

AN ASSESSMENT OF THE 2022 IMPLEMENTATION OF THE PLANTING FOR FOOD
AND JOBS PROGRAMME AND ITS IMPACT ON SMALLHOLDER FARMERS IN
GHANA



Final report

June 2023

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ABBREVIATIONS

AEA	Agriculture Extension Agent
AGRA	Alliance for Green Revolution in Africa
CSO	Civil Society Organization
DBI	Daffiama Bussie Issa
DCS	Directorate of Crop Services
E-agriculture	Electronic Agriculture
FGD	Focus Group Discussion
FX	Foreign Exchange
GADS II	Gender Agriculture Development Strategy II
GCX	Ghana Commodity Exchange
GGBL	Guinness Ghana Brewery Limited
GHS	Ghana Cedis
GSS	Ghana Statistical Service
GPS	Global Positioning System
Ha	Hectare
ICT	Information and Communications Technology
IFDC	International Fertilizer Development Center
KG	Kilogram
KNED	Kassena Nankana East District
KNWD	Kassena Nankana West District
L.I.	Legislative Instrument
MAG	Modernizing Agriculture in Ghana
MoFA	Ministry of Food and Agriculture
MT	Metric Tonnes
NABCO	Nation Builders Corps
NAFCO	National Food Buffer Stock Company
NASTAG	National Seed Trade Association of Ghana
NGO	Non-Governmental Organization

NPK	Nitrogen-Phosphorus-Potassium
PFJ	Planting for Food and Jobs
PPRSD	Plant Protection and Regulatory Services Directorate
PWD	Persons with Disability
SHF	Smallholder farmer
WIAD	Women In Agriculture Development

SECTION ONE: INTRODUCTION

1.0 Background

One of the major challenges confronting Ghana's agricultural development has been poor technology adoption. This has culminated in the perennial poor yields, low productivity and low incomes for many smallholder farmers (SHF). As part of the government's agenda to transform the agricultural sector to drive economic growth, the Ministry of Food and Agriculture (MoFA) in 2017 introduced an agricultural flagship programme dubbed "Planting for Food and Jobs" (PFJ), which was underlined by the following program objectives

1. To ensure immediate and adequate availability of the selected crops in Ghana through improved productivity and intensification of food crops, and extended support to private sector service providers.
2. To provide job opportunities for the teeming unemployed youth in the agriculture and allied sectors, and
3. To create general awareness for all formal workers to either have farms and grow some cereals or vegetables or establish backyard gardens, when enough land is not available and accessible.

To undertake this, the PFJ program was to adopt an integrated comprehensive approach to substantially increase the availability of inputs (seeds and fertilizers) and accessibility of input and output markets and will focus on the facilitation of adoption of inputs, good agronomic practices and output marketing through an integrated e-agriculture platform, and provision of support to private actors who are engaged in delivery of goods and services along the value chains in an efficient manner.

The PFJ was to modernize the activities of SHF to increase their productivity, create jobs and provide raw materials for agro-based industries. Anchored on five key pillars, each pillar was expected to achieve the following outcomes

- I. Seed Pillar: To ensure timely access to adequate quantities of quality seeds.
- II. Fertilizer Pillar: Increased availability of fertilizers and its usage through the private sector supply system and promote local blending, ensure quality fertilizer, ensuring improvement in soil health system.
- III. Extension: To enhance reliable and routine technical assistance to farmers.
- IV. Market Pillar: To abate price volatility and ensure repayment and linkages.

- V. E-Agriculture: To enhance efficient targeting and improved governance of the program through information dissemination, coordination and implementation of electronic systems.

After several years of implementation, the PFJ has produced mixed outcomes, with varying levels of commendations and critiques. The Ministry of Food and Agriculture (MoFA) leads the positive testimonies by taunting the positive impact of the program through increases in yield and productivity as a result of the intervention. For instance, data from the Ministry shows that maize yield has increased from 1.8MT /Ha in 2016 to 3.0 MT/Ha (67%) in 2017 and 3.5 MT in 2018 and rice yield also increased from 2.7MT/Ha in 2016 to 4.0 MT/Ha (48%) in 2017 (MOFA 2019). In 2019, MoFA indicated that the implementation of the program has resulted in the “abundance of food in the country leading to reduction in food prices in urban areas, while some traders have taken advantage of the situation to export excess yams, plantain, maize and soya beans to neighbouring countries to help increase our foreign exchange earnings” (MOFA 2019). On the other hand, several stakeholders and independent researchers have also assessed and shared varying reviews of the program. For instance, key stakeholder indicated that while the program was largely successful, major challenges such as late payment to private sector companies risk the sustainability of the program (NASTAG 2020). The PFAG has also in earlier assessments hailed the impact of the program but details specific challenges affecting the participation of smallholder farmers. In a study conducted in 2019, PFAG findings showed that while the program has brought some level of improvement in activities of farmers, average yields for most crops are still low, due to inaccessibility of improved seeds and fertilizers by farmers. The study also encountered delayed supply of seeds and fertilizers, poor access to reliable and high value markets and poor access to e-agricultural market information and services (PFAG, 2019).

The 2022 planting season was a peculiar one owing to the global shocks associated with the COVID-19 and the fallouts from the Russia-Ukraine crisis. Astronomical surges in the prices of energy and fuel led to extremely high prices of general goods on the international and domestic markets. With freight prices on the surge and limited supply of inputs, the prices of seeds and fertilizers shot up astronomically and in some instances were in short supply. In Ghana, small holder farmers were looking up to the PFJ to insulate them from these global shocks through increased subsidy component and reduction in prices. However, the 2022 planting season was characterized by high prices and in some instances low supply of the fertilizers to farmers. In

addition, there were several complaints from PFAG members of poor quality of PFJ inputs leading to many farmers losing confidence in the programme. It is also worth noting that Ghana recorded an unprecedented food inflation of 61% in January 2023 with agro-based industries currently undergoing their worst period of survival. About 70% of poultry farms have collapsed, which is mainly attributed to limited supply of maize and soya beans which constitute the main raw materials for poultry. These negative outcomes cast a slur on the “touted success” of the program in ensuring enough supply of food for domestic consumption and raw materials for agro-based industries as stipulated in the programme conception and calls for greater introspection to ascertain the value of the program vis-a-vis the amount of money so far spent.

As part of PFAG’s annual exercise of providing feedback of the PFJ implementation modalities for possible reforms by MoFA, the PFAG attempted to validate the concerns of stakeholders regarding the 2022 implementation. The assessment of the PFJ therefore carries underlined issues, suggestions and recommendations from all stakeholders regarding the future of the PFJ. The findings were validated by different stakeholders from both the public and private sector to solicit their experiences with the programme and sourced recommendations that can help reform the implementation strategy.

1.1 Objectives of the assessment

The main aim of the assessment was to generate evidence of stakeholder experiences of the implementation of the PFJ in 2022. Specific objectives of the assessment were:

- To understand farmers’ perception of fertilizer and seeds delivery (including price, quality and timeliness of delivery) in 2022
- To understand farmers’ experiences on the mode of distribution of inputs using ICT
- To understand the effect of PFJ implementation on food supply for the 2022 farming season and its impact on the livelihoods of smallholder farmers

1.2 Organization of the Report

The report is organized into six sections including this introduction section. The next section presents the methodology that was employed in conducting the assessment. Section three contains the key findings from the assessment; it covers findings on prices, quality of subsidized fertilizer, timeliness of delivery, provision of organic fertilizer, provision of subsidized seeds, extension

service delivery, marketing services and findings on e-agriculture. The section also covers findings on gender integration within the PFJ, impact of the PFJ fertilizer implementation on smallholder farmers and the general economy as well as stakeholder verdict on the future of the PFJ program. Section four expands on the future of the PFJ program. Sections five and six contain the conclusion and recommendations of the assessment respectively.

SECTION TWO: RESEARCH METHODS AND STUDY LOCATIONS

2.0 Introduction

This section presents the methods employed to achieve the research objectives. The chapter is organized into the following sub-headings: Study areas and sample size; research design. The study areas were selected based on the production of the target crops (maize, rice, sorghum) selected for the Planting for Food and Jobs programme as well as fertilizer distribution. The beneficiary households were randomly selected from the sampled districts in these regions.

2.1 Sample areas and size

The assessment covered twenty-six districts in nine regions of Ghana. A total of one thousand, one hundred and sixteen (1,116) individual farmers, comprising 591 males and 525 females, as shown in the Table 1 below, were sampled. Study areas were selected based on the production of the targeted crops by the Planting for Food and Jobs programme. Beneficiary households and Agricultural Extension Agents were randomly selected.

Table 1: Breakdown of farmer respondents

Region	District	Number of Farmer Respondents		
		Male	Female	Total
Upper East	Kassena Nankana East	47	34	81
	Kassena Nankana West	43	33	76
	Bolga Municipal	35	29	64
	Bolga East	41	26	67
	Total			288
Upper West	Daffiama Bussie Issa	33	24	57
	Sissala East	31	22	53
	Wa East	24	15	39
	Jirapa	22	13	35
	Lambussie	20	14	34
	Sissala West	21	13	34
	Total			252
Northern	Kumbungu	21	20	41
	Tatale	18	16	34
	Zabzugu	16	14	30

	Yendi	15	24	39
	Total			144
North East	Chereponi	12	24	36
	West Mamprusi	15	19	34
	East Mamprusi	20	18	38
	Total			108
Bono	Sunyani West	19	17	36
	Total			36
Bono East	Techiman Municipal	14	18	32
	Techiman North	23	14	37
	Kintampo South	17	23	40
	Kintampo North	14	21	35
	Total			144
Ashanti	Offinso	15	21	36
	Ejura	19	17	36
	Total			72
Volta	Hohoe	18	18	36
	Total			36

Greater Accra	Shai Osudoku	18	18	36
	Total			36
	Grand Total	591	525	1116

2.2 The Study Design

To ensure a comprehensive assessment of the programme, a mixed research method, thus, quantitative and qualitative approaches were employed for the study. Both primary and secondary data were sourced. The primary data was collected from various stakeholders including beneficiary farmers, seed and fertilizer dealers, regional and district agricultural officers and officials from the Ministry of Food and Agriculture using a combination of interviews, focus group discussions and structured questionnaires. The other stakeholders interviewed are listed below.

1. Directorate of Crop Services, MOFA
2. Plant Protection and Regulatory Services Directorate (PPRSD), MOFA
3. Regional and District Agricultural Directors in selected research areas
4. Fertilizer companies
5. National Association of Seed Traders (NASTAG)
6. Retailers

Secondary data collected entailed a documentary analysis of existing agricultural policies, PFJ implementation plans over the years, budget statement and economic policy of Ghana. Combining robust primary data that encompasses all actors in the PFJ chain with a rigorous analysis of secondary data, especially the Planting for Food and Jobs policy document, enables us to measure progress with respect to the indicators outlined in the policy document.

2.3 Survey Data Collection

The data collection exercise covered an overall period of two months between March and April 2023 for both quantitative and qualitative surveys. This selected study period was suitable as most farmers across the country were awaiting the start of the new season and could allocate time for the engagement. Moreover, with the appointment of a new sector minister and a hint of possible revision of the PFJ, the findings and feedback of the research will be useful in decision making. The instruments for the quantitative study mainly focused on the five strategic pillars of the Planting for Food and Jobs programme with special attention on pricing, input quality, extension services, marketing and e-agriculture.

2.4 The Individual qualitative interviews

Interviews with farmers dealt with their experiences with the programme and its impact on their livelihoods. Key informant interviews were conducted with Agricultural Extension Agents, input dealers and officers from Plant Protection and Regulatory Services Department (PPRSD), Directorate of Crop Services (DCS) and fertilizer importers to understand their perspectives of the 2022 implementation in the areas of quality inputs, pricing and experiences on e-agriculture, extension services delivery and marketing.

2.5 Focus Group Discussions

Focus group discussions (FGD) were held in six districts spread across different agro-ecological zones of Ghana. The participants of the FGDs were selected taking into cognisance their gender, age, length of farming experience, farm sizes (smallholder/large scale) and length of stay in the community. The composition and number of the FGD was deliberately arranged to reflect gender parity in all areas and the focus was to elicit information on all aspect of farmers' experience with PFJ implementation in 2022, especially experience with input prices, input quality, marketing, extension services delivery and participation in the e-agriculture. The breakdown of the participation in the focus group discussion are shown in the Table 2 below.

Table 2: Breakdown of FGD participants

Region	District	No. of Participants	Male	Female
Upper West	Wa East	10	5	5
North East	Chereponi	10	5	5
	West Mamprusi	10	5	5
Bono East	Techiman Municipal	10	5	5
Upper East	Kassena Nankana	10	5	5
Greater Accra	Shai Osudoku	10	5	5

2.6 Validation of the draft report

The draft report was validated by various stakeholders, including those who partook in the study and others who did not but are relevant in the PFJ implementation. There were two separate validation processes, with the first one taking place in Tamale in the Northern region and the second one, in Accra, in the Greater Accra region.

The Northern zone validation took place on the 11th May 2023 and brought together farmers and officers from the Districts and Regional Department of Agriculture from the Upper East, Upper West, Northern region and North-East regions. In addition, other stakeholders from Civil Society, input dealers, media, private sector players. The ICT company undertaking the biometric registration for the 2022 distribution of fertilizer and seeds also participated. In all, a total of forty-six (46) people participated in the Northern sector validation workshop.

