



IGNITE & AGRA

# Paths to a business for women, men, and youth VBAs in Tanzania

Final Report

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The Impacting Gender and Nutrition through Innovative Technical Exchange in Agriculture (IGNITE) mechanism is a five-year investment to strengthen African institutions' ability to integrate nutrition and gender into their way of doing business and their agriculture interventions. IGNITE works with African agricultural institutions in Ethiopia, Nigeria, Burkina Faso, and Tanzania.







## Table of Contents

Research Partners	4
Acknowledgements	5
Definitions and Acronyms	6
Executive Summary	7
Introduction	10
Literature Review	15
Profile of Tanzanian VBAs	19
RQ1: Income-Generating Activities	24
RQ2: Entrepreneurial Inputs	32
RQ3: Income & Non-cash benefits	38
RQ4: Challenges & Barriers	49
RQ5: Nutrition	54
RQ6: Support Needed	58
Discussion: VBA Program Implications	61
Recommendations for AGRA	65
Appendix	70

## Research Partners

### AGRA

Alliance for a Green Revolution in Africa (AGRA) is an African-led, Africa based institution established in 2006. Its aim is to help transform smallholder farming in Africa into thriving farming businesses. AGRA works to catalyze and sustain inclusive agricultural transformation in Africa by increasing income and improving food security for smallholder households in Africa. They achieve this by offering financial leverage to AGRA's 11 focus countries, increasing technology access, providing markets and post-harvest management, supporting local private sector engagement, offering extension services and state capability and policy engagement.



### Laterite

Laterite is an African firm specialized in research for social impact. Laterite's approach is structured, data intensive and embedded in the local context. Laterite offers end-to-end solutions, from primary data collection to full cycle research projects, advanced analytics and learning partnerships. Laterite was founded in Rwanda in 2010 and has since expanded across East and West Africa. As of 2023, we have offices in Ethiopia, Kenya, Rwanda, Sierra Leone, Tanzania, and Uganda. Laterite is a learning partner on the IGNITE project, in collaboration with Tanager, and led research on this study.



### Tanager

Tanager, an ACDI/VOCA affiliate, is an international non-profit that brings people together at the table, on the ground, and across supply chains to co-create economic and social opportunities that change lives. Working closely with our partners, Tanager aligns interests to expand market access and unlock the full potential of shared market opportunities that result in reliable supply chains, stable incomes, healthy families, and resilient communities. Tanager is the lead partner on the IGNITE project and provided technical gender and nutrition expertise on this study.



## Acknowledgements

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- Winnie Osulah (Gender Expert, Tanager / IGNITE)
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## Definitions and Acronyms

**VBA = village-based advisor** – self-employed farmers who are trained by AGRA’s implementing partners on good agronomic practices and are meant to cascade this knowledge down to farmers in their community through demonstrations.

**IGA = Income-generating activity** – includes any activity that earns money that a VBA engages in other than farming and selling crops they produce on their own.

**Agricultural IGA** – includes IGAs which are related to the production and sale of plant or animal products (e.g., providing inputs to farmers; aggregating produce, raising livestock or poultry).

**Non-agricultural IGA** – includes income earned through activities such as tailoring, delivery services, or the sale of household provisions, and others.

**Entrepreneur** – defined as having at least one IGA, either agricultural or non-agricultural, apart from farming and selling their own crops.

**Youth** – defined as being 35 years or younger.

**Adult** – defined as being older than 35 years.

**IP** – Implementing Partner

## Executive Summary

AGRA provides extension services in Tanzania through their village-based advisor (VBA) program. There are over 5,000 VBAs in Tanzania who are self-employed farmers, trained by AGRA's implementing partners on good agronomic practices. They are meant to cascade this knowledge down to farmers in their community through demonstrations and training. VBAs are farmers first – farming their own land and cultivating and selling their own crops. VBAs do not receive direct compensation from AGRA or implementing partners and their VBA work comes in addition to their work as farmers. Many VBAs do not expand their VBA work into an income-generating business; however, some VBAs capitalize on their unique position in the community to form either formal or informal income-generating activities (IGAs). Creating a sustainable and scalable VBA model, where VBAs earn income and other benefits, is essential for AGRA to achieve its goal of reducing extension agent-to-farmer ratios.

This study investigates the IGAs that entrepreneurial women, men, and youth VBAs engage in, and the income and non-cash benefits expected from these IGAs. Anecdotal evidence before the study suggests that entrepreneurial women, men, and youth VBAs pursue different IGAs related to their VBA work, and that some IGAs are more profitable than others. The study also explores challenges and barriers faced by VBAs and the support needed to overcome these barriers, with a particular focus on gendered challenges and solutions. Gender and youth are a core focus for the study – all findings and outcomes are disaggregated for women, men, and youth, and overcoming gender and youth-specific challenges are a focus of the recommendations. A total of 1,244 Tanzanian VBAs (119 youth women, 211 youth men, 282 adult women, and 632 adult men), from 679 villages across seven regions, were interviewed for the study, both in-person and over the phone.

### Income-Generating Activities

Most VBAs do not have an agriculture-related IGA beyond farming and selling their own crops. Six of the twenty IGAs reported by women and men are agricultural and potentially related to VBA work; the rest are non-agricultural. The top three most common agricultural IGAs were: 1) Livestock & Poultry; 2) Aggregation & Off-taking; and 3) Input Supply.

Women VBAs are less likely than men to engage in agricultural IGAs and more likely to engage in non-agricultural IGAs. Thirty-three percent of women and forty-three percent of men have an agriculture-related IGA. Fewer women than men engage in each of the top three agricultural IGAs of livestock & poultry, aggregation & off-taking, or input supply. Men are far more likely to be involved in raising larger animals than women. Youth VBAs – both women and men – are much more likely to engage in aggregation and off-taking. More educated men are more likely to be involved in input supply. Women VBAs are more likely than men to engage in non-agricultural IGAs like sale of provisions, prepared food, or tailoring. However, women VBAs engage far less in non-agricultural wage or salary employment compared to men. Non-agricultural wage or salary employment is the second most common IGA for men.

Certain characteristics are associated with being more entrepreneurial. For men, those with more formal education have more IGAs. For women, those who are married have fewer IGAs. Women and men who are active VBAs (currently serving farmers) are more likely to have an IGA compared to those who stopped their VBA work. Engaging in an IGA is strongly associated with serving more farmers as a VBA. Both women and men with an IGA serve significantly more farmers as a VBA than those without an IGA. This association is primarily driven by agricultural IGAs for both women and men.

## Entrepreneurial Inputs

Some entrepreneurial inputs (e.g., motivations, skills sets, personal qualities, networks, formal education) differ between women, men, and youth, while others are similar. These inputs impact the choice of IGAs that women, men, and youth pursue. Women in our sample – both youth and adults – have significantly less formal education than men, and youth – both women and men – had significantly higher levels of formal education than adults of the same sex. In terms of motivations, we find that women and men reported similar motivations for starting their IGA, including earning more income to pay for bills, increasing access to inputs for the community, learning about the importance of agricultural best practices from training, or getting inspired by others who succeeded. Women, especially youth women, were less likely than men to tap into their existing personal networks and collaborate with paid or unpaid employees for their IGA but were slightly more likely to collaborate with organizations. In terms of skills, women, men, and youth VBAs view agricultural knowledge and entrepreneurial skills as the most important skill sets for operating an IGA, and entrepreneurial training was seen as the second most popular need by both women and men, when asked how AGRA could support them.

## Income and non-cash benefits

VBAs earn more income than other rural Tanzanians; however, women VBAs earn less income than men, and youth VBAs earn less than adult VBAs. 71% of men VBAs and 52% of women VBAs earn above the national per capita consumption level for rural Tanzanians. In the 12 months prior to the phone survey, women reported earning a median income of TZS 900,000 while men reported earning a higher median income of TZS 1,650,000. Adult men out-earned youth men, however, youth men still out-earned both adult women and youth women.

There is a clear link between entrepreneurship and increased income. We find that VBAs engaging in more IGAs report higher total income, and this is true for both women and men. When disaggregated by agricultural and non-agricultural entrepreneurship, agricultural IGAs are driving the higher income for both entrepreneurial women and men. Other predictors of higher income include age, education, household size, and acres of land farmed. For women, being older, more educated, and farming more land was associated with more income. For men, having higher education, farming more land, and more household members was associated with more income.

We estimate that 7% of women VBA's and 5% of the men VBA's total annual income can be attributed to the VBA program. To be considered attributable we assumed that the income must have come from an agricultural IGA that was started *after* becoming a VBA. The individual must also currently work as a VBA and have self-reported that their IGA is linked to this work. The remainder of the income is attributable to either: 1) farming and selling their own crops; 2) IGAs that are non-agricultural or not related to VBA work; or 3) IGAs that pre-date the VBA program.

In terms of non-cash benefits, a small minority of VBAs reported that their role as a VBA led to improved nutrition for their family, and they mostly attribute this improvement to increased income via IGAs or increased consumption of animal products related to raising livestock or poultry. Eleven percent of men and seven percent of women reported improved nutrition to be a benefit of the VBA role. Some VBAs reported increased dietary diversity from adding eggs, meat, fish, and vegetables to their household diet. Other VBAs report an increase in the number of meals consumed a day. It should be noted that the vast majority of VBAs did not mention nutrition as a benefit of their IGA.

## Challenges, Barriers, and Support Needed

Both women and men VBAs report similar challenges in running their IGAs, and youth women are more likely to report more challenges. The major challenges include pest & livestock diseases, not having enough demand for their services, and a lack of cash. Youth women appear to face



the most challenges in their IGAs and were the most likely to report: 1) a lack of sufficient cash to operate their agricultural IGAs; 2) that their IGA is not profitable enough; 3) that they lacked business skills; 4) that they did not have enough demand.

There are social norms and gender perceptions which hinder women in the VBA role as well as in their IGAs. These include having less time to conduct their work due to household responsibilities, not being able to travel far in search of farmers, and not being allowed to stay out late. One woman VBA reported facing violence at home because of her VBA work. Some men VBAs have gendered notions of how women VBAs are different from them. These gendered notions include that women are not as strong as men; women are not confident or courageous as men; or women are incapable of making decisions.

When asked what support AGRA might provide entrepreneurial VBAs, access to capital was the most common need for women, men, and youth. This is true across all top three agricultural businesses (i.e., livestock, aggregation, input supply). Entrepreneurial training is the second most common need and is most commonly requested by women engaging in livestock and poultry businesses.

## Discussion and Recommendations

There is only weak evidence to suggest that the VBA role itself is leading to sustainable income for VBAs. AGRA should focus on building the capacity of women, men, and youth to earn income from agricultural IGAs. The majority of VBAs in our sample – both women and men – do not run an agricultural IGA. 57% of men VBAs and 67% of women VBAs do not run an agricultural IGA. These women and men are either operating a non-agricultural IGA or choosing simply to farm and sell their own crops for income, with no additional IGA. As a result, we find that only a small percentage of VBA income (7% for women and 5% for men) can currently be associated with the VBA program. For the VBA model to be sustainable, VBAs need to earn more income from the role, and one way to do this is to promote the creation of agricultural IGAs (e.g., input supply, aggregation and off-taking, livestock & poultry), which our study finds bring more income than non-agricultural IGAs for women, men, and youth. These agricultural IGAs may have knock-on benefits for the VBA program as well, as women and men engaging in agricultural IGAs serve significantly more farmers in their VBA role.

Some agricultural IGAs (e.g., input supply) appear to be more profitable than others (e.g., rearing of chickens and eggs); however, we do not necessarily recommend one over the others. Each IGA requires different skills and effort to operate, and some may bring additional benefits in terms of dietary consumption. The decision to engage in an IGA depends on the skills, resources, time availability, and preferences of the individual VBA, as well as the regional needs and market viability. AGRA should support existing VBA entrepreneurs through financing, training, and networking, but also simultaneously encourage more VBAs to pursue these entrepreneurial paths by raising awareness on their cash and non-cash benefits (the findings from this report) and providing coaching and training for VBAs considering embarking on these IGAs.

There is an opportunity for AGRA to modify its program to better engage and serve women, especially youth women. Women face major barriers to starting and scaling IGAs that men do not face, and these challenges are compounded for youth women. There is clear engagement from adult women and youth women VBAs in entrepreneurial activities, but these are more often non-agricultural IGAs, earning less income, and at a smaller scale. AGRA should take these realities into account and provide targeted support for adult and youth women to start and scale agricultural IGAs. This support might include financing and training to build skills, addressing social and cultural barriers for men VBAs to become champions for their female counterparts, as well as facilitating coaching and mentoring for women VBAs to learn from each other.

## Introduction

AGRA provides extension services in Tanzania through their village-based advisor (VBA) program. A VBA is a self-employed farmer who is selected by development partners together with farmers in their village. VBAs are trained by AGRA's implementing partners on good agronomic practices and are meant to cascade this knowledge down to farmers in their community through demonstrations and training. VBAs do not receive direct compensation for this work, but some use the role as a means to start income-generating activities (IGAs). Others receive non-cash benefits, such as education, access to agricultural inputs, or recognition in their community. The VBA program is a key component of AGRA's goal of reducing extension agent-to-farmer ratios in its focus countries in sub-Saharan Africa to one extension agent for every 500 farmers by creating self-employed opportunities for volunteer farmers, including women and youth. Creating a sustainable and scalable VBA model, where VBAs earn income and other benefits, is essential for AGRA to achieve this goal.

### Motivation for the study

VBAs are farmers first – farming their own land and cultivating and selling their own crops. The VBA role comes in addition to their work as farmers, and many do not expand their VBA work into an income-generating business. However, some VBAs capitalize on their unique position in the community to form either formal or informal IGAs. There are several IGAs a VBA might pursue to start earning income from their VBA role. For example, they may open a small input shop in the community by partnering with input suppliers (e.g., seed company, agro-dealer). They may form partnerships with off-takers and act as an 'aggregator' of produce, paying farmers up front and selling in bulk. They may engage in a complementary business (e.g., chicken and egg rearing) to supplement income. Anecdotal evidence prior to the study suggested that some IGAs are more profitable than others, and that income differs for women, men, and youth.

This study explores these various IGAs among Tanzanian VBAs. It seeks to understand which IGAs women, men, and youth tend to take in Tanzania, the skills, and entrepreneurial inputs required for each IGA, and investigates if these IGAs provide sustainable income or other non-cash benefits to the VBAs who pursue them. It also explores challenges and barriers faced by VBAs and the support needed to overcome these barriers, with a particular focus on gendered challenges and solutions. Gender is a core focus for the study – all findings and outcomes are disaggregated for women, men, and youth, and overcoming gender-specific challenges are a focus of the recommendations. This research provides evidence for AGRA's scaling of the VBA model. Understanding these IGAs will help AGRA make decisions and form a strategy to 1) encourage and incentivize more women and youth to become involved in the VBA program; 2) support entrepreneurial VBAs (particularly women and youth) on their entrepreneurial paths; 3) assess the viability of the model from the VBA perspective.

### Research Questions

#### *Primary Research Questions*

1. What are the IGAs<sup>1</sup> that VBAs in Tanzania are currently pursuing?
  - a. Which of these IGAs do women, men, and youth VBAs engage in and why?
2. What entrepreneurial inputs (e.g., motivations, skills sets, personal qualities, networks) are required for women, men, and youth VBAs to pursue the IGAs?

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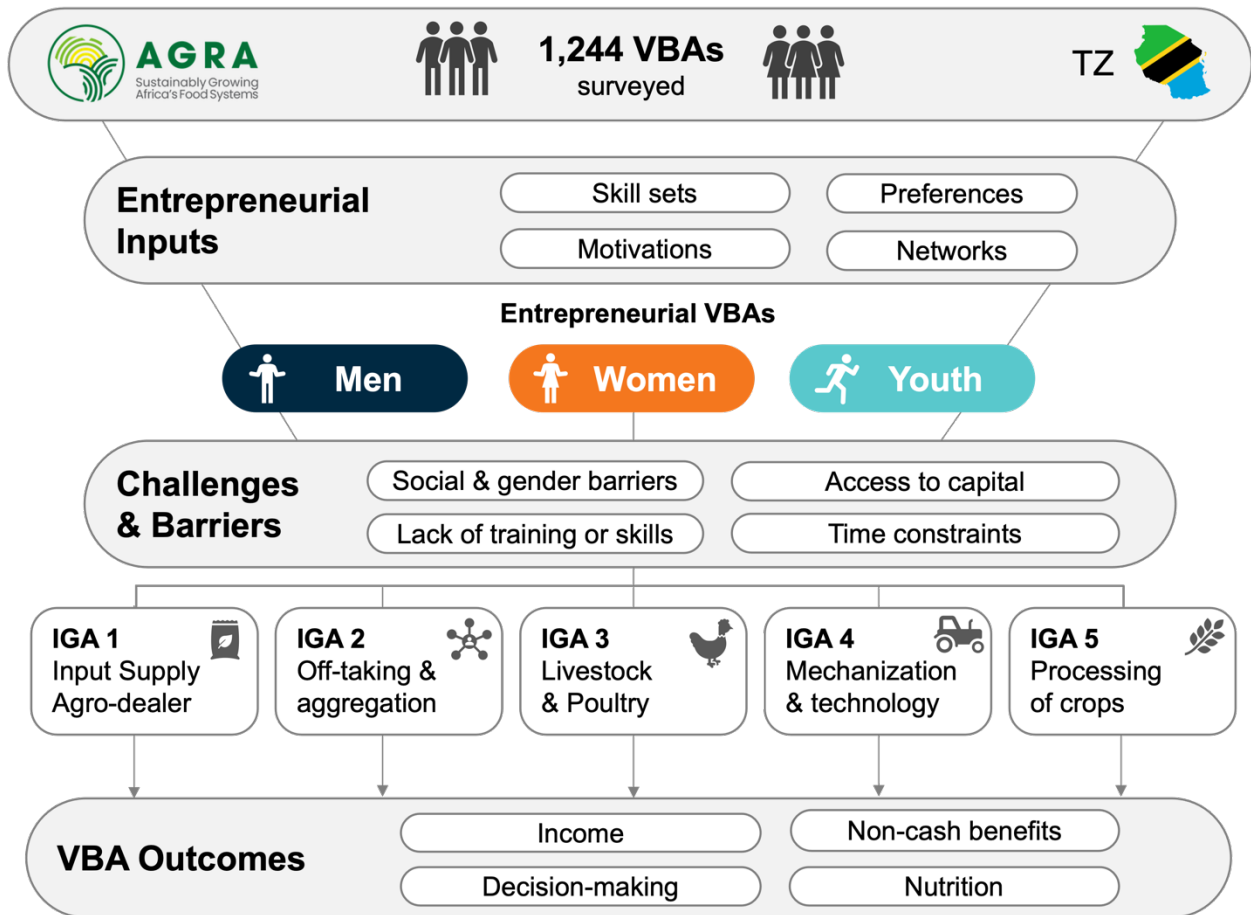
<sup>1</sup> The original proposal for this study used the term "business paths" which was intended to be synonymous with IGAs. For consistency, and to avoid confusion, we have opted to use "IGA" throughout the report.

- Through these IGAs, does the VBA model provide sustainable income or other non-cash benefits to women, men, and youth farmers who pursue them?

*Secondary Research Questions*

- What challenges do women, men, and youth VBAs face in pursuing these IGAs?
- Do any of these IGAs bring nutritional benefits for women, men, or youth VBAs and if so, via what pathways?
- How can AGRA encourage more women and men to pursue these IGAs?

**Figure 1:** Visual a priori framework for the study





## Methodology

The study employed both quantitative and qualitative methods and included four phases:

1. **Key Informant Interviews (KIIs).** Completed in July 2022 with 26 informants (7 women and 19 men). Interviews were approximately 60 minutes in length, and 18 were conducted in-person and 8 were over the phone. The KIIs were used to gather contextual information about the VBA program in Tanzania. Participants included AGRA officials, local implementing partners, private sector actors, and government extension officials.
2. **VBA Phone Survey.** Completed in August 2022 with 1,244 VBAs (119 youth women, 211 youth men, 282 adult women, and 632 adult men). Calls were 35 minutes in length on average and phone numbers were attempted up to 9 times before participants were considered non-responsive. The phone survey was used to collect information directly from VBAs on the IGAs they engage in, the income and benefits they receive, the challenges they face, and the support they feel they need to succeed.
3. **In-depth interviews with VBAs.** Completed in September and October 2022, we conducted in-person interviews with 40 VBAs (10 youth women, 9 adult women, 12 youth men, and 10 adult men). These VBAs were purposely selected from the phone survey as having particularly relevant or unique entrepreneurial experiences related to the VBA role. The sample included representation of VBAs from all the most common agricultural IGAs. Interviews were ~50 minutes in length.
4. **New business tracer phone survey.** Two rounds of a follow-up tracer phone survey were completed in November 2022 and February 2023. These follow-up phone survey included a subset of VBA respondents from the main phone survey who had started a new agricultural entrepreneurial venture within the last 2 years. Two 25-minute follow-up phone surveys were conducted at 3-month intervals to track progress on the venture, including income and challenges faced. 84 VBAs (44 women and 40 men) participated in the first follow-up survey, and 63 (30 women and 33 men) participated in the second follow-up survey.

## Sampling

An original list provided by AGRA and implementing partners (IPs) had a total of 5,465 VBAs. That list was cleaned to remove VBAs who did not have a valid phone number (e.g., not enough or too many digits, no phone number, number not in-service) or who were duplicates, resulting in a final list of 3,489 VBAs with a valid phone number. **Appendix 1** provides details on the sampling frame for the phone survey.

We attempted to reach each phone number of the sampling frame up to 9 times over different days before the individual VBA was considered unreachable. Hence, the final sample represents a convenience sample of those who were reachable. The final sample of eligible and consented VBAs totaled 1,244 (119 youth women, 211 youth men, 282 adult women, and 632 adult men), as seen in **Table 1**. This reflects an overall success rate of 36%, with a success rate among women of 38% and a success rate among men of 35%.

**Table 1:** VBA phone survey sample, by sex and region

Region	Consortium	Youth Women	Adult Women	Youth Men	Adult Men	Total
<b>Kigoma</b>	Kigoma	71	132	103	233	<b>539</b>
<b>Kagera</b>	Kagera	7	41	21	130	<b>199</b>
<b>Rukwa</b>	SUKA	5	13	20	84	<b>122</b>
<b>Katavi</b>	SUKA	5	14	28	65	<b>112</b>
<b>Iringa</b>	Ihemi-Ludewa	16	29	15	38	<b>98</b>
<b>Ruvuma</b>	Ihemi-Ludewa	7	30	12	39	<b>88</b>
<b>Njombe</b>	Ihemi-Ludewa	8	21	10	41	<b>80</b>
<b>Other</b>	N/A	–	2	2	2	<b>6</b>
<b>Total</b>		<b>119</b>	<b>282</b>	<b>211</b>	<b>632</b>	<b>1,244</b>

The distribution of participants by region and sex in the sampled VBAs is roughly equivalent to the proportions found in the sampling frame. The relative proportion of women in each region is also roughly equivalent to the sampling frame. **Table 2** provides the comparison between the sampling frame and the final sample.<sup>2</sup>

**Table 2:** Comparison of phone survey sample and sampling frame

Region	Consortium	Sampling Frame		Phone Survey Sample	
		% of total list	% of women in region	% of total sample	% of women in region
<b>Kigoma</b>	Kigoma	46%	39%	43%	38%
<b>Kagera</b>	Kagera	23%	19%	16%	24%
<b>Rukwa</b>	SUKA	8%	12%	10%	15%
<b>Katavi</b>	SUKA	8%	19%	9%	17%
<b>Iringa</b>	Ihemi-Ludewa	5%	43%	8%	46%
<b>Ruvuma</b>	Ihemi-Ludewa	5%	31%	7%	42%
<b>Njombe</b>	Ihemi-Ludewa	5%	33%	6%	36%
<b>Tanzania</b>		<b>100%</b>	<b>30%</b>	<b>100%</b>	<b>32%</b>

<sup>2</sup> Because we used a convenience sample of reachable VBAs there are minor discrepancies between the distribution of sex and region in our phone survey sample and the sampling frame. To account for this, we conducted robustness checks in our analysis using sampling weights to adjust the weights of under-represented groups of the population. We did not find the weights to make any material changes to the findings and had doubts concerning the accuracy of the region and gender data provided in the sampling frame on which we constructed the weights. Therefore, all results in this report are presented unweighted.

## Study Limitations

**Low quality phone list.** Upon receiving the list of phone numbers from AGRA and partners we had to conduct extensive cleaning of the list to account for missing numbers, duplicates, and a high percentage of numbers which were invalid, likely due to a recent government requirement for all Tanzanian phone numbers to be registered using the national identity cards. This limited the number of VBAs we could reach.

