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IGNITE Lean Data Insights: Observer Farmer Households' Experience with PBR cowpea Training, Production, & Outreach

African Agricultural Technology Foundation (AATF)

Nigeria

March 2023

Overview

About AATF's PBR Cowpea Initiative

Since 2019, the African Agricultural Technology Foundation (AATF) has been part of a multilateral partnership to support three seed companies in the commercialization of Pod Borer Resistant (PBR) cowpea in Nigeria. PBR cowpea has been shown to increase yields by up to 70% for farmers and requires fewer pesticides than conventional cowpea.

AATF's goal is to help increase the uptake of the seed so that farmers can experience increased agricultural productivity and income. Given that cowpea is a major source of protein in Nigeria, and both men and women are involved in this value chain, PBR cowpea has the potential to create both gender and nutrition outcomes within households through increased yields, income, and women's participation.

AATF, along with its partners, has therein facilitated training on PBR cowpea and helped set up Demo Farms, which farmers can visit and observe.

About This Study & Report

This study's objective is to help AATF better understand the experience of female and male Observer Farmers (OFs) in their training by Demo Farmers (DFs), and planting and harvesting PBR cowpea. We explore impact on income, consumption, and household dynamics among OF households that planted PBR cowpea.

60 Decibels' Lean Data researchers conducted phone interviews with 552 Observer Farmers and additional members in the household of another gender – Secondary Respondents (SR) – in order to understand the households' perspective on PBR cowpea and whether satisfaction and impact differed between different genders.

The report is structured into four main sections:

- 1) Respondent Profile
- 2) Experience Receiving Lessons from DFs
- 3) Household Experience with PBR cowpea
- 4) Impact of PBR cowpea & Household Dynamics

Throughout this report, we present sex-disaggregated insights and call out any statistically significant trends by segments or metrics in the report commentary.

About The Results

60 Decibels conducted phone interviews with 552 AATF Observer Farmers selected randomly from the 1,602 contacts provided by AATF. We were unable to reach some of the farmers for various reasons including:

- Phone numbers did not go through (16%)
- Contacts said they had no knowledge of cowpea (16%)
- Wrong numbers (5%)
- Unwilling to be interviewed (1%)

For all 552 successful interviews, we asked to speak to someone of the opposite gender within the household, where applicable.

We spoke to a small number of Secondary Respondents because we faced challenges in getting a hold of more Secondary Respondents (see [page 11](#) for more details). As such, the results shared here may not be representative of the full Secondary Respondent group, but still provide insights into the themes we asked them about.

Methodology

Study Limitations:

Some challenges our team faced during data collection included:

- Most Observer Farmers are male, so the gender breakdown is only 27% female and 73% male for Primary Respondents. However, this enabled us to get a hold of a higher proportion of female Secondary Respondents (see pages [10](#) and [11](#) for more details).
- Some Primary Respondents (57%) were unwilling to hand over the phone to a spouse/partner, or another adult of the opposite gender. Other challenges with outreach are listed on [page 11](#).

552 Primary Respondents (Observer Farmer) and 200 Secondary Respondents (another respondent in the same household as Observer Farmer of another gender) phone interviews were completed in February 2023.

Methodology

Survey mode	Phone
Country	Nigeria
Language	English, Hausa, Pidgin, Yoruba
Dates of data collection	December – February 2023
Sample Frame	Attempted to reach all Observer Farmers (Primary Respondents) from a contact list of 1602 farmers shared by AATF and 30% of Secondary Respondents of the opposite gender in the Observer Farmers' households.
Response rate*	Primary Respondents: 62%* Secondary Respondents: 83%**

Responses Collected

Farmers	Primary Respondents: 552 Secondary Respondents: 200
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* Primary Response Rate: Completed # of interviews / (Total numbers dialed – wrong numbers – ineligible numbers/refusals)
** Secondary Response Rate: Completed # of interviews / (Total # of Primary Respondents Interviewed – refusals)

Sampling For Primary Respondents (Observer Farmers)

Our confidence level and margin of error for results are calculated based on the total number of phone numbers we had access to (1,602 farmer phone numbers), and not the total population of farmers that AATF serves.

We did not receive contact information on Secondary Respondents. We asked Primary Respondents (Observer Farmers) to hand over the phone to someone of the opposite gender in the household in order to get a hold of Secondary Respondents.

Our sample includes 552 Primary Respondents (405 male, 147 female) across different regions in Nigeria.

Sampling	% sample	% AATF OF contact base
% Female	27%	20%
% North West	31%	38%
% North Central	24%	21%
% South West	24%	23%
% North East	12%	12%
% South South	7%	5%
% South East	2%	2%

Accuracy

Confidence Level	c. 95%
Margin of error	c. 3%

Contents

We enjoyed hearing from 552 Observer Farmers and 200 Secondary Respondents about their experience learning about PBR cowpea – they had a lot to say!

Contents

Headlines

06 / Survey Findings

07 / Farmer Voices

Detailed Results

09 / Deep Dive Into Key Questions

Recommendations

39 / Final Recommendations

What Next / Appendix

42 / Appendix

Top Findings

1

There is effective dissemination of knowledge on PBR cowpea and interest in learning more among farmers, as well as differences in learning styles between male and female SRs.

Over half of the OFs attended field days and were highly satisfied with training from DFs. Both male and female SRs expressed interest in learning more about PBR cowpea, with 31% of male SRs and 25% of female SRs showing interest.

Male and female SRs differ in the way they receive information on PBR cowpea, with male SRs visiting Demo Farms more often and female SRs more likely to learn from Demo Farms on agronomic practices and stewardship.

OFs, who share information about PBR cowpea with SRs within a week.

Pages: [13](#), [14](#), [15](#), [16](#).

2

Among those who planted PBR cowpea in the past 12 months, the majority have also harvested it. There is high satisfaction among farmers. Perceived benefits of its high yield and resistance to pests.

More than half of the OFs we spoke to planted PBR cowpea in the last 12 months and 88% harvested in the latest season. Both male and female farmers are largely involved in the planting, harvesting, processing, and selling of cowpea.

OFs give an excellent Net Promoter Score (a gauge of customer satisfaction) of 59.

The majority of Observer Farmers are likely to cultivate PBR cowpea next season, and only 7% of farmers reported experiencing challenges with PBR cowpea.

Pages: [25](#), [27](#), [28](#).

3

The introduction of PBR cowpea has led to an increase in earning for farmers and their households.

A significant majority (95%) of households that sold PBR cowpea reported an increase in earnings.

Most farmers reported that their households consume PBR cowpea twice a week, indicating its importance as a part of their diet.

The introduction of PBR cowpea has led to increased household consumption for 45% of OFs and 40% of SRs, potentially improving nutrition and health outcomes.

Pages: [30](#), [32](#), [33](#), [37](#).

4

Gender inequalities exist in decision-making processes regarding the adoption of PBR cowpea among farmers.

The participation of female OFs was considerably low at only 27%. Male SRs attend field days at a higher rate than female SRs (71% vs. 50%), while female SRs mostly learned from OFs.

A higher percentage of male OFs (95%) than female OFs (75%) reported being the final decision maker to try PBR cowpea, and only 4% of female SRs compared to 19% of male SRs reported the same.

Pages: [10](#), [14](#), [35](#), [36](#).

Respondent Voices (1/2)

We love hearing farmer voices.

Here are some that stood out among Observer Farmers.

Value Proposition of Training on PBR Cowpea

59% of Observer Farmers are Promoters and are highly likely to recommend getting information on PBR cowpea from a DF

"The yield is high, and this is the first time I am seeing a cowpea that produces so many seeds. I learned a lot during the training, and they also showed us some of the improved seedlings of soybeans, rice, and maize. I just wish I could have all the seedlings to plant on my farm." – Observer Farmer, Male, 56

"I really gained a lot from the training. I have planted the cowpea, and it has yielded a lot without using pesticides or insecticides because they advised us to treat the seedlings before planting to also control pest attacks. Before harvesting, we should make sure it's ripe and has no moisture content in it." – Observer Farmer, Male, 65

"The organizers of the training were very respectful to everyone that attended, and they have taken their time to broaden our knowledge on farming generally and on the PBR cowpea. They told us some of the benefits of the PBR cowpea, which include a high yield and its resistance to pests. At the end of the training, we exchanged contact information, and they advised that we walk hand in hand and that if we have any questions, we should reach out to them." – Observer Farmer, Male, 30

"I gained additional knowledge on how to plant the cowpea, processing, and storing of the cowpea." – Observer Farmer, Female, 53

Value Proposition of PBR Cowpea

62% of Observer Farmers are highly likely to recommend PBR cowpea to another farmer

"The PBR cowpea is better than the local cowpea in the aspect of the volume we get during harvest, and the cowpea does not require more insecticides during spraying like the local cowpea, so it does not require as much money as the local ones. That is the reason why I will hundred percent recommend it to other farmers." – Observer Farmer, Male, 33

"Because of its high yield, it will enable the farmers to sell at a good price." – Observer Farmer, Male 30

"I informed my friends that the cowpea is very okay because it is resistant to insects and the planting is easy. No insect can damage the seed compared to the local one." – Observer Farmer, Female, 53

"The PBR cowpea gives more value to the farmer in terms of its high yield, farmers can make more money farming and selling the PBR cowpea than the traditional cowpea." – Observer Farmer, Female, 28

Respondent Voices (2/2)

We love hearing farmer voices.

Here are some that stood out among Observer Farmers and Secondary Respondents.

Impact on Consumption of PBR Cowpea

46% of Observer Farmers (48% male, 38% female) and 39% of Secondary Respondents (39% male, 41% female) who consumed their PBR cowpea report increased cowpea consumption since the introduction of PBR cowpea.

