

## **POST-PROJECT SUSTAINABILITY OF COMMUNITY-BASED WORKER MODELS IN THE SAHEL: THE CASE OF THE VIM PROGRAM IN CENTER-NORTH REGION, BURKINA FASO**

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ViMPlus is part of USAID's Resilience in the Sahel Enhanced II (RISE) program, which supports vulnerable communities in Burkina Faso and Niger to effectively prepare for and manage recurrent crises and pursue sustainable pathways out of poverty.

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### **Contact Information:**

Beatrice Lorge Rogers, PhD, Principal Investigator  
[beatrice.rogers@tufts.edu](mailto:beatrice.rogers@tufts.edu)  
Tufts University  
Friedman School of Nutrition Science and Policy  
150 Harrison Avenue, Boston, MA 02111

Karl Rosenberg, Senior Director, Resilience & Growth  
[krosenberg@acdivoca.org](mailto:krosenberg@acdivoca.org)  
ACDI/VOCA  
50 F St NW, Suite 1000  
Washington, DC 20001

Régis Terrien, Chief of Party  
[rterrien@acdivoca-vim.org](mailto:rterrien@acdivoca-vim.org)  
+226 65-38-42-58  
Secteur 19 (ex-secteur 25), Section EK lot 07 parcelle 10  
Quartier Somgandé, Ouagadougou, Burkina Faso

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## TABLE OF CONTENTS

Acknowledgements.....	i
Table of Contents.....	ii
List of Figures.....	iv
List of Tables.....	v
List of Acronyms.....	vi
Introduction.....	7
Community-Based Worker (CBW) Models of Service Delivery.....	8
Types of CBWs.....	9
CBWs and sustainability in international development.....	11
Project background.....	12
Description of Service Provider Categories.....	12
Community-Based Health Agents (CBHAs).....	12
Mother Leader Animators (MLAs).....	13
Producer Leaders (PLs).....	14
Volunteer Village Vaccinators (VUVs).....	15
Study Site.....	15
Conceptual framework.....	16
Materials and Methods.....	17
Sampling.....	17
Enumerator training and data collection.....	17
Data processing and analysis.....	18
Results.....	18
Basic Demographic Information.....	18
Activities performed during and after ViM.....	21
Community-Based Health Agents.....	21
Mother Leader Animators.....	22
Producer Leaders.....	24
Volunteer Village Vaccinators.....	25
Time Spent and Frequency of Implementation of Activities.....	26
Reasons for Continuing Activities.....	27
Reasons for Discontinuing Activities.....	28
Service Provider Evaluation of Working Conditions.....	29
Employment, Remuneration, and Sustainability Strategies.....	31

Sustainability of Activities.....	31
Problems and Constraints .....	33
Insecurity and Shocks .....	35
Linkages.....	36
Formal Employment .....	37
Compensation .....	39
Regression analysis – factors that influence continuing activities.....	40
Discussion.....	45
Application of the Sustainability Framework.....	45
Community-based health agents (CHBAs).....	46
Mother leader animators (MLAs).....	46
Producer leaders (PLs).....	46
Volunteer village vaccinators (VVs).....	47
Comparison across CBW Categories.....	48
Training of Replacements.....	48
Motivation.....	48
Linkages.....	48
Capacity .....	48
Resources .....	48
External Factors .....	49
Conclusions.....	49
References.....	51
Appendix.....	55
Reasons for Continuing Individual Activities – CBHAs.....	55
Reasons for Continuing Individual Activities – MLAs .....	57
Reasons for Continuing Individual Activities – PLs .....	60
Reasons for Continuing Individual Activities – VVs .....	62
Reasons for Discontinuing Individual Activities – MLAs .....	65
Reasons for Discontinuing Individual Activities – PLs.....	66
Gender-Disaggregated Figures .....	68

## LIST OF FIGURES

Figure 1: Conceptual Framework .....	16
Figure 2: Educational attainment of ViM-trained service providers in Kaya commune .....	19
Figure 3: Service provider age range .....	20
Figure 4: Service provider gender.....	20
Figure 5: Activities undertaken by community-based health agents at ViM exit and follow-up. ....	22
Figure 6: Activities undertaken by mother leader animators at ViM exit and follow-up.....	23
Figure 7: Activities undertaken by producer organization leaders at ViM exit and follow-up ....	24
Figure 8: Activities undertaken by volunteer village vaccinators at ViM exit and follow-up .....	25
Figure 9: Hours spent per month on activities related to service provider roles .....	26
Figure 10: Average days per month spent on service provider activities .....	27
Figure 11: Reasons for continuing at least one activity from 2018 to 2022 .....	28
Figure 12: Reasons for discontinuing at least one activity from 2018 to 2022 .....	29
Figure 13: Service provider evaluation of capacities and motivation.....	30
Figure 14: Service provider evaluation of resources and linkages .....	31
Figure 15: Service provider evaluation of the sustainability of their activities .....	32
Figure 16: Continued solicitation from community members for services .....	33
Figure 17: Problems service providers reported encountering in their work.....	34
Figure 18: Impact of security, climate, and Covid-19 on various aspects of work .....	35
Figure 19: Impact of various security issues and shocks on work.....	36
Figure 20: Linkages with external entities.....	37
Figure 21: Employment status of service providers .....	38
Figure 22: Sector of service provider employment.....	38
Figure 23: Sustainability variables specific to CBHAs .....	39
Figure 24: Nature of compensation given to service providers for their work.....	40

## **LIST OF TABLES**

Table 1: Factors associated with discontinuing at least one activity .....	41
Table 2: Capability to support oneself, seeing advantages in work, and discontinuing an activity .....	42
Table 3a: Bivariate/multivariate regressions using theoretical framework – CBHAs and MLAs	43
Table 3b: Bivariate/multivariate regressions using theoretical framework – PLs and VVVs.....	44

## LIST OF ACRONYMS

ANC	Antenatal Care
BHA	Bureau for Humanitarian Assistance
BL	Baseline
CBW	Community-Based Worker
CAHW	Community Animal Health Worker
CBHA	Community-Based Health Agent
CSPS	Health and Social Promotion Center
CVD	Village Development Council
DFSA	Development Food Security Activity
EL	Endline
FFP	Food for Peace
FFS	Farmer Field School
FU	Follow-up
GAP	Good Agricultural Practices
GASPA	IYCF Learning and Monitoring Groups
IDP	Internally Displaced Persons
IYCF	Infant and Young Child Feeding Practices
LIP	ViM Program Local Implementing Partners
MAAH	Burkinabè Ministry of Agriculture, Animal, and Fisheries Resource
MFSNF	Burkinabè Ministry of Women, National Solidarity, and Families
MLA	Mother Leader Animator
MPFG	Burkinabè Ministry for the Promotion of Women and Gender
MSPH	Burkinabè Ministry of Public Health and Hygiene
MYAP	Multi Year Assistance Program
NGO	Non-Government Organization
NRM	Natural Resources Management
OHADA	Organization for the Harmonization of Business Law in Africa
PL	Producer Leader
PLW	Pregnant and Lactating Women
PO	Producer Organization
RFSA	Resilience Food Security Activity
RISE (II)	Resilience in the Sahel Enhanced (II)
SBCC	Social and Behavior Change Communication
SILC	Savings and Internal Lending Committee
TBA	Traditional Birth Attendant
USAID	United States Agency for International Development
VVV	Volunteer Village Vaccinator
ViM(Plus)	Victory Against Malnutrition (Plus)
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

## INTRODUCTION

The 2030 Sustainable Development Goals (SDGs) Agenda is based on the premise that members of local communities will be key players in achieving sustainable development (UNDP/UNDESA, 2020). This strategy envisions community members as active contributors to the development process and advocates who can hold their governments accountable for progress, instead of as beneficiaries who merely receive programs and interventions designed externally and without their input. One strategy for achieving community-driven development used by many international development and humanitarian programs involves training community-based workers (CBWs) to provide distinct sets of services to other residents in the community (ODI, 2007). By building stakeholder capacity to hold leadership roles and provide needed services in the community, development programs endeavor to improve sustainability of impacts and activities after an intervention has concluded.

CBW programs have been implemented in diverse communities around the world and using a variety of program designs. For example, in many agricultural communities, development programs train model farmers or community animal health workers (CAHWs) to provide training, advice, products, and services to other farmers in their communities. In the healthcare sector, community health workers (CHWs) are commonly trained to provide healthcare training and advice, monitor healthy growth of children and refer individuals for medical care, and serve generally as a liaison between the community and medical professionals (Friedman, 2005; ODI, 2007; Leyland et al., 2014). There is a great deal of variation in whether and how CBWs are remunerated, the level of tasks they are expected to take on, the specific services they provide, and whether they are expected to continue in the CBW role after the conclusion of a development program. In general, there is a dearth of information on the sustainability of CBW models after the programs which trained them and provided them with initial support have concluded.

The objective of this report is to explore the sustainability of four different types of CBWs – producer leaders (PLs), volunteer village vaccinators (VVs), mother leader animators (MLAs), and community-based health agents (CBHAs) – all of whom were trained under the Victory Against Malnutrition (ViM) Multi-Year Assistance Program (MYAP) implemented in Burkina Faso between 2012 and 2018 by the international NGO ACDI/VOCA and collaborating partners. Survey data were collected in the field in Kaya commune in March of 2022, where the ViM program had been working until 2018. USAID funding was provided by the subsequent ViMPlus activity in other communes, but not in Kaya; thus, Kaya presented the opportunity to examine to what degree these CBWs continued providing the services that they had been trained to provide as expected by the ViM program.<sup>1</sup> A conceptual framework of sustainability and exit strategies is used to assess the factors which contributed to sustained activities and, where activities ceased, what factors impeded sustainability (Kim et al., 2013; Rogers & Coates, 2015; Coates et al., 2016). These findings offer instructive insights to improve the effectiveness and sustainability of the CBW approach in development interventions.

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<sup>1</sup> ViM was part of USAID's Resilience in the Sahel Enhanced (RISE) program, and ViMPlus is part of the subsequent RISE-II program, both of which have supported vulnerable communities in Burkina Faso and Niger to prepare for and manage recurrent crises and pursue sustainable pathways out of poverty.



### *Community-Based Worker (CBW) Models of Service Delivery*

The CBW model has been harnessed by international development projects and supported by funding agencies such as USAID, the World Bank, and the World Health Organization (WHO) for several decades as an approach to catalyze community-driven development (Swider, 2002; Boesten, 2005; Taylor & Bhasme, 2018). The objective of this strategy is to empower local citizens to collaborate in design and implementation of community-driven development initiatives, in theory making them equal actors in their own development (Mansuri & Rao, 2004; Binswanger-Mkhize et al., 2009). While there are variations in implementation, the overarching objective of the CBW model is to recruit and train individuals from communities across a program's zone of influence to provide services to other community members that have traditionally been unavailable within existing systems (Boesten, 2005; Friedman, 2005; ODI, 2007; Boesten et al., 2011). Services may include group discussions to raise awareness around different development issues, providing training or extension services in healthcare, agriculture, or livelihoods creation, or managing communal infrastructure such as water provisioning systems. The facilitating organization typically coordinates technical education, support, and supervision to the CBWs throughout the capacity building period and as they begin to deliver services. When the project concludes, trained CBWs are expected to continue carrying out these activities to maintain progress in achieving development impact outcomes.

The CBW approach differs markedly across programs, interventions, geographic areas, and service sectors. Many CBWs are trained as volunteers and receive no or limited remuneration for their services, whether during or after the implementation phase of the development program or intervention (Boesten et al., 2011). In lieu of financial payment, the facilitating organization may provide service providers with materials and per diem to attend trainings during the project, or with limited resources to assist in organizing service provisioning activities during the initial implementation phase. In other models, CBWs are paid a stipend for their work by the facilitating organization or by a collaborating local partner, with responsibility for program maintenance being transferred fully to the local partner at the conclusion of the program. This local partner could be a local or national NGO, a private sector business, or a government agency or ministry. There are also entrepreneurial business-based models wherein CBWs are paid for their services by community members using the services, possibly with an initial period during which the cost of services may be partially subsidized by the facilitating organization (ODI, 2007).

Several assumptions underlie the CBW model in development (Boesten et al., 2011). One such assumption is that service provision can be effectively extended through CBWs, especially "last-mile" provision to remote, sparsely populated areas with poor transport and telecommunications infrastructure. A second assumption is that development can be made more sustainable by engaging and training local community members to provide needed services to their own communities. Sustainability is also in theory increased by the cost-effective nature of CBW models, as the agents often work as unpaid volunteers or receive only limited in-kind or cash remuneration. A third assumption is that relationships between CBWs and other members of the community are more egalitarian than the community's relationship with external development program agents. The peer-to-peer relationships and inside cultural knowledge possessed by the CBWs help make development programs more locally pertinent and adapted to the needs and contexts of individual communities.

## *Types of CBWs*

In the health sector, community-based health agents (CBHAs) are a common type of CBW. The CBHAs are usually community members who are recruited and trained to carry out healthcare activities in their communities, including education, basic clinical care, growth monitoring, referring patients to healthcare providers, and vaccinations (Swider, 2002; Pallas et al., 2013; Druetz et al., 2015). Some programs have added categories of CBWs who are loosely tied to the healthcare sector, such as mother leader animators (MLAs) who work with such entities as village infant and young child feeding (IYCF) care groups and women's groups, providing trainings and messaging on healthcare, nutrition, sanitation, and income-generating activities for women as a locally-driven form of social and behavior change communication (SBCC) (George et al., 2015; Freeman et al., 2020; Ncube-Murakwani et al., 2020). The literature on CBHAs is rich, and several review papers have been written, including a review of previous reviews (Pallas et al., 2013; Scott et al., 2018). These reviews show that CBHAs are more sustainable and have greater impact when they are firmly embedded in community networks and when the workers receive continuing supervision, training, and access to logistical support and necessary supplies through integration with the formal health system (Scott et al., 2018). It was also found that integrating CBHAs into health systems can make these programs more sustainable and lend them credibility, as well as improve collaboration with formal healthcare sector professionals.

In agricultural development, projects have long used the model farmer model to provide agricultural extension education and implement SBCC initiatives among farmers (Franzel et al., 2011; Taylor & Bhasme, 2018). Here, the facilitating organization, sometimes (but not always) together with members of a local producer organization, identifies one or more “motivated farmers”, trains these farmers in improved agricultural practices to become a model farmer (referred to in this report as producer leaders/PLs) and often helps them create a demonstration plot on their land to model good agricultural practices (GAPs) for other farmers in the community. Model farmers are often trained to conduct agricultural extension activities using the Farmer Field School (FFS) model. Model farmers are expected to continue serving as resource people after the conclusion of a development program, training and advising other members of their community on GAPs and answering their questions when necessary. The literature on this topic includes several reviews of community agricultural workers and their provision of agricultural extension services to community members (Franzel et al., 2011; Taylor & Bhasme, 2018).

One potential downside to this model that has arisen in some cases is that the “follower” or non-lead farmers report feeling alienated and neglected by what they perceive as favoritism of the project implementing organization towards lead farmers, as trainings, inputs for demonstration plots, and follow-up efforts are focused more heavily on the lead farmers (Chinseu et al., 2019). A study of lead farmers chosen by community members and trained by the government agricultural extension system in Malawi found that lead farmers typically receive only one day of formal training and that some farmers feel that they needed a more comprehensive training package to be able to perform their work (Fisher et al., 2018). This study showed that the lead farmer model was a useful piece of the extension landscape in Malawi but that it could not fully replace services offered by government and other stakeholders, especially given that lead farmers received minimal to no compensation and were motivated purely by the chance to learn and help others (Fisher et al., 2018). In other contexts, lead farmers who were nominally compensated or not compensated nonetheless benefited from free agricultural inputs and access to land for demonstration plots, providing material benefit from their role (Rogers & Coates, 2015). A study in Ethiopia found that

while the model farmer approach used by the Ethiopian government significantly expanded the access of smallholders to extension services, political nepotism created inequities in access to information and inputs, especially since political favoritism was used in selecting model farmers and providing them with targeted trainings and inputs. In some cases, this led to feelings of animosity between follower and model farmers and to the model farmer system being used as a tool for top-down control of farmer behavior (Hailemichael & Haug, 2020). Another study conducted in India also found that reliance on model farmers often selected for their social and economic capital can lead to a restructuring of community relationships and power dynamics, as model farmers could potentially become gatekeepers of technologies and information and use their influence to build preferential relationships with the private sector or grassroots networks (Taylor & Bhasme, 2018). While the present report deals with smallholder agricultural communities in Burkina Faso, and many of the abovementioned studies were conducted outside of West Africa, this information is nevertheless pertinent as it deals with community-based workers in the agricultural sector in a developing country setting.

Community animal health workers (CAHWs) represent a recent development in the field of sustainable agriculture development. These individuals, who are often referred to as para-vets, do not have formal education as veterinarians, but after completing basic training programs provided by development programs, they are considered qualified to provide basic care to livestock, including vaccines. This can help fill gaps in the provision of veterinary services that often exist in rural developing communities that lack formally trained veterinarians (Leyland et al., 2014). Other projects have trained “village vaccinators” who focus mainly on vaccinating poultry and other livestock, but who are also given training to provide counsel and information to livestock owners in their communities (Jensen, 2000; Sonaiya, 2008). These village vaccinators may receive a fee for their services, often from the outset of the program but in other cases when program implementation is winding down. Additionally, the cost of the vaccinations may be at least partially subsidized by the development program at the outset. One successful recent example involves a Global Alliance for Livestock Veterinary Medicines (GALVmed) project implemented in three communities of Tanzania, India, and Nepal. Community members were sensitized around prevention of Newcastle disease in poultry, and a group of village vaccinators were trained to purchase vaccines from local agricultural supply stores and sell single doses to villagers at market prices. The study found over 75% uptake of vaccines by community members in all areas after the end of the project, with almost universal uptake in the study community in India; additionally, flock sizes doubled, and there were significant increases in egg hatching rates, meat consumption, and chicken sales (Bessell et al., 2017).

Several in-depth reviews of CAHW models in developing countries have been conducted in recent years, investigating systems implemented by international development NGOs, governments, and research organizations (Leyland et al., 2014; Duamor et al., 2021). While many of the CAHW systems reviewed were found to be successful in increasing community awareness, vaccination rates, and flock and herd sizes in areas where professional veterinary services are unavailable, some programs have faced setbacks in the form of opposition from professional veterinarians, program stakeholders engaging in rent-seeking behaviors (charging too much for services and inputs), and programming difficulties (Duamor et al., 2021). Additionally, reviewers found no studies on cost effectiveness or cost efficiency of the entrepreneurial CAHW model (Duamor et al., 2021). In the ViM program, these agents were referred to as “volunteer village vaccinators” or VVVs, even though they were trained to charge a fee for their services.

### *CBWs and sustainability in international development*

One way to conceptualize sustainability of development programs is to measure the degree to which key services continue to be delivered to community members once the program implementation phase has concluded (Brinkerhoff & Goldsmith, 1992; Brown, 1998; Bennett et al., 2011; Pallas et al., 2013; Rasschaert et al., 2014). This ensures that key outcomes and impacts continue to be accessible to former program beneficiaries even when the development program agents are no longer on the ground (Honadle & Van Sant, 1985). Another way to conceptualize sustainability is the continued accrual of benefits and desired outcomes in beneficiary communities after investment of development program funds ceases in these communities (Brinkerhoff & Goldsmith, 1992).

Development programs expect CBWs to fill critical gaps in the provision of basic agricultural, nutritional, health, and social services in target communities, both during and after program implementation. To test the validity of this model, many studies have been conducted investigating the sustainability of CBW initiatives in the context of specific programs. This is important, because variations in local cultures, economies, and environments can have a significant impact on how a given model is implemented and its chances for long-term success in meeting the needs of a given community. However, further research is needed to examine sustainability of the CBW model as a whole, in the wider context of global sustainable development (Boesten, 2005; Boesten et al., 2011; Maher & Cometto, 2016). Some studies have cast doubt on the likelihood of long-term sustainability of CBW models, especially when the workers are expected to serve as unpaid volunteers indefinitely, without being incorporated into a formal government or private sector structure that can ensure continued remuneration, access to resources, or supervision after program closure.

One study found that when CBWs are expected to work as volunteers, they often continue their efforts in the hope that they will eventually be integrated into a formal system and compensated as paid employees, and that they will likely eventually abandon their role if this does not occur (Boesten et al., 2011). Other studies have also found significant rates of attrition among CBWs after development programs close out and the material and institutional support that they provided to the CBWs during implementation is no longer available (Walt et al., 1989; Sivaram & Celentano, 2003; Stekelenburg et al., 2003). Another issue cited in the literature is the possibility that CBWs displace or enter into competition with official government networks of licensed service providers. Although the coverage and operability of these official networks may not be sufficient to meet the needs of the population, the work of CBWs may nevertheless intrude on government-sponsored service provision (Mockshell et al., 2013).

Additionally, the assumption that CBWs can more effectively reach their communities through peer-to-peer relationships does not hold true in all cases, due to differences in intra-community power dynamics (Mdee, 2008; Labonne & Chase, 2009). An evaluation of an HIV/AIDS sensitization program conducted in Uganda in 2001 revealed that some CBWs neglected to visit older relatives and reported feeling intimidated by members of their communities who were more highly educated or wealthier than themselves (Mitchell et al., 2001). Factors such as the influence of local leaders, gender relations, education and literacy levels, age, and social relations all pose a threat to the sustainability and effectiveness of the CBW model (Boesten et al., 2011).

The present study aims to fill several key gaps in the literature. Because the service providers trained by the ViM program have diverse sustainability models, this study provides a comparison

of a range of models, demonstrating what factors are most important to continued provision of services after program closure. The present study assesses the sustainability of service provision among four types of CBWs trained by the ViM Program in Kaya, Burkina Faso, each representing a different approach to assuring continuity. Thus, this study adds to the body of existing evidence on the success of alternative sustainability models in this context. This is done through the lens of a post-program sustainability framework based on continued linkages, capacities, resources, and motivation (Rogers & Coates, 2015).

## **PROJECT BACKGROUND**

The Victory against Malnutrition (ViM) program<sup>2</sup> was a United States Agency for International Development/Food for Peace (USAID/FFP (now Bureau of Humanitarian Assistance or BHA) funded Title II Multi Year Assistance Program (MYAP) implemented in Barsalogo, Kaya, Namissiguima, and Pissila communes of Sanmatenga Province in the Center-North region of Burkina Faso between August 2011 and September 2018.

The overall objective of the ViM program was to reduce food insecurity among vulnerable rural populations in the zone of intervention. This was to be accomplished through three specific objectives (SOs). The first specific objective was to increase agricultural productivity and food availability through improved agricultural practices and technologies and to enhance value chains of key agricultural products. The second objective was to increase household income by improving value chains, stimulating links between producers and buyers, helping beneficiaries develop and have access to alternative income opportunities, and facilitating access to credit. The third objective was to reduce chronic malnutrition among children under five years of age and among pregnant and lactating women. ViM also defined gender equality and environmental protection as crosscutting objectives. Developing various CBW roles and training these individuals to provide services to their own communities was a major part of the ViM program's implementation strategy. This was especially true in the final two extension years of the program, during which a key element of the RISE sustainability strategy involved the creation of endogenous leaders' networks. The four types of CBWs trained by ViM are described in the following section, along with their respective roles, selection processes, and sustainability models.

### ***Description of Service Provider Categories***

The ViM program trained four types of CBWs: community-based health agents (CBHAs), mother leader animators (MLAs), producer leaders (PLs), and volunteer village vaccinators (VVs). In Kaya, the ViM program reported training 215 CBHAs, 599 MLAs, 424 PLs, and 39 VVs between 2012 and 2018.

#### ***Community-Based Health Agents (CBHAs)***

CBHAs were trained to conduct health awareness activities and support growth monitoring activities in association with local health clinics. They were selected by the ViM program staff in conjunction with the Burkinabè Ministry of Public Health and Hygiene (MSPH), with a long-term goal of integrating them into government healthcare system. During the program, they received a monthly salary, at first provided by the ViM project, but were eventually integrated as formal employees through the Ministry of Health to work at local health clinics for a monthly salary.

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<sup>2</sup> For more information on the ViM MYAP see <https://www.activoca.org/projects/victory-against-malnutrition-project-vim/>.

Their activities included conducting home visits to women to provide nutritional advice, meeting with other CBHAs, holding meetings with community nutrition associations, water, sanitation, and hygiene (WASH) trainings, and over a third were supervising infant and young child feeding (IYCF) learning and monitoring groups.

CBHAs worked in parallel with MLAs in health and nutritional promotion for women and children, and thus were strongly tied to SO3 of the ViM program. The CBHA role was designed in collaboration with several NGOs and the Burkina Faso Ministry of Health. They were trained to perform growth monitoring of children and to screen women and children for acute malnutrition and diarrheal diseases. The CBHAs liaised with MLAs to provide SBCC mass messaging on health and nutrition-related subjects through radio stations and theater groups, as well as through conducting home visits to women in the community and participating in care group activities.

*Sustainability strategy:* The plan was that CBHAs would be integrated into the government health system as paid employees by the time the ViM project ended. As government employees at health clinics, they were expected to have sustained access to current information and training as well as resources needed to conduct activities. Initially, the ViM program paid the CBHAs a monthly salary for their work, and salary payments were taken over by the government Ministry of Health in 2016. Starting in 2016, the CBHAs made a modest salary of 20,000 FCFA per month, and they were integrated into the *Centres de santé et de promotion sociale* (CSPS / Health and Social Promotion Centers) in their local communities upon ViM program exit. The expectation was that the CBHAs would continue working as paid employees of their local CSPS on at least a part-time basis, with salaries covered by the Ministry of Health.

#### *Mother Leader Animators (MLAs)*

Mother leader animators (MLAs) were recruited from village-level care groups based on their commitment to serving as community volunteers, giving of their time and efforts to improve health outcomes for women and children in their communities – this is in line with ViM SO3. They received training to implement activities in their communities as unpaid volunteers, on topics related to community health awareness-raising, including child growth monitoring and measurements, WASH, and nutrition. During the ViM program, each individual MLA was the leader/ animator of a care group comprised of pregnant and lactating women (PLW) and mothers of children under 2 years of age. These groups are now referred to as GASPA (*Groupe d'apprentissage et de suivi des pratiques d'alimentation du nourisson et du jeune enfant* (ANJE) or Infant and Young Child Feeding (IYCF) Learning and Monitoring Groups). The MLA role was chiefly educational, but MLAs also worked closely with community-based health agents (CBHAs) in efforts to combat malnutrition through provision of supplementary food to PLW and children 6-23 months of age. They also collaborated on efforts to eliminate malnutrition and diarrheal disease through SBCC messaging campaigns and individual counseling. The MLAs also attended regular meetings with ViM program implementers, other MLAs from their community, and other community governance groups, including village planning councils and early warning systems. Other activities included conducting home visits to women to provide nutritional advice and counsel, training on soap production and improved stove production, WASH trainings, nutrition and health trainings for women and children, referring undernourished or malnourished children to CBHAs for treatment, and conducting community health association.

Although MLAs were not paid, they did receive compensation for travel costs and reproduction of training materials for their training and outreach activities during the ViM program. They also

received agricultural inputs and livestock as a form of remuneration. They were also trained in manufacturing soap as well as improved, energy-efficient cookstoves to reduce charcoal needs and combat indoor air pollution, with an expectation that they would continue training other members of their community on these subjects after the end of the program, although providing such trainings requires continued access to resources, which is a potential sustainability issue discussed later in this report.

*Sustainability Strategy:* MLAs were recruited on the understanding that they would continue to work as volunteers, without remuneration. During the project, they were informally linked to local health clinics and CBHAs, a linkage that was expected to be sustained post-project. MLAs were also involved in women's rights trainings and were expected to continue these after the end of ViM with assistance from the Burkina Faso Ministry of Women, National Solidarity, and Family/Ministry for Promotion of Women and Gender (MFSNF/MPFG). Nonetheless, the expectation was that MLAs would continue working in their communities without formal linkages or remuneration.

#### *Producer Leaders (PLs)*

To increase and diversify agricultural production, ViM used a targeted approach of working with and strengthening existing producer organizations (POs). By the end of the project, some of these organizations had made the formal transition to official, government-recognized status as a Limited Cooperative Society (*Société coopérative limitée* or SCOOPS), to conform with the OHADA (*Organisation pour l'harmonisation en Afrique du droit des affaires* / Organization for the Harmonization of Business Law in Africa) model with support and training from ViM. Whether the organizations became SCOOPS or remained informal POs, ViM targeted POs working in four key agricultural value chains: tomatoes, onions, sorghum, and cowpea, and two livestock value chains: small ruminants and poultry.

ViM worked with the members of each PO to select two PLs per PO (also referred to by ViM as endogenous trainers) who received technical training on good agricultural practices (GAPs) and farmer training methods, including the farmer field school (FFS) methodology using demonstration plots, coordinating exchange visits with successful farmers, and conducting home visits for individual advice. During the FFS programs, PLs and the POs of which they were members received basic agricultural equipment such as wheelbarrows and shovels. They also received cross-cutting training on gender and natural resource management and were provided literacy lessons, if necessary. While some PLs simultaneously served as the leaders of their producer organizations, this was not always the case – on other occasions, they were simply members of the organizations who were chosen by their peers to become PLs on the basis of their extensive agricultural knowledge and motivation. PLs were almost evenly divided between men and women, as some of the beneficiary POs were male only, others were female only, and still others were mixed gender.

Some trainings targeted use of local inputs, such as seed production for crops, trees, and forage. ViM also coordinated input fairs to connect POs with input suppliers, and vouchers were provided to subsidize input costs during the program.

