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Does gender training influence seed entrepreneurs in adopting gender-sensitive business practices? Case study of Zambia



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Feed the Future Consortium Partners in the Feed the Future Global Supporting Seed Systems for Development activity:



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ACRONYMS AND ABBREVIATIONS

ADAs	Agricultural Development Agents
CBSP	Community-based seed producers
CNFA	Cultivating New Frontiers in Agriculture
CRS	Catholic Relief Services
FAO	Food and Agriculture Organization
FTF INOVA	Feed the Future Mozambique Innovations
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
PALLS	Promoting Access to Locally Grown Legume Seeds
PIM	Policy, Institutions and Markets
S34D	Supporting Seed Systems for Development
TRIF	Transform Rural India Foundation
USAID	United States Agency for International Development

1. INTRODUCTION

Smallholder farmers face many constraints in accessing agricultural advisory services and inputs. Seeds are often not financially accessible, and the distance to input suppliers and extension agents is too great.

Although women are key players in the agricultural sector, women receive only 5% of agricultural training and advisory services worldwide (FAO, 2011). In Zambia, similar challenges are facing male and female farmers in accessing quality seeds.

In response, CRS-Zambia, in partnership with Caritas-Chipata, implemented “The Promoting Access to Locally Grown Legume Seeds (PALLS) project” from 2020-2023 to address the challenge faced by small-scale farmers in accessing quality legume seeds in Eastern Province. This project deployed a last-mile delivery model through community-based Agricultural Development Agents (ADAs) intended to (1) increase rural farmers’ seed access and (2) develop the legume (pigeon pea and soya) value chain in the Chipata and Lundazi districts of the Eastern Province. In its third year of implementation, the project adapted its ADA model to be gender-sensitive by offering a gender training to ADAs and following-up during quarterly check-ins.

In May 2022, the PALL’s Agriculture Program Manager and the CRS-Zambia Gender Advisor offered a 2-day gender training to the Field Officers and ADAs to support them in adapting their business practices to be gender-sensitive. They trained 40 ADAs (M:24, F:16) using an adapted version of the CRS “Gender-Inclusive Private Agriculture Services Provider” training manual. This interactive training takes ADAs through a journey that starts with gender awareness and then explains (1) how gender dynamics and constraints impact their clients’ ability to benefit from their products and services and (2) how these factors influence their business’s growth and sustainability. The training then helps ADAs in recognize the ways in which their own gender may also affect how they deliver services and benefit from their role as ADAs. The training concludes with the ADAs developing an action plan outlining how they will change their business practices to be at least gender-responsive and what they steps they can take to support gender transformation.

At the end of the training in Zambia, the ADAs identified five key actions to better reach and serve female clients: 1) open new outlets, 2) conduct door-to-door marketing, 3) offer seeds in small packs, 4) collect gender-disaggregated sales data, and 5) change the number of times their sale outlets were opened. Following the training, the PALLS project Field Officers inquired during their quarterly ADAs visits about what gender-sensitive business practices they had adopted and any challenges in adopting gender-sensitive behaviors. At the time of this study, the gender-sensitive model was piloted for 11 months. This research reviews literature related to female smallholder farmers' access to extension services and input suppliers and analyzes the effectiveness of gender training and quarterly check-ins in encouraging ADAs to adopt more gender-sensitive business practices.

2. LITERATURE REVIEW

Accessing agricultural inputs and extension services is a common challenge for male and female farmers in Africa; however, females often face greater barriers to access and derive fewer benefits than males. According to the FAO (2023), the gap in women’s access to extension and irrigation is stagnant, while access to mobile phones has help reduced the disparity in women’s access to financial services.

Worldwide, women face similar gender-based constraints that limit access to financial services, networks, and information, thereby reducing their agency and decision-making power at the community, household, and individual levels relative to men (David, 2022). These social and gender norms determine the gender roles and responsibilities that influence women’s access to and benefit from extension services and input suppliers (David, 2022). David (2022) summarizes this evidence in four groups: (1) not being seen as legitimate clients; (2) social norms that are responsible for time and mobility constraints and restrict women’s interactions with men and participation in activities; (3) gender bias in the content and type of services; and (4) male bias in extension and advisory methods. Kramer and Galiè (2020) summarized the available evidence on the interaction between gender dynamics and seed systems. These factors impose four conditions for achieving seed security for women and men farmers, including “(1) high-quality seeds that reflect women’s and men’s preferences and needs; (2) quality seeds are available when needed and where women can access them easily; (3) the quality seeds are accessible; and (4) women and men can use and control quality seeds and the benefits arising from their use” (Kramer and Galiè, 2020).

