

Technical Efficiency of Rainfed and Irrigated Rice Production in Tanzania

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Abstract

Tanzania produces rice from two major ecologies, namely irrigated and rainfed lowland. Currently most of the rice is produced from the rainfed lowland but the country's National Rice Development Strategy (NRDS) hopes to reverse this trend. The NRDS aims to increase the rice production area for irrigated lowland ecology from 200 000 ha in 2008 to 390 000 ha by 2018, with productivity increasing from 2.13 t ha⁻¹ in 2008 to 3.5 t ha⁻¹ in 2018. This study evaluated the performance of irrigated and rainfed lowland rice production using technical efficiency. This paper estimates the technical efficiency of rice production in Tanzania for the irrigated and rainfed lowland ecologies. Data were collected from an irrigated site in Bagamoyo and a lowland rainfed site, Dakawa in the Morogoro area. The study found that the average technical efficiency of the irrigating farmers is 96% compared to an average 39% for the rainfed lowland system. For the irrigated system, there are no farmers with technical efficiency less than 80%. This high technical efficiency indicates that in order to achieve the rice production targets aspired to, the opportunity for increasing production therefore lies in changing the production technology.

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