*Sustainability Strategy:* The logic behind the plan for continuation of the PL role was that as members of their POs, they would continue providing extension services to members of their communities after the end of the program through group trainings and individual advice, provided to both members of producer organizations and unaffiliated farmers. The POs were also

encouraged and supported to transition to a formal, government-recognized status, namely SCOOPS, to conform with the OHADA law regarding harmonization of organizational structures in several countries of West and Central Africa. This was expected to generate sustained support and access to resources, including financial credit, market opportunities, and increased opportunities to participate in programs sponsored by the Burkinabè government and international organizations. However, PLs were expected to continue to lead trainings for their POs and to provide technical support to other farmers post-project as volunteers. If the PLs are members of SCOOPS that have access to government and NGO programs, this would represent one source of potential funding to help PLs continue in their roles. ViM also linked the PLs to a local implementing partner (LIP), which in Kaya was the Burkinabè NGO ATAD (*Alliance technique d'assistance au développement*). ViM expected ATAD to continue serving as a point of contact for these associations and to provide advice as needed.

### *Volunteer Village Vaccinators (VVs)*

Volunteer village vaccinators (VVs) were trained by ViM primarily to vaccinate poultry in their communities, although they also received training to provide other extension services, including vaccines for other livestock animals and a series of trainings on GAPs and environmental sustainability in the animal agriculture sector. This role was closely aligned with both SO1 and SO2 of ViM, namely increasing agricultural production and household income, respectively. They received training and a toolkit comprised of vaccination materials to provide these services, including syringes, needles, vials of livestock vaccines, and coolers for vaccine transport. They were also invited to input fairs and could purchase subsidized inputs during ViM. They also participated in a few government vaccination campaigns, which offered the opportunity to practice activities with the supervisory support of the Ministry of Agriculture, Animal Resources, and Fisheries (MAAH) in addition to the ViM program implementors, including livestock vaccination campaigns organized by the Burkinabè government and supervised by ViM partner organizations, which was an important part of their training. Additionally, the VVs received seed for forage crops and molds to conduct trainings on hay production, feed conservation, and pastureland management. The logic behind this model was to provide the VVs with the training and materials necessary for them to establish themselves as paid entrepreneurs providing needed services in response to community demand from poultry and livestock owners. During the ViM program, vouchers were offered to producers to encourage livestock owners to vaccinate their animals. Currently, clients pay the full market value for vaccinations.

*Sustainability Strategy:* VVs were trained to provide their services for a fee, in the expectation that this would enable them to continue as independent entrepreneurs after the end of the ViM project, with the fees providing motivation as well as the ability to obtain needed resources. Explicit plans to establish formal linkages that would maintain capacity were not fully implemented, as evidenced by the majority of the VV's self-reported lack of access to external linkages post-ViM.

### *Study Site*

The duration of the ViM program was initially set for five years but was subsequently extended two additional years and ended in September 2018. In Kaya, ViM targeted all 71 of the commune's villages, reaching an estimated 57,136 beneficiaries, although not all villages received the full package of ViM interventions. As the project ended, ACDI/VOCA was awarded a new activity, ViMPlus, which is a Resilience Food Security Activity (RFSA) funded by BHA. While ViMPlus



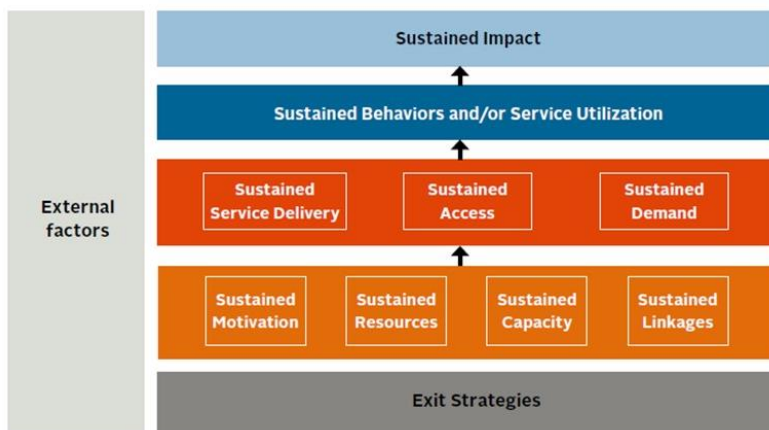
generally broadened its geographical target in the Centre-Nord Region, Kaya commune was not included in the scope of the new activity (Pissila, Barsalogo, and Namissiguima, the other three ViM communes, are included in ViMPlus). Kaya was thus selected as this study’s target to evaluate the sustainability of the ViM program and the continued activities and results attained since the end of ViM, in an area where the new activity is not being implemented.

**Conceptual framework**

This study follows research investigating what factors are associated with sustained impact of development initiatives in food security. Previously USAID’s FANTA II and III initiatives funded a team from Tufts University to conduct a multi-country study of sustainability and exit strategies of twelve Food For Peace (FFP)-supported Development Food Assistance Activities (DFSAs) across four countries (Rogers & Coates, 2015; Coates et al., 2016; Rogers, Sanchez, et al., 2016; Rogers, Wouk, et al., 2016; Rogers et al., 2017). Based on the evidence from these twelve project studies, a conceptual framework was developed which identified a set of factors essential for ensuring the sustainability of service provision, beneficiary demand, and enduring benefits after donor funding ends.

Figure 1 shows the conceptual framework described above. Sustaining impacts of development initiatives requires continued provision of services to the beneficiary population, continued use of these services, and continued practice of behaviors targeted by the program. This is made possible through maintaining service provisioning systems, maintaining beneficiary access to these services, and when demand for the services continues to remain high in the zone of intervention. For these conditions to be met, there must be sustained access to financial and material resources, continued capacity to provide services and maintain targeted behaviors, continued motivation among both CBWs and other community members, and maintenance of linkages to external organizations and groups. These linkages can provide continued supervision and training, contributing to capacity of service providers, as well as resources and inputs and, in the case where linkage implies employment, a wage or salary that offers motivation for continued service provision. In addition, the exit strategy should be designed to provide gradual handover of program responsibilities to the communities being served.

*Figure 1: Conceptual Framework*



*Note: Adapted from Coates et al., 2016; Rogers & Coates, 2015.*

The conceptual framework provided a starting point to evaluate the factors contributing to the sustainability of CBW activities in Kaya commune. This framework also emphasizes how external factors can influence sustained impact, which is important given that shocks and stresses related to armed group violence and insurgency are becoming increasingly relevant to everyday life in Kaya commune, along with large swaths of northern and eastern Burkina Faso (ACLED, 2020). Other external shocks affecting these communities include climatic shocks such as floods, droughts, and soil erosion, agricultural shocks such as crop pests, crop diseases, livestock diseases, and weeds, and economic shocks including the Covid-19 pandemic and rising costs of food commodities and agricultural inputs. This trend reflects the situation in a growing number of developing countries, wherein conflict is considered a key factor alongside climate and economic shocks contributing to surges in food insecurity at global, national, and local scales (FSIN, 2020; FAO et al., 2020). The need to understand how development initiatives not only generate sustained results but build resilient mechanisms of service delivery in the face of shocks and stresses has therefore become critical.

## **MATERIALS AND METHODS**

The goal of this study was to assess the extent to which CBW service providers trained by the ViM Program in Kaya commune continue fulfilling their roles and implementing the activities post-project. Data were collected by means of a targeted survey conducted among the four categories of ViM-trained CBWs. Questions across the four modules were similar. The first section was for giving consent to participate and collecting basic demographic information. The second section included questions on activities performed during ViM, time consecrated to the service provider role during ViM and currently, which activities have continued to the present, which activities have been discontinued, and reasons for continuing or discontinuing a specific activity. The third section of the survey asked respondents to rate their ability to support themselves presently from the service provider activities, the extent to which the community members continue using their services, and how they feel their work is going. The fourth section included questions on employment, remuneration, linkages with government agencies, NGOs, or other entities, and integration into community or government structures.

### ***Sampling***

The sample for each of the four categories of service providers was drawn from lists provided by the ACDI/VOCA administrative team in Ouagadougou. The sample frame was drawn from only Kaya commune. The total number of each category of service providers trained by ViM in Kaya is as follows: 599 mother leader animators (MLAs), 39 volunteer village vaccinators (VVs), 140 community-based health agents (CBHAs), and 424 producer organization local trainers (producer leaders, or PLs). It was determined that 150 would be an adequate sample size for calculating a ten percentage-point difference in indicators of interest (that is, difference between the indicator at the time of exit and at the time of the follow-up survey) at a mean of 50%; therefore 150 service providers were randomly selected from the list of MLAs and PLs. Since there were fewer than 150 VVs and CBHAs, the entire list for these two service provider categories was included in the sample.

### ***Enumerator training and data collection***

Six enumerators were hired and trained to implement the service providers survey, all of whom had already participated in the other rounds of quantitative data collection for the ViMPlus

Sustainability Study. The survey modules were administered on tablets using the Open Data Kit (ODK) application. After completing a two-day training session, enumerators conducted a test of the survey instrument with Tufts University staff present for supervision. Survey data were collected in the field in March 2022. Data were uploaded to the ONA server at the end of each day or when the tablets were in the city of Kaya with a sufficient internet connection. Data were spot-checked and verified by the enumerator supervisors and by project consultants on the ground in Kaya. When phone numbers were available, the enumerators contacted the respondents by phone beforehand to inform them of the study and obtain their initial consent to participate. For those respondents for whom phone numbers were not available, the enumerator team travelled to the respondent's village of residence and identified and located the respondents with the help of the *Conseil villageois de développement* (Village Development Council, CVD).

### ***Data processing and analysis***

Once data collection was complete, the individual modules were downloaded and read into the Stata 17 software program, cleaned, and processed for analysis. After removing duplicates and cases of missing data, there were a total of 127 CBHAs, 149 MLAs, 150 PLs, and 31 VVVs. During data collection in the field, some respondents could not be located, because they had either died, moved out of the region, or were otherwise not contactable by the survey team. These respondents were replaced in the MLA and PL groups, but replacement was not possible for VVVs and CBHAs, because the entire list of service providers trained in Kaya commune was already part of the sample.

The first step of data analysis involved calculating summary statistics for the major survey variables described in the sections above. Several composite variables were also calculated, including percent of respondents indicating a given reason for continuing or discontinuing an activity for any of the activities in which they participated, total number of activities implemented during ViM, at the time of the survey, and projected over the next year, and frequency variables for hours per month spent on a given activity in 2018 (at the end of ViM) and in 2022 (at the time of the follow-up survey). Note that disaggregated graphs can be found in the appendix to this report detailing reported reasons for continuing individual activities for the top five activities in each respective service provider category. The appendix also contains graphs showing reasons for abandoning individual activities for certain activities that experienced a significant decline in provision between endline and follow-up. Graphical visualizations of these variables were developed before moving to the next phase of the analysis. The next step of the analysis involved multivariate analysis to examine the impact of factors such as remuneration, linkages to an external agency or organization, and access to other resources on decisions to continue specific activities, or on the total number of activities continued from ViM closure to the present.

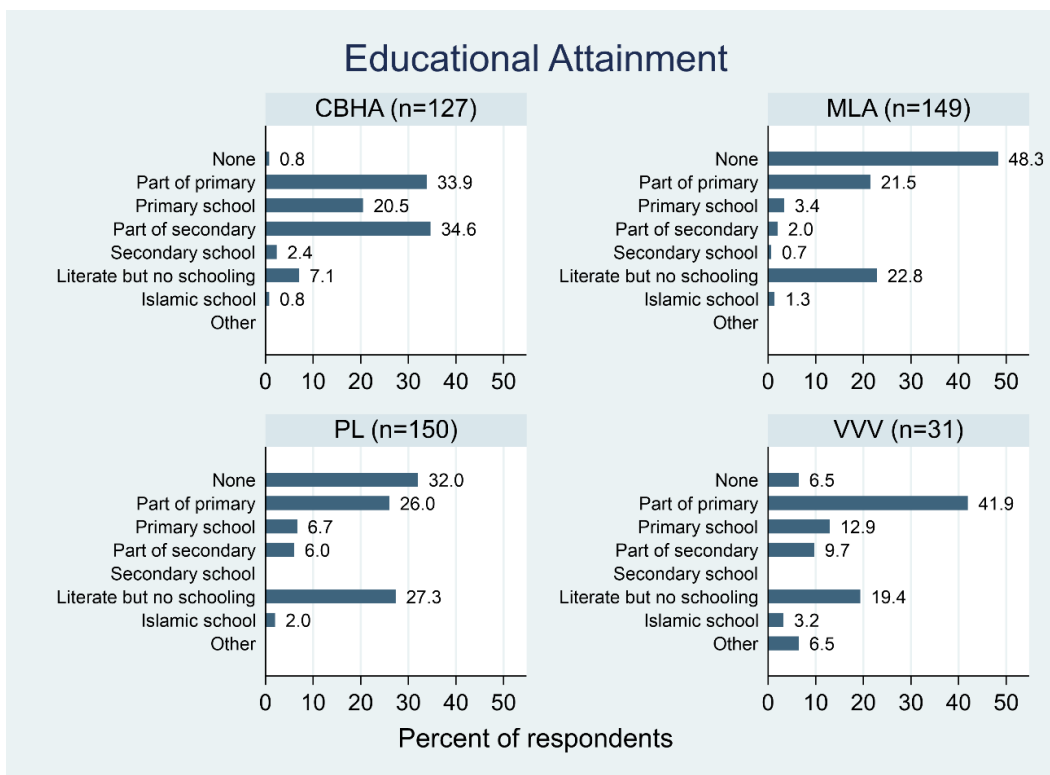
## **RESULTS**

### ***Basic Demographic Information***

Basic demographic information was collected for all respondents regarding educational attainment, age, and gender. These results are presented for all four service provider categories in Figure 2 (education), Figure 3 (age), and Figure 4 (gender). There are some key differences in educational attainment across CBW categories: almost half of MLAs and almost one third of PLs reported having no formal schooling, while the majority of VVVs and CBHAs reported at least some primary schooling. The number of CBWs of any type trained by ViM in Kaya who have

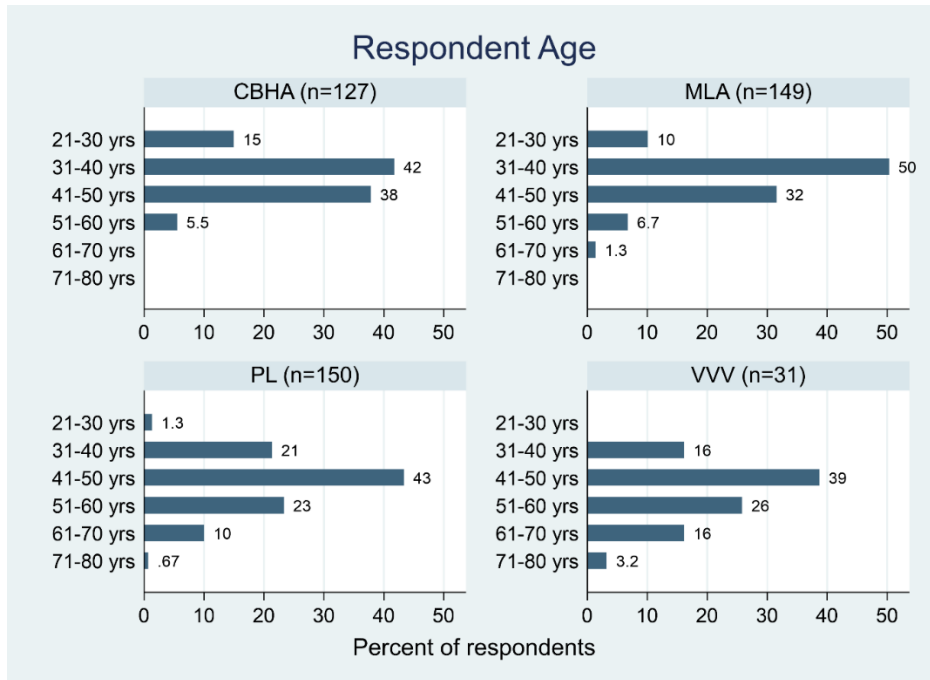
completed secondary school is minimal; however, the different CBW categories exhibited varying rates of primary school attendance and adult literacy even in the absence of formal schooling. MLAs had the highest proportion with no education, while CBHAs generally had higher levels of education than other groups, including a greater proportion with at least some secondary schooling. Between 20 and 30 percent of PLs and MLAs reported being literate with no formal schooling, suggesting attendance in adult literacy programs.

Figure 2: Educational attainment of ViM-trained service providers in Kaya commune



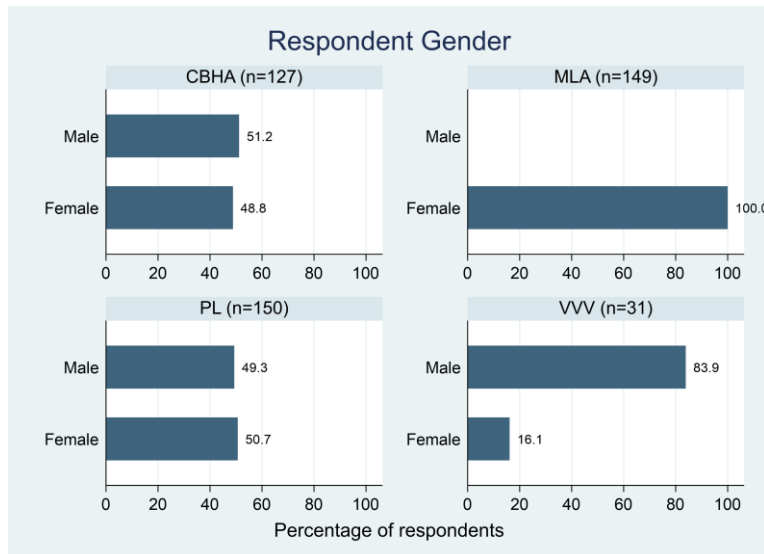
The majority of service providers in all four categories are between 30 and 50 years of age. However, a minority of MLAs and CBHAs are between 20–30-years-old, while the PLs and VVVs have an older average age, with almost nobody in the 20–30-year-old range and a sizable group over age 50. These differences in age may reveal insights into who is typically viewed as a community leader in different activity sectors, as preliminary results from qualitative research suggest that older, more established farmers are more likely to be seen as having the required knowledge and experience to serve as agricultural CBWs. The age disparity in PLs and VVVs could potentially have an impact on the quality and sustainability of both demand for and provision of agricultural services post-ViM. This is especially pertinent for PLs, as they were chosen by the members of the producer organizations themselves in conjunction with the ViM program LIPs.

Figure 3: Service provider age range



All of the MLAs were female, but there was an almost equal proportion of males and females in the CBHA category. The majority of VVVs were male, raising questions of whether and to what degree gender impacts access to livestock production resources in Kaya, as well as access to the social and economic capital needed to become a vaccine services provider. Further investigations are needed to shed light on these issues. The producer leaders, on the other hand, were almost equally divided between men and women. An equal proportion of men and women were chosen for the PL role, which is indicative of the ViM program objective to promote gender equality in agriculture, working with all-male, all-female, as well as mixed gender POs.

Figure 4: Service provider gender



### *Activities performed during and after ViM*

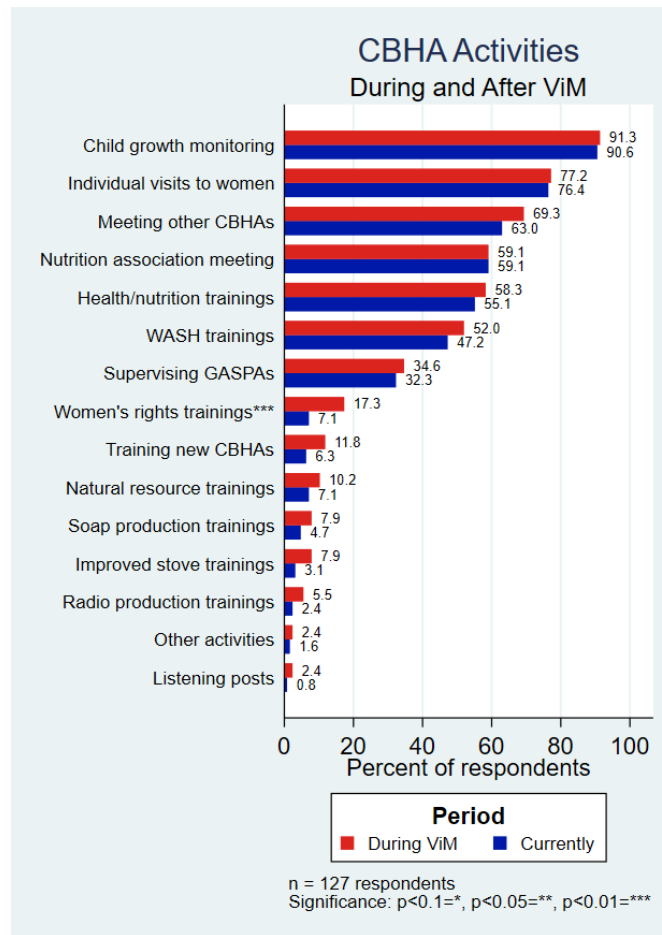
Each of the four CBW categories was trained to provide a specific and distinct list of services, represented by the activities shown in Figure 5 for CBHAs,

Figure 6 for MLAs, Figure 7 for PLs, and Figure 8 for VVVs, respectively. There is a significant degree of overlap in the activities performed by MLAs and CBHAs. Figures 5-8 show the percentage of respondents who reported participating in a given activity at the time of ViM closeout in 2018. However, the CBWs were not all trained or “onboarded” at the same time during ViM implementation. Therefore, some of the surveyed service providers may have been providing services for several years before the end of the ViM program, while others may have been trained and onboarded shortly before ViM exit. Regardless of when they were integrated into the program, all respondents reported their provision of services during the final twelve months leading up to ViM exit in 2018. The second bar in the graphs shows the percentage of respondents performing the same activity at the time of the survey in March 2022, more than three years after ViM exit. The CBWs were also asked if they plan to continue providing the service or performing the activity over the next twelve-month period, from March 2022 to March 2023; in all instances, there were no statistically significant differences between reported implementation at follow-up in 2022 and projected implementation over the next year. The vast majority of service providers who are currently performing a given activity plan to continue doing so for at least the next year.

### *Community-Based Health Agents*

Community-based health agents were asked about fourteen specific activities plus “other” activities. Of the predefined activities, seven were widely implemented by at least one third of the 127 respondents: almost all did child growth monitoring and measurements, and the majority provided home visits to women to provide nutritional advice, meeting with other CBHAs, holding meetings with community nutrition associations, giving water, sanitation, and hygiene (WASH) trainings, and over a third were supervising infant and young child feeding (IYCF) learning and monitoring groups. Most of CBHAs who reported participating in one or more of these activities at ViM closeout in 2018 report that are still participating in the activity currently, with only small, statistically non-significant drops in some of the activities (e.g., holding meetings with other CBHAs, participating in health and nutrition trainings for women and children, holding WASH trainings, etc.). The only activity exhibiting a significant drop in participation between ViM exit and March 2022 was women’s rights or gender sensitization trainings.

Figure 5: Activities undertaken by community-based health agents at ViM exit and follow-up



Other activities had very low implementation rates even at the end of the ViM Program, including training new CBHAs, which is a key element of ensuring long-term sustainability of the CBW model. For these activities, low rates of service provision at the end of ViM were matched by equally low rates of participation at follow-up in 2022. One indicator that has implications for sustainability in the long term is the low percentage of CBHAs who report training new CBHAs, both at endline (11.8% of the sample) and at follow-up (6.3% of the sample). The survey instrument did not include questions about impeding factors that prevented or discouraged the CBHAs from training new agents. However, this could be due to fear of competition for resources if new CBHAs were to be trained, especially since the CBHAs are paid employees of the government healthcare sector. Note that a gender-disaggregated version of Figure 5 can be found in the appendix. This graph shows that while the rate of WASH training provision dropped among male CBHAs between endline and follow-up, it remained unchanged among female CBHAs. Other activities exhibited no significant differences between male and female CBHAs, or the differences were very small in magnitude.

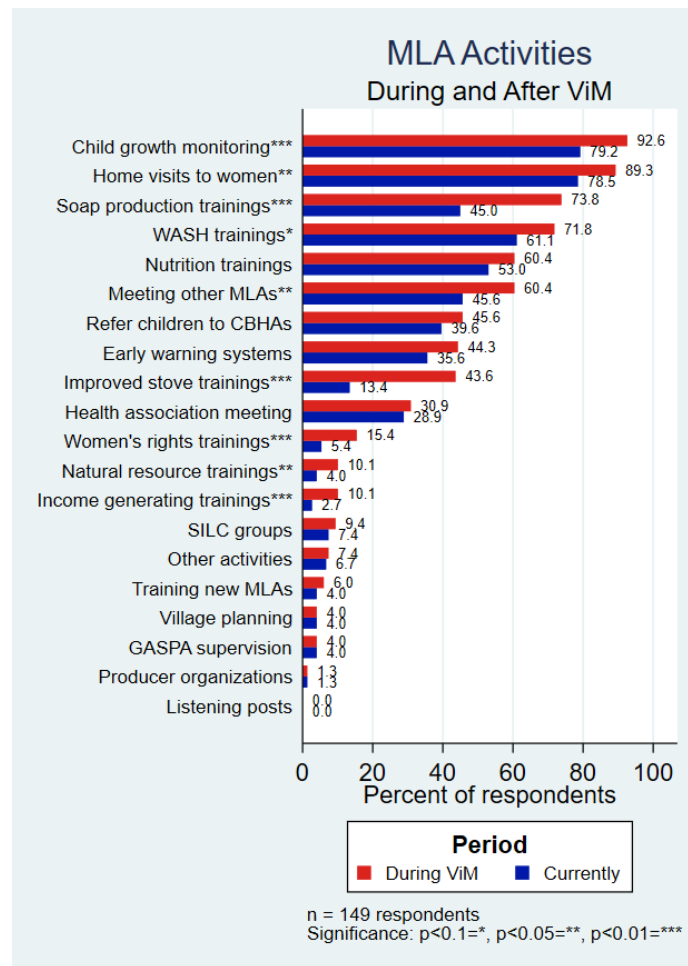
### Mother Leader Animators

Mother Leader Animators were asked about their participation in a list of 21 activities, with ten of the activities implemented by at least 30 percent of the surveyed MLAs at ViM exit in 2018. These activities included child growth monitoring and measurements which were performed by almost

all the MLAs during ViM (as was the case for CBHAs), home visits to women to provide nutritional advice and counsel, soap production trainings, WASH trainings, nutrition and health trainings for women and children, meeting with other MLAs, referring malnourished children to CBHAs or local government-owned clinics for treatment, participating in village early warning systems, improved stove production trainings, and conducting community health association meetings. The sharpest declines appear to be meeting with other MLAs and training in soap and stove production (possibly because these trainings require materials and resources that were previously supplied by ViM). As with CBHAs, the pattern of continuing those activities that were widely undertaken during ViM is seen here, but the MLAs show greater decline.

Part of the sustainability strategy included receiving support in the form of capacity strengthening and resources from the Burkina Faso Ministry of Women, National Solidarity, and Family/Ministry for Promotion of Women and Gender (MFSNF/MPFG). The fact that these activities ceased due to lack of resources is worrisome, because this suggests that the expected support from the MFSNF/MPFG did not materialize or was insufficient to enable the MLAs to continue these training activities. This lack of support is confirmed by results prevented in a subsequent section of this report, showing the rate of self-reported access to outside resources and linkages with external organizations, government entities, and the private sector.

Figure 6: Activities undertaken by mother leader animators at ViM exit and follow-up



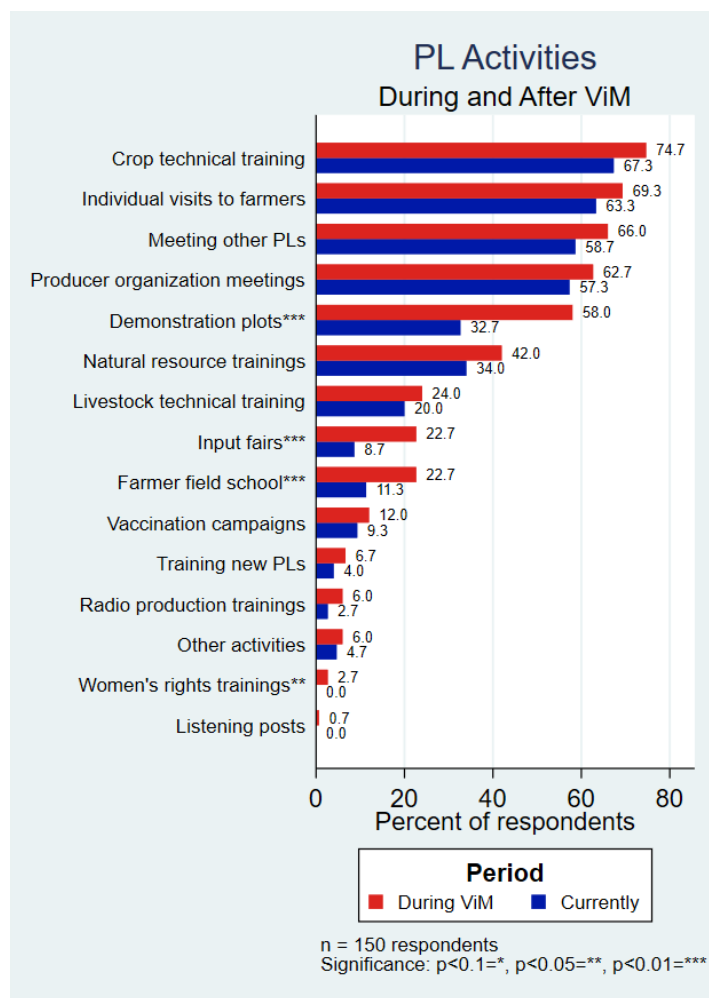


There were statistically significant drops in service provision between ViM endline and follow-up for nine different activities, in contrast to the CBHAs, for whom the only statistically significant drop in service provision from EL to FU was women’s rights trainings. Other activities had a very low rate of participation even at ViM closeout in 2018, which precludes discussions of post-project sustainability for these activities. As with the CBHAs, there were low rates of training new MLAs (6.0% of the sample at endline and 4.0% of the sample at follow-up in March 2023).

