ENVIRONMENTALLY ADJUSTED PRODUCTIVITY GROWTH OF INDONESIAN RICE PRODUCTION

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ABSTRACT

Productivity of Indonesian rice agriculture needs to grow substantially to ensure national food security. However, the environmental cost should be taken into account. This study aims to analyse productivity growth of rice by decomposing it into technological change, scale effects, allocative efficiency and technical efficiency. Environmental cost associated with the use of environmentally detrimental inputs is internalised to obtain environmentally adjusted productivity growth. The result indicates that total factor productivity growth is driven by technological change and social efficiency effects. Environmentally adjusted productivity growth is less than conventional productivity growth. Some policies to increase the environmentally adjusted productivity growth are proposed.

Keywords: internalizing environmental cost, total factor productivity, rice production, scale effect, efficiency

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