



Tropentag, September 11-13, 2024, hybrid conference

“Exploring opportunities ...
for managing natural resources and a better life for all”

Unlocking the global potential competitiveness of Myanmar’s rice sector: A comparative study of production costs and efficiency

NANDAR AYE CHAN¹, ORKHAN SARIYEV¹, MOHAMMAD A. ISLAM², MANFRED ZELLER¹

¹*University of Hohenheim, Inst. of Agric. Sci. in the Tropics (Hans-Ruthenberg-Institute), Germany*

²*Bangladesh Rice Research Institute, Agricultural Economics Division, Bangladesh*

Abstract

Rice is crucial for the food security of over half of the world’s population. However, ensuring a consistent global rice supply to meet the growing future rice demand faces significant challenges due to factors such as adverse impacts of climate change and shocks in energy and fertiliser prices. Trade restrictions pose an additional risk to rice prices, potentially affecting global food security. Myanmar plays an important role in the global rice market, representing 4.3 % (2.34 million tons) of the global rice export volume in 2022. Understanding the competitiveness of Myanmar’s rice industry is vital for maximising its global potential. This paper aims to analyse the cost competitiveness of rice production in Myanmar, specifically by assessing production costs, estimating cost efficiency, and investigating the potential effect of improving cost efficiency on the country’s overall global competitiveness. To achieve this, we conduct a comparative analysis of production costs among major rice-producing countries and estimate the cost efficiency of rice farming in Myanmar using a stochastic frontier cost function model. Subsequently, we analyse how cost efficiency affects domestic resource costs (DRC), a key indicator of global competitiveness, by addressing the endogeneity issue that prior research has not dealt with. We consider seasonal variations across both the dry and wet seasons in Myanmar, an aspect often overlooked in previous research. Our findings reveal that Myanmar ranks as the second-cheapest rice-producing country globally. For the dry and wet seasons, the mean cost efficiencies are 89 % and 86 %, respectively, indicating higher efficiency during the dry season. Both dry and wet-season rice production demonstrate a comparative advantage, with DRC values of 0.31 and 0.54, respectively. The results also show that cost efficiency positively contributes to global competitiveness in both seasons, implying that the global competitiveness of Myanmar’s rice sector can increase through the improvement of cost efficiency. Therefore, policy interventions aimed at developing demand-driven high-yield potential with stress-tolerant rice varieties, promoting the utilisation of quality seed, providing more extensive training on input management practices, and educational programmes for farmers are recommended to enhance cost efficiency, which can further strengthen the country’s competitiveness in the global rice market.

Keywords: Competitiveness, cost efficiency, global rice market, Myanmar