

**MONITORING THE INCLUSIVENESS OF GHANA'S
PLANTING FOR FOOD AND JOBS PROGRAM
IN THE BOSOME FREHO AND SABOBA DISTRICTS**



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Research Report

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PREFACE

In March 2017, the New Patriotic Party (NPP)-led government announced the implementation of a 'Planting for Food and Jobs (PFJ)' program in pursuit of its 2016 election campaign promise of enhancing agricultural productivity. Launched in April, 2017, the program seeks to promote self-sufficiency in food production while providing jobs to Ghanaians. The government sought to achieve the program objectives through the provision of improved seeds, the supply of fertilizers, the provision of dedicated extension services, purchase and marketing of food produce, among other initiatives.

As part of its mission to track allocation of national resources, and especially the extent to which marginalized communities and groups, particularly women and youth, are included in this resource allocation, the Ghana Center for Democratic Development (CDD-Ghana) implemented a project titled 'Promoting Fiscal Justice for Socio-Economic Transformation (PFJSET)'. The overall objective of this project was to track and assess the extent of inclusiveness of the PFJ program in terms of reach and resource allocation. Specifically, the project sought to achieve the following objectives:

- Establish the extent to which the needs of the marginalized and vulnerable farmer population have been addressed in the design and implementation of the Planting for Food and Jobs program
- Create a platform for marginalized and vulnerable groups to provide early feedback to government about the PFJ program; and
- Generate discussions among stakeholders at national and local levels that lead to adjustments in the PFJ program to the benefit of marginalized and vulnerable groups

The pilot project was implemented in two districts- Bosome Freho and Saboba in the Ashanti and Northern regions respectively. This report presents the findings and recommendations for improving the PFJ program and its implementation. Overall, the study revealed that the PFJ program was also to reach potentially marginalized farmers in these two districts and resulted in an increase in the number of beneficiaries. At the same time, there was a considerable number of farmers who did not sign up for the program due to lack of interest, perceived discrimination and fear of the credit system. The program's implementation also had a limitation of pro-poor focus, especially for farmers who lived in deprived communities.

Beneficiary farmers in the two pilot districts expressed overall satisfaction with the PFJ program, and yet expressed reservations about some aspects of the program's implementation, including extension services and marketing of harvest produce.

CDD-Ghana hopes that the findings and recommendations from this study will contribute to policy discourse and corrective measures for enhanced implementation of the PFJ towards improved agriculture productivity, self-sufficiency in food production and increased jobs and incomes in the country.

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The Center also appreciates the cooperation of the directors and staff of the District Directorate of Agriculture in the Bosome Freho and Saboba districts in the Ashanti and Northern regions respectively during the period of the research.

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ACRONYMS

| | |
|--------|--|
| AEA | - Agricultural Extension Agent |
| CDD | - Ghana Center for Democratic Development (CDD-Ghana) |
| DCE | - District Chief Executive |
| CSO | - Civil Society Organization |
| DDA | - District Director of Agriculture |
| FBO | - Farmer Based Organization |
| HA | - Hectare |
| LFB | - Licensed Food Buyer |
| MoFA | - Ministry of Food and Agriculture |
| NSP | - National Service Person |
| NABCO | - Nations Builders' Corps |
| PFJ | - Planting for Food and Jobs |
| PFJSET | - Promoting Fiscal Justice for Socio-Economic Transformation |

EXECUTIVE SUMMARY

In line with CDD-Ghana's Promoting Fiscal Justice for Socio-Economic Transformation (PFJSET) project objectives, a pilot study was conducted in August 2018 to assess the implementation of the government's Planting for Food and Jobs (PFJ) program. The primary focus of the assessment centered on the extent to which the PFJ program implementation includes vulnerable farmers in the distribution of program resources. Two study sites in the Bosome Freho and Saboba districts in the Ashanti and Northern regions respectively were selected for the study. Data for this study was derived from key informant interviews of program implementers, and from selected beneficiary and non-beneficiary farmers using a semi-structured questionnaire. The findings from this study were validated through two district level workshops - one in each of the sampled districts as well as other engagements with key stakeholders, such as officials of the PFJ Secretariat at the Ministry of Food and Agriculture (MoFA), some development partners and civil society groups. This report incorporates new information, clarification and inputs made during these validation meetings.

Key Findings

- The study found that in both districts, a corps of adequately trained staff was present and carrying out the planned PFJ activities. Execution of program activities was in line with the program policies, despite of some logistical challenges. As a result, there had been a gradual increase in the number of beneficiaries reached by the program. The quantities of PFJ program farm inputs distributed to farmers and the number of contacts between extension staff and farmers had increased since 2017.
- Farmers enrolled on the PFJ program received subsidized inputs and extension, but not marketing services:
 - Two out of every three PFJ registered farmers received improved seeds.
 - Three out of every four PFJ registered farmers received fertilizers.
 - One out of every six PFJ registered farmers received extension service.
 - No registered farmer had his or her produce purchased by a Licensed Food Buyer.
- Through the PFJ program, more enrolled farmers had been using productivity-enhancing inputs for the first time:
 - One out of every ten farmers who had received PFJ program seeds was a first-time user.
 - One out of every twenty farmers who had received fertilizer was a first-time user.
- The study isolated a group of farmers who were likely to face discrimination in the distribution of PFJ program resources because they were either young, female, living with a disability. Others in this category were farmers with crops less than one hectare (ha) of land and or stationed in difficult to reach communities. The project designated this category of farmers as the 'Potentially Marginalized' group. The study found that:
 - The PFJ program reached more potentially marginalized farmers than those who would otherwise not be marginalized.
 - In the Bosome Freho district, a potentially marginalized farmer had a higher chance of being reached by the PFJ program than a non-marginalized farmer.
 - In Saboba district, the chance of being reached is almost equal for both potentially marginalized and the non-marginalized.
 - Among the first-time users of seeds and fertilizers due to the PFJ program, the overwhelming majority were in the potentially marginalized category.

- This progress, notwithstanding, 56 percent of non-registered farmers selected themselves out of the program due to lack of interest. The 44 percent who were interested in the PFJ program, but were excluded, cited unawareness about the program and other factors such as fear for the credit system and alleged discrimination by some program implementers as the main reasons for their exclusion.
- In general, farmers perceived the PFJ program to be gender inclusive, but not pro-poor or friendly to those whose farms were in deprived communities.
- Several targeting strategies were being carried out by program implementers in the study districts which could potentially be scaled-up nationwide.
 - First, in order to reach farmers on islands or difficult-to-reach communities, emerging targeting strategies, included identifying the communities, bulking inputs and transporting them to a central location to aid access. Input traders were also encouraged to open agencies or branches in such communities.
 - Secondly, poor and virtually landless farmers were being encouraged to form FBOs to reduce the cost of procurement of PFJ program inputs.

Recommendations

- In addition to these emerging strategies, a number of recommendations are put forward to reduce exclusion and marginalization in the PFJ program delivery. These include the need to:
 - Allow district managers of the PFJ program the space to collaborate with similar existing NGO-led programs.
 - Promote farmer-led or cooperative input shops or agencies in farming communities;
 - Provide different payment choices for farmers depending on their capacity for either outright payment for subsidized inputs, or join the input credit scheme.
 - Encourage more group, mass and farmer-led extension methods.
 - Utilize Licensed Food Buyers (LFB) as an instrument for targeting by specifically limiting their activities to targeted communities and groups.
 - Enhance, equip and resource agricultural extension agents to facilitate targeting strategies. These agricultural extension agents remain the anchor of the PFJ program success.

1. INTRODUCTION

Despite the many agricultural policies and programs adopted over the past several years, Ghana's agricultural sector continues to lag behind expectations. Whereas policy makers expect a consistent 6% growth in agriculture to support economic growth, the sector has grown at an annual average of 4.3%. Recently, between 2013 and 2016, agricultural sector growth declined from 5.7% to 2.5%. In response to this dwindling performance of the sector, the New Patriotic Party (NPP)-led government under the presidency of Nana Akufo-Addo, which came into power on 7th January 2017, instituted the Planting for Food and Jobs (PFJ) program. The fundamental objective of the program is to expand farmers' access to agricultural inputs and services required to intensify production, improve productivity and stabilize farmer incomes. The PFJ policy framework sought to target food crop (cereal and vegetable) farmers in the agricultural districts in the country, with a subsidized input credit scheme, expanded extension services and direct purchase of their produce. The PFJ program's other intended objective was to create farm-level jobs in rural communities.

In its original design, interested and eligible farmers who enrolled in the program accessed improved seeds and fertilizers by paying for 50% of the subsidized prices up-front. Farmers were required to repay the remaining 50% after harvesting and selling their produce, preferably, to PFJ-registered Licensed Food Buyers (LFBs). Additionally, extension services across the country were given a boost with the employment of more Agricultural Extension Agents (AEAs). Following high loan default rates after initial implementation, the PFJ program was modified. In place of the input credit scheme, farmers were now required to purchase the seeds and fertilizers directly at subsidized prices.

One key success indicator of the PFJ program is how fairly its inputs and services are distributed among farmers. Sustainability of the PFJ program, therefore, requires intentionally working to ensure that vulnerable farmer groups are targeted in the distribution of inputs and services. In order to assess and monitor this success factor, this study sought to investigate the extent of inclusion of the marginalized and vulnerable farmer groups in the implementation of PFJ by the government.

As a first step towards achieving its goals, the project initiated a national assessment of the PFJ program by reviewing the design and planned implementation of the PFJ program, using similar agricultural initiatives in previous years as a benchmark similar agricultural initiatives in previous years. The assessment also sought to identify groups of potentially vulnerable farmers who were likely to be excluded from, or discriminated against in the implementation of the PFJ program. The assessment identified that the potentially marginalized category of farmers included women, the youth, farmers living with disability (FLWD), the poor (especially land poor) and those living in difficult-to-reach communities.

As a second step, and a follow-up to the national assessment, a scoping survey was initiated in the Northern and Ashanti regions of Ghana. The objective of the scoping survey was to identify at least two districts where the PFJ program implementation could be monitored to observe how potentially marginalized farmers were being reached. The scoping survey recommended carrying out pilot monitoring activities in the Bosome Freho and Saboba districts in the Ashanti and Northern regions respectively.

This report thus presents findings from the monitoring of the implementation of the PFJ program in the Bosome Freho and Saboba districts. Specifically, the study reports on how vulnerable and potentially marginalized farmers have been targeted in the design and implementation of the PFJ program. The key findings and recommendations distilled from the study were shared with key stakeholders, including

program managers at the PFJ Secretariat at the Ministry of Food and Agriculture (MoFA) and some civil society organizations and development partners. Ultimately, it is expected that this report will further inform future program implementation and promote equitable and inclusive distribution of the PFJ program resources.