**Reaching women was more difficult.** Women VBAs were more difficult to reach than men. Despite calling phone numbers for women many times, by the final days of data collection, we were reaching very few remaining women. This is common with phone surveys, as women tend to have lower phone ownership, less available time, and less income to spend on airtime. We mitigated this issue by calling at different hours and calling up to 9 times per phone number over three different days.

**Conflation with pre-VBA activities.** Activities on the VBA program started in late 2017 in Tanzania, and officially kicked-off in 2018. Some VBAs in our sample reported they have been VBAs since before 2017. Before the program, some VBAs were “lead farmers” or “para-extension” workers. This required our enumerators to be specific about referring to the most recent work with AGRA and partners. However, it may be that some VBAs had trouble differentiating between the roles.

**Sample likely includes wealthier VBAs.** 64% of rural Tanzanians report access to a mobile phone on a daily basis<sup>3</sup>, suggesting mobile phone access is still limited to wealthier individuals. In order to take part in our phone survey VBAs had to have a working phone with paid airtime, access to good network coverage, and the ability to get their SIM card registered using a national ID. Therefore, VBAs in our sample are likely wealthier on average than the overall population.

**Small sample sizes for some sub-analyses.** Small sample sizes can be a major challenge when conducting sub-analyses. When you divide a sample into smaller groups, you reduce the number of observations in each group, which can decrease the statistical power and increase the risk of Type II error (false negatives). Additionally, the smaller sample sizes may also affect the representativeness of the sub-sample, leading to biased or unreliable results. In the case of this study, the smaller groups include sub-analysis mainly for IGA type, location, and age. Throughout the report we indicate when sub-analysis sample sizes are small and not enough to determine results with statistical significance.

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<sup>3</sup> Statista. (2021). <https://www.statista.com/statistics/1289221/frequency-of-use-of-mobile-phone-in-tanzania-by-area-of-residence/>



## Literature Review

Agricultural extension in Sub-Saharan Africa has been used to impart technical knowledge and empower smallholder farmers in their production, problem identification, solution testing, marketing, and adoption of best practices. Below we highlight some key insights from literature on extension services offered across Africa, with a particular focus on farmer-to-farmer extension (F2F) services like the VBA program, and the effectiveness and sustainability of these models for the women and men involved in them.

The extension agent-to-farmer ratio in Africa varies from 1:3,000 to 1:10,000,<sup>4</sup> compared to the recommended ratio of 1:500. In Tanzania, the government extension agent-to-farmer ratio at district council level is 1:3,000,<sup>5</sup> with many farmers not reached at all. Receiving training through extension services is important as it helps to improve agricultural yield which affects farmers' income and living standards. There are strategies that have been introduced in Sub-Saharan Africa to help increase farmer reach, enhance farmers' agricultural knowledge, and improve farm yields. These strategies involve providing different types of extension services, which are implemented by both public and private stakeholders. There are three types of extension services offered in Sub-Saharan Africa – public, private and hybrid extension services:

- **Public extension services** are government-run services, where extension staff or agents are hired to impart best practice knowledge and advance technologies to farmers. They are, however, characterized by insufficient funding, poor staffing, and lacking appropriate extension methods to enable frequent farm visits.<sup>6</sup>
- **Private extension services** are run by non-state actors such as farmer organizations, non-profit organizations (NGOs) and private sector players. They are commonly characterized as being small and having fewer total field agents and staff, than government extension programs. Therefore, they struggle to reach farmers due to their restricted geographical coverage. Extension services by private organizations in Tanzania reach 10% of farming households.<sup>7</sup>
- **Hybrid extension services** are offered by private extension service providers or NGOs, who partner with public extension providers to improve the delivery of extension services and value closer to farmers.<sup>8</sup> Examples include F2F extension, training & visit (T&V) programs, volunteer-based services, and farmer field schools.

AGRA's VBA model involves the identification and training of self-employed lead farmers and can be considered a hybrid F2F model. For this study, a particular focus will be paid to these hybrid extension services similar to AGRA's VBA model. AGRA's VBAs demonstrate improved crop varieties, fertilizer blends, and to teach farmers good agronomic practices, post-harvest management practices and market opportunities. F2F extension models are designed to have farmers or other knowledgeable individuals living in the community offer training, providing advice and services to farmers.<sup>9</sup> Some F2F extension programs are volunteer-based and some offer a stipend. AGRA's model does not offer any direct compensation to VBAs.

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<sup>4</sup> AGRA Website- Extension Strategy: <https://agra.org/extension-capacity-building/>

<sup>5</sup> AGRA's Tanzania Operational Plan, July 2019

<sup>6</sup> Kansime Monica K., Watiti James, Mchana Abigael, Jumah Raymond, Musebe Richard & Rware Harrison (2018): Achieving scale of farmer reach with improved common bean technologies: the role of village-based advisors, *The Journal of Agricultural Education and Extension*.

<sup>7</sup> Hella, J. P. (2013) Return to investment in agricultural extension service in Tanzania. A study report commissioned by Alliance for Green Revolution in Africa (AGRA) and Tanzania Ministry of Agriculture, Food Security and Cooperatives.

<sup>8</sup> AGRA 2019 Annual Progress Report January – December 2019 Submitted to PIATA Partners 15th February 2020

<sup>9</sup> Kansime et. al. (2018)

The benefits of F2F programs have been studied extensively. These benefits include being more farmer inclusive, providing a wider reaching alternative to agricultural innovation support<sup>10,11,12</sup> and being effective especially when combined with group-based extension approaches to reduce operational costs.<sup>13</sup> A study conducted in Morogoro, Tanzania found that these farmers are helpful agents in reaching more farmers and sharing agricultural information through farm visits within the community compared to other types of extension services.<sup>14</sup> A study conducted in the southern highlands of Tanzania showed that farmers who were trained by volunteer farmers adopted the promoted common bean best practices which resulted in higher yields, increased land productivity, and reduced labor costs.<sup>15</sup> Knowledge diffusion in F2F programs take place during formal training sessions and in informal settings. Information sharing is done during training sessions through one-on-one farmer interactions, during farm visits, in group settings on demonstration plots<sup>16</sup> and in farmer group meetings.

However, F2F programs face challenges of funding, staffing, and sustainability. Studies conducted in Cameroon, Kenya, and Malawi on F2F extension programs showed that these programs – which are usually run by non-profit, farmer organizations or the private sector – lack staff to widely reach farmers.<sup>17</sup> Another key challenge these extension programs face is that they are mostly donor-supported which poses a concern of their sustainability after completion. The sustainability of extension services entails the continuation of the provision of extension services by volunteer farmers even after the end of donor support.<sup>18</sup> Despite these challenges in delivery, hybrid extension services offered through farmer-to-farmer programs appear to be more effective in their farmer reach than many traditional public extension services.

Some studies have explored ways in which to ensure the sustainability of the F2F extension programs. A study in Kenya that explored opportunities to enhance volunteer farmers performance found that volunteer farmers faced challenges due to lacking certain incentives to offer farmer training. Volunteer farmers reported that incentives such as reliable means of transportation and a stipend will help them reach a wider audience.<sup>19</sup> Meeting volunteer farmer needs has a direct impact on the farmers that they serve. A study in Ethiopia found that farmers who received extension services had higher income than those who did not.<sup>20</sup> Receiving agricultural training improves farmers' farming practices and therefore leads to improved yields. Another study conducted in an extension reform project in Bangladesh,<sup>21</sup> recommends several strategies to enhance sustainability of the model, including: i) combining extension activities with income-generating activities; ii) recruiting group leaders and facilitators based on personality and

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<sup>10</sup> Lukuyu, B., F. Place, S. Franzel, and E. Kiptot. 2012. "Disseminating Improved Practices: Are Volunteer Farmer Trainers Effective?" *The Journal of Agricultural Education and Extension* 18 (5): 525–540.

<sup>11</sup> Wellard, K., J. Rafanomezana, M. Nyirenda, M. Okotel, and V. Subbey. 2013. "A Review of Community Extension Approaches to Innovation for Improved Livelihoods in Ghana, Uganda and Malawi." *The Journal of Agricultural Education and Extension* 19 (1): 21–35. doi:10.1080/1389224X.2012.714712.

<sup>12</sup> Sones, K. R., G. I. Odour, J. W. Watiti, and D. Romney. 2015. "Communicating with Smallholder Farming Families—A Review with a Focus on Agro-Dealers and Youth as Intermediaries in SubSaharan Africa." *CAB Reviews* 10 (30): 1–6.

<sup>13</sup> Kiptot Evelyne, Karuhanga Monica, Franzel Steven & Nzigamasabo Paul Benjamin (2016): Volunteer farmer-trainer motivations in East Africa: practical implications for enhancing farmer-to-farmer extension, *International Journal of Agricultural Sustainability*, DOI: 10.1080/14735903.2015.1137685

<sup>14</sup> Kansiime et. al. (2018)

<sup>15</sup> Kansiime et. al. (2018)

<sup>16</sup> Kansiime et. al. (2018)

<sup>17</sup> Simpson Brent M.; Franzel Steven; Degrande Ann; Kundhlande Godfrey; Tsafack Sygnola (2015) *Farmer-to-Farmer Extension: Issues in Planning and Implementation*.

<sup>18</sup> Kiptot, E., & Franzel, S. (2019). Developing sustainable farmer-to-farmer extension: experiences from the volunteer farmer–trainer approach in Kenya. *International Journal of Agricultural Sustainability*, 1–12. doi:10.1080/14735903.2019.1679576

<sup>19</sup> Kiptot, E.; Franzel, S. (2014) Voluntarism as an investment in human, social and financial capital: Evidence from a farmer-to farmer extension program in Kenya. *Agric. Hum. Values*, 31, 231–243.

<sup>20</sup> Kassie et al. (2013) Welfare Impacts of Agricultural Technology Adoption: Evidence from a Field Experiment in Ethiopia

<sup>21</sup> Islam, M. M., Gray, D., Reid, J., & Kemp, P. (2011). Developing Sustainable Farmer-led Extension Groups: Lessons from a Bangladeshi Case Study. *The Journal of Agricultural Education and Extension*, 17(5), 425–443. doi:10.1080/1389224x.2011.5966

technical competency; iii) adoption of farmer participation when developing group rules; and iv) considering both the positive and negative aspects of social capital. While implementing these strategies can support the sustainability of F2F programs, the authors note that there is no one-size-fits-all solution that applies to every situation. The main question that we explore in this study, which is in line with the first strategy provided, is to determine which income-generating activities volunteer farmers in Tanzania can pursue to generate more income.

Gender is also important to consider when assessing the sustainability of extension services in Sub-Saharan Africa. There is a gender imbalance among extension agents in F2F programs,<sup>22,23</sup> with fewer women than men volunteer farmers, who constitute approximately 30% or less.<sup>24</sup> There are fewer women who enroll in extension training programs as a career path than men.<sup>25</sup> This reduces the female volunteer pool for selection resulting in the observed gender imbalance.<sup>26</sup> A study conducted in Cameroon, Malawi, and Kenya showed that one-third of the volunteer farmers in organizations that implement the F2F approach are women.<sup>27</sup> Another study conducted on volunteer farmers in the East African Dairy Development (EADD) project in Kenya found that men volunteer farmers made up 78% of volunteers (their women counterparts made up 22%).<sup>28</sup> While this is the case in some extension programs, other programs show a higher number of female extension agents within the program. A recent VBA program conducted in Embu and Kiambu counties has 60% of its volunteer farmers being women.<sup>29</sup> When looking at men and women farmers who receive training from volunteer farmers, studies show different results. The women volunteer farmers in Cameroon and Malawi trained more women farmers than their men counterparts.<sup>30</sup> Women volunteer farmers in the extension programs conducted in Embu and Kiambu train many women farmers because of their social ties to women groups.<sup>31</sup> Women volunteer farmers are seen as crucial agents of change in rural communities who, due to their social ties, can encourage adoption of inputs during the demonstration sessions.<sup>32</sup>

What drives an individual to become a volunteer farmer is a key area of literature and interest among F2F programs. Volunteer farmers have monetary and non-monetary incentives to get involved. The highest ranked non-monetary motivators of village-based advisors highlighted in literature include obtaining knowledge to increase one's income, altruism, social status, and social networking.<sup>33,34</sup> These motivations are consistent across different studies, but the motivators are prioritized differently and are context-specific. A study conducted in Kenya, Uganda, and Rwanda in the dairy industry found that volunteer farmers ranked gaining knowledge and skills and altruism as the most important motivations.<sup>35</sup> Volunteer farmers' motivations affect their retention rates and the F2F program's effectiveness. A study on a community extension in Uganda under the Self Help Africa project showed that 25% of volunteer farmers dropped out of the project because

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<sup>22</sup> World Bank, Food and Agricultural Organization of the United Nations and the International Fund for Agricultural Development (IFAD) (2009) Gender in Agriculture Sourcebook. Washington, DC: World Bank.

<sup>23</sup> World Bank (2012) Agricultural Innovation Systems: An Investment Sourcebook. Washington DC: World Bank.

<sup>24</sup> Simpson et. al. (2015)

<sup>25</sup> Simpson et. al. (2015)

<sup>26</sup> Simpson et. al. (2015)

<sup>27</sup> Simpson et. al. (2015)

<sup>28</sup> Kiptot et. al. (2019)

<sup>29</sup> Mumba Judy, (2021) Women VBAs a Force for Economic Empowerment. Local Development Research Institute. Available here: <https://www.developlocal.org/women-vbas-a-force-for-economic-empowerment/>

<sup>30</sup> Simpson et. al. (2015)

<sup>31</sup> Mumba (2021) Local Development Research Institute Website

<sup>32</sup> Mumba (2021) Local Development Research Institute Website

<sup>33</sup> Simpson et. al. (2015)

<sup>34</sup> Kiptot et. al. (2016)

<sup>35</sup> Kiptot et. al. (2016)



of the small allowances offered for attending meetings.<sup>36</sup> It is, therefore, important to identify volunteer farmers' motivations to ensure sustainability in farmer-to-farmer training post-extension programs. A study conducted in western Kenya showed that volunteer farmers continued training other farmers several years after the extension program ended.<sup>37</sup> The study found that the most important factors that ensure sustainability of farmer-to-farmer knowledge diffusion even after the project ends are i) capacity building, ii) social engagement, and iii) income-generating activities associated with dissemination of information and technology.<sup>38</sup>

Other studies show volunteer farmers' inclination to monetary motivators. A study in Kenya showed that 23% of volunteer farmers ranked income-generating opportunities (e.g., selling seeds, receiving a training fee from farmer groups) as important. On the other hand, volunteer farmers in a study conducted in the Southern Highlands of Tanzania highlighted that they are motivated by both monetary and non-monetary rewards.<sup>39,40</sup> These findings show that volunteer farmer inclinations to monetary or non-monetary motivations might differ, depending on context. There is a debate in the literature on volunteerism in F2F extension and whether programs should include an incentive for farmers. Volunteerism has been defined as a person offering their time without any expectations of a reward, and to the benefit of another person or group of people.<sup>41</sup> There are mixed approaches of volunteer farmer compensation found in literature. Some extension organizations compensate volunteer farmers for the operational costs they incur to conduct training, such as transportation and communication costs, while others do not.<sup>42</sup>

Market opportunities are key drivers for lead farmers to increase their income. A key strategy to achieve sustainable F2F programs is positioning volunteer farmers as linkages between input supply and market demand.<sup>43</sup> A study in Western Kenya exploring the agro-dealer model showed that most agro-dealers in this area offered to aggregate and re-sell farmer produce on retail or wholesale.<sup>44</sup> Farmers that seek these services by supplying their produce are paid in cash on delivery, or shortly after delivery.<sup>45</sup> There is space for volunteer farmers to capitalize on these market opportunities through their position in the community. Our study investigates how VBA in Tanzania might be capitalizing on these types of opportunities.

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<sup>36</sup> Wellard, K., Rafanomezana, J., Nyirenda, M., Okotel, M., & Subbey, V. (2013). A review of community extension approaches to innovation for improved livelihoods in Ghana, Uganda and Malawi. *The Journal of Agricultural Education and Extension*, 21-35.

<sup>37</sup> Lukuyu, B., Place, F., Franzel, S., & Kiptot, E. (2012). Disseminating improved practices: Are volunteer farmer trainers effective? *Journal of Agricultural Education and Extension*, 18(5), 525–540.

<sup>38</sup> Lukuyu et. al. (2012)

<sup>39</sup> Kansiime et. al. (2018)

<sup>40</sup> Kiptot Evelyne & Franzel Steven (2015) Farmer-to-farmer extension: opportunities for enhancing performance of volunteer farmer trainers in Kenya, *Development in Practice*, 25:4, 503-517.

<sup>41</sup> Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26(1), 215–240.

<sup>42</sup> Simpson et. al. (2015)

<sup>43</sup> Kansiime et. al. (2018)

<sup>44</sup> Okello et. al. (2012)

<sup>45</sup> Okello et. al. (2012)

## Profile of Tanzanian VBAs



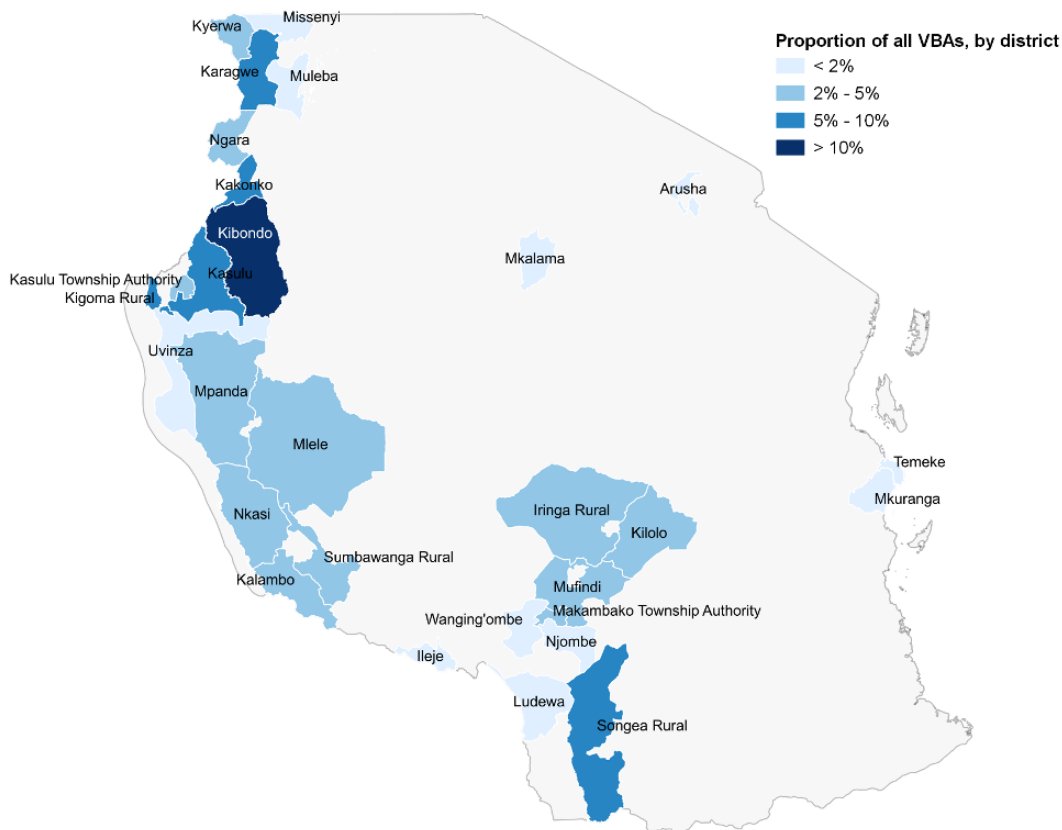
In this section we report findings on:

**Geographic, demographic, and socioeconomic characteristics** of the 1,244 women, men, and youth VBAs in our sample, to set context for the study findings.

### Geography

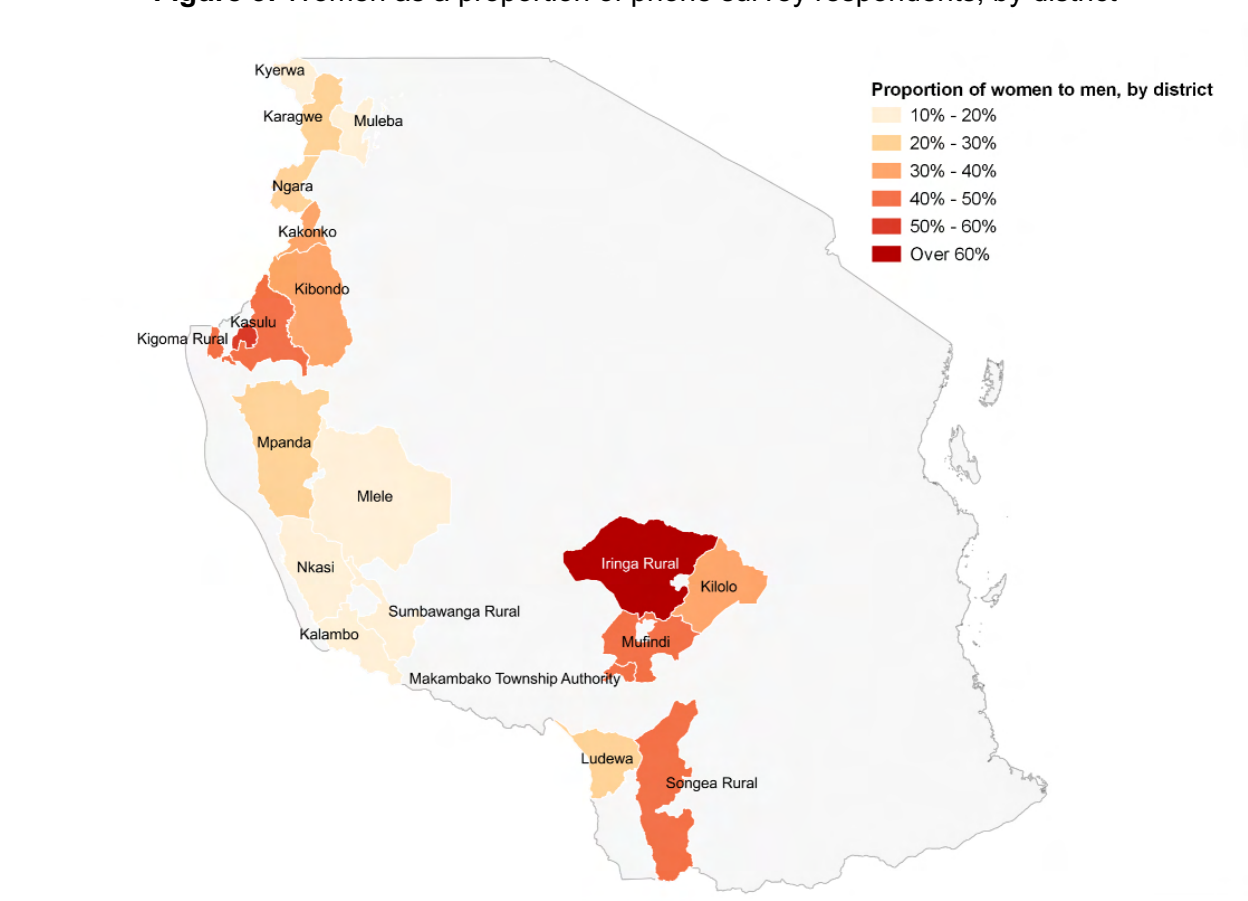
We interviewed VBAs from all four AGRA VBA consortia geographies (Kigoma, Kagera, SUKA, and Ihemi-Ludewa). These four consortia cover seven regions of Tanzania. Kigoma represents the highest proportion of the sample (and also of the sampling frame), with the highest concentration of participating VBAs in Kibondo district, Kigoma region.

**Figure 2:** Map of sampled VBAs by district



The proportion of women in each region and district varied widely, with some having 10% women and some having over 60% women. As seen in **Figure 3**, Women are a majority in just one district – Iringa Rural. Ruvuma and Iringa represent the highest concentration of women, as compared to men. Rukwa and Katavi represent the lowest concentration of women, as compared to men.

