Analisis Penilaian Tingkat Layanan Sumber Air Bersih dan Air Minum di Kota Metro, Lampung = Analysis of Clean and Drinking Water Sources Service Level Assessment in Metro City, Lampung

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Abstrak

Kota Metro merupakan salah satu kota dengan tingkat pelayanan air perpipaan yang rendah (5,05%), sehingga sebagian besar masyrakatnya menggunakan air tanah dengan sistem self-supply. Akan tetapi, keamanan sistem sumber self supply saat ini menjadi isu di masyarakat. Metode continuous monitoring dari April – Oktober 2021 melalui telepon setiap bulan dilakukan untuk membantu penilaian tingkat layanan air minum. Tujuan dari penelitian ini adalah menganalisis variabilitas sumber air bersih dan air minum, menganalisis variabilitas tingkat pelayanan air minum yang dipersepsikan aman, menganalisis variabilitas biaya operasional dan pengelolaan layanan sumber air minum di rumah tangga, dan menganalisis intervensi pengolahan air minum di rumah tangga untuk meningkatkan kualitas air minum. Analisis dilakukan dengan analisis statistik deskriptif dan software SPSS 24 untuk uji Regresi Logistik Biner. Hasil menunjukkan 97% sumber air masyarakat Kota Metro adalah sumber air self-supply, yang didominasi oleh sumur gali tak terlindungi milik pribadi (45% sumber air bersih dan 30% sumber air minum). Berdasarkan persepsi rumah tangga (keamanan, rasa, penampilan, bau, keandalan, dan ketersediaan air minum), air isi ulang dan air kemasan memiliki tingkat keamanan paling konsisten selama 6 bulan survei (100%). Sistem non-self-supply diketahui lebih aman dari sistem self-supply dengan persentase 98% dan 95%. Variabel kejadian banjir diketahui signifikan terhadap penilaian tingkat pelayanan sumber air minum yang dipersepsikan aman dengan peluang 0,059 kali dalam mempengaruhinya. Rata-rata biaya yang dibutuhkan untuk maintenance mesin pompa adalah Rp 683.750,00 dan untuk maintenance lainnya (pipa, kran air, dll) sekitar Rp 85.833,00 per rumah tangga. Sedangkan biaya yang dihabiskan oleh 1 rumah tangga dalam 1 minggu untuk air isi ulang adalah sekitar Rp 19.751,00, sedangkan untuk air kemasan sekitar Rp 40.986,00. Variabel yang mempengaruhi biaya air minum adalah pengolahan air dengan perebusan yang berpeluang 0,029 kali. Berdasarkan persepsi rumah tangga, masalah sumber air minum yang paling banyak terjadi pada sumber air baku adalah penampilan (29,4%) dan bau (28,3%), serta kadar E.coli (72%) pada air minum. Dengan demikian, dibutuhkan intervensi strategi pengolahan air minum untuk mengatasi permasalahan yang ada dan meningkatkan kualitas air minum. Adapun intervensi pengolahan air minum yang direkomendasikan untuk menyelesaikan masalah tersebut adalah Slow Sand Filter (SSF) dengan media tambahan berupa Granular Activated Carbon (GAC) serta unit disinfeksi sinar UV.

.....Metro City is one of the cities with a low level of piped water service (5,05%), so that most of the people use groundwater with a self-supply system. However, the safety of the self-supply source system is currently an issue in society. A continuous monitoring method from April – October 2021 by telephone every month was carried out to help assess the level of drinking water services. The purpose of this study are to analyze the variability of clean water and drinking water sources, to analyze the variability of the level of drinking water services that are perceived as safe, to analyze the variability of operational and maintenances costs of drinking water facility in households, and to analyze the intervention of drinking water treatment in households to improve the quality of drinking water. The analysis was carried out using descriptive

statistical analysis and SPSS 24 software for the Binary Logistics Regression test. The results show that 97% of Metro City's water sources are self-supply water sources, which are dominated by private unprotected dug wells (45% for clean water sources and 30% for drinking water sources). Based on household perceptions (safety, taste, appearance, smell, reliability, and availability of drinking water), refill and bottled water had the most consistent level of safety during the 6 months of the survey (100%). Non-self-supply systems are known to be safer than self-supply systems with a percentage of 98% and 95%, respectively. The flood incident variable is known to be significant to the assessment of the service level of drinking water sources that are perceived as safe with a 0,059 times chance of influencing it. The average cost required for pump engine maintenance is Rp 683.750,00 and for other maintenance (pipes, water faucets, etc.) it is around Rp 85.833,00 per household. Meanwhile, the cost spent by 1 household in 1 week for refill water is around Rp 19.751,00, while for bottled water it is around Rp 40.986,00. The variable that affects the cost of drinking water is water treatment by boiling which has a chance of 0.029 times. Based on household perceptions, the most common drinking water source problems that occur in raw water sources are appearance (29,4%) and smell (28,3%) and E.coli (72%) in drinking water. Thus, intervention strategies for drinking water treatment are needed to overcome existing problems and improve drinking water quality. The recommended drinking water treatment intervention to solve this problem is the Slow Sand Filter (SSF) with additional media in the form of Granular Activated Carbon (GAC) and UV disinfection unit.