2. STUDY OBJECTIVES

The objective of this study was to find out the extent to which the PFJ program was reaching and benefitting the poor, vulnerable and marginalized members of Ghana's farming community. Specific objectives of this study were to:

The Specific objectives of this study were to:

- 1. Identify any challenges associated with reaching out to potentially marginalized farmers in the implementation of the program in the two selected districts;*
- 2. Identify the immediate effects of the PFJ program on farmers' livelihoods;*
- 3. Assess the effectiveness of the PFJ program implementation in the two selected agricultural districts;*
- 4. Assess the extent to which the PFJ program was reaching potentially marginalized farmers in the Bosome Freho and Saboba agricultural districts;*

3. METHODOLOGY

The study utilized a mixed methods approach consisting of an initial qualitative inquiry followed by a quantitative investigation. The first phase, which was the scoping study was done in March 2018.

This study was carried out in two phases; the first phase involved a scoping study in March 2018. Four districts were purposively selected for the scoping study - Saboba and Kpandai districts of the Northern region and Bosome Freho and Sekeyere Afram plains districts in the Ashanti Region. These districts were selected for the scoping study based on a set of three criteria: (1) must be an important food production district; (2) must have farming communities that are difficult-to-reach or island communities; and (3) must have a substantive number of active Farmer-Based Organizations (FBOs). The project team interacted with district project managers in these districts during the scoping study.

Following analyses of the information gleaned from the scoping survey, two districts (Bosome Freho and Saboba) were sampled for the second phase of the study which took place in August 2018. Within each of the two districts, information was gathered from three sources; the District Director of Agriculture (DDAs), input traders, and farmers. Each DDA was interviewed. Input traders were selected through snowballing techniques. In total, ten (10) input traders- five in each district, were interviewed. A systematic approach was used to sample farmers for interview.

First, out of the scoping survey, a list of farming communities in each district was compiled. For each district, the communities were separated into two based on how difficult they were to reach from the DDAs office. This approach ensured that farmers in distant communities were fairly represented. For each district, three easy-to-reach and two difficult-to-reach communities were randomly designated for farmer selection. This brought the number of communities to ten. From each of the ten sampled farming communities, at least six (6) registered and six (6) non-registered farmers were selected to be interviewed (See Table 1). In sum, 200 farmers were selected for interview – 95 non-PFJ farmers and 105 PFJ registered farmers.

Table 1 Sample size distribution

| Bosome Freho District | | | Saboba District | | |
|-----------------------|-------------|-----------------|-----------------|-------------|-----------------|
| Community | PFJ farmers | Non-PFJ farmers | Community | PFJ farmers | Non-PFJ farmers |
| Adeito | 13 | 13 | Bakundiba | 9 | 11 |
| Anumso | 8 | 9 | Gbenjag | 13 | 7 |
| Asiwa | 12 | 9 | Kpalba | 9 | 11 |
| Freboye | 12 | 8 | Labaldo | 13 | 7 |
| Sumdadieso | 6 | 10 | Tilangbeni | 10 | 10 |
| TOTAL | 51 | 49 | TOTAL | 54 | 46 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

A Key Informant Interview (KII) schedule was used to solicit information from the DDAs and input traders. A semi-structured questionnaire was distributed to sampled farmers. These data collection instruments were programmed electronically on computer tablets for easy data collection. Quantitative data from the enumeration was analyzed with descriptive statistics, while qualitative information was content analyzed for trends and patterns. The preliminary findings were validated by stakeholders during the district level community engagements in April 2019.

4. FINDINGS

4.1 Evolution of the PFJ program design

The research team observed an important modification in the design of the PFJ program. When the program was announced in the 2017/18 fiscal year, it was presented as a subsidized input credit scheme integrated with agricultural extension and produce buying components. However, after the first year of piloting the program, the credit scheme was phased out due to low repayment challenges. The program was thus modified by removing the credit scheme, and as at 2019, the PFJ program had changed into an input subsidy scheme accompanied by an expanded extension service. However, the produce purchasing component of the PFJ program had not taken off across the country as planned.

4.2 The PFJ program inputs at district level

4.2.1 Structures for district-level implementation of the PFJ program

At the district level, the overall leadership of the PFJ program is the responsibility of the District Chief Executives (DCEs) while the District Directors of Agriculture (DDAs) are responsible for the operational management of the program. The DDAs are also supported by a team of Agricultural Extension Agents (AEAs) and non-technical support staff; comprising National Service Persons (NSPs). The AEAs play the role of farmer mobilization, registration, education, and to some extent, support input distribution and monitoring. The NSPs act as Desk Officers who assist with record keeping. PFJ program farm inputs (especially fertilizers) are distributed by input traders, who act as agents of bigger fertilizer importing firms. With the modification of the program, recruits from the Nations Builders' Corps (NABCO) were assigned to the various input traders to monitor the sale of subsidized inputs and to ensure appropriate record keeping.

Prior to the program's modification, the management structure was not properly placed to manage the credit scheme. With the phasing out of the credit scheme, the structure was now found to be appropriate for the management of the program. Throughout the period of this study, some new AEAs and non-technical staff had been employed at the districts purposely for the PFJ program. For instance, it was found that seven (7) new dedicated PFJ program AEAs had been employed in the Bosome Freho district, while the Saboba district had received four (4).

Additionally, all the staff the research team interacted with reported having been part of at least one training activity towards implementation of the PFJ program in their districts. Interviews with DDAs in both districts confirmed that staff had their capacity to manage the PFJ program adequately built. Meanwhile input dealers interviewed reported that they had also been involved in at least one engagement or training session on PFJ program implementation.

4.2.2 Provision of logistical support for PFJ program implementation

Key informant interviews revealed that key resources needed for the smooth implementation of the PFJ program had been promised but had largely not been delivered even in the second year of implementation. In the Bosome Freho district, the only logistical resource available to support PFJ implementation at the time of the study was a vehicle. Motorbikes had been promised but were yet to be delivered or handed over to program managers in the districts. Similarly, promised warehouses had not been constructed at the time of the study. In the Saboba district, no supporting resource had been delivered at the time of the study.

4.3 Implementation of PFJ program activities

4.3.1 Distribution of PFJ program subsidized farm inputs

With the continuous modifications made to the PFJ program, the procurement of fertilizers and seeds for the

districts saw a marked improvement. The study revealed that at the beginning of the PFJ program in late 2017, fertilizers and seeds arrived in the districts too late in the farming season. The delays in 2017 were attributed to miscommunication between the input companies and the managers of the PFJ program. Representatives of the input companies would arrive in the districts without giving much notice of their arrival. Sometimes, when input companies gave notice of their arrival, they would not turn up.

In 2018, the PFJ program fertilizers and seeds were available when needed for distribution. There were no reports from program implementers (MoFA and input traders) of shortages or delays in the release of the subsidized inputs. Program seeds were distributed differently from fertilizers. Seeds were deposited at the DDAs offices by the importers for further distribution to farmers. With regards to fertilizers, input companies arranged with their respective agents or traders about specific quantities they could sell. There were no caps on the quantities of fertilizers lodged with input traders. The traders made payment into the parent company's bank accounts and the products were delivered to their shops by the importers. Beyond 2018, the subsidized fertilizers and seeds were sold only at the input dealer shops to farmers who had enrolled with MoFA.

In both districts, once fertilizers and seeds were procured, their distribution followed the following steps:

1. Enrollment into the PFJ program. All farmers who are 18 years and above with a demonstrated interest in the PFJ program are eligible to enroll onto the PFJ program. Although the initial program design set an eligibility requirement of a minimum of 1 hectare of farmland, the DDAs interviewed did not mention such a criterion. The DDAs indicated that the most important eligibility criterion was for one to be a recognized farmer who cultivates any of the priority PFJ target crops. While some farmers mentioned that AEAs visited them in their respective communities to register them for the program, the majority of them had to visit the DDAs office, at their own cost, to be registered. To register, a farmer must identify himself with a valid national identity card and contact number.
2. Payment for inputs. In the original 2017 design of the program, a registered PFJ program farmer who was willing to acquire subsidized inputs was required to first pay 50% of the designated price (by the government) into a bank account at the nearest branch or agency of an agreed upon bank. An innovation in the payment system, which was observed at Bosome Freho district, was the introduction of mobile payment platforms. Farmers could pay their initial deposits to a dedicated number. Following the modification of the program after 2018, farmers purchased their inputs directly from the input traders, upon verification from the NABCO officers stationed at the input shop. Retrieval and transportation of inputs. With evidence of payment, farmers approach an AEA for specially designed coupons, which have a face value that is equivalent to the payments made. The coupons are then exchanged for fertilizers at the shops of input traders or seeds at the DDAs office. Transportation of the purchased fertilizer and seeds to the farmers' fields is the responsibility of the farmer.

4.3.2 Provision of extension and marketing services

Farmer education is one of the core components of the PFJ initiative. According to the DDAs interviewed, farmer education takes three forms:

1. Public education about the PFJ initiative. It was evident from the DDA interviews that the approach to reaching out to the general public about the PFJ program differs by district. Whereas Bosome Freho district relied mainly on MoFA staff, Saboba district relied on the mass media (especially radio) to inform the general public about the PFJ program.