**Figure 3:** Women as a proportion of phone survey respondents, by district



## Profile of VBAs

### Overview by Gender and Age









There are clear differences in the profiles of women and men, and youth and adult VBAs, as reported in **Table 3**. Some key highlights include:

- **Men and youth VBAs have more formal education.** Women older than 35 years have received the least formal education, with only 10% having completed more than primary education.
- **Women are less commonly married than men, especially adult women.** This phenomenon likely also explains why adult women also have fewer children living in the household. Youth men are less likely to be married than adult men, but still more likely than youth women.
- **There is no significant difference in the level of entrepreneurship between women and men.** Similar proportions of women and men report having an IGA other than farming. However, adult men are more likely to have agricultural IGA than adult women.
- **Youth VBAs are more entrepreneurial than adult VBAs.** This is true for both youth women and youth men, who more often report having an IGA other than farming.
- **Women and youth VBAs farm less land.** Youth men farm 50% more land than youth women. Adult men farm 60% more land than adult women.

- **Women serve fewer farmers than men in their role as VBAs.** Youth men VBAs serve 30% more farmers than youth women. Adult men serve 20% more farmers than adult women.
- **Women serve a higher percentage of women farmers.** On average, 60% of the farmers served by women VBAs are women, while only 45% of the farmers served by men are women.
- **Youth women are the most dissatisfied group of VBAs.** Youth men are the least dissatisfied.

**Table 3: Demographic and Socioeconomic Profile of Sampled VBAs, by gender and age**

Note: Sample average is shown. Significant ( $p < 5\%$ ) gender differences are highlighted in **green** when comparing to opposite sex of same category. “Youth” is defined as 35 years old or less; “Adult” is older than 35 years.

		Youth Women	Youth Men	Adult Women	Adult Men
	Sample size	119	211	282	632
	<b>Average Age</b>	30 years	31 years	47 years	48 years
	<b>Married</b>	77%	87%	71%	96%
	<b>Adults in household</b>	2.8	2.5	3.3	3.5
	<b>Children in household</b>	3.3	2.7	2.9	3.7
	<b>Over Primary education</b>	38%	59%	10%	21%
	<b>Over O’levels education*</b>	13%	15%	2%	8%
	<b>IGA other than farming</b>	74%	75%	68%	66%
	<b>Ag. IGA other than farming</b>	37%	44%	32%	43%
	<b>Size of land farmed**</b>	3.9 acres	6.0 acres	6.0 acres	9.7 acres
	<b>Farmers served as VBA</b>	72	94	74	85
	<b>Women farmers served</b>	59%	43%	61%	45%
	<b>Dissatisfied with VBA role</b>	13%	6%	11%	11%

\* Ordinary Level (O’ Level) is Form 1 through Form 4. After Form 4, a certificate is issued to all passing an exam.

\*\* Includes any land farmed by the VBA, whether owned or rented



## Overview by Consortium

VBA in Tanzania are grouped into consortia based on geography, and on the type of training offered. The program consisted of five different training sessions – extension, entrepreneurship, inclusive finance, mechanization training, and business development services. These training sessions were conducted by six implementing partners, namely ADP Mbozi, BRiTEN, KADERES, Nyakitinto, RUCODIA, and TAP BDS, who worked closely with AGRA to provide training interventions based on the farmers' needs in different regions. Our sample includes VBAs from all four AGRA consortia: Kigoma, Kagera, Ihemi-Ludewa (Iringa, Njombe and Ruvuma regions), and SUKA (Rukwa & Katavi region). To further understand the VBAs, this section provides brief highlights of the differing profiles of VBAs by consortia, including context received from KIIs with AGRA officials and implementing partners. Full details can be found in the Appendix.

### *Kigoma Consortium*

**Kigoma VBAs earn the least income, are younger, serve fewer farmers, and include a relatively high proportion of women.** Kigoma is the largest consortium in our sample, with 203 women and 336 men. It includes the Kigoma region alone and the training program was implemented by Nyakitonto & RUCODIA. Nyakitonto offered training on extension services, while both Nyakitonto and RUCODIA offered training on input distribution and agro-dealership. During KIIs conducted in Kigoma, a government extension officer reported that AGRA, Nyakitonto and Rucodia collaborated to offer training sessions to VBAs on various business opportunities, including running an input shop. Looking at regional sample composition, women represent 38% of the sample in Kigoma. Compared to other consortia, this is relatively high, as only Ihemi-Ludewa has a higher share of women (42%). Both women and men VBAs are youngest in Kigoma, compared to all other consortia. Both women and men VBAs serve the fewest farmers on average in Kigoma, compared to all other consortia. Women serve 41 farmers on average and men 53. Women VBAs serve more women – 60% of farmers served by women are women, compared to 47% for men.

### *Kagera Consortium*

**Kagera VBAs include fewer women, serve fewer farmers, and is the only consortia where coffee is a major crop planted.** The Kagera consortium is the third largest consortium in our sample, with 48 women and 151 men. It includes the Kagera region alone and the training program was implemented by KADERES & RUCODIA, who both provided training on input distribution. KADERES also offered training on extension services. RUCODIA provided additional training on agro-dealership. Women represent 24% of the sample in Kagera. Compared to other consortia, this is relatively low. VBAs (especially women) serve fewer farmers compared to SUKA and Ihemi-Ludewa. Women serve an average of 64 farmers in Kagera, which is roughly half the farmers that women in Ihemi-Ludewa (122) and SUKA (120) are serving. Men VBAs also farm 50% more land than women in Kagera. Coffee planting is unique to Kagera, with men (45%) more commonly planting than women (27%).

### *Ihemi-Ludewa Consortium*

**VBAs in Ihemi-Ludewa include the highest proportion of women and serve the most farmers out of all other consortia.** The Ihemi-Ludewa consortium is the second largest consortium in our sample, with 111 women and 155 men. It includes the Iringa, Ruvuma, and Njombe regions. BRiTEN provided training programs to VBAs on the extension program, VBA work and agro-dealership. Women represent 42% of the sample in Ihemi-Ludewa. Compared to other consortia, this is the highest proportion of women. Women and men VBAs serve the most farmers in Ihemi-Ludewa. Women serve 122 farmers and men serve 129 on average, which is higher than any other consortia. In the qualitative interviews, women VBAs report that they serve more farmers because they are more trusted. Households are smallest in Ihemi-Ludewa, for both

women and men VBAs. Women and men are least dissatisfied in their VBA role, in this consortium compared to all other consortia. Women farm the most acres (7.2) in Ithemi-Ludewa, compared to all other consortia.

### *SUKA Consortium*

**SUKA VBAs include the lowest proportion of women, but are the most educated, and serve the most farmers.** The SUKA consortium is the smallest consortium in our sample, with 37 women and 197 men. It includes the regions of Rukwa and Katavi and the program is implemented by ADP Mbozi & BRITEN. The training offered included extension services, VBA work, agro-dealership and training specifically for women. Women represent just 16% of the sample in SUKA. Compared to other consortia, this is the lowest proportion. Women were more dissatisfied in the VBA role than men in SUKA. 16% of women reported being dissatisfied, which is the highest rate for any consortia. Men farm far more acres of land than women in SUKA, the widest gap amongst any consortium. Both women and men report more formal education in SUKA compared to other consortia. VBAs in SUKA – both women and men – serve far more farmers. Compared to Kagera and Kigoma, women serve 2-3X more farmers in SUKA. Women serve far more women in SUKA. 58% of farmers served by women are women, compared to 39% for men. Women are far less likely to be married in SUKA – 65% of women are married, compared to 93% of men. Rice planting is unique to SUKA, with men (37%) more commonly planting rice than women (27%).

## RQ1: Income-Generating Activities



In this section we report findings on:

**RQ1:** What are the IGAs that VBAs in Tanzania are currently pursuing? Which of these IGAs do women, men, and youth VBAs engage in and why?

Characteristics associated with entrepreneurship for each IGA for women, men, and youth, and relationships between entrepreneurship and VBA role metrics (e.g., farmers served).

**Almost all (99%) of the VBAs in our sample earn income by farming and selling their own crops.** The focus of this study is not on these activities, but on any additional IGAs that VBAs engage in to earn income from the role. We asked VBAs to share what IGAs they engage in aside from farming and selling their own crops. VBAs reported engaging in 20 unique IGAs, some of which are agricultural and some of which are non-agricultural. In this section we first report the list of IGAs and the proportion of VBAs who engage in them, disaggregated by agricultural IGAs and non-agricultural IGAs. Note that there were VBAs who were engaging in multiple IGAs that could either be agricultural or non-agricultural.

### Agricultural IGAs

Our primary focus for the study is on agricultural IGAs as these are most likely to be related to the VBA role. There are six agricultural IGAs that VBAs in our sample engage in, which are listed below in order of how common they are for all VBAs in the sample.



#### *Livestock & Poultry (22%)*

Sale of livestock, poultry and/or their products (e.g. dairy, eggs); or butcher.



#### *Aggregation & Off-taking (10%)*

Aggregating of farmer crops and produce for sale in bulk to off-takers.



#### *Input Supply (6%)*

Supplying farmers with seeds, fertilizers, hermetic bags, and other inputs



#### *Processing (3%)*

Processing of harvested crops (e.g., shelling, frying, drying) into other products



#### *Mechanization & Technology (0.4%)*

Provision of machines or technology for farming (e.g., tractors, threshers)



#### *Agricultural Finance (0.2%)*

Offering personal loans to farmers for agricultural needs (e.g., seeds, fertilizer)

### Non-Agricultural IGAs

VBAs also reported engaging in non-agricultural IGAs, which are not directly related to the production and sale of plant or animal products. These are not directly related to the VBA role, and thus a secondary focus of the study, but are essential for understanding the overall picture of the income profile of VBAs. In order of how common, these non-agricultural IGAs included:

- Non-agricultural wage / salary employment (e.g., teacher, government worker) (10%)
- Sale of provisions or household items (10%)
- Sale of prepared food or beverages (7%)
- Tailoring or sale of clothing items (4%)
- Transportation or delivery (e.g., motorcycle, taxi) (3%)
- Artisanal work (e.g., beadwork, pottery) (2%)
- Fishing – catching and selling (2%)
- Beauty services (e.g., salon, barber) (1%)
- Sale of hardware, firewood, charcoal (1%)
- Daily laborer (on a farm or elsewhere) (0.5%)
- Real estate (e.g., house or property rental) (0.4%)
- Transfers (e.g., remittances, social assistance) (0.3%)
- Pharmacy (0.2%)

## IGA Profile of VBAs

### Overview by Gender and Age




Women and men VBAs participate in the IGAs at different frequencies – some are more common for men and some are more common for women. Most VBAs do not have an agriculture-related IGA, other than farming and selling crops. Only 33% of women and 43% of men engage in an agriculture-related IGA.

**Women VBAs** are more likely than men to engage in non-agricultural IGAs. 39% of women VBAs engage in either the sale of provisions, prepared food, or tailoring. Youth women (37%) are slightly more likely to engage in an agricultural IGA, compared to adult women (32%). This is driven by aggregation and off-taking which is far more common for youth women. Women VBAs are less likely than men to engage in agricultural IGAs. Fewer women engage in livestock & poultry, aggregation & off-taking, or input supply than men, with the exception of youth women in input supply.

**Men VBAs** are more likely to engage in agricultural IGAs. The difference is most significant for livestock & poultry, which is conducted by 24% of men, and 17% of women. Like women, aggregation and off-taking is more often done by youth men. Non-agricultural wage or salary employment is the second most common IGA for men. For women, it is the eighth most common. Providing transport or delivery services is an IGA almost exclusively done by men. This is more commonly done by youth men.

**Table 4:** Top 10 IGAs by proportion of phone survey sample, by gender and age

Notes: “Youth” is defined as 35 years old or less; “Adult” is older than 35 years. Significant ( $p < 5\%$ ) gender differences are highlighted in **green** when comparing to opposite sex of same category.

 Indicates Agricultural IGA	Youth Women	Youth Men	Adult Women	Adult Men
Sample size	119	211	282	632
1. Livestock & Poultry 	15%	19%	18%	26%
2. Aggregation & Off-taking 	13%	16%	6%	9%
3. Non-Ag Wage Salary	4%	13%	3%	13%



<b>4. Sale of Provisions</b>	19%	8%	18%	5%
<b>5. Sale of prepared food / bev.</b>	11%	4%	14%	4%
<b>6. Input Supply</b> 🌿	8%	7%	4%	6%
<b>7. Processing of crops</b> 🌿	2%	3%	5%	2%
<b>8. Tailoring or sale of clothing</b>	12%	2%	7%	1%
<b>9. Transport or delivery</b>	–	9%	–	3%
<b>10. Artisanal work</b>	–	1%	0.4%	3%
<b>Any Agricultural IGA</b> 🌿	37%	44%	33%	43%
<b>Any IGA</b> (all types)	74%	75%	68%	66%
<b>No IGA</b> (other than farming)	26%	25%	32%	34%

Note: Full details on the IGA profile for each consortium geography can be found in the Appendix.

## Top Agricultural IGAs

The top three most common agricultural IGAs in Tanzania were livestock & poultry, aggregation and off-taking, and input supply. In this section we specifically profile the VBAs engaging in these top three activities.

### 1. Livestock & Poultry

Raising livestock or poultry was the most common agricultural IGA for both women and men in our phone survey sample. 17% of women and 24% of men in the sample reported engaging in some form of livestock or poultry raising, most commonly chickens (85% women and 73% men). Cows were far more common for men (45%) than women (19%). Goats and pigs were roughly equally common for women and men. The Ihemi-Ludewa Consortium – which consists of Iringa, Njombe, and Ruvuma regions – has the highest concentration of livestock & poultry IGAs compared to all other consortia – for both men and women. The Kagera Consortium also has a high proportion of livestock & poultry IGAs, which are the most common IGA for both women and men. Findings from our qualitative interviews suggested that women are less involved in raising larger animals and more commonly manage businesses dealing exclusively with chicken and eggs. Further disaggregating our phone survey sample confirms this. It is likely that the economic profile of chicken and egg only businesses is different from that of businesses raising larger animals. Therefore, from this point forward we will disaggregate our livestock findings into two groups:

- A. **Chicken & Eggs Only** – including any business where the only livestock or poultry activity is raising of chickens and their eggs. No other animals.
- B. **Large Animals & Other** – including all other businesses, all of which are raising larger animals like cows, pigs, or goats. These businesses may also be raising chickens, but not exclusively.

### Chicken & Eggs Only

Raising chicken and eggs exclusively is more common for women (7%) than men (5%). Men conducting this business are mostly younger men, averaging 38 years compared to 47 years for those raising larger animals. Women far more commonly report these businesses as being easy to run compared to men. It appears that women run these businesses on the side, and many of them report it being supported by and relevant to their VBA work, with many gathering customers from their farmer groups. Compared to other agricultural IGAs, raising chicken and eggs has lower barriers to entry, and can be set up at a small scale with just a few chicks. Most women report these businesses being run entirely on their own, suggesting it may be a smaller business venture.



#### VBA Voices

**Female**, Age 45, serves 50 farmers as a VBA in Iringa

#### IGA: Breeding chickens and eggs

“I earn by breeding and selling chickens, it helps me to educate my children... The [VBA] clients who I advise, they help me to look for customers who take chicken. There are some people who come – some take eggs, others take chicken... I got the inspiration when I was visiting my fellow group members and found one that has her own livestock. You start asking her how it is, and she [gave me] the desire to breed.”

### Large Animals & Other

Raising larger animals (sometimes together with smaller ones and poultry) is far more common for men (19%) than women (9%), especially adult men with many acres to farm. Among men raising large animals, cows (45%) and goats (43%) are usually the animals of choice, but pigs (28%) are also common. For women, goats are most common (34%), followed by pigs (25%) and cows (19%). Compared to all other IGAs, these are the longest running, suggesting these may be generational businesses passed down in the family. For men, these businesses averaged 9.4 years; for women, 6.9 years. VBAs who run such businesses are also more likely to employ paid or unpaid workers to support them. 46% of men running these businesses hired a paid employee, and 36% used unpaid employees, suggesting these businesses are larger in scale and require more labor.



#### VBA Voices

**Male**, Age 40, serves 150 farmers as a VBA in Ruvuma

#### IGA: Pig farming

“I love livestock keeping... I raise pigs and sell them. I sell to the traders who have butchers... It is [related to VBA work] because crops like maize, vegetables, beans are the food of those animals I am keeping. For instance, pumpkins are food of pigs and I feed them a lot. From corn and sunflower I get feed for the pigs... [Being a VBA] has helped because [it] enabled us to perform modern agricultural techniques... after getting these trainings and doing these activities, I have changed my economic life differently from the past when I had no opportunities.”

## 2. Aggregation & Off-taking

Aggregation and off-taking IGAs (i.e., the aggregating of farmer crops and produce for sale in bulk) were the second most common agricultural business for both women and men. It is more commonly done by men (11%) than women (8%). This IGA was fairly common in most consortia, especially in Kigoma and SUKA. Compared to other IGAs it is more commonly conducted by youth than adults – both among women and among men. While both men and women commonly engage in this activity, it is clear that the scale of the business for men is far larger than that of women. Men reported aggregating crops from an average of 97 farmers, compared to 23 for women, and the gap is even wider when comparing young men and young women only. Men more commonly engage paid or unpaid employees than women. Men are also far more likely to report this IGA being difficult (34%) compared to women (12%). These findings suggest that men (mostly youth men) are operating these businesses at a much larger scale. Maize is the most common crop to aggregate for both women (67%) and men (77%). Aggregating beans is also very common for both women (48%) and men (57%).



### VBA Voices

**Female**, Age 31, serves 20 farmers as a VBA in Kigoma

#### IGA: Aggregation of beans

“When [a farmer] has beans, I calculate and buy several quantities so that I can get a profit. So I say to him, “my brother, I am asking you to sell this load to me.” If he sells it to me for 1,800 shillings, I have to go and sell it for 2,000. I always give ‘soda’ when I pay... I pay them right then and there. I take the load and then I pay him on the spot... What motivated me was the need for my children to study. I needed an income. I saw my colleagues who were doing business – they were liberated and their children could be educated, they were no longer beggars.”



**Male**, Age 33, serves 500 farmers as a VBA in Iringa

#### IGA: Aggregation & Input supply

“I negotiate with those big agricultural input traders. They sell to us at low prices... I [also] gather harvested crops. I preserve them waiting for a good price. First I provide [VBA farmers] with knowledge about the best use of inputs. Once they have that education, they will require inputs. And on the side of crops they harvested, where is the market for their crops? I carry that responsibility to buy those crops and preserve it so that the farmers can earn money at that time... Before I was a VBA, I didn't do these businesses. These businesses have come after. They have provided me with incentive. Now at least I get income through it, because if you are a VBA you have no income.”

## 3. Input Supply

Input supply businesses are the third most common agricultural IGA and are roughly equally common amongst women (5%) and men (6%). They are very common in the SUKA Consortium (22% of women and 16% of men) and almost non-existent in the Kigoma Consortium (zero women, and 2% of men). The total sample size of women running input supply businesses is small (20 total), meaning these statistics should be interpreted with caution. Women engaging in

input supply are younger and have relatively higher levels of education. The majority of women (80%) reported running an input shop, as opposed to earning commission from a dealer. For men engaging in this IGA, the vast majority (88%) report that they run an agricultural input shop. Some (20%) report selling hermetic bags, and others (16%) report earning commissions from input dealers. These businesses are often newer, averaging 3.7 years for men and 3.8 years for women, suggesting that this activity has recently become more popular, and potentially suggesting it may be related to the VBA program. This will be explored further later in the report.

### VBA Voices



**Female**, Age 42, serves 120 farmers as a VBA in Ruvuma

#### IGA: Supply of seeds

“I work with various companies that distribute seeds... they bring seeds, I sell them, I return the money. They bring me seeds at a wholesale price and I sell them for more.”

“Yes, [the VBA role] has a positive contribution [to my income] because... if you don't have people, the business is zero. I have many customers... first I give them education and second I sell them inputs. For me, the first thing is education and then the product follows.”



**Male**, Age 40, serves 200 farmers as a VBA in Ruvuma

#### IGA: Input supply & maize processing

“We have begun connecting farmers with input companies. The companies bring inputs to farmers by lending them and even selling them... when I connect the farmer with the company, I am given a small percentage that enables me to go to the farm when he has a challenge.”

“I already have many farmers whom I serve and I earn income through serving them. I have a corn threshing machine. When I go to grind maize [for my farmers] I get paid and earn profit. This has been made possible by being close to different groups of farmers... I advertise [my services] to my farmer groups... I always make that public announcement.”

## Drivers of Entrepreneurship

We conducted regression analysis using the data from the VBA phone survey to identify associations between being entrepreneurial (i.e., having one or more IGAs other than farming) and a variety of VBA characteristics. In this section we report these “drivers” of entrepreneurship to highlight what types of VBAs are more likely to be entrepreneurial. Full details on the regressions, including control variables and p-values, can be found in the Appendix.

### Characteristics Associated with Entrepreneurship

**Women VBAs are more likely to be entrepreneurial when they are not married, when they are younger, and when they own more land; education level is not a predictor.** Not being married is the most significant predictor of entrepreneurship for women VBAs. This finding is likely linked to Tanzanian social norms which indicate that married women are responsible for household and childcare, and thus have less available time to dedicate to additional IGAs (discussed further in the “Challenges & Barriers” section). Women who are not married could be



widowed, divorced, or single. These households have fewer adults (or sometimes one single adult) and therefore have fewer sources of income. Women VBAs in these households may be more inclined to start IGAs and may also have more agency in decision-making (discussed further in “Decision-making” section). Our findings also show that youth women VBAs are more likely to start agricultural IGAs than adult women VBAs, and this is driven by aggregation and off-taking. Farming more acres of land is also a significant driver of agricultural entrepreneurship for women VBAs. Women VBAs who farm more acres of land are more likely to engage in input supply and aggregation IGAs. Unlike men VBAs, level of formal education does not appear to be a significant driver of entrepreneurship for women VBAs for both agricultural and non-agricultural IGAs.

**Men VBAs are more likely to be entrepreneurial when they have more formal education and have more land; being married is not a major factor.** Having completed a level of education above primary is the most significant predictor of entrepreneurship for men VBAs, and this applies to both agricultural and non-agricultural IGAs. Men VBAs who farm more acres of land are also more likely to have an agricultural IGA. This finding is driven by those raising larger animals (e.g., cows, pigs, goats), an activity where men VBAs are far more likely to engage, and which requires more land for animals to graze. Interestingly, owning more acres of land for men VBAs is negatively associated with engaging in a non-agricultural IGA. Being married is not a significant predictor of entrepreneurship for men VBAs, although ninety-four percent of men VBAs in our sample are married, thus the sample size of unmarried men VBAs is small. Unlike women VBAs, married men VBAs do not face any socio-cultural constraints in their activities or available time, which likely explains why being married is not an important factor.

**Actively working as a VBA (as opposed to having stopped their VBA work) is a predictor of entrepreneurship for both women and men.** For men, being an active VBA<sup>46</sup> is significantly associated with more agricultural IGAs and less non-agricultural IGAs. This is a compelling finding for AGRA as it provides evidence that the VBA program is encouraging men to engage in agricultural IGAs. For women, being an active VBA is weakly associated with more IGAs, but this is primarily driven by non-agricultural IGAs instead of agricultural IGAs. This finding provides some evidence that while the VBA role encourages entrepreneurship among women, it may be stimulating non-agricultural entrepreneurship. In the Recommendations section, we propose ideas for AGRA to encourage more women into agricultural IGAs.

## Entrepreneurship and Number of Farmers Served as VBA

*Note: this analysis is outside the scope of the research questions but was requested by AGRA upon review of Report 1.*

**There is a clear link between being entrepreneurial and serving more farmers as a VBA.** Each additional IGA a VBA engages in is associated with serving 22 more farmers on average ( $p < 0.001$ ). When looking at the number of women served, for each additional IGA a VBA engages in, they serve 12 more women farmers ( $p < 0.001$ ). When disaggregating this finding for women and men, we find an almost identical relationship for both.

**For men, higher levels of education is associated with serving more farmers.** Men VBAs who have completed education higher than primary are significantly associated with serving 34 more farmers on average ( $p < 0.001$ ), and 12 more women farmers ( $p = 0.013$ ), compared to those with lower education. For women, education level is not significantly associated with more or less farmers served.

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<sup>46</sup> An active VBA is still training other farmers on better agricultural farm practices. In the case where the VBA program has ended, the VBA can opt to continue training fellow farmers or stop offering training to farmers altogether. In the latter case, the VBA will be considered non-active.

**Table 5:** Average farmers served by VBAs, by sex and category of IGA

	Youth Women	Adult Women	Youth Men	Adult Men
<b>Average farmers served by VBAs:</b>				
Running an Agricultural IGA 🌿	107	95	140	110
Running a Non-Agricultural IGA	64	76	65	80
Not running any IGA	36	52	65	61
<b>Average % of women served:</b>				
Running an Agricultural IGA 🌿	58%	63%	43%	45%
Running a Non-Agricultural IGA	56%	57%	46%	46%
Not running any IGA	64%	65%	37%	44%

**Both women and men VBAs who run agricultural IGAs serve significantly more farmers than those running non-agricultural IGAs.** As illustrated in the table above, the link between entrepreneurship and more farmers served is primarily driven by VBAs engaging in agricultural IGAs, rather than non-agricultural IGAs. This finding is significant for both women ( $p=0.060$ ) and men ( $p<0.001$ ).

