EVALUASI PERBANDINGAN DAMPAK TEKNIK PERTANIAN PADI MONOKULTUR DAN MINAPADI TERHADAP LINGKUNGAN DI DESA CANDIBINANGUN, KECAMATAN PAKEM, KABUPATEN SLEMAN

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INTISARI

Penelitian ini memiliki tiga tujuan, yaitu (1) mengetahui pengaruh perbedaan pengelolaan lahan terhadap lingkungan, (2) membandingkan kondisi ekologi, dan (3) membandingkan keadaan tanah. Metode pengumpulan datanya adalah survei lapangan terhadap empat lahan kasus yaitu L_S, LK_S, L_M, dan LK_M. Data primer tersebut kemudian dianalisis dengan pendekatan spasial ekologis. Hasilnya menunjukkan bahwa secara umum pengaruh perbedaan pengelolaan antara padi monokultur dan minapadi ada tiga, yaitu (a)lahan minapadi memiliki keanekaragaman hayati yang lebih beragam, (b)tanah dan air di lahan pertanian dengan teknik padi monokultur lebih tercemar, dan (c)potensi munculnya dampak negatif dari perubahan sifat tanah oleh penggenangan di lahan minapadi lebih tinggi. Perbandingan kondisi ekologi menunjukkan adanya keseimbangan ekologi di lahan minapadi karena keberadaan ikan budidaya dan tidak digunakannya obat-obatan kimia. Perbandingan keadaan tanah dari data bor tanah menunjukkan dampak reduksi dan oksidasi dari penggenangan baik di lahan padi monokultur maupun minapadi. Keadaan tanah dari kualitas tanahnya menunjukkan bahwa lahan minapadi memiliki kualitas baik dan lahan padi monokultur berkualitas sedang. Teknik minapadi secara umum dapat memberikan kualitas tanah yang lebih baik dibandingkan padi monokultur, tetapi manajemen irigasi masih perlu diperbaiki terkait dampak pengenangan.

Kata kunci: minapadi, padi monokultur, kualitas tanah, ekologi

COMPARATIVE EVALUATION OF THE IMPACT OF RICE MONOCULTURE AND MINAPADI AGRICULTURAL TECHNIQUE ON THE ENVIRONMENT IN CANDIBINANGUN VILLAGE, PAKEM SUB-DISTRICT, SLEMAN DISTRICT

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ABSTRACT

Abstract. *This study has three objectives, which are to (1)understand the influence of different land management on the environment, (2)compare the ecological conditions, and (3)compare the states of the soil. The method of data collection is done through field surveys towards the four case fields that consist of L_S, LK_S, L_M, and LK_M. The primary data is analyzed using ecological spatial approach. The results show that in general there are three effects of management differences between monoculture rice and rice-fish farming, which are: (a)the biodiversity is more diverse on the field of rice-fish farming, (b)soil and water on monoculture rice field is more polluted, and (c)the negative impacts from the change in soil properties by submergence in rice-fish farming field is potentially higher. The comparison of ecological conditions shows that there is an ecological balance in rice-fish farming field due to the presence of cultured fish and the lack of use of chemical drugs. Comparison of soil conditions from the soil drill data shows the reduction and oxidation effects of submergence both on the monoculture rice field and rice-fish farming field. The soil condition from the soil quality shows that the rice-fish farming field is of good quality while the monoculture rice field is of medium quality. Generally, rice-fish farming provides better soil quality compared to monoculture rice, however irrigation management still needs to be improved related to the impact of submergence.*

Keywords: *rice-fish farming, monoculture rice, soil quality, ecology*