“I like this variety of the PBR cowpea, and after production, I decided to consume some of it as an experiment and it is really sweet, cooks faster and its grains are big and satisfying.” – Observer Farmer, Male, 40

“We all like it, its less stressful to prepare, soft, easy to cook, no wasting of gas, the sizes are big, it is easy to pick and clean, and it is sweet.” – Secondary Respondent, Female*

“We are consuming the PBR cowpea more because we have it available and everybody in the house has testified that the PBR cowpea is sweeter than the traditional beans.” – Observer Farmer, Male, 40

“Due to the taste, it has really changed compared to the way we eat normal cowpea; our children demand for the PBR cowpea so that they can eat more whenever I cook it.” – Secondary Respondent, Female*

Other Impact on Observer Farmers Households

39% of Secondary Respondents (38% male, 39% female) mention impact from PBR cowpea on changes for women and girls in the household.

“I can see that now women love to cook cowpea because it is easier for them and also, they said it is sweet and soft, it boosts the brain of their children and is good for eyesight.” – Secondary Respondent, Male*

“It has changed positively for our women, especially during the processing of PBR cowpea. It is now easier to clean. Before it used to take some time in cleaning the local cowpea because we must pound it seriously for the chaff to be removed but the PBR cowpea is not hard like the local cowpea.” – Secondary Respondent, Female*

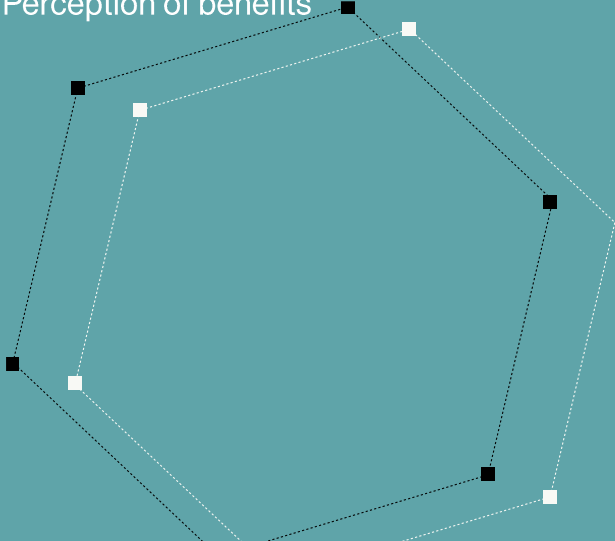
“The general change is less work for women in the kitchen since the PBR cowpea cooks fast, we are able to save time, and also cooking firewood.” – Secondary Respondent, Female*

“I think every woman dreads the day she must cook beans. This one isn't like that, it cooks fast, and it softens quickly, allowing us to spend minimal time in the kitchen.” – Secondary Respondent, Female*

*For Secondary Respondents: Age was not asked to these respondents, so age will not be provided in any quotes.

Respondent Profile and Experience with Demo Farmers

- > Observer Farmer (OF) and Secondary Respondent (SR) Profiles
- > Farm profile
- > Observer Farmer experience with Demo Farmers (DF)
- > Satisfaction with PBR training
- > Most important information received from training
- > Perception of benefits



“The information I received during the seminar has broadened my knowledge about farming. Before the training, I didn't know that crops grow better on heaps of soil.” – Observer Farmer, Female, 28

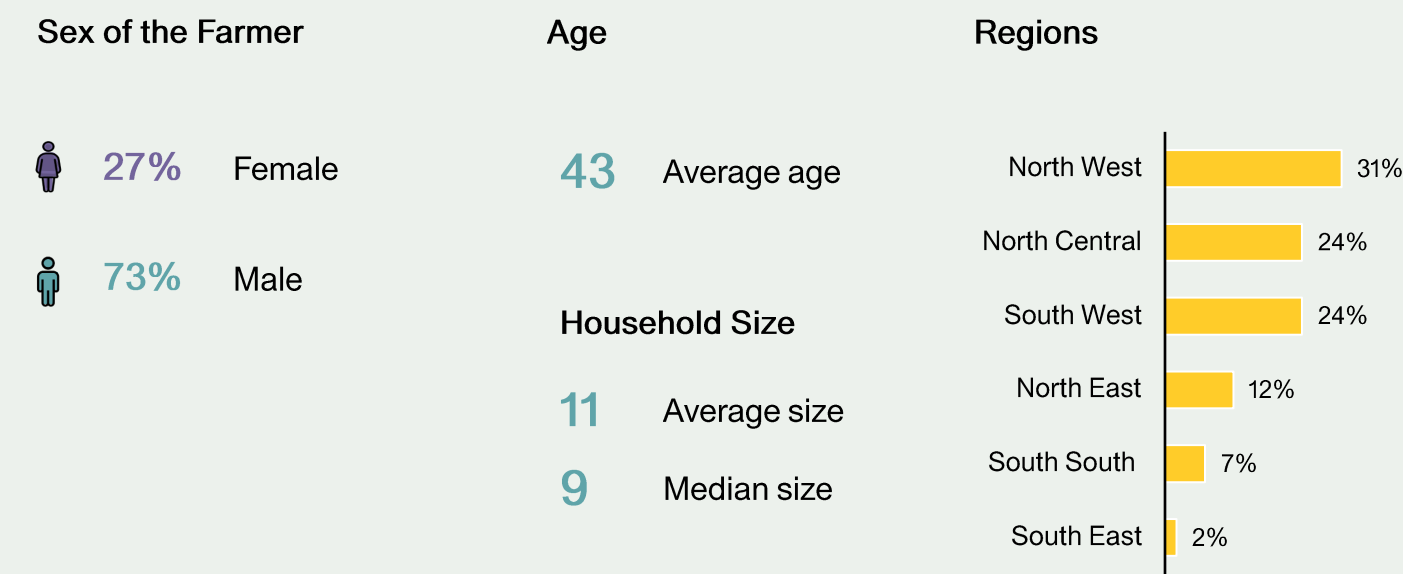
Observer Farmer Profile

The typical Observer Farmer we spoke with is a 43 year-old male living in the North West region.

We asked questions to Observer Farmers related to their demographics, farms and engagement with Demo Farmers.

We have called out differences by sex wherever they are statistically significant.

About The Observer Farmers We Spoke With (n = 552)



Secondary Respondent (SR) Profile

The average Secondary Respondent we spoke with is female. Most of these respondents are Observer Farmers' spouses.

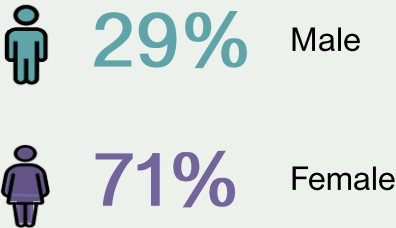
For all 552 Observer Farmers we spoke to, we requested to speak to their spouse or a household member of another gender. We successfully interviewed 200 Secondary Respondents.

Reasons we were unable to reach some SRs include:

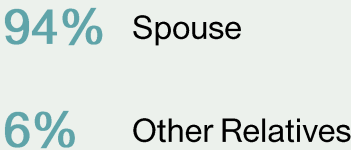
- OF felt it could be irrelevant to speak to their spouse (e.g. because the spouse is not a farmer/ does not know anything about PBR cowpea) (40%)
- partner/spouse unavailable (16%)
- call scheduled but SR never answered the phone (3%)
- language barrier (1%)
- single / widow/widower (1%)
- other (2%)

About The Secondary Respondents (SRs) We Spoke With (n = 200)

Secondary Respondent Sex



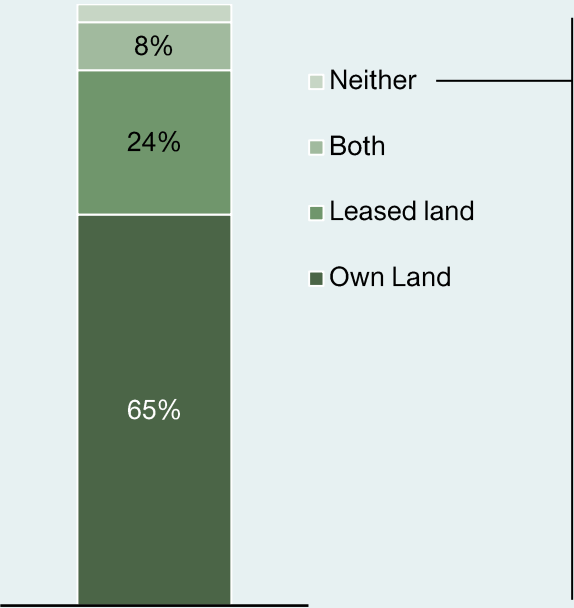
Relationship to Observer Farmer



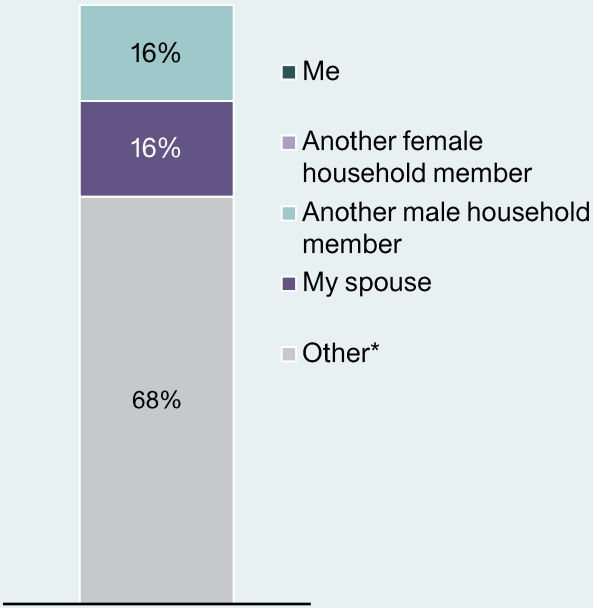
Farm Profile

A typical Observer Farmer owns the land they farm and has farmed an average of 2.4 hectares in the previous year, primarily growing maize and cassava.