**For men, level of education continues to be an important driver of serving more farmers, for both agricultural and non-agricultural IGAs.** Men who have completed education greater than primary education and run an agricultural IGA serve 36 more farmers on average than those with lower education. More educated men running non-agricultural IGAs serve 41 more farmers on average. For women, there is no such significant relationship – more educated women do not serve more farmers, regardless of whether they run an agricultural or non-agricultural IGA.



### Key Points on Research Questions

#### RQ1: Income-Generating Activities

- Most VBAs do not have an agricultural IGA, other than farming and selling crops. Only 33% of women and 43% of men engage in an agricultural IGA.
- Women VBAs are more likely than men to engage in non-agricultural IGAs and men are more likely to engage in agricultural IGAs.
- Livestock & poultry, aggregation & off-taking, and input supply are the top three most common agricultural IGAs.
- Women VBAs are more likely to be entrepreneurial when they are not married, when they are younger, and when they farm more land; education level is not a predictor.
- Men VBAs are more likely to be entrepreneurial when they have more formal education and farm more land; being married is not a major factor.
- Both women and men VBAs who run agricultural IGAs serve significantly more farmers than those running non-agricultural IGAs.

## RQ2: Entrepreneurial Inputs



In this section we report findings on:

**RQ2:** What entrepreneurial inputs (e.g., motivations, skills sets, personal qualities, networks) are required for women, men, and youth VBAs to pursue the IGAs?

### Motivations

Motivation to start an agricultural IGA is defined as the internal or external drive, or circumstantial reason, that may have propelled the VBA to start an agricultural IGA. During the qualitative interviews, agricultural entrepreneurial VBAs (i.e., VBAs running at least one agricultural IGA) were asked about their motivations for starting the IGA with probing questions on skills and inspiration from the community. Women, men, and youth provided similar responses, highlighting six main areas of motivation:

#### *Needed more income*

The most common motivation stemmed from the need for more income to supplement farming and selling of their own crops. Farmers mentioned starting the IGA to pay for recurring household bills such as paying for school fees, medical bills, or food for the family. Many mentioned that the VBA role does not provide an income directly, and so they needed to find other means to earn money. Women, men, and youth mentioned this as their main motivation in approximately equal proportions.

*“[I started my IGA] mostly due to the challenges of life – such as financial difficulties.”*

#### **– Youth female VBA**

*...after harvesting those crops I got much yield. After keeping the grains for food I remained with surplus. And when I sold they paid me. After getting money I decided to collect grain from other farmers and I got grains more than those I sold. So I discovered that apart from farming the man should have another activity to increase his income. And this is where motivation came.*

#### **– Adult male VBA**

#### *Learning about the importance of an activity*

The motivation of starting an IGA can also stem from gaining knowledge about the importance of the business in improving yields. Women and men noted realizing and recognizing the importance of activities such as use of improved inputs to increase yield. They were motivated to start their businesses to help their community to also see the benefits of these inputs and activities. More women than men mentioned this as a motivation to start their own business.

*“...after seeing the importance of agricultural inputs, and the need for them because they were not there, I decided to start this business of selling agricultural inputs.”*

#### **– Youth female VBA**

#### *Inspired by a neighbor or friend*

Starting an IGA could be motivated as a result of being inspired by someone else who has been successful in the IGA. Many VBAs described being inspired by their neighbor or friend to

start their business. Some mentioned that they were inspired by the very farmers that they serve as a VBA. Slightly more women (10) than men (8) mentioned that they were inspired by a family member, a neighbor or a friend to start their own business. Seeing their success was a source of motivation.

*“I saw my colleagues who perform these activities like they becoming successful then I thought I should start the business activities too, and when I realized that there is a profit I decided to continue.”*

**– Adult male VBA**

*“Yes, it was my neighbor who convinced me to go into business.”*

**– Youth female VBA**

*Opportunity to bring services closer to farmers*

Numerous VBAs realized that farmers in their community were traveling long distances to obtain necessary inputs for farming activities – a circumstantial motivation for starting the IGA. About the same number of (4) men and (3) women opted to start their business within their village to bring the needed services closer to them and their community. This prompted them to try and find a solution in whatever way they could.

*“After seeing the farmers having challenges in acquiring fertilizers far away, I brought them to nearby areas of their farming.”*

**– Youth female VBA**

*“What motivated me was after seeing that I have many farmers and then here the inputs were [far away], ...there was no store [nearby]. Either you went to Madaba 35 kilometers, or you went to Songea 90 kilometers [to] get inputs. Therefore, I am the first person in this village to start an input business.”*

**– Adult female VBA**

*Improving efficiency in the community*

VBAs saw an opportunity to improve efficiency of various farming processes and support their community and took this as a motivation to start their IGA. Numerous VBAs – both women and men – mentioned that they were motivated to start their IGA because farmers were using practices that were time-consuming.

*“People cultivate but spend too much time on harvest processes by their local ways. I saw that this machine will make it easier for them to work and for me to earn an income.”*

**– Adult male VBA**

*Had the required skills*

Having the necessary skills from prior training (either from IPs or elsewhere) or already being trained in the specific skills to start the IGA was a motivator to start the IGA. This past training provided the VBAs the confidence to start the business. More women (12) than men (6) mentioned that they had acquired the necessary skills to start their business successfully.

*“I have studied the forming of seeds. I have also received the best input conservation knowledge. And I know how to use these agricultural inputs... I have the knowledge.”*

**– Adult male VBA**

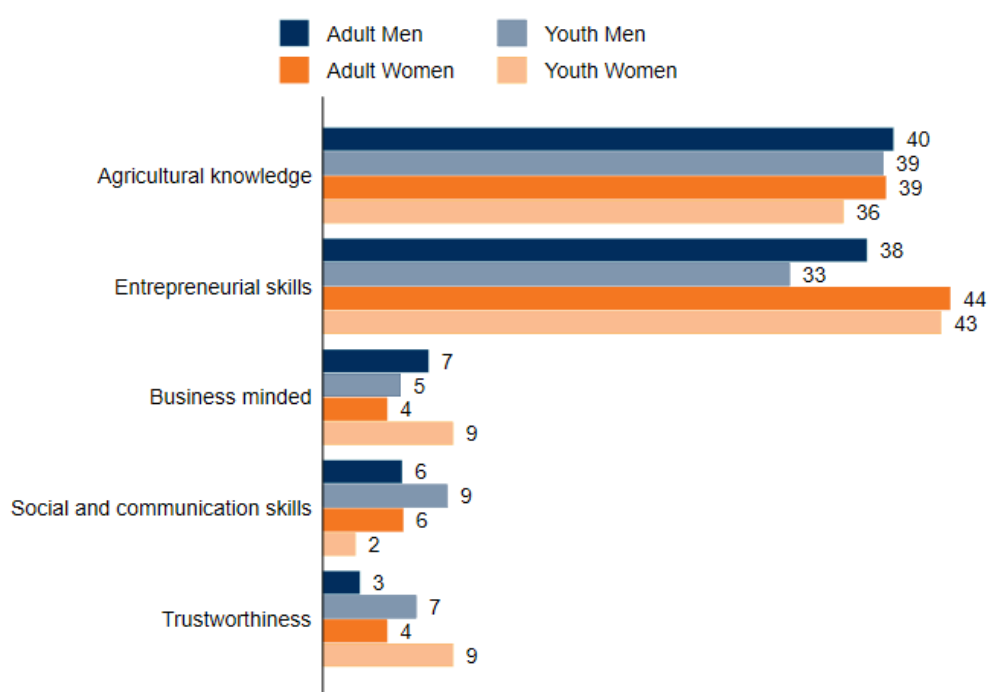
*“When I started raising chickens, I had skills such as how to make a chicken coop so that it would not be eaten by animals.”*

– Youth female VBA

### Skill Sets and Personal Qualities

Understanding the skills sets and personal qualities required to operate an agricultural IGA can also provide valuable insights into how AGRA might upgrade VBA skills in the right areas to support more VBAs to take these entrepreneurial paths. In the phone survey we asked entrepreneurial VBAs what their most important skill was in operating their businesses. Women and men VBAs gave similar, but slightly different responses, as illustrated below. Note that the important skill sets did not differ significantly for youth and adult VBAs.

**Figure 4:** Percentage of most important skill set reported for operating IGA, by sex and age



Agricultural knowledge and entrepreneurial skills were commonly listed as the most important skills by women, men and youth, with entrepreneurial skills being more valued by women. Being business minded and having social and communication skills were more rarely listed as the most important skills by both women and men. We also investigated if there are differences in responses depending on the IGA that the VBA engages in. We found no significant differences in most skill sets by type of IGA, other than trustworthiness, which is more important for input supply (6%) and aggregation (7%) compared to livestock rearing (2%).

### Network & Collaboration

IGAs cannot and do not run themselves. VBAs often have multiple other engagements that put pressure on their time availability to be able to focus on IGAs other than farming. The very nature of some IGAs (e.g., raising cattle) requires external support and cannot be fully managed on their own. Other IGAs are less time or resource intensive and might be feasible to operate as a single



person, or on the side. We asked entrepreneurial VBAs about how they collaborate with others to run their businesses.

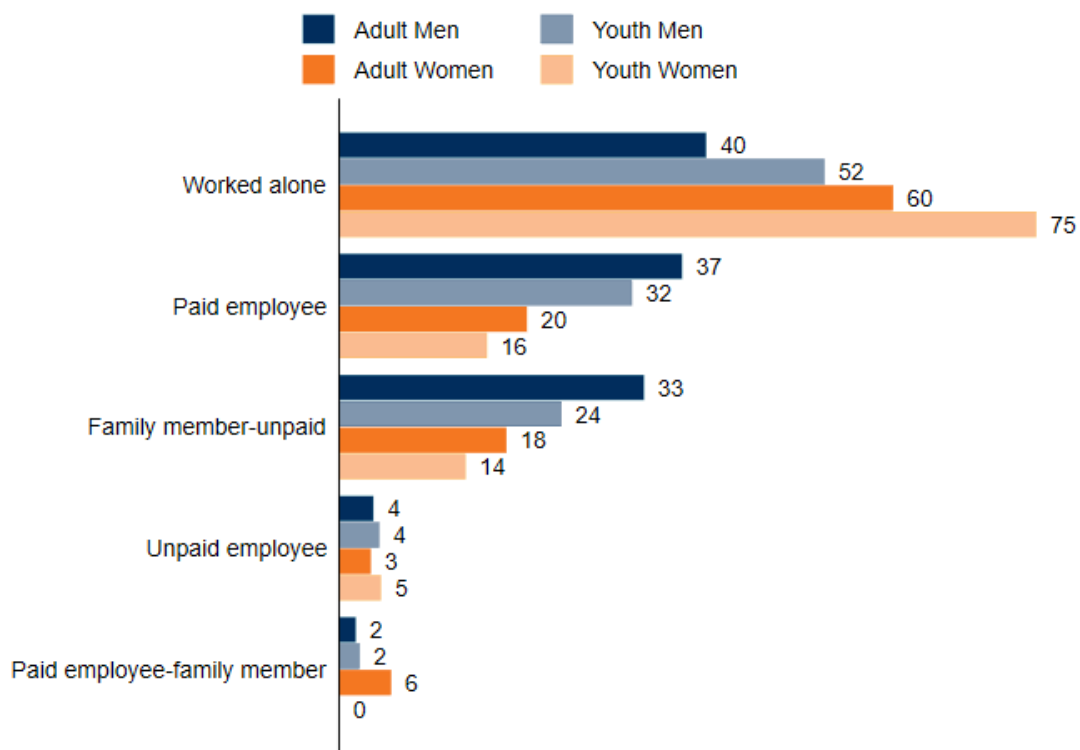
Collaboration was conceptualized in two ways:

1. **Collaboration with individuals** (e.g., family members, paid or unpaid employees)
2. **Collaboration with organizations** (e.g., implementing partners, agro-dealers)

### Collaboration with individuals

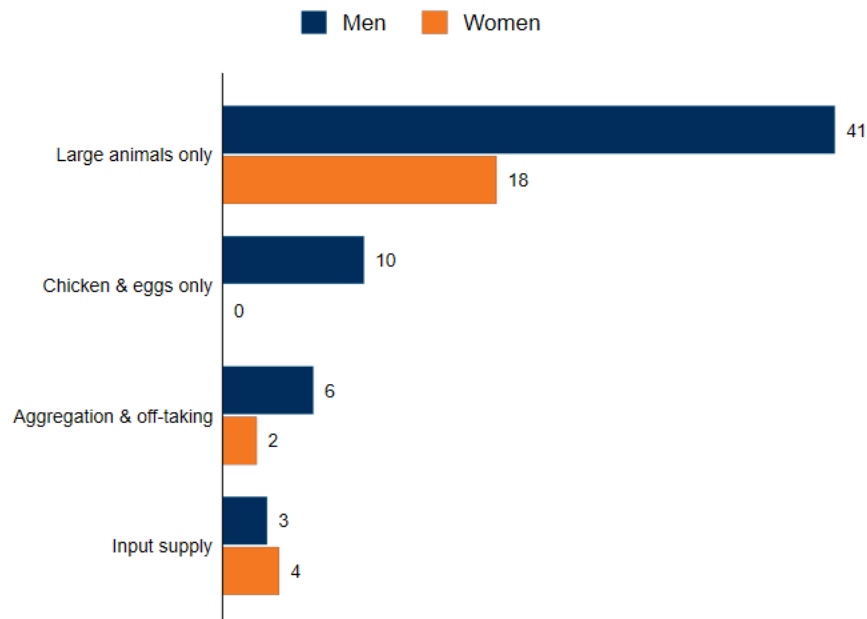
Women VBAs are far less likely to collaborate with individuals such as paid employees and unpaid family members than men. Most women (65%) report working alone, compared to 43% of men ( $p=0.03$ ). Additionally, youth women are far less likely to collaborate with individuals than adult women and men. 75% of youth women reported working completely alone.

**Figure 5:** Percentage of VBAs collaborating with individuals in their IGA, by sex and age



Men are far more likely to work with paid employees or unpaid family members in their IGA. This finding suggests that men are more commonly engaged in larger scale IGAs that require more resources to operate. This finding is primarily driven by livestock rearing, where men are more likely to be involved, and specifically driven by the raising of larger animals (e.g., cows, pigs) as opposed to chickens and their eggs. Women’s livestock & poultry businesses are more commonly focused on chickens and eggs, where it is very uncommon to hire paid labor. In fact, of the 30 women VBAs in our sample who engage *exclusively* in chicken and egg raising, not a single VBA reported hiring a paid employee.

**Figure 6: Percentage of VBAs using paid employees, by IGA and sex**



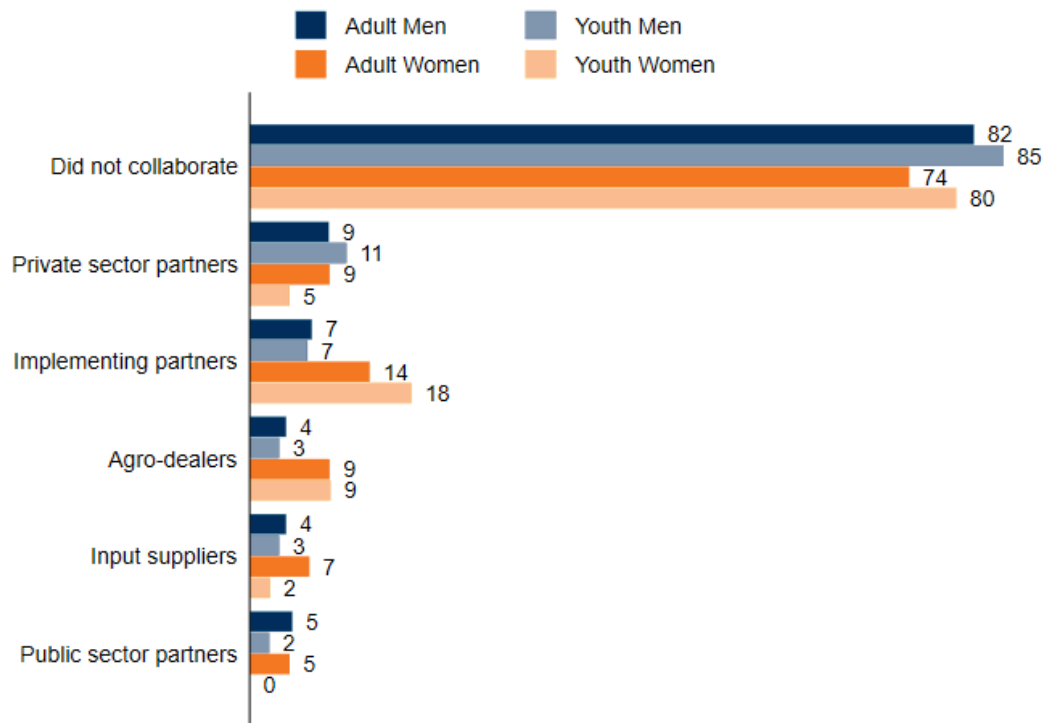
### *Collaboration with organizations*

When looking at collaboration with organizations the story is slightly different. The majority of both women (76%) and men (82%) do not collaborate with organizations for their IGAs. However, women were slightly more likely to collaborate with organizations than men, and this was driven by more collaboration with implementing partners and agro-dealers. When disaggregating by age, adult women are more likely to collaborate than youth women, but youth women (18%) are far more likely to collaborate with implementing partners (IPs) than youth men (7%). This is an interesting finding for AGRA and IPs although it is unclear what is driving this difference. It may be that there are existing programs in place specifically targeting women and youth women which is leading to this difference. Nevertheless, it is a positive finding suggesting that women, and especially youth women, can be reached through IP support programs.

*“We received help from the seminar they gave us in Songea which was sponsored by the BRiTEN company regarding the sale of inputs.”*

### **– Female VBA with input supply business**

**Figure 7:** Percentage of VBAs collaborating with organizations, by sex and age



### Key Points on Research Questions

#### RQ2: Entrepreneurial Inputs

- Women, men, and youth reported similar motivations for starting their IGAs.
- Agricultural knowledge and entrepreneurial skills are the two most important skills for running an IGA, according to both women and men.
- Women, and especially youth women, are far more likely to work alone in their IGAs.
- Large animal IGAs are most likely to collaborate with paid or unpaid support.
- Most VBAs do not collaborate with organizations, but youth women collaborate with IPs more than men.

## RQ3: Income & Non-cash benefits



In this section we report findings on:

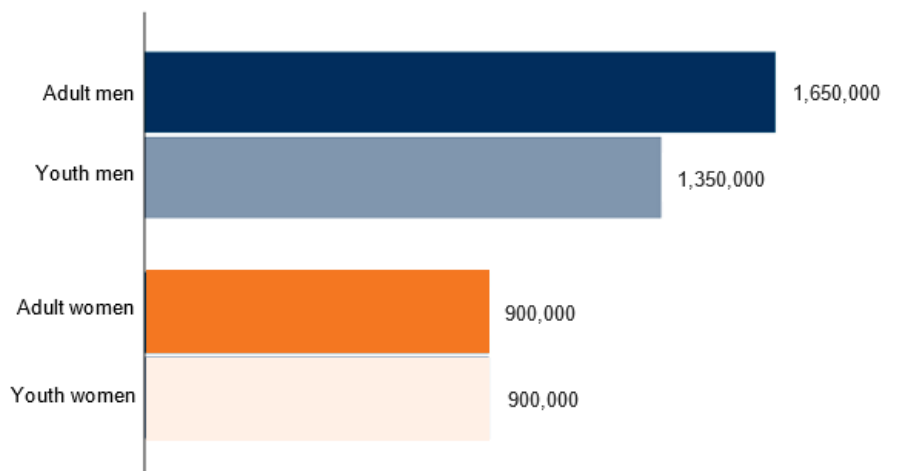
**RQ3:** Through these IGAs, does the VBA model provide sustainable income or other non-cash benefits to women, men, and youth farmers who pursue them?

### Total VBA Income

VBAAs were asked to report their approximate total annual income in the 12 months prior to the survey and their monthly income in the month before the phone survey (July). The income responses were given in ranges to ensure that the VBAAs were not overwhelmed when responding. For the purposes of the income profile, we have used the mid-points of each of the income ranges in order to give a better understanding of the differences in income for women and men VBAAs.

On average, women reported earning less than men in both monthly and annual income. The differences in income between women and men are statistically significant for annual income. Women reported earning a median income of TZS 900,000 annually while men earned a higher median income of TZS 1,650,000 in 12 months prior to the phone survey. We report median income instead of average to account for the fact that some VBAAs have very high or very low incomes. See **Appendix 7** for average incomes.

**Figure 8:** Median total annual income in TZS disaggregated by gender and age<sup>47</sup>



For both women and men, we also observed that youth VBAAs earned significantly less than adult VBAAs. However, although adult men out-earned youth men, youth men still out-earned both adult women and youth women. Youth women earned the least, with 66% earning less than TZS 1,200,000 (~ USD 510) compared to 53% of adult women. As for men, 42% of youth men earned less than TZS 1,200,000 (~ USD 510) compared to 35% of adult men.

<sup>47</sup> Income rounded up to the nearest thousand

When we considered VBA's income from the top three agricultural IGAs we again found that the median annual income of men is higher than that of women for all IGAs.<sup>48</sup> There are no statistically significant differences for men, women and youth within the same IGA and this may be driven by the small sample size. If we consider taking the differences in median annual income based on having any agricultural IGA, men earned significantly more income than women for having any one agricultural IGA.

The annual income for VBAs engaging in input supply and aggregation & off-taking is likely to be higher than other agricultural IGAs, controlling for household and socioeconomic differences. This difference is statistically significant at the 5% level. These differences are discussed further in the Discussion section.

**Table 6:** Median total annual income (TZS) for agricultural IGAs, by gender and age<sup>49</sup>

Notes: Median total income is reported. This includes farming and selling crops, not only the IGA. Sample sizes less than 10 are not reported. "Youth" is defined as 35 years old or less. "Adult" is defined as older than 35 years.

	Youth Women	Adult Women	Youth Men	Adult Men
<b>1. Chicken and Eggs only</b> (N = 72)	– <sup>50</sup>	1,350,000	1,350,000	1,650,000
<b>2. Large Animals only</b> (N = 202)	– <sup>51</sup>	1,350,000	1,650,000	1,950,000
<b>3. Aggregation &amp; Off-taking</b> (N = 123)	900,000	1,650,000	2,500,000	3,050,000
<b>4. Input Supply</b> (N = 71)	1,950,000	3,050,000	6,000,000	3,050,000
<b>5. Having any agricultural IGA</b> (N = 467)	900,000	1,650,000	3,050,000	3,050,000

### Drivers of annual income

There are numerous characteristics that are significantly associated with higher annual income. Using regression analysis, we find that these characteristics differ for women and men.

#### *Being entrepreneurial (for both women and men)*

**There is a clear link between income and entrepreneurship – VBAs engaging in more IGAs (other than farming and selling their own crops) report higher total income.** This is true for both women and men. Each additional IGA that a VBA engaged in was associated with an increase of approximately TZS 544,200 (USD 218)<sup>52</sup> in additional annual income ( $p < 0.001$ ) in the 12 months prior to the phone survey. When disaggregating for women and men, we see a similar finding for both. For men, each additional IGA is associated with TZS 564,600 (USD 226) in additional annual income ( $p < 0.001$ ). For women, each additional IGA is associated with TZS 539,400 (USD 216) of additional annual income ( $p = 0.006$ ).

**When disaggregated by agricultural and non-agricultural entrepreneurship, it is the agricultural IGAs that are driving the higher income for both women and men.** Each additional agricultural IGA is associated with TZS 793,600 (USD 317) more annual income for women ( $p = 0.001$ ). Each additional agricultural IGA is associated with TZS 623,900 (USD 250) more annual income for men ( $p = 0.001$ ). However, there is no similar relationship for non-

<sup>48</sup> The median income for keeping large animals only is higher for youth women compared to men and adult women but this is because of a small sample (9) of youth women with this IGA.

<sup>49</sup> Income rounded up to the nearest thousand

<sup>50</sup> Small sample size of 9 youth women. Too small to determine a useful interpretation

<sup>51</sup> Small sample size of 9 youth women. Too small to determine a useful interpretation

<sup>52</sup> Conversion rate used is 4 USD = 10,000 TZS



agricultural IGAs. That is, being an agricultural entrepreneur is associated with more annual income, but being a non-agricultural entrepreneur is not – an important finding for AGRA.