In addressing the overall barriers of male and female farmers in accessing information and inputs at the last mile, development organizations have been designing and implementing last-mile agent approaches that support local entrepreneurs in reaching farmers in very rural locations. Some research has been conducted on the overall approach of a last-mile agent. IFDC, through the USAID-funded CRS-led Supporting Seed Systems for Development (S34D) Activity, conducted a “Review of Existing Last-mile Seed Delivery Models and Approaches,” which reviewed 10 types of models. The three models most closely aligned with this research are the community-based seed producers (CBSP), agro-dealers, and village-based advisor models. The IFDC (2020) review showed that CBSPs are often trained in seed production and business skills to sustain their business. The Private Sector Agro-Dealer Model focuses on small-scale entrepreneurs who sell agricultural inputs, finance local credit arrangements, and offer extension services (IFDC 2020). In sub-Saharan Africa, such entrepreneurs tend to be concentrated in larger towns despite their farmer clientele; thus, several organizations—IFDC, CNFA and AGRA—have worked to strengthen the agro-dealer network’s capacity, certification, and business relations with local dealers in sub-Saharan Africa (IFDC 2020). The Feed the Future Mozambique Innovations (FTF INOVA) project found that, although males dominate agro-dealer businesses, they hire female assistants. As female seed vendors are perceived to be trustworthy, hardworking, and client-friendly, the FTF INOVA (2018) study recommended developing a female agro-dealer model. The village-based advisors model comprises self-employed microbusinesses selling agro-inputs and sharing information with farmers in their community. They receive the retailers’ margin as their pay (Kansiime et al, 2018). The approach of India’s Transform Rural India Foundation (TRIF) agri-entrepreneur is like that of village-based advisors (Kumar and Muthuprakash K. M. 2022). IFDC (2020) concludes that “despite the many efforts designed to enhance seed security for small-scale farmers, gender-related gaps exist across the seed systems...for women to be fully engaged in and benefit from both the formal and informal seed systems, many structural barriers and harmful gender norms must be overcome.”

MoringaConnect, a social enterprise in Ghana, uses a network of field agents to provide last-mile smallholder farmers with agricultural practices and market connections for moringa. Ronald et al. (2019) identified strategies for MoringaConnect to successfully build an agricultural sales and extension network, considering attracting, training, contracting, and paying agents. They found that hiring women agents increases the

network's success, as it improves customer loyalty and satisfaction, attracts more female clients, helps female clients feel safer, creates a deeper understanding of the product and services, and increases their use.

Nagarajan et al. (2021) builds off the IFDC (2020) literature review to look at potential business models for last-mile delivery. Their business models rely on five guidelines: (1) scalability, (2) sustainability, (3) use of new technology, (4) incorporation of quality or standards, and (5) homegrown solutions. They proposed four models relevant to this study, including:

1. The micro-franchising model involves a partnership between a larger business far from the community and a local entrepreneur. This model does not note key gender issues to be considered such as appropriate transportation for female entrepreneurs, safety concerns, and cultural barriers.
2. The hub entrepreneur model is proposed for vegetatively propagated planting materials and legume seeds. Propagation is decentralized by linking potential farmer-based enterprises with certified seed producers. The clean seeds produced are packaged and supplied within the region with a mark of quality.
3. The Seasonal Rural Aggregation and Distribution Kiosk Model involves an agro-dealer partnering with local kiosk entrepreneurs who collect orders from farmers in advance on credit. The entrepreneur relays this information to the agro-dealer for planning purposes and seed is available at the kiosk when needed.
4. The Motorcycle Distribution Agents Model partners agro-dealers with trustworthy motorcycle riders who operate around their premises and link them to customers who require seeds.

Bikketi et al. (2022) document the champion farmer model, which includes influential, local entrepreneurial farmers with substantial knowledge of good agricultural practices within their communities. Champions are trained in agricultural products and services they will sell, paid a monthly fee, and given smartphones. This study documented several general barriers that male and female champions face, such as cultural norms that demand that housewives follow their gender-based roles in productive and reproductive work. The study also indicated that increased workloads increase tensions within households, which could lead to gender-based violence. The quantitative results suggested that supportive spouses may lead women to become champion farmers.

USAID's (2023) "Expanding the Agri-Inputs Market by Targeting Female Farmers" study provides practical advice on gender-sensitive marketing and distribution practices and engaging women as agro-dealers and agents. From the Mozambique experience, it is important to "reach female farmers directly at their farms through mobile input shops or village agents to increase sales, product awareness, and brand loyalty." USAID (2023) suggests holding activities on market days when women are likely in town, offering small seed packs that reflect female farmer preferences, simplifying package instructions, and organizing women's farming and savings groups as a sales point for inputs.

Kramer and Galie (2020) mentioned that "most previous research has focused on diagnosing where the gender gaps are in seed systems; less effort has been made to understand how to sustainably reduce these gaps."

