# GIS-BASED SPATIAL INVENTORY AND CHARACTERIZATION OF SPRING WATER SOURCES IN THE MUNICIPALITY OF MALUNGON, SARANGANI PROVINCE

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## ABSTRACT

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This study was conducted to determine the spatial distribution of spring water sources and to characterize the discharge and elevation of spring water sources in the municipality of Malungon, Sarangani Province. The study was carried out within the 30 barangays of Malungon, Sarangani Province. A Global Positioning System (GPS) device was used to obtain the coordinates and elevation of the identified springs. A calibrated 12-L container and a digital stopwatch were used to measure the discharge of the identified spring water sources. There were 76 identified springs in the municipality of Malungon, Sarangani Province. The total discharge of all identified springs was found to be 62.650L/sec, with barangay Data Batong having the highest total discharge of 24L/sec. The highest elevation of the identified springs was located in barangay Data

Bila at 827m above sea level. The potential water yield from these springs was calculated to be 5,412.880$m^3$/day. The study concludes that the discharge of spring water sources varies based on location, with elevation being a significant factor affecting discharge. The results provide valuable information for government agencies and other stakeholders involved in water development and planning in Malungon.

*Keywords: Spring Water Sources, Elevation, Discharge, GIS-Based, Global Position System (GPS)*