### *Gender*

**Being a woman is strongly associated with less annual income.** Women earn TZS 571,600 (USD 229) less than men on average, when controlling for other household and socioeconomic factors ( $p=0.001$ ). When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – women earn less than men regardless of type of IGA.

### *Age (for women)*

**Youth women VBAs earn significantly less income than their adult counterparts,** earning TZS 655,400 (USD 262) less annual income on average than adult women when controlling for socio-economic and household factors<sup>53</sup> ( $p=0.023$ ). This relationship does not apply for men VBAs, where we do not find a significant difference to annual income between youth and adult men. When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – youth women earn less than adult women, and there is no significant relationship for men.

### *Acres of land (for both women and men)*

**Farming more land is associated with more annual income for both women and men.** For women, each additional acre of land farmed is associated with TZS 45,900 (USD 18) more annual income ( $p=0.006$ ). For men, each additional acre of land farmed is associated with TZS 66,700 (USD 27) more annual income ( $p<0.001$ ). When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – women and men with more land earn more annual income.

### *Education (for both women and men)*

**More educated women and men earn more annual income on average.** Women who have completed a level of education higher than primary earn TZS 992,700 (USD 397) more income than their less educated counterparts ( $p=0.004$ ). For men, those who have completed a level of education higher than primary earn TZS 993,500 (USD 397) more income than their less educated counterparts ( $p<0.001$ ). When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – more educated women and men earn more annual income.

### *Household size (for men)*

**More household members is associated with more annual income for men.** Each additional household member in a man VBAs household is significantly associated with TZS 105,154 (USD 42) more income ( $p=0.003$ ). This finding was not significant for women VBAs. When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – men living in households with more members earn more annual income.

### *Marriage (for men)*

**Being married as a man VBA is associated with less income** at TZS 741,400 (USD 297) compared to a man VBA who was not married, although this finding is weakly significant ( $p=0.074$ ). When disaggregated by agricultural and non-agricultural entrepreneurship, the same story holds – married men earn less annual income.

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<sup>53</sup> Socio-economic and household factors that we controlled for include: age, land owned (acres), education level (above primary), household size, being married, being enrolled in the VBA program, and region.

## Proportion of annual income from agricultural IGA

All VBAs reported the proportion of their income derived from their agricultural IGA. Although there is substantial evidence that women earn less than men overall and some data to suggest that they may earn less from their agricultural IGAs in absolute terms, income from agricultural IGAs constitutes a larger proportion of annual income for women than men, except for aggregation & off-taking and keeping large animals as livestock. These differences hold true when comparing youth women and men VBAs. However, these differences are not statistically significant when controlling for household and socioeconomic characteristics. Table 7 highlights the differences by gender and age but the sample size for chicken and eggs only, and input supply is too small so the proportions should be interpreted with caution.

**Table 7:** Proportion of annual income from agricultural IGA, by gender

	Youth women	Adult women	Youth men	Adult men
<b>1. Chicken and Eggs only</b> (N = 72)	21%	32%	25%	17%
<b>2. Large Animals only</b> (N = 202)	35%	32%	36%	33%
<b>3. Aggregation &amp; Off-taking</b> (N = 123)	35%	43%	46%	41%
<b>4. Input Supply</b> (N = 71)	60%	55%	38%	33%

## Decision-making

We asked entrepreneurial VBAs running agricultural IGAs about who makes decisions on how to spend the income earned from these businesses. In an attempt to keep the length of the phone survey down, this question was asked only about the specific IGA, and not generally about the farming and selling of crops, which is likely the primary source of income for most VBAs. The primary focus of the phone survey was to understand the agricultural IGAs and not farming activities.

**Our findings suggest that the majority of women VBAs, especially adult women VBAs, are empowered to make decisions on how to spend the income from their IGAs** – either solely making decisions or taking a leading or equal role in the decision together with someone else. Women VBAs run their businesses more autonomously, more frequently making decisions independently compared to men. Men VBAs were more likely to involve others in decision-making, with joint decision-making being far more common among men VBAs' agriculture businesses compared to women.

**Table 8:** Who makes decisions on IGA income, by IGA and sex

	Decides <u>alone</u>	<u>Leads</u> with other input	<u>Jointly</u> with other	<u>Other</u> decides
<b>Adult women VBAs</b>				
<b>Chicken &amp; Eggs Only</b> (n=21)*	60%	20%	5%	15%
<b>Large Animals</b> (n=29)*	48%	21%	3%	28%
<b>Aggregation &amp; Off-taking</b> (n=18)*	67%	17%	0%	11%
<b>Input Supply</b> (n=10)*	40%	30%	10%	20%

Youth women VBAs				
<b>Chicken &amp; Eggs Only</b> (n=9)*	33%	44%	0%	11%
<b>Large Animals</b> (n=9)*	44%	44%	0%	11%
<b>Aggregation &amp; Off-taking</b> (n=15)*	53%	27%	0%	20%
<b>Input Supply</b> (n=10)*	60%	10%	10%	20%
Adult men VBAs				
<b>Chicken &amp; Eggs Only</b> (n=24)*	33%	33%	4%	21%
<b>Large Animals</b> (n=141)	21%	39%	23%	16%
<b>Aggregation &amp; Off-taking</b> (n=56)	44%	27%	15%	15%
<b>Input Supply</b> (n=37)	41%	27%	16%	16%
Youth men VBAs				
<b>Chicken &amp; Eggs Only</b> (n=18)*	50%	22%	28%	0%
<b>Large Animals</b> (n=23)*	26%	30%	35%	4%
<b>Aggregation &amp; Off-taking</b> (n=34)	35%	29%	18%	18%
<b>Input Supply</b> (n=14)*	64%	21%	7%	7%

\*Note: sample size for women and men in some IGAs is low. Interpret the results with caution.

Existing literature on women’s decision-making power in agriculture in East Africa suggests that women tend to have less decision-making power and control over their income than men. Our finding suggests the contrary – that women VBAs report having high levels of control over their income for their IGAs, with many reporting complete autonomy. The explanations for these differences are highlighted in the discussion section of the report.

## Non-Cash Benefits

Women and men VBAs reported other benefits from their IGAs apart from income. These non-cash benefits are roughly the same for women and men, with gaining agricultural knowledge as a result of the agricultural IGA being the most reported benefit of all others. Women, especially, youth women reported benefiting most from agricultural knowledge through their agricultural IGA.

**Table 9:** Reported non-cash benefits from running an IGA, by gender and age

Note: “Youth” is defined as 35 years old or less. “Adult” is defined as older than 35 years.

	Youth Women	Adult Women	Youth Men	Adult Men
Sample size	119	282	211	632
Gaining agricultural knowledge	39%	32%	31%	28%
Ability to earn income from role	17%	16%	18%	24%
Helping farmers improve	12%	17%	14%	17%
Community respect & admiration	5%	6%	10%	8%
Nutritional benefits for family	2%	4%	3%	7%
Nutritional benefits for community	6%	7%	1%	1%

Gifts from farmers served	5%	1%	7%	2%
Career development	4%	6%	1%	1%
Entrepreneurial skills & experience	4%	3%	5%	2%
None	3%	1%	2%	3%

## Sustainability of Income

The long-term sustainability of AGRA’s VBA model depends on VBAs being able to successfully leverage their training, connections, and role in the community to generate sustainable income levels. The sustainable income levels cannot be generated from the VBA activities themselves because VBAs volunteer their time to train other farmers and receive no monetary benefit from it. For the purpose of this study, we understand the sustainability of income across four dimensions:

- 1) Income attribution to AGRA VBA Program
- 2) Comparing VBA income to national average
- 3) Seasonality of VBA income
- 4) Viability of new IGAs founded by VBAs.

### 1. Income attribution to AGRA VBA Program

Although many of AGRA’s VBAs have started businesses, some of these individuals may have founded IGAs in the absence of their connection to AGRA. It is important for AGRA to understand to what extent income from VBA’s IGAs can be attributed to the VBA program. We used four conditions to decide whether the income from an IGA could be attributed to the VBA program:



#### *The IGA is an agricultural IGA*

This ensures that only the IGAs and VBAs relevant to the objective of this study are taken into consideration for the attribution model.



#### *The IGA started after becoming a VBA*

The VBA program could have affected the start of the IGA if the individual was a VBA before starting the IGA.



#### *The individual is currently a VBA*

If the individual was a VBA previously but not anymore then the change in income from the IGA cannot be attributed to the VBA program now.




#### *The VBA perceives the IGA as linked to their VBA work*

We asked VBAs if their IGAs were related to their VBA work or not. For income to be attributable, we assume the VBA must have reported the income to be related to their VBA work.

Based on these criteria, of the 467 VBAs (340 men and 127 women) who have at least one IGA, only 176 (38%) VBAs have at least one IGA that can be attributable to the AGRA program using the criteria described above. The proportion is similar for men (14%, n=121) and women (14%, n=55 women). These 176 businesses generate 48% of the income from IGAs for women and 37% for men that can be attributed to the VBA program.

**Considering all the VBAs in the sample, about 7% of the women's and 5% of the men's annual income can be attributed to the VBA program.** In absolute income amounts, on average TZS 249,000 (~USD 107) from women's and a lower TZS 239,000 (~USD 102) from men's annual income can be attributed to the VBA program. The remainder of the income is attributable to: 1) farming and selling their own crops; 2) IGAs that are non-agricultural or not related to VBA work; or 3) IGAs that pre-date the VBA program.


**VBA Voices on IGA relation to VBA work**



**Female**, Age 30, VBA in Ruvuma

**Supply inputs and responsibility as VBA to farmers**

"It is related because farmers in the fields, if the crops cause problems, they depend on consulting a competent person, I got a seminar related to the sale of seeds, fertilizers and pesticides. Therefore, when a farmer comes, I give advice and after that I give him practical advice and if he fails, I go to his farm and point him out, especially the activity of [using pesticides] is the one that bothers them."



**Male**, Age 36, VBA in Ruvuma

**Aggregation and farmer network through VBA work**

"For example, when I go to advise farmers, they cultivate and produce in abundance, right? And I have built relationships with them. When they harvest, they call me to go and grind up their maize."

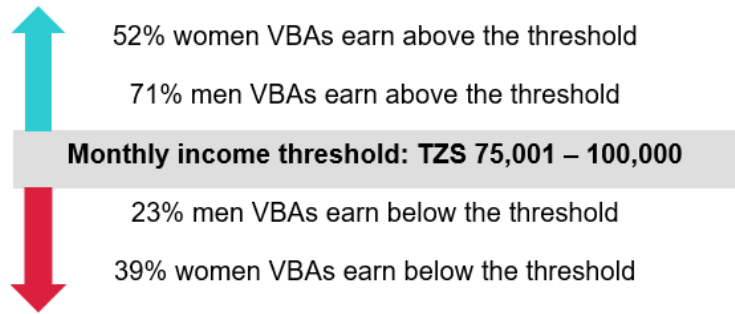
## 2. Comparing VBA income to national averages

The nationally representative Household Budget Survey (2017/18) reports the average household consumption expenditure in rural Tanzania was TZS. 85,664 (~ USD 37) per capita in rural Tanzania. We can use this representative data to understand how this compares to the monthly income reported by women and men VBAs. The threshold income of TZS 85,664 lies with the monthly income category of TZS 75,001 – 100,000 reported by women and men VBAs. We use this category to establish how many women, men and youth earn above/below this monthly consumption level.

Being a VBA is associated with having higher income than the national average for men VBAs. A larger proportion of men (71%) earn above the threshold compared to women (52%). Fewer than 10% of both men and women VBAs earn within the range of the threshold amount. The same pattern is observed among youth VBAs, where a majority of both women and men earn income above the threshold, but more youth men earn above the threshold compared to youth women.



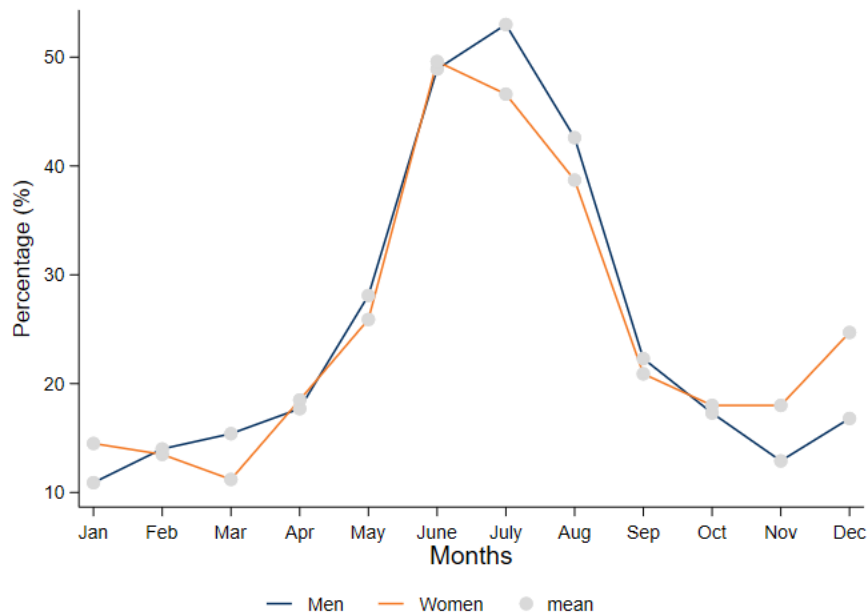
**Figure 9:** Proportion of VBAs earning above and below national threshold



### 3. Income Seasonality

A key component of sustainability is if income is available throughout the year. The harvesting season in Tanzania depends on the crop but most crops in Tanzania are harvested in June/July and some in January/February.<sup>54</sup> It is common for smallholder farmers to experience income seasonality with respect to the crop cycle and calendar. During the phone survey, VBAs were asked to list 3 months of the year when they earn the most income. This provides some nuance in the way we interpret their annual income. Both women and men earn the most income in the months between June-July and the least income between the months of January and March.

**Figure 10:** Percentage of farmers reporting a month as one of their top three income months



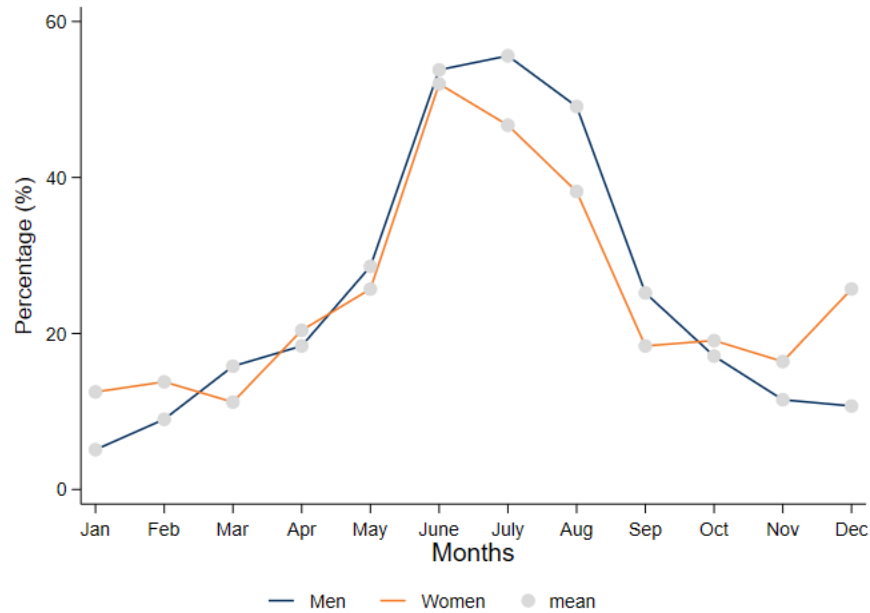
#### *Income seasonality by type of IGA (agricultural vs. non-agricultural)*

The seasonality of income is often tied to crops and IGAs that are directly related to agriculture and influenced by the crop cycle/calendar. In order to better understand the relationship between income seasonality and the type of IGA, we disaggregated our sample into two groups: those with at least one agricultural IGA and those with at least one non-agricultural IGA. **Figure 11** and

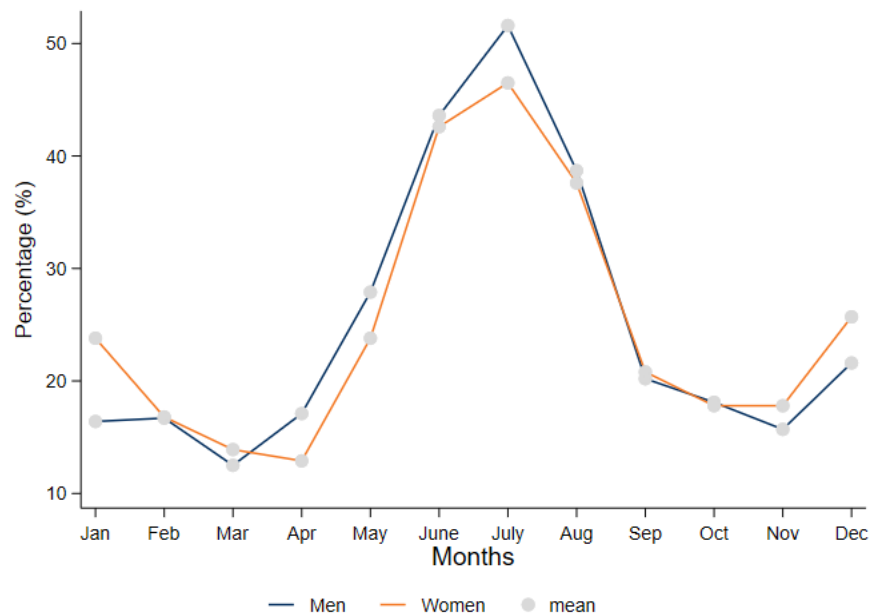
<sup>54</sup> FAO GIEWS Country Brief on United Republic of Tanzania. (2021, September 28). <https://www.fao.org/giews/countrybrief/country.jsp?code=TZA>

**Figure 12** illustrate that the curve for VBAs with non-agricultural IGAs is flatter than that for those with agricultural IGAs, suggesting that there is less month-to-month fluctuation in income with non-agricultural IGAs. It is possible that non-agricultural IGAs provide a more consistent source of income for VBAs during times when income from agriculture is low.

**Figure 11:** Percentage of farmers reporting a month as one of their top three income months, non-agricultural IGA



**Figure 12:** Percentage of farmers reporting a month as one of their top three income months, agricultural IGA



## VBA Voices on Income Seasonality



**Female**, Age 35, VBA in Iringa

### **IGA: Supply inputs and seasonal income**

“[Income] is permanent throughout the year, except that this period is different compared to the period from December to April... From December to April, there are many people who need these agricultural inputs.... From the sixth month onwards, they decrease because farmers in the valleys do not use fertilizers as much as those in the highlands who depend on rain.”



**Male**, Age 36, VBA in Iringa

### **IGA: Poultry and non-seasonal income**

“The income from maize processing is seasonal but that of breeding lasts the whole year because of the cycle, for example, on the chicken side they lay eggs and produce chicks, the ones that can no longer produce, you sell them and the cycle continues throughout the year.”

## 4. Viability of recently started IGAs

The viability and failure rate new IGAs highlights the level of sustainable income that a VBA can attain given the uncertainty and risks associated with new businesses. A high likelihood of IGA discontinuation can be associated with the likelihood of less sustainable income over time. After the first phone survey, we successfully reached 63 VBAs (30 women and 33 men) with recently started IGAs for two consecutive rounds of follow-ups. We collected information about these new businesses over three time periods, each three months apart. Rounds 2 and 3 were used to track the VBA's agriculture related business journey to understand the challenges faced early in formation, how they overcame those challenges or not during this period.

10 percent of VBAs discontinued their businesses between Round 1 and Round 2 and another 10 percent discontinued their business between Round 2 and Round 3. Comparing men and women VBAs who were running new agriculture related businesses, women VBAs discontinued more businesses than men in both time points. These are relatively small proportions of new businesses that were discontinued, therefore, making a case that the new businesses are more likely to be viable for both women and men VBAs. In Round 2, four out of eight discontinued businesses were in aggregation & off-taking, while in Round 3, five out of six discontinued businesses were in livestock & poultry. The key reasons for discontinuing these new businesses reported by VBAs are: 1) lack of sufficient funds; and 2) disease and pests impacting animals and crops

During the follow-up rounds, more women than men VBAs began yet another new business. 23% of VBAs began a new business after the first three months, while 14% of the VBAs in the next three months. Among those who started new businesses during the 6 months tracer rounds, more women than men VBAs began non-agriculture businesses rather than agricultural businesses. 15 women and 4 men began new non-agricultural IGAs. VBAs who began new ag-related business preferred to offer aggregation and off-taking services, with slightly more women (4) than men (3) engaging in this type of business.



## Key Points on Research Questions

### RQ3: Income & Non-cash benefits

- On average, women reported earning less than men in both monthly and annual income, and youth earned less than adults.
- The annual income for VBAs engaging in input supply and aggregation & off-taking is higher than other agricultural IGAs.
- There is a clear link between income and entrepreneurship – VBAs engaging in more IGAs report higher total income. This is true for both women and men.
- When disaggregated by agricultural and non-agricultural entrepreneurship, it is the agricultural IGAs that are driving the higher income for both women and men.
- Gaining agricultural knowledge and helping farmers improve were commonly reported non-cash benefits for both women and men.
- Women VBAs run their businesses more autonomously, more frequently making decisions independently compared to men.
- Sustainability of VBA income is measured in four parts:
  1. Income attributable to VBA: considering all the VBAs in the sample, about 7% of the women's and 5% of the men's annual income can be attributed to the VBA program.
  2. Comparing VBA income to national average: More men VBAs (71%) than women VBAs (52%) have higher income than the national average consumption for rural Tanzania.
  3. Income seasonality: VBA income is highly seasonal, especially for agricultural IGAs. Both women and men earn the most income in June-July and the least income between January and March.
  4. Viability and discontinuation of new IGAs: 10% of women's and men's new IGAs discontinued every 3 months; although VBAs started new businesses, too.

## RQ4: Challenges & Barriers










In this section we report findings on:

**RQ4:** What challenges do women, men, and youth VBAs face in pursuing these IGAs?

### Challenges of running IGAs

Women and men VBAs were asked about the challenges they faced in their IGAs. While the challenges faced are similar, young women reported numerous challenges more commonly than men. For example, young women were significantly more likely to report not having enough demand for their IGA services, having a lack of business skills to operate the IGA, lacking cash to run or invest the business, or that their IGA was not profitable enough.

**Table 10:** Challenges faced when running IGAs, by sex

	Adult Women	Youth Women	Adult Men	Youth Men
Sample size	282	119	632	211
 <b>1. Pests &amp; livestock diseases</b>	40%	30%	42%	34%
 <b>2. No cash to run or invest in business</b>	24%	36%	23%	23%
 <b>3. Not enough demand for services</b>	26%	36%	16%	17%
 <b>4. Lack of business skills to operate IGA</b>	19%	25%	18%	12%
 <b>5. Price volatility of business inputs</b>	12%	11%	14%	14%
 <b>6. Not profitable enough</b>	16%	27%	8%	8%
 <b>7. Lack of transport facilities</b>	15%	11%	8%	13%

In the follow-up tracer study, we also explored the gender-specific challenges that women specifically face while running their new business (less than 2 years old). 26% of women VBAs reported that they have limited time due to family obligations. 13% of women VBAs reported having competing household demands; 10% reported that they are unable to work for a long period of time while another 10% reported that they are unable to travel far. 13% of women VBAs reported that they needed permission from the family head to engage in business. These challenges are linked to sociocultural norms, which are discussed later in this section.

These findings provide a glimpse into the business needs that both women and men have which act as opportunities through which AGRA can provide support. In general, we find that many VBAs show the need for business-specific training and financial support to help advance their businesses forward. For women VBAs, creating training programs that could support (such as



offering women-focused financial support) their businesses despite having various household obligations will help improve the success of their businesses. See Discussion section for further analysis.

## Ease of running IGAs

We asked women and men VBAs to rate the ease or difficulty of running their agricultural IGAs.<sup>55</sup> Generally, men rated all agricultural IGAs to be more difficult to run than women, and this is particularly true for aggregation and off-taking, where 34% of men rated it difficult, compared to 12% of women. The key reasons for ease of running a business over time is largely attributed to: 1) being well experienced, 2) being well established in the community, and 3) having many customers. On the other hand, the reasons for difficulty in running a business were attributed to: 1) marketing, 2) paying for expenses, and 3) difficulty accessing inputs.