Type of Farm
(n = 552)



Land Ownership
(n = 19)

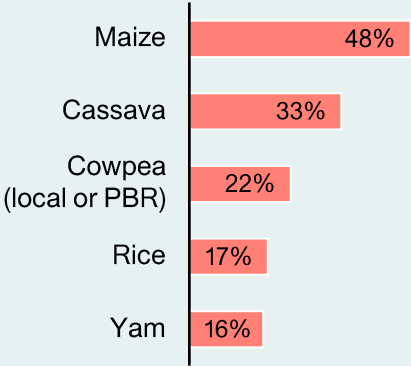


Land (Avg Hectares) Used for Farming in the Last 12 Months

2.4 Total hectares

0.45 Hectares used for PBR cowpea
(18% of total land)

Top 5 Crops Grown in Last 12 Months

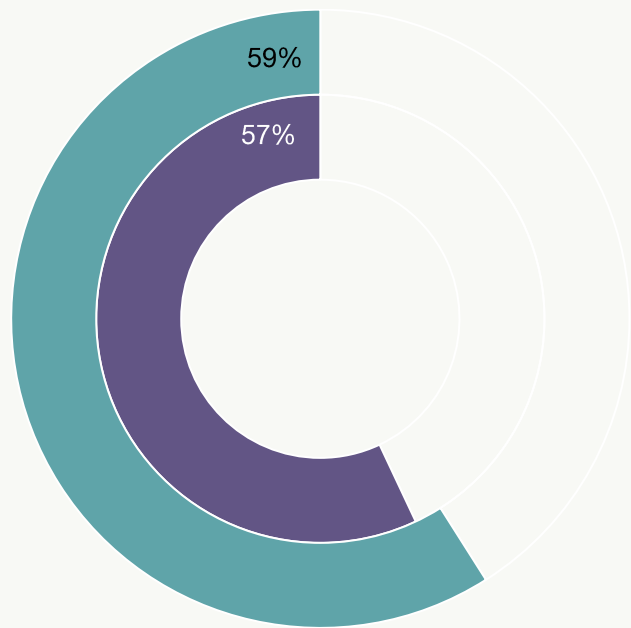


*For the 13 OFs that report 'other': 42% mention community land, 33% say friend/neighbor, and 25% farm on family land.

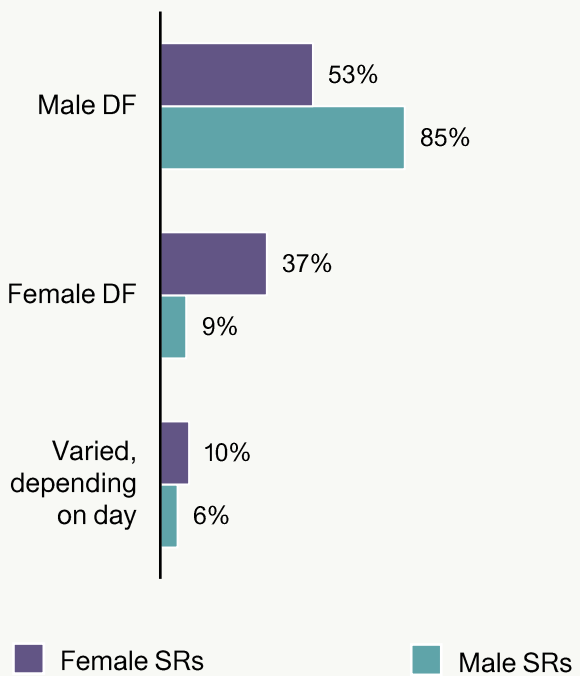
Farmer Dissemination: Reach and Channels (OFs)

More than half of OFs attended field days and were more likely to be trained by a male DF. Extension agents are the most common channel of information for both male and female OFs on PBR cowpea.

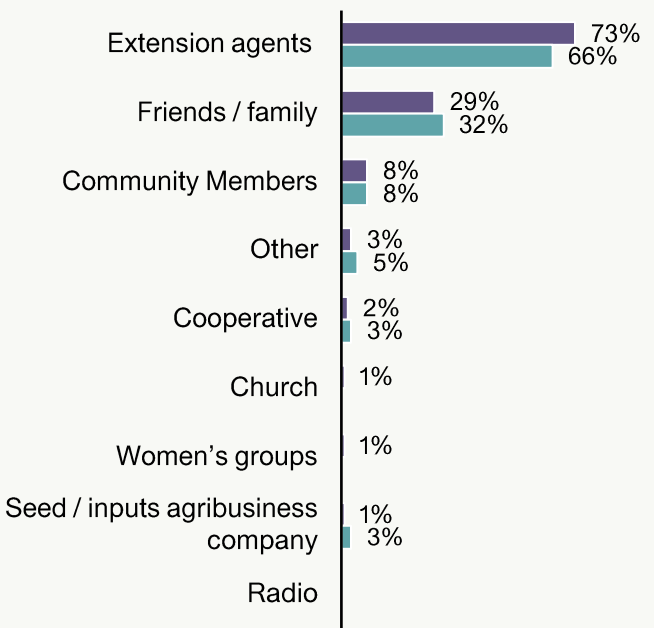
OFs Attending Field Days
(male n = 405, female n = 147)



Gender of DF who Conducted Training
(male n = 405, female n = 147)



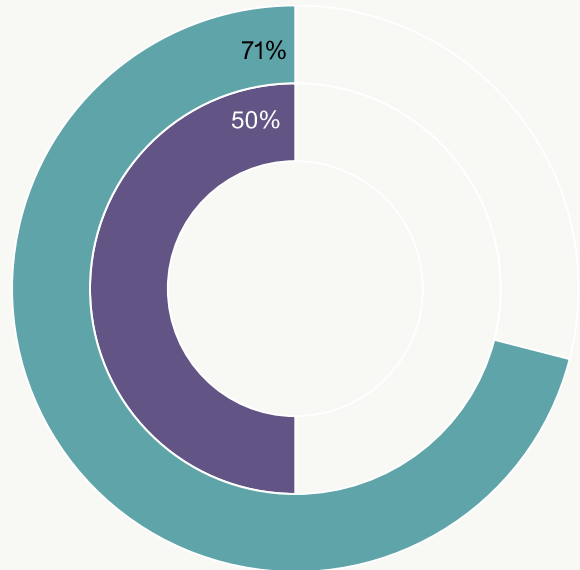
Dissemination Channels
(male n = 405, female n = 147)



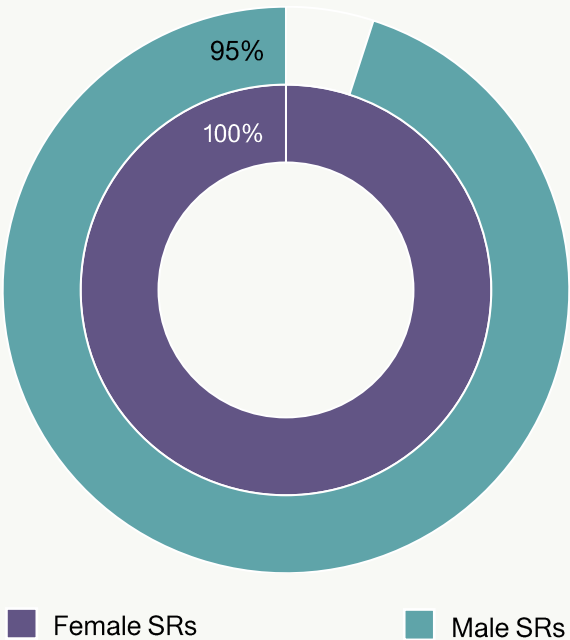
Farmer Dissemination: Reach and Channels (SRs)

Male SRs attend field days at a higher rate than female SRs. Both received information from OFs on agronomic practices and stewardship of PBR cowpea. Most OFs share this information with SRs within a week.

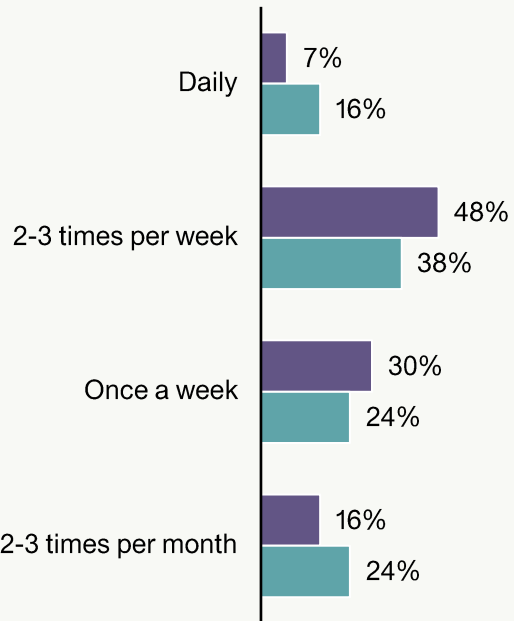
SRs Attending Field Days With OFs
(male n = 141, female n = 58)



SRs Receiving Information on Good Agronomic Practices and Stewardship of PBR Cowpea From OFs
(male n = 141, female n = 58)



Frequency of Receiving Information from OFs
(male n = 141, female n = 58)



Satisfaction with PBR Training

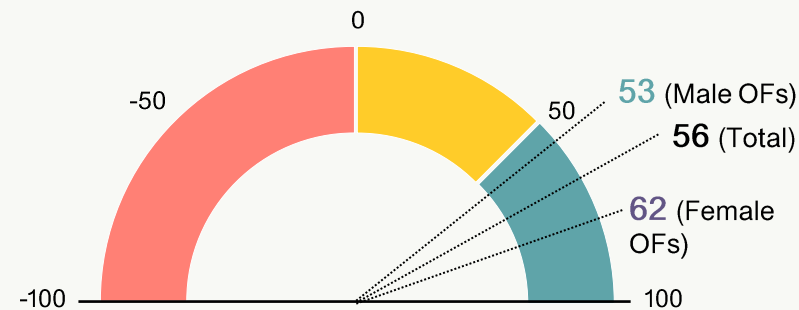
Observer Farmers gave training on PBR cowpea from a Demo Farmer a very good Net Promoter Score (NPS) of 56, indicating high satisfaction.

