

Intisari

IDENTIFIKASI KUALITAS AIR IRIGASI PERTANIAN PADA MUSIM KEMARAU DI LERENG BARAT GUNUNG LAWU, KARANGANYAR

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Salah satu faktor penting penggunaan air yaitu kebutuhan air irigasi pertanian. Air irigasi pertanian merupakan air yang digunakan untuk mengairi pertanaman. Kualitas air sungai sangat dipengaruhi oleh air yang masuk ke dalam sungai yang berasal dari daerah tangkapan, aktivitas manusia di daerah tangkapan dapat mempengaruhi kualitas air yang masuk ke dalam sungai. Penelitian ini bertujuan mengetahui sebaran kualitas air irigasi pertanian dan membandingkan kualitas air irigasi menurut PP RI No. 82 Tahun 2001. Tujuan lainnya yaitu dapat mengetahui faktor penentu kualitas air irigasi. Penelitian mengenai identifikasi kualitas air irigasi pertanian dilakukan pada wilayah lereng Gunung Lawu bagian barat Kabupaten Karanganyar yang meliputi Kecamatan Tawangmangu, Kecamatan Karangpandan, Kecamatan Karanganyar, Kecamatan Mojogedang, Kecamatan Kebakkramat dan Kecamatan Jaten. Penelitian dilaksanakan dengan cara sampling air sungai sejumlah 10 sampel, yaitu Kali Gembong, Kali Kumpul, Kali Kligung, Kali Grompol, dan Kali Siwaluh dilanjutkan analisis di laboratorium. Penelitian ini dilaksanakan mulai pada bulan September 2014 hingga Oktober 2014. Metode yang digunakan dalam penentuan status mutu air yaitu metoda STORET. Pada dasarnya metoda STORET membandingkan data kualitas air dengan baku mutu air sesuai dengan peruntukannya guna mengetahui status mutu air. Kualitas air irigasi di lereng barat Gunung Lawu dari arah hulu ke arah hilir mengalami penurunan kualitas yang ditunjukkan parameter BOD, *fecal Coliform*, dan *total Coliform* melebihi baku mutu di titik pengambilan sampel C2 setelah melalui kawasan industri. Air mengalir dari arah timur ke arah barat. Status mutu air di wilayah penelitian menurut sistem STORET menunjukkan klasifikasi mutu air kelas C kondisi sedang atau cemar sedang dengan nilai skor -26. Nilai cemar sifat biologis -24 yaitu *fecal coliform* dan *total coliform*. Nilai cemar sifat kimia -2 yaitu BOD. Penentu faktor tertinggi penurunan kualitas air irigasi di wilayah penelitian adalah sifat biologis yaitu *fecal coliform* dan *total coliform*.

Kata Kunci : Air irigasi, Kualitas air irigasi, sifat fisika air, sifat kimia air, sifat biologi air, metoda STORET

Abstract

WATER QUALITY IDENTIFICATION OF IRRIGATION FOR AGRICULTURE
SECTOR IN DRY SEASON IN WESTERN SLOPE OF LAWU MOUNTAIN,
KARANGANYAR

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One of the main factor of water use is water for farming irrigation. Irrigation water is water which is use to fulfill plant water needed. The quality of irrigation water is affected by the source such as river which are came from catchment area and also human activity surrounded that catchment area. This research aimed to know the quality of irrigation water distribution and to compare of water quality based on PP RI No. 82 year at 2001. Another aim is to know determining factors of water irrigation quality. This research was carried out in western slopes of Lawu Mountain in Karanganyar Regency, which covers Tawangmangu, Karangpandan, Karanganyar, Mojogedang, Kebakkramat and Jaten Districs. Method of this research is by sampling 10 spots of irrigation source, there are Gembong, Kumpul, Kligung, Grompol, and Siwaluh Rivers. Samples was analyzed in laboratory. This research was begun on September 2014 until Oktober 2014. Data of water quality was analized by STORET method. Basically this method is use to compare standard of water quality data according to the water usefullness. The result is water quality of Western Slope of Lawu Mountain in C2 area is increasing in water quality after passing through an industrial area, which shown by value of BOD, *Fecal Coliform*, dan *Total Coliform* is higher than standard of water quality. Water flows from the east to the west. The irrigation water quality based on STORET methode shown the classification of water quality in the research area is grade C, which is in medium level of contamination. The score is 26, which -24 of biological contaminant (*fecal colifom* and *total coliform*.), -2 of chemical contaminant (BOD). Determinants of the highest factor of irrigation water quality degradation in the research area is a biological trait that *fecal coliform* and *total coliform*.

Key Words: Irrigation water, water quality, water physical characteristic, water chemical characteristic, water biological characteristic, STORET Method.