## Challenges for specific IGAs

We examined the business challenges encountered by VBAs who engage in agriculture-related activities. Our analysis shows that VBAs face a range of challenges, some of which are specific to their particular agriculture-related business and others that are more general in nature.

### *Challenges faced in Livestock & Poultry keeping*

Men and women engaging in livestock and poultry keeping reported that the three main challenges that they face are: 1) Pest and livestock disease (67%); 2) Lacking sufficient cash (21%) and 3) Lacking sufficient business skills (15%). More men than women VBAs engaging in this activity reported that pest and livestock disease (82%), and lacking sufficient business skills (23%) are the key challenges that they face. More women VBAs reported that they lacked sufficient business skills (18%) to conduct this business.

### *Challenges faced in Input Supply*

Men VBAs offering input supply services reported that the three main challenges that they face are: 1) Lacking sufficient cash (56%); 2) Volatility of input and produce prices (22%); and 3) Lacking access to financial facilities - credit and loan facilities (22%).

### *Challenges faced in Aggregation/Off-taking*

VBAs engaging in aggregation/off-taking services report the three main challenges they face are: 1) Volatility of input and produce prices (25%); 2) Business not being profitable (25%); and 3) Lacking sufficient cash to run the business (23%). Women engaging in this activity ranked the business as not being profitable enough (50%), lacking sufficient cash (29%) and lacking sufficient demand (17%) as the main challenges that they face. Men engaging in this activity ranked volatility of input and produce prices (36%), lacking sufficient cash to run the business (21%) and the business not being profitable (14%) as the main challenges that they face.

## Social Norms and Gender Perceptions

Social and cultural norms in Tanzania have a strong influence on how women can engage in IGAs. These norms and gender perceptions hinder women in fulfilling some of their duties as a VBA and which IGAs women choose to pursue. Even within the VBA community, some men VBAs have gendered notions of how women VBAs are different from them. In the phone survey and qualitative interviews, we learned about the various ways social and cultural norms around gender influence women and men and their IGAs. Below, we disaggregate the views of women and men to illustrate how these gender norms and perceptions are different, depending on who you ask.

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<sup>55</sup> In the Appendix, you can find the average percent of women and men who report their ease/difficulty of running an Ag-related business.

## According to both women and men



*Women VBAs have less time due to household work*

Women and men VBAs believe that women have less time to devote to their IGAs and VBA work due to more household obligations including cooking or caring for children. Having less time makes it more difficult to start, run, and scale an IGA.



*It's difficult for women VBAs to travel far from home*

Women shared that they face challenges reaching far destinations for their work, either due to transportation challenges, personal safety, household responsibilities, or social norms dictating they should be home. Men VBAs also expressed the belief that women VBAs should not travel far from home, and must be home before dark to take care of the family. This may limit women's ability to engage in certain IGAs – like aggregation and off-taking – which require extensive traveling to collect produce.

## According to women only



*Men farmers don't listen to women VBAs*

Some women VBAs believe that men do not listen to them and do not respect their word and advice as much as their male counterparts. This limits their impact in their VBA role, but also relates to their IGAs, in that men may be less likely to do business with a woman over a man.



*Some women VBAs face violence at home*

One woman VBA shared that if she gets home late, she is sometimes hit by her husband. This prevents her from doing her VBA work. While this was only reported once, this threat of gender-based violence is real and would certainly be a consideration for a woman before starting an IGA, should that activity require going against social norms. As a result, this threat may be potentially limiting women from starting IGAs.



*Women farmers learn better from women VBAs*

Women VBAs believe that their fellow women learn better and prefer to learn from women. They encourage the formation of women's groups where women support women.



*Women VBAs are more committed to the role than men VBAs*

Some women believe women VBAs are more committed to the role, and less likely to give up on it when faced with challenges.

### VBA Voices

**Female VBA**, in Ruvuma

#### Comparing women and men VBAs

“Men have a tendency to despise or despair and feel ashamed of this work. I have made great strides, I have had groups of women and men farmers due to the great effort I put in. But men

lag far behind. Even male VBA colleagues have been preferring me. They always call me, “sister, we have farmers, we ask you to come.” This shows me where I am different from VBA men. When we started this VBA work there were two of us, me and my male colleague. But we didn't get far, my friend went back and quit! But I continued until today – I didn't stop. I went everywhere looking for where I could help the farmers.”

**Female VBA**, in Iringa

### **Limited time due to household responsibilities**

“When I go to give advice, I have a reasonable amount of time to be at home. Different to a man he can feel like maybe from morning to evening, I walk around to give advice. There is no one to stop him, but I will go to give advice for a short time thinking that I should go back home and cook for the children, maybe I should go back home and check on the family, how is the father doing at home, but unlike my colleague, a man can go from morning to evening, just walking around giving advice.”

**Female VBA**, in Ruvuma

### **Men not listening to women**

“There are cases where there is still a situation of patriarchal systems. They'll say, "why should she only be a young woman here, why wouldn't it be a man"? There are others who don't feel like listening to a woman, they only listen to a man.”

## According to men only



### *Women need permission from men for their decision-making*

Several men VBAs expressed that they believe women VBAs are not capable of making decisions on their own, and must defer to their husbands, which hinders their work. This was reiterating by some women in the quantitative survey, and is potentially a large barrier for women who want to start an IGA.



### *Women should not travel far or be out late*

Some men VBAs expressed the belief that women VBAs should not travel far from home, and must be home before dark to take care of the family.



### *Women lack confidence and courage*

Some men VBAs expressed that women are less confident and less courageous than men, which hinders them in their VBA work.



### *Women VBAs are not as physically strong as men*

Men VBAs believe that women are less physically strong than men, and therefore are not able to do the same kinds of work, especially carrying produce and walking long distances.



### *Women are more trustworthy than men*

Some men VBAs believe that women VBAs are perceived as more trustworthy than them, which provides women with some benefits in the VBA role.

## VBA Voices

**Male VBA**, in Ruvuma

### **Men have courage and access**

“We men have courage to come to areas that are even highly inaccessible and terrible. Such a place she cannot go alone, but I can go alone and work and return. A woman VBA must ask for the help of being sent back and forth. If the person who helps her is not ready, she cannot go to work as intended.”

**Male VBA**, in Ruvuma

### **Decision-making capacity of women**

“As a man, there are things that I decide for myself. A woman has no capacity to decide things. For example, I can be told, “sir, come to the farm and teach us”. I will go. But the challenge a woman faces is that until she is given permission by her husband. Her husband has to allow her to go. If he doesn't let her, she doesn't go.”

**Male VBA**, in Ruvuma

### **Women need to be home, not out late**

“In terms of working hours, there are times when you can work until late in the evening, which is a time for a woman to be at home for the sake of the family and what not.”

These findings suggest there are barriers in social norms and perceptions that women need to overcome in order to succeed in the IGAs that they engage in. Even many of their peer male VBAs have strongly held beliefs that women are not as capable as men – in terms of physical strength, time availability, and autonomy to make decisions. It is important for AGRA to acknowledge and address these norms and perceptions to alleviate some of the burden on women VBAs and the IGAs they engage in.



## Key Points on Research Questions

### **RQ4: Challenges & Barriers**

- Women, men, and youth reported similar challenges in running their IGAs, but young women more frequently reported challenges like a lack of cash, lack of profitability, and lack of skills.
- Men were more likely to report that running agricultural IGAs was difficult compared to women.
- Women face strong socio-cultural barriers which limits their ability to engage in IGAs and conduct their VBA role.

## RQ5: Nutrition



In this section we report findings on:

**RQ5:** Do any of these IGAs bring nutritional benefits for women, men, or youth VBAs and if so, via what pathways?

**We find only limited evidence that some IGAs benefit the diet and nutrition of individuals, households, and communities, while other IGAs may have an indirect impact.** IGAs like poultry and egg raising have the potential to directly impact diet through the consumption of these animal-source foods. Other IGAs have the potential to influence nutrition by increasing VBA income and allowing for the purchase of more nutritious foods. For example, some VBAs reported buying beef to consume a few times a week, which was not the case prior to engaging in an IGA. Those who raised livestock, such as cows, goats, and chickens, reported additional nutritional benefits from diversifying their diets and increasing the number of meals per day. Animal products, such as eggs, milk and meat, not only improved protein intake but also provided VBAs with additional income to meet other household needs.

It is important to keep in mind that nutrition was not reported as a benefit by most VBAs during the phone survey. A small minority (< 5%) of VBAs ranked nutrition as the most important benefit of being a VBA. Those who reported nutrition as a benefit attributed it to engaging in IGAs associated with their VBA role. Women who conducted an IGA were more likely to report that community nutritional benefits are an important benefit to them while men with an income activity were more likely to report that the nutrition of their family is important. Nutrition was discussed during the qualitative interview only when probed. This means that while the IGAs related to their VBA role may have brought nutritional benefits, it was not considered as important by most VBAs unless it was further probed. Further research on household diets is required to definitively tie nutrition outcomes to the IGAs discussed in this report.

We will first present the findings on dietary changes among VBAs who engage in IGAs, and then we will describe how these changes occurred.

### Changes in diet

While nutrition was not an obvious benefit for most VBAs, asking them specific qualitative questions about their diet and eating habits revealed how diets have been affected by the IGA they engage in. Below we highlight some of the ways in which VBAs have reported the nutritional benefits for them and their families in the qualitative interviews.



#### ***Improved household diet***

*Stated by VBAs engaging in chicken keeping & livestock rearing IGAs*

Men and women VBAs report that they have seen improvement in the household diet because of the income obtained from the businesses they engage in. They now include eggs, meat and vegetables on their diet.



#### ***Availability of more meals in a day***

*Stated by VBAs engaging in multiple agricultural IGAs*

A few VBAs engaging in an income activity associated with their VBA role reported that due to increased income, they are able to consume three meals a

day, compared to one meal a day previously.



#### **Availability of homegrown meals**

*Stated by VBAs engaging in horticulture, chicken & livestock rearing*

VBAs who grow vegetables, or rear livestock and poultry, also provide animal products and vegetables for household consumption. This was reported by VBAs who engaged in horticulture, chicken keeping and livestock rearing.



#### **Variety in food available for the household**

*Stated by VBAs engaging in multiple agricultural IGAs*

Some VBAs mention that due to increased income, they can afford to introduce a variety of foods into their household diet. This is unlike prior to engaging in their income activity, where they ate the same type of food more often.



#### **Consistent supply of food for the whole year**

*Stated by VBAs engaging in chicken & livestock rearing*

Some VBAs who engage in keeping livestock and poultry, mention that they now have a consistent supply of food throughout the year.



#### **Nutritional advice for the community**

*Not tied to a specific IGA, but relevant to VBA program*

Women VBAs share advice with fellow women in the community on how to improve household nutrition especially for their children. This was done as a result of the knowledge they obtained from VBA training on the nutritional benefits of growing certain crops such as soya which has rich nutritional benefits for mothers and children. Women VBAs felt the need to evangelize this information to benefit other women within the community.

### **VBA Voices**

**Female VBA**, in Kigoma

#### **Ability to consume diverse meals through poultry**

“I sold chickens, I ate eggs and I also ate one or two chickens and sold them and got money to spend....there are changes in diet, for example, I can sell eggs and buy vegetables or cook eggs and eat with children.”

**Male VBA**, in Kigoma

#### **Extra income used to buy meat**

“The diet must change here, the diet itself has changed because there is already money that I can buy even sugar, tea, you have to stop some days or for example if you have made a big profit you see, you have to change the diet and buy even one kilogram of meat so that the children are happy.”

**Female VBA**, in Kigoma

#### **Increase in the frequency of meals**



“Now I get a good meal. We used to get one meal per day but now three times a day.”

**Male VBA**, in Ruvuma

### **Use byproducts to grow food**

“I use the fertilizer from the pigs to grow vegetables and acquire fresh vegetables free of any chemicals. The family eats good vegetables..”

## **IGA to nutrition pathways**

It is evident that there are changes in the diets of some VBAs and that many attribute these changes to running an agricultural IGA. Through the qualitative interviews, we identified three ways through which diets have changed.



### **Income Pathway**

Some men and women VBAs report that they have seen improvement in the household diet because of the income obtained from the IGAs they engage in.

#### Response from a male VBA in Ruvuma

*“You can eat the type of good food you want to. If you decide today I will eat meat, you can buy and eat meat. Because you have income. So we get good food.”*



### **Food Production Pathway**

Some VBAs reported that, as a result of their IGAs, they now produce more nutritious food at home, and can consume it when they want. This is in the form of meat, eggs, and vegetables. This was reported by VBAs engaging in livestock rearing, chicken keeping and also those engaging in horticulture.

#### Response from a female VBA in Iringa

*“Even if I want meat, I don't go to buy it, I prepare it myself. I take chicken and eat it. If I want eggs I don't buy it, I use my own. I take them from my shed.”*



### **Women's Empowerment Pathway**

A few women spoke of their IGA empowering them to solve their own problems. Others told us how it allowed them to feed their families, with or without their husbands.

#### Response from a female VBA in Kigoma

*“I will advise [other women] to follow my example, because if they do not do any activity to earn income and encounter a problem, they cannot be helped by someone. Even if they get help from someone, they will not be helped with all their needs. But with this activity, they can sell chickens to solve their problem.”*



## Key Points on Research Questions

### RQ5: Nutrition

- There is only limited evidence that IGAs lead to improved diets and nutrition.
- IGAs like livestock, poultry and egg raising have the potential to directly impact diet through the consumption of these animal-source foods.
- Other IGAs have the potential to influence nutrition by increasing VBA income and allowing for the purchase of more nutritious foods.
- A small minority of VBAs reported nutrition as a benefit of the VBA role, and this topic was usually only discussed in the interviews when probed.
- Further research on household diets is required to definitively tie nutrition outcomes to the IGAs discussed in this report.

## RQ6: Support Needed



In this section we report findings on:

**RQ6:** How can AGRA encourage more women and men to pursue these IGAs?

### Reported needs of VBAs

During the phone survey, VBAs were asked about the kind of support they need for their IGA from the IPs or AGRA. There is some variation in the type of support needed by IGA but the most common support areas were: access to capital, entrepreneurial training, and direct access to inputs.

1. **Capital (e.g., loans) is the most common need.** This is true across all top three agricultural businesses (i.e., livestock, aggregation, input supply), and true for both women and men. Capital is not the most common need for youth women with a livestock & poultry IGA (n = 18) and for youth men with an input supply IGA (n = 14), however, the sample size is too small to determine if the capital needs are significantly different compared to other needs.
2. **Entrepreneurial training is the second most common need.** This is also true across all top three agricultural businesses (i.e., livestock, aggregation, input supply), and true for both women and men. Women engaging in Livestock & Poultry businesses were more likely to request this training. Note that the sample sizes are too small when disaggregating by age to claim significant differences.
3. **Market information (e.g., current prices)** were most requested by VBAs engaged in aggregation. This is true for both women, men and youth.
4. **Women were more likely to request support in formalizing their existing businesses.** This is true for youth women VBAs engaged in livestock & poultry and adult women VBAs in aggregation businesses.
5. **Providing inputs directly to VBAs was more often requested by VBAs running Livestock & Poultry businesses.** This is true for both women and men, especially for youth women and adult men. Unsurprisingly, this was less frequently requested by VBAs running input supply businesses – women, men and youth.

**Table 11:** Reported needs of VBAs for IGAs, by gender and IGA

Note: Top 3 in each column are highlighted in **green**.

Youth disaggregation is not shown as sample sizes for most categories are too small to report.

	Livestock & Poultry		Aggregation & Off-taking		Input Supply	
	Wome n	Men	Wome n	Men	Wome n	Men
Sample size	68	206	33	90	20*	51
Capital / credit / loans	57%	58%	75%	62%	80%	56%

Entrepreneurial training	55%	36%	34%	37%	40%	34%
Give VBAs inputs directly	34%	32%	28%	24%	15%	16%
Connect to input suppliers	15%	11%	34%	11%	15%	40%
Act as guarantor for loans	16%	7%	6%	13%	10%	14%
Market information	13%	10%	25%	25%	–	8%
Connect to off-takers	10%	4%	13%	11%	5%	8%
Support to formalize biz	15%	5%	13%	3%	5%	10%

### VBA Voices

**Male VBA**, in Ruvuma

#### The biggest challenge is capital

“The biggest part is the capital. The capital I have is so little. I have to wait until five or six years before I can do one thing. The biggest challenge that needs help is capital.”

**Female VBA**, in Kigoma

#### Access to fertilizer is a challenge

“What bothers us the most is [access to] fertilizer – it is a big challenge. It can be annoying, and means we might not cultivate.”

**Male VBA**, in Iringa

#### Stopped business due to transportation challenges

“Another thing that was bothering me and giving me problems, was how to get money for transportation. Transportation to take sugarcane to some place. There many people at home already cultivated a lot of sugarcane but now if you want to transport it, take it to a far place, it is difficult”

**Male VBA**, in Ruvuma

#### Increase capital and access to fertilizer

“Seriously, we just need to increase the capital so we can continue working with farmers. Because farmers have their own challenges. Right now they have to be in the city to get the fertilizer. And subsidized fertilizers have queues. But if it was found here (in the countryside) it would be easy. Even a farmer would find time to do his business. We could have brought them here, it would have been easier for them. They would get it on time and save the time they would have spent doing their work.”



## Key Points on Research Questions

### RQ6: Support Needed

- Capital and loans are the most needed request from entrepreneurial VBAs, and this applies to all three of the top agricultural IGAs, and for women and men.
- Entrepreneurial training is the second most common need, also across all top agricultural IGAs, and for women and men.
- There are some IGA-specific needs, like market information (aggregation and off-taking) and providing inputs (livestock and poultry).

## Discussion: VBA Program Implications

In this section we reflect on and summarize some of the key findings of the report, provide context and pose hypotheses, and discuss the implications for AGRA's VBA program, specifically for women, men, and youth.

### Comparing evidence for women and men VBAs

Our study finds that women VBAs engage in entrepreneurial activities at similar rates as men VBAs, but these IGAs are more likely to be non-agricultural, earn less income, and operate at a smaller scale. Men VBAs commonly engage in the raising of larger livestock and poultry, non-agricultural wage or salaried employment, and aggregation and off-taking. Women VBAs, on the other hand, more commonly engage in the sale of provisions, the rearing of small livestock, poultry, or eggs, the sale of prepared food and beverages, or tailoring. This tendency to engage in these smaller scale non-agricultural IGAs is likely due to the relative simplicity of starting these businesses, which require little startup capital or inputs, can be done close to home, and require less time and additional skills. Compared to men, women VBAs face additional barriers to starting and scaling IGAs, including lack of available time due to social norms requiring them to take care of children and household work, and lack of freedom to move at all hours of the day, or to travel long distances. Some men VBAs reiterated and often reinforced these gendered notions, with some claiming that women VBAs are not capable of making decisions on their own and must defer to their husbands, and some women also mentioned this to be the case. These cultural constraints hinder women VBAs' ability to succeed in their IGAs and is likely a reason why not being married – and therefore not facing constraints from their husbands – is the strongest predictor of entrepreneurship for women VBAs. Furthermore, because of these constraints, women VBAs serve significantly fewer farmers as a VBA than men. Compounding these challenges, women VBAs have less formal education than men VBAs (a strong predictor of lower income), and more often reported issues running their IGAs, including a lack of demand, a lack of skills to operate, and a lack of profitability. The breadth of these challenges makes it more difficult for women to earn a sustainable income in the VBA role, and we find that more women (39%) than men (23%) earn less than the national consumption expenditure for rural Tanzanians.

However, many women VBAs display resilience and autonomy in the face of these challenges. One woman VBA in Ruvuma stated that, “men have a tendency to despise or despair and feel ashamed of this work. I have made great strides and have had groups of women and men farmers due to the great effort I put in; but men lag far behind.” Our study finds that women VBAs run their agricultural IGAs more autonomously than men, more frequently making decisions independently. Existing literature on women's decision-making power in agriculture in East Africa suggests that women tend to have less decision-making power and control over their income than men. Our finding suggests the contrary – that women VBAs report having high levels of control over their income for their IGAs, with many reporting complete autonomy. There may be a few explanations for this, all of which require further research to confirm. First, it may be that while women VBAs control their IGA income, men continue to control the primary farming income. Our survey asked about decisions made specifically about the IGAs VBAs engage in (e.g., input supply, aggregation), but did not ask about decisions on normal farming activities, including the growing and selling of their own crops. It may be the case that while women are empowered for their IGAs, they have significantly less control over regular farming income. Second, it may be that because women VBAs are less likely to be married, they are more autonomous in decision-making. 73% of women in the phone survey sample were married, compared to 94% of men. This may be leading to differences in decision-making power where women may not have others in their household to make decisions with. Third, it may be that women's IGAs are smaller in scale than men's, and that these smaller scale businesses generally require fewer decisions.



There are also numerous similarities between women and men VBAs as well, in terms of support needed, motivations, and the drivers of income. For both women and men there is a clear link between entrepreneurship and increased income, and this increase in income is due to agricultural IGAs, not non-agricultural IGAs. While women earn less income across the board, the relative profitability of the various agricultural IGAs seems consistent for women and men, with input supply IGAs associated with the most income, and chicken and egg rearing associated with the least income. For both women and men there is also a clear link between being entrepreneurial and serving more farmers as a VBA, and this is driven primarily by those engaging in agricultural IGAs. That is, engaging in an agricultural IGA seems to expand the network and scope of the VBA's work in their community in a complementary way. Women and men reported similar motivations for starting their IGA, including earning more income to pay for bills, increasing access to inputs for the community, learning about the importance of agricultural best practices from training, or getting inspired by others who succeeded. In terms of skills, women and men reported entrepreneurial skills and agricultural knowledge as the most important skill sets for operating their agricultural IGAs, with men slightly more often choosing agricultural knowledge, and women more often choosing entrepreneurial skills. Both women and men mentioned access to capital and loans as the number one support they needed in running their IGAs, with entrepreneurial training being second most common.

Finally, we find that being an active VBA (i.e., currently serving farmers) is associated with more IGAs for both women and men, suggesting that the VBA role stimulates entrepreneurship in some way, but that only a small percentage of VBA income can currently be attributed to the program. For men, our evidence suggests the VBA role stimulates agricultural entrepreneurship, as active VBAs (those actively training and serving farmer groups) are more likely to engage in an agricultural IGA than VBAs who have stopped training farmers. For women, the evidence is weaker, but suggests the VBA role stimulates non-agricultural entrepreneurship, as active women VBAs are more likely to engage in a non-agricultural IGAs. This could mean that, by way of the networks generated through the VBA role, women and men are motivated to start IGAs, whether by seeing others in their community succeed, or by realizing their unique position to access farmers and capitalizing on this business opportunity. It should be noted, however, that this finding may be a result of reverse causality, in that VBAs with less motivation, available time, or resources, decided to stop their VBA work for these reasons, which are also barriers to starting an IGA. This interesting finding for AGRA suggests some merits to the model which should be taken into account when deciding on the future of the VBA program. Nevertheless, our findings estimate that only a small percentage of VBA income (7% for women and 5% for men) can currently be associated with the VBA program, as many of the IGAs are non-agricultural, not related to VBA work, or were started long before the VBA program existed.

### Comparing evidence for youth and adult VBAs

When comparing youth to adults, there are some advantages and positive outcomes linked to being younger. Both youth women and youth men have significantly higher levels of formal education than adults of the same sex, which literature shows is a predictor of future income. We also find that youth – both women and men – are more entrepreneurial than adults, as they are significantly more likely to engage in an IGA other than farming and selling their own crops. This finding aligns with the literature, and could be due to more available time, more energy and motivation, or out of necessity, through a lack of other opportunities to earn income. Youth women VBAs are more likely to engage in agricultural IGAs – which we find bring higher income – than non-agricultural IGAs, as compared to adult women. This is driven by one agricultural IGA in particular which is far more common for youth than adults: aggregation and off-taking. 13% of youth women and 16% of youth men in our sample engaged in this activity, compared to 6% of adult women and 9% of adult men. This difference is likely due to the physically demanding and

time-consuming nature of this work, which requires receiving, moving, and storing crops (usually maize or beans) in large quantities. Youth men appear to do this work at a much larger scale than youth women, aggregating for 107 farmers on average, compared to 14 for youth women. In terms of the VBA role, youth men appear to be the most prolific, serving 94 farmers on average, significantly more than all adults and youth women.