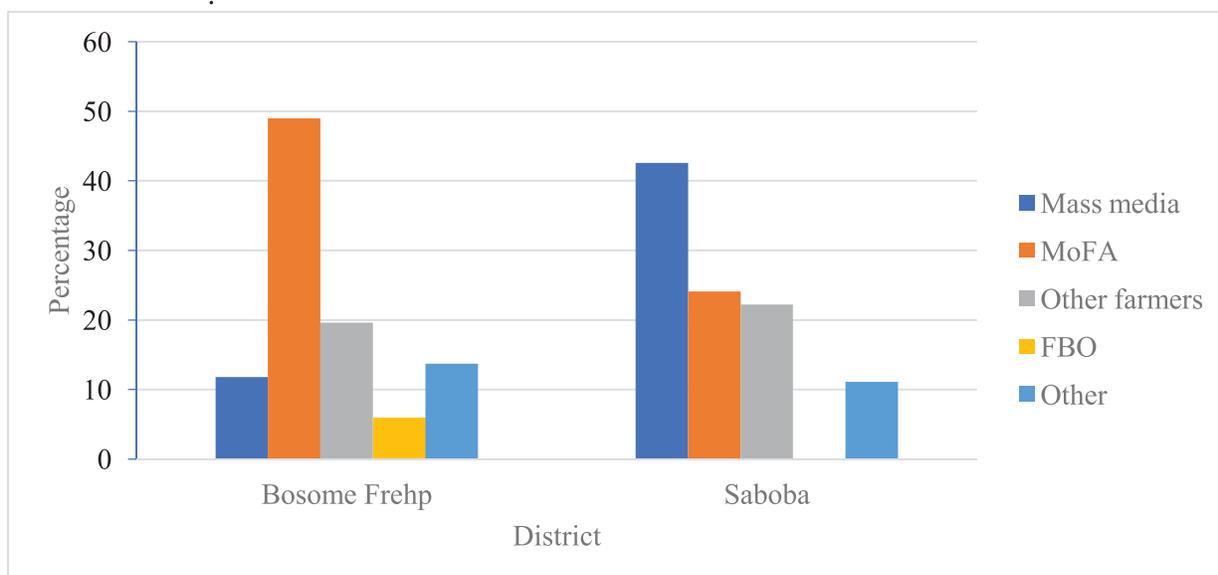


Figure 1 Main channels by which PFJ farmers heard of the PFJ program

Farmer interviews confirmed this information from the DDAs. Figure 1 summarizes farmers' response to the question: 'how did you hear about the PFJ program'. Whereas 47% of PFJ farmers interviewed in Saboba district heard about the program from the mass media, only 12% in Bosome Freho district mentioned this source. Meanwhile, over 50% of farmers from the Bosome Freho district reported being informed by a MoFA staff about the program compared to 27% in the Saboba district. These findings were further confirmed during stakeholder validation workshops, where it was mentioned that extension officers in the Saboba district were generally limiting their farmer education activities to the use of radio. It was interesting to note that between 20% and 24% of all the PFJ registered farmers interviewed heard about the program from other farmers.

1. Community engagements by AEAs. With this approach, the DDAs are able to send targeted messages to certain communities.
2. Technical training. Individual farmer training is carried out by AEAs through farm visits. One interesting finding, in both districts visited, was the absence of any Licensed Food Buyers (LFB) as announced in the original PFJ program design, and included in the 2017 Budget Statement. In the absence of LFBs, PFJ program farmers' produce are traded through the regular outlets – middlemen, market traders or households.

4.3.3 District-level monitoring of the PFJ program

It was observed that internally built monitoring activities of the program are carried out as planned in both districts. These built-in monitoring mechanisms take the following forms:

1. Monitoring the management of the PFJ program: Periodic monitoring is carried out by the DCE and a monitoring team comprising national, regional and district staff of MoFA.
2. Monitoring the use of the PFJ program fertilizers and seeds by farmers: In both districts, this type of monitoring is carried out by AEAs who conduct regular visits to farmers in their communities and fields.
3. Monitoring against diversion of PFJ program fertilizers and seeds. Until the recent modifications in the program design, diversion of fertilizers and seeds were controlled by three mechanisms.
 - a. Periodic checks by the monitoring team.
 - b. A cap on the quantity of fertilizers and seeds that each farmer can receive. This ensures that some farmers are not able to acquire larger than needed quantities of seeds and fertilizers

- which would end up on the market or in other countries.
- c. A 'Coupon System' for the collection of fertilizers and seeds. After farmers had made their initial 50% payment, they collected coupons with the same face value from their AEAs with which they retrieved fertilizers and seeds.

With changes in the PFJ program design in the course of the study, NABCO officers were stationed at all designated input trader shops for monitoring purposes. They ensured that only registered farmers received PFJ program seeds and fertilizers and that they have received only the quantities they are entitled to.

4.3.4 Targeting of marginalized farmers

Generally, there is no elaborate strategy in the design of the PFJ program based on which officials at the districts would target potentially marginalized farmers. Instead, the original program design alienated farmers with less than 1 hectare of land. This has reduced to 0.4 hectare and indeed, in both districts, it was observed that the initial 1ha land requirement had been relaxed. Program implementers also now seek a target of at least 40% female farmers.

In the Bosome Freho district, the DDA organizes the transportation of fertilizers and seeds to difficult-to-reach farmers. Additionally, PFJ program officers encouraged group formation by farmers so they could purchase fertilizers and seeds in bulk to reduce transportation costs. In the Saboba district, the DDA mentioned that his focus was to get as many of the small land-holding farmers as possible on board the PFJ program. According to some input traders in both districts, the opening branches or agencies in some of these communities had made it easier for potentially marginalized farmers to retrieve their subsidized inputs

4.4 Farmers demographic, community and economic characteristics

4.4.1 Demographic characteristics

The majority of farmers sampled in the study were married males between ages 35 and 44 years who were native to the communities studied (see Table 2).

Table 2 Proportion of sampled farmers with selected personal characteristics

| Personal characteristics | Categories | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|--------------------------|------------|-------------------------|-------------------|------------------|
| Age distribution | 15-24 | 3.0 | 0.0 | 1.5 |
| | 25-34 | 16.0 | 20.0 | 18.0 |
| | 35-44 | 33.0 | 34.0 | 33.5 |
| | 45-54 | 31.0 | 25.0 | 28.0 |
| | 55-64 | 13.0 | 17.0 | 15.0 |
| | 65+ | 4.0 | 4.0 | 4.0 |
| Sex of respondent | Male | 56.0 | 83.0 | 69.5 |
| | Female | 44.0 | 17.0 | 30.5 |
| | | | | |

| | | | | |
|------------------|-------------------|------|------|------|
| Migration status | Indigene | 68.0 | 99.0 | 83.5 |
| | Migrant | 32.0 | 1.0 | 16.5 |
| Marital status | Single | 4.0 | 5.0 | 4.5 |
| | Cohabitation | 3.0 | 2.0 | 2.5 |
| | Married | 89.0 | 91.0 | 90.0 |
| | Separated/widowed | 4.0 | 2.0 | 3.0 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Figure 2 shows that 63% of the sampled farmers in Saboba district were without any form of formal education, compared to 8% in Bosome Freho district. Additionally, only 12% of the farmers sampled from Saboba district had basic education while 78% in Bosome Freho district reported this level of education. The proportion of farmers who had been educated beyond the basic level was significantly low in both districts.

The main difference in the average personal characteristics of interviewed farmers in the two districts was the levels of education. The majority of the sampled farmers were not educated beyond basic education level. Whereas the majority of the sampled farmers from the Bosome Freho district reported having been educated at least to the basic level, most of those from Saboba district had not received any form of formal education.

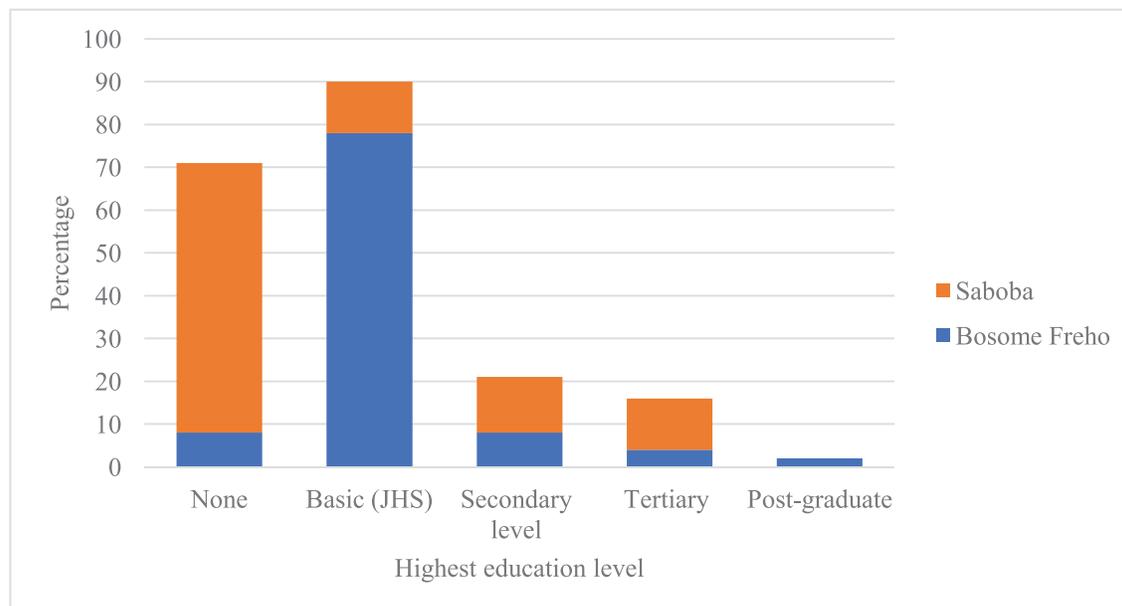


Figure 2 Distribution of farmers' highest educational attainment

4.4.2 Farmers' community characteristics

The majority of the sample was taken from rural communities as depicted in Figure 3. In Bosome Freho district, 84% of the sampled farmers were located in rural communities, while 15% were in peri-urban towns. Similarly, 73% of the farmers interviewed in Saboba district were located in rural communities, while 27% mentioned lived in peri-urban towns.

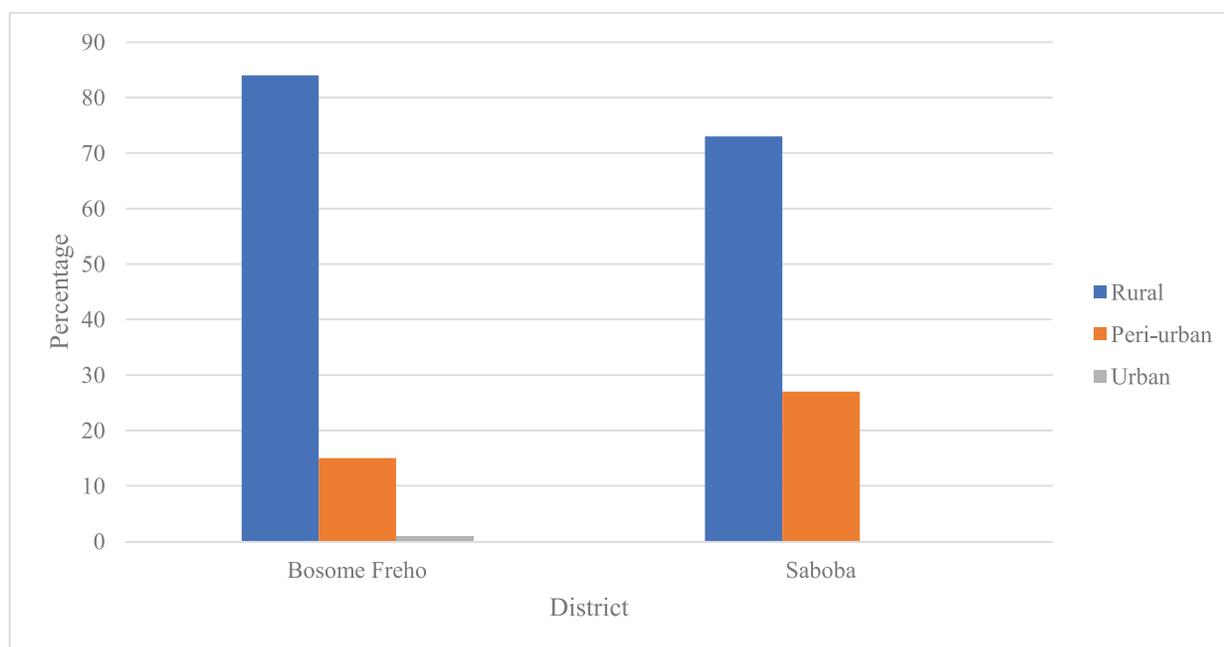


Figure 3 Percentage of farmers living in rural communities

The majority of farmers sampled lived in deprived but accessible communities. Table 3 shows that generally, some 20% of the farmers described their communities as inaccessible, while approximately 87% lived in deprived communities. Only 9% of respondents described their communities as deprived and inaccessible.

