ABSTRAK

Sumber pencemar dari kegiatan industri dapat mempengaruhi kualitas air sumur berdasarkan jarak, dimana semakin dekat jarak sumur gali terhadap sumber pencemar maka semakin besar kemungkinan terjadinya pencemaran. Kualitas air yang buruk dapat berdampak pada kesehatan masyarakat. Tujuan penelitian yaitu 1) Mengkaji hubungan antara jarak sumber pencemar dengan kualitas air sumur gali di Desa Proto. 2) Memetakan persebaran sumber pencemar dan kualitas air sumur di Desa Proto. 3) Memetakan persebaran penyakit berbasis lingkungan kaitannya dengan kualitas air di Desa Proto. Upaya yang dapat dilakukan untuk lingkungan, tindakan dan hidup yang lebih baik di Desa Proto melalui pemberdayaa. Metode pemberdayaan masyarakat meliputi *Rapid Rural Appraisal* (RRA), *Participatory Rural Appraisal* (PRA), *Fokus Group Discussion* (FGD), *Participatory Learning and Action* (PLA), sekolah lapang dan pelatihan pastisipatif. Pada penelitian ini menggunakan metode pemberdayaan PRA, dimana metode ini dilakukan dengan melibatkan orang dalam. Tahapan PRA meliputi pemetaan wilayah, analisis keadaan masa lalu, sekarang dan masa depan (SWOT), pemilihan alternatif pemecahan masalah, stakeholders dan sumber pendanaan.

Jenis penelitian yang digunakan adalah *observasional analitik* dengan pendekatan *cross sectional*.

Berdasarkan hasil analisis menggunakan SPSS dengan uji korelasi *Rank Spearman* diketahui bahwa ada hubungan yang kuat antara jarak sumber pencemar dengan parameter COD, ada hubungan korelasi cukup antara jarak sumber pencemar dengan parameter warna, Mn, dan BOD, serta ada hubungan korelasi lemah antara jarak sumber pencemar dengan parameter pH dan Cr. Pemetaan sumber pencemar dengan kualitas air sumur parameter warna, Mn, BOD dan COD memiliki pola sebaran semakin jauh jarak sumber pencemar dengan sumur gali kualitas air semakin baik. Parameter Cr dan pH tidak memiliki perbedaan pada jarak dekat, sedang maupun jauh. Berdasarkan hasil analisis pemetaan sebaran penyakit dua RW di Desa Proto dalam status rawan yaitu RW 2 dan RW 3, dan RW 1 dengan status tidak rawan. Penyakit ISPA disebabkan oleh kualitas air, virus, debu dan kurangnya ventilasi rumah yang dibuka. Penyakit diare disebabkan oleh kualitas air dan perubahan iklim, dan penyakit kulit disebabkan oleh kualitas air, *personal hygiene*, perubahan iklim, dan kurangnya ventilasi rumah yang dibuka. Karakteristik masyarakat Desa Proto meliputi usia yaitu 0 bulan s/d >75 tahun), tingkat pendidikan dan pekerjaan bervariasi.

Kata Kunci : Jarak; Kualitas Air Sumur; ISPA; Diare; Kulit; SIG

ABSTRACT

Pollutant sources from industrial activities can affect the quality of well water based on distance, where the closer the distance of the dug well to the pollutant source, the greater the possibility of pollution. Poor water quality can have an impact on public health. The aims of the study were 1) to examine the relationship between the distance from pollutant sources and the water quality of dug wells in Proto Village. 2) Map the distribution of pollutant sources and the quality of well water in Proto Village. 3) Mapping the spread of environmental-based diseases in relation to water quality in Proto Village. Efforts that can be made for a better environment, action and life in Proto Village through empowerment. Community empowerment methods include Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA), Focus Group Discussion (FGD), Participatory Learning and Action (PLA), field schools and participatory training. In this study using the PRA empowerment method, where this method is carried out by involving insiders. The PRA stages include regional mapping, analysis of past, present and future conditions (SWOT), selection of alternative solutions to problems, stakeholders and sources of funding.

The type of research used is analytic observational with a cross sectional approach.

Based on the results of the analysis using SPSS with the Rank Spearman correlation test, it is known that there is a strong relationship between the distance from the pollutant source and the COD parameter, there is a moderate correlation between the distance from the pollutant source and the parameters color, Mn, and BOD, and there is a weak correlation between the distance from the pollutant source. with pH and Cr parameters. Mapping pollutant sources with well water quality parameters warrant, Mn, BOD and COD has a pattern of distribution the farther the distance from the pollutant source to the dug well the better the water quality. The Cr and pH parameters did not differ at close, medium or long distances. Based on the results of a mapping analysis of the distribution of the disease, two RWs in Proto Village are in a vulnerable status, namely RW 2 and RW 3, and RW 1 with a non-vulnerable status. ISPA disease is caused by water quality, viruses, dust and lack of open house ventilation. Diarrheal disease is caused by water quality and climate change, and skin disease is caused by water quality, personal hygiene, climate change, and lack of ventilation in open houses. The characteristics of the people of Proto Village include ages from 0 months to >75 years), varying levels of education and employment.

Keywords: Distance; Well Water Quality; ARI; Diarrhea; Skin; GIS