The Net Promoter Score® (NPS) is a gauge of satisfaction. Anything above 50 is considered very good. A negative score is considered poor.

Female Observer Farmers gave a higher NPS than their male counterparts.

Asking respondents to explain their rating provides insight into what they value and what creates dissatisfaction. These details are on the next page.

OF Net Promoter Score of PBR Training by DFs (Total n = 552| male n = 405, female n = 147)



NPS = 59% Promoters — 3% Detractors

9-10 likely to
recommend

0-6 likely to
recommend

Net Promoter Score Components (n = 552)

- Promoters** are those who are most satisfied with a company's services and likely to actively recommend them to others (rating of 9 or 10)
- Passives** refer to those who will not actively refer a company's services in the same way Promoters will (rating of 7 or 8)
- Detractors** are those who are least satisfied with a company's services and might actively deter people from using them (rating of 0-6)

*NPS measured through asking customers to rate their likelihood to recommend your service to a friend on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of customers rating 9 or 10 ('Promoters') minus the % of customers rating 0 to 6 ('Detractors'). Those rating 7 or 8 are considered 'Passives'.

Net Promoter Score Drivers

Promoters value the detailed training content and good product knowledge by the Demo Farmers as did Passives. There were very few Detractors.

:)

Female
OFs



64% are Promoters. They love:

1. Detailed training content (56%)
2. Good product knowledge (43%)
3. Practical training delivery (31%)

Male
OFs



57% are Promoters. They love:

1. Detailed training content (51%)
2. Good product knowledge (32%)
3. Information on the PBR cowpea (31%)

Tip:

Highlight the above value drivers in marketing.
Promoters are powerful brand ambassadors — can you reward them?

: \

34% are Passives: They like:

1. Good product knowledge (32%)
2. Detailed training content (28%)
3. Information on the PBR cowpea (28%)

39% are Passives: They like:

1. Information on the PBR cowpea (41%)
2. Good product knowledge (30%)

But complain about:

1. Unreliable delivery (2 farmers)

Tip:

Passives won't actively refer you in the same way that Promoters will.
What would it take to convert them?

: (

2% are Detractors. They want to see:

1. More access to PBR cowpea seeds (1 farmer)
2. Training made practical (1 farmer)

4% are Detractors. They DISLIKE:

1. More access to PBR cowpea seeds (7 farmers)
2. More detailed training (3 farmers)
3. Training made practical (5 farmers)

Tip:

Negative word of mouth is costly.
What's fixable here?

Main Takeaways on PBR Cowpea Training (SRs)

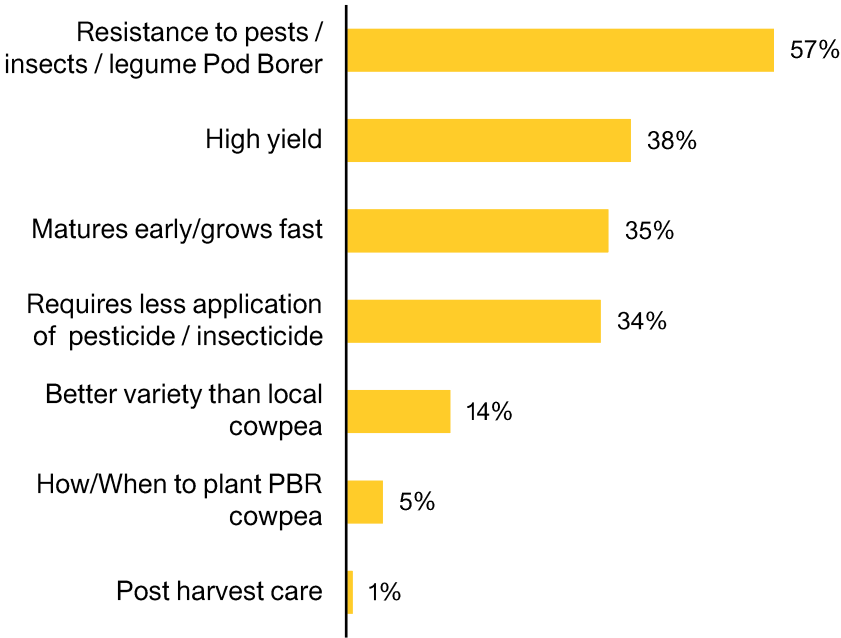
We asked all SRs who received information from visiting a Demo Farmer or from the Observer Farmer about the single most important piece of information they received on PBR cowpea.

Both male and female SRs cite qualities of PBR cowpea (e.g., PBR cowpea’s resistance to pests / insects / legume Pod Borer, PBR cowpea’s early maturity) as their main takeaways.

Secondary Respondents commonly highlight PBR cowpea's resistance to pests, insects, and legume pod borer as the key information about the crop.

Most Important Information on PBR Cowpea For SRs

(n = 200) Open-ended, coded by 60 Decibels; multiple themes per respondent are possible.



“I learned that PBR cowpea is a new variety, and to plant it, I have to prepare and apply chemicals to the soil about a month before the planting is due. I also learned that it is pod borer resistant, and it matures early.” – Female, Secondary Respondent

“PBR cowpeas are not as frequently attacked by insects as the local cowpea, and they yield more and grow faster on the farm than the local cowpea, which takes at least three months to germinate.” – Female, Secondary Respondent

Perception of PBR Cowpea Benefits Over Local Cowpea

In a study done in May 2022, both Demo Farmers and the Secondary Respondents in DF households reported the top benefit of PBR cowpea to be early maturity.

Observer Farmers’ female secondary respondents report good crop yield early as the top benefit while male SRs say it is PBR cowpea’s resistance to Maruca.

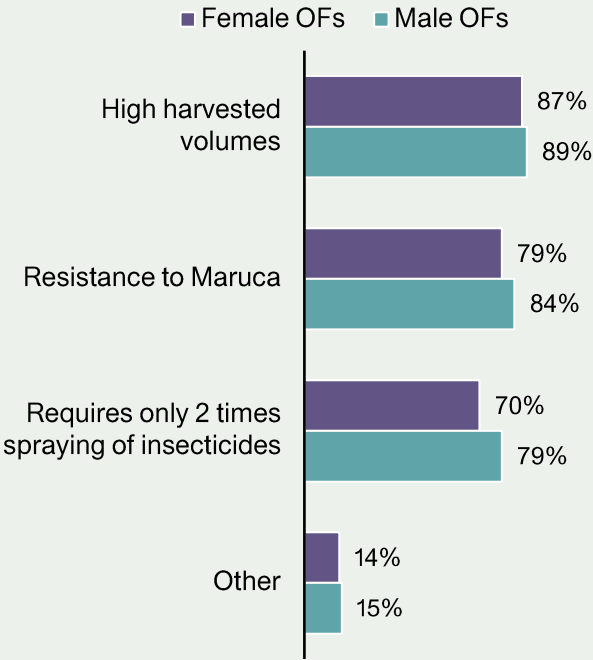
Farmers reporting other benefits mention:

- Positive qualities of PBR cowpea (9% OFs,4% SRs)
- Health benefits (5% OFs,1% SRs)
- Financial benefits (1% OFs,1% SRs)

Both Observer Farmers and Secondary Respondents report the top benefits of PBR cowpea to be good crop yield.