3. METHODOLOGY

Mixed methods were used to collect data on changes ADAs made to their business practices. In October 2022, 4 months post-training, all 39 functional ADAs were interviewed about profitability and gender adaptations to business practices. In April 2023, 11 months post-training, a survey was administered to the 38 functioning ADAs that focused on changes in ADA business practices. The sampling approach included all active ADAs that participated in the gender-sensitive last-mile agent training. Although 40 ADAs were trained, there were 38 respondents, as two ADAs resigned. Twenty-four respondents were male and 14 were female. All were adults (age > 30), apart from 1 youth respondent (age ≤ 29). Informed consent was received by all that were interviewed. Data was exported to MS Excel, cleaned, and frequencies and percentages were computed. Key variables were disaggregated by respondent's sex for richer insights.

4. RESULTS AND DISCUSSIONS

4.1 What changes have ADAs made to their business approach?

Kramer and Galiè (2020) mentioned that most research has not focused on how to practically reduce the gender gaps identified. The results of this study shows that an interactive, practical gender training with last mile agents can lead to changes in business practices that reduced the common gender gaps women face in accessing seed. The data shows that four months after training, 32 of the 39 ADA participants had made at least one change in their business approach to be more gender sensitive. Eleven months after training, all 38 remaining ADAs had made at least one adaptation to their business approach. The results showed that although 32 ADAs made changes to their business practices to be gender sensitive within 4 months of training, the number of adaptations increased per ADA as the length of time increases. **Figure 1** shows the changes ADAs made 4 months and 11 months post-training. Within 4 months of training, 23% of the ADAs sought out new female clients, while that percentage grew to 92% 11 months post-training. Similarly, 23% of the ADAs changed products and services 4 months post-training, but this percentage increased to 87% 11 months post-training. Similar results were found for altering payment terms, conducting door-to-door marketing, explaining written seed instructions, engaging couples in joint decision-making, disaggregating sales data, and offering small packs. The only delivery approach that was consistent between the two time periods was opening additional outlets. There were two adaptations in which there were only data from April 2023. Fifty-eight percent of ADAs changed the time that products and services were offered, and 71% reached out to stakeholders promoting gender. Several of the changes ADAs made to their business practices reflect the recommendations of the USAID (2023) “Expanding the Agri-Inputs Market by Targeting Female Farmers” study, which suggested meeting female farmers where they are, offering small seed packs, and simplifying package instructions.

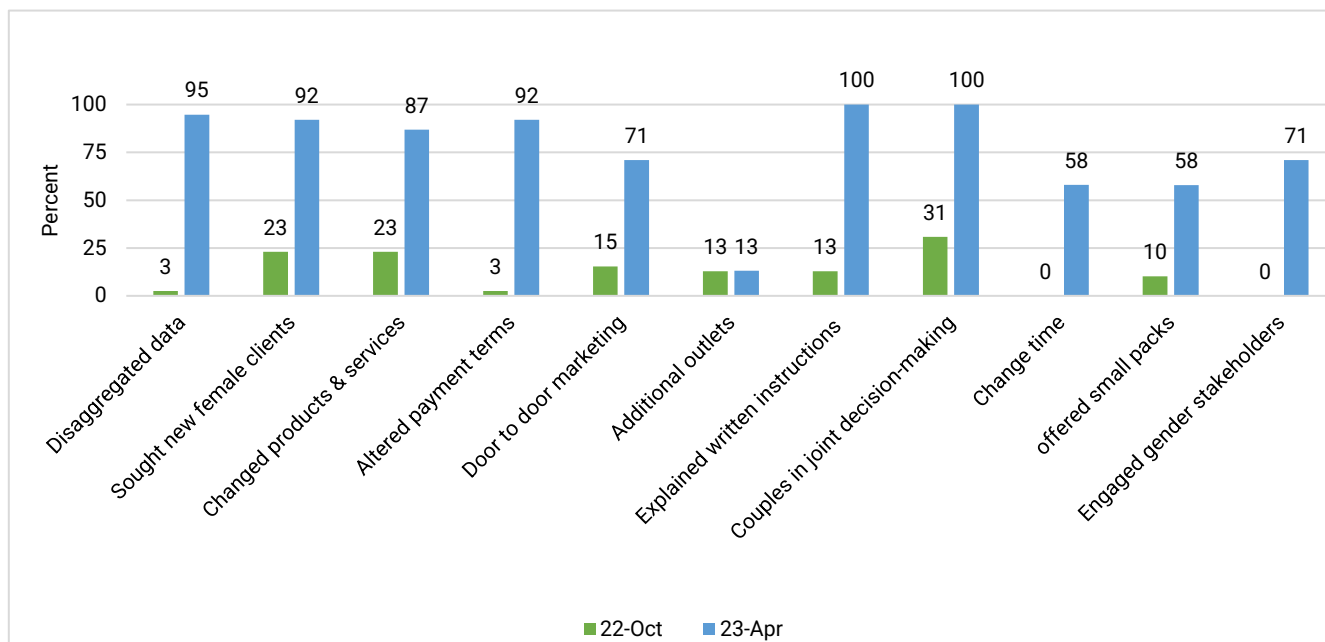


Figure 1. Changes in ADAs delivery practices (%) at 4- and 11-months post-gender training

For many of the adaptations to business practices, 11 months after training, male and female ADAs similarly adopted the broad approach (**Figure 2**). All the ADAs, no matter their sex, sought out new female clients.

