

The Study of the Critical and Quality of Groundwater for utilization as drinking water in Semoyo Village, Subdistrict Patuk, Regency Of Gunung Kidul, Region Of Yogyakarta.

Oleh :
KADEK NOPI WARNA NINGSIH
114110002

ABSTRACT

The village of semoyo experince difficulty of clean water during the dry season to meet demand. This study aimed; **1).** Determine the supply and quality of groundwater in the Semoyo Village; **2).** Determine the large needs of groundwater for the utilization water to meet the needs of clean water; **3).** Determining groundwater management in the village Semoyo.

Data collection include: observation the used of land, interviews of local people and livestock water needs, mapping of rock units, measuring the depth of groundwater level and groundwater quality sampling. The sampling technique is done conducted with a purposive sampling technique. Calculation of volume availability of groundwater done by water balance methods include: precipitation, temperature that will generate value evapotraspirasi, and the coefficient of run-off on land use. Groundwater level depth measurement be used in map-making groundwater flow direction. Mapping results of lithologies will be a reference in determining the point of the water sampling wells that be tested. The amount of domestic and livestock water use results obtained from the interviews to the public. The management of groundwater based on need of the availability of groundwater.

The calculations show: the total volume availability of groundwater in the study area is 506.522,88 m³/year and groundwater which quality in generall quite good, but be aware of coliform bacteria in four samples of groundwater in the study area exceeds quality standards. The total volume of groundwater needs in the study area is 64.702,05 m³/year with an average domestic water requirement per person is 50 liters/person /day. the critical value of groundwater in the study area is 29%, classified in uncrisis class. And for the next 10 years the critical level increased to 30.79%, also classified in uncrisis class. The management of groundwater conducted with several approaches. Technology approach by making rain water tanks, infiltration wells, and sewer systems. Social approach with providing information and guidance wells with a minimum distance of the sources of pollution that is 7 m. The approach of the agency include the participation of local authorities in the provision and develop water resources.

Key Words: Groundwater, supply of groundwater, needs of groundwater, Critical Groundwater, quality of groundwater, aquifer.