

A STUDY ON THE IMPROVEMENT OF CLEAN WATER PERFORMANCE OF SINGKAWANG CITY TO SUSTAIN THE SOCIAL HEALTH

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ABSTRACT

The relatively flat geographic position of Singkawang city has caused sea water intrusion into the surface water source. Un-optimum clean water distribution network system of PDAM Singkawang is indicated by service area that is not provided with continual service. This condition influences the city clean water condition that contributes to the decreasing social health. The objectives of this study are to identify the cause factors of the leakage in the clean water distribution system, to decide the optimum distribution system for city people who are vulnerable for clean water lacking and to put efforts in increasing the performance of the existing network.

Method used in this study is by processing secondary and primary data related to clean water and social health service level. It is presented in tables, graphics and figures discussed in theoretical frameworks. Analysis of clean water distribution network is quite difficult to be manually calculated due to the existing pipe network complexity and long period of calculation time. To cope with these problems, Software Waternet Version 2 is used to support the network analysis.

Distribution network performance of PDAM Singkawang City shows “low” value indicated by 50% leakage level and only 28.67% service level. Improvements are required for several indicators that support social health such as service scope, continuity, installation utilization productivity, leakage level and meter signing. Diarrhea cases in Singkawang City graphically indicate obvious relation between the service level and disease growth level in the sub-district area, where lower clean water service indicates increasing growth of diarrhea.

Keywords: Distribution network improvement, PDAM, Social Health