*Producer Leaders*

Producer leaders were asked about 14 separate activities. Several of these services were provided by a significant portion of PLs at both endline and follow-up. The same pattern is observed as with CBHAs and MLAs: activities widely performed during ViM continue (slightly reduced) at follow up; rarely performed activities continue to be rarely performed. However, provision of demonstration plots, FFS programs, and input fairs dropped significantly between endline and follow-up. ViM promoted the organization of input fairs during the program, with the expectation that farmers would establish relationships with the vendors that would persist without the need for input fairs after ViM exit.

*Figure 7: Activities undertaken by producer organization leaders at ViM exit and follow-up*

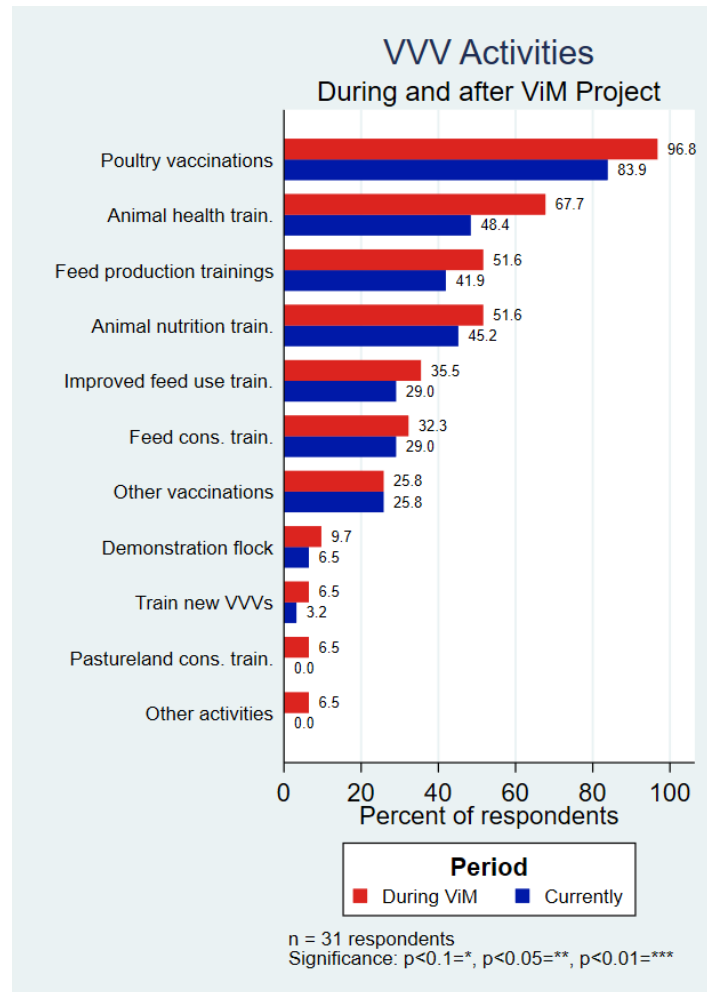


As with other CBW categories, low rates of training new PLs suggest a risk for long-term sustainability of the PL role in the study area. Note that a gender-disaggregated version of Figure 7 can be found in the appendix. This graph shows that while the rate of provision of farmer field schools (FFS) declined significantly from endline to follow-up among male PLs, the rate of FFS provision among female PLs remained significantly higher even at follow-up.

*Volunteer Village Vaccinators*

Out of the pool of 31 ViM-trained village vaccinators in Kaya surveyed during this study, seven of the listed services were provided by at least 25 percent of the VVVs. Although participation did drop for some activities, none of these changes was statistically significant (possibly due to small sample size). Other activities such as demonstration flocks and pastureland conservation trainings were never widely provided by the VVVs, even at ViM endline. As with the other CBWs, the frequency of providing services at exit was reflected in the frequency at follow up. Once again, training of new VVVs was not widely implemented during ViM and fell by half, to 3.5% (one individual) by the time of the follow-up survey.

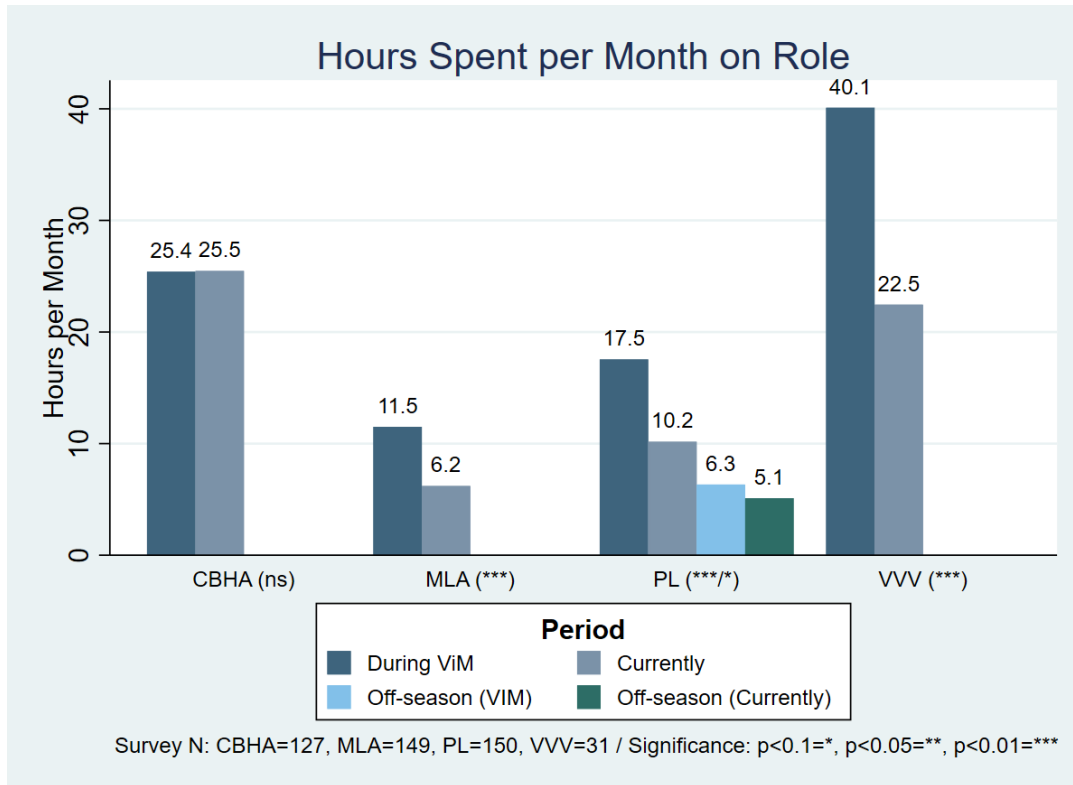
*Figure 8: Activities undertaken by volunteer village vaccinators at ViM exit and follow-up*



### Time Spent and Frequency of Implementation of Activities

Respondents were asked to report the amount of time they dedicate to various activities. First, they were asked to describe the amount of time they spent overall on activities related to their service provider role, both during the last year of ViM Program implementation (2018) as well as during the twelve-month period preceding the follow-up survey.

Figure 9: Hours spent per month on activities related to service provider roles

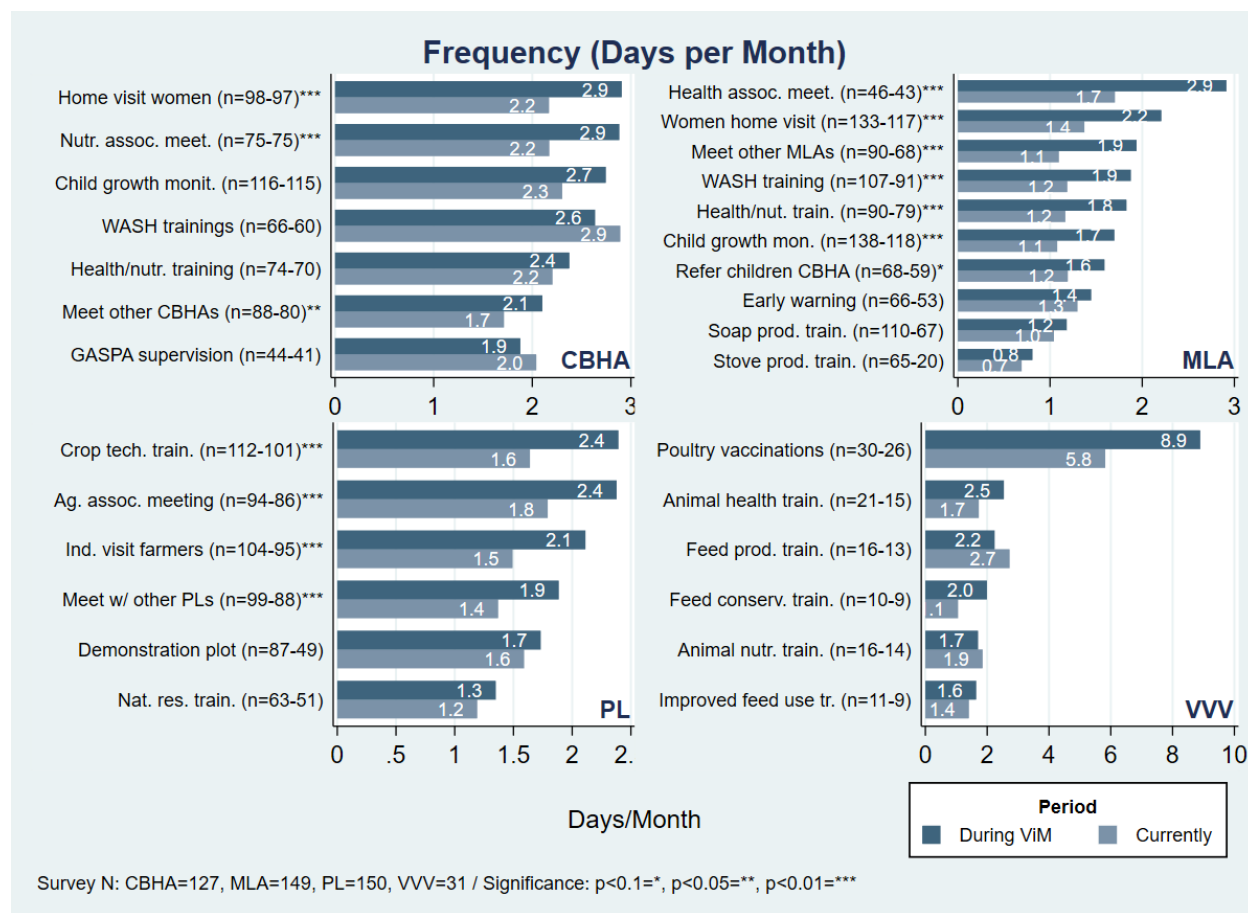


Average total hours per month spent on activities related to the service provider role did not change for CBHAs, likely because they are paid for their work by the Burkina Faso Ministry of Public Health and Hygiene. MLAs dedicated the lowest overall amount of time to activities related to their role at both endline and follow-up. This makes sense given the gendered division of household labor which is common in the ViM zone of intervention, and the fact that the majority of the MLAs surveyed were of childbearing age. Since they likely have significant household and child-rearing responsibilities and they are not paid for their work as MLAs, the lower amount of time dedicated to their role relative to the other CBW categories is to be expected. For PLs, time spent on activities dropped significantly both during the planting season and the off-season. VVVs spent the greatest amount of time on activities overall during the last year of ViM, at 40.1 hours per month but dropped by almost half at follow up. The higher amount of time dedicated the VVVs dedicated to their role relative to other CBW categories is likely due to the remunerative nature of their work.

In addition to the question about overall time spent on activities related to their roles, survey respondents were also asked on how many days per month on average they performed each of their reported activities. Results for individual activities are presented in Figure 10. Note that only the

activities with the highest rate of provision for each respective service provider category are presented in the graph.

Figure 10: Average days per month spent on service provider activities



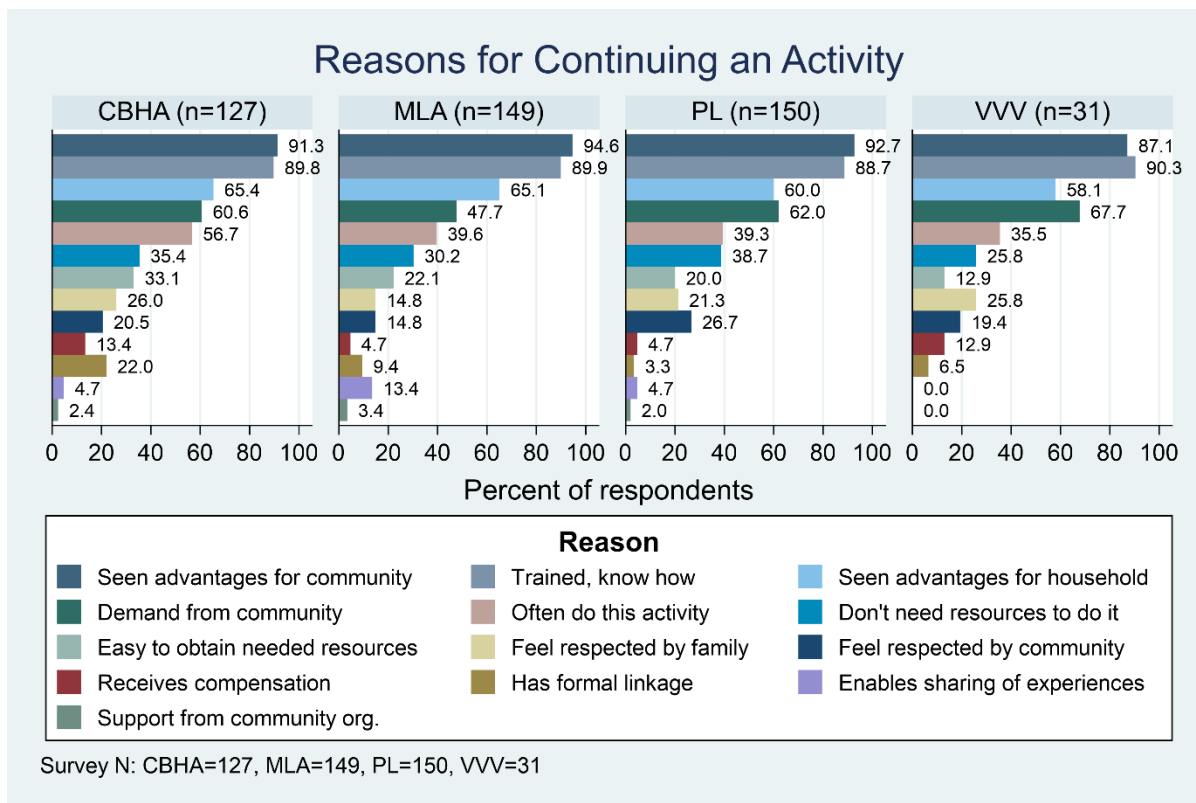
In Figure 10 above, the numbers of respondents for each activity are presented in parenthesis following the activity name, with the number of participants at ViM endline coming first, followed by the number of participants at the time of the follow up survey. The number of days per month any amount of time was dedicated to an activity dropped for almost all activities (significantly for several activities as shown). A very few activities showed an increase between endline and follow up, mainly among CBHAs and the VVVs, though none of these changes were statistically significant. For the CBHAs, individual home visits to women, hosting nutrition association meetings, and meeting other CBHAs fell significantly. For the MLAs, frequency of implementation of almost all activities dropped significantly. For PLs, frequency of service provision dropped significantly for crop technical trainings, agricultural association meetings, visits to individual farmers, and meeting with other PLs. For the VVVs, none of the activities dropped significantly, although participation in poultry vaccinations dropped from 8.9 days per month to 5.8 days per month (recall the small sample size for this group).

### Reasons for Continuing Activities

Respondents were asked a series of follow-up questions for each individual activity they reported implementing at any point during the ViM program period. If the respondent indicated that they

were still implementing a given activity at the time of the follow-up survey, they were asked why they continued to do so. Responses to these individual questions were combined into a composite variable that indicates whether the respondent selected a given response for one or more of the activities (results shown in Figure 11).

Figure 11: Reasons for continuing at least one activity from 2018 to 2022



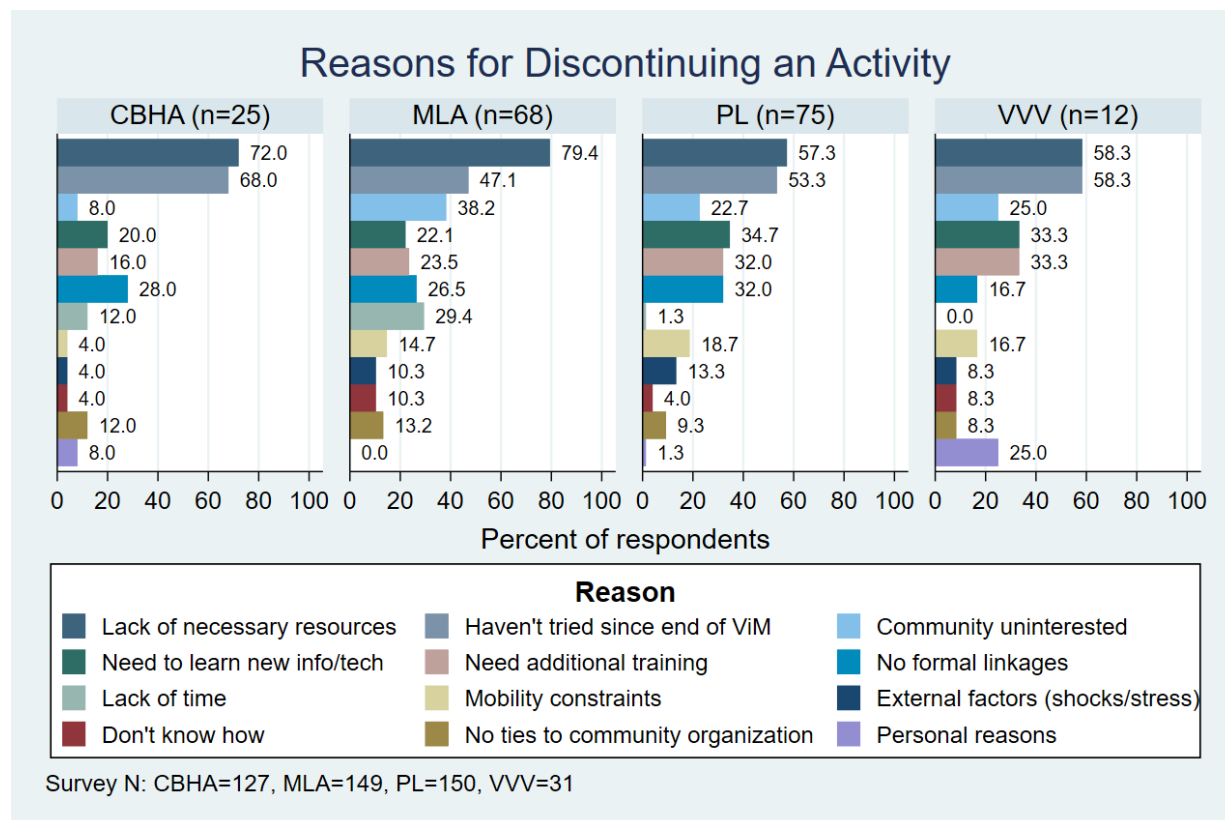
CBHAs were much more likely to report having a formal linkage as a motivator than the other CBWs, with PLs being least likely. CBHAs and VVVs were also more likely to cite compensation as a reason for continuing an activity, although compensation was cited by a small percentage in any provider category. Across all CBW categories, seeing advantages for both the community and the household, knowing how to perform an activity, and demand from the community were chosen by a significant portion of respondents. Fewer than half of respondents in all categories indicated that they were motivated by either not needing resources or finding it easy to obtain them. As mentioned in the methods section, individual activity-specific graphs for the most commonly performed activities can be found in the appendix to this report, as well as gender-disaggregated graphs for CBHAs and PLs.

### Reasons for Discontinuing Activities

Respondents who indicated that they participated in a given activity at the end of the ViM Program in 2018, but had since ceased conducting this activity, were asked a series of follow-up questions about their reasons for abandoning the activity. As in the section above, responses to these questions for each activity that was abandoned were aggregated into a composite variable that shows the percentage of respondents that selected a given response for at least one activity that they abandoned. Percentages are reported as percent of those who discontinued any activity. The

most commonly chosen reason for discontinuing an activity among those respondents who discontinued at least one activity was lack of necessary resources; more than half reported not trying to provide the service since the end of ViM.

Figure 12: Reasons for discontinuing at least one activity from 2018 to 2022



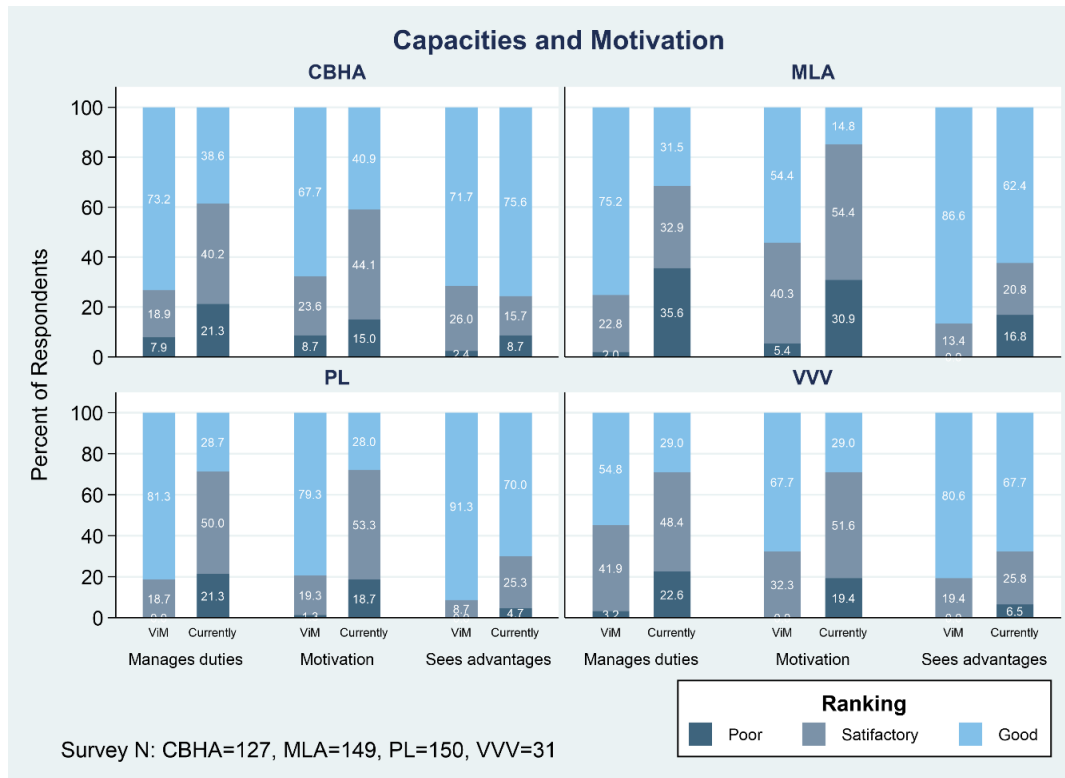
Lack of community interest was cited by a minority of respondents who stopped at least one activity, with exceptionally low numbers of CBHAs indicating no community interest; however, almost 40 percent of MLAs who stopped an activity cited lack of community interest as a reason. Lack of time was reported as a reason by almost a third of MLAs and by some CBHAs, but almost no PLs and VVVs. Factors such as insecurity, labor shortages, and lack of remuneration were rarely chosen by respondents. Interestingly, although qualitative research conducted by the study team in 2020 suggested that many VVVs were impeded by large vaccine vials that contained more doses than they could practically use, only one of the 31 VVV respondents indicated this as a reason for stopping vaccinations. As mentioned in the methods section, individual activity-specific graphs for the most commonly discontinued activities can be found in the appendix to this report, as well as gender-disaggregated graphs for CBHAs and PLs. Interestingly, over 70 percent of MLAs who discontinued soap production and improved stove production trainings cited lack of necessary resources as the chief limiting factor, while a majority of those who stopped providing women’s rights trainings mentioned lack of an external linkage as the chief limiting factor.

### Service Provider Evaluation of Working Conditions

In the next section of the survey, respondents were asked to rate their experiences working as CBWs and perceptions of their roles in various ways, rating each aspect of their work as either poor, satisfactory, or good. Figure 13 shows responses to the following questions: 1) How would

you rate your ability to manage all the duties and responsibilities associated with your service provider role? 2) How would you rate your level of motivation to serve or work as a service provider in your role? 3) How would you rate the benefits or advantages you have enjoyed from being a service provider? Respondents were asked to answer each of these questions in terms of how they felt at follow-up as well as how they recalled feeling at endline.

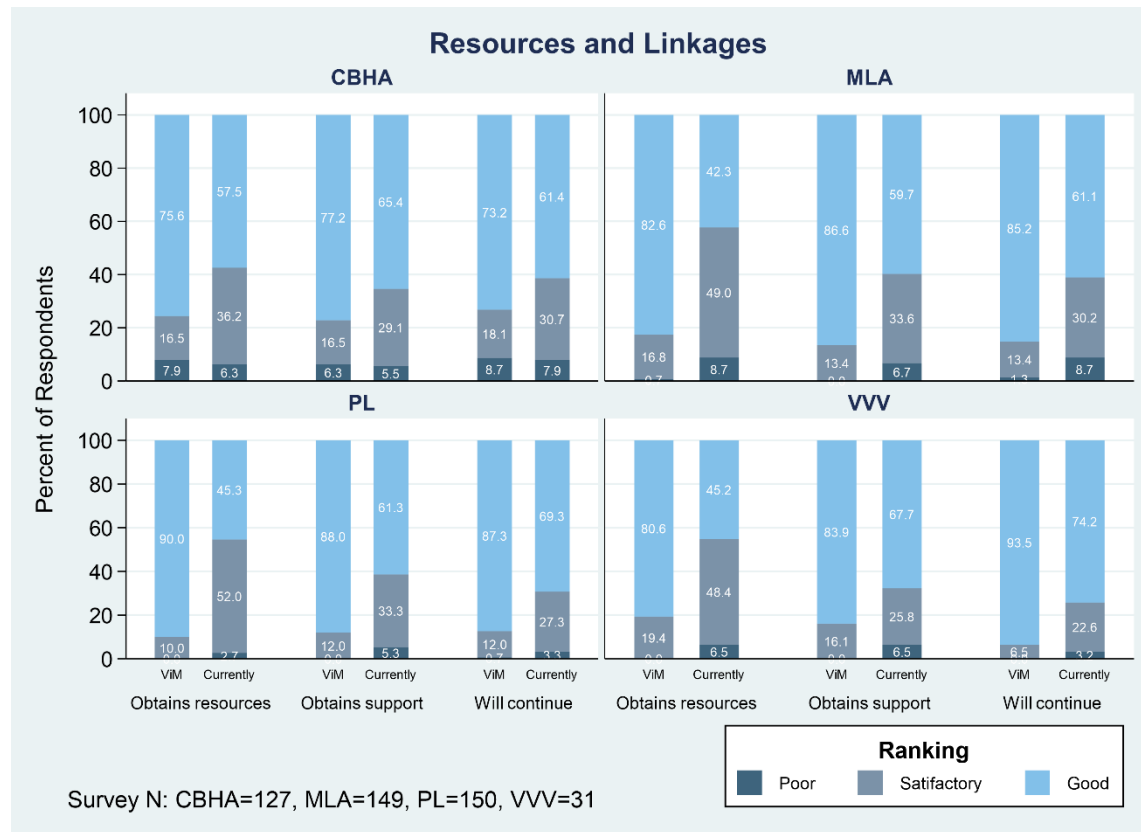
Figure 13: Service provider evaluation of capacities and motivation



All types of CBWs reported significant drops in their ability to manage their responsibilities as CBWs and in their level of motivation. However, they reported similar levels of ability to see the advantages of their CBW role between endline and follow-up.

The next three questions asked as part of this section were as follows: 4) How would you rate your ability to obtain the resources you need to fulfill your role as a service provider? 5) How would you rate your ability to obtain the support you need to do your work? 6) How would you rate the likelihood that you will continue fulfilling your service provider role into the future? Figure 14 provides an overview of responses.

Figure 14: Service provider evaluation of resources and linkages



The service providers were overall optimistic about their ability to obtain necessary resources at ViM endline, although prospects for obtaining resources were less positive at follow-up. In terms of obtaining the support needed to do their jobs, CBHAs were optimistic during both time periods, as were VVVs and PLs, although fewer respondents answered “good” for this question at follow-up. As with previous variables in this section, the MLAs were the least optimistic of the CBW categories. While the overwhelming majority of CBWs felt that they would continue their roles at ViM endline in 2018, this percentage dropped somewhat between endline and follow-up among all CBWs. From these results, it seems that a majority of service providers remain positive about various aspects of their service provider roles, despite a decrease in the percentage answering “good” to all three questions, with the largest decrease observed in MLAs. The decrease observed among MLAs could be due to multiple factors, including significant child-rearing and household responsibilities, the lack of remuneration, or a lack of institutional support from the MFSNF/MPFG.

**Employment, Remuneration, and Sustainability Strategies**

The following questions of the survey dealt with sustainability of activities, access to remuneration, formal employment, linkages with government, NGOs, and private enterprises, and problems and limitations encountered during the respondents’ work.