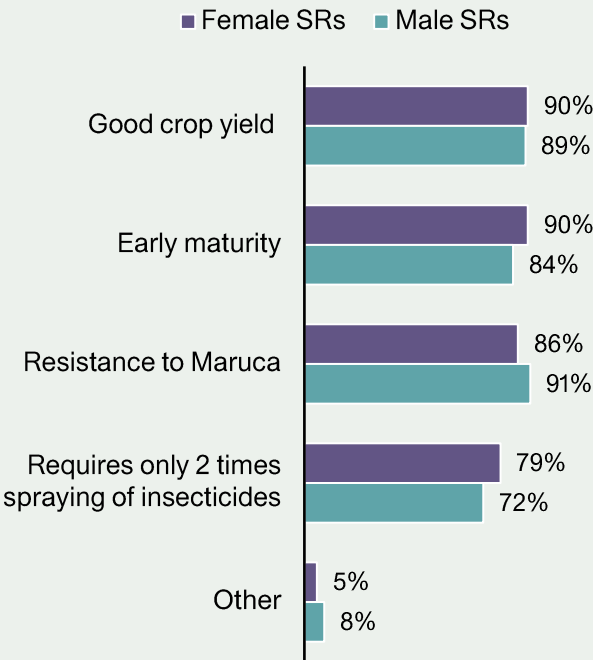
OF Perception of Benefits

(male n = 405, female n = 147, multi-select allowed)



SR Perception of Benefits

(male n = 58, female n = 141, multi-select allowed)



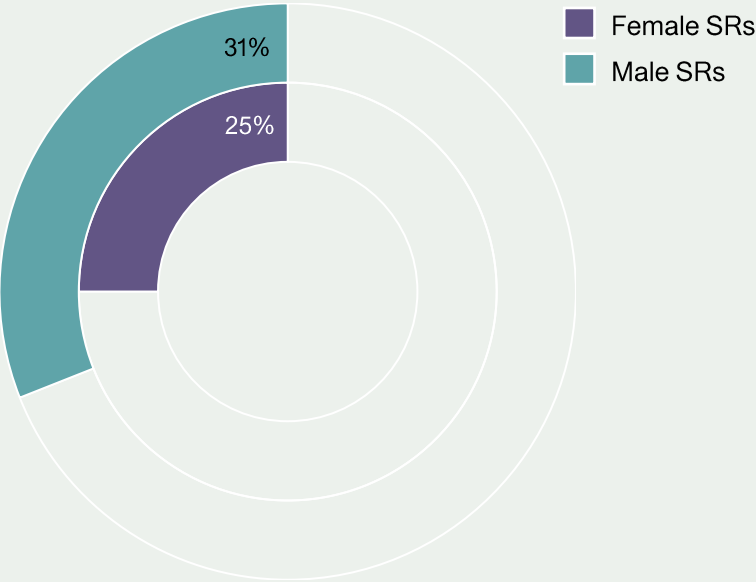
SR Knowledge Areas

There is demand for more information about PBR cowpea among male and female SRs, with a difference in what information is desired.

Nearly a third of male SRs and a quarter of female SRs want further information on PBR cowpea.

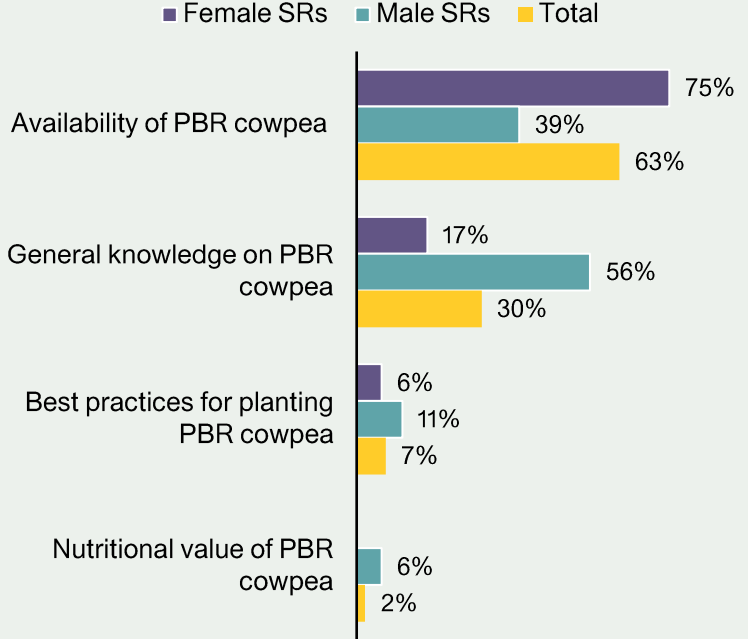
Female SRs primarily want more information on PBR cowpea availability while male SRs want more general knowledge about it.

Proportion of SRs Expressing Desire for Further Information on PBR Cowpea
(male n = 58, female n = 141)



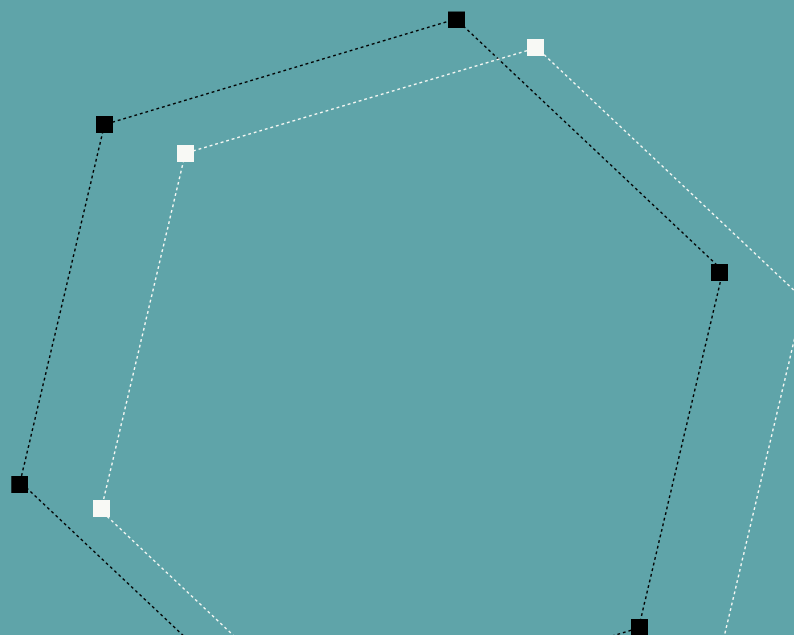
SR Areas of Interest for Further Information on PBR Cowpea

(male n = 15, female n = 64) Open-ended, coded by 60 Decibels; multiple themes per respondent are possible.



Respondent Experience with PBR Cowpea

- > Experience with PBR cowpea harvest and storage
- > Uptake of farming activities
- > Satisfaction with PBR cowpea
- > Challenges with PBR cowpea
- > Farmer retention



“I will recommend PBR cowpea use because it's the best variety I've come across for easy planting, germination, and healthy produce.”

- Observer Farmer, Male, 46

OF Experience With Harvested PBR Cowpea

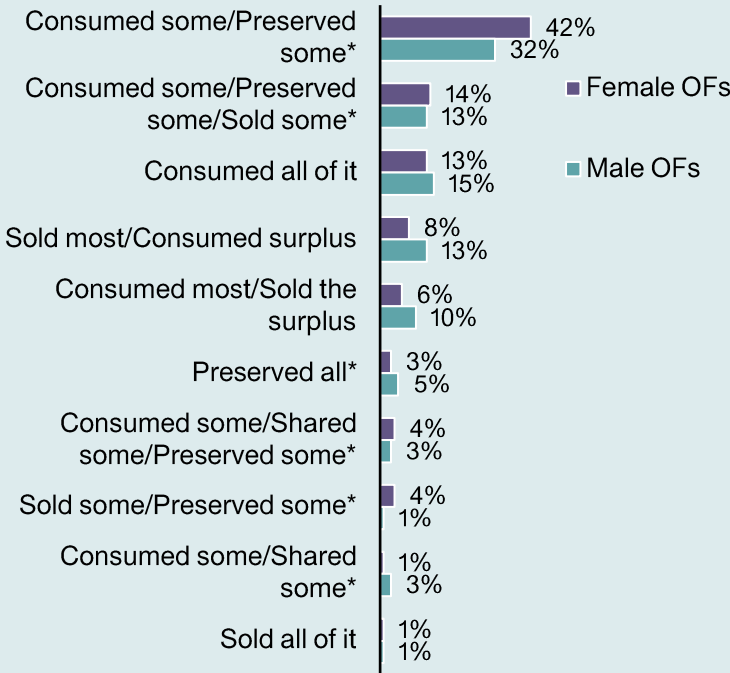
Most OFs consumed some and preserved some of the PBR cowpeas they harvested. The primary storage method is PICS bags.

88% of households harvested the PBR cowpea they planted in the latest season (July - September 2021).

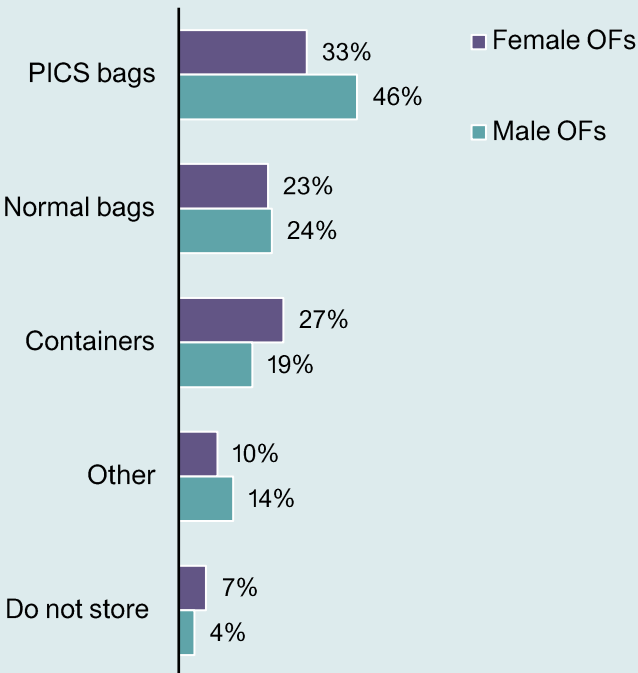
Female OFs were more likely to preserve some or consume some of the PBR cowpea than male OFs.

Those who reported ‘other’ types of storage primarily mentioned sacks (24%) and nylon bags (16%).