Table 3 Reported community economic and accessibility status

| Community characteristic | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|-------------------------------|----------------------|----------------|---------------|
| Deprived and inaccessible | 17.0 | 1.0 | 9.0 |
| Deprived but accessible | 83.0 | 72.0 | 77.5 |
| Not deprived but inaccessible | 0.0 | 21.0 | 10.5 |
| Not deprived but accessible | 0.0 | 6.0 | 3.0 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

The pattern of community economic characteristics of sampled farmers differed by districts. All the farmers interviewed from Bosome Freho district described their communities as deprived, but only 17% of them mentioned that their communities were inaccessible as well. In Saboba district, 73% of respondents indicated they lived in deprived communities and almost all of them said these communities were accessible. For the 27% of the respondents from Saboba district who said their communities were not deprived, 6% stated that their communities were accessible while 21% stated that their communities were difficult to access.

4.4.3 Farmers' economic characteristics

In both districts, the majority of farmers sampled were involved only in agricultural economic activities. The majority of the farmers practiced mixed farming (crops and livestock) for both commercial and domestic purposes. Most of the farmers reported that they did not have any additional non-farming income. Among those who reported non-farm economic activity, the dominant additional sources of income mentioned was trading.

Table 4 Farm and non-farm activities of sampled farmers

| Economic characteristics | | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|--------------------------|--------------------------------|-------------------------|-------------------|------------------|
| Farming activity | Mainly subsistent | 1.0 | 26.0 | 13.5 |
| | Mainly commercial | 40.0 | 0.0 | 20.0 |
| | Combined | 59.0 | 74.0 | 66.5 |
| Non-farm activity | Food Processing | 1.0 | 4.0 | 2.5 |
| | Artisanship | 15.0 | 9.0 | 12.0 |
| | Trading | 29.0 | 14.0 | 21.5 |
| | Formal office work | 7.0 | 15.0 | 11.0 |
| | None | 48.0 | 58.0 | 53.0 |
| | Type of farming | Crop farming | 47.0 | 43.0 |
| | Mixed farming (crop & animals) | 53.0 | 57.0 | 55.0 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Table 4 reveals that in Bosome Freho district, the majority of sampled farmers practice mixed farming (53%); for both domestic and commercial purposes (59%). In addition, some 52% of respondents supplemented their farm incomes with non-farm activities. Trading and artisanship were the main supplementary income sources. The pattern is slightly different for farmers from the Saboba district where up to 55% of the respondents were involved in mixed farming. The majority (53%) of them did not supplement their farm income with non-farm activities. Even if they did, it was mainly formal office work.

Table 5 Distribution of food cropping systems in the study area

| Farm crop | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|--------------------------------|-------------------------|-------------------|------------------|
| No response | 0.0 | 6.0 | 3.0 |
| Cereals only | 3.0 | 6.0 | 4.5 |
| Vegetables only | 23.0 | 0.0 | 11.5 |
| Roots & tubers only | 11.0 | 0.0 | 5.5 |
| Legumes only | 0.0 | 1.0 | 0.5 |
| Cereals & Vegetable | 10.0 | 1.0 | 5.5 |
| Cereals & tubers | 29.0 | 5.0 | 17.0 |
| Cereals & legumes | 2.0 | 66.0 | 34.0 |
| Vegetables & tubers | 12.0 | 0.0 | 6.0 |
| Vegetable & legume | 0.0 | 6.0 | 3.0 |
| Cereals & vegetables | 7.0 | 0.0 | 3.5 |
| Cereals & vegetables & legumes | 1.0 | 2.0 | 1.5 |
| Cereals & tubers & legumes | 2.0 | 7.0 | 4.5 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Lands for agricultural activities by respondents in both Bosome Freho and Saboba districts were mostly obtained from family sources. On the average, respondents cropped between 5 acres and 8 acres. The dominant food cropping system differed by district. About 66% of the farmers from the Saboba district focused on cereals and legumes. In Bosome Freho district, the main cropping pattern was cereals mixed with roots and tubers (cropped by 29% of the sample in the district). Another 23% of the sample in Bosome Freho district focused only on vegetables (See Table 5).

With regards to input use by farmers in their food crop farms, 87% of all respondents reported using fertilizers outside of the PFJ program. Patterns of fertilizer use outside of the PFJ program was different between the two districts. Almost every farmer interviewed in Saboba district (96%) reported using fertilizer

before joining the PFJ program or outside of it. In Bosome Freho district, 78% of the farmers interviewed reported using fertilizers outside the PFJ program.

Table 6 Distribution inputs and services use outside of the PFJ program

| Inputs and extension services | | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|--------------------------------------|-----------------------------------|---------------------------------|---------------------------|--------------------------|
| Fertilizer use | Use fertilizer | 78.0 | 96.0 | 87.0 |
| | Do not use fertilizer | 22.0 | 4.0 | 13.0 |
| Improved seed use | Used improved seed | 79.0 | 31.0 | 55.0 |
| | Do not unimproved seed | 21.0 | 69.0 | 45.0 |
| Extension information | Receive extension services | 50.0 | 63.0 | 56.5 |
| | Do not receive extension services | 50.0 | 37.0 | 43.5 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

The use of seeds obtained from outside the PFJ program followed a different pattern from fertilizers. More farmers in Bosome Freho district reported using non-PFJ program seeds than in Saboba district. About 79% of the farmers in Bosome Freho district used improved seeds that were not obtained from the PFJ program, compared to just 31% in Saboba district.

Further, it can be seen from Table 6 that, the production activities of majority of respondents (56%) had been supported by extension services prior to the introduction of the PFJ program. Extension support, prior to the PFJ program, was reported by a higher proportion of farmers in the Saboba district (63%) than in the Bosome Freho district (50%).

As mentioned earlier, one of the objectives of the PFJ program is farm-level job creation. The research team therefore asked respondents about the number of farm hands they employed prior to or outside of the PFJ program. The average number of farm hands used at each stage of the food crop season outside of the PFJ program is presented in Table 7. Farmers in the Bosome Freho district reported using an average of nine (9) farm hands for land clearing. Planting required eight (8) farm hands, while farm maintenance and harvesting cost six (6) and nine (9) workers respectively. Less labour was employed by farmers in Saboba district for land clearing and planting as they reported using an average of four (4) workers for land clearing and six (6) for planting. They, however, reported using similar number of farm hands as those in Bosome Freho district on farm maintenance (six farm hands) and harvesting (nine farm hands).

Table 7 Reported mean number of farm hands employed prior to the PFJ Program

| | Bosome Freho (N=51) | | Saboba (N=53) | | Total (N=104) | |
|------------------|--------------------------------|------------------|--------------------------|------------------|--------------------------|------------------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Land clearing | 9.08 | 9.46 | 3.75 | 3.57 | 6.37 | 7.55 |
| Planting | 8.22 | 7.94 | 6.08 | 6.24 | 7.13 | 7.17 |
| Farm maintenance | 6.49 | 9.03 | 5.64 | 7.27 | 6.06 | 8.15 |
| Harvesting | 9.31 | 9.62 | 9.36 | 14.72 | 9.34 | 12.43 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Table 8 Aggregated employment across four (4) activities

| | Bosome Freho (N=51) | | Saboba (N=530) | | Total (N=104) | |
|------------------------------|------------------------|-----------|-------------------|-----------|------------------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Employees before joining PFJ | 33.10 | 28.00 | 24.83 | 23.25 | 28.88 | 25.89 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

As indicated in Table 9, farmers reported using an average of two (2) additional farmhands since enrolling on the PFJ program. Farmers in Saboba district engaged a lower average number of additional farmhands compared to those in Bosome Freho district. The average number of additional farm hands used by farmers in Saboba district was one (1) while farmers in Bosome Freho district reported using an average number of two (2) additional farmhands.

Table 9 Extra farm hands engaged by PFJ-registered farmers since registering for PFJ

| | Bosome Freho (N=51) | | Saboba (N=53) | | Total (N=104) | |
|--------------------------------|------------------------|-----------|------------------|-----------|------------------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Extra farm hands as PFJ farmer | 2.25 | 3.83 | 1.42 | 5.18 | 1.83 | 4.56 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

In both districts, the farmers reported that when the harvest is ready, the crop is sold mainly to pre-harvest contractors who arrange to procure the harvest during the cropping season. From Table 10, it is seen that even though buyers arrange for farmers' produce during the season, payment is made when the harvest is ready. Farmers mentioned that they sold their produce on spot payment arrangements. Only about 20% of the sampled farmers accepted delayed payments.

Table 10 Market arrangements for harvested food crops

| Sale and payment for produce | | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|------------------------------|------------------------|-------------------------|-------------------|------------------|
| Main sale outlet | Pre-harvest contractor | 73.0 | 62.0 | 67.5 |
| | Market traders | 4.0 | 9.0 | 6.5 |
| | Itinerant buyers | 23.0 | 17.0 | 20.0 |
| | Others | 0.0 | 12.0 | 6.0 |
| Sale arrangements | Spot payment | 77.0 | 81.0 | 79.0 |
| | Pay before harvest | 2.0 | 1.0 | 1.5 |
| | On credit | 21.0 | 18.0 | 19.5 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Reported yields by farmers in the data did not produce consistent results. Hence, farmers' performance in terms of yields was difficult to estimate. Performance was thus assessed using trends in reported annual agricultural and non-agricultural incomes. Agricultural income grew by 11% between 2016 and 2017 and then by 28% from 2017 to 2018 (Table 11). Respondents from Bosome Freho district reported an increase in annual agricultural income by 11% and 27% in 2016 and 2017 respectively. Among respondents from Saboba district, average annual agricultural income fell by 0.5% in 2016, but rose by 35% in 2017.