The Southern sector validation workshop took place in Accra on 17th May where farmers from Volta, Oti, Eastern, Ashanti, Western, Bono, Greater Accra and Bono East participated. Other stakeholders such as development partners, CSOs, Parliament, Ministry of Finance and Economic

Planning, various Directorates under the Ministry of Food and Agriculture and the media participated. A total of 85 people participated in the southern sector validation.

SECTION THREE: KEY FINDINGS

3.0 Government share of fertilizer subsidies

Globally, and even by Sub-Saharan Africa standards, Ghanaian farmers suffer from an acutely low rate of fertilizer usage per hectare, with an average usage of 20 kg per hectares in Ghana, (IFDC 2021). This partly accounts for the low yields and poor productivity of crops in Ghana. Therefore, access to and use of fertilizers is a cardinal component and an important pillar of the PFJ. Increasing volumes of fertilizer usage is an underlying goal of the fertilizer pillar, and each farmer for example, is expected to receive and apply 5 bags of NPK and 2.5 bags of Urea or Sulphate of Ammonia per hectare (PFJ Implementation Plan, 2017). The fertilizer supply pillar under the PFJ seeks to, among other things, increase the availability of fertilizers to farmers, supply adequate quantities of fertilizers, increase application rates, and ensure timely supply of the fertilizers to farmers. This section presents an assessment of these key indicators of fertilizer supply and its usage from the beneficiary farmers' point of view. Though the focus is on chemical fertilizers, the effect of chemical fertilizer on soil health and the environment calls for discussion on organic fertilizers.

The first three subsections discuss the government subsidy, fertilizer prices, quality of fertilizer and timely delivery of fertilizer. The latter subsections discuss organic fertilizers and farmers' perceptions on the organic fertilizer usage.

3.1 Fertilizer Prices

Statistics from MoFA and anecdotal evidence clearly shows that the government's share of fertilizer subsidy has dipped remarkably in 2022. Figure 1, below shows government share of subsidies for the year 2020, 2021 and 2022 consistently declining, with no subsidies for Urea in 2022. The 2022 implementation modalities of the PFJ showed that the subsidized price for NPK in 2022 was fixed at GHS 320 while market price before subsidies was GHS 436.00, implying that

government subsidies catered for about 15%. However, interactions with farmers revealed that there were some fertilizer companies selling open market fertilizers for GHS 320.00, same as prices under the subsidy. In the case of urea, the government failed to provide subsidies as illustrated in the figure 2 below. While there were subsidies on ammonia, the margin was negligible.

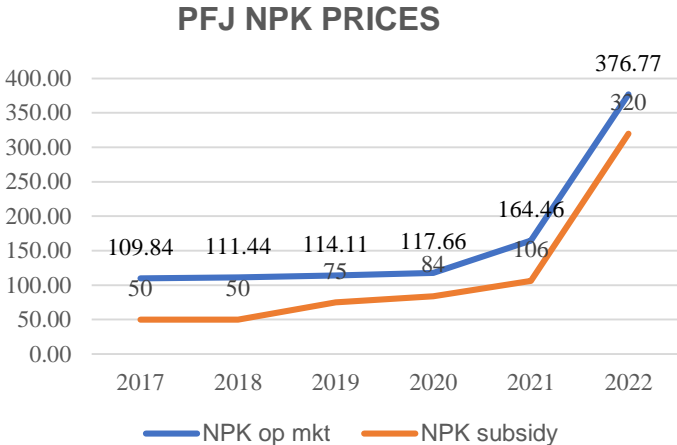


Figure 1: Prices of NPK from 2017-2022

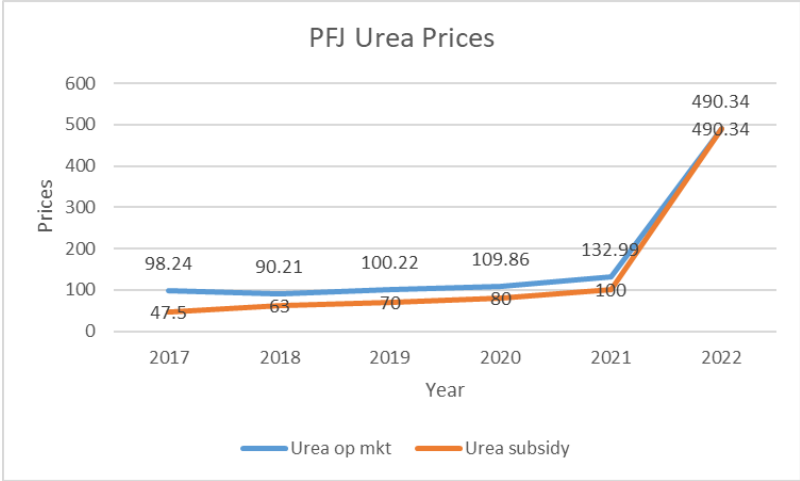


Figure 2: Prices of Urea from 2017-2022

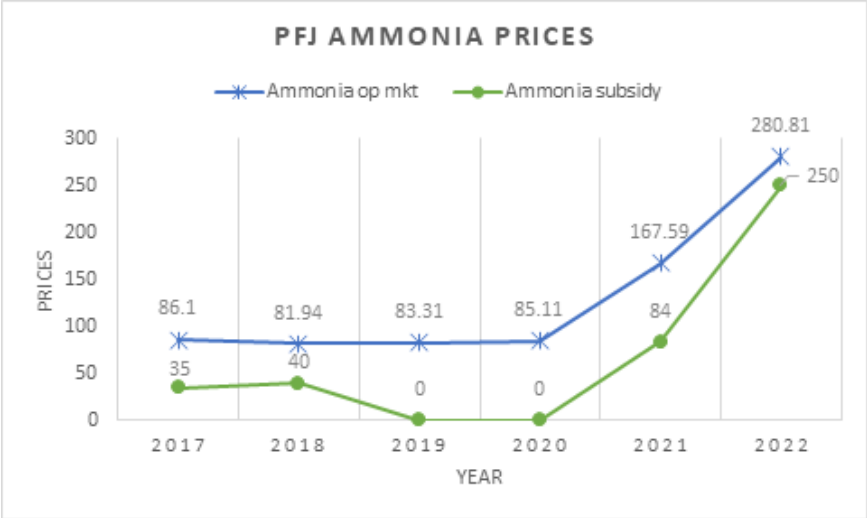


Figure 3: Prices of ammonia from 2017-2022

3.1.1 Farmers perspective of 2022 fertilizer prices

The results from the survey indicate that, overall, most beneficiary farmers perceived the 2022 PFJ fertilizer prices to be expensive and unaffordable. Figure 3 below shows that about 92% of the respondents perceived the 2022 prices to be extremely high while only 5% perceived the prices to be okay. Out of this number, 546 men representing 48.9% and 481 women, representing 43% of the respondents indicated that the prices were very high. From the analysis, all respondents in the Northern, North East, Ashanti and Volta Regions agreed that the prices were indeed high, with few pockets of respondents in the Upper East, Upper West, Bono, Bono East and Greater Accra Regions indicating that the prices were okay. The Bono East Region recorded the most responses that perceived the prices to be okay, with all districts recording at least one respondent indicating that the prices were just right. The breakdown of the responses can be found in Table 1 in the appendix.

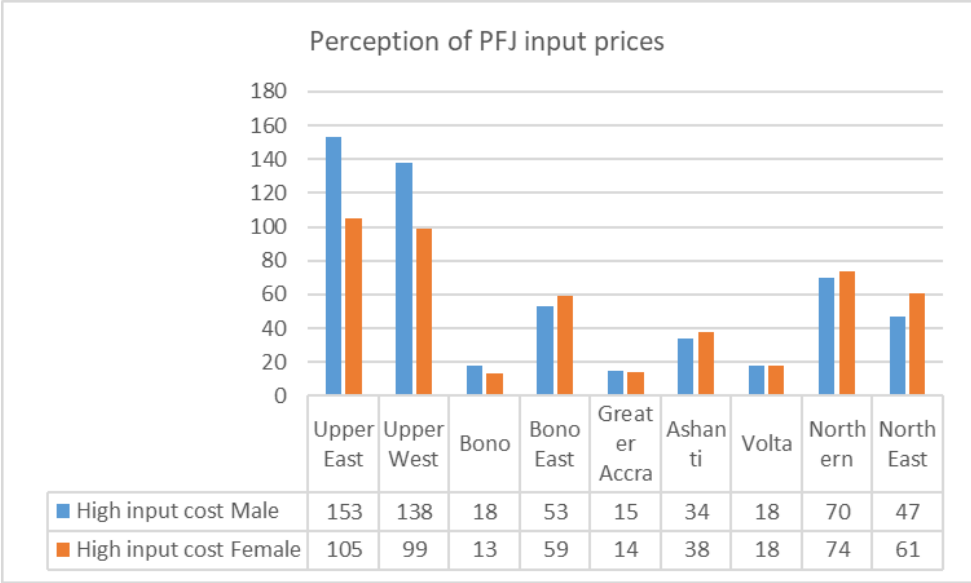


Figure 3: Regional responses of perception of high prices

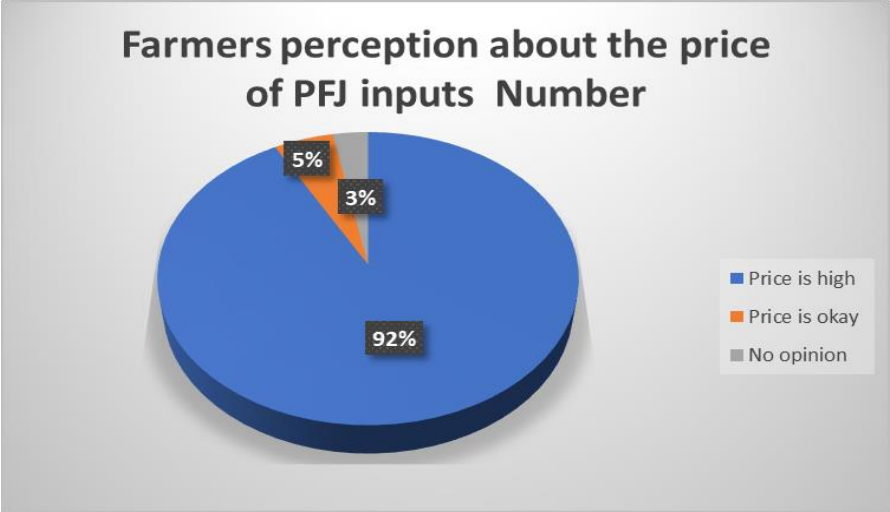


Figure 4: Farmers perspectives on fertilizer prices

In figure 5 below, the majority of female farmers in the Bono East region indicated that they were comfortable with the current fertilizer prices followed by female farmers in the Upper East region. The Greater Accra and Upper West regions recorded the least responses from female farmers indicating they were comfortable with the fertilizer prices. Majority of the male farmers in the Upper East and Bono East regions perceived the fertilizer prices to be good for them with the lowest record from the Bono and Greater Accra regions.

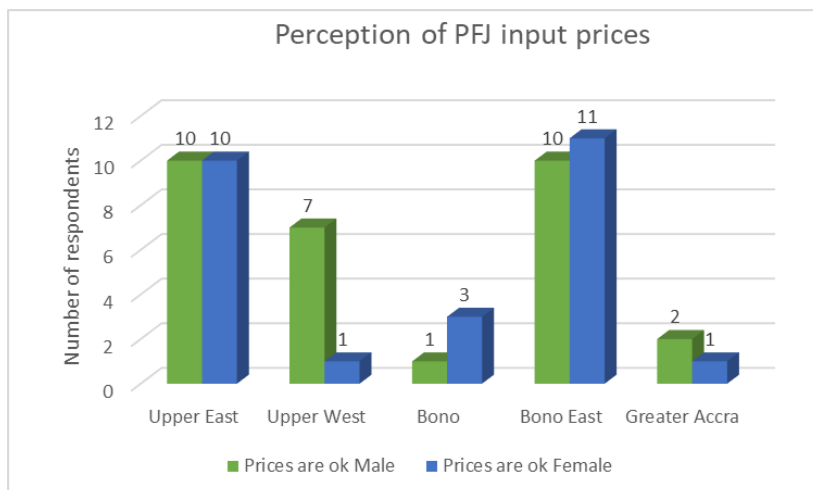


Figure 5 Regional responses on farmers’ perception of fertilizer prices

During the FGD, most farmers complained of PFJ’s fertilizer price escalation from GHS96/50 kg and GHS 106/50 kg in 2021 to GHS 320/50kg in 2022, which represents about 233% increase. According to them, for the 2022 planting season, the price differences between subsidy and open market price was negligible and insignificant. While some farmers claimed that they could purchase the open market fertilizers at the same prices as the subsidies from some companies, others claimed the prices for the open market fertilizer was a bit higher than the subsidized fertilizer. In the midst of the bedlam associated with farmers, some fertilizer companies, including Yara, introduced some relief packages to offset the high cost of the product. Most farmers who benefited from them, including the “Yara Grows Ghana Initiative”, were of the view that the initiative was more effective in reducing prices than the PFJ programme.

This is what a 43-year-old female farmer from the Telania community in the KNWD in the upper east region said.