What Household Did With Harvested PBR Cowpea
(male n = 211, female n = 79)



How Harvested PBR Cowpea Was Stored
(male n = 211, female n = 79, multi-select allowed)

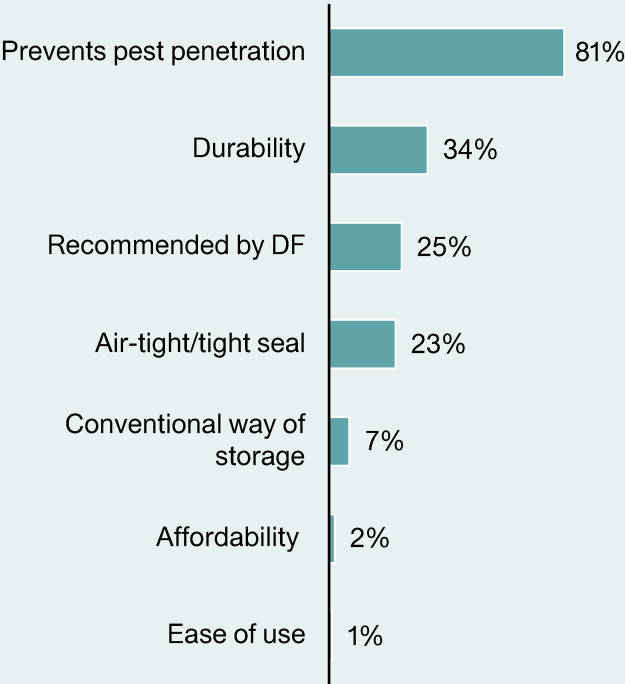


*These responses originally came up in the “other” category but were later coded due to the high number of respondents reporting them.

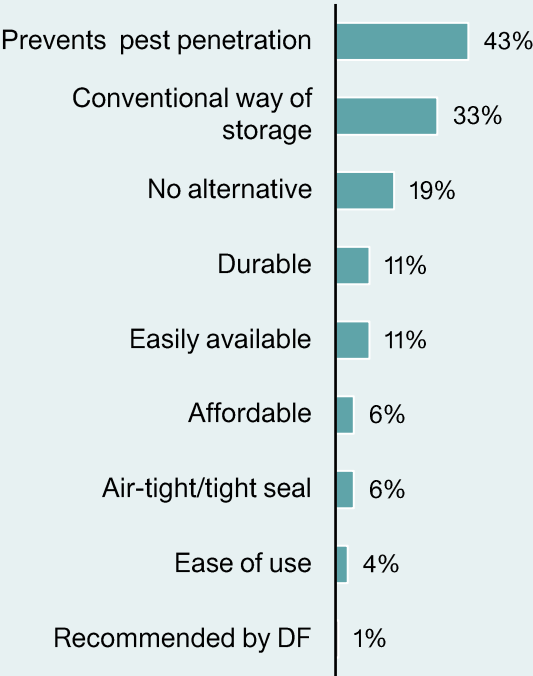
Factors Influencing Selection of Storage Method

We asked OFs the reasons for their preferred storage method for PBR cowpea. The ability to prevent pest penetration was the main reason across storage methods.

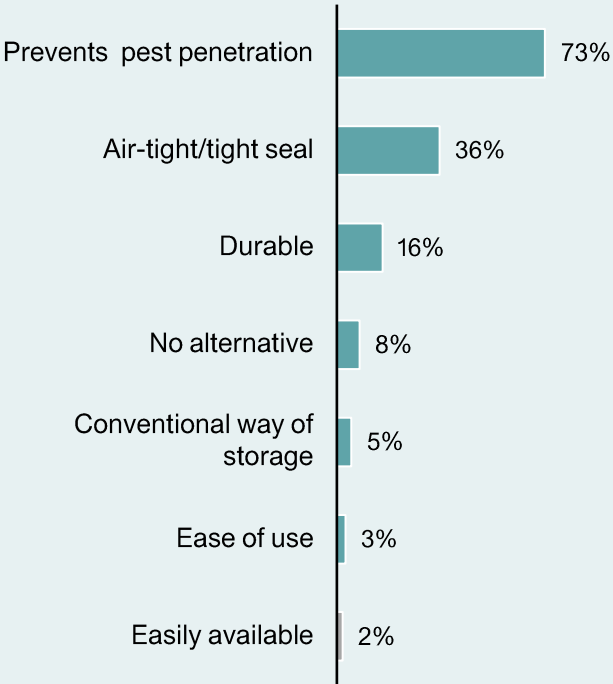
PICS Bags (n = 122)



Normal Bags (n = 70)



Containers (n = 62)



Uptake of Farming Activities for PBR Cowpea (OFs)













We sought to understand from Observer Farmers, the division of labor and the roles of individuals involved in the farming of PBR cowpea.

How to read the chart;

- This was a multi-select question where respondents could select one or more responses based on who performs the farming activities for cowpea in their household.
- The areas that are shaded indicate the highest reported percentages of individuals who are more likely to engage in the activity.
- The color purple denotes individuals who were reported by female OFs, while green represents individuals who were reported by male OFs.

Male and female farmers engage in PBR cowpea farming activities, while male laborers mainly assist with tasks such as land preparation, weeding, and harvesting.

Female & Male OFs Report of Uptake of Farming Activities for PBR Cowpea (n = 552)

		Me	My spouse	Another female HH member	Another male HH member	Male laborer	Female laborer
Land preparation		56%	37%	18%	37%	73%	18%
		76%	10%	9%	32%	78%	15%
Planting		77%	40%	17%	36%	64%	17%
		83%	16%	10%	35%	73%	21%
Weeding		62%	30%	18%	33%	77%	18%
		74%	13%	10%	34%	77%	19%
Harvesting		69%	36%	23%	35%	69%	23%
		76%	15%	13%	35%	73%	34%
Processing		69%	33%	22%	33%	65%	22%
		74%	26%	17%	32%	59%	33%
Selling		91%	50%	19%	31%	6%	19%
		97%	24%	16%	19%	6%	2%

Uptake of Farming Activities for PBR Cowpea (SRs)













Male SRs report that they handle all farming activities related to cowpea, while their female spouses are mainly involved in the selling process.

How to read the chart;

- This was a multi-select question where respondents could select one or more responses based on who performs the farming activities for cowpea in their household.
- The areas that are shaded indicate the highest reported percentages of individuals who are more likely to engage in the activity.
- The color purple denotes individuals who were reported by female SRs, while green represents individuals who were reported by male SRs.

Male spouses mainly take charge of farming, while female SRs focus on processing and selling PBR cowpea.

Female & Male SRs Report of Uptake of Farming Activities for PBR Cowpea (n = 200)

		Me	My spouse	Another female HH member	Another male HH member
Land preparation		19%	83%	15%	52%
		80%	40%	16%	31%
Planting		45%	86%	17%	50%
		84%	68%	23%	29%
Weeding		37%	79%	20%	50%
		84%	67%	26%	35%
Harvesting		32%	85%	25%	50%
		80%	67%	24%	35%
Processing		84%	76%	27%	33%
		84%	76%	27%	33%
Selling		34%	89%	16%	22%
		65%	81%	16%	12%

OF Satisfaction with PBR cowpea

Observer Farmers gave PBR cowpea an excellent Net Promoter Score of 59, indicating high satisfaction.

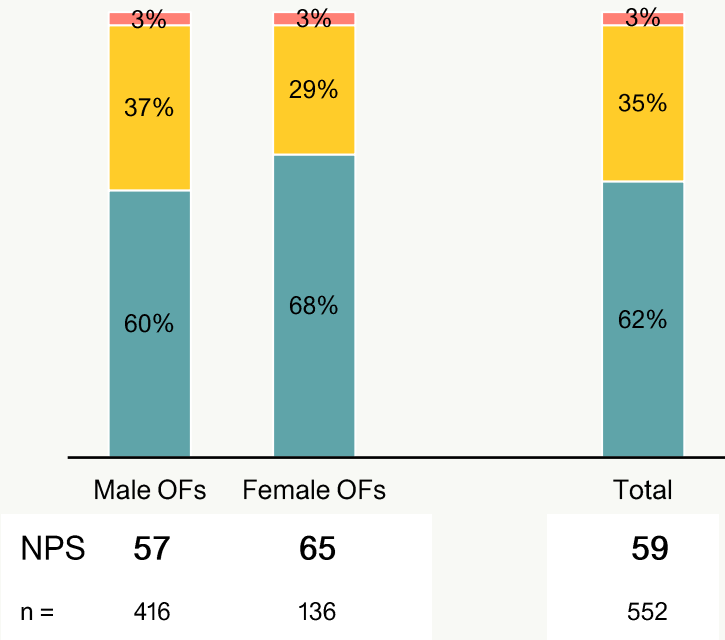
Female OFs gave a higher NPS than male OFs.

Observer Farmers who participated in the farmer field days between July to September 2022 had a higher NPS score of 71 compared to those who did not attend (51).

Both male and female DFs (DF study - May 2022, sample size of 250) gave PBR cowpea a much higher NPS than OFs. Male DFs gave an NPS of 79 and female DFs gave an NPS of 88.

OF Net Promoter Score for PBR cowpea

Likelihood of recommending the PBR cowpea to another farmer (n = 552)



*NPS was measured by asking Observer Farmers to rate their likelihood to recommend PBR cowpea to another farmer on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of OFs rating 9 or 10 ('Promoters') minus the % of OFs rating 0 to 6 ('Detractors').

Creators of the NPS, Bain & Company, suggest that a score of*:

- Above 0 is good
- Above 20 is favourable
- Above 50 is excellent
- Above 80 is world class

*NPS is sensitive to small sample sizes. Larger female sample sizes would be needed to draw firm conclusions of NPS by gender.

Net Promoter Score Drivers for OFs

Promoters and Passives value PBR cowpea's high yield and resistance to pests, insects, and legume Pod Borer. Detractors say they are yet to plant, or they lack the PBR cowpea seeds.

