

**THE STUDY OF SPRING WATER POTENTIAL
FOR DOMESTIC WATER DEMAND**
*(Case Study in Pine Plantation Forest,
RPH Pagunungan, BKPH Ambarawa, KPH Kedu Utara)*

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ABSTRACT

Water is one of the natural components which its existence is very important to human needs. The increasing population rate will continue to rise as the natural resources demand (especially water) will also increase. The purposes of the study are a). to calculate the quality and quantity of spring water potential and b). to determine the social factors which influence water demand and eventually calculate and predict the domestic water demand.

Spring water potential was calculated by using velocity area, volumetric and weir method. The quality of the water was compared with the standard quality for liable drinking water. Social factors which influence the household water demand were determined by using double linier regression analysis. Domestic water demand was determined by calculating water demand of PDAM's subscribers and by using questionnaire.

Total water debit from spring water in September (dry season) was up to 338,4426 litre/second. Spring water was classified good quality based on standard for liable drinking water. Statistically, the number of family member was the significant factor for household water demand and eventually would influence domestic water demand. Domestic water demand in the end of June, 2002 for Grabag and Ngablak district were 139,911 litre/second and 47,649 litre/second respectively and the total water demand was 187,560 litre/second. In 2010 total water demand is predicted to reach 192,306 litre/second. Finally, it can be concluded that the quality and quantity of spring water are able to fulfill the domestic water demand with the 55,43 % ratio between supply and demand, including critical point, therefore conservative measures and better forest management are required in order to maintain the function of forest as water storage.

Key words: water, spring water, water demand.

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