“Why will I buy just one bag of fertilizer for GHS 320? I need about three bags of NPK and one bag of urea to be able to do one acre. When I put the cost together, it is more than GHS 1,000, what about tractor service, agro-chemicals, labour and harvesting cost? How do I get paid for a bag of maize? My major problem is that this is even a government subsidy, when there are companies selling the open market fertilizer at the same price. I think there is something you people need to investigate”.

Farmers in West Mamprusi in the North-East region, claim they used to sell a 50kg bag of maize

to buy a 50kg bag of NPK subsidized fertilizer; and they now need to sell a 100kg bag of maize to buy same one bag of fertilizer due to the price hikes.

“In the previous years, when I sell one bag of 50kg maize, I am able to buy one bag of 50kg fertilizer, now I need 2 bags of 50kg or one bag of 100kg to buy one bag of fertilizer, this is unfair. If the government is actually helping with subsidies, I can’t imagine why with all the crises in 2022, we still have to buy fertilizer at GHS 160.00/25KG OR GHS 320.00/50KG. in 2021, the 25KG subsidized fertilizer was GHS 48.00. I expect that if there should be any increase at all, it should not be more than GHS 75.00 for the 25KG. You people must do something, otherwise, we will all stop farming and move to Accra”.

During the FGD with some farmers in Chereponi in the North-East region, they also claimed the price increase in 2022 was abnormal. According to them, fertilizers from Ghana had always been cheaper than the neighboring countries (Burkina Faso and Togo), that was why the issue of fertilizer smuggling had always been discussed, but comparing prices from Ghana and Togo last year, it was rather cheaper to buy from Togo. This is what a 28-year farmer said

“In Togo, they have two types of fertilizer. One is expensive and the other one is not too expensive. The cedi equivalent of the less expensive one in 2022 was GHS 210 and the expensive one was GHS270. Most of us bought our fertilizer there and even bought some and sold to other farmers. The only problem is that, you cannot carry through the main road due to customs”

In the Bono East Region, the situation was not different as 55-year-old maize and cashew farmer lamented

“Last year I decided to convert my maize farm to cashew due to the high cost of fertilizer. These days, you cannot farm maize without fertilizer, so when they announced that the 25kg was going for GHS 160.00, I decided to switch to cashew farming. With Cashew, your only cost is weeding and bush fire control. Most of my colleagues in this region have all changed to Cashew farming. You just take a tour to the communities around; you won’t see land without cashew on it. We are happy with cashew farming because I have an old cashew farm and the price is not too bad. It is also easy to get market for cashew compared to maize”.

For farmers in the Ashanti and Bono regions, their concerns were not only about the prices, but the non-availability of subsidized fertilizer as well. For them, they have decided not to rely on chemical fertilizers any longer, as they will rather use organic fertilizer or farm without fertilizer or switch to tree crops.

3.1.2 Input Dealers perspectives on fertilizer prices

Input dealers serve as the link between the fertilizer importers and the farmers as they set up their shops in locations to enable the trade of the products. In interacting with them, they lamented the impact of the hikes in prices and its impact on their business. Most of them claimed their businesses were collapsing due to the development. Whilst a large portion of them had challenges in raising money to cart truck-loads of fertilizers for sale due to the high prices, many complained that importers no longer accept credit sales. Others complained of low margins and high transport cost due to increases in fuel prices. This is an extract from an input dealer in Bolga who preferred to remain anonymous.

“The 2022 fertilizer situation is an unpleasant one, the farmers could not just afford the fertilizer. Previously, I could sell more than 10 trucks within one season. In 2022, I was able to sell just a truck. Also, there were no differences between the subsidy and the open market prices. Apart from Yara fertilizer that was selling around GHS 380.00, other companies were selling the open market fertilizer around GHS 320 to GHS340.”

Another input dealer from Tamale said

“For the PFJ, the less said about it, the better. Some input dealers are given conditions to report higher than their actual sales. I can count a number of fertilizer importers and distributors who became rich within a year of joining PFJ to the detriment of farmers and the taxpayer. I am just in because it’s a government programme, and we don’t know what the future holds for us”.

The inability of smallholder farmers to purchase subsidized fertilizers even when enough stocks are available underscores the demand side constraints impeding farmers’ access to fertilizer. The high cost of subsidized inorganic fertilizer and the limited financial support (soft loans) to farmers have restricted the application of fertilizer to farmers especially vulnerable groups such as women, youth and PWDs who in most instances reduce the volumes of intended output while others are switching to tree crops.

3.1.3 Perspectives from Importers on fertilizer prices

Most importing companies attributed the high cost of prices to the forex exchange (FX) and the low supply of some products on the international market. The high prices limited the quantities they could procure and sell under the program. Most companies could not also sell all their produce due to low demand from farmers in 2022. This is what an importer said

“The high prices and failure of the government to pay fertilizer and seeds supply under PFJ on time also affected our operations. Our retailers could not buy enough from us due to the high prices and we could not also sell to them on credit because of the financial challenges. The high prices were really a disincentive for businesses in 2022”.

3.1.4 Perspectives from MOFA on fertilizer prices

In interacting with officials from the Directorate of Crop Services of MoFA, they explained the tight fiscal space and the overall economic difficulty limiting the government's ability to increase the quantities and subsidy component for farmers which was a source of concern to the government. This is what an officer said

“The 2020 to 2022 year was very difficult for the government. Things were normal before the COVID-19 and the Russian and Ukraine crisis. After the crises, input prices went very high. On some occasions, importers could not get fertilizer to buy as the developed countries needed the limited fertilizer for their farmers. Not only that, there were financial difficulty on the part of government leading to delay payment of importers”

While the PFAG is aware of global development related to the COVID-19 and Russian-Ukraine crisis, the farmers’ expectations were for the government to use the limited resources to support farmers as other developed countries had done, but to rather reduce subsidies on farm inputs was least expected.

3.2 Quality of subsidized fertilizer

The issue of quality of inputs, especially fertilizer and seeds have become topical, especially in the era of the PFJ. The findings from the study corroborates with similar results from previous PFAG assessment reports and other independent studies.

3.2.1 Perspectives from Farmers

The findings show that many farmers perceived the PFJ fertilizers to be of inferior quality. The variables farmers consider in measuring quality include physical changes in crops (colour and sizes) and crop yields. Other farmers attribute the quality of a fertilizer with the associated brand and this perception is across all the sampled districts. From Table 3 below, 896 respondents, representing 80% of the respondents, claimed that fertilizer supplied under the PFJ was of inferior quality. Out of the number, 469 representing 52% were males while 427, representing 48% were females. In addition, 170 respondents, representing 15%, claimed the fertilizers were of good quality of which 56% were males.

Table 3: Experience on quality of Fertilizers

Perception on quality	Number	Percentage
Poor Quality	896	80.29
Quality met my expectation	170	15.23
No opinion	50	4.48
Total	1,116	100

With regards to geographical dimensions, the Upper East Region recorded the most responses regarding the low quality of fertilizers with 230 responses. However, in terms of percentages, the Northern Region recorded the highest disapproval ratings with 98% of respondents indicating that the fertilizers were of poor quality. This was followed by the Upper East Region with 97%, Greater

Accra Region with 88%, North East Region with 84% and Upper West Region with 83%. The breakdown of the table is shown in Table 2 in the Appendix.

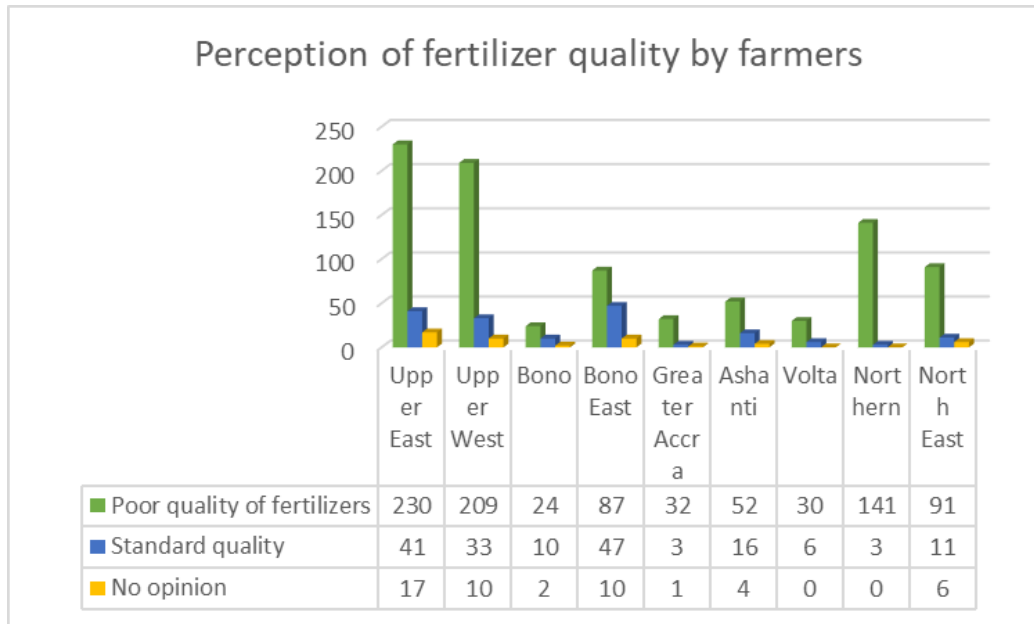


Figure 7. Perception of fertilizer quality by farmers

Some farmers blame the government for permitting some companies they perceive to be supplying sub-standard fertilizers to continue to operate. During the FGD, a 43-year-old woman at the Tono Irrigation site narrated her experience with the quality of fertilizer;

“In 2022, we bought “champion man fertilizer”. After applying it, there was no action. When you pour the fertilizer in water, it doesn’t even dissolve, so how will the plants take it? We have to mobilize money again for PFAG to buy Yara Urea for us and that was what saved us. For me, I don’t think I will ever use PFJ fertilizer again”.

-A company called Norfert supplied Glofert PFJ fertilizer for us last year, but the fertilizer was bad. When you apply it on your fields, it is like clay. Even the label on the sack shows an expiry date of July 2022, yet MoFA see no wrong with them”

----Another farmer from Kayoro

“Some of the PFJ fertilizer we bought in 2022 were too bad. I applied two bags of the PFJ-NPK fertilizer on my rice farm last year. My wife didn’t apply any fertilizer on her field, yet there was no difference between the two fields. Every year we complained to the agric officers that it is the

*Yara fertilizer that is quality, why are they not given it to us but rather allow companies like
to supply”*

During an engagement with an outgrower farmer in Yendi, he indicated that the PFJ fertilizer they used last year was okay for them and this was confirmed by the District Director of Agriculture that there were no complaints of poor quality of fertilizers from farmers last year.

3.2.2 Perspective from Ministry of Food and Agriculture

To better understand the issues surrounding the poor quality of PFJ fertilizers by farmers, interviews were conducted with some agriculture officers as well as officers of PPRSD at both the national and district levels to ascertain the extent of complaints from farmers regarding the quality of fertilizers and the efforts made in addressing such grievances.

Regional and District Agriculture officers

Farmers' sentiment of poor quality of the PFJ fertilizers were communicated to regional and district agricultural officers in the Upper East, Upper West and North East regions with some officers confirming receiving such complaints but indicated most farmers failed to provide evidence or samples of such fertilizers. Notwithstanding, some reported cases were referred to PPRSD for possible action as indicated by some agriculture officers. On the other hand, some officers debunked such complaints and indicated that for farmers to gain good yields, a combination of factors come into play and not only depend on fertilizer use. These officers, however, had no doubt that some companies actually supplied sub-standard fertilizers under the PFJ program. An agric officer stated that,

“Last year, we received several complaints from farmers who bought PFJ fertilizer from some companies of poor quality. But as you may be aware, for crops to perform well, is a combination of factors. Timely planting, timely fertilizer application, availability of rains and good agronomic practices. If these protocols were not followed, it is possible the fertilizer alone will not work for them. I also agree on some genuine cases where some of the companies actually supplied bad fertilizers. We have reported such cases to PPRSD and I am sure they are handling them”.

-Agric officer in Upper East region

National and District PPRSD Officers

To further understand what strategies and actions have been taken by the regulatory body, officials of the Plant Protection and Regulatory Services Department (PPRSD) of MoFA were interviewed. The PPRSD is the state agency, under the Ministry of Food and Agriculture and is responsible for issuing licenses for registration, importation, distribution and retailing of all fertilizers in Ghana. They are also responsible for monitoring and ensuring quality control through lab test analysis.

During the engagement with a number of officers at the district level, most of them indicated that farmers sometimes gave verbal complaints of poor-quality fertilizer without providing evidence. They also indicated the difficulty in determining quality of a product without subjecting it to laboratory analysis. An officer in the Upper East Region narrated,

“For quality issues, we received a lot from farmers concerning fertilizer, especially under the PFJ. Sometimes, farmers do not provide enough evidence to help in understanding the issues. They will just tell you the fertilizer they applied did not work without providing further details to help. Sometimes they don’t even have fertilizer samples for us to do laboratory analysis and this is our problem.”

