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Beyond price stabilisation: Liquidity explains farmer behaviour under evolving soybean market regulation in Tanzania

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Abstract

Farmers cultivating soybean in Tanzania is increasing amid volatile markets. Scattered production increases transaction costs and price disparities within and across seasons. Informal traders link farmers to buyers, yet also contribute to price volatility. Since 2018, the government has regulated soybean through a warehouse receipt system (WRS) and auctions to stabilise prices. Procured soybean must go through the Agricultural Marketing Cooperative Societies (AMCOS). Membership is not required, yet most farmers rely on traders who then sell through AMCOS, raising the question of whether this reflects preference, necessity, or limited AMCOS access. This study explains farmer economic behaviour amid evolving market regulation in the Ruvuma region. We used a mixed-effects logistic regression to model farmer-reported annual cultivation decisions from 2018 to 2025, collected through a cross-sectional survey, and triangulated findings with stakeholder interviews.

Results reveal strong persistence: 28 % of farmers cultivated soybean consistently, 31 % did not cultivate in any year, and the remainder grew the crop irregularly. Consistent growers were most prevalent among AMCOS members, less so among non-members, and least in villages without AMCOS, suggesting distinct membership and access effects. Interviews revealed that soybean, harvested before maize, serves as an early cash source to finance maize harvest and urgent household needs. Farmers received significantly lower prices from traders than from AMCOS. However, AMCOS delay payment, as auctions proceed only once sufficient volume is procured, leading most farmers, including AMCOS members, to rely on traders for quick cash. Under the regulation, traders face a dilemma: either delay procurement until the first auction price is announced or buy early at low, speculative prices to reduce risk. Both strategies compound farmers' liquidity constraints, cutting off early cash access through both channels simultaneously. Further, since regulations compel traders to operate through AMCOS, villages without one offer traders little incentive to engage, which may explain why cultivation is lowest in these areas. Expanding AMCOS presence in underserved villages and allowing traders to procure more flexibly would improve market access and support soybean cultivation. Announcing auction prices earlier, closer to the harvest period, would increase price transparency between farmers and traders and reduce speculation-driven price volatility.

Keywords: Cooperatives, informal traders, mixed-effects logistic regression, smallholder farmers, warehouse receipt system

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