Table 11 Trends in mean annual agricultural and non-agricultural incomes

| | | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|-------------------------|------|---------------------------------|---------------------------|--------------------------|
| Agricultural income | 2017 | 12731.87 | 968.74 | 6850.30 |
| | 2016 | 10048.11 | 716.79 | 5333.85 |
| | 2015 | 9039.46 | 719.81 | 4791.13 |
| Non-Agricultural income | 2017 | 992.31 | 83.02 | 516.42 |
| | 2016 | 663.32 | 74.52 | 352.25 |
| | 2015 | 560.14 | 61.76 | 299.09 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

In line with the findings that respondents are mainly involved in farming for a living, Table 11 reveals that their agricultural incomes had exceeded their non-agricultural incomes since 2015. However, non-agricultural incomes were reported to have increased faster over the past three years than agricultural revenues. Non-agricultural incomes increased by 18% and 47% respectively from 2016 to 2017 and from 2017 to 2018. Whereas non-agricultural income among respondents in Bosome Freho district grew (from 18% in 2016 to 50% in 2017), this was not the case for Saboba district. Table 11 shows that the growth in non-agricultural income declined from 21% in 2016 to 11% in 2017.

Table 12 Expenditure patterns of sampled farmers

| Income and Expenditure | | Bosome Freho (n=100) | Saboba (n=100) | Total (N=200) |
|------------------------------------|---------------------|---------------------------------|---------------------------|--------------------------|
| Household income distribution | Agricultural income | 63.2 | 56.0 | 60.0 |
| | Non-agric. income | 36.8 | 40.0 | 38.2 |
| Household expenditure (GH¢) | Food | 629.65 | 70.56 | 348.70 |
| | Non-food | 346.10 | 31.41 | 191.17 |
| | Investment | 459.42 | 14.49 | 194.72 |
| Household expenditure patterns (%) | Food | 43.9 | 60.6 | 47.5 |
| | Non-food | 24.1 | 27.0 | 26.0 |
| | Investment | 32.0 | 12.4 | 26.5 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Overall, agricultural incomes reported by farmers formed 60% of total household incomes (See Table 12 above). Combined household incomes were spent differently by farmers in the two districts. While food expenditures formed 44% of the total amount spent by farmers in Bosome Freho district, it comprised 61% for those in Saboba district. Within both districts, farmers reported spending between 24% and 27% of their total expenditure on non-food items. However, while investments formed 32% of total expenditure among farmers in Bosome Freho district, it only comprised 12% in the expenditure items of farmers from the Saboba district. Further, while food constituted 61% of the total expenditures of sampled farmers in the Saboba district, it constituted 44% for respondents from Bosome Freho district.

4.5 PFJ program outcomes

4.5.1 PFJ program outreach

Although the research team encountered a number of data access difficulties from the DDAs offices, the available information showed a gradual expansion in the program's outreach. For instance, at the management level, more technical (AEAs) and non-technical personnel (NSP and NABCO officers) had been employed by the government to support the District Agricultural Directorate and input traders towards the management of the PFJ program.

Interviews revealed that the number of farmers enrolled on the PFJ program had increased since its inception. Between 2017 and 2018, some of the records obtained from Bosome Freho district confirmed a gradual expansion in farmer beneficiaries reached. By the end of 2017, there were a total of 501 farmers who had enrolled on the program, out of which 107 were women. At the time of this study, up to 3,222 farmers had been enrolled on the program, out of which 18.5% (597) were female. Specific records on farmers reached in the Saboba district was not readily available. However, the number of women who registered under the program in first year of implementation was around 50 out of a total of 600. That number has increased to over 100 in 2018.

In addition to the expansion in enrollment of farmers into the PFJ program, the number of fertilizer and seeds procured and distributed to farmers were reported by DDAs to have increased over the years. For instance, the DDA of Bosome Freho district noted that about 800 packets of PFJ program subsidized seeds were received into the Bosome Freho district in 2017; however, it increased to 4,000 packets in 2018. With regards to its distribution, 134 packets of seeds received by the district had been distributed to the farmers by the end of 2017. Seeds distributed however increased from 134 packets to 273 packets in 2018. Similarly, as at August 2018, some 420 farmers had received PFJ initiative subsidized fertilizers in the district compared to a total of 325 who got this input in 2017; an increase of 29%.

Table 13 Distribution of sampled PFJ program farmers who had received inputs and services

| Access to inputs and extension information | | Bosome Freho (n=51) | Saboba (n=54) | Total (N=105) |
|--|-----------------|------------------------|------------------|------------------|
| Improved seed | Received | 66.7 | 37.0 | 51.4 |
| | Did not receive | 33.3 | 63.0 | 48.6 |
| Fertilizer | Received | 92.2 | 77.8 | 84.8 |
| | Did not receive | 7.8 | 22.2 | 15.2 |
| PFJ-specific extension information | Received | 15.7 | 14.8 | 15.2 |
| | Did not receive | 84.3 | 85.2 | 84.8 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

The observed expansion in outreach of the PFJ program beneficiaries was validated by data from farmer interviews. Table 13 shows the proportion of sampled PFJ registered famers who had ever received program fertilizers, seeds and services. Whereas 67% of the respondents from Bosome Freho district, who had enrolled into the PFJ program, mentioned that they had received improved seed since registering, only 37% from Saboba district had gone for improved seeds.

Approximately 85% of all PFJ registered farmers interviewed had received program fertilizers. Comparatively, more registered farmers in Bosome Freho district (92%) reported receiving subsidized fertilizer than those in Saboba district (77.8%). The data indicated that new extension services had reached fewer than expected farmers. Only about 15% of the PFJ registered farmers interviewed in each district reported receiving any new or program-specific extension information.

While Table 13 shows that the majority of registered farmers received fertilizers and seeds, it is not clear whether the farmers reached with PFJ program inputs are new to the use of these inputs. The analysis presented in Table 14 shows the proportion of registered farmers who are new users of fertilizers, seeds and extension services due to their participation in the PFJ program. In general, 11% of the participating PFJ farmers started using improved seeds due to the program. The proportion of new farmers reached with improved seeds was higher among farmers in Saboba district (15%) than those in Bosome Freho district (8%). Fertilizer use was higher among beneficiaries before they joined the PFJ program. The results presented in Table 14 show that, over 80% of the respondents were already using fertilizers before joining

the PFJ program. Specific to the districts, up to 10% of the sample in Bosome Freho district were receiving fertilizers for the first time in their farming career due to the PFJ program. In Saboba district, the program did not reach any new fertilizer users.

Table 14 further reveals that 4% of the farmers had received extension services for the first time due to the PFJ program. Similar to fertilizer services, none of the sampled farmers in Saboba district had received extension for the first time due to the PFJ program. New extension services receivers formed 8% of the sampled PFJ farmers in the Bosome Freho district.

Table 14 Proportion of farmers reached with PFJ inputs

| | PFJ input use patterns | Bosome Freho (n =51) | Saboba (n = 54) | Total (N =105) |
|------------------------|--|---------------------------------|----------------------------|---------------------------|
| PFJ program seeds | Already use input, uses PFJ | 58.8 | 22.2 | 40.0 |
| | Already use input, doesn't use PFJ | 27.5 | 16.7 | 21.9 |
| | New user due to PFJ | 7.8 | 14.8 | 11.4 |
| | Non-user despite PFJ | 5.9 | 46.3 | 26.7 |
| PFJ program fertilizer | Already use input, uses PFJ | 82.4 | 77.8 | 80.0 |
| | Already use input, doesn't use PFJ | 5.9 | 20.4 | 13.3 |
| | New user due to PFJ | 9.8 | 0.0 | 4.8 |
| | Non-user despite PFJ | 2.0 | 1.9 | 1.9 |
| PFJ program extension | Already receive extension, gets PFJ | 7.8 | 14.8 | 11.4 |
| | Already receive extension, doesn't get PFJ | 43.1 | 63.0 | 53.3 |
| | New extension service due to PFJ | 7.8 | 0.0 | 3.8 |
| | Non-receiver of extension despite PFJ | 41.2 | 22.2 | 31.4 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

4.5.2 Inclusivity of PFJ program implementation

The study assessed the inclusivity of the PFJ program at the district level with four measures:

- i. Farmers excluded from the PFJ program;
- ii. Farmers included in the PFJ program but not receiving inputs and services;
- iii. Potentially marginalized farmers reached with PFJ inputs and services
- iv. Farmers' perception about the fairness of the PFJ program to vulnerable groups

a) Farmers excluded from the PFJ program

The reasons for not being part of the PFJ program among non-PFJ registered respondents are outlined in Figure 4. In general, about 56% of non-registered farmers interviewed selected themselves out of the PFJ program. The main reason farmers gave for opting out of the PFJ program was the lack of interest. This general distribution is similar for farmers in the Bosome Freho (55%) and Saboba (57%) districts. This finding suggests that in both districts, up to 44% of farmers who were not part of the PFJ program had been excluded due to how the program was being implemented. These respondents were either not receiving enough information about the program (25%) or had been sidelined by the program implementers or its eligibility criteria (19%).

The reasons why interested farmers had not enrolled on the PFJ program differed by district. Among the non-registered farmers in the Bosome Freho district, 20% mentioned that they were not aware of the program, while 14% felt the program was discriminating against them. In the Saboba district, 25% of non-registered farmers were not aware of the program, while 24% reported being discriminated against.