At the national level of PPRSD, they are handicapped when it comes to ensuring quality control both at the national and district levels due to their financial constraints to subjecting fertilizers to lab test analysis. As such, they received several complaints of fertilizer quality from farmers but pointed out that some farmers failed to provide evidence of the companies and associated products. This is what another PPRSD officer narrated

“While some farmers provided samples of the fertilizer for laboratory analysis, the majority didn't. Also, PPRSD is constrained with resources to do proper monitoring of all farms in Ghana and laboratory analysis. It costs not less than GHS 2,000 to do just one lab analysis”. We always advise the farmers to try and provide details to help us address the issue.”

However, the officers from the PFAG disagreed with such claims with the Executive Director, indicating that the PPRSD did not effectively perform their mandatory role as

expected. He cited instances where a company supplying expired fertilizer to the association members but PPRSD failed to hold them accountable.

“There was a case where a company called NORTHFERT supplied GLOFERT fertilizer to our members in the Upper East Region. The quality was an issue and it was reported to PPRSD but there was no action. Even when the Association pushed for the company to be invited, the PPRSD failed to do so. The PFAG had to take the case to the Economic and Organised Crime Office (EOCO) to recover the money. We have no confidence in PPRSD as a regulatory body to ensure fertilizer quality control in Ghana”

Further engagements with the National Fertilizer Desk Officer at the Directorate of Crops Services, confirmed receiving reports of poor quality of fertilizer under the PFJ. According to him, while some of the fertilizer companies are complicit in this, farmers also exaggerate the issue. He added that due to the Ukraine-Russian war, the supply of inorganic fertilizers experienced some shortfalls, thus resulting in limited supply. He also confirmed that some importers or suppliers of the fertilizers supplied poor quality fertilizers or fertilizers that were meant for tree crops instead of food crops, but these were at insignificant levels. He cited a report by the International Fertilizer Development Center (IFDC) that monitored PFJ fertilizer quality in 2019 which found that more than 90% of the fertilizers met quality standards. This is what the officer narrated.

“While some farmers exaggerate quality issues, some of the companies did not also help at all. Due to the shortage of fertilizer last year and the last two years, some companies used fertilizer meant for cocoa for food crops. That is why when they apply those fertilizers, they remain on the ground for a long time without dissolving”.

3.3 Timeliness of delivery

The timely application of fertilizer is critical for plants growth and yields. Applying fertilizer after recommended timelines could lead to poor performance. This aspect of the research was interested in understanding when the subsidized fertilizers were available for purchase by farmers for the 2022 planting season.

There were mixed reactions to the question as some farmers indicated that fertilizer was not available at the time of planting while others said there were fertilizers but the major issue was

its unaffordability. A farmer in the Zebila indicated,

“Last year, there was enough government fertilizer in the field but there was no money. I had to call three of my children to contribute money before I was able to buy 2 bags of fertilizer. In fact, I applied it almost two months after planting. My maize yields were very bad. I can’t actually tell whether the poor yields are due to the quality of the fertilizer or the time it was applied.”

Another farmer in Kassena Nankana District added that there was fertilizer at the time it was needed except that the price was too high.

Input dealers also concurred about its availability, but highlighted the main challenge for farmers, which was the prices.

“To be frank with you, there was a lot of fertilizer as at May 2022. The major problems most farmers who come to my shop was the price”

There were similar reports in other areas like Yendi, Kumbungu and Wa. That notwithstanding, farmers from Chereponi, Tatale and Zabzugu lamented that the fertilizers did not come to their districts on time. According to one farmer in Chereponi, there were only two shops that sold the subsidized fertilizer last year. When they planted in June, it was only in the middle of August that the shop owners brought the fertilizer. The same sentiments were expressed by farmers in the Upper West region, specifically in Daffiama-Bussie-Issa (DBI) district. Experiences from the farmers revealed that due to the distance and deprived state of some districts, most distributors focused on districts that were closer to regional capitals and have good access to roads. Also, interaction with some officers of the District Department of Agriculture showed that most fertilizer retailers were no longer into the business due to the huge capital involved in the fertilizer business.

The FGD in a community in West Mamprusi were unanimous that “the subsidized fertilizer arrived very late”. According a 35 year old rice farmer,

“I broadcast my rice in the second week of July. Because I was waiting for the PFJ fertilizer which never came, I have to mobilize and buy the open market fertilizer on 20th August. I always advised my colleagues that if they put their hope in the government fertilizer, their farms will fail, I don’t rely on that fertilizer”.

During the individual interview with a nucleus farmer in Yendi, he claimed that the problem with the 2022 fertilizer was about price but not time of delivery.

“We must be sincere, the 2022 problem was not about time of delivery, the main problem was the price. There was a period where subsidized fertilizer was everywhere, those who could not buy is not because it came late but because the price was high”

This shows that there are still challenges with timely delivery of fertilizers to farmers, especially for some regions as already indicated. Poor timing and late delivery of fertilizers to farmers can distort or adversely affect the intended objectives of the PFJ, therefore, policy makers and implementing partners must pay serious attention to this challenge.

3.4 Promotion and provision of organic fertilizer

In 2022, the government promoted the use of organic fertilizer due to the high cost of inorganic fertilizer. Our interaction with farmers who used the organic fertilizer, provided mixed reactions of performance depending on the type of crop and geographical location. Most farmers cultivating rice in the Northern, North East and Upper East Regions for instance, claimed the organic fertilizer produces green vegetation but does not translate into grains. However, farmers in Ashanti, Western and Greater Accra Regions were satisfied with the combination of organic and inorganic fertilizer. Farmers into vegetable production such as tomato and pepper claimed they were satisfied with the organic fertilizer but added that a combination with the inorganic fertilizer provided optimum results.

According to the input dealers, the farmers' patronage for organic fertilizers was very low. Some of them attributed the low patronage to limited sensitization and others were of the view that the organic fertilizers do not give immediate results compared to chemical fertilizer. According to them, many input dealers still have stocks of organic fertilizer they could not sell. This is what an input dealer in Upper East Region said

“I brought 3,000 bags of granular organic fertilizer in 2022. As we speak, I still have 2,970 bags unsold. I am aware other dealers would have found their way of reporting the unsold products and receiving payments but I will not do that”

Engagement with other organic fertilizer promoters such as the Alliance for Green Revolution in Africa (AGRA) also pointed to a recommendation for the combination of organic fertilizer and inorganic fertilizer for optimum results.

Considering the high cost of inorganic fertilizers and its associated environmental and health effects, efforts should be made to strongly promote the usage of organic fertilizer. This could be in a form of intensive sensitization and free supply of the product for farmers to attest to the benefits and results for themselves.

3.5 Provision of Subsidized Seeds

The use of certified seeds of improved varieties constitute an important input for farmers as it has a direct impact on yields, output, productivity, and invariably the incomes of farmers. Under the PFJ programme, beneficiary farmers were to be supplied with improved seeds of selected crops including, maize, rice, sorghum, millet, cowpea, soybeans and assorted vegetables. The key objective of the seed pillar under the PFJ was to enable farmers have access to adequate quantities of good quality certified seeds of improved varieties delivered timely. This study therefore assessed farmers' responses to these indicators as promised under the pillar.

The results from the survey show that overall, about 80% of the farmers perceived seeds supplied under the PFJ as inferior quality while 15% said the quality met their expectation. These results were similar to the findings on the quality of fertilizers under the PFJ, with almost the same respondents affirming the bad quality of inputs received under the PFJ program. The findings are broken down in Table 3 in the Appendix. The reasons for describing PFJ seeds as poor quality are:

- Poor germination
- Perception and knowledge of some growers repackaging grains as seeds
- Similar yield of farmers' own seeds as compared to PFJ seeds though prices for PFJ seeds were higher.

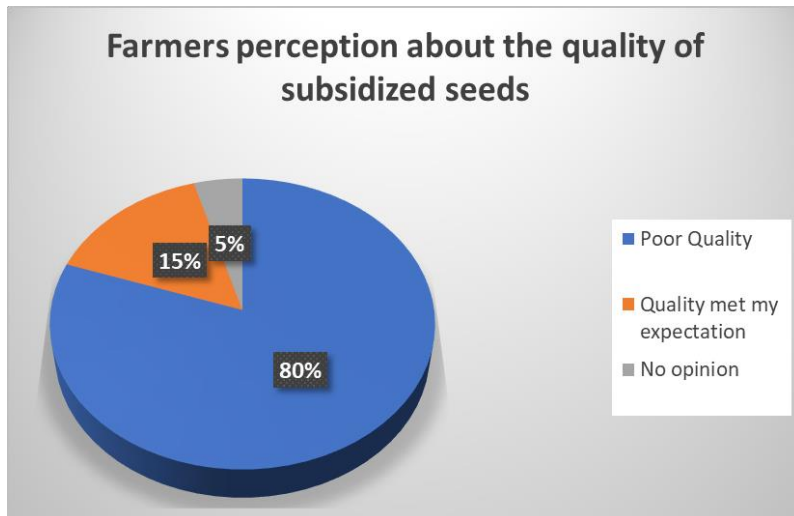


Figure 8: Farmers perception about seed quality

During the FGD, a 46-year-old farmer from Pusiga narrated his ordeal with the PFJ seeds.

“In 2019, I bought maize subsidized seeds from an input dealer. When I planted, I had to do several refills. The germination was very poor. Since then, I stopped using them”

This is from another farmer

“The PFJ seeds are good, my problem is the price. Last year, a kilo of maize seeds was going for GHS 12. One needs about 10 kilos for one acre. You end up spending more than GHS 120 on seeds alone per acre

When farmers were asked to indicate whether they experienced corrupt practices such as demand for bribes, in respect of accessing improved seeds, there was virtually no evidence of such practice. A noteworthy caution here is that, the cumulative effect of non-use of improved seeds by many farmers may adversely affect the main objective of the seeds pillar and overall goal of the PFJ.

The study extended its scope to further identify the individual perceptions of farmers in the various study areas on whether the subsidized seeds supplied are of good or poor quality. Figure 9 below represents the regional responses of both male and female farmers with the majority of farmers in the Upper East, Upper West and Northern regions indicating poor quality of seeds supplied under the PFJ. The Bono and Volta regions recorded the lowest responses on poor quality of seeds supplied to farmers in the regions. Farmers in the Bono East and Upper West affirmed that the seeds supplied to them were of standard quality while farmers in the Northern,

Greater Accra and Volta regions recorded the lowest response to standard quality of seeds supplied.

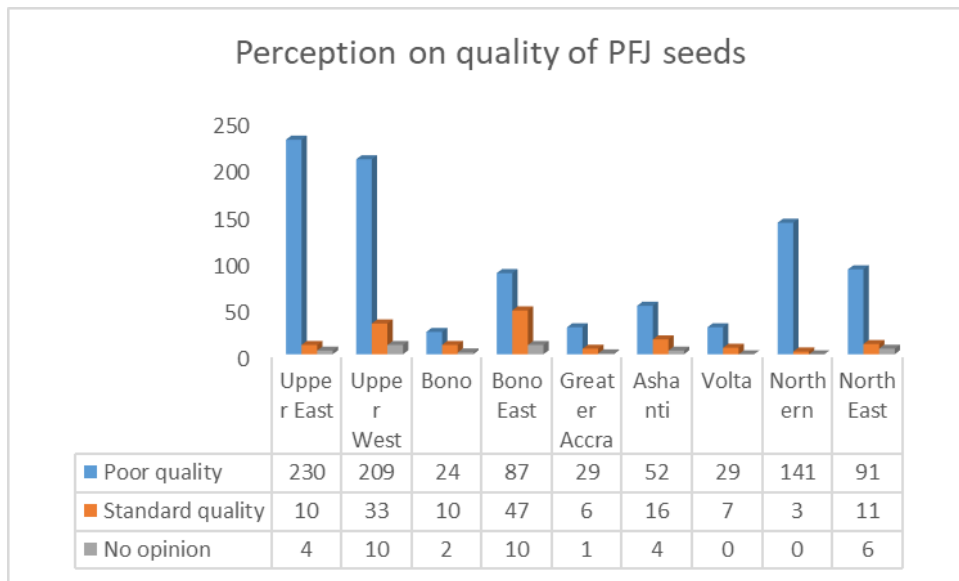


Figure 9. Farmers perception on the quality of subsidized seeds

3.6 Provision of Extension services

Extension services are critical components for technology adoption and uptake, especially in the rural areas of Ghana and is the fourth strategic pillar under the PFJ programme. Under the program, Agricultural Extension Agents (AEAs) from both public and private sector are required to deliver reliable technical and non-technical assistance and services in a timely fashion, to enable farmers to benefit from promoted technological packages that will lead to increased farm productivity.

The findings present an assessment of extension services pillar from the perspective of beneficiary farmers. Particularly, information regarding the source of extension services, the frequency of visit, mode of access and type of information shared were collected

According to MoFA, the introduction of the PFJ led to the recruitment of about 2,700 extension officers to improve farmer education with an additional 9,000 personnel recruited from the National Builders Corps (NABCO) to support the extension services (MoFA, 2019). This support was however short lived following the government's decision to end the NABCO program in September, 2022 (Citi News report, 2022).

Under the Modernization of Agriculture in Ghana (MAG) program funded by the Canadian government, vehicles, motorbikes and other logistics were provided to aid extension work. The

support from the program enabled extension officers to pay regular visits to farmers to disseminate information and provide any form of support required (MoFA, 2023). After the exit of the MAG program which lasted for five years (2017-2022), there has been limited resources for extension officers to carry out their duties. Our engagement with the District Agric. Directors revealed that the decentralization policy that placed the Departments of Agriculture under the Ministry of Local Government and Rural Development had brought a lot of uncertainty and lethargy to their work. They contend that they are seriously under-resourced since the District Assemblies main focus is the construction of feeder roads, schools and clinics to the detriment of the agricultural sector. According to them, the limited investment in agriculture at the local level has led to many extension officers leaving their posts with no efforts to replace them, including the retired ones.