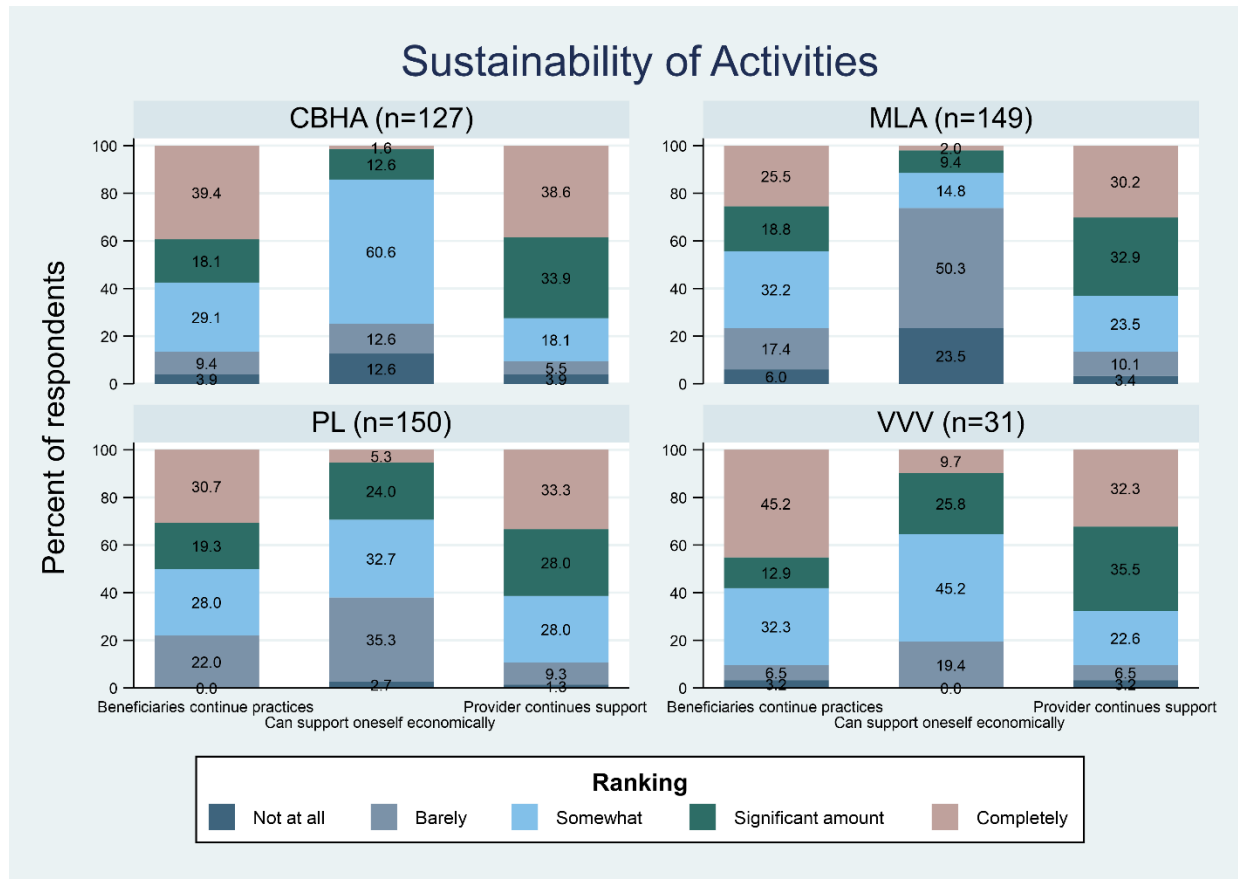
*Sustainability of Activities*

Figure 15 below shows how the respondents rated their perception of the following three questions: 1) To what degree do former ViM beneficiaries continue implementing practices they learned



during the ViM program? 2) To what extent are you able to support yourself economically, specifically through the activities related to your role as a service provider? 3) To what extent do you continue supporting former ViM beneficiaries to help them continue implementing best practices that were encouraged by the ViM program? These questions were asked only at follow up.

Figure 15: Service provider evaluation of the sustainability of their activities



There was modest variation between service provider categories regarding whether the ViM beneficiaries continued implementing practices they learned during the program. VVVs were the most optimistic in this sense, while MLAs and PLs were less optimistic. There was a higher degree of variation between service provider categories regarding ability to support oneself economically in the service provider role, with MLAs being least able to support themselves and CBHAs and VVVs being the most able (reporting at least somewhat able). The PLs had a high rate of variability in their responses to this question, with approximately one third answering “barely”, another third answering “somewhat”, and slightly less than one-third answering “a significant amount” or “completely.” This suggests that a fee-for-service model to remunerate the PLs for their services within the structure of the POs could improve their livelihood sustenance. The VVVs had the highest percentage of respondents out of all four CBW categories who indicated they are completely able to support themselves through their role, likely due to the focus on the fee-for-service model for VVVs.

Across all service provider categories, respondents were divided over whether they continue providing support to community members to help them implement practices. A very small percentage answered, “not at all” or “barely” to this question, while the rest were divided somewhat evenly across “somewhat”, “a significant amount”, and “completely,” with no noticeable difference across provider categories.

Figure 16: Continued solicitation from community members for services

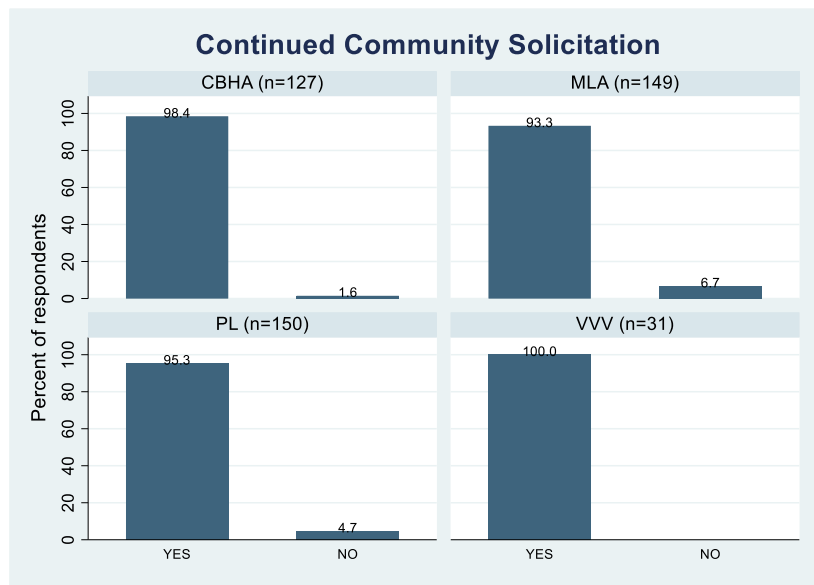
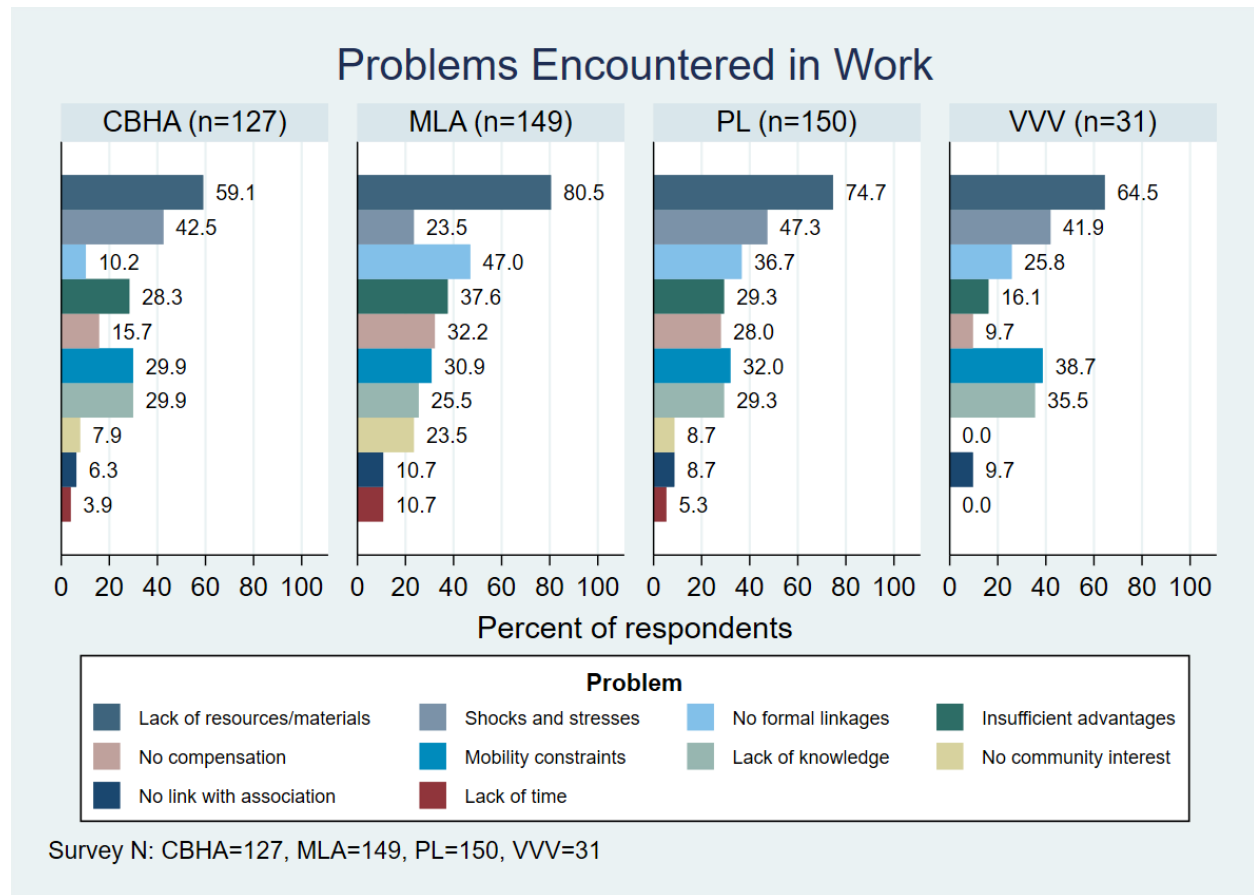


Figure 16 shows that all service providers felt that members of their communities have continued soliciting them for the services they provide. The highest percentage of respondents that felt there was no solicitation for their activities were MLAs, with only 7 percent indicating a lack of community demand. This is aligned with the questions about reasons for continuing individual activities, as respondents commonly indicated in their responses to these questions that continued community demand was an important reason for continuing to provide an activity.

### Problems and Constraints

The next question in this section of the survey dealt with problems and constraints the respondents encountered through the course of their service provider work. The enumerators asked the respondents to list the constraints they encounter in their work instead of reading a list of possible constraints and having them answer affirmatively or negatively for each one. This was done to avoid asking leading questions and to enable the respondents to come up with their own ideas. On average, respondents from all four service provider categories most frequently chose lack of resources (such as funds for implementing training sessions) and materials (such as tools or equipment necessary to conduct specific activities) as a major constraining factor to fulfilling their roles. Shocks and stresses were the second most frequently chosen response for CBHAs, MLAs, and PLs, but not for MLAs – instead, they chose lack of formal linkages the second most frequently. Conversely, lack of formal linkages was only chosen by 10 percent of CBHAs as an important constraining factor, likely because the majority of these CBHAs indicated having been integrated into the CSPS framework upon ViM Program exit in 2018.

Figure 17: Problems service providers reported encountering in their work



Mobility constraints were chosen by anywhere from 30 percent (MLAs) to 39 percent (VVVs) of respondents as a major constraining factor, while lack of knowledge was also indicated at a similar rate (from 26 percent of MLAs to 36 percent of VVVs). Lack of knowledge relates specifically to mastery of content the CBWs were expected to teach as part of trainings and individual follow-up visits, and it was also cited commonly across service provider categories as a reason for discontinuing individual activities. Lack of compensation was a significant problem for MLAs (32 percent) and PLs (28 percent), but not as much so for CBHAs (16 percent) and VVVs (10 percent). Lack of a sense of personal advantages gained from the CBW role was chosen by only 16 percent of VVVs as an important constraint, while 28 percent (CBHAs) to 38 percent (MLAs) of the other three service provider categories felt this was an issue. Almost one quarter of the MLAs felt that the community was not sufficiently interested in their work, while no VVVs felt this way, and 8 and 9 percent of CBHAs and PLs indicated feeling this way, respectively. Other factors such as lack of time, insecurity due to armed conflict and terrorism, opposition from the head of household, lack of impact of work, lack of certification, and lack of transportation were chosen much less frequently. Almost no respondents indicated that they had no problems, except for 6 percent of the CBHAs. Overall, the CBHAs indicated fewer problems and constraints than the other service provider categories, and the MLAs indicated the highest number of problems.

Figure 18: Impact of security, climate, and Covid-19 on various aspects of work

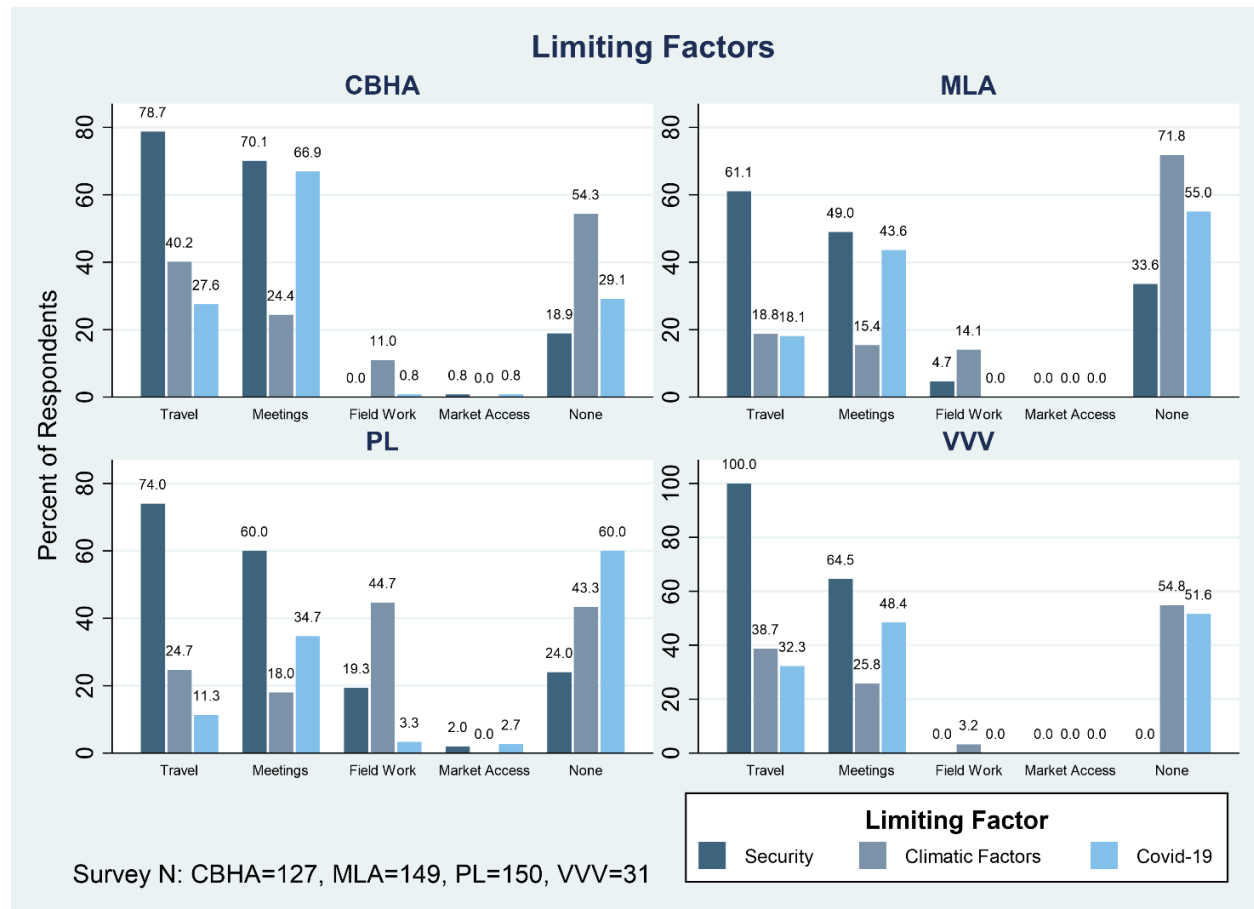


Figure 18 shows that the predominant limiting factors related to security issues, climate, and Covid-19, and how they impacted travel, meetings, field work, and market access. A majority of all service providers indicated that security issues impacted their travel, and a significant percentage (49 percent of MLAs to 70 percent of CBHAs) indicated that security impacted their meetings as well. Climatic factors mainly impacted field work for PLs (45 percent) and to a lesser extent travel (from a low of 19 percent of MLAs to a high of 40 percent of CBHAs) and meetings (from 15 percent of MLAs to 26 percent of VVVs). Covid-19 primarily affected meetings (from a low of 35 percent of PLs to a high of 67 percent of CBHAs), and to a lesser extent travel (a low of only 11 percent of PLs and a high of 32 percent of VVVs). Seventy-one percent of MLAs indicated that climate was not a limiting factor for their activities, and 60 percent of PLs felt that Covid-19 was not a limiting factor.

*Insecurity and Shocks*

The next question addressed problems of insecurity and shocks and how they affected the service providers’ work. This question was asked as a follow-up only to those respondents who indicated “mobility constraints” or “shocks and stresses” to the previous question about general problems encountered in their work. As such, the percentages in the graph below represent total percentages of those who were asked this question, as opposed to the entire sample of service providers in the respective categories.

Figure 19: Impact of various security issues and shocks on work

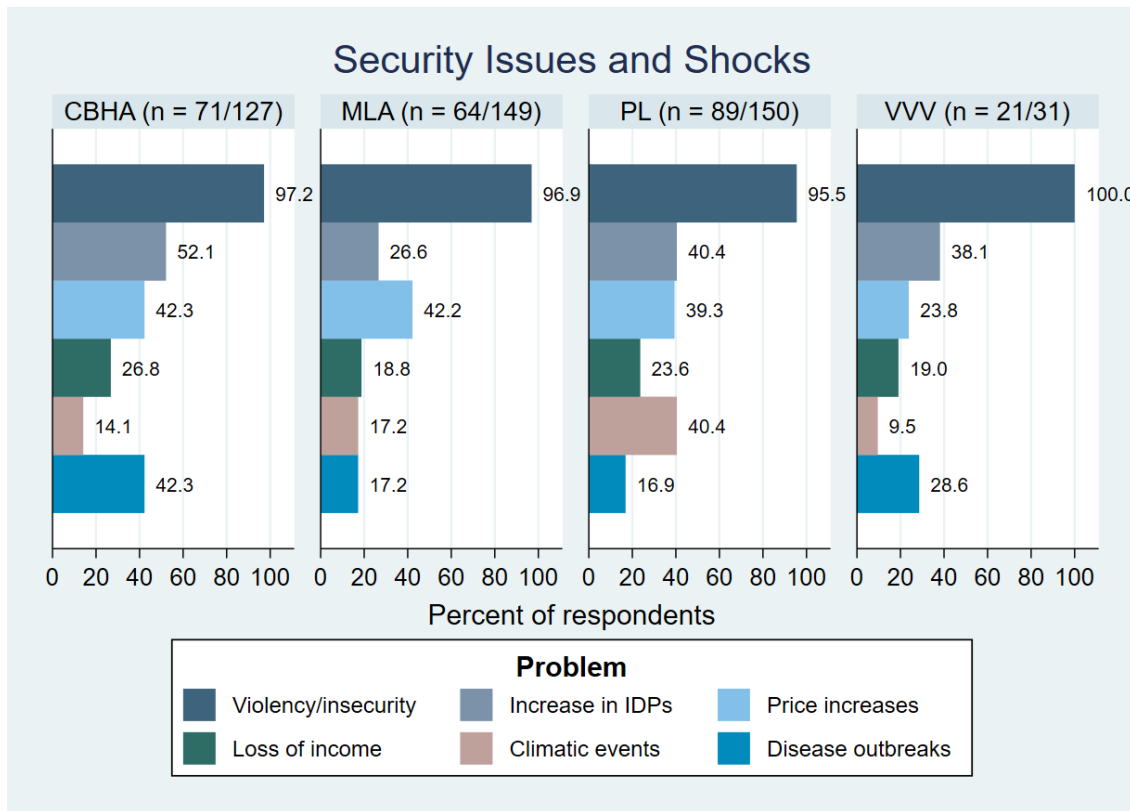


Figure 19 shows that across all categories, violence and insecurity were the highest cause or problem associated with shocks, stresses, and mobility constraints, with almost all respondents indicating that this was an issue. Other responses were chosen at varying rates across the different categories of service providers – for example, 27 percent of MLAs felt that an increase in internally displaced persons (IDPs) in their community was a shock or a stress, compared to 52 percent of CBHAs. Likewise, only 17 percent of MLAs and PLs were worried about disease outbreaks, compared to 29 percent of VVVs and 42 percent of CBHAs. Forty percent of PLs responded that climatic events were a shock or stress factor, with a significantly lower percentage of other CBWs indicating this. Given that PLs work primarily in agriculture, which is highly dependent on rainfall, and favorable climate, it makes sense that they would be more concerned about climate than other CBWs. Almost 40 percent of CBHAs, MLAs, and PLs were concerned about price increases in market commodities, while only 24 percent of VVVs were worried about this. Finally, a similar proportion of respondents reported loss of income as a shock – from 19 percent of MLAs to 27 percent of CBHAs.

### Linkages

Respondents were also asked about their formal linkages to government agencies, international or domestic non-government organizations (NGOs), community organizations, and private enterprises, at follow-up. The graph below shows that while 91 percent of CBHAs indicated a linkage with a government agency (likely the CSPS in their local community), 93 percent of MLAs reported no formal linkages whatsoever. Only 31 percent of PLs reported some type of linkage

(most frequently with a community organization, likely a producer organization<sup>3</sup>, followed by an international NGO or a government agency, a domestic NGO, and finally a private enterprise). Almost one-third of the VVVs reported being linked to a government agency, while 58 percent reported no linkages – slightly better than PLs and MLAs.

Figure 20: Linkages with external entities

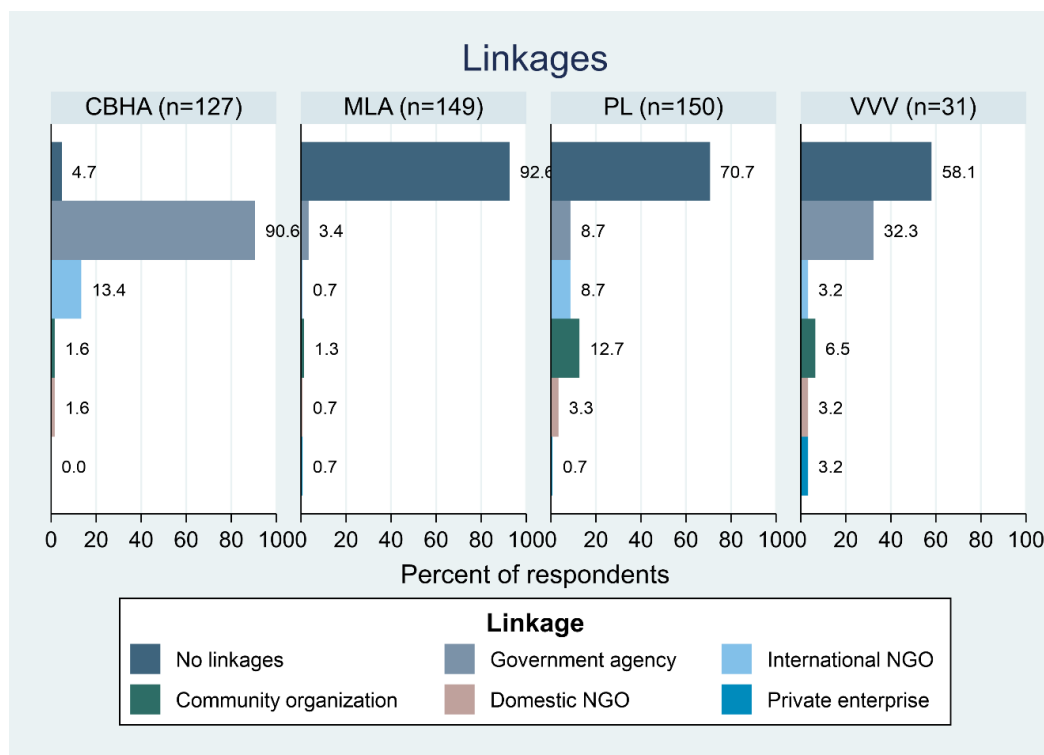


Figure 20 shows that the linkages aspect of the sustainability framework had varying rates of success depending on the service provider category. While the vast majority of CBHAs were successfully linked to a government agency, almost no MLAs were linked to any outside partner, and the same is true for a majority of PLs and VVVs as well. The reasons for this lack of reported linkages merit investigation, as the ViM sustainability strategy included linking all CBW categories with the respective government ministries that could provide them with technical support.

### Formal Employment

The next question asked about formal employment. Once again, there was a large dichotomy between CBHAs and the other service provider categories, with over 90 percent of MLAs, PLs, and VVVs reporting no formal employment, while only 23 percent of CBHAs reported being unemployed. While approximately one-third of the CBHAs reported being employed full-time, almost no service providers from the other categories indicated full-time employment. Forty-five percent of CBHAs are employed part-time, compared to 3 percent of MLAs, 5 percent of PLs, and 7 percent of VVVs.

<sup>3</sup> It is possible that in their response to this survey question, some PLs mistakenly considered their own PO to be a linkage, while others did not. Since all PLs are members of a PO, the PO would not be an external linkage.  
 QUANTITATIVE FINDINGS FROM A TARGETED SURVEY OF COMMUNITY-BASED WORKERS TRAINED BY THE VIM PROGRAM IN KAYA, BURKINA FASO

Figure 21: Employment status of service providers

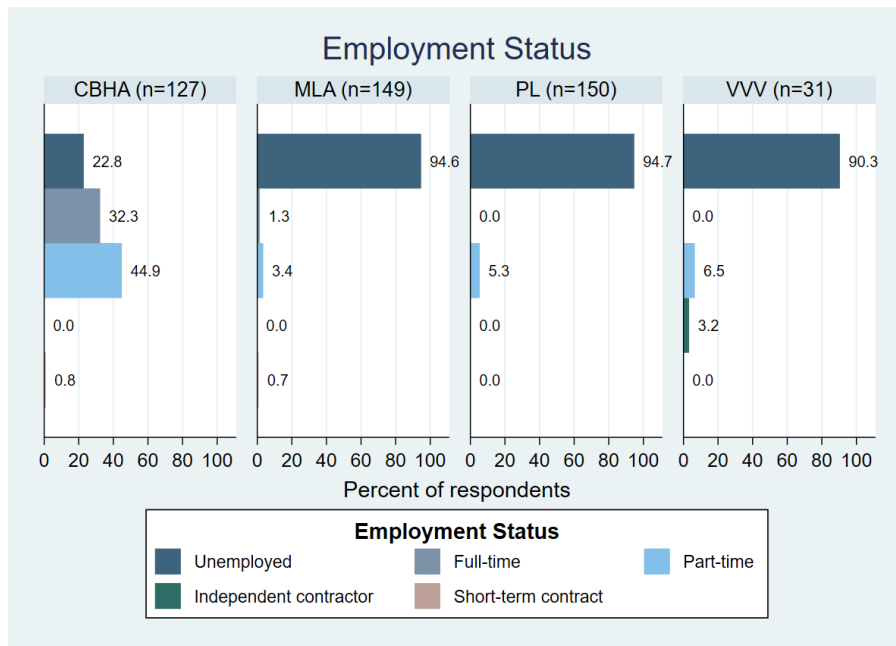


Figure 22 shows the sector of employment, with the same number of unemployed respondents as the graph above. For the CBHAs, 73 percent indicated being employed by a government agency, which was likely the local CSPS, with small percentages indicating employment with an international NGO, a community organization, or a domestic NGO. As indicated above, levels of informal employment were very low for the other three categories of service providers.

Figure 22: Sector of service provider employment

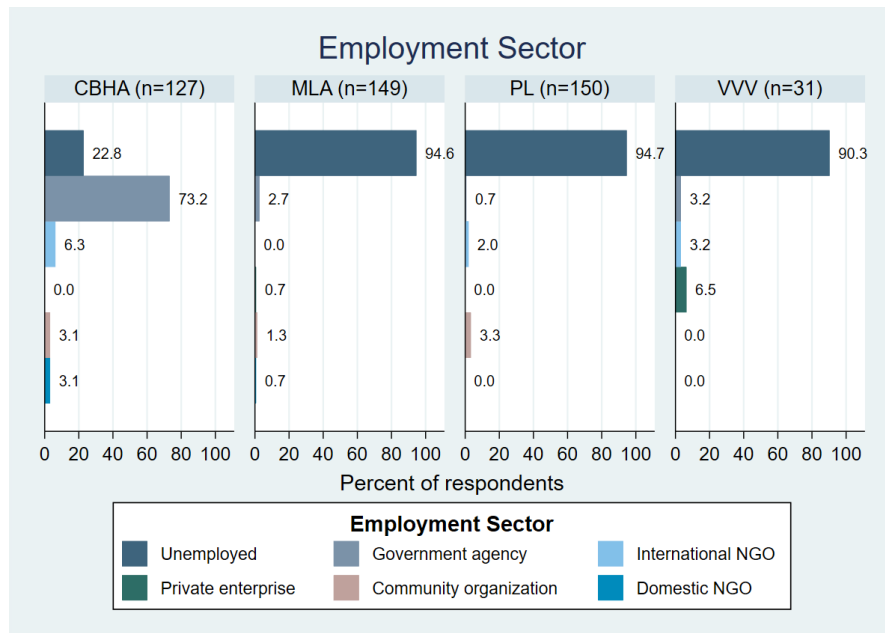
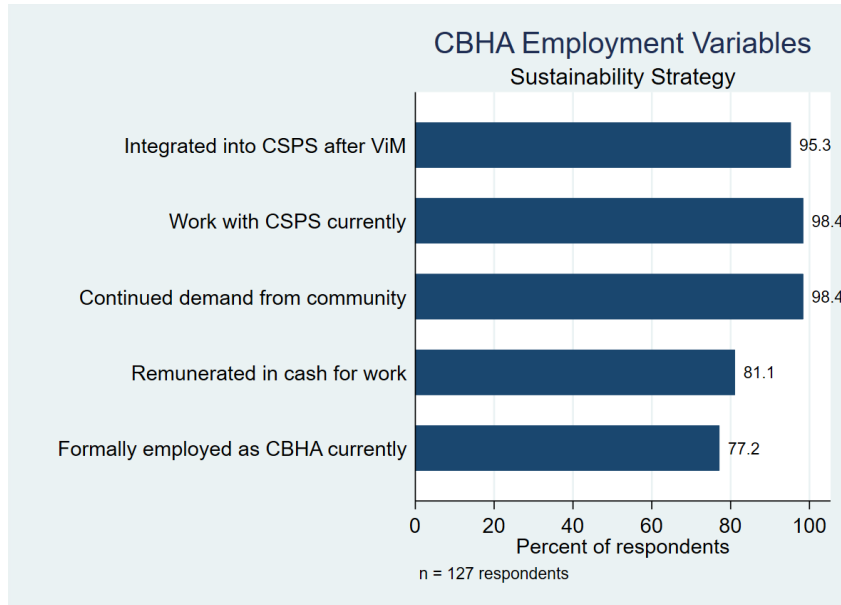


Figure 23 below, showing specific questions asked only to the CBHAs, shows that over 95 percent were integrated into the CSPS system at the end of the ViM Program. This is slightly lower than

the percentage currently reporting being employed, which is 77 percent, but curiously, over 98 percent report working with the CSPS currently, a number even higher than the amount who were initially integrated into the CSPS system. It is possible that some of the CBHAs work with the CSPS on an unpaid basis, or there could be confusion regarding how to characterize the different types of organizations.