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: (

Male
OFs



60% are Promoters. They LOVE:

1. Good/high yield (60%)
2. Resistance to pests, insects, and legume Pod Borer (47%)
3. Early maturity / fast growth (37%)

37% are Passives: They LIKE:

1. Good/high yield (60%)
2. Resistance to pests, insects, and legume Pod Borer (38%)

But complain about:

1. Its small size (1 farmer)

3% are Detractors. They DISLIKE:

1. Yet to plant (6 farmers)
2. Lack of cowpea seeds (4 farmers)
3. Inadequate training (2 farmers)

Female
OFs



68% are Promoters. They LOVE:

1. Good/high yield (67%)
2. Resistance to pests, insects, and legume Pod Borer (45%)
3. Early maturity / fast growth (43%)

29% are Passives: They LIKE:

1. Good/high yield (48%)
2. Early maturity/fast growth (38%)

3% are Detractors.

1. Lack of cowpea seeds (2 farmers)
2. Yet to plant (1 farmer)

"The seedlings are a special variety because the yield is very good, and they germinate in less than a month. They are also resistant to insects." - Observer Farmer, Male, 40

"PBR cowpea does not require much spraying like the local cowpea." - Observer Farmer, Female, 28

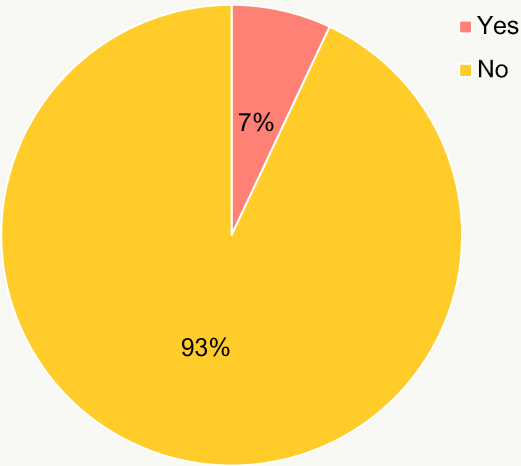
"If I can get the seedling to plant and I see the results based on what we were taught I am very sure that will make me more likely to recommend it." - Observer Farmer, Female

Challenges with PBR Cowpea

7% of farmers reported experiencing challenges with PBR cowpea. Female OFs reported one challenge while male OFs gave three. Non-adaptability to high rainfall was a common challenge for both.

Farmers who attended the field days were more likely to report challenges (10%) than those who did not attend (5%). This could be because farmers who attended field days could have gained knowledge and insights into their farming practices and the potential issues they may face. They may have had higher expectations or were more proactive in seeking help to address their challenges.

Proportion of OFs Reporting Challenges
(n = 552)



Top Issues Reported by 7% of Observer Farmers

(male n = 37, female n = 1)

Female OFs			Average Rank
Most Limiting	Non-adaptability to high rainfall		100%
Male OFs			Average Rank
Most Limiting	Unavailability of PBR cowpea		43%
	PBR cowpea pest/insects infestation		5%
Least Limiting	Non-adaptability to high rainfall		3%

Farmer Retention

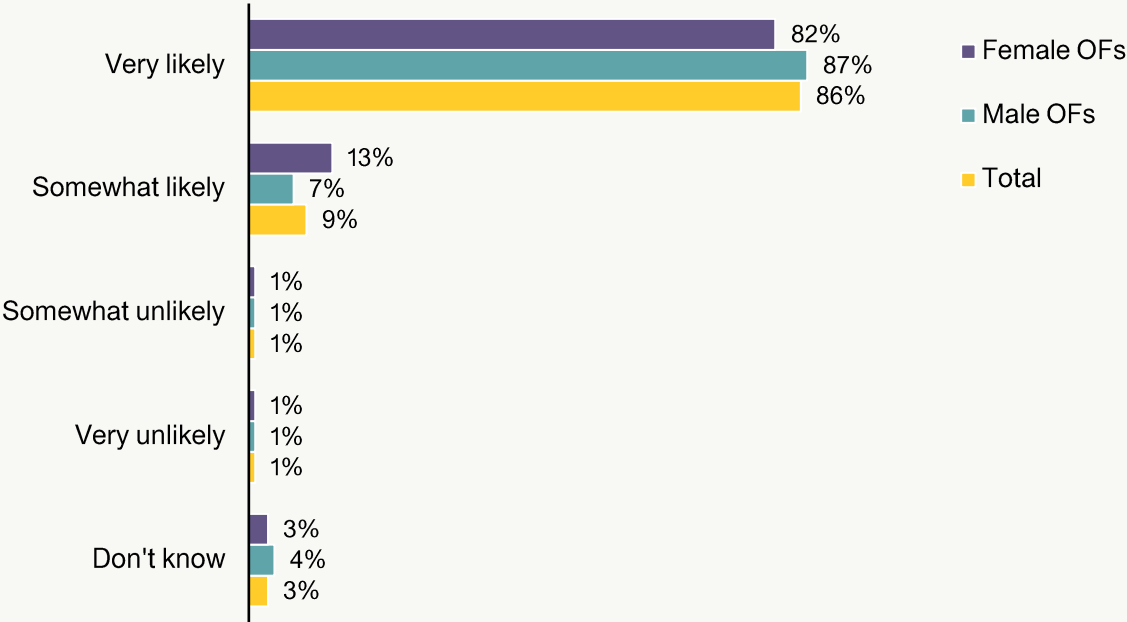
Almost all Observer Farmers are likely to cultivate PBR cowpea next season.

Observer Farmers who attended field days were more likely to report ‘very likely’ to cultivate PBR cowpea (93%) compared to 81% of who did not attend.

Field days may be effective in increasing farmers' interest and willingness to try new things. By providing opportunities for farmers to see and learn about PBR cowpea, AATF may be able to increase the adoption of this crop among farmers.

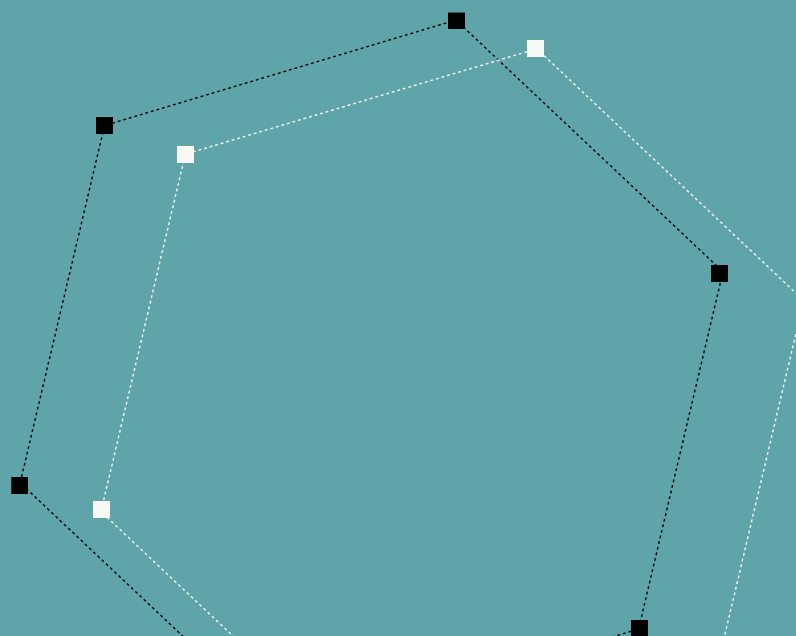
Likelihood of Male vs. Female Farmers to Cultivate PBR cowpea

(male n = 416, female n = 136, total n = 552)



Impact of PBR Cowpea and Household Dynamics

- > Impact on income
- > Impact on consumption
- > Dynamics on decision-Making
- > Other household changes



“The most interesting thing about these beans is that they are clean, have no pests, and I didn't use any pesticides on my farm, and the yield is very high.” - Observer Farmer, Female, 44

Perceived Impact of PBR Cowpea on Income

Overall, 31% of households sold their PBR cowpea. Male OFs were more likely to sell compared to female OFs, with 34% of male OFs selling the crop compared to 22% of female OFs.

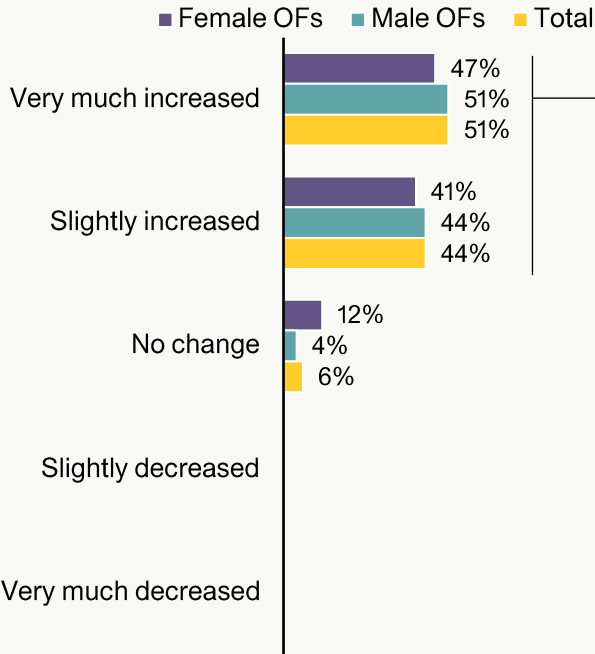
Additionally, male OFs were more likely to report an increase in income from PBR cowpea compared to their female counterparts (95% vs 88%).

