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657 rice millers

**Research Implemented by IPA**

Yes

# Assessing the Feasibility of Quality Upgrading in the Rice Sector

## Abstract

Agricultural product exports from developing countries usually necessitate a measure of quality upgrading for products to be competitive in foreign markets. While many interventions focused on product quality upgrading traditionally targeted a single aspect of a value chain, actually achieving higher quality could require interventions at multiple points along the process. However, there is little evidence regarding the need for interventions at multiple stages to achieve the desired product quality, or, alternatively, if single interventions can stimulate upgrading along the chain. This study explored the feasibility of future quality upgrading interventions in Myanmar's rice sector. Through focus groups and a survey, the study found that there is significant variation in the productive capacities of mills, and that future quality upgrading interventions should focus on whole-of-chain interventions.

## Policy Issue

Agricultural product exports from developing countries usually necessitate a measure of

quality upgrading for products to be competitive in foreign markets<sup>1</sup>. While many interventions focused on product quality upgrading traditionally focus on a single aspect of a value chain, actually achieving higher quality could require interventions at multiple points along the process. In turn, targeting multiple points requires engaging with multiple actors, including farmers, processors, wholesalers, and exporters. However, there is little evidence regarding the need for interventions at multiple stages to achieve the desired product quality, or, alternatively, if single interventions can stimulate upgrading along the chain. This research aimed to contribute knowledge to this gap.

## Context of the Evaluation

Myanmar, given its long tradition of rice cultivation, offers an ideal setting to explore the feasibility of value chain interventions-- specifically interventions at multiple stages versus interventions at one end that generate further upgrading throughout the chain.

Despite peaking in the 1960s as the largest rice exporter in the world, Myanmar still considers rice as one of the pillars of its economy. Myanmar produces highly valued varieties of rice, but quality, export levels, and productivity levels have lagged in recent decades. Competition from other countries' recent investments in their rice industries furthermore threatens the country's standing in the high-quality rice market. For example, data from customs exports from 2011 and 2017 show a consistent decrease in the average unit price of rice over this period. In addition, Myanmar has been exporting larger shares of lower-quality rice in recent years, which command lower prices on the international market. Because of these factors, it is crucial to structure effective policies and correct incentives to encourage stakeholders to invest in quality upgrading. Before enacting such changes, however, it is important to understand current barriers and needs of rice millers to ensure that policies are responsive.

## Details of the Intervention

The study was part of a partnership between IPA, the Ministry of Commerce, and the International Growth Centre, and sought to answer the following questions:

- What is the current structure of the rice industry's value chain in Myanmar?
- How much do relevant stakeholders in the rice industry care about quality, and what incentives currently exist for producing high-quality rice?
- What policies can be designed to increase the final quality of rice, and what barriers do actors along the value chain face?

The study utilized a two-step process to develop its findings: in-depth focus groups with key stakeholders within the Ministry and other relevant actors in the rice industry, and a subsequent quantitative survey of rice millers. The focus groups allowed the researchers to discern key challenges based on insights provided regarding past experiences and challenges with respect to quality upgrading in the rice sector, perspectives of rice millers, farmers, and traders on industry barriers, and current incentives/future potential for achieving quality

upgrading.

The survey was deployed through mobile devices and conducted at the mill level<sup>2</sup> across 51 townships in the regions of Ayeyarwaddy, Bago, and Yangon. To construct a representative sample of mills, all medium and large-size mills in the 51 townships were randomly selected from a mill list for the fiscal year 2017 - 2018 registered with the Department of Consumer Affairs under the Ministry of Commerce, as well as membership listings provided by the Myanmar Rice Federation (MRF). Researchers sampled a total of 1025 mills, and completed the survey with representatives of 657 mills.

While this is a descriptive study, it will inform the feasibility of future policy interventions, development of incentives for quality upgrading, and potential future randomized evaluations to assess the impact of proposed policy interventions.

## Results and Policy Lessons

The findings of the survey show the different productive capacities and barriers that exist within the rice value chain, which can be used to develop recommendations for upgrading interventions. For example, significant variations exist across mills in terms of their size, storage space, purchasing, sales, processing methods, and operating costs. There are also several processing steps, such as mist polishing and color sorting, that are shown to produce higher quality rice but have not been adopted by all millers. Finally, in terms of challenges faced by millers that hamper quality upgrading, the survey results highlight a lack of stable electricity, lack of capital to invest in high-quality machines, and a lack of access to international markets.

Based on the survey and focus group results, the researchers recommend the following improvements for the rice sector in Myanmar: establishment of a stable supply of electricity, expanding millers' access to capital for investment, optimizing to create better processing schemes at the individual mill level, targeting the whole value chain for quality upgrading interventions, for example, providing farmers with incentives to invest in high quality crop production.

## Sources

1. Gereffi (1999), Verhoogen (2008), Atkin et al. (2017)

Gereffi, Gary (1999). "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics*, 48(1): 37-70.

Verhoogen, Eric (2008). "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector." *The Quarterly Journal of Economics*, 123 (2), 489.

Atkin, David and Jinhage, Amanda (2017). "Trading Up: The Benefits of Exporting for Small

Firms.” IGC Growth Brief.

2. Rice mills are food processing facilities that process paddies into rice for consumption and export

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