Figure 23: Sustainability variables specific to CBHAs

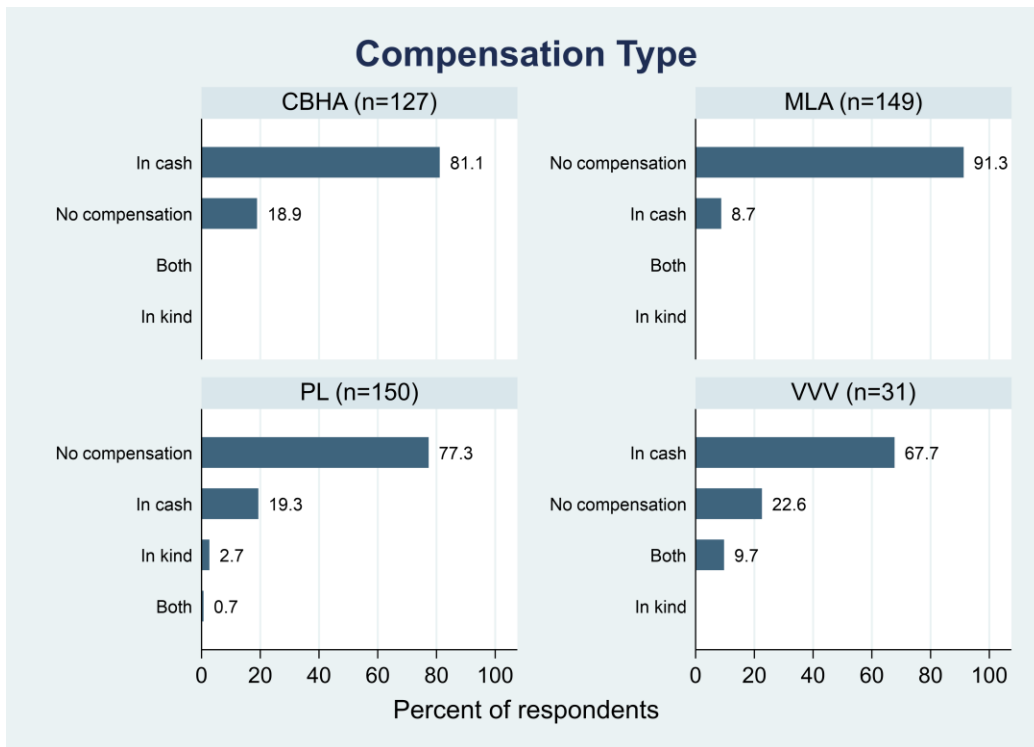


### Compensation

Compensation did not align perfectly with formal employment. For example, while 90 percent of VVVs reported no formal employment, only 23 percent reported no compensation. This is likely due to the VVV individual entrepreneur model, with the majority of respondents not considering their work as formal employment. While 23 percent of CBHAs reported being unemployed, 19 percent reported no compensation – the rest were paid exclusively in cash for their services. Only 9 percent of MLAs and 22 percent of PLs reported some type of compensation for the services they perform.



Figure 24: Nature of compensation given to service providers for their work



*Regression analysis – factors that influence continuing activities*

Regression analyses were conducted to examine the statistical association between sustainability and various factors from the theoretical framework of sustainability developed by Rogers and Coates (Rogers & Coates, 2015). Table 1 shows the relationship between either receiving compensation or being formally employed and a CBW discontinuing at least one of the activities they provided between endline and follow-up. These regressions are logit regressions, since the outcome of discontinuing at least one activity is a binary variable equal to zero if no activities were discontinued and one if one or more activities were discontinued. Thus, according to the theory, we would expect the coefficients on remuneration to be negative, indicating that access to monetary resources and formal employment would make one less likely to have discontinued at least one activity between the end of the ViM program and the present. Three regressions are displayed for each category: 1) whether or not the service provider is compensated for their work, 2) whether or not they are formally employed in relation to their work, and 3) whether they are either employed or paid (or both).

Table 1: Factors associated with discontinuing at least one activity

<b>Dependent Variable: Discontinued at least one activity between Endline and Follow-up (logit bivariate regressions)</b>				
<b>Variable of Interest</b>	<b>CBHAs</b>		<b>MLAs</b>	
	<b>Log Odds</b>	<b>Predicted Probability</b>	<b>Log Odds</b>	<b>Predicted Probability</b>
<b>Regression 1: Remuneration</b>	0.048	Remunerated = 0.09	0.193	Remunerated = 0.05
	p-value: 0.000	Not Remunerated = 0.67	p-value: 0.053	Not Remunerated = 0.49
<b>Regression 2: Employed</b>	0.047	Employed = 0.07	0.701	Employed = 0.37
	p-value: 0.000	Unemployed = 0.62	p-value: 0.693	Unemployed = 0.46
<b>Regression 3: Remuneration OR Employed</b>	0.049	Paid or Remunerated = 0.10	0.398	Paid or Remunerated = 0.27
<b>Variable of Interest</b>	<b>PLs</b>		<b>VVVs</b>	
	<b>Log Odds</b>	<b>Predicted Probability</b>	<b>Log Odds</b>	<b>Predicted Probability</b>
<b>Regression 1: Remuneration</b>	0.085	Remunerated = 0.12	0.8	Remunerated = 0.38
	p-value: 0.000	Not Remunerated = 0.61	p-value: 0.814	Not Remunerated = 0.43
<b>Regression 2: Employed</b>	1	N/A	3.6	Employed = 0.67
	*	N/A	p-value: 0.344	Unemployed = 0.36
<b>Regression 3: Remuneration OR Employed</b>	0.085	Paid or Remunerated = 0.12	0.8	Paid or Remunerated = 0.38

Regression results show that remuneration and employment were highly significant related to discontinuing activities for PLs and CBHAs. The directionality of the significant relationships (essentially for PLs, and CBHAs) is as predicted by the hypothesis – that is, being paid, employed, or both results in a lower predicted probability of discontinuing an activity. Receiving remuneration is marginally significantly associated with the choice to discontinue an activity for MLAs but being employed is not related. For VVVs, payment and employment are not related to discontinuing or continuing an activity. The results are displayed in log odds and in predicted probabilities. Log odds refers to the logarithm of the odds of an outcome occurring, which is the probability that a given event will occur divided by the probability that the event will not occur. The predicted probability is another way to express this concept, showing the probability that an event will occur (between 0 and 1) when a given explanatory variable is at a specific value while any other variables in the model are held constant.

Table 2: Capability to support oneself, seeing advantages in work, and discontinuing an activity

Dependent Variable: Discontinued an activity between Endline and Follow-up (logit multivariate regressions)				
Variable of Interest	CBHAs		MLAs	
	Log Odds	Predicted Probability	Log Odds	Predicted Probability
<b>Regression 1:</b>				
Ability to support oneself economically	0.014	Ability=0.03	0.48	Ability=0.33
	p-value: 0.000	No ability=0.74	p-value: 0.188	No ability=0.51
Sees advantages in role	6.423	Advantage=0.17	0.07	Advantage=0.24
	p-value: 0.009	No advantage=0.03	p-value: 0.000	No advantage=0.81
Constant	0.737	N/A	5.22	N/A
<b>Regression 2:</b>				
Ability to support oneself economically	0.013	Ability=0.038	0.468	Ability=0.33
	p-value: 0.000	No ability=0.756	p-value: 0.175	No ability=0.51
Sees advantages in role	5.864	Advantage=0.162	0.078	Advantage=0.24
	p-value: 0.011	No advantage=0.032	p-value: 0.000	No advantage=0.81
At least part of primary school	Omitted	Perfect correlation	1.274	No primary school=0.43
	*	Perfect correlation	p-value: 0.533	Primary or more=0.49
Age	0.993	N/A	0.977	N/A
	p-value: 0.897	N/A	p-value: 0.393	N/A
Gender	1.553	Male=0.086	Omitted	Perfect correlation
	p-value: 0.492	Female=0.128	*	Perfect correlation
Constant	0.502	0.555	11.14	N/A
Variable of Interest	PLs		VVVs	
	Log Odds	Predicted Probability	Log Odds	Predicted Probability
<b>Regression 1:</b>				
Ability to support oneself economically	0.519	Ability=0.44	Omitted	Perfect correlation
	p-value: 0.106	No ability=0.60	*	Perfect correlation
Sees advantages in role	0.690	Advantage=0.47	0.267	Advantage=0.29
	p-value: 0.370	No advantage=0.56	p-value: 0.162	No advantage=0.60
Constant	1.948	N/A	1.500	N/A
<b>Regression 2:</b>				
Ability to support oneself economically	0.454	Ability=0.43	Omitted	Perfect correlation
	p-value: 0.066	No ability=0.62	*	Perfect correlation
Sees advantages in role	0.676	Advantage=0.47	0.593	Advantage=0.27
	p-value: 0.341	No advantage=0.57	p-value: 0.741	No advantage=0.60
At least part of primary school	1.387	No primary school=0.44	0.091	No primary school=0.69
	p-value: 0.298	Primary or more=0.53	p-value: 0.094	Primary or more=0.34
Age	0.914	N/A	0.890	N/A
	p-value: 0.109	N/A	p-value: 0.095	N/A
Gender	0.962	Male=0.51	1.070	Male=0.36
	p-value: 0.911	Female=0.50	p-value: 0.954	Female=0.38
Constant	3.123	N/A	930.063	N/A

Table 2 shows the association between two separate variables and the outcome of discontinuing at least one activity between ViM Endline in 2018 and the follow-up survey in 2022. The first regression does not include the demographic controls of gender, age, and completing at least a primary education, while the second regression does include these controls. The only regression in which one of the control variables is marginally statistically significant is with the VVVs, where having completed at least part of primary school makes one less likely to discontinue an activity (predicted probability of 0.34) than those who do not have a primary education (predicted probability of 0.69). Education is perfectly correlated with the outcome variable for the CBHAs and as such was excluded from the regression. Additionally, gender is perfectly correlated with the outcome for MLAs, but this is intuitive as all the respondents to this survey were female. The regressions show that MLAs who see no advantage in their work are more likely to discontinue an activity than those who do see a lot of advantages in their work. Additionally, CBHAs who report being able to support themselves economically are also much less likely to discontinue an activity than those who cannot support themselves. For VVVs, ability to support oneself economically was perfectly correlated with discontinuing an activity, and as such was omitted from the regression equation. This means that among those VVVs who report being able to support themselves economically, none of them discontinued any activities.

Table 3a: Bivariate/multivariate regressions using theoretical framework – CBHAs and MLAs

<b>Dependent Variable: Discontinued an activity between Endline and Follow-up (logit regressions)</b>				
<b>Variable of Interest</b>	<b>CBHAs</b>		<b>MLAs</b>	
	<b>Log Odds</b>	<b>Predicted Probability</b>	<b>Log Odds</b>	<b>Predicted Probability</b>
<b>Bivariate regressions:</b>				
Motivation	0.206	Motivation=0.17	1	All unmotivated MLAs discontinued an activity
	p-value: 0.027	No motivation=0.50	omitted variable	
Resources	0.193	Resources=0.15	0.056	Resources=0.27
	p-value: 0.003	No resources=0.47	p-value: 0.000	Lack of resources=0.87
Capacity	0.214	Capacity=0.1765	0.058	Capacity=0.41
	p-value: 0.061	No capacity=0.5000	p-value: 0.003	Lack of capacity=0.92
Linkage	0.089	Linkage=0.10	0.056	Linkages=0.24
	p-value: 0.000	No linkage=0.56	p-value: 0.000	No linkages=0.85
Advantage	0.480	Advantage=0.19	0.05	Sees advantages=0.36
	p-value: 0.555	No advantage=0.33	p-value: 0.000	No advantages=0.92
<b>Multivariate regressions:</b>				
Motivation	0.734	Motivation=0.171	*	All unmotivated MLAs discontinued an activity
	p-value: 0.687	No motivation=0.500	omitted variable	
Resources	0.610	Resources=0.148	0.285	Resources=0.39
	p-value: 0.587	No resources=0.474	p-value: 0.064	Lack of resources=0.69
Capacity	1.008	Capacity=0.177	0.764	Capacity=0.48
	p-value: 0.994	No capacity=0.500	p-value: 0.809	Lack of capacity=0.55
Linkage	0.102	Linkage=0.100	0.169	Linkages=0.34
	p-value: 0.005	No linkage=0.556	p-value: 0.001	No linkages=0.75
Advantage	4.198	Advantage=0.194	0.366	Sees advantages=0.45
	p-value: 0.239	No advantage=0.333	p-value: 0.347	No advantages=0.69

Table 3b: Bivariate/multivariate regressions using theoretical framework – PLs and VVVs

<b>Dependent Variable: Discontinued an activity between Endline and Follow-up (logit regressions)</b>				
<b>Variable of Interest</b>	<b>PLs</b>		<b>VVVs</b>	
	<b>Log Odds</b>	<b>Predicted Probability</b>	<b>Log Odds</b>	<b>Predicted Probability</b>
<b>Bivariate regressions:</b>				
Motivation	0.274	Motivated=0.49	Omitted	-
	p-value: 0.21	Unmotivated=0.80	-	-
Resources	0.161	Resources=0.43	0.078	Resources=0.2800
	p-value: 0.000	Lack of resources=0.82	p-value: 0.032	No resources=0.8333
Capacity	3.083	Capacity=0.51	Omitted	-
	p-value: 0.321	Lack of capacity=0.25	-	-
Linkage	0.164	Linkages=0.42	0.056	Linkage=0.250
	p-value: 0.000	No linkages=0.81	p-value: 0.013	No linkage=0.857
Advantage	0.155	Sees advantages=0.48	0.611	Advantage=0.379
	p-value: 0.103	No advantages=0.86	p-value: 0.722	No advantage=0.500
<b>Multivariate regressions:</b>				
Motivation	1.01	Motivated=0.54	Omitted	-
	p-value:0.993	Unmotivated=0.54	-	-
Resources	0.182	Resources=0.46	-18.289	-
	p-value: 0.040	Lack of resources=0.83	p-value: 0.000	-
Capacity	92.743	Capacity=0.57	Omitted	-
	p-value: 0.005	Lack of capacity=0.01	-	-
Linkage	0.176	Linkages=0.45	-18.289	-
	p-value: 0.007	No linkages=0.82	p-value: 0.000	-
Advantage	0.231	Sees advantages=0.53	35.075	-
	p-value: 0.027	No advantages=0.83	p-value: 0.000	-

Tables 3a and 3b show bivariate and multivariate regressions using aspects of the theoretical framework developed by Rogers and Coates (2015). Participants were asked to rate various aspects of their work as “poor”, “satisfactory”, or “good”. In the regressions above, the respective variables are considered positive if the respondent answered “satisfactory” or “good” and negative if they answered “poor”. The dependent variable of discontinuing at least one activity between ViM Endline and follow-up was chosen because almost all service providers continued at least one activity, but not all individuals discontinued an activity. As such, using this negative dependent variable allows for more variation in the data. The multivariate regressions contain the same independent variables as in the individual bivariate regressions. Access to necessary resources and having external linkages were found to significantly reduce the probability of discontinuing an activity for PLs; additionally, seeing the advantages of one’s work also had a significant effect in the multivariate regression. For MLAs, all variables were found to significantly reduce the probability of discontinuing an activity in the bivariate regressions, with the exception of feeling motivated to do one’s work (all MLAs who reported poor motivation discontinued at least one activity, and as such, the variable was omitted from the regression). In the multivariate regression,

only access to necessary resources and having external linkages were found to reduce the probability of discontinuing an activity among MLAs.

## **DISCUSSION**

In this paper, we explore four different service provider roles established by the ViM program in Kaya: community-based health agents (CBHAs), mother leader animators (MLAs), producer leaders (PLs), and volunteer village vaccinators (VVs). Each role was established with the intention that it would endure past the conclusion of the project to ensure sustained activities and therefore impacts, but the sustainability models were distinct. For CBHAs, the sustainability model was to integrate them into the government-run health system as paid employees, providing all the factors conducive to sustainability: motivation (salary), and capacity and resources provided through this formal linkage. For MLAs, the sustainability strategy depended on their continued motivation and goodwill; neither remuneration for motivation nor formal linkage or other means to provide resources and sustain capacity was part of the sustainability plan. Among PLs, the sustainability strategy depended on their continued involvement in producer associations that would promote improved marketing and thus greater remuneration and on continued support from ATAD, a local implementing partner. The sustainability strategy for the VVs was to establish them essentially as entrepreneurs; they would continue to charge for their services, ensuring both motivation and resources to continue providing vaccinations and other items along with training.

### ***Application of the Sustainability Framework***

Our results shed light on the effectiveness of these different strategies. In general, those activities that were performed by the majority of CBWs at endline were those that were more likely to report being continued at follow up. All providers other than CBHAs showed a decline – not all statistically significant – in the percent providing specific services between endline and follow up, but the degree of decline varied, reflecting the factors of sustainability, and a substantial percentage of all CBW types reported providing at least some services. The activities that showed the greatest percentage decline appeared to be those that required external resources: soap and stove production training by MLAs and demonstration plots by PLs, for example.

The framework argues that all factors a (motivation, capacity, resources, and linkages) are needed to promote sustainability. This was supported by the experience of the CBHAs: these workers were more likely to continue providing services and less likely to discontinue activities than the other CBW categories. CBHAs were the only category of CBWs that did not report a drop in the amount of time spent on their activities between endline and follow up. While all other CBWs showed a decline in their most frequently provided service (ranging from 7.4 percentage point decline for PLs to 13 percentage points for MLAs and VVs), CBHAs showed less than a one percentage point decline. They were also the category of CBW most likely to provide at least one service (90%), while the others ranged from 83.9% for VVs to 67.3% for PLs.

CBHAs were by far the most likely to report being employed (mostly by a government institution); almost all CBHA respondents reported having linkages, and they were more likely than the other categories to say they could at least somewhat support themselves from their work. MLAs, whose sustainability strategy did not include these factors, represent the contrasting case: they were the most likely to discontinue activities, least likely to report having linkages or being employed, and by far the least likely to report being able to support themselves from their work. Few VVs reported being employed at follow up, but over three quarters of them reported receiving

compensation for their services and that they were able to support themselves at least somewhat from their work. This entrepreneurship model accounts for motivation and resources, but over half reported no linkages with an external entity, possibly affecting their ability to sustain knowledge and capacity. A third did report linkages to a government entity. Having such linkages was associated with continuation of the activities that were performed at endline.

The following sections describe the factors of sustainability as they apply to each CBW category.

#### *Community-based health agents (CHBAs)*

The crucial component of sustainability for CBHAs was linkage to the public health system. As planned, a majority of CBHAs indicated having external linkages at follow-up, with 91% of CBHAs indicating a linkage with a government agency (likely the CSPS in their village or home community). Approximately one quarter of the respondents reported being formally employed full-time and 45% reported being formally employed part-time. Fully 98% of CBHAs reported that they continue to work with their local CSPS at follow-up, though 80% reported being employed, and 81% reported receiving compensation, suggesting the possibility that some work without pay.

Multivariate analysis showed that remuneration and employment were important factors for sustaining activities; a lack of either was associated with discontinuing an activity. CBHAs who are able to support themselves are less likely to discontinue an activity. Similar to VVVs, the other remunerated role, seeing advantages for their community was not generally cited as a motivator.

#### *Mother leader animators (MLAs)*

The MLA strategy had the least association with factors of sustainability, and this was reflected in their situation at follow up. Ninety-three percent of MLAs reported no formal linkages, making it difficult for them to access continued trainings, resources, and support for their role, though most MLAs reported at least satisfactory levels of support and access to necessary resources to continue in their roles, and the majority indicated that they plan to continue performing their roles as MLAs. MLAs reported very low levels of being able to support themselves financially through their work.

The biggest drops in service provision were trainings related to improved stove production and soap production which require external resources. The services that continue to be provided at follow-up include child growth monitoring, home visits, and training related to health and nutrition. Likely, these latter activities were an integral part of the care groups to which the MLAs belonged even before being selected for their role as CBWs.

Without remuneration or linkages, MLAs reported being motivated by seeing the advantages their work provides to their communities, and seeing such advantages was associated with continuing activities.

#### *Producer leaders (PLs)*

PLs were intended to remain integral members of their respective POs post-project and were also linked to the respective ViM local implementing partner (LIP), which for Kaya commune was ATAD (*Alliance technique d'assistance au développement*). However, only 31% of PLs reported some type of linkage (most frequently with a community organization, likely a producer organization). There may be some confusion among respondents regarding whether the SCOOPS or informal POs can be considered a linkage or not, as the PLs were members of these groups before being chosen by ViM to be trained as PLs. Access to necessary resources and having

external linkages were found to reduce significantly the probability of discontinuing an activity among PLs.

Crop technical trainings, individual visits to farmers, meeting other PLs, and holding of or attendance at PO meetings were the most reported PL activities at ViM endline in 2018; declines at follow up were not statistically significant. In contrast, demonstration plot activities, reported by 22.7% at endline dropped to 11.3% after the project. PLs identified lack of resources as the prevailing constraint to continued activities, identified by nearly 75% of PLs, followed by shocks and stresses, mobility constraints, and a lack of compensation. These factors are all relevant to demonstration sites and FFS trainings, which often require continued access to resources, a need for organizational and management capacities to conduct trainings, ability to gather in groups, and sufficient motivation to dedicate the necessary time and effort for making these activities a success.

As with MLAs, PLs were significantly more likely to continue providing services at follow-up if they reported seeing advantages for the community. PLs report that they continue serving as resource persons for members of their POs or other local farmers who may have questions or need advice regarding their agricultural production, but the drop in provision of formal trainings shows that activities which require financial and material resources as well as significant investments of time are less sustainable without remuneration or resources.

#### *Volunteer village vaccinators (VVs)*

The primary service that VVs provide both at ViM endline and the follow-up survey was poultry vaccinations, which was implemented by 96.8% during the project and 83.7% after the project (with a total sample size of 31 VVs out of the 39 originally trained by ViM in Kaya commune). Although the rate of conducting vaccinations dropped, the decrease was not statistically significant, and the rate of retention is high compared to most common activities implemented at follow-up by the other CBW categories. Some VVs continue providing trainings to other livestock owners, with almost half providing animal health trainings and lesser numbers providing feed and forage production, animal nutrition, improved feed use, and feed conservation trainings. Conversely, pastureland conservation trainings were rare at endline and completely absent at follow-up, possibly because pasturelands are considered common resources, rendering conservation and management efforts fraught. This shows that some but not all VVs continue to provide at least some level of training. This is important, because access to training and information is essential to maintaining viable animal agriculture systems in Kaya. The low level of provision of certain training activities among VVs mirrors that of the PLs and is likely due to similar factors, including the need for financial capital, material resources, and organizational skills to conduct these trainings.

The majority of VVs did not consider themselves formally employed, but over 75% reported being compensated for their work and being able, at least somewhat, to support themselves from their work. None of the VVs who reported being able to support themselves economically discontinued any activities, indicating that remuneration was a strong motivator.

As with the other CBWs, VVs reported lack of resources as the dominant constraint on their activities. In addition, approximately one-third of VVs reported having linkages with a government agency, but 58% reported no linkages of any type. Having such linkages was associated with continued provision of services.



## *Comparison across CBW Categories*

### *Training of Replacements*

Among the activities reported by the CBWs, training of replacements for their role was rarely reported at endline, and the proportion providing such training declined by the time of follow up. To the extent that this activity was intended to ensure continued service provision through replacements for current CBWs, this strategy does not appear to have been effective during the project and was less so after exit. An alternative mechanism may be needed.

### *Motivation*

The reasons for continuing an activity were similar among CBWs. Almost all reported seeing advantages for the community and having appropriate training as motivators. Demand from the community was cited less by MLAs (47.7%) than by the others (over 60%). CBHAs and VVVs were more likely to report being motivated by remuneration, though only about 13% in either group reported that motivation (compared with under five percent for the others). However, in multivariate analysis, receiving compensation was a significant predictor of not discontinuing activities, and this was true across CBW types. Fewer than 9% of MLAs and fewer than 23% of PLs received any compensation for their activities at follow-up, compared with close to 80% for CBHAs and VVVs, representing an important source of motivation for these two categories.

The main reason given for discontinuing an activity was lack of resources, but CBHAs were far less likely to discontinue an activity (just under 20%) than the others (ranging from 39% of VVVs to 46% of MLAs and 50% of PLs), presumably because of the successful strategy of linking CBHAs to the health system.

### *Linkages*

Almost all CBHAs reported linkages, mostly with government agencies, while almost all MLAs reported no linkages, and a majority of PLs and VVVs (71% and 58%, respectively) reported no linkages. The lack of linkages poses concerns not only for access to resources but also for maintenance of capacity to implement their roles. Some anticipated linkages did not materialize, suggesting the need for a strategy to ensure that linkages are in place, and that linkage partners themselves have the motivation, capacity, and resources to support CBWs prior to program exit.

### *Capacity*

All the CBWs types reported a decline in the percent who felt their ability to manage their responsibilities was good or satisfactory. The percent of CBHAs reporting “good” or “satisfactory” ability to manage was higher than for any other category, though the percent reporting “good” was reduced by half between endline and follow up. MLAs showed the biggest decline in rating their ability as good, and the highest rating it as poor. Both PLs and VVVs showed a substantial change from “good” to “satisfactory”. These results suggest the benefit of the successful linkage of CBHAs with the CSPS and the disadvantage reported by MLAs stemming from their very low rate of linkages. PLs and VVVs were comparable with each other and to MLAs in this dimension. This also suggests the CBWs’ understanding of the value of their personal continued education.

### *Resources*

As with capacity, the CBHAs showed the smallest drop in those declaring that their ability to obtain resources and support was ‘good’. MLAs showed the greatest drop from endline to follow for both resources and support, possibly reflecting their high level of support (including resources)

QUANTITATIVE FINDINGS FROM A TARGETED SURVEY OF COMMUNITY-BASED WORKERS TRAINED BY THE VIM PROGRAM IN KAYA, BURKINA FASO

while the ViM program was operating. Still, at follow-up, most CBWs stated that their access to resources and support was either ‘good’ or ‘satisfactory’, and only a small percentage in any category reported access to resources and support as ‘poor’. These results reflect the attitudes of those currently working in their CBW role and may not be inconsistent with the assertion among all CBW types that lack of resources is the main reason for discontinuing an activity.

### *External Factors*

The external factors confronting CBWs in Kaya include issues of civil unrest, terrorism, and violence leading to a sense of insecurity as well as an influx of internally displaced persons. Climate disruptions (droughts, floods) and agricultural pests and diseases as well as the disruptions caused by the Covid-19 pandemic also have the potential to affect the success of sustainability plans.

Report of being affected by these shocks varied from 43% of MLAs to 59% of PLs and 68% of VVVs, possibly because of the different activities that each role requires. Of those who were affected by shocks, most cited the insecurity in the region. A majority of service providers indicated that travel was impeded by the ongoing security crisis in Center North region, and a significant portion reported that the ability to hold meetings was affected by Covid-19 and insecurity. Additionally, many PLs reported that field work was impeded by insecurity. These results reveal the degree of disruption caused by the armed insurgency movement that has grown in amplitude and severity since ViM endline in 2018. Security issues were by far the biggest external shock posing a threat to continued sustainability of the CBW model in Kaya. Developing sustainability plans and identifying specific activities and approaches that are resilient to such shocks and stresses is the challenge for promoting sustained impact in these environments.

## **CONCLUSIONS**

The importance of implementing a strategy that addresses the four factors of sustainability was demonstrated by these results. While many of the CBWs did report continuing to provide some services, there was greater sustainability when all four factors were in place. In this study, establishing effective linkages emerged as a key mechanism for ensuring continued motivation, capacity, and resources to sustain service provision among all categories of CBWs. Linking CBHAs to the health system was effective in providing motivation (salary), capacity, and resources, and CBHAs showed the greatest sustained service provision at follow up. The entrepreneurship model used for VVVs provided remuneration (motivation and resources), but linkages were lacking for many, and those with linkages were more likely to continue providing services. MLAs and PLs generally lacked both linkages and remuneration. A significant proportion of CBWs reported continuing to provide some services, and all cited seeing advantages of their work, both personally and for the community, as motivation. Selecting motivated, community-minded individuals was part of the strategy for all four CBW categories, and this may have played a role among the CBWs who continued in their roles in the absence of externally provided resources or supervision. Nonetheless, remuneration and effective linkages, while less frequently cited as motivation, were predictive of not discontinuing activities. While we did not assess capacity directly, external linkages can also provide continued capacity building to CBWs.