In interacting with farmers, these challenges are manifested in the increase in farmer extension ratio in the visited districts. Available data suggests that there is a widened ratio, higher than the national average of 1: 1,200 for most districts as illustrated in Table 4 below.

During the focus group discussions, farmers revealed that the major source of extension services is the government through the Departments of Agriculture with occasional support from some Non-Governmental Organizations (NGOs). The frequency of visits varied between different communities and farmer groups. While some farmer groups claimed they were visited about twice during the planting season, many claimed they had never had an encounter with AEAs in the last two years.

According to one of the farmers in DBI district,

We were told that they had assigned an extension officer about two years ago but we have never seen the person around here.

For the areas that had received extension services, information shared by the AEAs was mainly about good agricultural practices such as farm sanitation, pest control, recommended rate of fertilizer application and post-harvest management. There was limited dissemination of information on markets, farm business planning and financial management.

Table: 4: Extension farmer ratio 2021 and 2022

District	Extension ratio (2021)	Extension ratio (2022)
Saboba	1:4019	1:5086
Tatale	1:5096	1:4019
Chereponi	1:6133	1:5257
Yendi	1:4374	1:7869
Techiman	1:3126	1:3975
Shai Osudoku	1:1500	1:1600

Source: Respective Departments of Agriculture

The AEAs engaged during the study indicated that the unavailability of logistics to undertake their assignment was a major impediment to their work. Without these resources, they are unable to visit and effectively train farmers as expected. Some AEAs also revealed that they are engaged by some agro-input companies to set up demonstration farms and they use the resources of such engagements to augment their work.

Overall, the study found that the AEAs were inadequate and under-resourced, to the extent that vital logistics like motorbikes, fuel, GPS devices and smartphones were not available. Extension service delivery through the use of mass messages and ICTs have not yet been fully developed and there's the need to explore ways of engaging more farmers through the use of ICT.

3.7 Provision of Marketing services

The PFJ programme envisages increased food crop production over the period and therefore makes provision of marketing food commodities. The major activities under this pillar include engagement of aggregators to purchase farm produce, rehabilitation and construction of

warehouses, monitoring and reduction of price volatility, establishment of market linkages and promotion of job creation (MoFA, 2019).

Interaction with stakeholders on the marketing suggest that PFJ has not been able to provide the necessary market linkage between farmers and potential offtakers such as processors, institutions, the National Food Buffer Stock Company (NAFCO) and school caterers under the School Feeding Programme. Farmers had to arrange their own means of aggregating, identifying buyers and selling their produce.

State institutions such as the National Food Buffer Stock Company (NAFCO) and Ghana Commodity Exchange (GCX) are poorly resourced making it impossible for them to deliver on their mandate. Farmers therefore have had to sell their produce to aggregators, traders and directly to consumers at the farm gate, with farmers mainly the price takers. To reduce the losses associated with low prices being offered, farmers of selected commodities found solace in selling their produce to foreigners who offered reasonably high prices. This situation contributed to escalating food prices resulting in the Government of Ghana, through the Ministry of Food and Agriculture (MOFA) to, in 2020, passing an Export and Import Restriction of soybeans regulation 2020 (L.I.2432), to regulate the export of commodities such as maize, rice and soybeans from Ghana. The restriction of grain export, especially soya, rice and maize has had a negative impact on farmers, as there were no local marketing structures in place for farmers to get good prices as the local grain industry could not pay the optimal prices for the farmers produce.

While it is imperative that the government puts policies to ensure food security within the country, it is important that there are adequate measures to ensure that the livelihoods of farmers are also protected.

The PFJ program has not been able to provide the market linkage between producers and potential off takers such as government institutions and the national buffer stock company. Linking farmers to reliable markets could help reduce post-harvest losses, and increase earnings of farmers.

3.7.1 The introduction of “PFJ plantain market”

The price of food and transport in the last quarter of 2022 were skyrocketing leading to public criticisms of poor performance of the PFJ programme against the perceived success claimed by

MoFA. In efforts to prove Ghanaians wrong and to mitigate the impact of the rising food prices on real incomes of civil and local government workers, MoFA introduced PFJ plantain market which started operations on 11th November 2022 (3news report, 2022). While plantain was not listed among commodities supported by PFJ, the MoFA targeted plantain which was brought from the rural areas to Accra. This was later extended to Kumasi, Takoradi and Koforidua and lasted for barely two weeks.

Some stakeholders shared their impression of the plantain market with many claiming that the establishment of PFJ market which operated for only two weeks was a sign of failure of the PFJ programme. This was premised on the fact that; plantain was not one of the commodities targeted by PFJ. Secondly, the major crops receiving PFJ support such as maize and rice which were in low supply were never targeted by the PFJ market. Finally, the marketing pillar was to be led by the private sector without direct government intervention. Given the important role market plays in food distribution, stakeholders call for the government to create an enabling environment and allow the private sector to lead the marketing arrangement rather than the government directly involved in selling plantain.

3.8 Findings on E-Agriculture

The use of Information and Communication Technology (ICT) in agriculture has several benefits for several stakeholders in the agribusiness value chain. The PFJ therefore has E-Agriculture as one of the strategic pillars, as a means to use ICT for efficient targeting of the beneficiaries, and effective management and governance of the scales and impact of the PFJ program. Under this pillar, beneficiary farmers were expected to be electronically profiled with the data used as the basis for linkage of farmers to the provision of subsidized inputs, storage, balance payments by beneficiaries, marketing of outputs, and emergency interventions. Over the years, the government has been unsuccessful in digitizing farmers' databases due to a plethora of reasons including weak capacities of ICT firms to undertake the exercise.

However, the Ministry in 2022, engaged the services of "BroadSpectrum", an ICT company to lead in the registration of farmers for fertilizer and seed supply. The pilot phase was to be done in all the regions in Northern Ghana for the 2022 season and it was expected that the whole nation would be covered by 2023.

This section presents farmers' experiences with registration and utilization of the services offered by Broad Spectrum and the extent to which it has been deployed to conduct some of the basic activities defined in the E-Agriculture pillar such as registration of farmers unto the PFJ programme. Engagement with the company revealed the following findings

1. Per the contract with the Government of Ghana, the Company was expected to register 1.7 million farmers in the selected regions. With a continuous registration process, the company has currently registered 1.6 million farmers and expected to make the outstanding deficit in due course.
2. Only 87,000 registered farmers out of the 1.6 million participated in the PFJ program for the 2022 planting season.
3. There were no properly established communication channels between the Ministry of Food and Agriculture and the respective District Departments of Agriculture. This led to poor coordination of the work by the Decentralized structures
4. Initial payment challenges nearly derailed the work, though this was sorted later.

The study went further to ascertain stakeholders' perspectives of the work of the company and the following responses were recorded

- The electronic recording of inputs purchased by farmers had reduced the possibility of input dealers inflating quantities supplied
- The electronic recording of transactions has reduced the hassles of record keeping and signing of form A, B and C
- It has set the basis for developing a proper database of farmers
- The electronic system has helped to minimize smuggling, corruption and hoarding.

However, some officers of the District Department of Agriculture had some reservations regarding the work of the company. In their view, the electronic registration eliminated the role and functions of the Agric officers making most of them redundant as some officers felt neglected and their jobs taken away from them. This also led to some farmers, who had close ties with the Agric officers refusing to register and this presented a difficulty for the company to identify some farmers for collection of their Identity cards. This development could be attributed to the lack of clarity on roles of the Agric officers and the consultant, which needs to be clearly defined and communicated.

3.9 Gender integration within the PFJ

Due to various cultural and social norms, women farmers are often side-lined in accessing and control of productive resources which limits their ability to increase their scale of production. Women play an important role in Ghana's agriculture, accounting for about 40% of agricultural labour force and make up the majority of the workforce in other aspects of the value chain such as processing and marketing (GSS, 2020).

Women are more likely to be employed as unpaid family workers in addition to the burden of unpaid domestic work. With limited capacities, they are unable to purchase fertilizer, improved seeds and other agro inputs necessary to improve their productivity (Abdu *et al.*, 2022). With regards to the current financial crises, women farmers have been badly hit as they are unable to secure financial support in time to advance their economic activities due to stipulated requirements by financial institutions.

Given the important role women play in the agricultural sector, special provisions should have been put in place to ensure their active participation to ensure full benefit from the PFJ. The Gender Agriculture Development Strategy (GADS) stipulates the promotion of "targeted mechanisms in the provision of agro-inputs and services for women to consider the 40% quota Affirmative Action and other special agricultural related programmes from government (e.g. fertilizer and seed subsidies, block farms)". However, the strategic plan and direction of the PFJ did not have any deliberate and targeted gender considerations for women, PWDs, and people living in hard-to-reach communities.

While evidence from the field did not point to significant levels of discrimination against women accessing inputs under the program, there is no specific targeting mechanisms that give equal opportunities for women.

Engagements with the Women in Agricultural Development (WIAD) Directorate of MoFA which is responsible for formulating policies and programmes to meet the needs of women farmers and processors, revealed that they had very little influence in the program roll-out and appeared not to be involved at any stage of the program design and implementation. WIAD also appears to be under-resourced with some WIAD officers playing dual roles in their departments thereby reducing their effectiveness.

In recent times, PFAG engaged WIAD, the DCS and other relevant stakeholders to explore the possibility of integrating WIAD in the distribution of subsidized fertilizer for vulnerable groups, however, the private sector led strategy of PFJ was a major hindrance in arriving at a workable solution. It is therefore imperative to design a practical strategy that deliberately targets marginalized groups to ensure their inclusivity as envisioned in the GADS II.

3.10 Impact of 2022 PFJ fertilizer implementation on the activities of smallholder farmers and the general economy.

Proper fertilizer application and improved seeds constitutes an important input for farmers due to its direct impact on yields, outputs, productivity, and invariably the incomes of farmers. The aim of the program was to increase food production in the country by complementing the farmers' cost of production. Some targeted food crops such as maize, soybean, rice and other vegetable crops experienced high production records in previous years, but in the year 2022, there was a decline in the production of such crops. The survey data suggest most of the farmers could not source fertilizer and seeds due to high prices, while others also complained of inferior quality of inputs supplied under the programme. The assessment was therefore interested in understanding the impact of this development on the activities of the respondents.

Farmers in a bid to mitigate the risk of price hikes of the PFJ inputs adopted some measures including reducing their farm sizes, reducing the quantity of fertilizers used as well as shifting to the production of other crops that do not require much fertilizer application. The results from the field survey indicate that, about 85% of the respondents reduced their farm sizes in order to reduce their farm expenses on seeds and fertilizers while about 99% claimed to have reduced their fertilizer application due to high cost. The coping mechanisms adopted by many farmers were to reduce the cultivation of crops that require large quantities of fertilizer to leguminous and tuber crops. The data suggest that 80% of respondents shifted from maize production to other crops, while about 89% shifted from rice to other crops and 15% have to abandon farming to do other off-farm activities. These findings were collaborated by general development in the economy as food inflation as at January 2023 was 61% resulting from limited food production. (GSS, 2023). There is a general increase in maize prices from GHS 200.00/100 kg in 2022 to GHS 400/100 kg in 2023. Also, there was anecdotal evidence that about 70% of poultry farms closed down due to

high cost of maize, which constitute the main poultry feed leading to increase in price of eggs from GHS20/crate in 2022 to GHS50/crate in 2023. The resulting activities of farmers caused a reduction in the production of vegetable crops as well making the country to depend largely on other countries such as Burkina Faso for tomatoes due to poor production in Ghana.

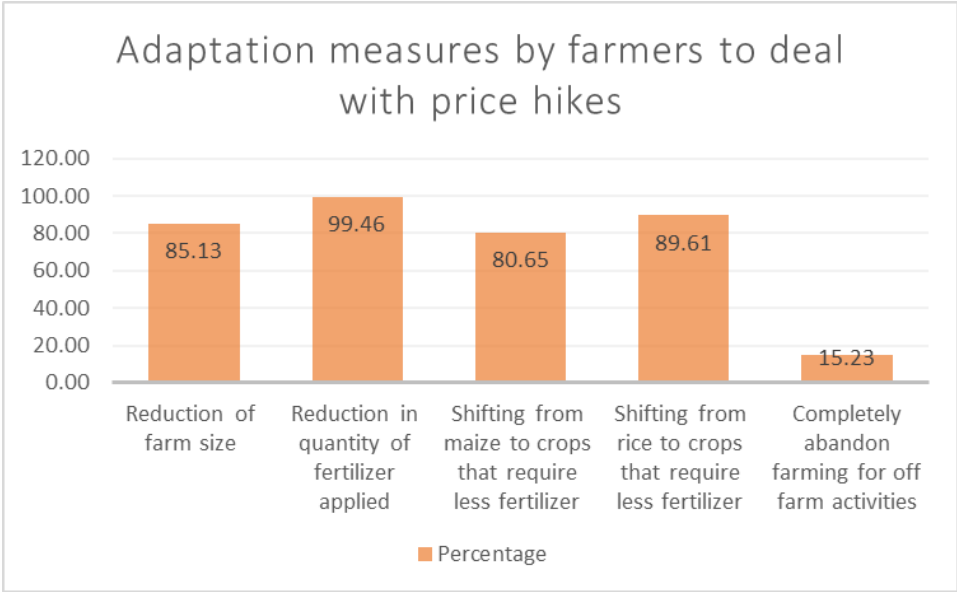


Figure 10: Impact of price hikes on farmers

The figure above represents the responses by farmers on the extent to which the hikes in prices of PFJ fertilizers have impacted on their farming activities.

