

**UPAYA KONSERVASI MATA AIR TERHADAP PERUBAHAN
PENGUNAAN LAHAN PADA DAERAH IMBUHAN DUSUN SINAJER,
DESA CLAPAR, KECAMATAN MADUKARA, KABUPATEN
BANJARNEGARA, PROVINSI JAWA TENGAH**

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INTISARI

Air merupakan salah satu kebutuhan pokok bagi makhluk hidup dan lingkungan. Dusun Sinajer, Desa Clapar, Kecamatan Madukara, Kabupaten Banjarnegara terdapat tiga mata air yaitu Mata Air Lingsar, Mata Air Wringin, dan Mata Air Kali Sawah digunakan untuk memenuhi kebutuhan sehari-hari. Mata air pada daerah penelitian mengalami penurunan debit saat kemarau, belum adanya pengelolaanyang baik pada daerah imbuhan juga dapat mempengaruhi kuantitas dan kualitas mata air serta tidak ada bak penampung dan pelindung yang memadai. Tujuan penelitian adalah mengetahui karakteristik mata air dan daerah imbuhan, menghitung indeks kekritisian sumber air untuk kebutuhan air yang digunakan di daerah penelitian, serta merancang arahan pengelolaan mata air berdasarkan kondisi daerah penelitian.

Metode penelitian menggunakan metode survei dan pemetaan, wawancara, volumetrik, uji laboratorium, matematis, dan analisis deskriptif. Karakteristik mata air dikaji berdasarkan tipe mata air. Daerah imbuhan dikaji berdasarkan Permen Pu No. 2 Tahun 2013. Pengujian kualitas air berupa parameter bau, rasa, suhu, warna, TDS, kekeruhan, pH, kesadahan, besi, nitrat, dan total coliform yang kemudian dianalisis berdasarkan baku mutu Permenkes No 2 Tahun 2023 dan Permenkes RI No. 32 Tahun 2017. Kuantitas mata air dikaji berupa debit mata air serta kebutuhan air penduduk yang dianalisis menggunakan Indeks Kekritisian Air (IKA).

Analisis karakteristik berdasarkan sifat pengaliran berupa mata air tahunan (*perennial spring*), debit mata air berada di kelas VI dan VII, tipe mata air berdasarkan jenis mata air berupa *fracture spring*. Daerah imbuhan memiliki klasifikasi cukup sesuai. Parameter kualitas mata air yang tidak memenuhi baku mutu, yaitu pada parameter kekeruhan, pH, dan total coliform. Hasil analisis IKA, mata air Lingsar dan mata air Kali Sawah termasuk mendekati kritis, mata air Wringin termasuk sangat kritis. Arahan pengelolaan dilakukan dengan teras kredit, pembuatan bak penangkap dan bak penampung, serta sosialisasi kepada masyarakat.

Kata kunci : mata air, karakteristik mata air, daerah imbuhan, potens mata air, kebutuhan air, konservasi mata air.

**SPRING CONSERVATION EFFORTS AGAINST LAND USE CHANGE
IN THE RECHARGE AREA OF SINANJER HAMLET,
CLAPAR VILLAGE, MADUKARA SUB-DISTRICT, BANJARNEGARA
DISTRICT, CENTRAL JAVA PROVINCE**

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ABSTRACT

Water is one of the basic needs for living things and the environment. Sinajer Hamlet, Clapar Village, Madukara Subdistrict, Banjarnegara Regency has three springs, namely Mata Air Lingsar, Mata Air Wringin, and Mata Air Kali Sawah, which are used to fulfill daily needs. Springs in the study area experience a decrease in discharge during the dry season, the absence of good management in the recharge area can also affect the quantity and quality of springs and there are no adequate reservoirs and protectors. The research objectives were to determine the characteristics of springs and recharge areas, calculate the criticality index of water sources for water needs used in the study area, and design spring management directions based on the conditions of the study area.

The research method used survey and mapping, interviews, volumetric, laboratory tests, mathematical and descriptive analysis. Spring characteristics were assessed based on spring type. The recharge area was assessed based on Permen Pu No. 2 Tahun 2013. Water quality testing in the form of odor, taste, temperature, color, TDS, turbidity, pH, hardness, iron, nitrate, and total coliform parameters were analyzed based on the quality standards of Permenkes No. 2 Tahun 2023 and Permenkes RI No. 32 Tahun 2017. The quantity of spring water was studied in the form of spring discharge and the water needs of the population, which were analyzed using the Water Criticality Index (IKA).

The analysis of characteristics based on the nature of the flow is in the form of perennial spring, the spring discharge is in class VI and VII, the type of spring based on the type of spring is fracture spring. The recharge area is classified as moderately suitable. The spring water quality parameters that did not meet the quality standards were turbidity, pH and total coliform. As a result of the IKA analysis, Linsar spring and Kali Sawah spring are near critical, while Wringin spring is very critical. Management directions are carried out with credit terraces, construction of catch basins and reservoirs, and socialization to the community.

Keywords: spring, spring characteristics, recharge area, spring potential, water demand, spring conservation.