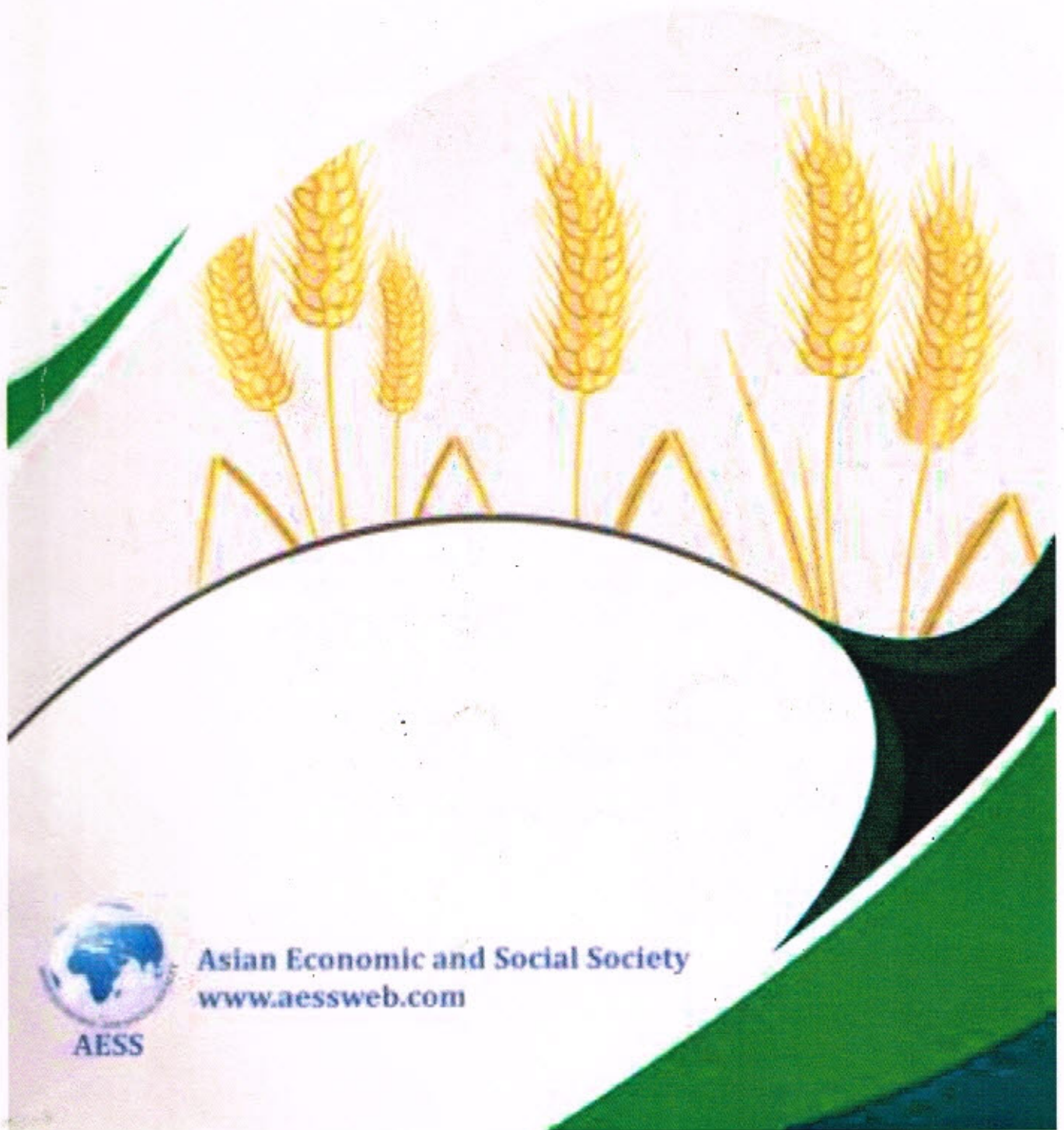


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[Restoring the Health of Paddy Soil by Using Straw Compost and Biofertilizers to Increase Fertilizer Efficiency and Rice Production with Sobari \(System of Organic Based Aerobic Rice Intensification\) Technology](#)

Author(s): Tien Turmuktini, Endang Kantikowati, Betty Natalie, Mieke Setiawati, Yuyun Yuwariah, Benny Joy and Tualar Simarmata (pp. 519-526)

Keywords: Wetland restoration, fertilizer efficiency, straw compost, biofertilizer, SOBARI technology

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Keywords: Tunnel dryer, cassava chips, temperature, tray capacity and air velocity

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[Management of Water Saving and Organic based Fertilizers Technology for Remediation and Maintaining the Health of Paddy Soils and To Increase the Sustainability of Rice Productivity in Indonesia](#)

Author(s): Tien Turmuktini, Tualar Simarmata, Benny Joy and Ania Citra Resmini (pp. 536-551)

Keywords: water saving, soil health, paddy soils, organic fertilizers, straw compost, remediation, SOBARI

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Restoring the Health of Paddy Soil by Using Straw Compost and Biofertilizers to Increase Fertilizer Efficiency and Rice Production with Sobari (System of Organic Based Aerobic Rice Intensification) Technology

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Abstract

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Current conditions indicate that about 70% of paddy fields in Indonesia has been experiencing severe degradation of land and can be categorized as an illness (sick soils), therefore, efforts to restore health and increase the productivity of paddy soil in a sustainable manner can be done by integrating fertilizer-based integrated management organic and biological fertilizers (biofertilizers) with SOBARI (system of organic based aerobic rice intensification) technology. The experiment was conducted from March to August 2011 in the fields eksperiment Faculty of Agriculture Padjadjaran University, Bandung with the aim of testing the use of straw compost + biofertilizer for efficiency inorganic fertilizer (N, P, K) and increase rice production by SOBARI technology. Experiments was using a split plot design. The main plot consists of 8 standard combination of organic fertilizer (compost straw 0: 2.5: 5.0 and 7.5 t ha⁻¹, with no biological fertilizers and biological fertilizers 400 g ha⁻¹. Sub plots consisted of 5 standard: organic fertilizer N, P and K (100%, 90%, 80%, 70% and 60% of recommended dosage). The results are: interaction occur between the provision of straw compost + biofertilizer, to the yield per plot. Dosage of 5.0 t ha⁻¹ of compost straw + 400 g ha⁻¹ biological fertilizer by accompanied N, P, K 80% of the recommended, may show the highest yields and increase the yield of 13.3% compared to controls is 7.29 kg plot⁻¹ (6.654 t ha⁻¹) and gained efficiency fertilizer N, P, K 20%, of the recommendation.

Keywords: Wetland restoration, fertilizer efficiency, straw compost, biofertilizer, SOBARI technology

Introduction

Sustainability of food security (rice) is highly dependent on the quality of wetland health and water availability. Current conditions indicate that about 70% of paddy fields in Indonesia has been degraded can be categorized as an illness (Sick Soils). These problems can lead to food crises and humanitarian issues, and therefore efforts to increase rice production will not be successful without being accompanied by restoring wetland health, because the land has been levelling off. In wetland restructure the

efficient use of inputs necessary for farming can compete with other commodities. A technology of rice cultivation with integrated organic wetland management, water-saving technology, power biological crop management, organic based fertilizers and bio fertilizers (biofertilizers) is breakthrough technology that can increase rice production and a sustainable agriculture.

Rice cultivation techniques IPAT-BO (Intensifikasi Padi Aerob Terkendali Berbasis Organik In Indonesian language) or SOBARI