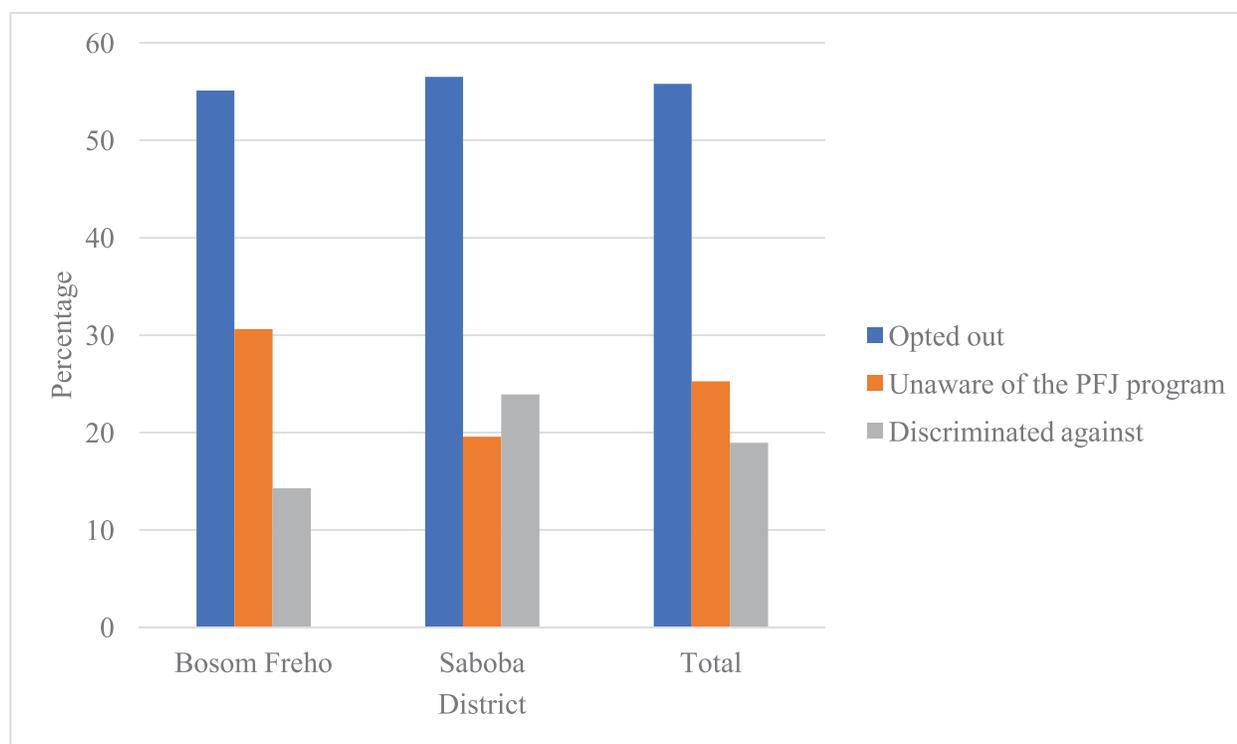


Figure 4 Reasons why farmers were not enrolled onto the PFJ program

b) Registered farmers not receiving PFJ program inputs and services

Table 15 presents the proportion of farmers who, despite being enrolled onto the PFJ program, did not receive fertilizers, seeds and extension services. For the entire sample, 49%, 15% and 84% of registered farmers had not received seeds, fertilizer or extension services respectively. In the Bosome Freho district, the majority of farmers received improved seeds and fertilizers. However, 33% and 8% of the registered farmers were not receiving PFJ program seeds and fertilizers. The picture was different for the Saboba district where the majority of registered farmers (63%) did not receive improved seeds and some 22% did not receive fertilizers. In both districts, the overwhelming majority had not received any extension service since joining the program.

Table 15 Proportion of PFJ registered farmers who did not receive PFJ program inputs and services

| (Lack of) access to inputs and extension services | Bosome Freho (n =51) | Saboba (n = 54) | Total (N =105) |
|---|-------------------------|--------------------|-------------------|
| Did not receive PFJ program seeds | 33.4 | 63.0 | 48.6 |
| Did not receive PFJ program fertilizer | 7.8 | 22.2 | 15.2 |
| Did not receive PFJ program extension service | 84.4 | 85.2 | 84.8 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Issues regarding the timeliness of the arrival of inputs, the low quantity assigned per farmer and the quality of seeds were mentioned as the main reason why registered farmers were not receiving PFJ program inputs. Other farmers mentioned that the program placed too much financial burden on them, especially when there were no guaranteed markets for their harvests. Our findings further suggest that the mere employment of extension officers onto the program had not improved access to extension services as one would have expected. This was likely a problem attributable to language barrier (especially in Saboba district), and the fact that the extension officers were at the initial stages of their work.

c) Potentially marginalized farmers reached with PFJ program inputs and services

Farmers classified in this report as ‘potentially marginalized’ were either females, younger than 35 years, stationed at difficult-to-reach communities or live with a disability.

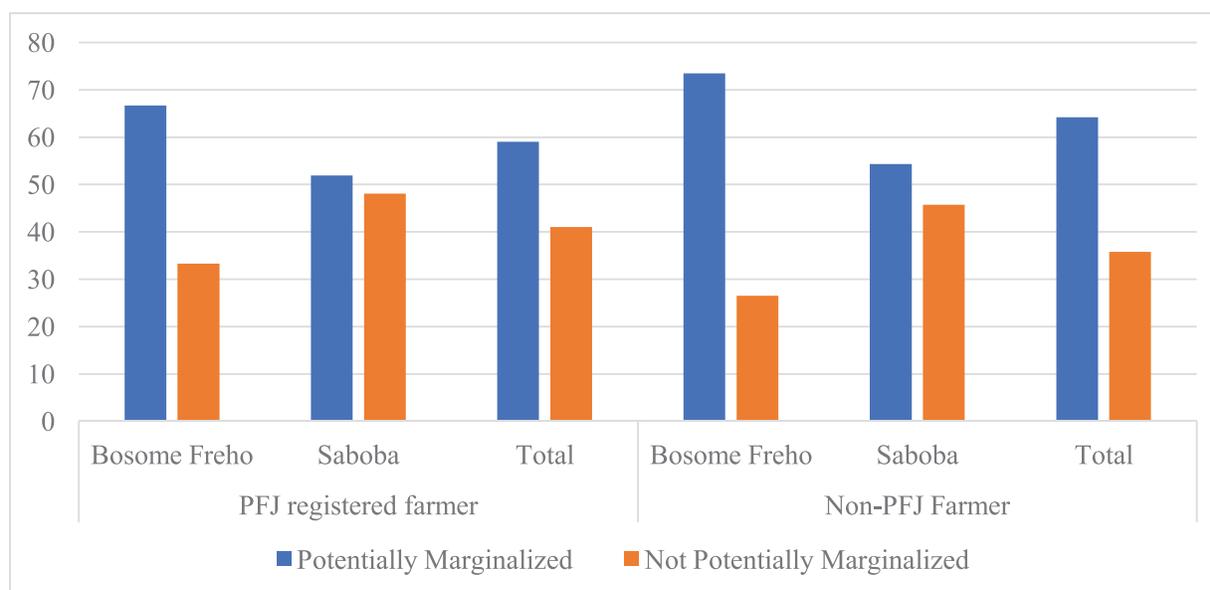


Figure 5 Proportion of potentially marginalized farmers in the sample

These categories of farmers are referred in the study as potentially marginalized because there was no evidence that they were marginalized, but the literature points to the fact that farmers with these demographic characteristics tend to be among the most excluded in society.

Analyses of data from semi-structured interviews of farmers revealed that over 64% of all sampled farmers belonged to the potentially marginalized category. From Figure 5, it is observed that the majority of registered PFJ program farmers (59%) fell within the potentially marginalized category. Among the non-registered farmers interviewed, 64% were in the marginalized category. What was revealing about the results however was that (barring any sampling issues), it could be concluded that as implemented at the time of the study, the PFJ program was reaching more potentially marginalized farmers than those who were not.

Between the two districts, Figure 5 shows that a potentially marginalized farmer had a higher chance of being enrolled into the PFJ program in Bosome Freho district, than in Saboba district. Similarly, a potentially marginalized farmer in Bosome Freho district had a higher chance of receiving fertilizer and seeds than one in Saboba district.

Table 16 Distribution of potentially marginalized farmers receiving program input and services

| (Lack of) access to inputs and extension services | | Potentially marginalized | | | Not potentially marginalized | | |
|---|--------------|--------------------------|---------------|--------------|------------------------------|---------------|--------------|
| | | Bosome Freho (n=34) | Saboba (n=28) | Total (N=62) | Bosome Freho (n=17) | Saboba (n=26) | Total (N=43) |
| Seed | Received | 64.7 | 39.3 | 53.2 | 70.6 | 34.6 | 48.8 |
| | Not received | 35.3 | 60.7 | 46.8 | 29.4 | 65.4 | 51.2 |
| Fertilizer | Received | 97.1 | 78.6 | 88.7 | 82.4 | 76.9 | 79.1 |
| | Not received | 2.9 | 21.4 | 11.3 | 17.6 | 23.1 | 20.9 |
| Extension | Received | 20.6 | 21.4 | 21.0 | 5.9 | 7.7 | 7.0 |
| | Not received | 79.4 | 78.6 | 79.0 | 94.1 | 92.3 | 93.0 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Table 16 shows the distribution of PFJ program inputs and services to the potentially marginalized and those who were not. In terms of specific input distribution, 65%, 97% and 21% of potentially marginalized farmers in Bosome Freho district received seeds, fertilizers and extension respectively. The data shows that in the Bosome Freho district, the program reached more non-marginalized farmers (71%) with seeds than the marginalized (65%). However, fertilizers and extension services benefit more marginalized than non-marginalized farmers. In the Saboba district, more potentially marginalized farmers received inputs and services than non-marginalized farmers.

Hence, it can be concluded that among registered farmers living in the Soboba district, the potentially marginalized benefitted more from the program compared to their non-marginalized counterparts. For registered farmers living in the Bosome Freho district, the potentially marginalized benefitted more in terms of fertilizers and extension services, but not seeds.

The study further investigated how many of the potentially marginalized farmers were for the first time reached with inputs and extension services with the introduction of the PFJ program (Table 17 below). Even though the numbers were small, the majority of these farmers were found to be among the marginalized. Between 75% and 100% of registered farmers who reported using improved inputs and extension services for the first time due to the PFJ program were in the potentially marginalized category. This implies that the program was progressively reaching new farmers who were potentially marginalized.

Table 17 Proportion of newly reached PFJ farmers who are potentially marginalized

| PFJ input | Category of Farmers | Already use input, uses PFJ (n = 12) | Already use input, doesn't use PFJ (n = 56) | New user due to PFJ (n = 4) | Non-user despite PFJ (n = 33) |
|--------------------|------------------------------|--------------------------------------|---|-----------------------------|-------------------------------|
| Improved seed | Potentially Marginalized | 57.1 | 60.9 | 75.0 | 53.6 |
| | Not Potentially Marginalized | 42.9 | 39.1 | 25.0 | 46.4 |
| Fertilizer | Potentially Marginalized | 60.7 | 42.9 | 80.0 | 50.0 |
| | Not Potentially Marginalized | 39.3 | 57.1 | 20.0 | 50.0 |
| Extension services | Potentially Marginalized | 75.0 | 48.2 | 100.0 | 66.7 |
| | Not Potentially Marginalized | 25.0 | 51.8 | 0.0 | 33.3 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

d) Farmers' perception of the fairness of the program to vulnerable groups of farmers

The fourth measure of exclusivity in the study was farmers' opinion about how gender, wealth and location-friendly the PFJ program was (Table 18). In summary, the respondents believed that the PFJ program was gender inclusive. However, the extent to which it included the poor and people living in distant communities was not satisfactory. Although farmers were clear that the program was gender-inclusive, it came up at the stakeholder validation workshops that women were less represented in the decision-making process of the PFJ program at the district level.