Most male (83%) and female (93%) ADAs changed products and services to better serve female clients and altered their payment methods (M: 92%, F: 93%). A similar percentage of male (71%) and female (71%) ADAs conducted door-to-door marketing, but only 17% of male ADAs and 7% of female ADAs set up a second store. Differences in overall approaches were observed between male and female ADAs regarding changing the times in which services are available and in offering small packs to clients. Male ADAs were generally twice as likely as their female counterparts to change the time they offered their services. Compared with male ADAs, female ADAs were more likely to offer seeds in small packs. The remainder of the Results section dives deeper into how the practices were adapted.

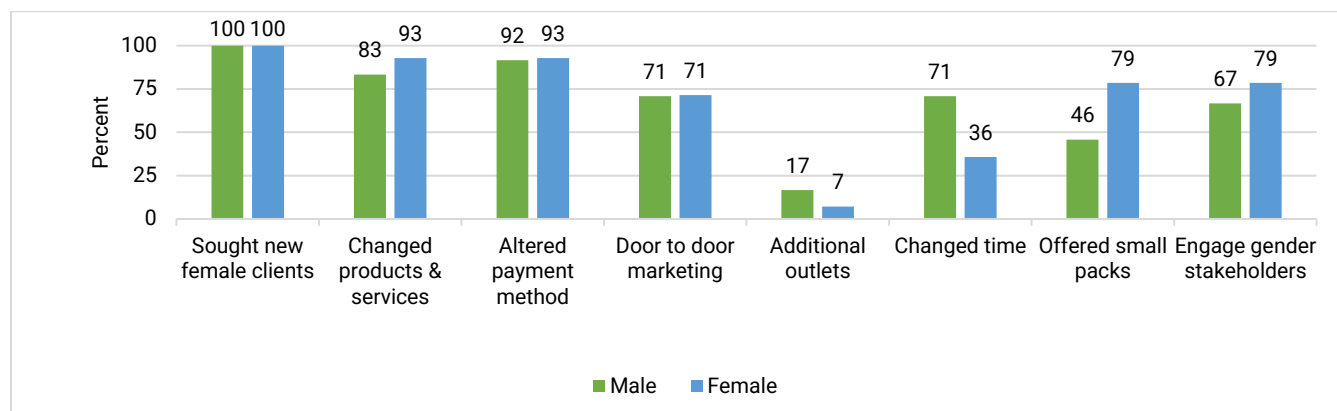


Figure 2: Changes in ADA delivery practices (%) and gender disaggregation (n=38 M:24, F:14)

4.2 Did ADA’s sex disaggregate their sales data?

Sex-disaggregated sales data is an important first step in understanding who one’s clients are, as is using this data to then guide business decisions. Of the 36 ADAs who sex-disaggregated their sales data by April 2023, 92% used this information to guide what seeds to offer, 89% used it to guide variety selection, 86% to guide product marketing, and 36% used it to guide sales location (Figure 3). The use of the disaggregated data supports the ability to implement the recommendation made from the USAID (2023) “Expanding the Agri-Inputs Market by Targeting Female Farmers” study.

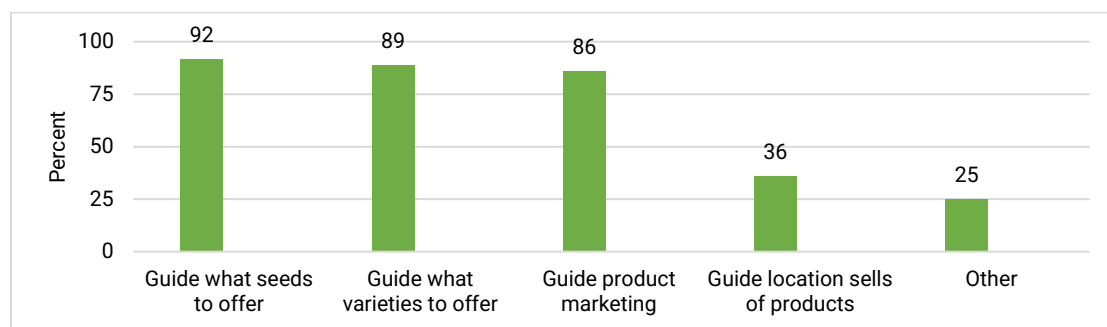


Figure 3: How ADAs use sex-disaggregated sales data (%) (n=36)