However, being younger has numerous disadvantages, especially for youth women. Youth women VBAs earn significantly less income than adult women, youth men, and adult men. Youth men earn slightly less income than adult men, but this difference is not statistically significant. Youth women also appear to face the most challenges in their IGAs and were the most likely to report: 1) a lack of cash to operate their agricultural IGAs; 2) that their IGA is not profitable enough; 3) that they lacked business skills; 4) they did not have enough demand. Compounding this, youth women face similar cultural barriers that adult women face, including a lack of available time due to childcare and household responsibilities, and a restriction on their mobility and hours they can work. In fact, we find that youth women are more likely to be married than adult women, and have more children living in the household, potentially making these socio-cultural barriers and lack of time more burdensome. Given these challenges, it is perhaps not surprising that women VBAs reported the lowest job satisfaction with VBA role (13% dissatisfied; compared to 6% for youth men), as the role is more difficult to conduct, and the monetary benefits received from IGAs is less.

## Implications for the VBA Program

Given these findings, what are the implications for the VBA program in Tanzania?

**First, there is only weak evidence to suggest that the VBA role itself is leading to sustainable income for VBAs; AGRA should focus on building the capacity of women, men, and youth to earn income from agricultural IGAs.** The analysis in this study has focused primarily on comparing outcomes for entrepreneurial VBAs, but the fact remains that the majority of VBAs – both women and men – do not run an agricultural IGA. 57% of men VBAs and 67% of women VBAs do not run an agricultural IGA. These women and men are either operating a non-agricultural IGA or choosing simply to farm and sell their own crops for income, with no additional IGA. As a result, we find that only a small percentage of VBA income (7% for women and 5% for men) can currently be associated with the VBA program. For the VBA model to be sustainable, VBAs need to earn more income from the role, and one way to do this is to promote the creation of agricultural IGAs, which our study finds bring more income than non-agricultural IGAs for women, men, and youth. We also find that engaging in agricultural IGAs may have knock-on benefits for the VBA program, as women and men engaging in agricultural IGAs serve significantly more farmers in their VBA role, likely because of an expanded network and business opportunity. Some agricultural IGAs (e.g., input supply) appear to be more profitable than others (e.g., rearing of chickens and eggs); however, they all require different levels of skills and effort to operate, and some may bring additional benefits in terms of dietary consumption. For some women, who lack available time and access to capital, a small-scale poultry and egg business might be a great option, especially considering the potential nutritional benefits from consumption of the eggs and poultry. Perhaps for other women, who do not have household responsibilities and are able to travel, an aggregation and off-taking business would suit them better. Therefore, we do not necessarily believe pursuing one agricultural IGA over the other to be better – it depends on the skills, resources, time, and preferences of the individual VBA, as well as the regional needs and market viability.

**Second, there is an opportunity for AGRA to modify its program to better engage and serve women, especially youth women.** Women face major barriers to starting and scaling IGAs that men do not face, and these challenges are compounded for youth women. There is clear

engagement from women and youth women VBAs in entrepreneurial activities, but these are more often non-agricultural IGAs, earning less income, and at a smaller scale. AGRA should take these realities into account and provide targeted support for women and youth women to start and scale agricultural IGAs. Specific recommendations are provided in the following section.

## Recommendations for AGRA

Based on the findings of this report, how might AGRA modify the VBA program to generate more sustainable income for VBAs, and better serve women, men, and youth?

### 1. Encourage VBAs – especially adult and youth women – to start agricultural IGAs. Raise awareness on benefits, provide training and coaching, and start a mentorship program.

VBAs running agricultural IGAs – both women and men – earn significantly more income than those who do not. They also serve significantly more farmers as a VBA. However, only 33% of women VBAs and 43% of men VBAs have an agriculture-related IGA. Furthermore, most existing IGAs run by VBAs cannot be attributed to the VBA program, suggesting that AGRA's current support is not entirely sufficient to help VBAs create new businesses. To encourage VBAs into these agricultural IGAs, AGRA should first raise awareness on the benefits of the IGAs using findings from this study, and then provide hands-on training and coaching specific to the IGA, which acknowledges the gender-specific challenges that women and men may face. Our understanding is that VBAs already receive basic entrepreneurial training as part of their onboarding; however, this targeted training should be more specialized and focused specifically on the top three agricultural IGAs (i.e., livestock / poultry, input supply, aggregation and off-taking), allowing VBAs to be trained on the IGA that best suits their preference and skills, as both men and women VBAs noted that entrepreneurial skills were important to start and run their IGA. The training could focus on practical skills, such as accessing capital, marketing, registering and formalizing the business, calculating profits, and recordkeeping. Although both women and men VBAs could benefit from this training and coaching, it could be particularly transformational for women. First, women VBAs are currently less engaged in agricultural IGAs than men, and this might stimulate the start of more businesses. Second, among entrepreneurial VBAs, agricultural IGAs represent a larger proportion of annual income for women than for men. Third, women VBAs report high levels of independent decision-making over income from their agricultural IGAs. This targeted training could be strengthened through a mentorship program, where VBAs who successfully started each of the IGAs in the same region lend support to others embarking on the same path.

#### Actionable steps for AGRA

1. **Share income statistics from this report with VBAs.** Highlight the benefits of pursuing each path to incentivize participation.
2. **Conduct a market scoping exercise in each region,** to determine the viability of each IGA in the region and gain better understanding why some IGAs are more common in some regions than others.
3. **Offer targeted training and opt-in coaching for VBAs focused on starting businesses in input supply, aggregation & off-taking, and livestock or poultry rearing.** Training should be gender-sensitive, acknowledging the challenges women face operating these businesses. For VBAs who actually pursue the IGA, IPs can offer coaching for the first 6 months as the VBA starts the IGA.
4. **Launch a VBA mentorship program for entrepreneurial women VBAs.** Through IPs, identify women VBAs who run a successful agricultural IGA. Pair these women one-on-one with aspiring women agri-entrepreneurs in the same region, or entrepreneurial men

who can serve as champions for women VBAs. Provide an incentive for all who participate, as women are already overburdened.

5. **Gather gender-disaggregated data on the delivery of these trainings.** Make sure that these trainings are accessible to both men and women VBAs.

## 2. Support entrepreneurial women VBAs in scaling their existing agricultural IGAs by providing capital to scale and marketing coaching

Our findings indicate that women VBAs are just as entrepreneurial as men VBAs but are more likely to engage in non-agricultural IGAs than agricultural IGAs. Our findings also clearly show that when women do run agriculture IGAs, their activities are at a smaller scale than men's. This is evidenced by lower income levels for agricultural IGA, less collaboration with paid or unpaid employees, and, among women engaged in aggregation and off-taking, fewer farmers being aggregated. Furthermore, our findings show that women face challenges in terms of their availability of time due to having to care for their family, which further increases the need for additional labor to support their business.

### Actionable steps for AGRA

1. **Raise awareness on the benefits of collaborating and scaling.** Use findings from this report to illustrate the increased income and nutritional benefits that come with scaling.
2. **Provide coaching for women VBAs on how to market their services and support each other.** Encourage women VBA entrepreneurs to use their farmer groups to scale their business, especially those engaging in aggregation and off-taking. Have IPs provide coaching on how to market their business to the community while they are doing their VBA work. Encourage women VBAs to go into business together to increase the scale of operations, increase the size of their network, and get access to more possible sources of capital.
3. **Provide loans for scaling.** Pilot this effort with proven women and men VBA entrepreneurs who have proven successful in scaling their business on their own.

## 3. Provide poultry support for women VBAs; emphasize nutritional benefits

Women VBAs are less likely to raise large animals and more commonly choose to raise chickens and eggs compared to men. While it does not appear that this is a very high-income business, it may be that women simply need more support to conduct this business well. It also appears that women are currently running most of these businesses entirely on their own, with little support. Compared to all other agricultural IGAs, women find chicken and egg rearing to be the easiest IGA to run, with only 7% of women who engage in this IGA reporting it to be difficult to run. Compared to all other agricultural IGAs it is also relatively easy to set up at a very small scale. Women can start with a few chicks at a time, and slowly increase to a larger scale as their resources and time allows. Input supply and aggregation businesses do not offer this luxury, as they are both businesses that require scale to earn income. There is another key non-cash benefit to chicken and egg businesses: nutrition for VBAs and their families. Some women VBAs engaged in this business expressed how it has improved household dietary diversity and nutrition as they are able to feed their children eggs daily. Given these clear benefits, AGRA should provide

targeted support to adult and youth women looking to engage in chicken and egg raising.

#### Actionable steps for AGRA

1. **Seek out partnerships with poultry input companies (e.g., Silverlands)** to provide high quality chicks, feed, and other inputs to women VBAs, prioritizing those who have an established business.
2. **Provide training to support women VBAs in raising chickens as a source of income**, including best practices for chicks, hygiene, feed, etc.
3. **Highlight the nutritional benefits of chicken and egg farming for women and their families.** This can be done through existing training sessions or through a separate marketing campaign. Nutritional benefits appear to be an important factor for women starting these businesses.

#### **4. Stimulate the creation of more input supply businesses through partnerships and providing start-up capital, especially for women**

VBAs engaging in input supply earn higher incomes on average than all other agricultural IGAs. This is true for both women and men. Input supply businesses also have the potential to increase best practice adoption and productivity among farmers throughout the community. However, this is a relatively less common IGA compared to livestock & poultry or aggregation. Starting an input supply IGA is likely the most difficult agricultural IGA to get started as it requires a direct linkage to input suppliers, an ability to transport and store these inputs safely, and a wide customer base to distribute to. Input suppliers prefer to sell input in bulk as opposed to in small quantities, so this IGA likely requires upfront capital expenditure, unless the supplier offers inputs on consignment. Once the business has started; however, women and men agreed it is an easy business to run, with zero women and 12% of men indicating it as difficult to run. For most women, especially young women – who have less available time and less income and capital – starting an input supply business is likely infeasible. AGRA should work on lowering the barriers to entry for this lucrative IGA by creating partnerships and providing start-up capital.

Interestingly, there are large regional variations in engagement in VBA input supply businesses, which likely relate to the income and market conditions in these regions. In some consortia (SUKA), they are very common, but in others (Kigoma) input supply IGAs almost non-existent. There are zero women in Kigoma with input supply businesses in our sample, despite it being the largest consortia. Looking at average annual income for VBAs in these consortia reveals that VBAs in Kigoma earn significantly less income than those in SUKA, and therefore, are less likely to be able to start an input supply business due to lack of capital. Women VBAs in SUKA earn almost twice as much annual income on average as women VBAs in Kigoma. In addition to income, there may be other market or geographic factors contributing to this difference. AGRA should investigate this first before proceeding with this recommendation.

#### Actionable steps for AGRA

1. **Conduct a market scoping exercise in each region**, to determine why input supply businesses are far more common in some regions compared to others. This market scoping exercise should determine the viability of input supply IGAs in these under-represented regions.



2. **Facilitate VBA connections to agro-dealers and suppliers**, with a particular focus on Kigoma – the largest consortium where VBA input supply businesses are very uncommon. Connect these suppliers directly to women VBAs and local women’s groups.
3. **Leverage the large pool of VBAs to negotiate better rates for agricultural inputs on behalf of VBAs**, lowering the barriers to entry for this lucrative business.
4. **Provide start-up capital to proven VBA entrepreneurs looking to get into input supply**. Pilot this effort with proven women and men VBA entrepreneurs who have succeeded in scaling a different agricultural IGA.

## 5. Address socio-cultural gender barriers for women; encourage men VBAs to be champions for women VBAs

Women VBAs in Tanzania face social norms and barriers which make it more difficult to start, run, and scale their IGAs. These include not being able to travel far from home, not being seen as strong or capable, being perceived as not being able to make decisions, and others. These stereotypes are believed and perpetuated by male VBAs themselves, and likely the farmers women VBAs serve as well. Women VBAs also reported facing additional difficulties conducting their job because of these stereotypes. Some mentioned that men are less inclined to listen to them. Others mention they face violence at home if they come home late. These barriers likely contribute to the fact that women earn less income than men and are more dissatisfied in the VBA role.

### Actionable steps for AGRA

1. **Social and behavior change (SBC) training** for IPs, men and women VBAs, and their spouses to try and mitigate some of these barriers.
2. **Gender-specific VBA training materials** that acknowledge these gender barriers and stereotypes. Onboarding training for men VBAs should raise awareness of these barriers and encourage men to not perpetuate these beliefs. Onboarding training for women should include strategies to use in the field when encountering gender stereotypes from colleagues or farmers they serve.
3. **Encourage women to serve more women**. It is clear that women VBAs serve disproportionately more women farmers, indicating that women prefer to serve women, and perhaps even that women prefer to learn from women. AGRA should encourage women to target women, both as customers for IGAs and in their farmer groups and create specific training materials for this situation.

## 6. Pilot a loan program for proven VBA agricultural entrepreneurs

The top request from VBAs – both women and men – is to provide capital to support their businesses. It is clear from our findings that most VBAs are only slightly better off than the average rural Tanzanian, and many of them even fall below national averages in income. At those levels of income, saving to invest in a business is very difficult.

### Actionable steps for AGRA

1. **Pilot a loan program investing in champion women and men VBAs.** AGRA should consider this option for women and men VBAs who have proven they can run an agricultural IGA related to the VBA work but require capital to scale. AGRA should work with IPs to identify champion VBAs and conduct a pilot program with select women and men in one region, and track progress over one year. Tie the funding to specific business-related expenses, such as inputs, hiring resources, expansion, machines, etc.
2. **Gather gender-disaggregated data on loan applications, acceptances, and performance.** Make sure that these loans are accessible to both men and women VBAs.

## Appendix

### Appendix 1: Sampling Frame

The table below provides details on the sampling frame, which was a list of phone numbers provided by AGRA of VBAs in Tanzania. The table displays the final figures after the list had been cleaned for incorrect or missing phone numbers, and duplicates. We are not able to disaggregate this list for youth, as not all VBAs had age information on the original list.

Region	Consortium	Women VBAs	Men VBAs	Sex Unknown	Total
<b>Kigoma</b>	Kigoma	<b>628</b> (39%)	<b>961</b> (60%)	<b>2</b>	<b>1,591</b>
<b>Kagera</b>	Kagera	<b>151</b> (19%)	<b>628</b> (78%)	<b>26</b>	<b>805</b>
<b>Rukwa</b>	SUKA	<b>33</b> (12%)	<b>235</b> (88%)	-	<b>268</b>
<b>Katavi</b>	SUKA	<b>50</b> (19%)	<b>217</b> (81%)	-	<b>267</b>
<b>Iringa</b>	Ihemi-Ludewa	<b>82</b> (43%)	<b>109</b> (57%)	-	<b>191</b>
<b>Ruvuma</b>	Ihemi-Ludewa	<b>57</b> (31%)	<b>126</b> (69%)	-	<b>183</b>
<b>Njombe</b>	Ihemi-Ludewa	<b>60</b> (33%)	<b>122</b> (67%)	-	<b>182</b>
<b>Other</b>	N/A			<b>2</b>	<b>2</b>
<b>Tanzania</b>		<b>1,061</b> (30%)	<b>2,398</b> (69%)	<b>30</b>	<b>3,489</b>

## Appendix 2: Kigoma Consortium

In this section we provide details on the socio-economic profile and IGA profile of VBAs in the Kigoma Consortium.

### Socio-economic Profile of VBAs in Kigoma

The Kigoma consortium is the largest consortium in our sample, with 203 women and 336 men. It includes the Kigoma region alone and the program is implemented by Nyakitonto & RUCODIA.

Some key highlights include:

- **Women represent 38% of the sample in Kigoma.** Compared to other consortia, this is relatively high. Only Ithemi-Ludewa has a higher share of women (42%).
- **Both women and men VBAs are youngest in Kigoma, compared to all other consortia.** Women average 40 years, and 35% are younger than 35. Men average 42 years, and 31% are younger than 35.
- **Both women and men VBAs serve the fewest farmers on average in Kigoma, compared to all other consortia.** Women serve 41 farmers on average and men 53.
- **Women serve more women.** 60% of farmers served by women are women, compared to 47% for men.
- **Women and men plant similar crops.** Men plant slightly more cassava and women slightly more beans.

**Table 12:** Kigoma Consortium – Demographic and Socioeconomic Profile of Sampled VBAs, by gender and age

Sample mean is shown. Significant ( $p < 5\%$ ) gender differences are highlighted in green.





Women VBAs			Men VBAs	
<b>203</b>		Sample size	<b>336</b>	
<b>40 years</b>		Age	<b>42 years</b>	
<b>35%</b>		Youth (35 or younger)	<b>31%</b>	
<b>73%</b>		Married	<b>93%</b>	
<b>3.2</b>		Adults living in HH	<b>3.2</b>	
<b>3.4</b>		Children living in HH	<b>3.7</b>	
<b>14%</b>		More than primary education	<b>22%</b>	
<b>67%</b>		Has IGA other than farming	<b>65%</b>	
<b>4.5</b>		Acres farmed	<b>5.8</b>	
Maize	<b>88%</b>	Crops farmed (Top 5)	<b>86%</b>	Maize
Beans	<b>82%</b>		<b>74%</b>	Beans
Cassava	<b>49%</b>		<b>57%</b>	Cassava
Groundnut	<b>20%</b>		<b>19%</b>	Groundnut
Sunflower	<b>17%</b>		<b>19%</b>	Sunflower
<b>41</b>		Farmers served as VBA	<b>53</b>	
<b>60%</b>		Farmers served (women)	<b>47%</b>	
Weekly	<b>53%</b>	Frequency farmers served	<b>54%</b>	Weekly
Monthly	<b>18%</b>		<b>15%</b>	Monthly
<b>13%</b>		Dissatisfied with VBA role	<b>12%</b>	


### IGA Profile of VBAs in Kigoma

In the Kigoma Consortium, more men are engaging in agricultural IGAs, driven mostly by livestock & poultry. Input supply IGAs are rare in Kigoma, with zero women in our sample currently engaging in this activity, despite the largest sample of any consortia. More women engage in non-agricultural IGAs, such as the sale of provisions, food or beverages, compared to men. However, far more men engage in non-agricultural wage employment than women. Aggregation and off-taking is common for both men and women in this consortium.

**Table 13:** Kigoma Consortium IGA Profile, by sex

Significant ( $p < 5\%$ ) gender differences highlighted in **green**

Women VBAs		Men VBAs
<b>203</b>	Sample size	<b>336</b>
<b>8%</b>	Livestock & Poultry 	<b>15%</b>
<b>11%</b>	Aggregation & Off-taking 	<b>12%</b>
<b>3%</b>	Non-agriculture wage / salary	<b>20%</b>
<b>26%</b>	Sale of provisions	<b>7%</b>
<b>9%</b>	Sale of prepared food / beverage	<b>4%</b>
–	Input supply 	<b>2%</b>
<b>5%</b>	Processing of crops 	<b>0.3%</b>
<b>10%</b>	Tailoring or sale of clothing	<b>1%</b>
–	Transport	<b>4%</b>
<b>0.5%</b>	Artisanal work	<b>4%</b>
<b>28%</b>	No IGA other than farming	<b>29%</b>

 indicates agricultural IGA

## Appendix 3: Kagera Consortium

In this section we provide details on the socio-economic profile and IGA profile of VBAs in the Kagera Consortium.

### *Socio-economic Profile of VBAs in Kagera*

The Kagera consortium is the third largest consortium in our sample, with 48 women and 151 men. It includes the Kagera region alone and the program is implemented by KADERES & RUCODIA.

Some key highlights include:

- **Women represent 24% of the sample in Kagera.** Compared to other consortia, this is relatively low, as Kigoma has 38% women and Ihemi-Ludewa has 42% women. The phone list provided by AGRA had even fewer representation of women in Kagera, at just 19%.
- **VBAs (especially women) serve fewer farmers compared to SUKA and Ihemi-Ludewa.** Women serve an average of 64 farmers in Kagera, which is roughly half the farmers that women in Ihemi-Ludewa (122) and SUKA (120) are serving.
- **Men VBAs serve more farmers – and more often – compared to women in Kagera.** Men more frequently visit their farmers weekly as opposed to monthly.
- **Women serve slightly more women in Kagera.** 50% of farmers served by women are women, compared to 44% for men.
- **Men VBAs farm more land than women in Kagera.** Men farm 1.5X the acres of land compared to women.
- **Coffee planting is unique to Kagera.** Men (45%) more commonly plant coffee than women (27%).

**Table 14: Kagera Consortium – Demographic and Socioeconomic Profile of Sampled VBAs, by gender and age**

Sample mean is shown. Significant ( $p < 5\%$ ) gender differences are highlighted in green.

Women VBAs			Men VBAs	
48		Sample size	151	
48 years		Age	48 years	
15%		Youth (35 or younger)	14%	
79%		Married	97%	
3.4		Adults living in HH	3.3	
3.0		Children living in HH	3.3	
21%		More than primary education	31%	
69%		Has IGA other than farming	62%	
4.9		Acres farmed	7.5	
Beans	90%	Crops farmed (Top 5)	89%	Maize
Maize	77%		83%	Beans
Coffee	27%		45%	Coffee
Bananas	25%		32%	Bananas
Groundnut	17%		16%	Cassava
64		Farmers served as VBA	82	







<b>50%</b>		Farmers served (women)		<b>44%</b>
Weekly	<b>39%</b>	Frequency farmers served	<b>50%</b>	Weekly
Monthly	<b>38%</b>		<b>18%</b>	Monthly
<b>10%</b>		Dissatisfied with VBA role		<b>13%</b>

### IGA Profile of VBAs in Kagera

The Kagera Consortium has a high proportion of livestock & poultry IGAs, which are the most common IGA for both women and men. Far more women engage in non-agricultural income activities, such as the sale of food or beverages and provisions, as compared to men. Men are more commonly engaged in aggregation and off-taking, as well as non-agricultural wage / salary employment, as compared to women. Input supply is a more common IGA for women.

**Table 15:** Kagera Consortium IGA Profile, by sex

Significant ( $p < 5\%$ ) gender differences highlighted in **green**

Women VBAs			Men VBAs	
<b>48</b>		Sample size		<b>151</b>
<b>25%</b>		Livestock & Poultry 		<b>30%</b>
<b>4%</b>		Aggregation & Off-taking 		<b>7%</b>
<b>2%</b>		Non-agriculture wage / salary		<b>7%</b>
<b>10%</b>		Sale of provisions		<b>9%</b>
<b>17%</b>		Sale of prepared food / beverage		<b>5%</b>
<b>8%</b>		Input supply 		<b>3%</b>
–		Processing of crops 		<b>1%</b>
<b>4%</b>		Tailoring or sale of clothing		<b>2%</b>
–		Transport		<b>4%</b>
–		Artisanal work		<b>4%</b>
<b>27%</b>		No IGA other than farming		<b>35%</b>

 indicates agricultural IGA

## Appendix 4: Ihemi-Ludewa Consortium

In this section we provide details on the socio-economic profile and IGA profile of VBAs in the Ihemi-Ludewa Consortium.

### Socio-economic Profile of VBAs in Ihemi-Ludewa

The Ihemi-Ludewa consortium is the third largest consortium in our sample, with 111 women and 155 men. It includes the Iringa, Ruvuma, and Njombe regions and is implemented by BRITEN.

Some key highlights include:

- **Women represent 42% of the sample in Ihemi-Ludewa.** Compared to other consortia, this is the highest proportion of women.
- **Women and men VBAs serve the most farmers in Ihemi-Ludewa.** Women serve 122 farmers and men serve 129 on average, which is higher than any other consortia.
- **Households are smallest in Ihemi-Ludewa, for both women and men VBAs.** Women and men both report the fewest number of adults and children, as compared to all other consortia.
- **Women and men are least dissatisfied in Ihemi-Ludewa.** This is compared to all other consortia.
- **Women farm the most acres in Ihemi-Ludewa, compared to all other consortia.** Women farm an average of 7.2 acres in Ihemi-Ludewa, compared to 4.5 acres in Kigoma. Men still farm more acres than women, though.
- **Men are more likely to have attained primary education in Ihemi-Ludewa.** 31% of men, compared to 19% of women.

**Table 16:** Ihemi-Ludewa Consortium – Demographic and Socioeconomic Profile of Sampled VBAs, by gender and age

Sample mean is shown. Significant ( $p < 5\%$ ) gender differences are highlighted in green.

Women VBAs			Men VBAs	
111		Sample size	155	
43 years		Age	44 years	
18%		Youth (35 or younger)	24%	
73%		Married	94%	
2.8		Adults living in HH	2.9	
2.4		Children living in HH	2.9	
19%		More than primary education	31%	
73%		Has IGA other than farming	80%	
7.2		Acres farmed	9.2	
Beans	86%	Crops farmed (Top 5)	88%	Maize
Maize	60%		61%	Beans
Sunflower	53%		41%	Sunflower
Tomatoes	16%		25%	Tomatoes
Potatoes	14%		15%	Soybeans
122		Farmers served as VBA	129	
63%		Farmers served (women)	51%	
Weekly	48%	Frequency farmers served	45%	Weekly





Monthly <b>6%</b>	<b>25%</b>	Dissatisfied with VBA role	<b>19%</b> Monthly <b>7%</b>
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### IGA Profile of VBAs in Ihemi-Ludewa

The Ihemi-Ludewa Consortium has the highest concentration of livestock & poultry IGAs compared to all other consortia – for both men and women. Far more women engage in non-agricultural activities like the sale of food or beverages and provisions. However, far more men engage in non-agricultural wage or salary employment than women. In general, men are more likely to have an IGA than women in this consortium.

