

Disadvantaged female agro-input dealers of Uganda: Are customer perceptions guilty?

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Esther was stacking seed packages on the shelves of her agro-input shop in a small village in Uganda while thinking about the ingredients she needs to purchase to prepare dinner for her children and husband. She noticed a maize farmer from her village walking by on the street. While her eyes followed the farmer's footsteps, the farmer entered another agro-input store at the end of the street run by Lwanga. Lwanga is a young man from Esther's village who started agro-input dealing two years ago. Although Esther always tries to store the best quality inputs for her customers, recently more and more customers have been crowding Lwanga's shop which he renovated after receiving a loan few months ago. While her mind crosses the time last year when she desperately tried for a loan even after failing to obtain one the year before, she wonders what she has been doing wrong in her business. Hundreds of Esthers running agro-input shops in Uganda are with similar questions. Why is it easier for Lwanga to attract customers successfully within two years from the start of the business and obtain a loan to renovate his shop while Esther struggles to do the same even after being in business for a longer time?

Is it actually Esther's business strategy that is failing or the customers' perceptions about her shop and inputs are at fault?

This is where bias in perceptions and the formation of perceptions based on lacking information come into play. In rural markets and informal food supply chains, the prominence of imperfect information cannot be denied. Thus, when decisions are to be made, [economic actors have to rely extensively on perceptions](#) made using limited data. Perceptions are influenced by a lot of factors such as social and cultural phenomena and prevailing norms. Additionally, it is hard for farmers to learn about the actual quality of inputs by just observing a seed or fertilizer package. [Several studies](#) have shown that in Uganda, there is [considerable heterogeneity](#) in the actual input quality in the agricultural markets which makes it even more difficult to judge the quality of the available inputs.

In traditional societies with strong prominence of societal rules and customs, often women are not seen as the best fit for businesses like agro-input dealing. Uganda is no different from such societies and Ugandan women are mostly expected to be engaged in household chores and cater to the daily needs of the family. Although the ideas of

independent earning ventures and modern agricultural technology adoptions for women are becoming widespread, government interventions and trainings by non-governmental institutions [have still not managed to pull the society towards complete acceptance of women in these roles](#). Thus, even if women get empowered by starting an agro-input shop, they still struggle to continue doing well in the business, expand their sales or secure financial support for renovations or further development of their shops. These concerns make us skeptical about the presence of [gender bias in customer perceptions within these functioning supply chains](#).

Considering the importance of perceptions in food supply chains, quality of agricultural inputs and the struggles faced by female economic actors in supply chains, we investigated ratings received by agro-input dealers from smallholder farmers in 11 districts of southeastern Uganda. The ratings were collected during two different rounds in 2021 and 2022. The ratings were measured on a scale of 1 (worst) to 5 (best). On an average, an individual farmer rated about 2 dealers and an individual dealer received ratings from about 12 farmers. The farmers were asked to rate based on the following attributes:

- Perception about the quality of the agro-input dealer which included general quality, location (focusing on accessibility and closeness to customers), price (frequency of discounts and competitiveness of the pricing strategy), seed quality, stock (number of varieties and availability) and reputation (other farmers' perceptions about a particular dealer).
- Perception about the quality of the seed sold by the agro-input dealer which included general quality of the seed, yield, drought and pest or disease tolerance levels of the purchased seed, time taken for crop maturation and seed germination reliability.

Presence of bias

We observed that after comparing average ratings given to agro-input shops managed by both genders (male and female), the results show that agro-input shops managed or owned by women are generally rated lower compared to the shops managed or owned by men. However, highlighting a specific product, seed, tells us a different story. Farmers seem to not rate significantly different when asked to rate based on the various seed quality attributes. This brings us to an alarming conclusion that even though actual differences in quality do not persist, structural gender-based differences in customer perceptions are clearly prevalent.

Furthermore, since farmer characteristics can also influence the ratings farmers give to the agro-input dealers, we also ran farmer fixed effects models to control for farmer heterogeneity. The results again confirm gender equity bias when farmers rate general attributes of the agro-input dealers. Additionally, ratings were also different for the dimensions referring to the quality of seeds sold by agro-input dealers of different genders.

Zooming into the rating attributes, price competitiveness and reputation were particularly found to be disad-

vantageous for female dealers when we concentrate on the dealer characteristics. With worse reputation on an average, female agro-input dealers will never be successful in attracting or retaining customers. Surprisingly, for location which can be identified objectively, there were no significant differences in ratings for men and women. These findings further emphasize the prevalence of gender bias in perceptions of customers. Gender equity bias was noticed to be most prominent when male and female agro-input dealers were rated for germination rates and maturation period of the seeds sold by them.

Our sample suggested that a large share of the agro-input shops are managed or owned by women which means many women in Uganda are stepping into these crucial parts of the food supply chain. But are they succeeding and adopting these activities for a long-term sustenance? Before thinking about an answer to these questions, we need to think whether they have all the resources and complete access to agricultural markets for future survival. Good quality inputs, better shop infrastructure, good services for customers, higher profits and motivation for developing agro-input dealing are only possible when an agro-input shop gets regular customers and faces no hindrance in accessing financial and market support. This is feasible when customer perceptions are equally in favor of both male- and female- managed agro-input shops.

Women empowerment in agriculture has been on the world stage for several years. We expect that in the coming years, the agricultural markets and the government are able to instigate changes in the perceptions of the economic actors and customers within the food supply chains. For the most efficacious functioning of food supply chains, it is important to promote gender equality at every level to create a more inclusive agricultural sector. The findings call for policymakers, international development organizations and the government to jointly design and implement effective and efficient interventions that can promote equal opportunities for both men and women and challenge gender norms. The end goal is to ensure women succeed as agents of food supply chains and entrepreneurs on a par with their male counterparts.