Regional responses on the impact of fertilizer price hikes on the activities of smallholder farmers

The study further delves into the impact of fertilizer price hikes on smallholder farmers in the various regions where farmers adopt some mitigating methods in their farming activities varying from reducing fertilizer quantities, reducing farm sizes to completely abandoning their farms for other off-farm income generating activities. The figure below depicts, on a regional basis, the number of farmers who reduce their farm sizes in order to cope with their farming activities. The Upper East and Upper West regions recorded the highest number of farmers who reduced their farm sizes in order to use the available fertilizers they can afford to apply on their farms. On the

other hand, the Bono, Greater Accra and Volta regions recorded the lowest number of farmers who reduced their farm sizes to cope with the impact of the fertilizer price hikes.

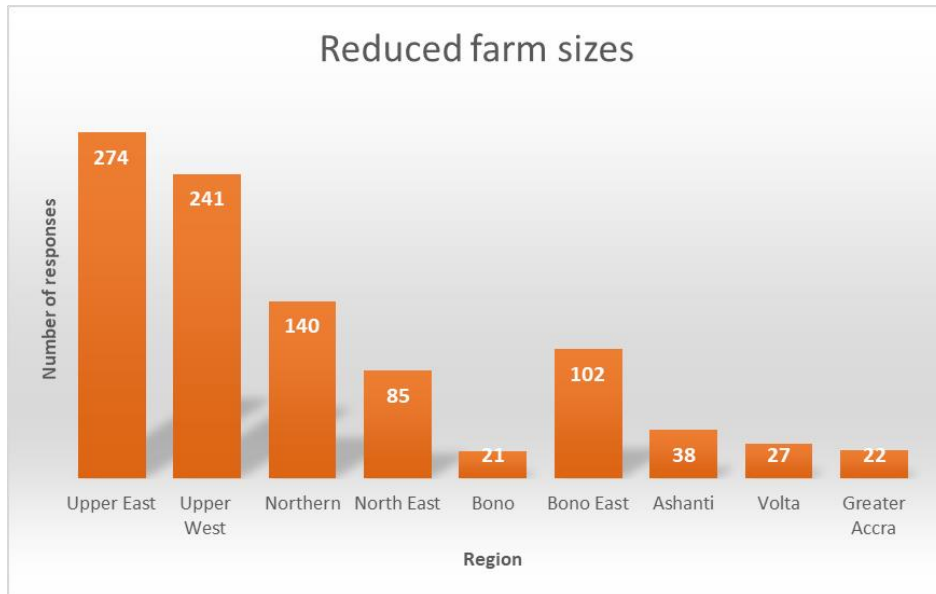


Figure 11. Regional responses on farmers reducing their farm sizes

The figure below further points out the number of farmers who reduced the quantity of fertilizers to apply on their farms due to the high prices of fertilizers. Farmers in the Upper East and Upper West regions recorded the highest number of farmers to reduce the quantity of fertilizers they applied on their farms due to the high PFJ fertilizer prices representing total responses of 288 and 252 respectively. Farmers in the Volta, Greater Accra and Bono regions had the lowest responses by farmers in terms of reducing the quantity of fertilizers applied on their farms.

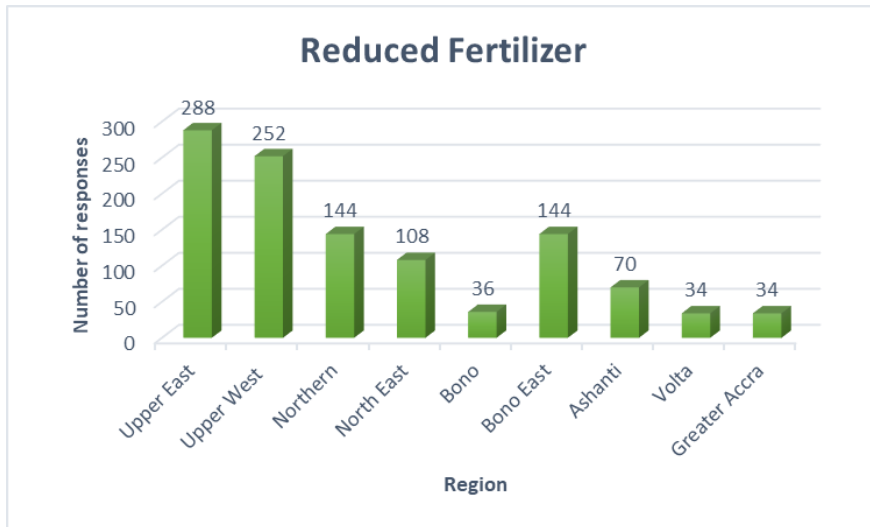


Figure 12. Regional responses on farmers reducing quantity of fertilizers applied on farms

Figure 13 below indicates the number of farmers who shifted from the production of rice to other crops that require less fertilizer usage serving as an adaptive measure for farmers. Again, farmers in the Greater Accra, Volta and Bono regions recorded the lowest response from farmers who shift from the production of their main crop (rice) to other less consuming fertilizer crops. The Upper West and Upper East regions recorded the majority of farmers responding to shifting from rice production to other crops.

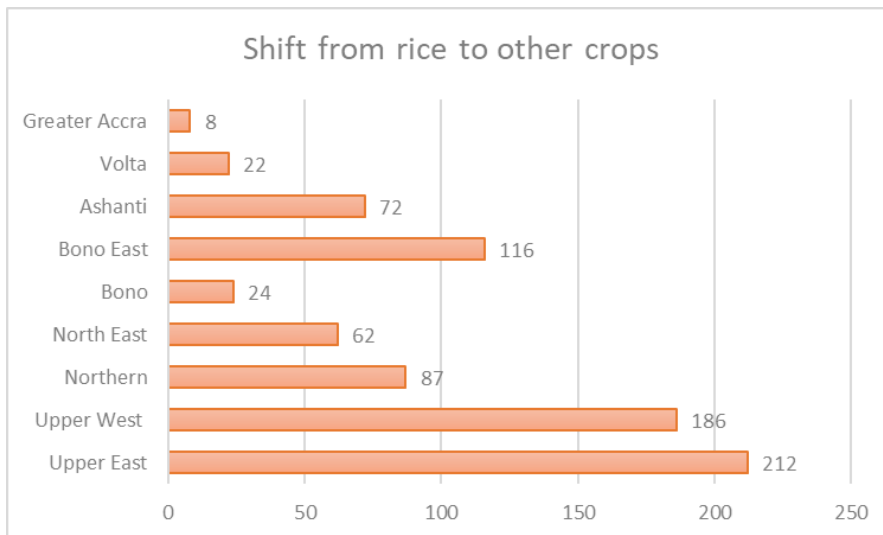


Figure 13. Regional responses on farmers shifting from rice production to other crops

As part of farmers mitigating their production risks due to price hikes in fertilizers, farmers adapted to shifting from the production of their main crop which is maize to other crops that consume less fertilizers in cultivating such as legumes. Majority of responses of 252 and 206 were recorded in the Upper West and Upper East regions respectively representing the total number of farmers who shift from maize production to other crops. Other regions such as the Bono East, Northern and North East recorded higher responses compared to the Volta, Greater Accra and Bono regions.

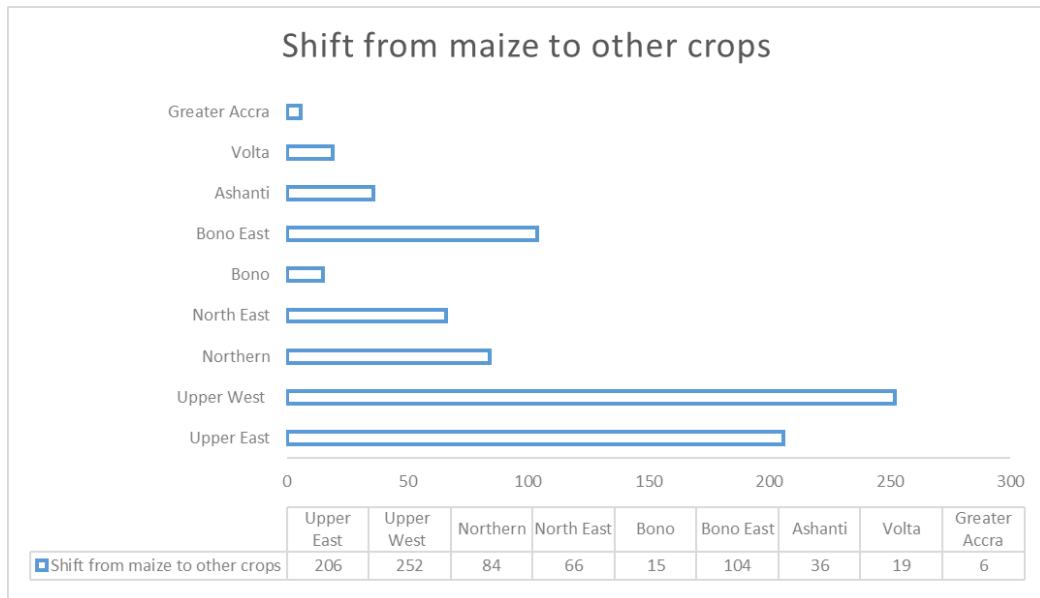


Figure 14. Regional responses on farmers shifting from maize to other crops

Due to the negative impact of price hikes of fertilizers, some farmers who could not cultivate any food or tree crops completely abandoned their farms to seek for other off-farm income generating activities. This reflects in all the study areas where the majority of farmers abandoned their farms, though it was prevalent in the North East, Upper West and Upper East regions. The lowest responses were obtained from the Volta, Greater Accra and Bono regions where less farmers completely abandoned their farms for other activities. Figure 15. shows the total responses from all nine regions and is represented below.

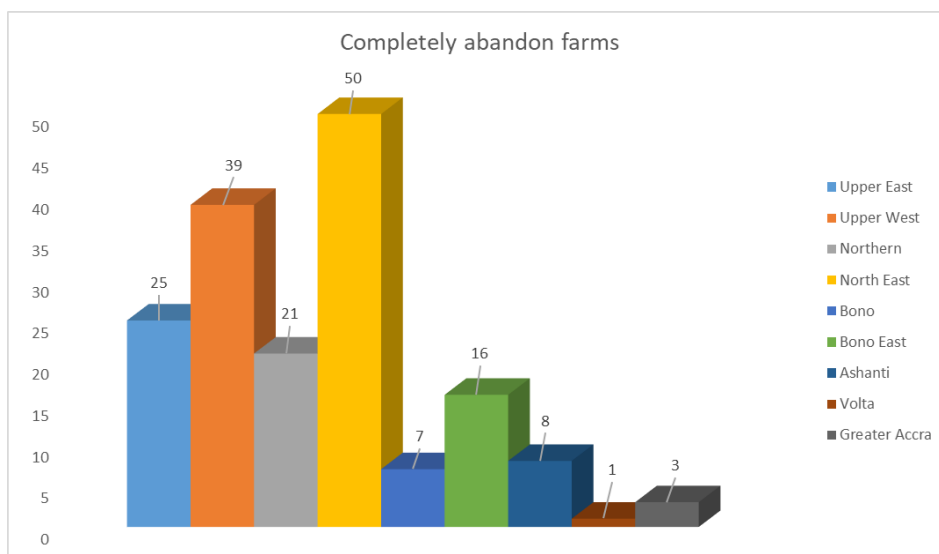


Figure 15. Regional responses on farmers completely abandoning their farms

Impact of price hikes on the production area of some food crops

The PFJ program in its implementation was aimed at increasing the production of some selected food crops such as maize, rice and soybean to meet the high demand and make the country self-reliant in the production of such crops. Over the implementation years, farmers saw an increase in their yields of such crops but subsequently, a reduction in the total outputs of some food crops have been recorded. This may be attributed to the coping mechanisms farmers have to adopt due to high prices of subsidized production inputs such as fertilizers. The reduction in fertilizer application, reduction in farm sizes and the shift in the production of some food crops such as maize and rice have had a negative impact on the total yields obtained per hectare. The table below shows the number of hectares under which rice, maize and soybean have been cultivated between the years 2021 and 2022 in some selected districts in the Northern parts of Ghana.