**Table 17:** Ihemi-Ludewa Consortium IGA Profile, by sex

Significant (p < 5%) gender differences highlighted in **green**

Women VBAs		Men VBAs
<b>48</b>	Sample size	<b>151</b>
<b>31%</b>	Livestock & Poultry 	<b>41%</b>
<b>5%</b>	Aggregation & Off-taking 	<b>9%</b>
<b>2%</b>	Non-agriculture wage / salary	<b>12%</b>
<b>12%</b>	Sale of provisions	<b>3%</b>
<b>20%</b>	Sale of prepared food / beverage	<b>6%</b>
<b>7%</b>	Input supply 	<b>6%</b>
<b>4%</b>	Processing of crops 	<b>8%</b>
<b>6%</b>	Tailoring or sale of clothing	<b>1%</b>
–	Transport	<b>5%</b>
–	Artisanal work	<b>2%</b>
<b>24%</b>	No IGA other than farming	<b>17%</b>

 indicates agricultural IGA

## Appendix 5: SUKA Consortium

In this section we provide details on the socio-economic profile and IGA profile of VBAs in the Ihemi-Ludewa Consortium.

### Socio-economic Profile of VBAs in SUKA

The SUKA consortium is the smallest consortium in our sample, with 37 women and 197 men. It includes the regions of Rukwa and Katavi and the program is implemented by ADP Mbozi & BRITEN.

Some key highlights include:

- **Women represent just 16% of the sample in SUKA.** Compared to other consortia, this is the lowest proportion.
- **Women were far more dissatisfied in the VBA role than men in SUKA.** 16% of women reported being dissatisfied, which is the highest rate for any consortia. For comparison, 6% of men reported being dissatisfied in SUKA.
- **Men farm far more acres of land than women in SUKA.** Men farm 2.6X more acres than women on average in SUKA. Men in SUKA farm the biggest plots (14.6 acres on average) compared to any other consortia.
- **Both women and men are more educated in SUKA compared to other consortia.** Women (41%) and men (43%) report similar levels of primary education.
- **VBAs in SUKA – both women and men – serve far more farmers.** Compared to Kagera and Kigoma, women serve 2-3X more farmers in SUKA.
- **Women serve far more women in SUKA.** 58% of farmers served by women are women, compared to 39% for men.
- **Women are far less likely to be married in SUKA.** 65% of women are married, compared to 93% of men.
- **Rice planting is unique to SUKA.** Men (37%) more commonly plant rice than women (27%).

**Table 18:** SUKA Consortium – Demographic and Socioeconomic Profile of Sampled VBAs, by gender and age

Sample mean is shown. Significant ( $p < 5\%$ ) gender differences are highlighted in green.

Women VBAs			Men VBAs	
37		Sample size	197	
43 years		Age	43 years	
27%		Youth (35 or younger)	24%	
65%		Married	93%	
3.1		Adults living in HH	3.4	
2.4		Children living in HH	3.6	
41%		More than primary education	43%	
78%		Has IGA other than farming	69%	
5.7		Acres farmed	14.6	
Maize	97%	Crops farmed (Top 5)	94%	Maize
Beans	49%		51%	Beans
Sunflower	49%		42%	Sunflower
Rice	27%		37%	Rice





Groundnut	<b>19%</b>		<b>18%</b>	Groundnut
	<b>120</b>	Farmers served as VBA		<b>118</b>
	<b>58%</b>	Farmers served (women)		<b>39%</b>
Weekly	<b>52%</b>	Frequency farmers served	<b>43%</b>	Weekly
Monthly	<b>30%</b>		<b>21%</b>	Monthly
	<b>16%</b>	Dissatisfied with VBA role		<b>6%</b>

### IGA Profile of VBAs in SUKA

The SUKA Consortium is characterized by a high concentration of input supply IGAs, which are far more common in SUKA compared to all other consortia. Women engage in input supply more than men, although the sample size for women is low, so these figures should be interpreted with some caution. Men in this consortium prefer to sell livestock, poultry and animal products than women. More women engage in non-agricultural activities, such as sale of food and beverages, provisions and tailor than men. In general, women are more likely to have an IGA than men in this consortium.

**Table 19:** SUKA Consortium IGA Profile, by sex

Significant ( $p < 5\%$ ) gender differences highlighted in **green**

Women VBAs		Men VBAs
<b>37</b>	Sample size	<b>197</b>
<b>11%</b>	Livestock & Poultry 	<b>23%</b>
<b>8%</b>	Aggregation & Off-taking 	<b>14%</b>
<b>11%</b>	Non-agriculture wage / salary	<b>7%</b>
<b>14%</b>	Sale of provisions	<b>4%</b>
<b>14%</b>	Sale of prepared food / beverage	<b>4%</b>
<b>22%</b>	Input supply 	<b>16%</b>
–	Processing of crops 	<b>3%</b>
<b>16%</b>	Tailoring or sale of clothing	<b>2%</b>
–	Transport	<b>4%</b>
–	Artisanal work	<b>1%</b>
<b>16%</b>	No IGA other than farming	<b>26%</b>

 indicates agricultural IGA

## Appendix 6: Regression Analysis Details

This section provides details on the regression analysis conducted in the “Drivers of Entrepreneurship” section. Ordinary least squares (OLS) linear regressions were conducted using the count of total IGAs as the outcome variable. Robustness checks were conducted using logistic regressions using a binary outcome variable indicating whether VBAs had any IGA or not. All regressions were run on three different groups: 1) all VBAs; 2) women-only; 3) men-only

All regressions were run with a full suite of controls, including:

- Gender (binary variable)
- Youth – younger than 35 years (binary variable)
- Education over primary (binary variable)
- Acres of land owned (continuous, trimmed at 99<sup>th</sup> percentile for outliers)
- Region (categorical variable)
- Married (binary variable)
- Currently a VBA (binary variable)
- Total number of household members (continuous)
- Annual income (continuous; mid-point of chosen income band)

Three characteristics were found to be significantly associated with entrepreneurship in general:

### *Education (for men)*

Having completed any education level above primary school is significantly associated with 0.2 more IGAs for men ( $p < 0.001$ ). For women, we do not find a significant association between education level and number of IGAs.

### *Marriage (for women)*

Being married is significantly associated with 0.2 less IGAs for women ( $p = 0.020$ ). For men, we do not find a significant association between marriage and the number of IGAs. This finding is likely linked to Tanzanian social norms which indicate that married women are responsible for household and childcare, and thus have less available time to dedicate to additional IGAs. These social norms are discussed further in the “Challenges & Barriers” section.

### *Current VBA (for women)*

Being actively enrolled in the VBA program is associated with 0.2 more IGAs for women, compared to those who have stopped their VBA work, although the finding is weakly significant ( $p = 0.076$ ). For men, we do not find a significant association between being actively enrolled in the VBA program and the number of IGAs. This finding provides some evidence that the VBA role encourages entrepreneurship among women.

## Disaggregating for Agricultural vs. Non-Agricultural Entrepreneurs

Next, we disaggregated our sample by those running agricultural and non-agricultural IGAs to determine if the same factors are driving both types of entrepreneurialships.

### **Agricultural Entrepreneurs**

When looking specifically at VBAs running agricultural IGAs (e.g., input supply, livestock, aggregation), the story is slightly different. In general, there are four characteristics that are significant:

### *Education (for men)*



Having an education level that is higher than primary school is significantly associated with 0.1 more IGAs for men ( $p=0.005$ ). For women, we do not find a significant association between education level and agricultural entrepreneurship.

#### *Age (for women)*

Being young (less than 35 years of age) is associated with 0.1 more IGAs for women, although the finding is weakly significant ( $p=0.070$ ). For men, we do not find a significant association between age and agricultural entrepreneurship.

#### *Owning Land (for men)*

Owning one additional acre of land is significantly associated with 0.01 more IGAs for men ( $p=0.002$ ). For women, we do not find a significant association between owning land and agricultural entrepreneurship.

#### *Current VBA (for men)*

Being actively enrolled in the VBA program is significantly associated with 0.2 more IGAs for men, compared to those who have stopped their VBA work ( $p=0.032$ ). For women, we do not find a significant association between being enrolled in the VBA program currently and agricultural entrepreneurship. This finding provides some evidence that the VBA role encourages agricultural entrepreneurship among men.

### **Non-Agricultural Entrepreneurs**

When looking specifically at VBAs running non-agricultural IGAs, the story is again slightly different. There are four characteristics that are significant:

#### *Gender*

Being a woman is significantly associated with 0.1 more non-agricultural IGAs compared to men ( $p=0.026$ ). Women are more likely to engage in IGAs like the sale of provisions, prepared food, or tailoring compared to men, which is driving this finding.

#### *Education (for men)*

An education level that is higher than primary school is significantly associated with 0.1 more non-agricultural IGAs for men ( $p=0.014$ ). For women, we do not find a significant association between education level and non-agricultural entrepreneurship.

#### *Owning Land (for men)*

Owning one additional acre of land is significantly associated with 0.01 less non-agricultural IGAs for men ( $p=0.005$ ). For women, we do not find a significant association between owning land and non-agricultural entrepreneurship.

#### *Currently a VBA*

**For men:** Being currently enrolled in the VBA program is associated with 0.2 less non-agricultural IGAs for men, compared to those that have stopped working as a VBA ( $p=0.010$ ). This further suggests that the VBA role encourages agricultural entrepreneurship over non-agricultural entrepreneurship.

**For women:** Being currently enrolled in the VBA program is associated with 0.2 more non-agricultural IGAs for women, compared to those that have stopped working as a VBA, although this finding is only weakly significant ( $p=0.092$ ).

## Disaggregating for by Agricultural IGA Type

Next, we disaggregated our sample by those running the most common agricultural IGAs to determine which factors are associated with each.

### **Livestock & Poultry (Chicken & Eggs only)**

#### *More household members (for men)*

With each additional member of the household, men VBAs are 14% less likely to engage in exclusively keeping chicken and selling eggs, although this is weakly significant ( $p=0.073$ ).

#### *Acres of land (for men)*

With each additional acre of land, men VBAs are 7% less likely to engage in keeping chicken and selling eggs, although this is also weakly significant ( $p=0.079$ ).

#### *Education (for men)*

Men VBAs who have an education level above primary school have 2X increased odds of operating a chicken & egg business, as compared to those with lower education, although this is also weakly significant ( $p=0.074$ ).

### **Livestock & Poultry (Large Animals)**

#### *Gender*

Men VBAs are 2.1 times more likely to engage in rearing large livestock compared to women VBAs, a relationship that is strongly significant ( $p<0.001$ ).

#### *Age (for men)*

Adult men VBAs are 2X more likely to engage in rearing large livestock - cows, goats etc. than youth men VBAs ( $p=0.024$ ).

#### *Acres of land (for men)*

Men VBAs who own an additional acre of land are 2% more likely to engage in rearing large livestock compared to those with less land acreage ( $p=0.005$ ).

### **Input Supply**

#### *Gender*

Youth women VBAs are 4.6 times more likely to engage in input supply compared to adult women VBAs. This finding is strongly significant with a p-value of 0.021.

#### *Acres of land (for women)*

Women VBAs who have an additional acre of land are 4% more likely to engage in input supply than women VBAs with less land acreage ( $p=0.092$ ).

#### *Education (for men)*

Men VBAs with an education level above primary are 3.2 times more likely to engage in input supply compared to men VBAs with lower levels of education.

### **Aggregation & Off-taking**

#### *Age*

Overall, youth VBAs significantly engage in aggregation and off-taking services. Specifically, youth VBAs are 2.2 times more likely to engage in this activity compared to adult VBAs (p=0.001).

### *Gender*

**For women:** Youth women VBAs are 3X more likely to engage in this activity compared to adult women VBAs (p=0.012).

**For men:** Youth men VBAs are 2X more likely to engage in aggregation and off-taking services compared to adult men VBAs (p=0.010).

### *Acres of land (for women)*

Women VBAs who own an additional acre of land are 20% more likely to engage in aggregation and off-taking services compared to their counterparts with less land.

### *Being married*

**For women:** Unmarried women VBAs are 2X more likely to engage in this activity compared to married women VBAs (p=0.097).

**For men:** Married men VBAs are 4.5X more likely to engage in this activity compared to their unmarried counterparts (p=0.044).

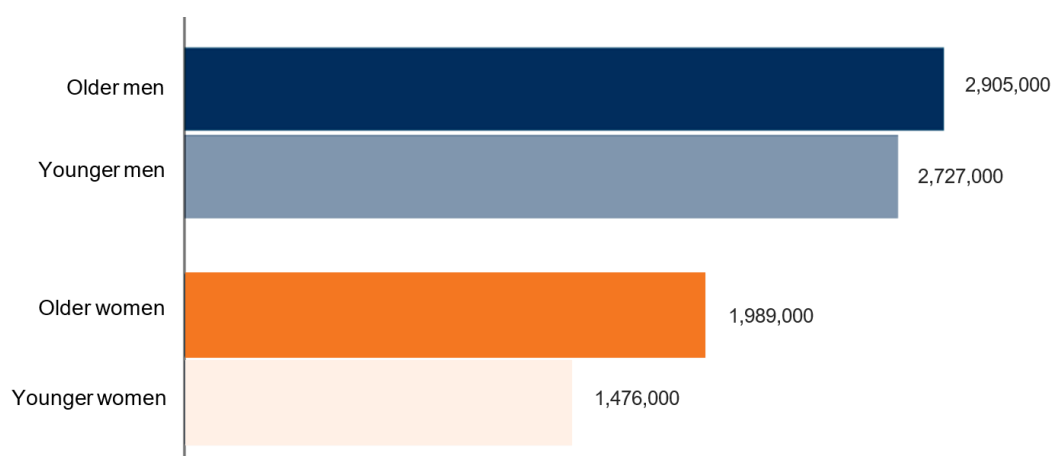
## Appendix 7: Average Total income among VBAs

In the main body of the report, for research question 3, the VBAs' income profile was described using median income instead of average income to consider the VBAs that may be earning incomes that are very high or very low. It is almost always the case that the average income is higher than the median income and the same is true in the case of VBAs. In this section we report the average income as a robustness check.

### Average income of VBAs<sup>56</sup>

Women VBAs earn less than men VBAs annually. On average, women earn TZS 1,837,000 (~USD 788) compared to TZS 2,861,000 (~USD 1,227) for men annually. Both adult and youth men earn more in annual income than women.

Figure 13: Average annual income in TZS disaggregated by gender and age



### Average income of VBAs by IGA

When we considered VBA's income from the top three agricultural IGAs we again found that the average annual income of men is higher than that of women irrespective of the IGA. There are no statistically significant differences for men, women and youth within the same IGA and this may be driven by the small sample size.

Table 20: Average annual income (TZS) for agricultural IGAs, by gender and age

	Youth Women	Adult Women	Youth Men	Adult Men
<b>1. Chicken and Eggs only</b> (N = 72)	1,278,000	2,262,000	2,942,000	2,880,000
<b>2. Large Animals only</b> (N = 202)	3,989,000	2,705,000	3,115,000	3,184,000
<b>3. Aggregation &amp; Off-taking</b> (N = 123)	1,150,000	2,517,000	3,649,000	3,792,000
<b>4. Input Supply</b> (N = 71)	3,610,000	3,955,000	6,432,000	5,339,000
<b>5. Having any agricultural IGA</b> (N = 467)	2,186,000	2,624,000	3,517,000	3,655,000

<sup>56</sup> Average income in TZS rounded up to nearest thousand

## Appendix 8: Follow-up Tracer Phone Study

In this section we provide additional details on findings from the 6-month tracer survey, where we conducted follow-up surveys 3 months apart for all VBAs in our sample who had recently started a new agricultural IGA in the last two years.

### Changes made to new businesses

Through the tracer rounds, women and men with new businesses were asked follow-up questions regarding any operational changes that they made to their IGA over a 6-month period since the phone survey.

**Overall, a majority of women and men did not make operational changes to their new business across the various rounds of phone surveys.** More women and men implemented operational changes in tracer Round 2 compared to Round 3. About 43% of VBAs made operational changes to their new business in tracer round 2 versus 30% in tracer round 3. Additionally, a small proportion (16%) made operational changes during both tracer rounds.

The VBAs had a difficult time interpreting and reporting on the exact changes made to their new business. Due to this, there are very few responses for this question, and we are unable to tell with confidence the main changes made to the businesses over time.

### Change in income proportion from IGA

The proportion of income earned from the new businesses increase over time. On average, the proportion of income from the new business was 29% in round 1, increasing to 37% in round 2 and 36% in round 3. This highlights that on average the new businesses become more lucrative as the proportion of their income from the business increases.

More VBAs experienced an increase in absolute income in round 2 compared to round than a decrease in absolute income. Out of 63 VBAs, 56% reported an increase in absolute income in round 2 compared to round 1, while 30% reported a decrease in income between the time period. However, between rounds 2 and 3 more VBAs reported a decrease in absolute income than an increase.

The reasons for change in income are similar to those for change in income proportion. We cannot determine statistical significance because of the small sample size of VBAs with new businesses.

**Table 21:** Top three reasons for increase or decrease in income proportion from IGA<sup>57</sup>

	Round 2		Round 3	
	Women	Men	Women	Men
<b>Reasons for increase in income proportion</b>				
Increased number of customers	40%	39%	17%	18%
Improved access to supply markets	13%	36%	13%	12%
Change to high agricultural seasons	13%	18%	10%	3%
<b>Reasons for decrease in income proportion</b>				
Decrease in the number of customers	10%	18%	7%	15%
Change to low agricultural seasons	10%	9%	17%	12%

<sup>57</sup> The number of VBAs reporting the reasons for increase/decrease in income proportion and change in income is less than 30. Therefore, we cannot determine differences by gender that are statistically significant

Expensive business inputs	13%	6%	10%	9%
<b>Reasons for change in income</b>				
Change in customer base	23%	15%	20%	12%
Market prices changed	3%	21%	10%	12%
Change in agricultural season	13%	12%	10%	6%

### Confidence in entrepreneurial journey

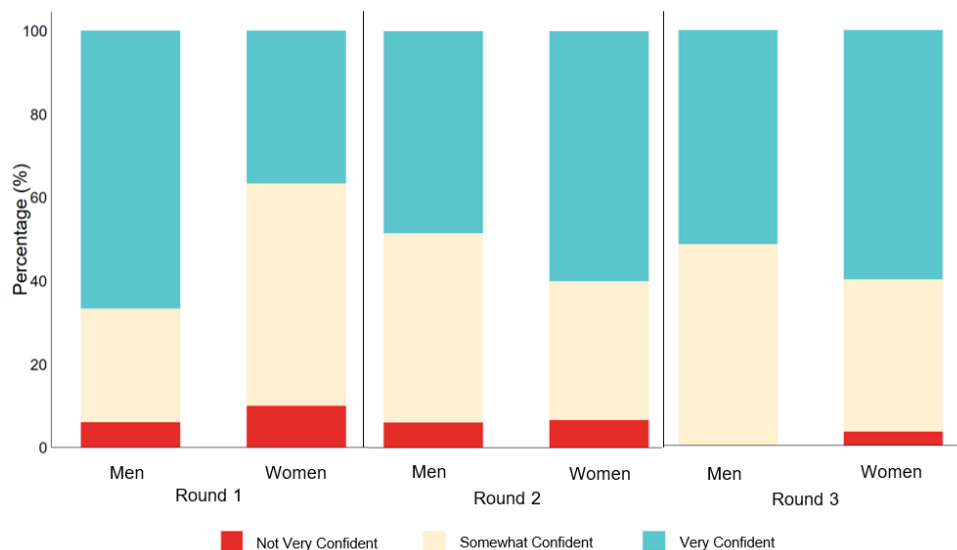
The confidence of VBAs in their entrepreneurial journey is an indication of their ability to continue working on their business. During the phone survey, we asked VBAs with new and long-standing businesses about their confidence level as entrepreneurs. The assumption is that seasoned entrepreneurs, those with long-standing businesses, would be more confident about their business compared to those with relatively newer businesses.

More than 50% of the VBAs with a long-standing and/or new business are very confident in their entrepreneurial journey. There are no differences in the confidence level between women and men VBAs with long-standing businesses.<sup>58</sup> Less than 10% of VBAs with a long-standing and/or new business reported that they were not very confident. This highlights that the high level of confidence may help VBAs keep up the momentum to continue working on their business.

As part of the follow-up phone surveys, we followed-up with VBAs that are new business owners to track if their level of confidence changed over time. Note, the sample size considered here is 63 so we are not able to present disaggregated statistics with statistical significance.

The confidence level of the VBAs with new businesses remained high over time with little change. This emphasizes the fact that VBAs largely have a high level of confidence despite taking on challenges of a new business.

**Figure 14:** Change in confidence in entrepreneurial journey over time, new businesses



<sup>58</sup> We are unable to determine the differences in confidence level between women and men VBAs with new businesses because of the small number of women VBAs with new businesses



## Evolution of Needs

The main section of the report highlights the needs that VBAs highlighted in the first round of the phone survey. Within the 6-month tracer phone surveys, women and men VBAs continued to report that their greatest business need is capital, credit and loan facilities. The need for financial support is seen following the agricultural season. Round 2 was conducted during the planting season where farmers needed to purchase agricultural inputs, which justifies the high need for financial support. Round 3 was conducted during low-income months when farmers are yet to harvest their crops and thus need financial support to conduct their IGAs other than farming. Men VBA also report a need for entrepreneurial training in Round 2 (35%) and the need increases in Round 3 (42%). Women VBAs reported their increased need for connections with input suppliers from round 2 (9%) to round 3 (20%).

## Appendix 9: Ease of running IGAs

In this section we provide full details on the easiness or difficulty of running the IGAs.

Table 22: Ease and difficulty of running an agricultural IGA, by sex

	Women	Men
Livestock (chicken and eggs only)		
<b>Difficult (n = 11)</b>	7%	21%
<b>Easy (n = 31)</b>	45%	43%
Livestock (large animals only)		
<b>Difficult (n = 31)</b>	13%	17%
<b>Easy (n = 70)</b>	39%	34%
Aggregation & off-taking		
<b>Difficult (n = 35)</b>	12%	34%
<b>Easy (n = 27)</b>	30%	19%
Input supply		
<b>Difficult (n = 6)</b>	0%	12%
<b>Easy (n = 33)</b>	3.5%	51%

VBA's with new businesses were traced in rounds 2 and 3 to follow-up on their ease or difficulty in operating a new business. There is a small sample of respondents in rounds 2 and 3 reporting that doing business is easy but they largely attribute it to being well experienced consistently over time.

There are many similarities in the difficulties reported by VBAs in running a new business in rounds 2 and 3 even though the proportions are larger in round 2. The main reasons for difficulties are attributed to accessibility of resources (capital, training, transportation).

Table 23: Reasons for difficulties in running a new business, by rounds<sup>59</sup>







	Round 2	Round 3
Sample size	<b>42</b>	<b>34</b>
<b>Lack of sufficient cash</b>	33%	13%
<b>Lack of transport facilities</b>	29%	13%
<b>Disease and pests impacting animals and crops</b>	24%	13%
<b>Expensive business stock</b>	17%	3%
<b>Lack of sufficient business skills</b>	12%	2%

<sup>59</sup> Only reporting reasons where proportion is >10 for tracer round 2

## Appendix 10: Challenges with VBA role

In this section we report the challenges VBA reported in doing their VBA work. In the main body of the report, we show the challenges faced while running their IGAs. Women and men VBAs were asked about the challenges they faced in the VBA role during the phone survey. Generally, men and women reported similar challenges in similar proportions. The only exception is around community participation, which was far more commonly mentioned by both adult and young women as a challenge. This is likely due to the social norm around men being less likely to listen to advice from women, which is explained later in this section.

**Table 24:** Percentage of VBAs facing specific challenges, by sex and age

		Adult Women	Youth Women	Adult Men	Youth Men
	Sample size	282	119	632	211
	1. Unavailable inputs for farmers to use	58%	49%	52%	50%
	2. No transportation to reach farmers	43%	35%	45%	42%
	3. Farmers have limited understanding	31%	39%	31%	31%
	4. No training materials to share with farmers	30%	27%	21%	22%
	5. No income from VBA role	21%	18%	17%	21%
	6. Limited community participation	24%	24%	9%	13%