Table 18 Distribution of farmers who think the PFJ program is inclusive

| Indicator of Inclusivity | Opinion | PFJ Farmers | | | Non PFJ Farmers | | |
|--------------------------|-------------------|----------------------|-----------------|----------------|----------------------|-----------------|---------------|
| | | Bosome Freho (n =51) | Saboba (n = 54) | Total (N =105) | Bosome Freho (n =49) | Saboba (n = 46) | Total (N =95) |
| Gender inclusive | No opinion | 3.9 | 1.9 | 2.9 | 16.3 | 15.2 | 15.8 |
| | Strongly disagree | 0.0 | 5.6 | 2.9 | 0.0 | 15.2 | 7.4 |
| | Somewhat disagree | 19.6 | 7.4 | 13.3 | 16.3 | 17.4 | 16.8 |
| | Somewhat agree | 56.9 | 59.3 | 58.1 | 55.1 | 41.3 | 48.4 |
| | Strongly agree | 19.6 | 25.9 | 22.9 | 12.2 | 10.9 | 11.6 |
| Poverty inclusive | No opinion | 2.0 | 3.7 | 2.9 | 8.2 | 10.9 | 9.5 |
| | Strongly disagree | 27.5 | 13.0 | 20.0 | 20.4 | 8.7 | 14.7 |
| | Somewhat disagree | 23.5 | 35.2 | 29.5 | 20.4 | 21.7 | 21.1 |
| | Somewhat agree | 45.1 | 35.2 | 40.0 | 46.9 | 50.0 | 48.4 |
| | Strongly agree | 2.0 | 13.0 | 7.6 | 4.1 | 8.7 | 6.3 |
| Location inclusive | No opinion | 13.7 | 5.6 | 9.5 | 12.2 | 15.2 | 13.7 |
| | Strongly disagree | 25.5 | 25.9 | 25.7 | 20.4 | 15.2 | 17.9 |
| | Somewhat disagree | 29.4 | 44.4 | 37.1 | 38.8 | 37.0 | 37.9 |
| | Somewhat agree | 29.4 | 16.7 | 22.9 | 24.5 | 28.3 | 26.3 |
| | Strongly agree | 2.0 | 7.4 | 4.8 | 4.1 | 4.3 | 4.2 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

When probed further, the majority of farmers interviewed in both Bosome Freho and Saboba districts indicated that the PFJ program was not pro-poor in the sense that it excluded farmers who did not have the financial means to access the credit component of the program. These farmers further complained that in times of crop failure (especially from Army Worm infestation or failure of the improved seed), they did not have any financial muscle to support loan repayment. This is understandable in the light that majority of the farmers interviewed did not have supplementary non-farm economic activity. They suggested also that the promised market services component had not been fully rolled out, hence for poor farmers, income was not guaranteed. The majority of the sampled farmers mentioned that the PFJ program excluded farmers living in distant and deprived communities.

4.5.3 Farmers' satisfaction with PFJ program implementation

Majority of the registered farmers interviewed indicated that it was easy to access PFJ program fertilizers and improved seeds (Table 19). In Bosome Freho district, 71% and 78% of the farmers reported that they had it easy (very and fairly) accessing the program's improved seeds and fertilizer respectively.

Table 19 Ease of acquiring PFJ program fertilizers and seeds

| Access to Inputs | PFJ Program seeds | | | PFJ Program fertilizers | | |
|----------------------|-----------------------|-----------------|-----------------|-------------------------|-----------------|-----------------|
| | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) |
| No opinion | 3.9 | 9.3 | 6.7 | 3.9 | 9.3 | 6.7 |
| Very easy | 49.0 | 18.5 | 33.3 | 56.9 | 35.2 | 45.7 |
| Fairly easy | 21.6 | 25.9 | 23.8 | 21.6 | 38.9 | 30.5 |
| Same as non-PFJ seed | 9.8 | 3.7 | 6.7 | 0.0 | 5.6 | 2.9 |
| Fairly difficult | 9.8 | 13.0 | 11.4 | 7.8 | 5.6 | 6.7 |
| Very difficult | 5.9 | 29.6 | 18.1 | 9.8 | 5.6 | 7.6 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

The picture was different in the Saboba district, where less than half (44%) of the sampled farmers thought acquiring PFJ program improved seeds was easy (very and fairly) and 43% mentioned that they experienced some difficulties accessing the seeds. In Saboba district, majority (74%) of the farmers thought that acquiring program fertilizers was very or fairly easy. The difficulties in acquiring the program's improved seeds may be attributed to the old distribution model. Whereas fertilizers were acquired through traders, seeds were distributed by MoFA staff at their offices. Farmers had to incur extra transport costs to access seeds compared to fertilizers that could be procured at the nearest input shops. With the new changes made to the PFJ program design, farmers were no longer expected to experience these types of bureaucratic delays.

Table 20 and Table 21 present the levels of satisfaction of registered farmers with the PFJ program inputs and services received. The results show generally low satisfaction levels with the improved seeds distributed to farmers (as shown in Table 20). Whereas only 25% of the sampled PFJ farmers in Bosome Freho district indicated some amount of satisfaction with seed distribution activities, a slightly higher proportion (41%) of those in Saboba district reported being satisfied. This dissatisfaction with the seed distribution aspect of the program could be attributed to three sources:

- i. Delays in the release of the seeds to the districts for distribution to farmers;
- ii. High transportation costs to acquire the seeds. Due to the delays in releasing the seeds, some farmers had to travel several times to MoFA offices to follow up. Some farmers mentioned that they had to pay for the seeds in one community and travel to another community to collect the seeds and then transport them back to their own farm village.
- iii. There were complaints about the quality of the PFJ program seeds, especially vegetables. Some farmers mentioned that a high percentage of the seeds they received failed.

Farmers were, however, generally highly satisfied with the fertilizer distribution component of the program. Up to 76% of the respondents in Bosome Freho district and 65% of those in Saboba district expressed satisfaction with the fertilizers they had received.

Table 20 Farmers satisfaction with PFJ program input delivery

| Level of satisfaction | PFJ Program seeds | | | PFJ Program fertilizers | | |
|-----------------------|-----------------------|-----------------|-----------------|-------------------------|-----------------|-----------------|
| | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) |
| No opinion | 35.3 | 31.5 | 33.4 | 9.8 | 20.4 | 15.3 |
| Very dissatisfied | 33.3 | 18.5 | 25.7 | 9.8 | 1.9 | 5.7 |
| Somewhat dissatisfied | 5.9 | 9.3 | 7.6 | 3.9 | 13.0 | 8.6 |
| Somewhat satisfied | 7.8 | 24.1 | 16.2 | 15.7 | 31.5 | 23.8 |
| Very satisfied | 17.6 | 16.7 | 17.1 | 60.8 | 33.3 | 46.7 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

The two agricultural services component of the PFJ program, extension and marketing, were not highly rated among beneficiary farmers sampled. With regards to extension services (Table 21), only 24% of the farmers expressed some satisfaction. Within the districts, 18% of the respondents in Bosome Freho and 30% in Saboba mentioned being satisfied with extension services they received under the program.

Three underlying explanations were attributed to this general dissatisfaction with extension services received. First, many of the dissatisfied PFJ farmers mentioned that extension officers that were promised them were absent. Secondly, even when they were present, the information given them was not adequate to address their needs. Thirdly, some of farmers, especially in Saboba district, could not effectively communicate with the extension officers sent to them due to language barrier. In addition, most of the farmers reported that they did not have the telephone or internet technology to access the promised electronic extension (e-extension) component of the program.

Table 21 Farmers satisfaction with PFJ program extension and marketing services delivery

| | Extension services | | | Marketing services | | |
|-----------------------|-----------------------|-----------------|-----------------|-----------------------|-----------------|-----------------|
| | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) |
| No opinion | 43.1 | 18.5 | 30.5 | 41.2 | 33.3 | 37.1 |
| Very dissatisfied | 27.5 | 22.2 | 24.8 | 54.9 | 44.4 | 49.5 |
| Somewhat dissatisfied | 11.8 | 29.6 | 21.0 | 3.9 | 14.8 | 9.5 |
| Somewhat satisfied | 9.8 | 27.8 | 19.0 | 0.0 | 3.7 | 1.9 |
| Very satisfied | 7.8 | 1.9 | 4.8 | 0.0 | 3.7 | 1.9 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Farmers were very dissatisfied with the marketing services component of the program because in their opinions, the managers of the PFJ program had reneged on their promise to assign them with Licensed Food Buyers (LFBs) to guarantee their gross revenues and encourage their repayment of the PFJ credit.

4.5.4 Emerging livelihood outcomes from the PFJ program

This assessment was carried out during the second year of implementation of the PFJ program hence it was difficult to trace overall impact however, some emerging outcomes were observed. First, farmers were asked to identify benefits they derived from the program (Table 22). This provided the opportunity to report changing patterns of agricultural input and services use as a result of the PFJ program. Second, the research team further probed PFJ program outcomes by measuring changes in agricultural incomes.

Over 80% of all registered famers interviewed indicated that they had benefited from participating in the PFJ program had benefited in terms of expanded access to, and use of productivity-enhancing inputs. In the Bosome Freho district, 71% of respondents cited enhanced access to and use of agricultural inputs as the main livelihood benefit derived from the program. Similar benefits were mentioned by respondents in Saboba district where 81% of the sampled program beneficiaries cited enhanced access to inputs.

Table 22 Proportion of farmers reporting program benefit in specific livelihood areas

| Opinion on program benefits | Bosome Freho (n = 51) | Saboba (n = 54) | Total (N = 105) |
|--------------------------------------|-----------------------|-----------------|-----------------|
| No benefit | 27.5 | 13.0 | 20.0 |
| Improved access to and use of inputs | 70.6 | 81.5 | 76.2 |
| Improved information | 3.9 | 40.7 | 22.9 |
| Improved yields | 39.2 | 37.0 | 38.1 |
| Improved market | 2.0 | 7.4 | 4.8 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Secondly, up to 41% of the beneficiary farmers in Saboba district stated that they had benefited from improved information delivery since joining the PFJ program. This was not the case for farmers in the Bosome Freho district where only 4% of registered farmers mentioned improved access to information as a benefit for joining the PFJ program. The third significant benefit registered farmers mentioned was improved yields. This benefit was mentioned by 39% of the beneficiary farmers in Bosome Freho district and 37% of those in Saboba district. Due to the absence of the marketing component, only a few farmers mentioned they had benefited in terms of improved markets.