4.3 How did ADAs change their practices to identify new female clients?

Figure 4 shows that, of the 38 ADAs who changed their services to better seek out new female clients 11 months after the training, 71% of the male and female ADAs advertised where women are likely to visit. While the majority (86%) of female ADAs both set up sales locations where women are likely to go and meet

with women’s groups, male ADAs are far less likely to set up sales locations where women visit and/or meet with women’s groups (38% and 29%, respectively). Female ADAs (71%) were more likely than male ADAs (50%) to ask female clients to inform their female friends about their business. Only 21% of female and 8% of male ADAs gather information from existing female clients on how best to reach more female clients. Two female ADAs started to sell services and products at church. These results align with the findings of Ronald et al. (2019) that suggest hiring women agents increases engagement with female farmers/clients.

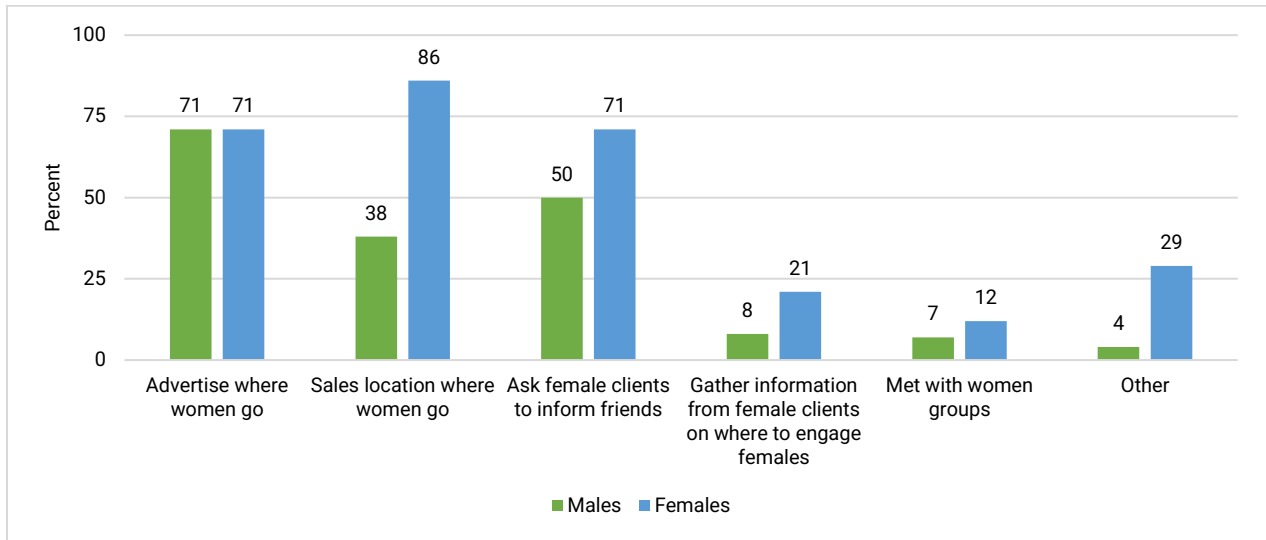


Figure 4. Changes ADAs made to services to seek out female clients (%) (n=38 M:24, F:14)

4.4 How did ADAs change their products and services to better serve female clients?

Of the 33 ADAs who changed the products and services they offered (Figure 5), 70% of the male ADAs and 85% of the female ADAs offered different crop seeds and different varieties. Eighty-five percent of female ADAs and 60% of male ADAs offered other inputs. Regarding the change in the size of the seed packs being offered, 25% of the male and 8% of the female ADAs offered products of larger sizes, while 35% of the male and 54% of the female ADAs offered products of smaller sizes. One male ADA invited his wife to be part of his business to better reach female clients, which aligns back with the Ronald et al. (2019) finding.

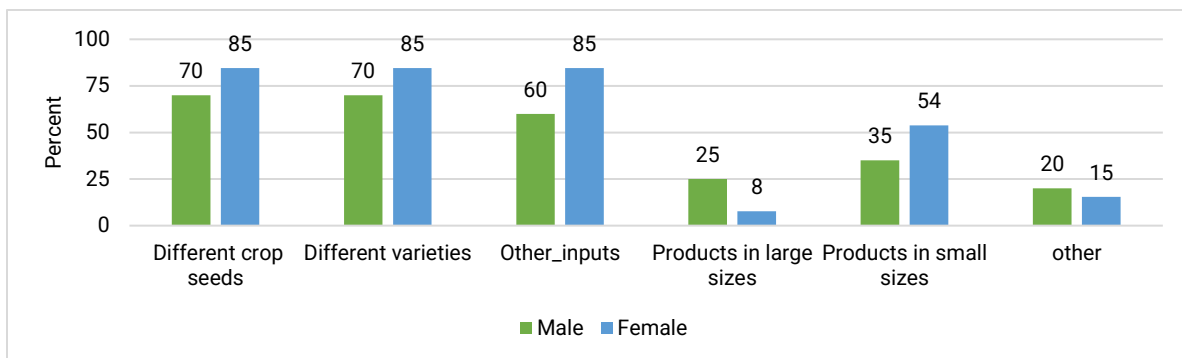


Figure 5: Changes ADAs made to the products and services offered (%) (n=33 M:20, F:13)

