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Exploring the Interconnectedness of Income Inequality, Food Security, and Global Hunger

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ABSTRACT

This letter to the editor critically engages with the article "Agriculture-Based Food-Producing Countries Are Less Secure in Food" by Aktar and Islam (2025). It highlights the paradox that nations with high agricultural output often struggle with food security, emphasizing technological advancements in developed countries as a mitigating factor. The letter suggests integrating Global Hunger Index (GHI) and Gini Coefficient to provide a more comprehensive analysis of food security and income inequality. These metrics could strengthen the study's insights by addressing structural barriers that limit food access and exacerbate disparities, reinforcing the need for inclusive policies to achieve global food security.

Dear Editor of the Journal of Nutrition and Food Security

The author is writing in lieu to the recently published article in JNFS journal, titled "Agriculture-Based Food-Producing Countries Are Less Secure in Food" by Aktar and Islam (Aktar and Islam, 2025). This article offers a compelling and insightful analysis of the global agricultural landscape in relation to food security. The paradox it highlights-where nations that primarily produce agricultural commodities often face heightened food insecurity-is a critical issue. This study provides valuable insights that global agencies, such as the United Nations, can utilize to shape policies supporting Sustainable Development Goals (SDG) 2 (Zero Hunger) and SDG 3 (Good Health and Well-Being).

The article effectively discusses how developed nations, despite their low agricultural GDP shares, secure food stability through advanced technologies such as vertical farming, aquaponics, internet-driven agriculture, and technology-enhanced food waste management. The emergence of platform technologies supporting alternative and

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unconventional food sources further strengthens their food systems (Mok *et al.*, 2020). This analysis underscores the challenges faced by developing nations that lag in technological advancements, reinforcing that food security is now more constrained by access than production, as innovations have mitigated past limitations (Hazell and Wood, 2008).

While the article establishes these relationships well, its analysis could be further enhanced by integrating the Global Hunger Index (GHI). The GHI not only evaluates food availability but also captures the real-world consequences of food insecurity, such as undernourishment, child stunting, child wasting, and child mortality. Including GHI would provide a more comprehensive perspective on food security dynamics, particularly in agricultural economies where food insecurity has severe human impacts (Ani *et al.*, 2021, Herrera *et al.*, 2021). Furthermore, the author proposes incorporating the Gini Coefficient as a measure of income inequality, which plays a significant role in food security. A country may have a substantial agricultural GDP share, but if wealth is concentrated among a few, lower-income populations may struggle with food access. Income disparities exacerbate food insecurity by limiting the purchasing power of vulnerable communities, restricting their ability to obtain adequate nutrition despite sufficient food availability (Stone *et al.*, 2024). Integrating income inequality metrics would offer deeper insights into the structural barriers hindering equitable food distribution and security.

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Authors' contribution

R Sabando designed the research; R Sabando wrote the paper; and FA Sy and DE Prisno had primary responsibility for final content. All authors read and approved the final manuscript.

Conflict of Interest

The authors declared no conflict of interest.

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