Table 5: Production area of crops in 2021 and 2022

District	Crop type	2021 /hectare	2022/hectare
Tatale	Maize	4,662.24	3,333
	Soyabeans	1,238.16	2,937

Yendi	Maize	6,7607	4,780
	Soyabeans	7,005	10,105
	Rice	5,300	3,320
Chereponi	Soyabeans	4,757	6,422
	Maize	3,750	4,050
	Rice	3,556	3,981
KNED	Maize	4574	3400
	Rice	4043	5402

Source: Respective District Directors of Agriculture

In the Tatale district, a total area of 4,662.24 hectares was cultivated under maize production in the 2021 production year while there was a record of reduction in the number of hectares under cultivation in the year 2022 resulting in a reduction to 3,333Ha. This can be attributed to the reduction in the overall supply of maize on the market. On the other hand, soybean production experienced an increase in the cultivation area from 1,238.16Ha to 2,937Ha. This confirms the responses from farmers that they shifted from the production of maize to other less consuming fertilizer crops such as soybean. This situation is similar in the Yendi and Kassena Nankana districts which experienced a reduction in the total land size of maize under cultivation from 2021 to 2022 production period. The production area of soybean increased in all the districts that produced the crop with Yendi increasing the cultivation area from 7,005Ha to 10,105Ha while Chereponi saw a similar increase from 4,757Ha to 6,422Ha.

Also, the production area of rice recorded a reduction from 5,300Ha to 3,320Ha in the Yendi district. This may be attributed to a shift in the production of rice by some farmers in the district to other food crops that require less or no fertilizer application such as soybean as the district recorded an increase in the production area for leguminous crops like soybean. Consequently, the prevailing situation could be attributed to the inability of some input dealers targeting only communities that have good accessible roads to supply farmers with subsidized

fertilizers. The production area of rice in the Cheriponi and Kassena Nankana districts recorded increases with Cheriponi experiencing a slight increase from 3,556Ha to 3,981Ha. Overall, the yield and production area of crops such as maize and rice reduced in some districts while crops like soybean and rice saw significant rise in the production areas.

3.11 Stakeholder verdict on the future of the PFJ Program

The assessment was also interested in understanding stakeholders' opinion about the future of the PFJ. The data suggest that about 17% of respondents wanted the PFJ to be completely scrapped, 12% wanted it maintained in its current form while 71% wanted it to be modified. During the FGD, most farmers were happy with the implementation modalities of the PFJ for the 2017 planting season and claimed the succeeding years of PFJ implementation was characterized with numerous problems. They opined that a postmortem of the implementation modalities of the PFJ for the 2017 season be carried out with the lessons as basis for its reconsideration. Others felt the PFJ was only benefitting fertilizer and importers supplying under the programme with limited benefits to farmers. In interacting with a nucleus farmer, he claimed that

“We know of companies that became super rich after just a year of participating in PFJ, how many farmers can boast of that? Companies supplying X quantities and get paid for 5X amount; they think we are not aware of what is going on. Posterity will judge us all”

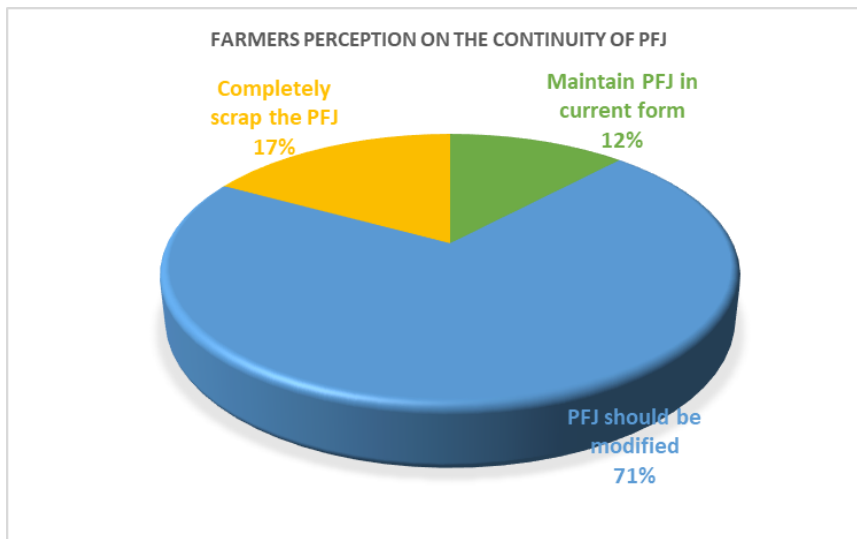


Figure 16. Farmers perception on continuity or not of PFJ

SECTION FOUR: THE FUTURE OF PFJ

Adoption of an out-grower model

An outgrower scheme when properly designed and implemented, has potentials of linking unorganized farmers with domestic and international buyers. At the same time, creating opportunities for the farmers to access technical and financial support from the promoters and guaranteeing quality produce supply to buyers at a pre-agreed pricing when effectively designed and managed. Given the challenges of the PFJ programme, the PFAG recommended a customized outgrower scheme to be adopted. As shown in the figure 12 below;

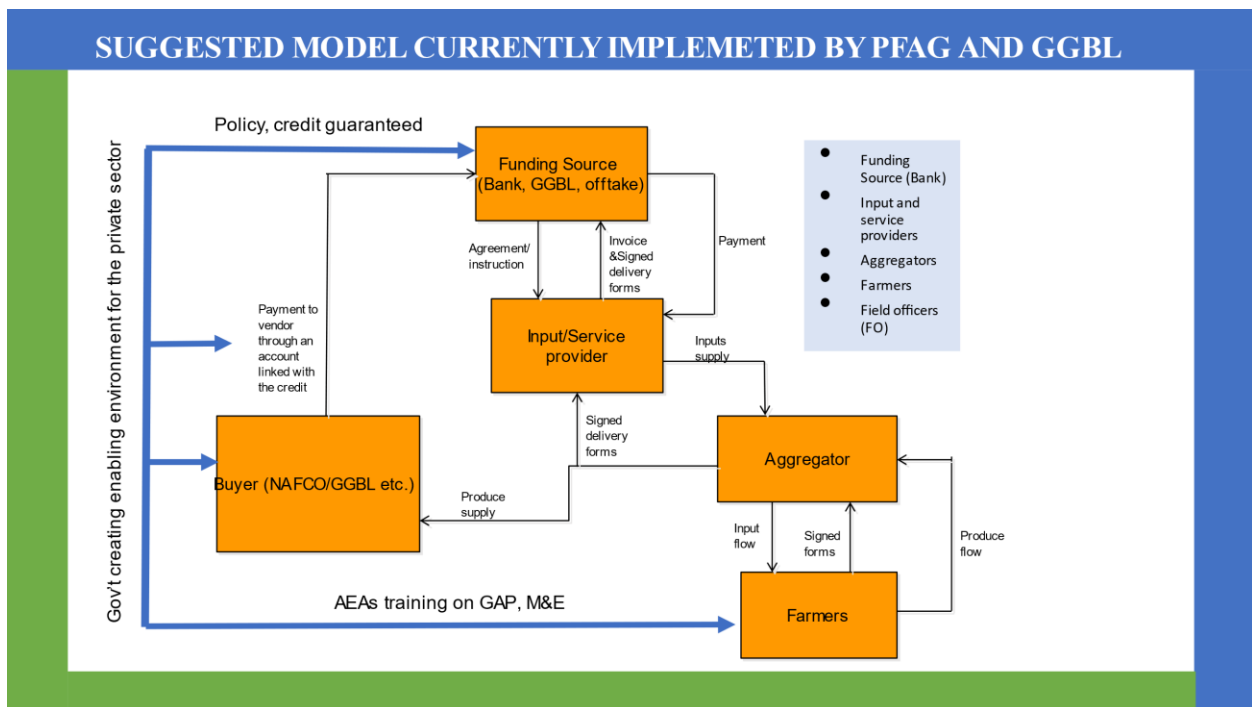


Figure 17. Outgrower model implemented by PFAG and GGBL

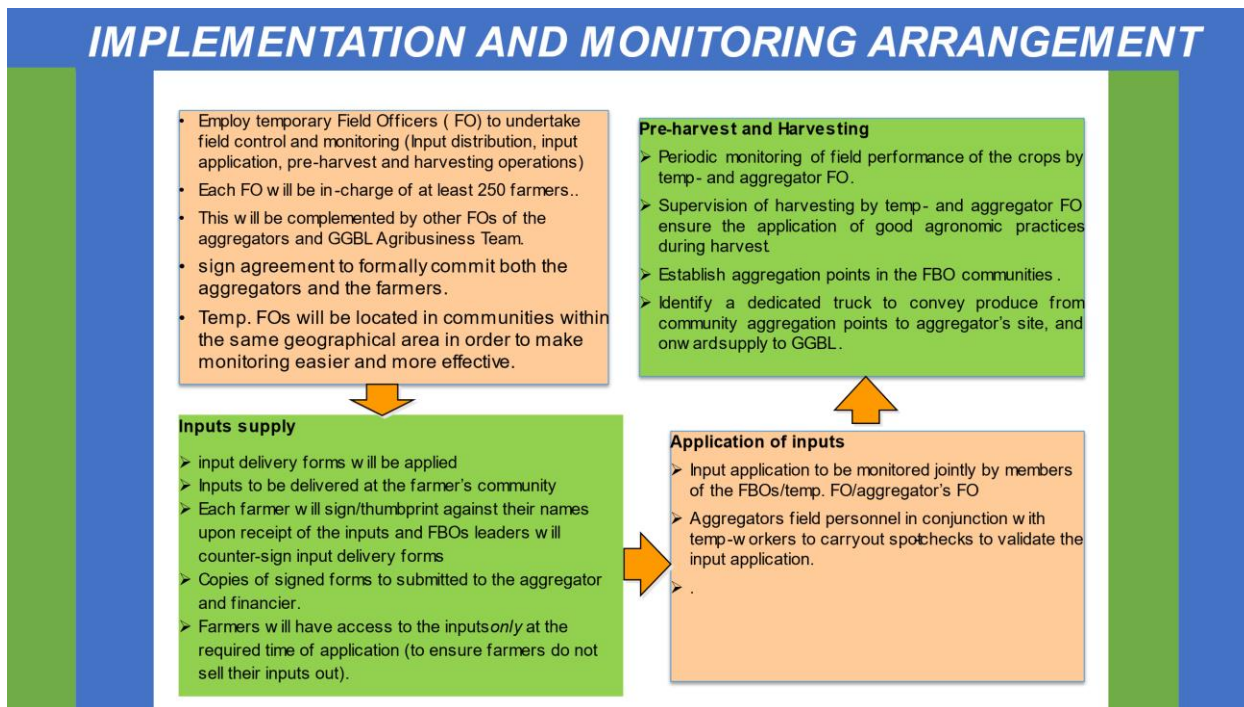


Figure 18. Implementation and monitoring arrangement between PFAG and GGBL

PRE-FINANCING RISK AND MITIGATION

Risks	Mitigation
<ul style="list-style-type: none"> • Total crop failure • Low yield • Side-selling • Natural disaster • Default in repayment 	<ul style="list-style-type: none"> • Adoption of a Crop Insurance policy • Institution of a binding agreement with aggregators/farmers (jointly and severally liable agreement) • Installation of a technical team to manage project • expand irrigation system • Monitoring to ensure on-time delivery and correct application of inputs • Amortize sorghum supply • GIS mapping of farms on the project
<p>Project Management Team (Implement project to achieve objective and ensure repayment of investment)</p>	
<p>Option 1</p> <ul style="list-style-type: none"> • Recruitment of additional technical staff for the Agribusiness team (on contract, max 3yrs). 	
<p>Option 2</p> <ul style="list-style-type: none"> • Engagement of an NGO (Comparatively expensive) 	

Figure 14. Pre-financing risk and mitigation measures

SECTION FIVE: CONCLUSION

The Planting for food and jobs program implementation over the years have experienced both successes and failures where beneficiaries of the program have indicated that at the inception of the program's implementation lots of farmers benefited from the fertilizer and seed subsidies which further increased their yields and incomes. The research intended to assess the implementation of the 2022 PFJ program and its impact on smallholder farmers in the country. The assessments focused on the price, quality and delivery of subsidized input (fertilizer, seeds), distribution of inputs using ICT, investment in other pillars of the PFJ and the general effect of the program on its beneficiaries. The assessment exposed the loss of enthusiasm from farmers on the PFJ programme to addressing their farming problems leading to most of them being indifferent of whether there is the government support of the PFJ or not in their farming activities. Also, while the PFJ had five main pillars, it was overly concentrated on fertilizer and seeds components accounting for more than 80% of PFJ total budget while neglecting other essential pillars such as marketing and extension. This greatly affected farmers' ability to access the output market to sell their produce at a good price to increase their incomes.

Majority of farmers bemoaned the unaffordability and poor quality of fertilizers and seeds supplied under the PFJ making it critical and of concern to farmers.

Due to the hikes in prices of fertilizers, farmers switched from the production of food crops such as maize and rice to industrial crops such as cashew, cassava and soya beans resulting in reduced production and high increases in the general prices of food crops in the country. Other farming businesses such as poultry were negatively affected as poultry products saw hikes in prices. This should be a matter of concern due to food and nutritional security implications. The assessment also found that relevant state and non-state actors were not involved in the design, planning and roll-out of the PFJ. Even within the Ministry of Food and Agriculture, it was obviously clear that the Minister worked closely with people they considered his favorites in the PFJ implementation. Given the above challenges, stakeholders were unanimous that the PFJ in its current form should either be modified or completely scrapped and replaced with a value chain approach.