4.5 How did ADAs alter the timing of their services?

Eleven months after the training, 27 ADAs altered the timing of when they offered their products and services. **Figure 6** shows how the ADAs altered the timing of their services. Seventy-one percent of male ADAs and 40% of female ADAs who altered their timing extended their daily hours, while 60% of females and 35% of male ADAs offered seed at events that women will likely attend. Of the 16 ADAs who did not change the timing in which they offered products and services, the main reason – mentioned by all 16 ADAs – was that the existing time was convenient for women clients. Five ADAs mentioned that their schedule did not allow them to change the time.

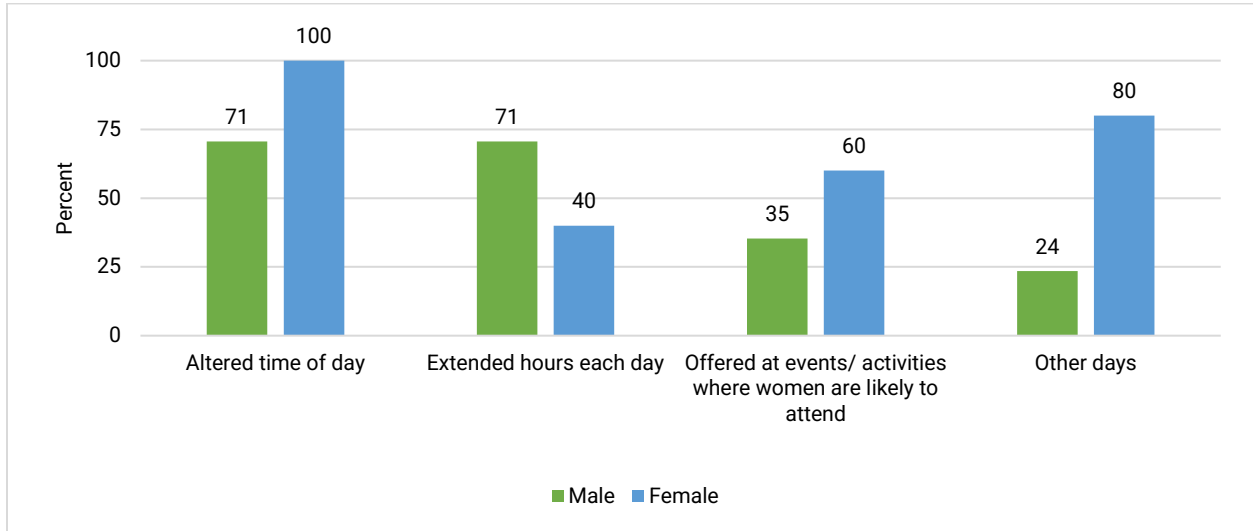


Figure 6: Changes ADAs made when they offered products and services (%) (n=22 M:17, F:5)

4.6 How did ADAs alter their payment terms?

Most ADAs altered their payment terms (**Figure 7**), with most offering credit. Compared with male ADAs (36%), female ADAs (69%) were more likely to sign agreements with couples. Approximately half (54%) of the male and female ADAs established payment plans. Female ADAs (54%) were more likely to accept mobile money than male ADAs (36%).

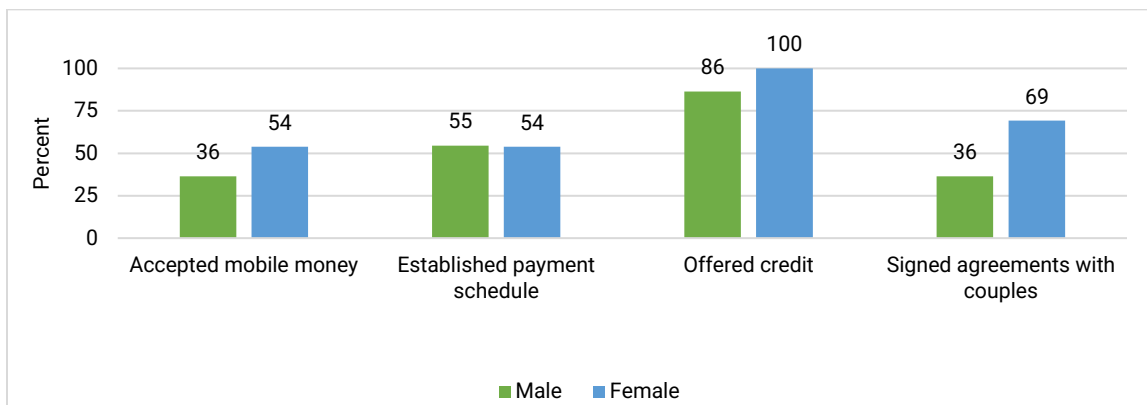


Figure 7: Changes ADAs made in payment terms stratified by sex (%) (n=35 M:22, F:13)