Lack of resources was the most commonly cited reason for discontinuing CBW activities, and the activities that required external resources were most likely to decline. Ensuring a source of the financial and material resources required for these activities, most likely through established

linkages to existing organizations, needs to be part of an effective sustainability plan. This could be done through agreements with partner organizations still operating in the zone of implementation, or through more extensive partnerships with government entities. But many linkages that were anticipated as part of the program's sustainability plans did not materialize. Any linkages should be established early in the project; the linkage partners should themselves have the motivation, capacity, and resources to provide support, and the system should be fully functional well in advance of program exit. An additional conclusion in light of ongoing security concerns is that activities should be identified that can be implemented whether insecurity is a problem or not, or activities should be adapted so that they are more resistant to fluid, rapidly evolving security contexts. Ensuring post-project sustainability requires explicit planning to circumvent, overcome, or otherwise adapt to external shocks and stresses to ensure that the channels of sustained motivation, capacities, and access to resources, achieved in this context through effective linkages, can operate as intended.

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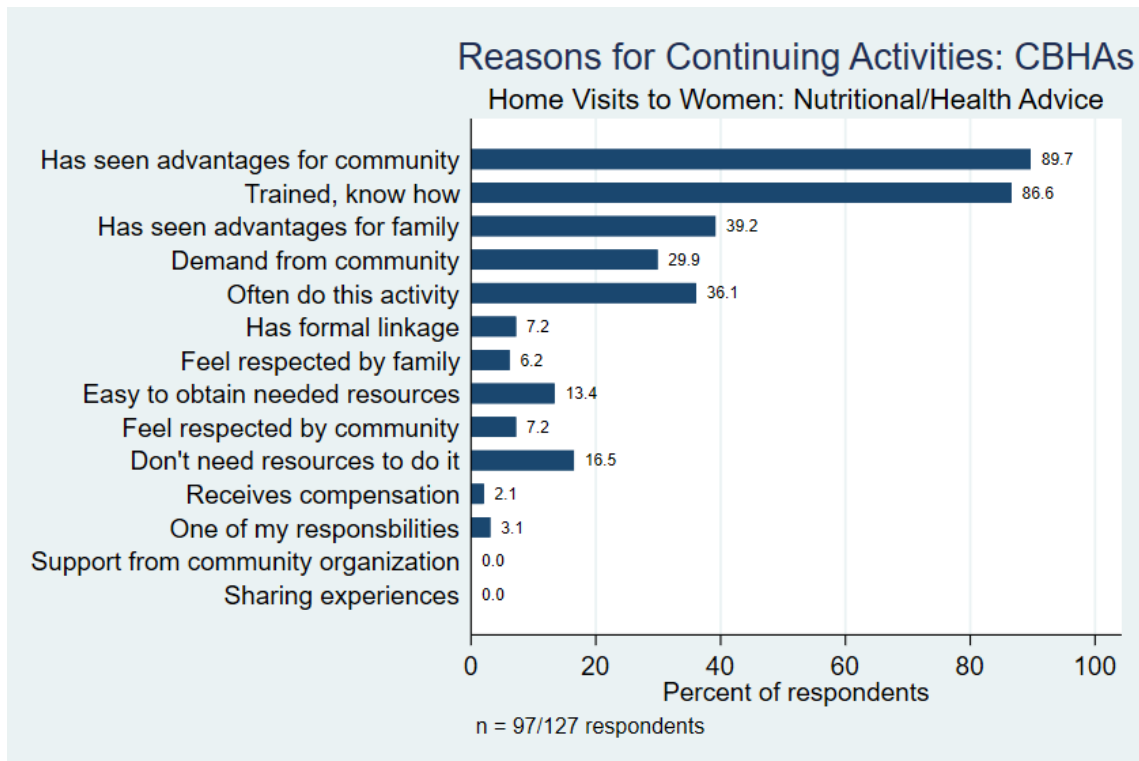
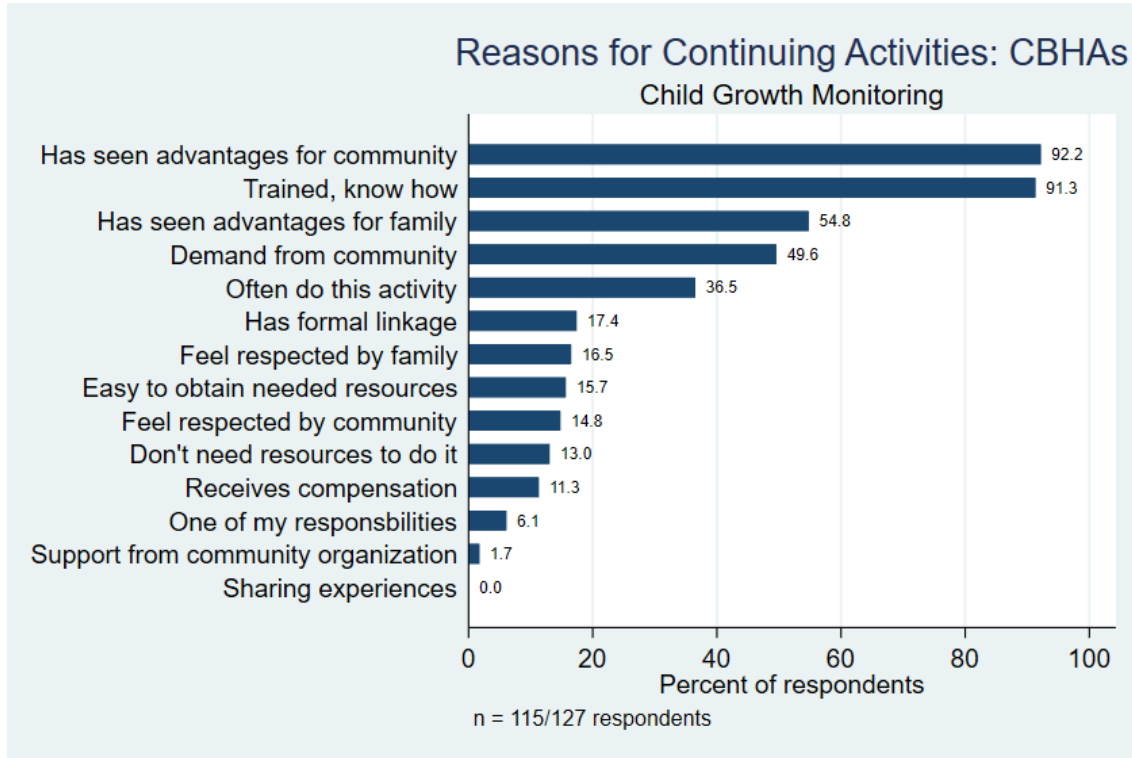
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## APPENDIX

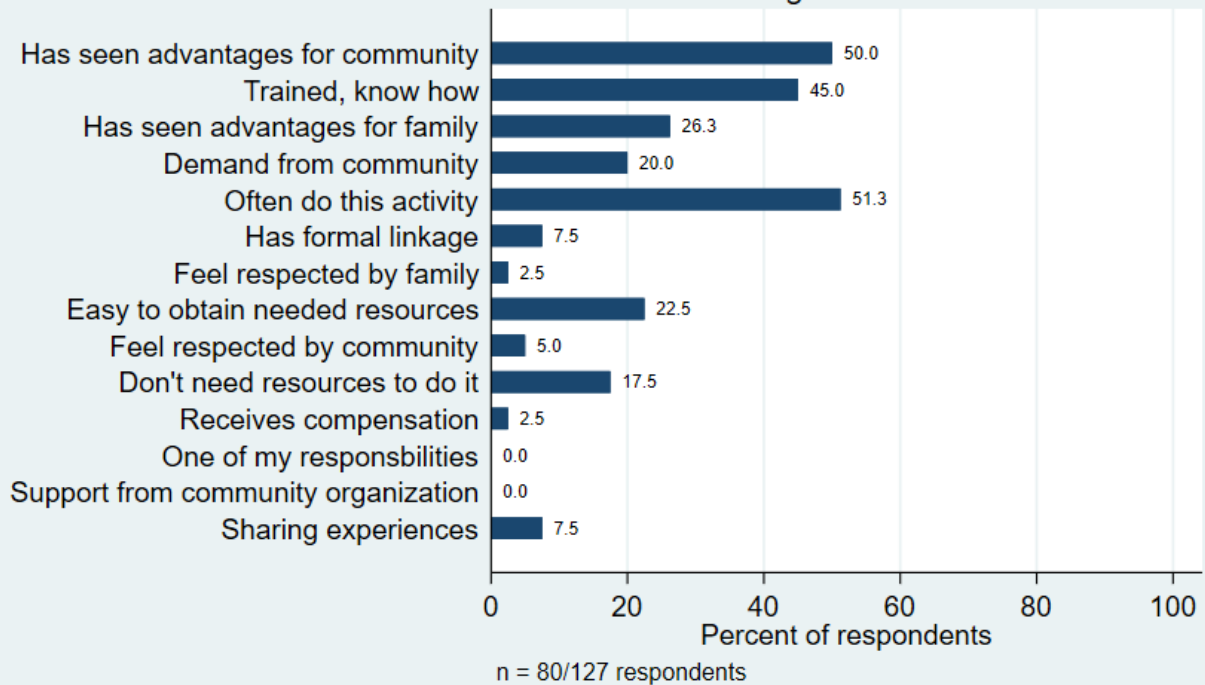
### Reasons for Continuing Individual Activities – CBHAs





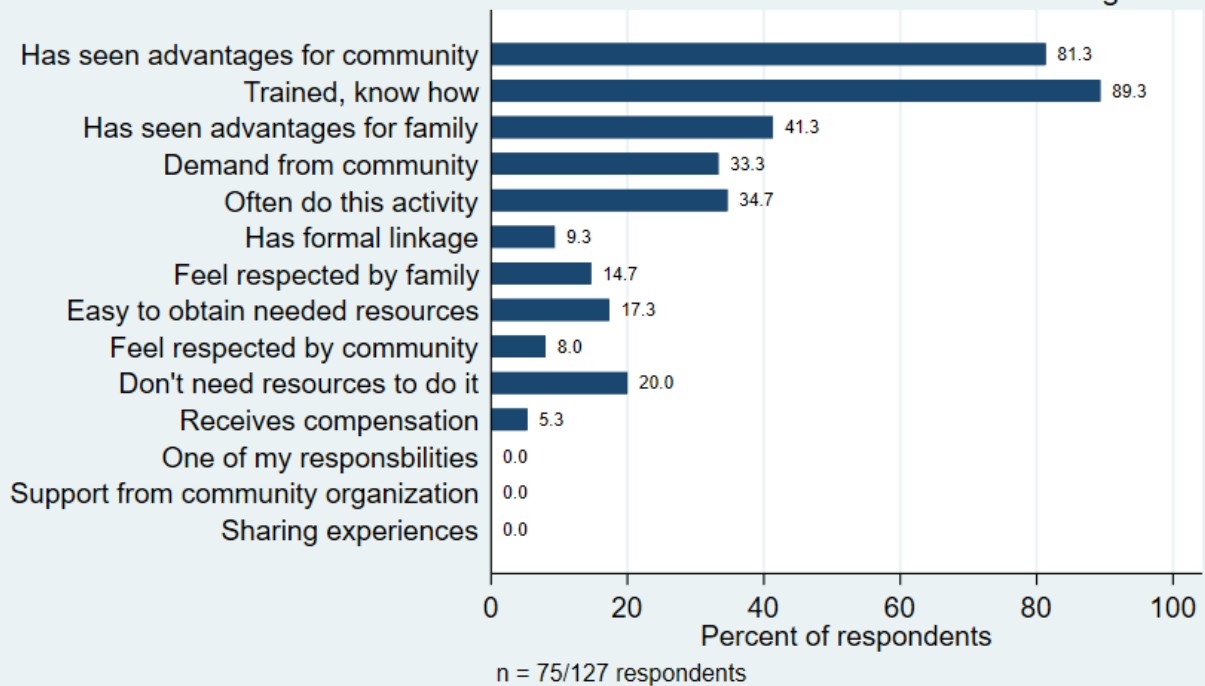
## Reasons for Continuing Activities: CBHAs

### Meeting Other CBHAs

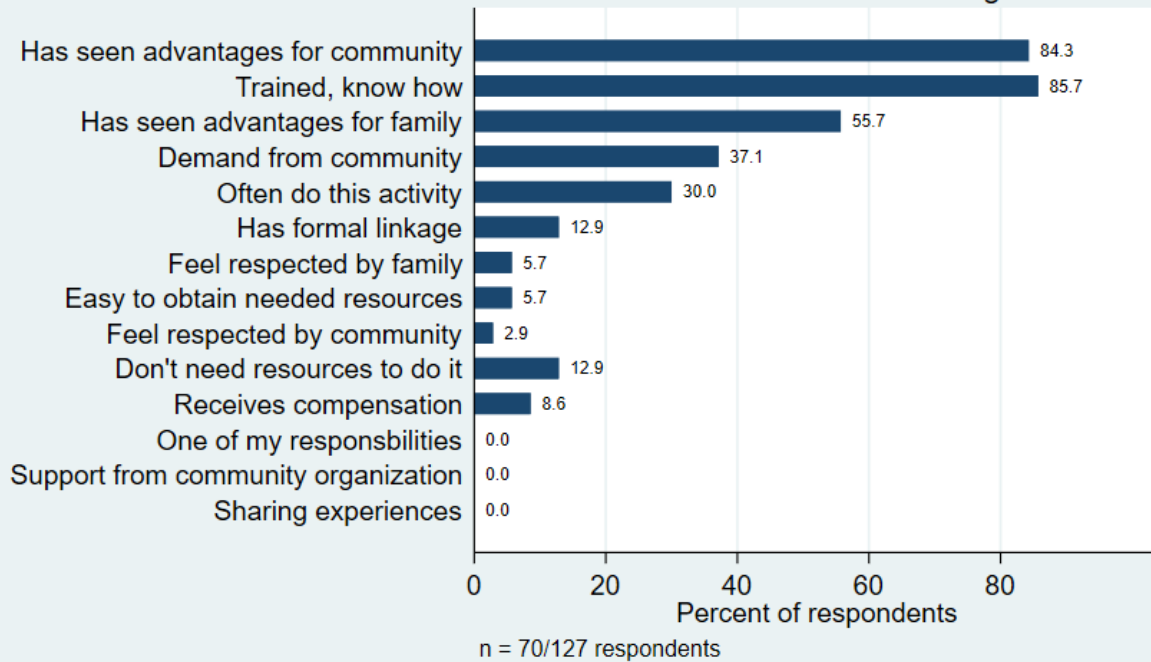


## Reasons for Continuing Activities: CBHAs

### Health and Nutrition Association Meetings

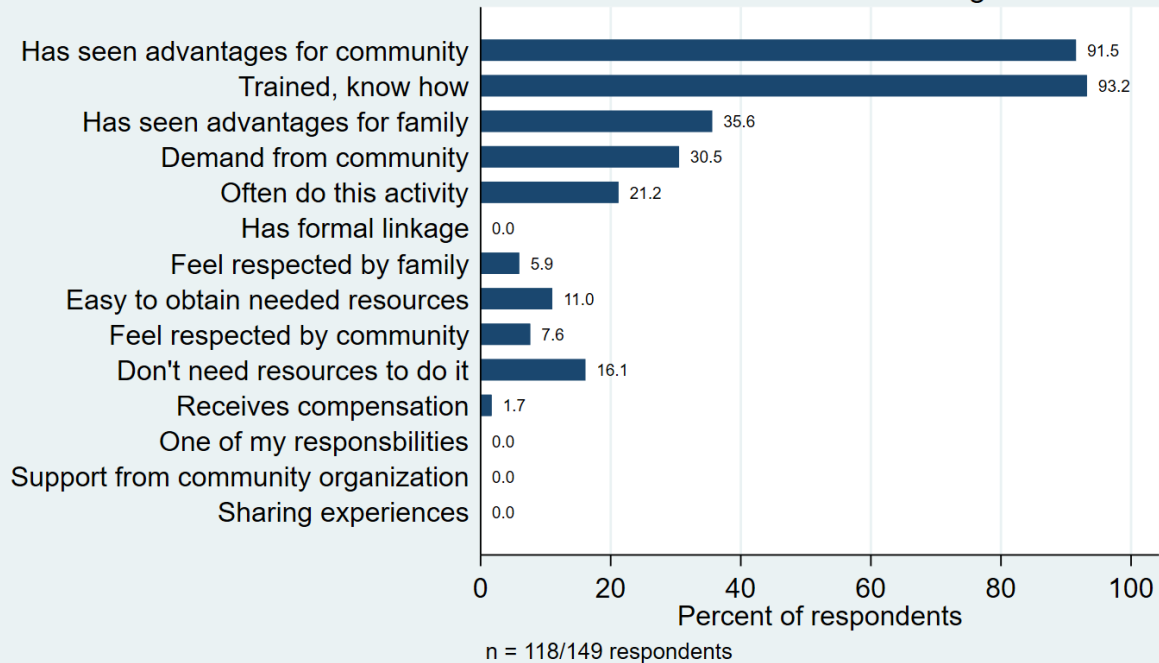


### Reasons for Continuing Activities: CBHAs Health and Nutrition Trainings

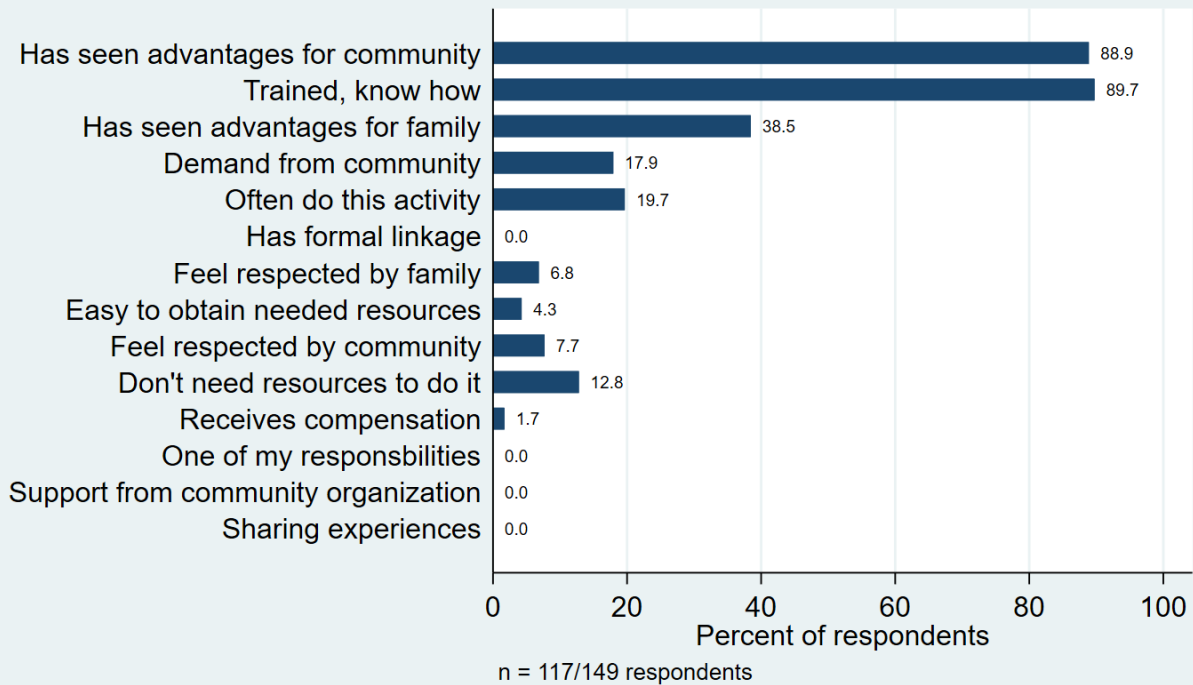


### Reasons for Continuing Individual Activities – MLAs

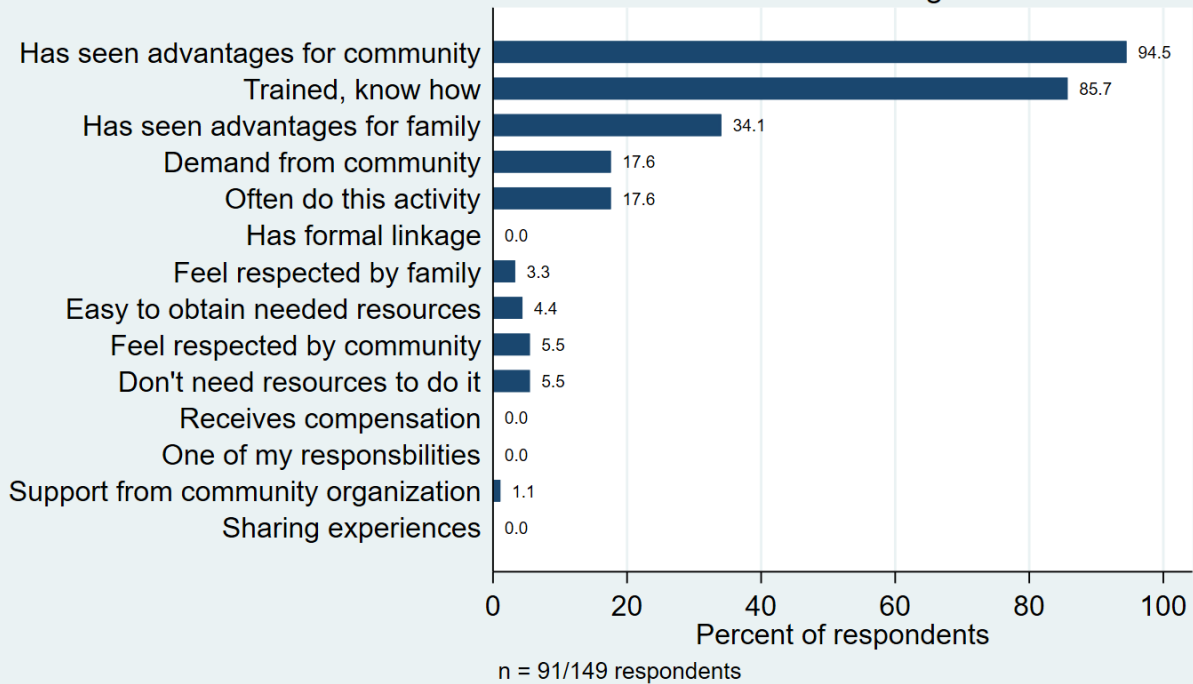
#### Reasons for Continuing Activities: MLAs Child Growth Monitoring



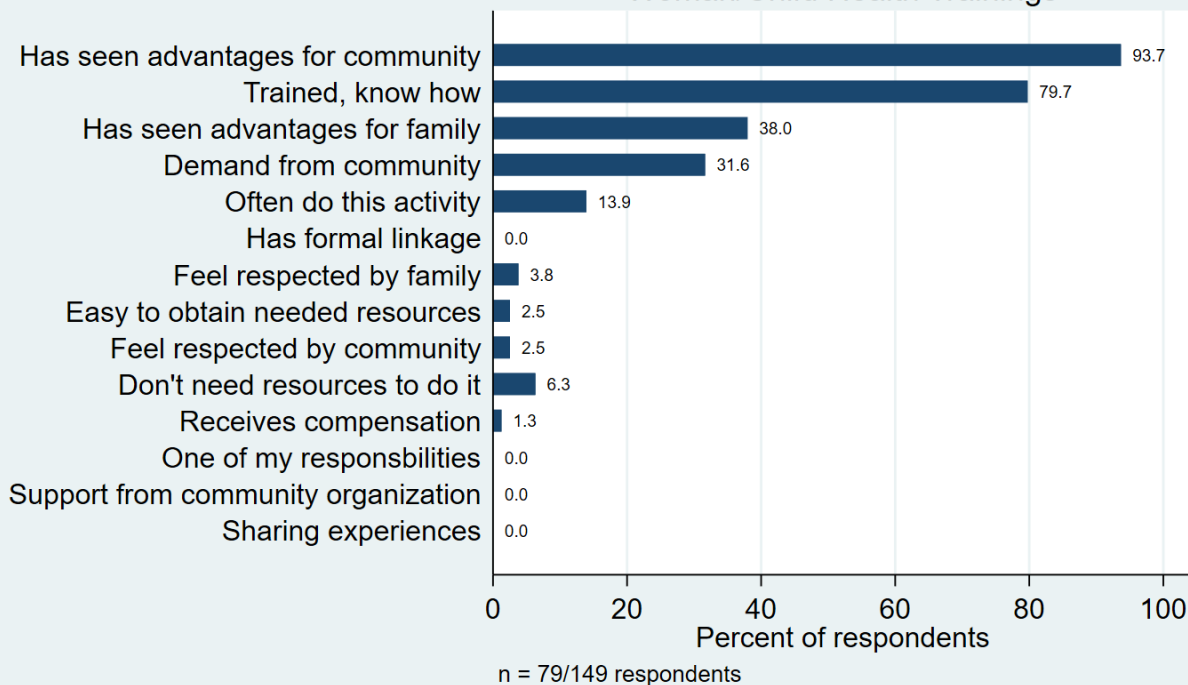
### Reasons for Continuing Activities: MLAs Home Visits to Women: Nutritional/Health Advice



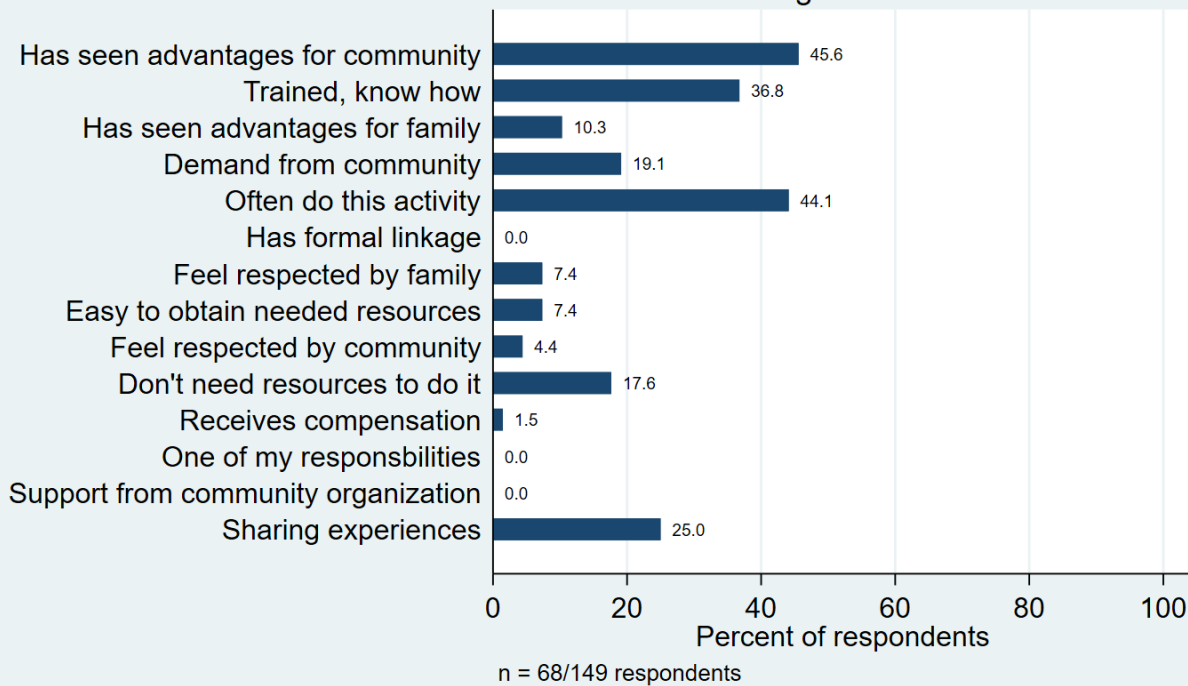
### Reasons for Continuing Activities: MLAs WASH Trainings