SECTION SIX: RECOMMENDATIONS

Giving the exposure of the many deficiencies and challenges associated with the current PFJ program, it is recommended that implementing actor seeks to address such grievances with the following recommendations;

- The current PFJ should be modified and value chain approach in service delivery adopted (such as the GGBL model)
- To address the issue of poor quality of PFJ inputs, PPRSD should be empowered to intensify their monitoring role and strict measures put in place to punish non-performing service providers.
- The decentralized system has made the district department of agriculture redundant. Measures should be put in place to resource them or allow them to raise their own funding
- While supporting the aggregator/outgrower model being proposed by MoFA, we recommend private sector led initiative with government creating enabling environment and providing policy directions to avoid issues of non-payment

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Appendix

Table 1. Disaggregated data of farmers Perspectives of Fertilizer Prices

Region	District	High input prices		Prices are OK		No opinion	
		Male	Female	Male	Female	Male	Female
Upper East	Kassena Nankana East	47	34				
	Kassena Nankana West	43	33				
	Bolga Municipal	33	23	2	3	0	3
	Bolga East	30	15	8	7	3	4
	Total						
Upper West	Daffiama Bussie Issa	33	24				
	Sissala East	22	22	4	0	4	1
	Wa East	20	13	3	1	1	1
	Jirapa	22	13				
	Lambussie	20	14				
	Sissala West	21	13				
	Total						
Northern	Kumbungu	21	20				
	Tatale	18	16				

	Zabzugu	16	14				
	Yendi	15	24				
	Total						
North East	Chereponi	12	24				
	West Mamprusi	15	19				
	East Mamprusi	20	18				
	Total						
Bono	Sunyani West	18	13	1	3	0	1
	Total						
Bono East	Techiman Municipal	10	15	3	2	1	1
	Techiman North	19	11	3	2	1	1
	Kintampo South	14	19	2	2	1	2
	Kintampo North	10	14	2	5	2	2
	Total						
Ashanti	Offinso	15	21				
	Ejura	19	17				
	Total						
Volta	Hohoe	18	18				

	Total						
Greater Accra	Shai Osudoku	15	14	2	1	1	3
	Total						
	Total	546	481	30	26	14	19

Table 2.
Disaggregated data on farmers' perspectives of quality of inputs

Region	District	Poor quality	Female	Standard quality		No opinion	Female
		Male		Male	Female	Male	
Upper East	Kassena Nankana East	36	31	7	3	2	2
	Kassena Nankana West	35	29	6	3	1	2
	Bolga Municipal	33	23	2	3	0	3
	Bolga East	28	15	10	7	3	4
	Total	132	98				
Upper West	Daffiama Bussie Issa	27	18	7	2	1	2
	Sissala East	22	22	7	0	1	1
	Wa East	20	13	3	1	1	1
	Jirapa	17	10	4	2	1	1
	Lambussie	19	13	1	0	0	1
	Sissala West	18	10	3	3	0	0

	Total	123	86				
Northern	Kumbungu	18	20	3	0	0	0
	Tatale	18	16	0	0	0	0
	Zabzugu	16	14	0	0	0	0
	Yendi	15	24	0	0	0	0
	Total	67	74				
North East	Chereponi	12	24	0	0	0	0
	West Mamprusi	10	15	4	2	1	2
	East Mamprusi	15	15	3	2	2	1
	Total	37	54				
Bono	Sunyani West	13	11	4	6	1	1
	Total						
Bono East	Techiman Municipal	8	10	5	6	1	2
	Techiman North	16	11	4	4	0	2
	Kintampo South	10	15	6	7	1	1
	Kintampo North	7	10	6	9	1	2
	Total	41	46				
Ashanti	Offinso	9	14	5	5	1	2

	Ejura	17	12	1	5	1	0
	Total	26	26				
Volta	Hohoe	15	15	3	3	0	0
	Total						
Greater Accra	Shai Osudoku	15	17	2	1	1	0
	Total						
	Total	469	427	96	74	20	30

Table 3:
Disaggregated data on farmers' perception of seeds

Region	District	Poor quality	Female	Standard quality		No opinion	
		Male		Male	Female	Male	Female
Upper East	Kassena Nankana East	36	31	7	3	2	2
	Kassena Nankana West	35	29	6	3	1	2
	Bolga Municipal	33	23	2	3	0	3
	Bolga East	28	15	10	7	3	4

	Total	132	98				
Upper West	Daffiama Bussie Issa	27	18	7	2	1	2
	Sissala East	22	22	7	0	1	1
	Wa East	20	13	3	1	1	1
	Jirapa	17	10	4	2	1	1
	Lambussie	19	13	1	0	0	1
	Sissala West	18	10	3	3	0	0
	Total	123	86				
Northern	Kumbungu	18	20	3	0	0	0
	Tatale	18	16	0	0	0	0
	Zabzugu	16	14	0	0	0	0
	Yendi	15	24	0	0	0	0
	Total	67	74				
North East	Chereponi	12	24	0	0	0	0
	West Mamprusi	10	15	4	2	1	2
	East Mamprusi	15	15	3	2	2	1
	Total	37	54				
Bono	Sunyani West	13	11	4	6	1	1

	Total						
Bono East	Techiman Municipal	8	10	5	6	1	2
	Techiman North	16	11	4	4	0	2
	Kintampo South	10	15	6	7	1	1
	Kintampo North	7	10	6	9	1	2
	Total	41	46				
Ashanti	Offinso	9	14	5	5	1	2
	Ejura	17	12	1	5	1	0
	Total	26	26				
Volta	Hohoe	14	15	4	3	0	0
Greater Accra	Shai Osudoku	12	17	5	1	1	0
	Total	465	427	100	74	20	30

Table 4: Impact of high prices on farmers

a. Farmers who reduced farm sizes

Region	District	Reduced farm sizes		
		Male	Female	Total
Upper East	Kassena Nankana East	43	34	77
	Kassena Nankana West	41	33	74

	Bolga Municipal	30	26	56
	Bolga East	41	26	67
	Total			274
Upper West	Daffiama Bussie Issa	32	24	56
	Sissala East	31	22	53
	Wa East	21	15	36
	Jirapa	15	13	28
	Lambussie	20	14	34
	Sissala West	21	13	34
	Total			241
Northern	Kumbungu	18	20	38
	Tatale	18	16	34
	Zabzugu	16	14	30
	Yendi	14	24	38
	Total			140

	Chereponi	11	20	31
	West Mamprusi	11	15	26
North East	East Mamprusi	14	14	28
	Total			85
Bono	Sunyani West	9	12	21
	Total			21
	Techiman Municipal	7	10	17
	Techiman North	20	7	27
	Kintampo South	13	19	32
Bono East	Kintampo North	11	15	26
	Total			102
	Offinso	10	11	21
Ashanti	Ejura	9	8	17
	Total			38

Volta	Hohoe	12	15	27
	Total			27
Greater Accra	Shai Osudoku	7	15	22
	Total			22
	Total	495	455	950

4b. Farmers who reduced fertilizer application

Region	District	Reduced Fertilizer application		
		Male	Female	Total
Upper East	Kassena Nankana East	47	34	81
	Kassena Nankana West	43	33	76
	Bolga Municipal	35	29	64
	Bolga East	41	26	67
	Total			288
Upper West	Daffiama Bussie Issa	33	24	57
	Sissala East	31	22	53
	Wa East	24	15	39

	Jirapa	22	13	35
	Lambussie	20	14	34
	Sissala West	21	13	34
	Total			252
Northern	Kumbungu	21	20	41
	Tatale	18	16	34
	Zabzugu	16	14	30
	Yendi	15	24	39
	Total			144
North East	Chereponi	12	24	36
	West Mamprusi	15	19	34
	East Mamprusi	20	18	38
	Total			108
Bono	Sunyani West	19	17	36
	Total			36

	Techiman Municipal	14	18	32
	Techiman North	23	14	37
	Kintampo South	17	23	40
Bono East	Kintampo North	14	21	35
	Total			144
	Offinso	14	21	35
Ashanti	Ejura	18	17	35
	Total			70
Volta	Hohoe	16	18	34
	Total			34
Greater Accra	Shai Osudoku	16	18	34
	Total			34
	Total	585	525	1110

Table 4c. Farmers who shifted from cultivation of maize to other crops

Region	District	Shifting from maize to other crops		
		Male	Female	Total
Upper East	Kassena Nankana East	31	21	52
	Kassena Nankana West	31	24	55
	Bolga Municipal	27	22	49
	Bolga East	30	20	50
	Total			206
Upper West	Daffiama Bussie Issa	33	24	57
	Sissala East	31	22	53
	Wa East	24	15	39
	Jirapa	22	13	35
	Lambussie	20	14	34
	Sissala West	21	13	34
	Total			252
Northern	Kumbungu	14	11	25
	Tatale	13	9	22

	Zabzugu	9	7	16
	Yendi	7	14	21
	Total			84
North East	Chereponi	8	14	22
	West Mamprusi	11	11	22
	East Mamprusi	10	12	22
	Total			66
Bono	Sunyani West	9	6	15
	Total			15
Bono East	Techiman Municipal	11	11	22
	Techiman North	15	12	27
	Kintampo South	11	17	28
	Kintampo North	10	17	27
	Total			104

	Offinso	8	11	19
Ashanti	Ejura	10	7	17
	Total			36
Volta	Hohoe	11	8	19
	Total			19
Greater Accra	Shai Osudoku	4	2	6
	Total			6
	Total	431	357	788

Table 4d. Farmers who shifted from the rice to other crops

Region	District	Shifting from rice to other crops		
		Male	Female	Total
Upper East	Kassena Nankana East	37	28	65
	Kassena Nankana West	32	28	60
	Bolga Municipal	23	20	43
	Bolga East	24	20	44

	Total			212
Upper West	Daffiama Bussie Issa	31	20	51
	Sissala East	23	14	37
	Wa East	20	11	31
	Jirapa	16	6	22
	Lambussie	16	8	24
	Sissala West	14	7	21
	Total			186
Northern	Kumbungu	11	15	26
	Tatale	9	10	19
	Zabzugu	9	7	16
	Yendi	11	15	26
	Total			87
North East	Chereponi	6	16	22
	West Mamprusi	8	7	15

	East Mamprusi	12	13	25
	Total			62
Bono	Sunyani West	12	12	24
	Total			24
Bono East	Techiman Municipal	14	18	32
	Techiman North	13	9	22
	Kintampo South	17	15	32
	Kintampo North	14	16	30
	Total			116
Ashanti	Offinso	15	21	36
	Ejura	19	17	36
	Total			72
Volta	Hohoe	12	10	22
	Total			22

Greater Accra	Shai Osudoku	4	4	8
	Total			8
	Total	422	367	789

Table 4e. Farmers who completely abandoned farming

Region	District	Complete abandonment		
		Male	Female	Total
Upper East	Kassena Nankana East	4	3	7
	Kassena Nankana West	1	1	2
	Bolga Municipal	2	4	6
	Bolga East	4	6	10
	Total			25
Upper West	Daffiama Bussie Issa	6	3	9
	Sissala East	2	3	5
	Wa East	3	3	6
	Jirapa	1	4	5

	Lambussie	1	6	7
	Sissala West	2	5	7
	Total			39
Northern	Kumbungu	3	4	7
	Tatale	4	3	7
	Zabzugu	0	4	4
	Yendi	0	3	3
	Total			21
North East	Chereponi	8	9	17
	West Mamprusi	8	10	18
	East Mamprusi	11	4	15
	Total			50
Bono	Sunyani West	2	5	7
	Total			7

	Techiman Municipal	1	4	5
	Techiman North	3	3	6
	Kintampo South	1	1	2
Bono East	Kintampo North	1	2	3
	Total			16
	Offinso	2	3	5
Ashanti	Ejura	1	2	3
	Total			8
Volta	Hohoe	0	1	1
	Total			1
Greater Accra	Shai Osudoku	1	2	3
	Total			3
	Total	72	98	170

Table 5. Disaggregated data on farmers' verdict on the PFJ

Region	District	Modify		Maintain		Completely scrap	
		Male	Female	Male	Female	Male	Female
Upper East	Kassena Nankana East	36	31	5	2	4	3
	Kassena Nankana West	35	29	4	1	4	3
	Bolga Municipal	28	18	2	3	7	6
	Bolga East	25	11	8	2	10	11
	Total	124	89				
Upper West	Daffiama Bussie Issa	24	15	4	2	7	5
	Sissala East	21	20	6	0	4	2
	Wa East	17	12	3	1	3	3
	Jirapa	16	6	3	2	4	4
	Lambussie	16	11	1	0	2	4
	Sissala West	15	7	2	3	4	3
	Total	109	71				

Northern	Kumbungu	15	14	3	0	6	3
	Tatale	14	13	0	0	5	2
	Zabzugu	12	14	0	0	2	2
	Yendi	11	24	0	1	2	1
	Total	52	65				
North East	Chereponi	12	24	0	0	0	0
	West Mamprusi	10	15	4	2	1	2
	East Mamprusi	15	15	3	2	2	1
	Total	37	54				
Bono	Sunyani West	13	11	4	6	1	1
	Total						
Bono East	Techiman Municipal	7	8	2	5	4	6
	Techiman North	15	10	3	4	0	5

	Kintampo South	5	15	6	4	7	3
	Kintampo North	6	7	4	2	12	4
	Total	33	40				
	Offinso	9	12	4	3	4	4
Ashanti	Ejura	13	10	4	2	5	2
	Total	22	22				
Volta	Hohoe	13	12	3	3	3	2
	Total						
Greater Accra	Shai Osudoku	10	15	4	2	2	3
	Total						
	Total	413	379	82	52	105	85

