Stimulating Demand for Safer Foods in Informal Grain Markets

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The disease burden and economic losses associated with food safety standard failures are much higher in low- and middle-income countries than in the rest of the world (Jaffee et al., 2018). The informal markets serving many of the consumers in these countries are characterized by multiple intermediaries who source agricultural products from small-scale farmers and aggregate them for resale. Poor organization of intermediaries and weak government regulations make it difficult to maintain quality control and traceability throughout the value chain. In these food supply chains, stimulating consumer demand for safer foods may create a market for safer foods, resulting in improved health and livelihoods for consumers and producers.

However, since food safety is not an easy-to-observe attribute, consumers may not always be able to identify safer foods during purchase. One promising way to overcome this challenge is to create awareness about easily observable food safety attributes, thus enabling consumers to identify and purchase safe foods at a minimal cost. If consumers value safety and can identify safe foods, they might be willing to pay a premium for high-quality and safe food. A supply response would then follow, as food suppliers would be incentivized to offer high-quality and safe food. . We conducted a study to assess how information on easily observable qualities can help consumers choose high-quality and safe products and test whether supply responds to the increase in demand.

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1. Unsafe food could be redirected to other uses incase it is hard to completely assure safe food…….that us, depends on how easy it is to enrure safety at the production level……
2. It is not entirely market driven as public funds may be used to generate the information (how to identify unsafe foods in the informal markets context) and to give it to the consumers/……..

The food safety attribute studied in this work is aflatoxin contamination in maize. Aflatoxin contamination is a relatively well-known food safety hazard in Kenya that has received media attention due to occasional deaths from acute aflatoxicosis. Chronic exposure to aflatoxin is a possible cause of liver cancer and is associated with child stunting and weakened immune systems. Aflatoxin contamination cannot be observed with the human eye, and it is mostly determined through expensive specialized tests. However, previous work by Hoffmann et al. (2021) found a correlation between kernel quality - an easy to observe trait - and aflatoxin contamination. Maize samples with broken outer layers were more likely to exceed Kenya's aflatoxin regulatory limit compared to undamaged samples. A broken exterior exposes the starchy parts of maize kernels to fungal growth, increasing the risk of aflatoxin contamination.

This study used a field experiment to test the effect of providing consumers and traders with information on the correlation between kernel integrity and aflatoxin contamination in ninety informal markets in Meru County (a populous area in eastern Kenya). Our information intervention increased consumers' knowledge of the association between aflatoxin contamination and kernel integrity and the likelihood of considering this aspect while purchasing maize. Furthermore, traders who received the information reported improving their maize handling techniques to reduce contamination. However, we did not observe a significant change in the quality of grain in local markets (i.e., the proportion of maize with broken kernels in samples from the markets). Additionally, traders with higher quality maize did not fetch higher prices for their maize, suggesting that a market for safer products did not arise in this context.

A possible explanation as to why a market for safer foods did not arise is that without improvements in quality and with low variation in the quality of maize, consumers may have

sought other sources of maize or other maize products. Our data indicates that traders in the treatment markets sold lower volumes of maize, traded maize for fewer months, and were likely to report lower average prices. Consumers in these markets were less likely to report the market as a source of maize for their home consumption during the intervention period. We speculate that our information intervention might have suppressed overall demand for the maize type offered in these markets.

From the above results, we conclude that the provision of easily available information on the correlation of quality and safety is likely to help consumers identify safer foods. However, given other supply dynamics, the increased demand for high-quality foods may not trigger an increased supply of high-quality and safe products in the short term. We recommend further studies with multiple intervention and data-collection rounds to measure the long-term effect of such information on supply, while considering variables such as seasonality, consumer behavior, and the substitution of market purchased maize with other types of maize and alternative grains.

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