Eleven months after the training, all 38 ADAs engaged in joint decision-making discussions with the couples, particularly surrounding the amount of inputs to purchase and payments. Seventy-nine percent of female and male ADAs had discussions with couples making decisions on services to procure. Less than half of the female ADAs and a quarter of the male ADAs requested that couples sign an agreement together on payment terms. Most of the ADAs (95%) led at least one discussion on gender during community meetings and demonstrated gender equitable behaviors (**Figure 8**).

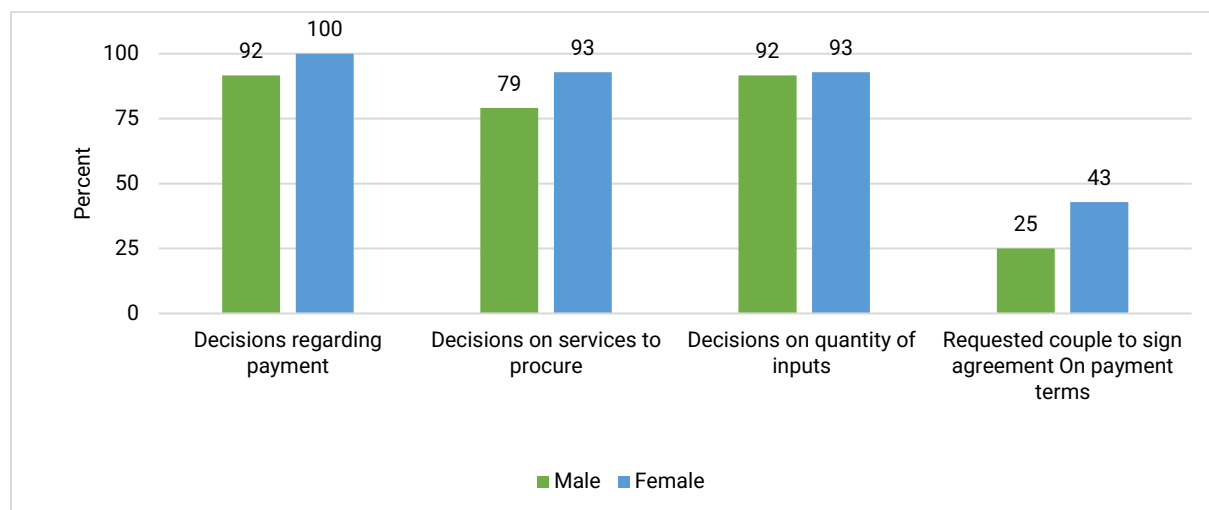


Figure 8: Joint decision discussion topics that ADAs had with clients (%) (n=38 M:24, F:14)

4.7 Did ADAs offer small packs to their clients?

As mentioned above, 58% of the ADAs offered small packs of seeds for sale. Of those 58% who sold small packets, 79% were female and 46% were male. For the 42% that did not offer small seed packs, 7 mentioned that they were not able to access small bags to offer seed, 5 stated that their female clients did not want small packs, while 6 said that their male clients did not want small packs. For the ADAs that offered small seed packs to clients, 77% (n=17) mentioned more packs were purchased, 86% (n=19) said more seed types were purchased, 86% (n=19) recognized clients were appreciative of offering this service and 55% (n=12) saw more income/new clients. Several ADAs noted negative impacts on their business, as 14% (n=3) stated that they had lower profits as less seed was being purchased, and 14% (n=3) reported lower profits given the additional cost of the packs.

4.8 Did the ADAs offer door-to-door marketing?

Door-to-door sales were key marketing shifts seen 11 months post-training and were offered by 71% of the ADAs. The reasons for not selling door-to-door were as follows: the distance between clients was too far (n=4); the distance was too time-consuming (n=7); the number of clients sold per day was reduced (n=4); mobility challenges (n=1); cultural norms were inhibited visiting clients at home (n=1); no transportation to reach each households (5 ADAs); and insufficient transport to carry enough products (n=5).

