and predicting more precise time of high-risks. Secondly, mapping the spatial distribution of disease occurrence in order to see whether it can serve as a useful tool for identifying whether there are year-to-year variations as a result of dengue controlling and awareness programs in the study area. Analysis methods used for this study are; mean monthly rainfall totals and coefficient of variability of rainfall calculated using micro soft excel. Geographic information system (GIS) used to pinpoint the areas where outbreaks originate. Monthly rainfall data for the years 2007 to 2010 were obtained from the Department of Meteorology, Sri Lanka. Dengue related data was collected in 2007 to 2010 from the Maharagama Municipal Health Council was used for the study. The data then was aggregated in to *Grama Niladhari* divisions in the Maharagama DSD and converted in to GIS format.

The results of the present study show that there are positive relationships between monthly rainfall variability and dengue occurrence in the selected years that were considered for the study. It also reveals that Depanama GN division recorded the highest dengue occurrences in the year 2009 and 2010.

**Key Words:** *Dengue, Mosquito- borne, Rainfall, Variability*