

RINGKASAN

Pembangunan di sektor pertanian merupakan hal yang sangat penting di Indonesia. Hal ini karena lebih dari 55% penduduk Indonesia bekerja dan melakukan kegiatannya di sektor pertanian dan tinggal di perdesaan. Sektor pertanian terutama padi masih mendominasi mata pencaharian penduduk di Kecamatan Maos, Kabupaten Cilacap, Jawa Tengah, didukung oleh sistem irigasi teknis yang baik. Sistem irigasi teknis di Maos mengambil air dari saluran Irigasi yang berasal dari sungai serayu yaitu melalui pintu air saluran primer di Saluran Bendung Gerak Serayu. Sungai serayu merupakan salah satu sungai terbesar di Provinsi Jawa Tengah yang melintasi 5 Kabupaten yaitu Cilacap, Banyumas, Purbalingga, Banjarnegara dan Wonosobo. Bagian hulu sungai serayu terletak di Kabupaten Wonosobo, dan hilir sungai berada di Kabupaten Cilacap. Luas DAS serayu sebesar 4.375 km² dan sungai utama memiliki panjang 180 km dengan 11 anak sungainya.

Maos adalah salah satu kecamatan di Kabupaten Cilacap dengan jarak tempuh sekitar 25 km dari Ibukota. Luas wilayah Kecamatan Maos adalah 2.804,145 ha atau 1,31% dari luas Kabupaten Cilacap. Kajian terhadap status hara S tanah dan sifat kimia tanah sawah (pH H₂O, pH KCl, potensial redoks dan DHL) di kecamatan Maos diperlukan guna meningkatkan efisiensi penggunaan pupuk dan meningkatkan hasil padi sawah. Tujuan penelitian ini adalah untuk : (i) mengetahui distribusi unsur hara S tanah di lahan sawah yang digunakan untuk budidaya tanaman padi sawah wilayah sub DAS Serayu Hilir di Kecamatan Maos Kabupaten Cilacap, (ii) mengetahui sifat kimia tanah meliputi pH H₂O, pH KCl, Potensial redoks dan DHL (Daya Hantar Listrik) pada lahan sawah, dan (iii) mengetahui rekomendasi pupuk untuk lahan persawahan. Penelitian ini dilakukan dengan metode survei pada tingkat semi detail dengan skala 1: 50.000. Peta satuan lahan (SLH) dibuat dengan cara tumpang susun (*overlay*) peta administrasi, peta kelerengan, peta jenis tanah dan peta penggunaan lahan kecamatan Maos. Pengambilan sampel tanah dilakukan secara komposit dilokasi penelitian. Sampel tanah diambil pada kedalaman 0-25 cm dan 25-50 cm.

Hasil penelitian menunjukkan bahwa kandungan unsur hara S dalam bentuk SO₄ di Kecamatan Maos Kabupaten Cilacap memiliki harkat rendah sampai dengan tinggi. Nilai S-tersedia tertinggi terdapat pada titik sampel 9 kedalaman 25-50 cm sebesar 138,09 ppm. Nilai terendah terdapat pada sampel 10 kedalaman 25-50 cm sebesar 32,32 ppm. Hasil korelasi antar variabel menunjukkan bahwa 3,58% hasil tanaman padi di lahan sawah dipengaruhi oleh S-tersedia tanah, 4,39% hasil tanaman padi di lahan sawah dipengaruhi oleh pH H₂O tanah, 2,38% hasil tanaman padi di lahan sawah dipengaruhi oleh pH KCl tanah, hasil tanaman padi dipengaruhi oleh DHL yaitu sebesar 11,64% dan hasil tanaman dipengaruhi oleh potensial redoks sebesar 21,21%. Rekomendasi pemupukan sulfur untuk tanaman padi sawah Kecamatan Maos yaitu sebesar 16,95-40,99 kg S/ha atau setara dengan pemberian pupuk ZA sebesar 70,64-170,81 kg ZA/ha.

SUMMARY

Development in the agricultural sector is very important in Indonesia. This is because more than 55% of the Indonesian population work and carry out their activities in the agricultural sector and live in rural areas. The agricultural sector, especially rice, still dominates the livelihoods of the population in Maos District, Cilacap Regency, Central Java, supported by a good technical irrigation system. The technical irrigation system in Maos draws water from the irrigation canal from the Serayu River, namely through the primary channel sluice in the Serayu Weir Canal. The Serayu River is one of the largest rivers in Central Java Province, which crosses 5 districts, namely Cilacap, Banyumas, Purbalingga, Banjarnegara and Wonosobo. The upstream part of the Serayu river is located in Wonosobo Regency, and the downstream part of the river is in Cilacap Regency. The area of the Serayu watershed is 4.375 km² and the main river has a length of 180 km with 11 tributaries.

Maos is one of the sub-districts in Cilacap Regency with a distance of about 25 km from the capital city. The area of Maos District is 2.804,145 ha or 1.31% of the area of Cilacap Regency. Study on soilnutrient status S and soil chemical properties of paddy fields (pH H₂O, pH KCl, redox potential and DHL) in Maos sub-district are needed to increase the efficiency of fertilizer use and increase the efficiency of fertilizer use. rice yields. The purpose of this study was to: (i) determine the distribution of soil nutrients in rice fields used for rice cultivation In The Serayu Hilir Sub-Watershed Area In Maos District, Cilacap Regency, (ii) determine the chemical properties of the soil including pH H₂O, pH KCl, redox potential and DHL (Electrical Conductivity) on paddy fields, and (iii) knowing fertilizer recommendations for paddy fields. This research was conducted using a survey method at the semi-detailed level with a scale of 1: 50.000. The land unit map (SLH) was made by overlaying administrative maps, slope maps, soil type maps and land use maps in Maos sub-district. Soil sampling was carried out in a composite manner at the location research. Soil samples were taken at a depth of 0-25 cm and 25-50 cm.

The results showed that the nutrient content of S in the form of SO₄ in Maos District, Cilacap Regency had low to high values. The highest available S-value was found at sample point 9 with a depth of 25-50 cm at 138.09 ppm. The lowest value was found in sample 10 with a depth of 25-50 cm at 32,32 ppm. The correlation between variables showed that 3,58% of the rice crop in the paddy field is affected by the S-provided land, 4,39% yield rice plants in paddy fields affected by pH H₂O soil, 2,38% yield rice plants in paddy fields affected by pH KCl, soil yield of rice plants affected by DHL amounting 11,64% and the yield of plants affected by the redox potential of 21,21%. The recommendation for sulfur fertilization for lowland rice in Maos District is 16.95-40.99 kg S/ha or the equivalent of 70.64-170.81 kg ZA/ha.