For ADAs that marketed door-to-door, the effect on their businesses included: 96% (n=26) attracted new clients through introductions to neighbors, 70% (n=19) saw an increase in average seed purchases per client as they no longer had to worry about transportation, and 22% (n=6) experienced reduced profits that they attributed to higher transport costs and longer work hours.

4.9 Did the ADA open additional outlets?

Within 4 months of training, 5 ADAs opened additional outlets, and this number of new stores was consistent at month 11. The main reason for 18 male and 13 female ADAs not opening another outlet was the lack of capital, while 5 male and 4 female ADAs expressed insufficient staff (Figure 9).

For the 5 ADAs that had opened another outlet by the April 2023 survey, all 5 stated that the new outlet brought new clients and increased income, but 1 ADA mentioned decreases in overall profits given start-up costs for the new store.

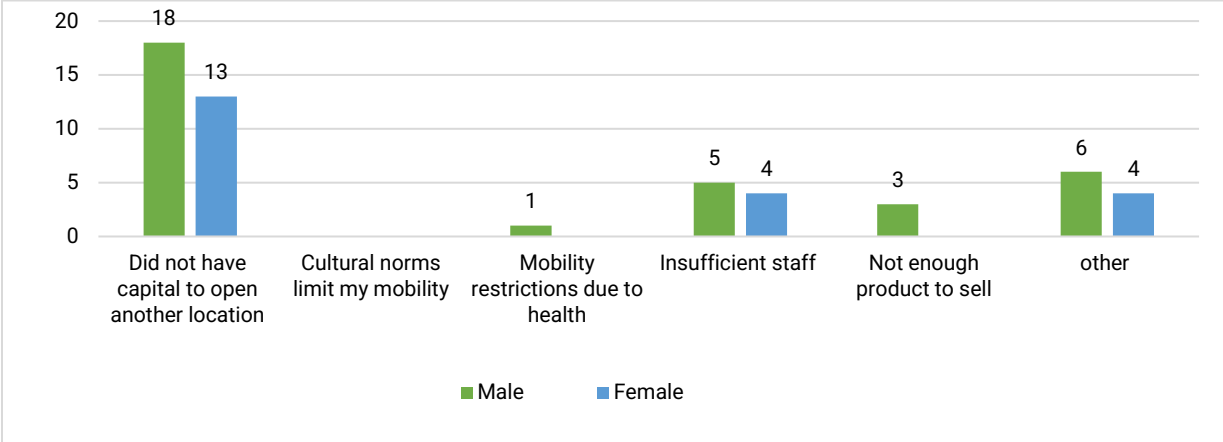


Figure 9: Reasons for not opening additional outlets (n=31 M:18, F:13)

4.10 How have these changes affected your business?

When we ask the ADAs about how the changes they made affected their business, we see a strong emphasis on women, females, clients, and profits (Figure 10).



Figure 10: Expression of ADAs on how gender training affected their businesses

5. CONCLUSIONS

From the farmer's perspective, most respondents indicated that they would continue to access the seeds through the ADA model. Evidence from Zambia illustrates that, with tailored gender training and time to adopt practices, last-mile agents are willing to adjust their business practices to better serve female clients.

5.1 Gender-transformative aspects

The results showed that ADAs took efforts to address couples' decision-making with their clients and in their community. It is essential to ensure that the process of promoting women's decision-making is performed safely and in consultation with women to mitigate any potential violence that might arise during or after the project.

5.2 Develop gender-inclusive business plans

The results of this case study suggest that strengthening last-mile agent capacity on gender and its effects on their business can result in changes in business behaviors that are more gender-inclusive for clients and potentially profitable for entrepreneurs. Projects that engage in any last-mile agent model approach should include interactive, tailored training on gender as part of their core technical capacity strengthening package taught in the early stages of model implementation.

5.3 Monitoring gender-inclusive behavior change

Often, monitoring for changes in gender behavior is limited to just a few indicators and a couple of questions in a survey tool. This minimal inclusion often limits our real understanding of the behavior changes that occur. Administering a gender-specific survey or substantial section within a larger survey tool is critical for capturing the behavioral changes related to gender-sensitive business practices, what exactly is being done, why something is not being changed, and the effect of the behavior changes on their business. This entails a substantial survey to be administered to the last-mile agents at baseline and at least 1-year post-training on gender-sensitive last-mile agent services.

The results of this study contribute to the existing, albeit limited, literature on how last-mile agents can adapt their services to better reach and serve female clients. It illustrates a practical approach that supports last-mile agents' internalization of gender, which motivates them to adjust their business practices to better serve women and increase their profits. In exploring how these changes affect ADAs' businesses, this case study shows evidence that, with gender-appropriate training and follow-up, business practices can be altered to better serve women. The results of this study are limited to the Zambian context and, specifically, the geographical scope of the project. Although the sample size was limited to the number of ADAs in the project, the database was rich with quantitative and qualitative data.

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