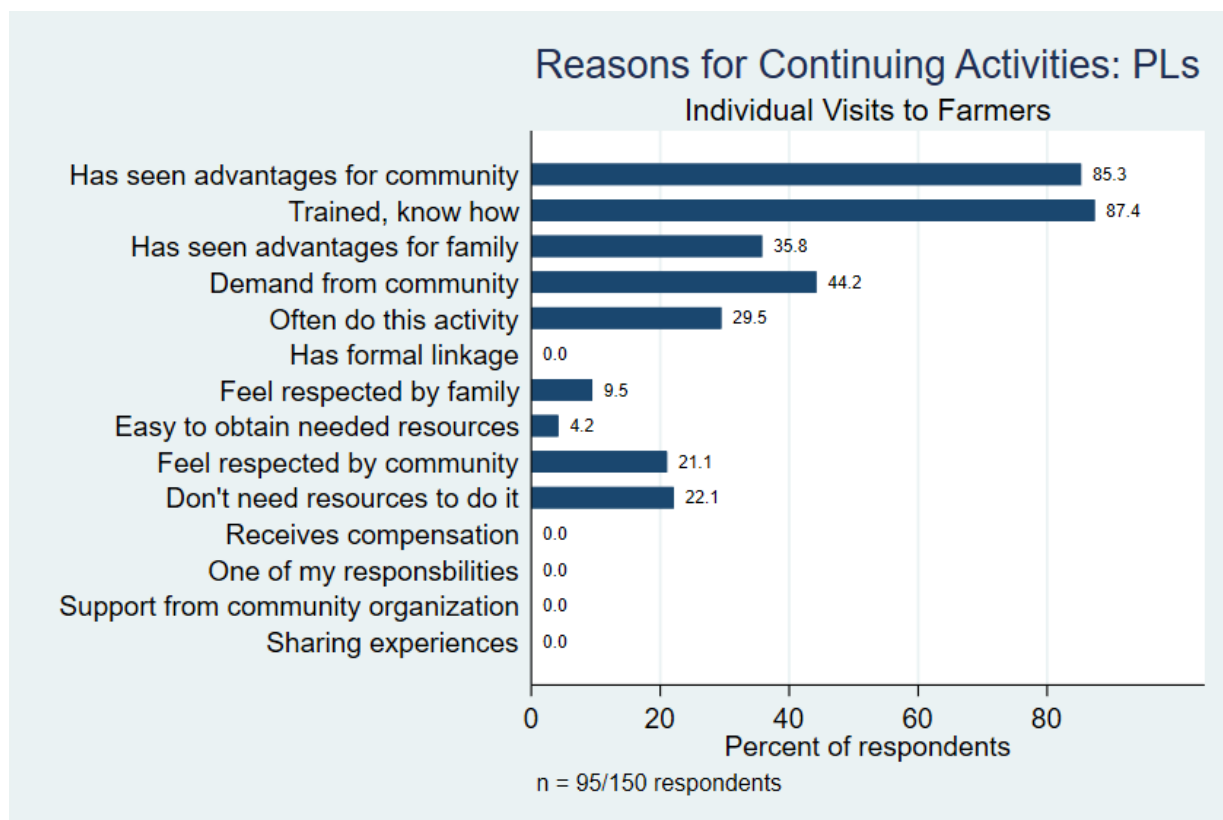
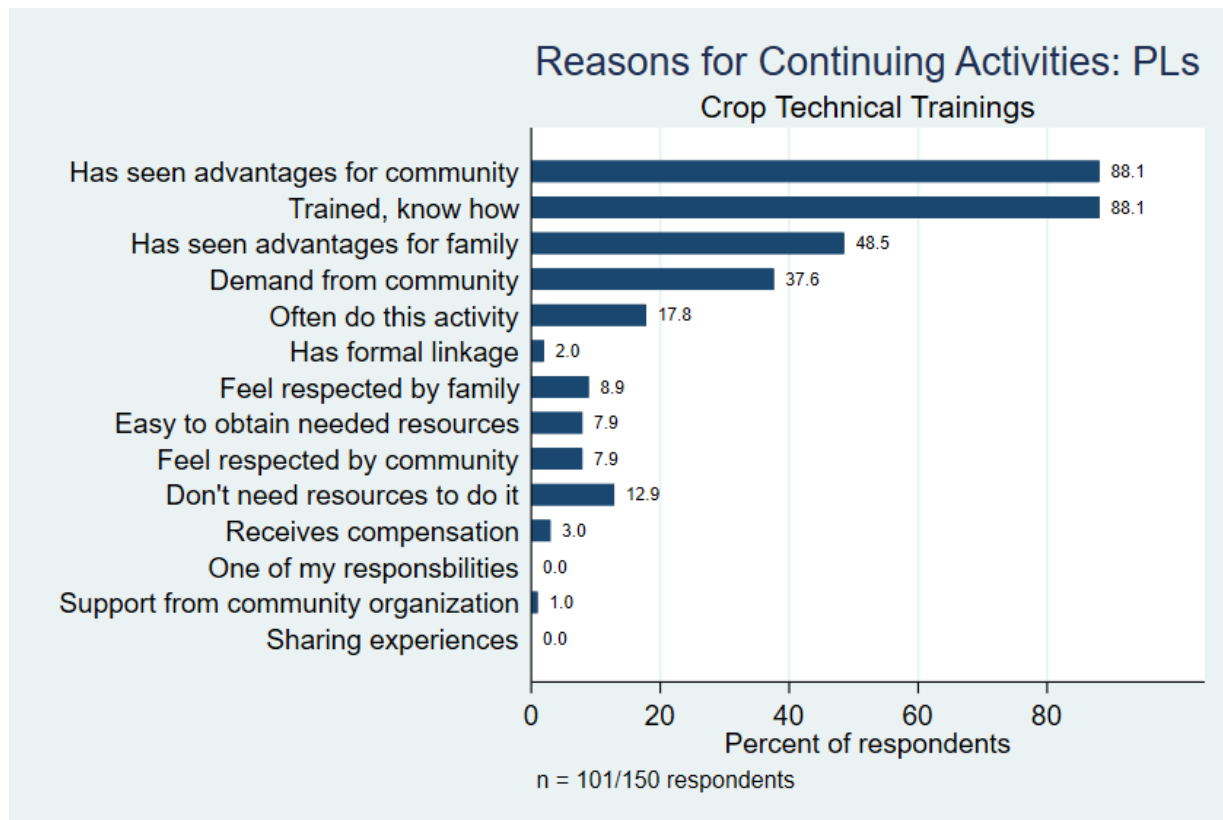
### Reasons for Continuing Activities: MLAs Woman/Child Health Trainings



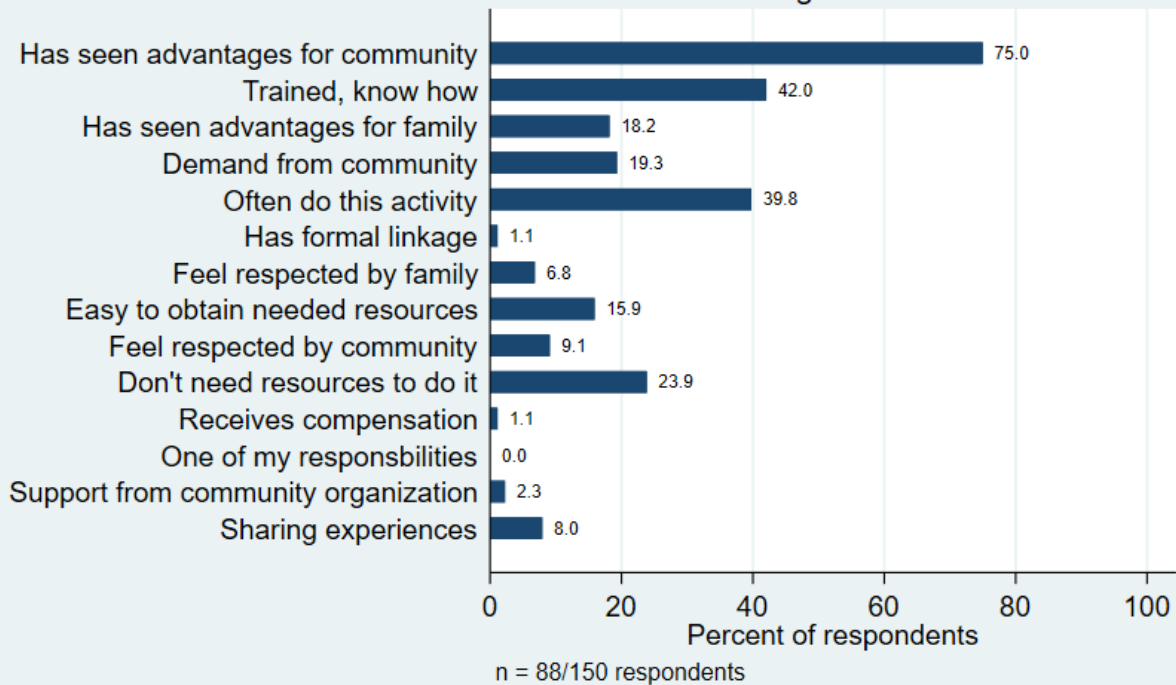
### Reasons for Continuing Activities: MLAs Meeting other MLAs



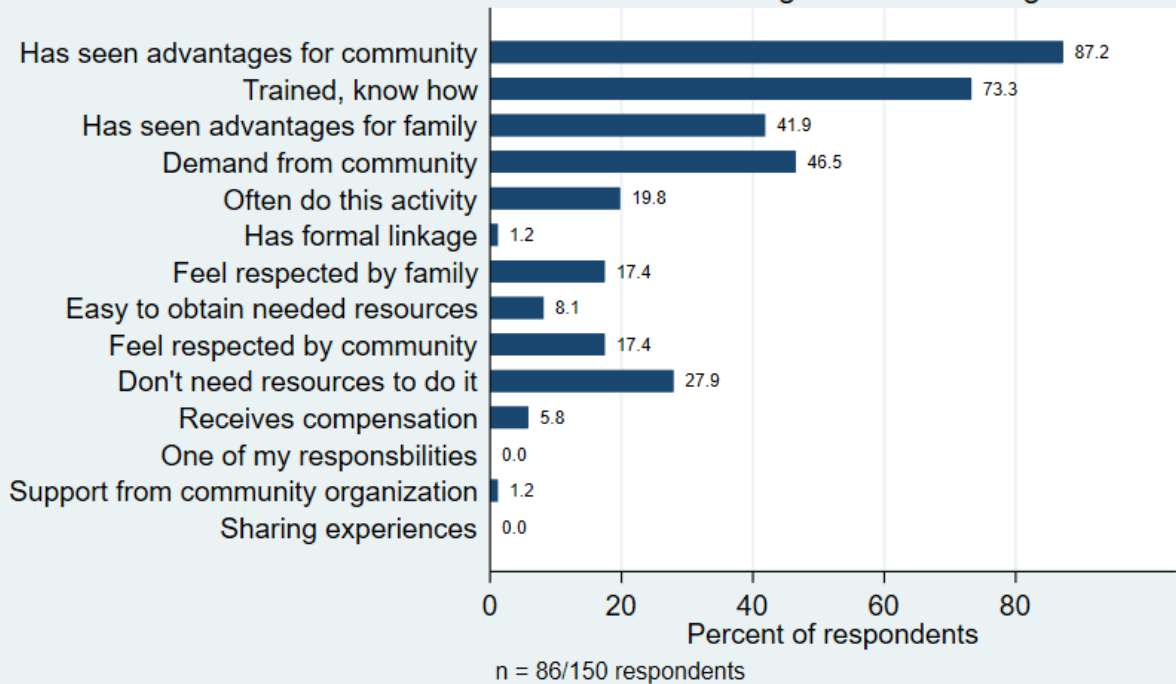
*Reasons for Continuing Individual Activities – PLs*



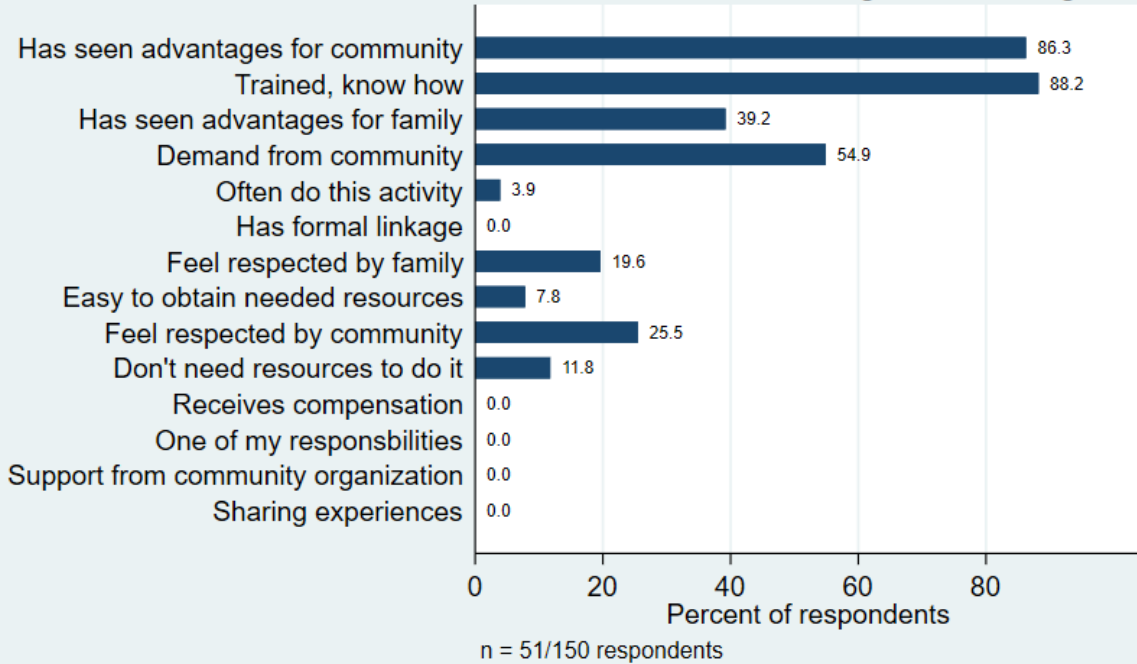
### Reasons for Continuing Activities: PLs Meeting Other PLs



### Reasons for Continuing Activities: PLs Producer Organization Meetings

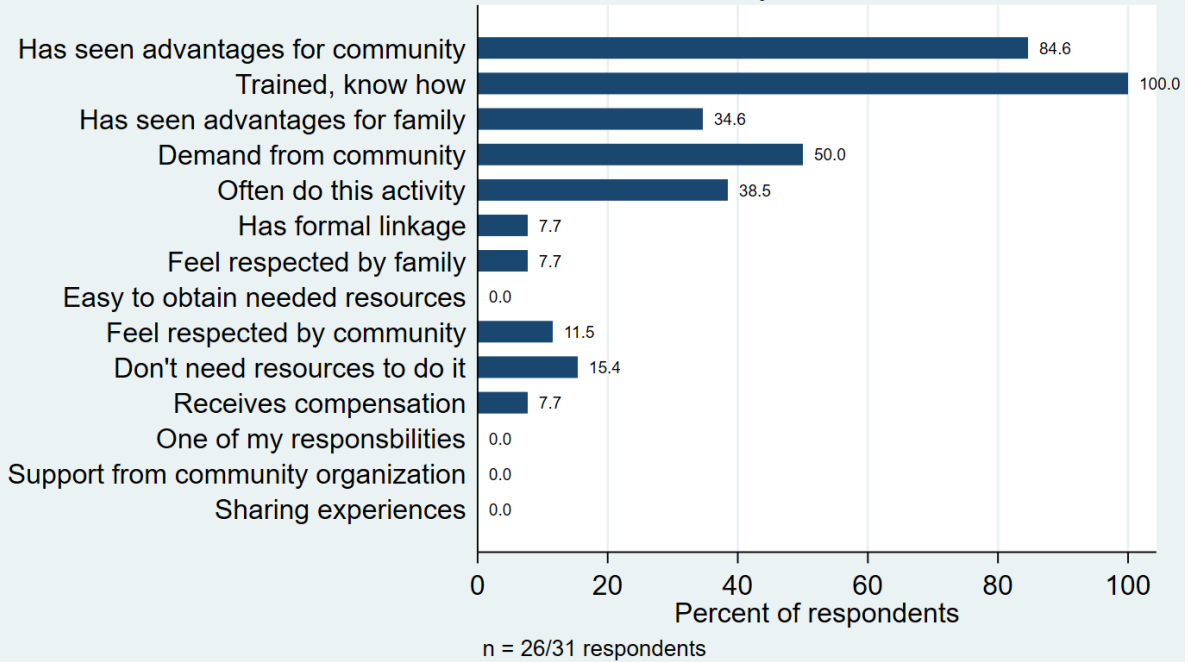


### Reasons for Continuing Activities: PLs Natural Resources Management Trainings

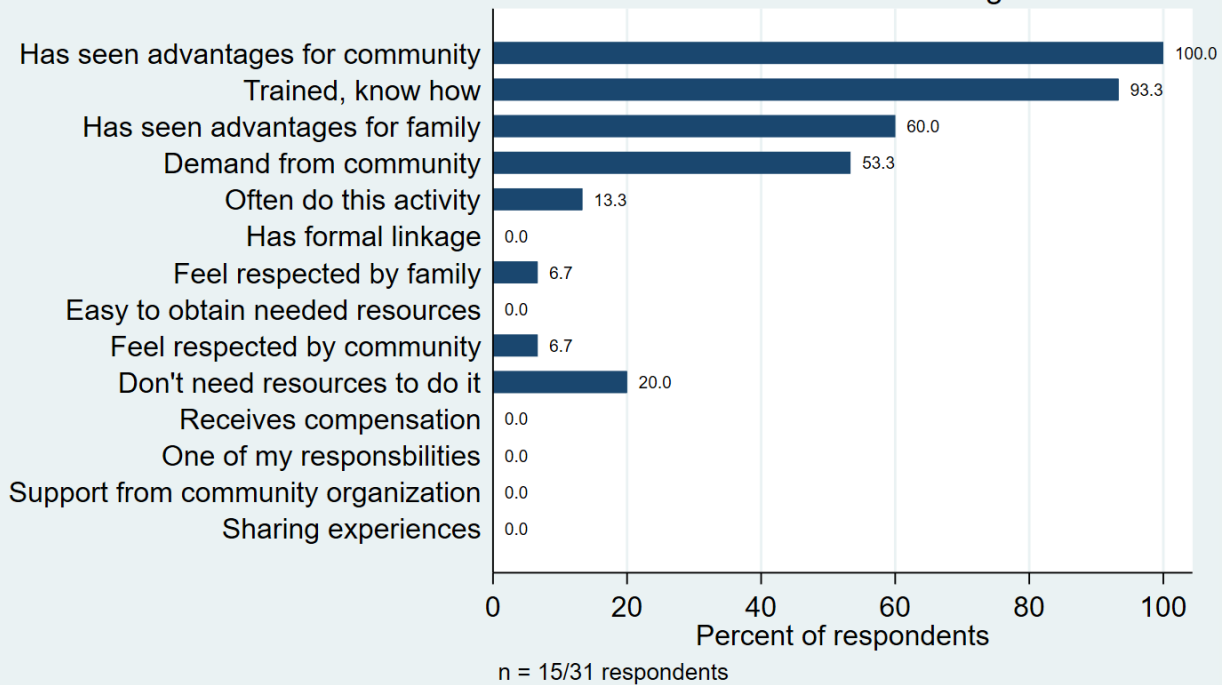


### Reasons for Continuing Individual Activities – VVVs

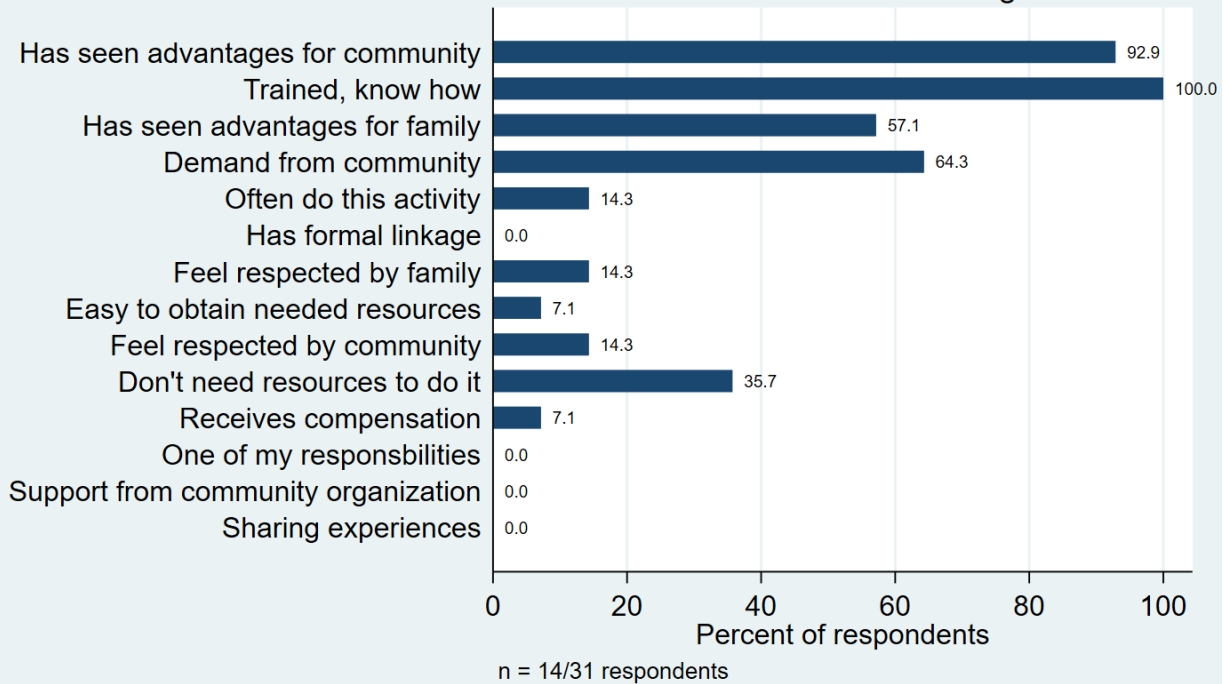
#### Reasons for Continuing Activities: VVVs Poultry Vaccinations



### Reasons for Continuing Activities: VVs Animal Health Training

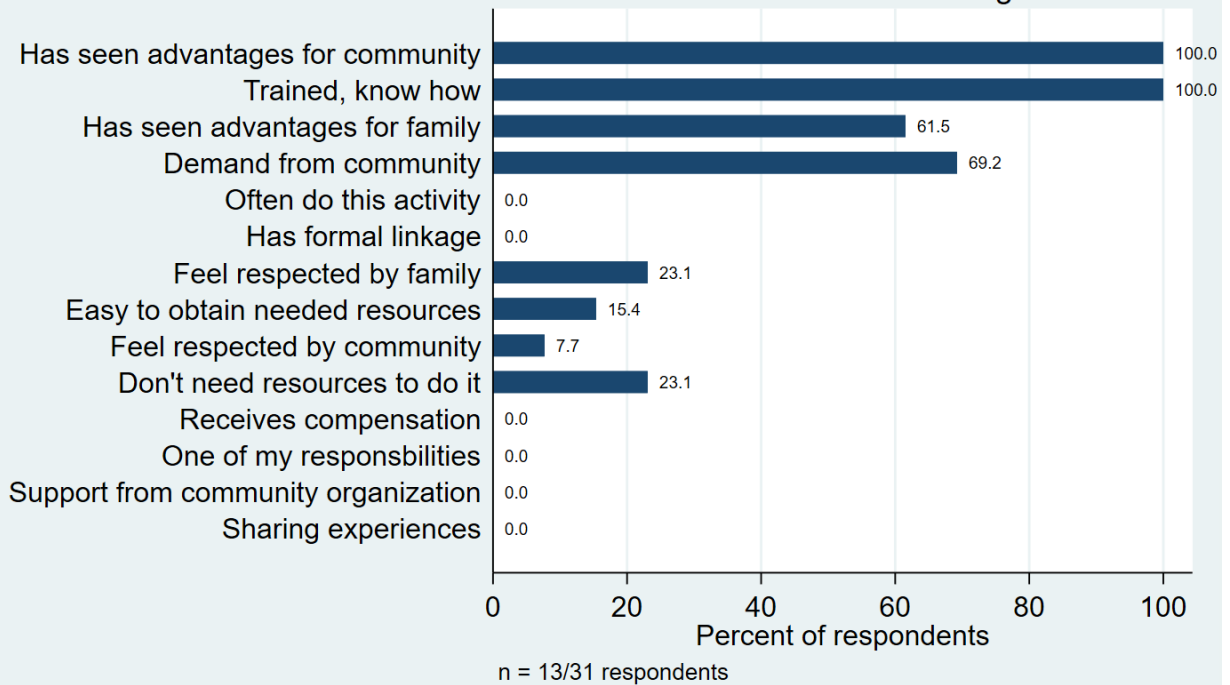


### Reasons for Continuing Activities: VVs Animal Nutrition Training

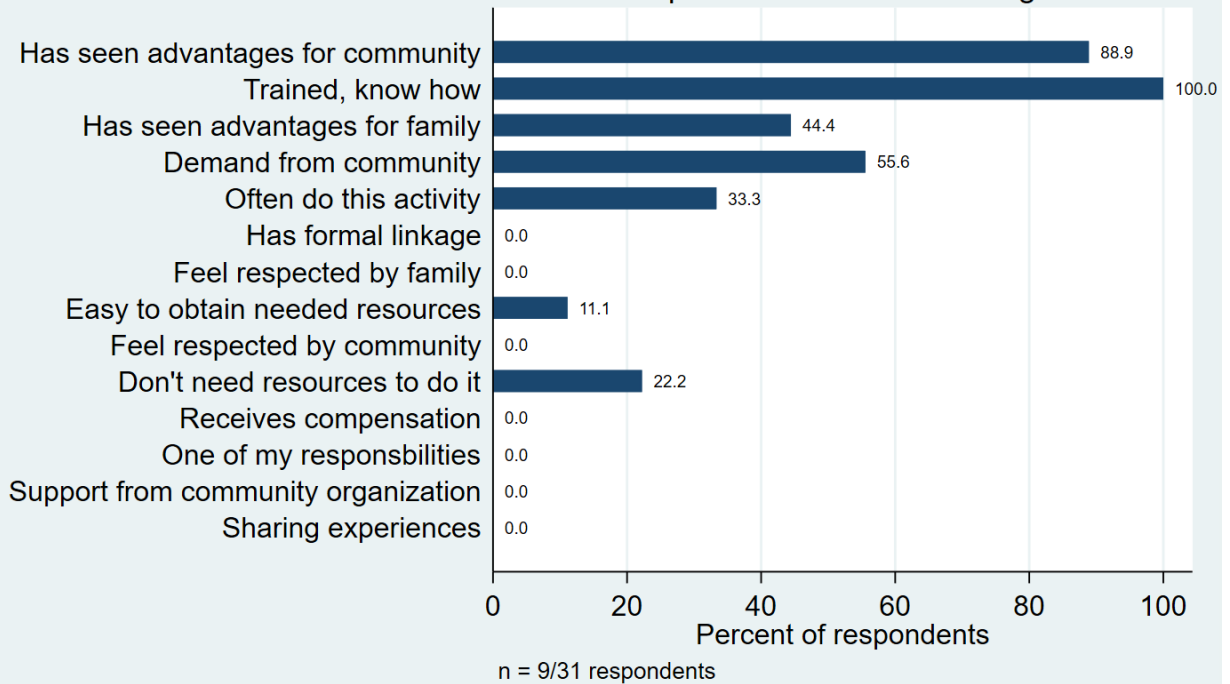




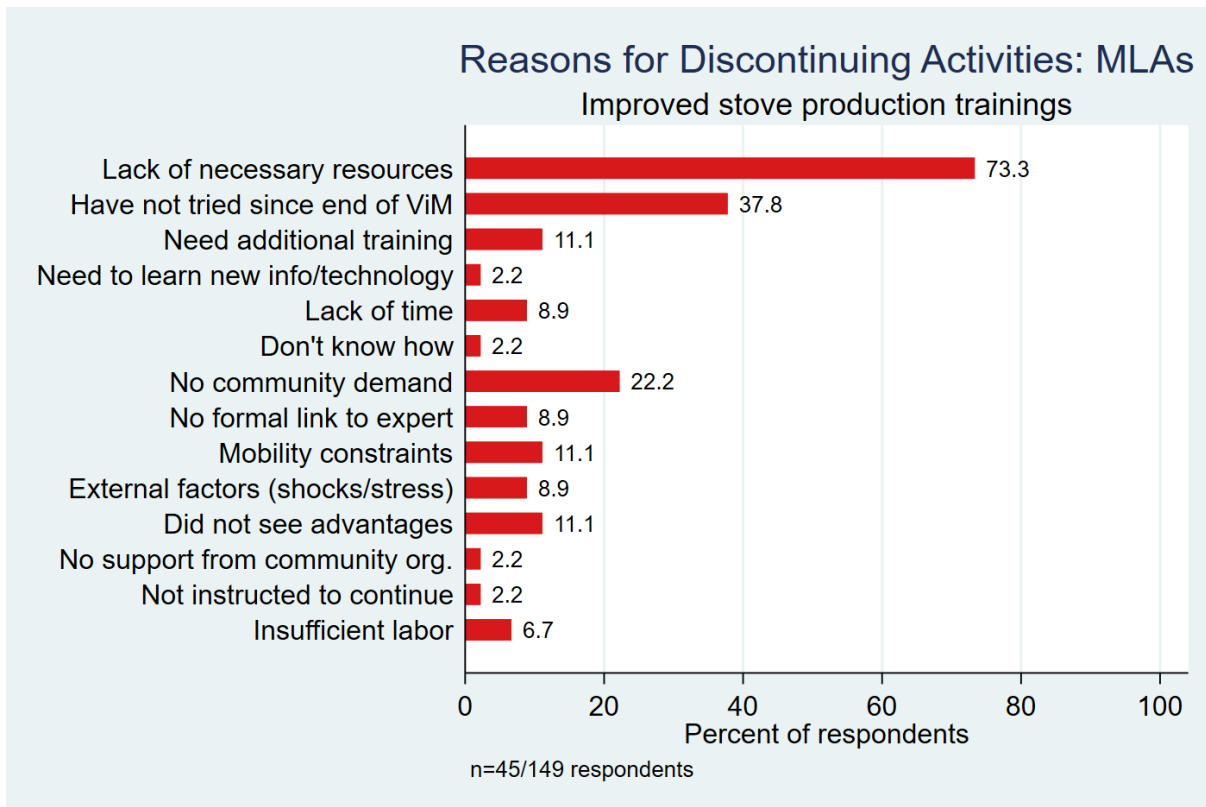
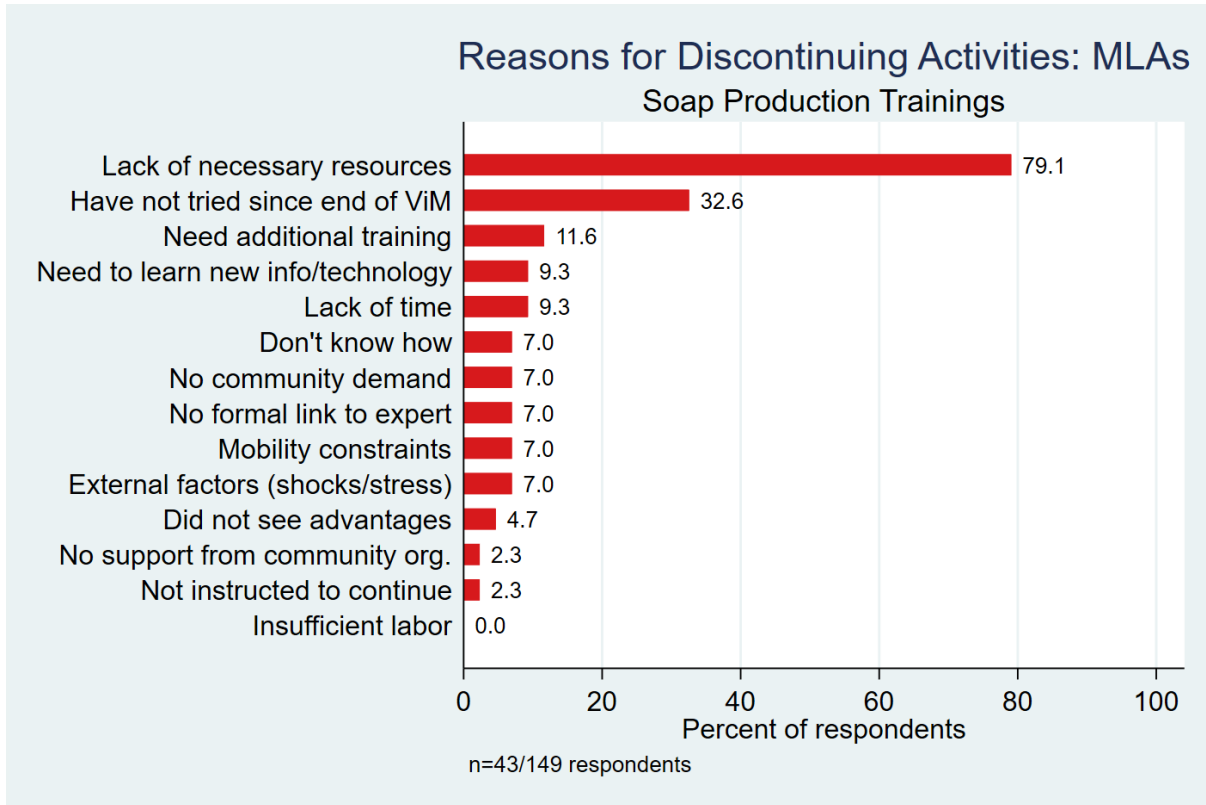
### Reasons for Continuing Activities: VVVs Feed Production Trainings



