

# Decline of Groundwater Level in Divulapitiya Divisional Secretariat Division in Sri Lanka

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Groundwater is a very important natural resource and has a significant role in the economy. It is the main source of water for irrigation and the food industry. However, the declining of ground water has become one of the major issues today due to both natural and anthropogenic activities. Therefore, this study mainly focused on the declining of groundwater in Divulapitiya Divisional Secretariat Division. Objectives of the study are to identify the spatio-temporal fluctuations of groundwater and to identify the physical and anthropogenic activities that influence changes in groundwater. Both primary and secondary data were used. Fish net by three kilometer grid was laid in the study area and a total of 35 wells were selected representing one well from each grid. Continuous measurements were taken from July 2017 to February 2018 representing both wet and dry periods of the region. Spatial Analysis techniques were used to draw the groundwater contours using Arc GIS 10.1 as the main tool of analysis. Cross-sections of groundwater levels, groundwater flow detection and some statistical analysis were also used along with groundwater interpolation. Maps were used as the main mode of data visualization. According to the analysis, during the south west monsoon period, ground water levels indicated a considerably low amount. Considering the spatial arrangement, almost all the wells which indicate less amounts of water are located near the left bank of Maha Oya. Ground water flow is also towards Maha Oya and the base flow of Maha Oya has declined rapidly due to sand mining. It is the main activity which influences the declining of ground water. Rock mining and extraction of clay and top soil for development projects as land filling, are two other reasons for the declining of ground water along with over exploitation of ground water for industrial purpose. Therefore, it is high time to take necessary actions to prevent such activities and preserve ground water for future communities.

**Keywords:** Ground Water, Maha Oya, Spatio Temporal Fluctuation