Table 23 Difference in agricultural incomes between beneficiaries and non-beneficiaries

| Year | Bosome Freho | | | Saboba | | |
|------|--------------|---------------|----------------|-----------|---------------|----------------|
| | PFJ (GH¢) | Non-PFJ (GH¢) | Difference (%) | PFJ (GH¢) | Non-PFJ (GH¢) | Difference (%) |
| 2015 | 8,702.65 | 9,423.26 | -7.6 | 730.27 | 707.45 | 3.2 |
| 2016 | 11,173.88 | 8,848.91 | 26.3 | 719.30 | 713.65 | 0.8 |
| 2017 | 14,424.61 | 10,933.33 | 31.9 | 1,132.76 | 771.91 | 46.7 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Table 23 outlines trends in agricultural incomes prior to the introduction of the PFJ program (2015 and 2016) and when the program was introduced (2017). These are self-reported incomes from the farmers. It appears from the data that the expansion of access to, and use of agricultural inputs through the PFJ program is beginning to reflect on farmers' yields and hence incomes. While not all the increase in agricultural incomes can be attributed to the PFJ program, it can be said that the program is a significant contributing factor (from the perspective of the farmers themselves).

Taking year 2105 as a baseline when the program was not in force, Table 23 shows that in Bosome Freho district, non-PFJ beneficiaries had 8% higher incomes than registered farmers. After year 2017 when the PFJ program was introduced, registered farmers now reported 31% more agricultural incomes compared to non-registered farmers. A similar trend was observed in Saboba district, where registered farmers had only 3% more agricultural income than their non-registered counterparts in 2015. After the introduction of the PFJ program in 2017, this difference increased to 47%.

Table 24 Differences in the reported agricultural incomes of potentially marginalized respondents

| Year | Potentially marginalized farmers in Bosome Freho | | | Potentially marginalized farmers in Saboba | | |
|------|--|---------------|----------------|--|---------------|----------------|
| | PFJ (GH¢) | Non-PFJ (GH¢) | Difference (%) | PFJ (GH¢) | Non-PFJ (GH¢) | Difference (%) |
| 2015 | 8,388.24 | 10,600.00 | -26.4 | 955.57 | 553.88 | 42.0 |
| 2016 | 11,424.24 | 10,145.59 | 11.2 | 1,110.71 | 567.25 | 48.9 |
| 2017 | 14,144.12 | 12,365.71 | 12.6 | 1,868.93 | 639.40 | 65.8 |

Source: CDD-Ghana PFJ Program Farmers' Survey, 2018

Table 24 further explored the differences in reported average agricultural incomes between registered and non-registered farmers who were potentially marginalized farmers. Similar to the general picture, the agricultural incomes of the potentially marginalized beneficiaries who participated in the PFJ program had gradually increased over and above those of the marginalized non-beneficiary farmers. It is important to mention here that the jump in agricultural incomes had been bigger in the Saboba district than in the Bosome Freho district.

4.6 Challenges and improvement strategies

The implementation of the PFJ program has had a number of challenges, which were mentioned by both program staff and beneficiaries. At the program management level, there were complaints that promised

logistical resources, such as vehicles and motorbikes had not been delivered or had arrived quite late. During stakeholder validation meetings, it was mentioned that some of the logistics, like motorbikes, had been procured for distribution to the districts.

With regards to registration and enrolment processes, the most frequently mentioned difficulty encountered came from farmers' perspective. First was the cost of transportation incurred by farmers. Farmers had to register at their respective district offices. They complained about the cost of transportation, especially because, in certain cases, they had to visit the district offices more than once to be successfully registered on to the program. In response to this challenge, the DDAs interviewed mentioned that sometimes AEAs were sent to farmers' communities to take the registration details of farmers. It was also mentioned during stakeholder validation workshops that the AEAs had encountered difficulties mobilizing some farmers to enroll them because these farmers did not trust the process. According to farmers, this mistrust arose from several failed promises of the government during previous programs. They would enroll and yet receive very little or no benefits whatsoever.

In terms of distribution of PFJ program farm inputs, farmers complained mostly about the quality of program seeds, quantity of fertilizer received, transport cost and shortages. Seed quality was cited by many farmers to be low. A number of them complained that their seeds failed when they tried to use them. If seeds were not failing, they often arrived too late when the planting season was over. During stakeholder validation meetings, especially in the Bosome Freho district, it came out that PFJ program had replaced some of the failing seed varieties.

Relatively larger farm holders thought that the quantity of fertilizers they were entitled to under the PFJ program was too small. The PFJ program gave farmers fertilizers that cover 2ha of farmland. Ultimately, farmers were unhappy about having to pay high transport costs to move fertilizers to their communities. At the Stakeholder validation workshops, PFJ program officials mentioned that several attempts to organize farmers into Farmer Based Organizations (FBOs) to bulk purchase PFJ inputs failed because of mistrust among farmers and between farmers and policy makers.

Extension information provision to farmers was highly criticized by PFJ program beneficiaries. The most mentioned challenge was the absence of extension officers promised them. Other farmers mentioned that the agricultural information passed to them was inadequate or insufficient to address their production challenges. Meanwhile, the promised e-extension component of the program had not been accessed by any interviewed farmers. Some claimed they were not aware of the component or did not consider themselves to have adequate gadgets or internet access to get e-extension.

The credit component of the PFJ program was faced with two simple challenges - failed yields and absent markets. According to the farmers, their crops failed because of poor quality seeds (including but not limited to PFJ program seeds), floods and the Fall Army worm attacks. Farmers complained further that market prices were low. The promised marketing and warehousing components of the PFJ program were yet to be rolled out in the districts visited. Hence farmers continued to receive low prices for their produce. In response to these challenges, policy makers reviewed the PFJ program and removed the credit component.

5. CONCLUSIONS AND RECOMMENDATIONS

This report has presented an assessment of Ghana's flagship agricultural development program - Planting for Food and Jobs (PFJ) -, which is being implemented in all agricultural districts. It has provided an assessment of the implementation activities of the PFJ program in the Bosome Freho and Saboba districts. Emerging outcomes, especially in terms of targeting vulnerable farmers in the districts have been discussed. The following conclusions were drawn.

1. The PFJ program is a resource-providing agricultural program with a smart design. The PFJ program design is smart in the sense that it is open to changes which do not threaten the quality of benefits that farmers derive from it. A typical example is the switch in focus from a subsidized input credit scheme to a simple subsidy scheme.
2. The program was being implemented largely effectively in the two districts visited in spite of a number of logistical challenges. The procurement and distribution of PFJ program's farm input had been effectually carried out in the two districts studied. Monitoring activities had also been carried out as planned in the two districts.
3. In the two districts visited, the PFJ program appeared to be progressing towards the achievement of stated goals – increased food production and jobs. The evidence shows that more farmers, who hitherto did not use improved farm inputs or extension services, were being reached by the program. As a result, at least based on the evidence from the two districts visited, it can be said that the PFJ program is engendering increased utilization of productivity-enhancing inputs and services among Ghanaian farmers. Additionally, beneficiary farmers are reporting an increased number of farm hands they employ on their farms and outputs.
4. Evidence from the two study districts indicate that that the extent to which the PFJ program is reaching out to vulnerable farmers and including them in intended benefits is mixed. For instance, on the positive side, the majority of the PFJ program target beneficiaries fall within the 'potentially marginalized' category. Hence, the program's design and implementation allows it to reach a large proportion of this group of vulnerable farmers. However, many vulnerable farmers (especially the poor and those who live in difficult-to-reach and deprived communities) had been excluded from the PFJ program without any coordinated national effort to target them.
5. Targeting strategies by district-level program officials are isolated and often inadequate. Yet, the analyses show that when included into the PFJ program, vulnerable farmers are able to grow their incomes more than those who otherwise do not fall into the 'potentially marginalized' category.
6. Overall, farmers seem satisfied with the program; yet, individual aspects of the PFJ program remain unsatisfactory. Especially, the extension and marketing components. Additionally, farmers indicated that the PFJ program did not discriminate based on gender, but those who are poor and live in distant communities were often left out.
7. Despite farmers' general satisfaction and emerging positive outcomes, especially for the participating vulnerable farmers, a number of challenges were mentioned. At the management level, needed logistics, such as transportation, were often not available when needed. Quantities of inputs entitled to farmers were too small, and the quality of some seeds was not always the best.
8. Based on the above, the following targeting strategies are recommended for the improvement of the PFJ program:
 - i. The PFJ program would benefit from encouraging smallholder, poor or vulnerable farmers to form or join FBOs to achieve economies of scale in their production. This would enhance their farm incomes and ability to pay for program inputs.
 - ii. Given that the PFJ program has a smart design which can incorporate more activities, it is

- recommended that similar and alternative activities being carried out by various civil society organizations be integrated into the program. One reason why this recommendation is important is that this study has revealed district-specific differences in the way farmers interact with the PFJ program. Within each district, there are already several NGO-led programs that can be used as a rallying point to target vulnerable farmers to increase their benefit from the program. This will require giving the DDAs some power to manage what relevant district-specific schemes can be added to the PFJ program.
- iii. Linked to the FBO recommendation, the initiation of farmer-managed input shops in targeted difficult-to-reach communities will likely lead to overall reduction in farmers' transportation costs, improve farmers' livelihoods and the extent to which they can benefit from the PFJ program. Related to transportation costs, the adoption of mobile money payment services could lower farmers' participation costs and encourage more low-income farmers to enroll on the program.
 - iv. While the credit scheme was a factor in excluding some farmers who could not have the capacity to take up loans, its cancellation generated several unintended consequences. In particular, poorer farmers may not be able to pay for inputs upfront and transport them to their villages (if the input shops are not close to them). A compromise solution will be to target farmers who can take up loans with the credit scheme, while also keeping the option of outright payment.
 - v. Stakeholder validation workshops revealed a weakness in consultation and regular briefing sessions with farmers. Such interactive processes will greatly enhance the program.
 - vi. It is recommended that the instrument of Licensed Food Buyers (LFB) be used for targeting. By specifically assigning LFB to target poor and vulnerable farmers, either as individuals or as FBOs, their incomes will be more guaranteed or the confidence of the unreached to join the program will be enhanced.
 - vii. Any effective strategy to target vulnerable farmers to be enrolled on to the PFJ program would also require enhancing the support provided to agricultural extension agents. Whether the strategy is to organize farmers into FBOs, create farmer-managed shops, or to transport inputs to certain communities free of charge, a well-resourced AEA is needed to facilitate the process. This means program vehicles and motorbikes with transportation allowances ought to be prioritized.
 - viii. With regards to AEAs, even though the numbers have been increased, more farmers continue to complain about their absence of extension contact. The answer may lie in the methods of reaching out to farmers more than the mere numbers of AEAs. More group and mass methods of farmer education is needed to make farmers' education necessary.