### Reasons for Continuing Activities: VVVs Improved Feed Use Trainings



**Reasons for Discontinuing Individual Activities – MLAs**

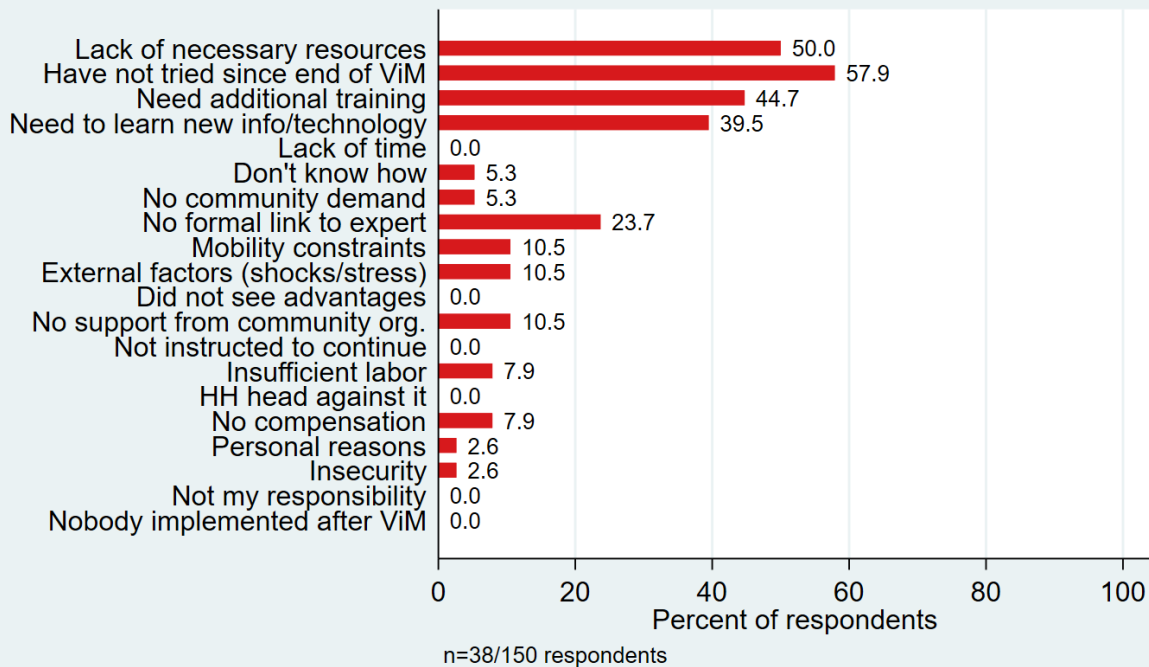


### Reasons for Discontinuing Activities: MLAs Women's Rights Trainings

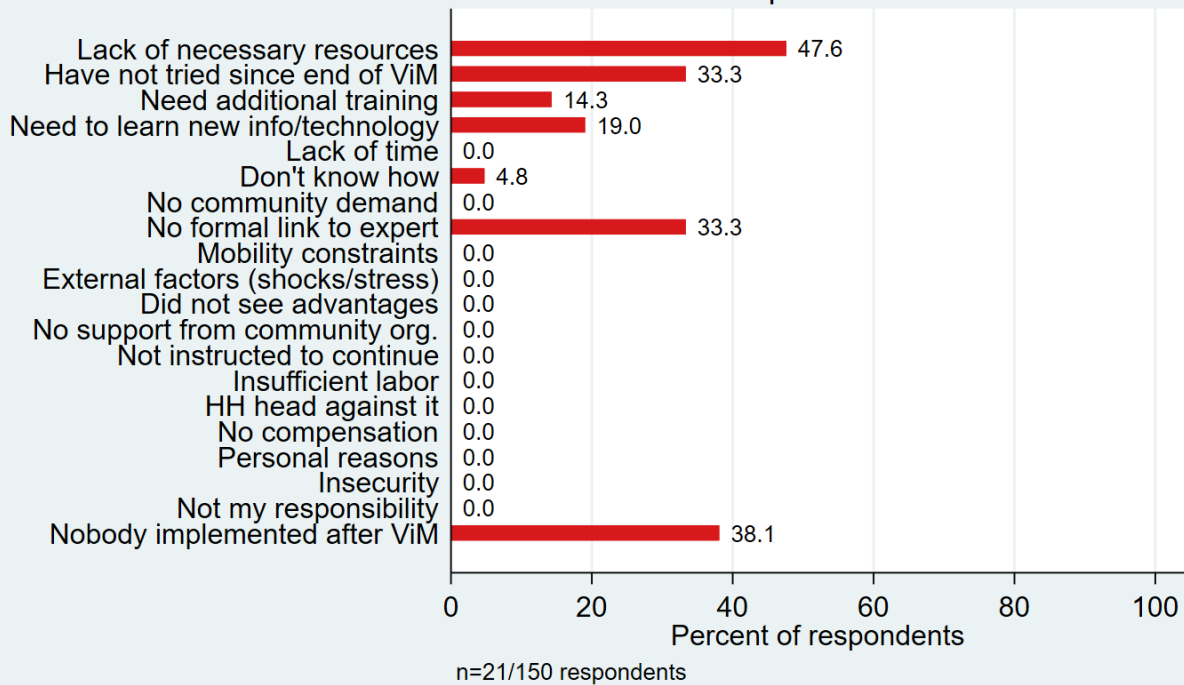


### Reasons for Discontinuing Individual Activities – PLs

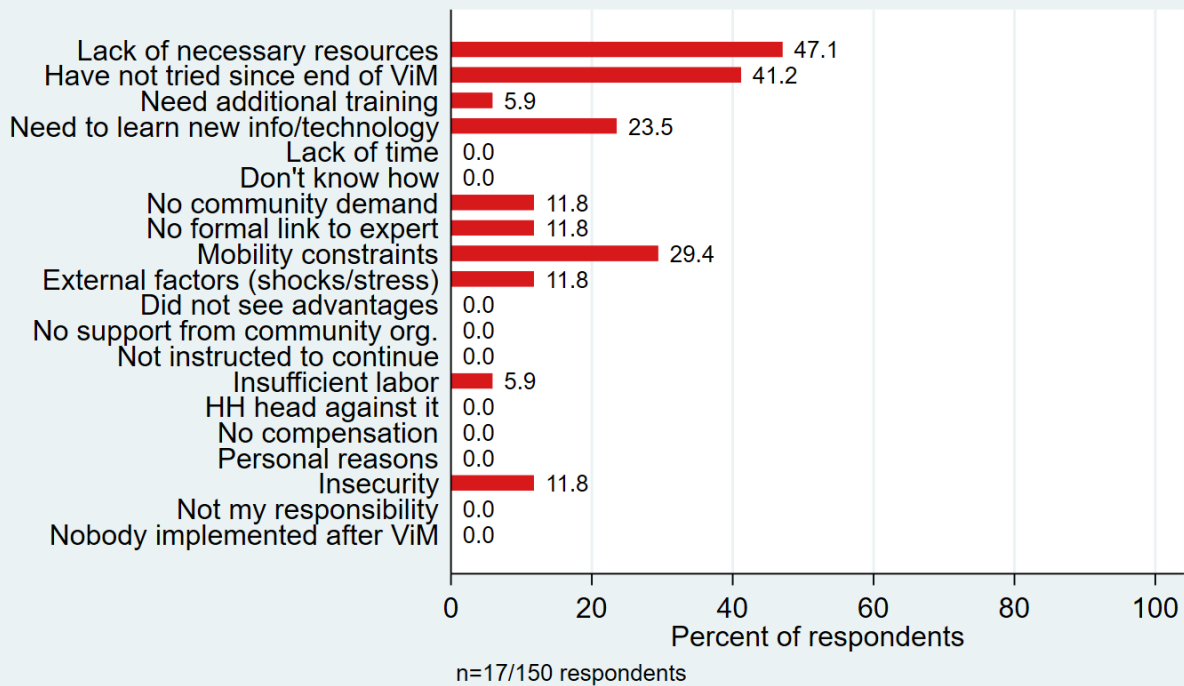
#### Reasons for Discontinuing Activities: PLs Demonstration Plots



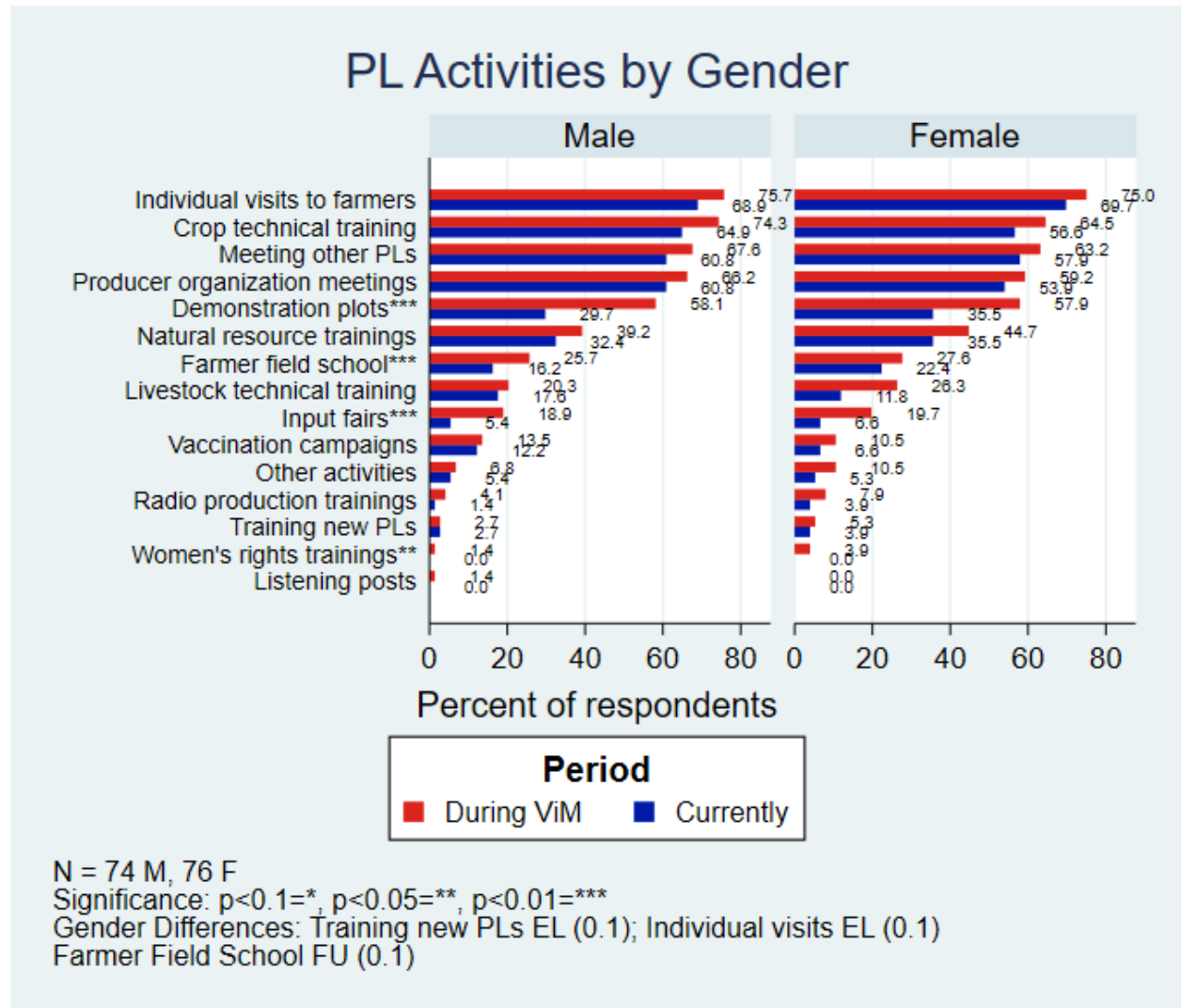
### Reasons for Discontinuing Activities: PLs Input Fairs



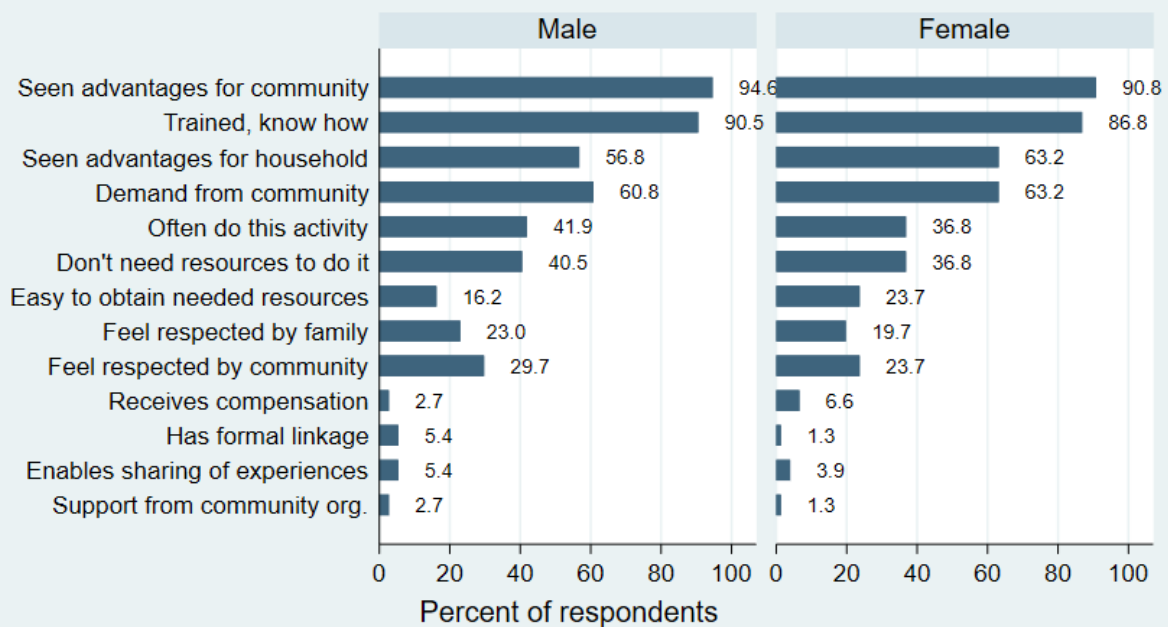
### Reasons for Discontinuing Activities: PLs Farmer Field Schools



*Gender-Disaggregated Figures*

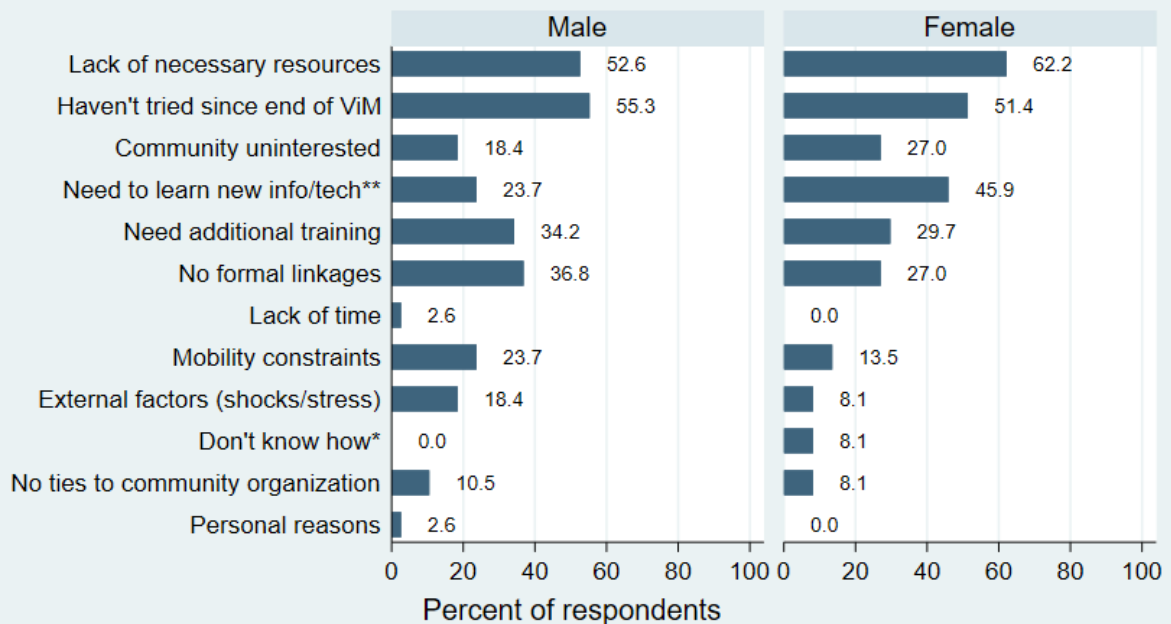


## Reasons for Continuing an Activity - PLs Disaggregated by Gender



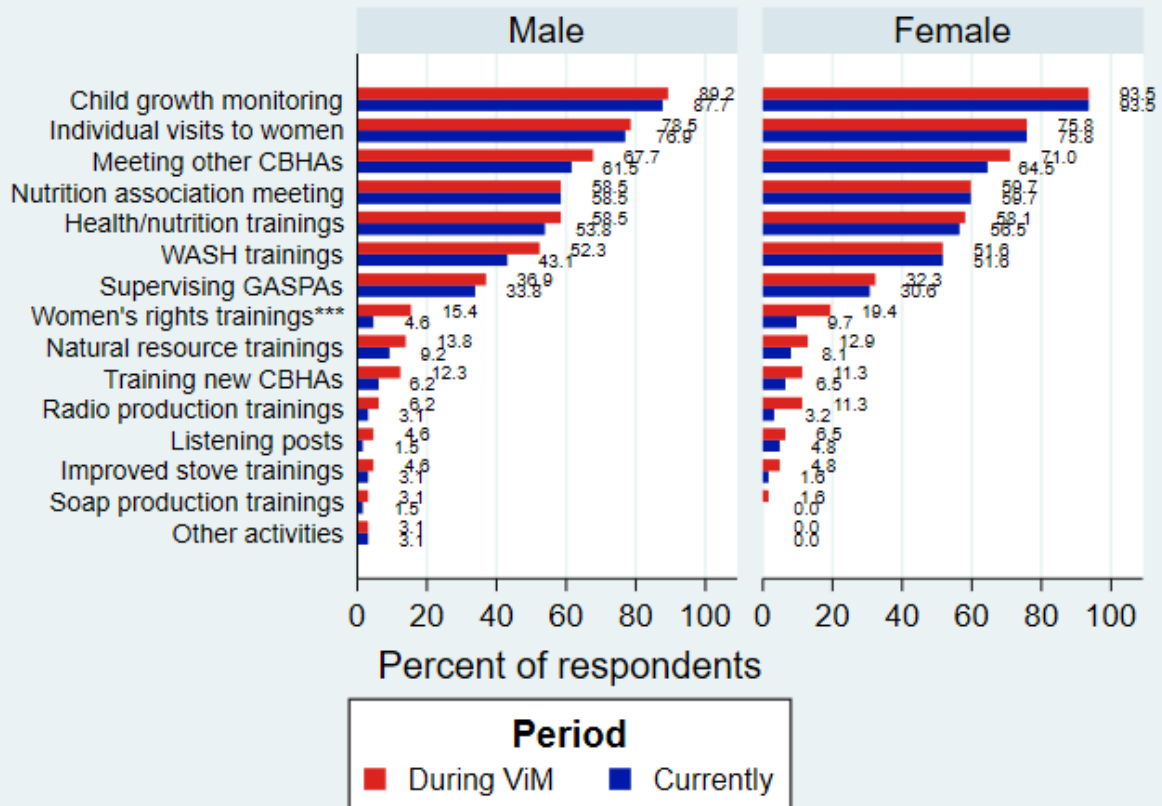
N = 74 M, 76 F  
No significant differences

## Reasons for Discontinuing an Activity - PLs Disaggregated by Gender



N = 38 M, 37 F  
Significance: p<0.1=\*, p<0.05=\*\*, p<0.01=\*\*\*

## CBHA Activities by Gender

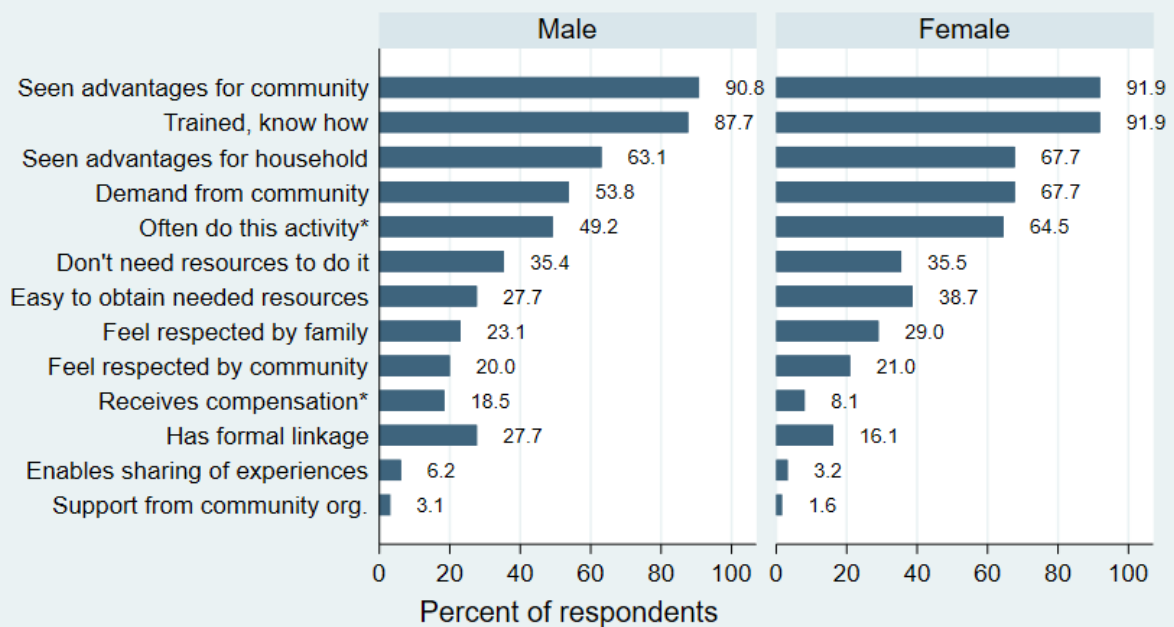


N = 65 M, 62 F

Significance:  $p < 0.1 = *$ ,  $p < 0.05 = **$ ,  $p < 0.01 = ***$

Gender differences: WASH FU(0.05); Soap EL(0.05); Listening post EL(0.1)

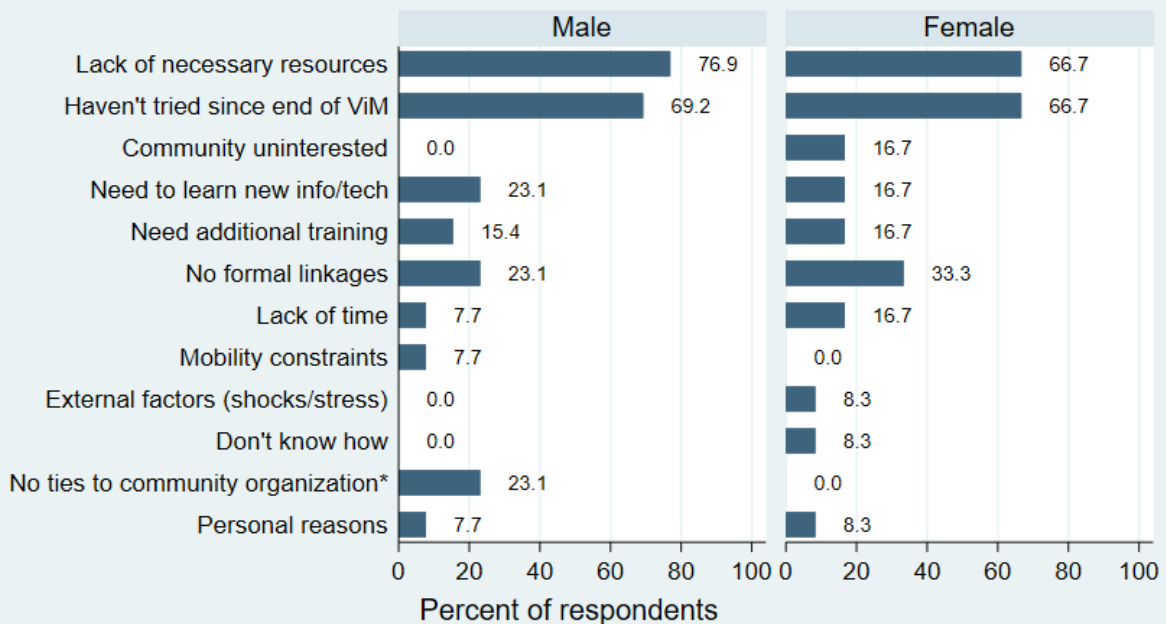
## Reasons for Continuing an Activity - CBHAs Disaggregated by Gender



N = 65 M, 62 F

Significance: p<0.1=\*, p<0.05=\*\*, p<0.01=\*\*\*

## Reasons for Discontinuing an Activity - CBHAs Disaggregated by Gender

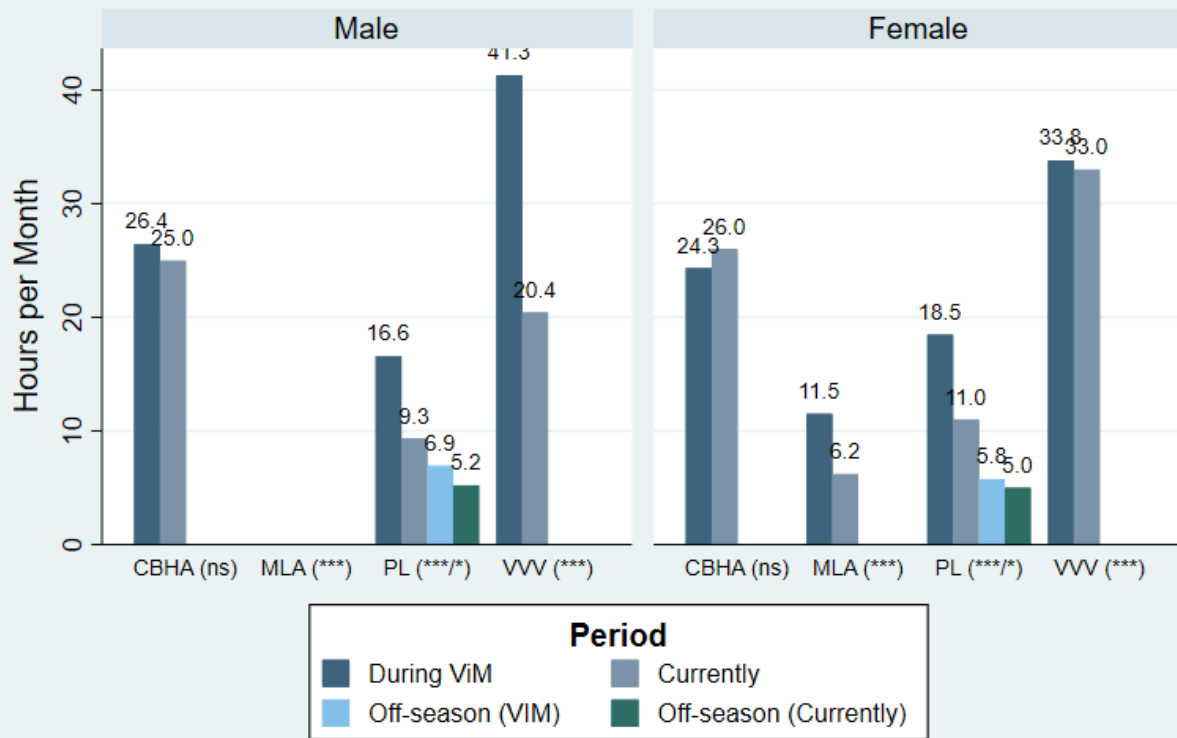


N = 13 M, 12 F

Significance: p<0.1=\*, p<0.05=\*\*, p<0.01=\*\*\*



## Hours Spent per Month on Role



Survey N: CBHA=127, MLA=149, PL=150, VVV=31 / Significance: p<0.1=\*, p<0.05=\*\*, p<0.01=\*\*\*