Female OFs tend to attribute their income growth to selling a higher volume of PBR cowpea, whereas male OFs tend to attribute their increase in income to the higher price of PBR compared to traditional cowpea.

Most OFs report an increase in income from PBR cowpea. The top reason for this increase is the higher price of PBR compared to traditional cowpea.

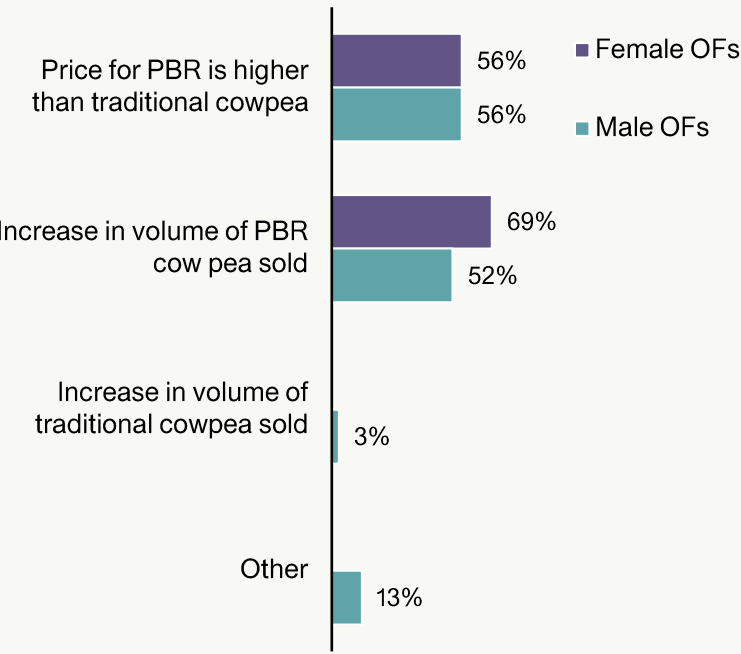
OF Perceived Change in Income from PBR cowpea

(male n = 72, female n = 17)



OF Reasons for Increased Income

(male n = 69, female n = 15, multi-select allowed)



OFs Uses of Money Earned From PBR cowpea

Observer Farmers primarily use the income they earn from PBR cowpea on additional food items and to invest back into their farms.

Male OFs are more likely to use the income for additional food items, while female OFs are more likely to put it back into farming.

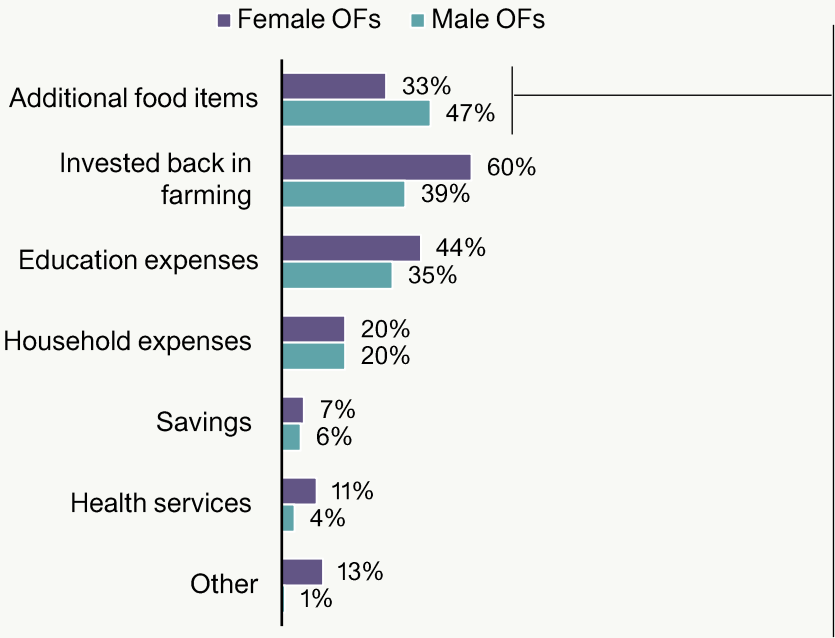
Slightly more than two-thirds of OFs mentioned other food items when asked what foodstuffs were/are being purchased in the household. These other items are:

- Cereal grains (rice, maize) – 49%
- Staple crops (yams, millet, sorghum) – 21%
- Oil (palm, vegetable) – 28%
- Condiments – 10%

Everyone in the household consumed the additional food items that were purchased.

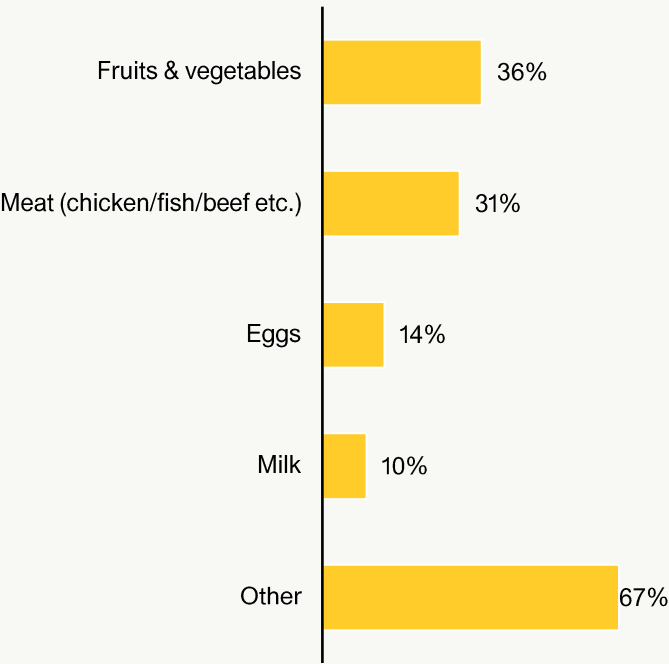
OF Uses of Income

(male n = 23, female n = 5, multi-select allowed)



Food Items Purchased in the Households

(Total n = 39, multi-select allowed)



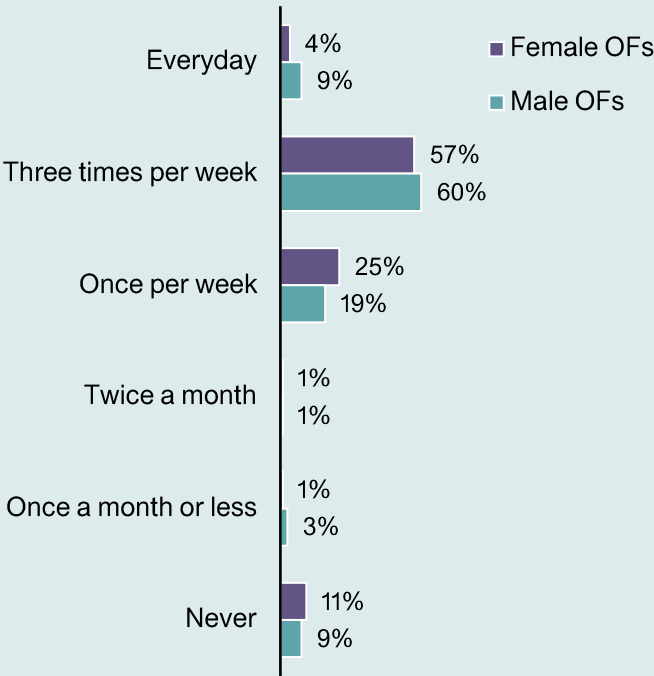
Impact on Consumption Patterns (OF)

Most farmers say their households consume PBR cowpea twice a week. Only 7% of Observer Farmers purchased PBR cowpea grains for home consumption.

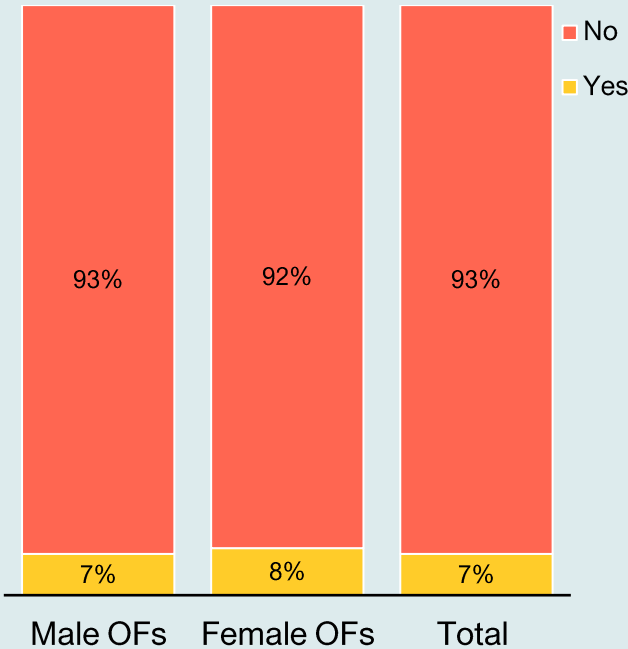
While PBR cowpea is a significant part of the diet of the farmers surveyed, there is still low demand or awareness of PBR cowpea grains among Observer Farmers.

These insights put together demonstrate the need for further action to promote and develop PBR cowpea as a food source in the region, in terms of marketing or distribution strategies.

Consumption Frequency
(male n = 211, female n = 79)*



Household Purchase of PBR Cowpea Grains for Home Consumption
(male n = 211, female n = 79, total n = 290)*



*Question was only asked to OFs who farmed PBR cowpea in the latest season .

Perceived Impact on Household Consumption

45% of OFs and 40% of SRs who consume cowpea report their household consumption of cowpea has increased since the introduction of PBR cowpea to their household.

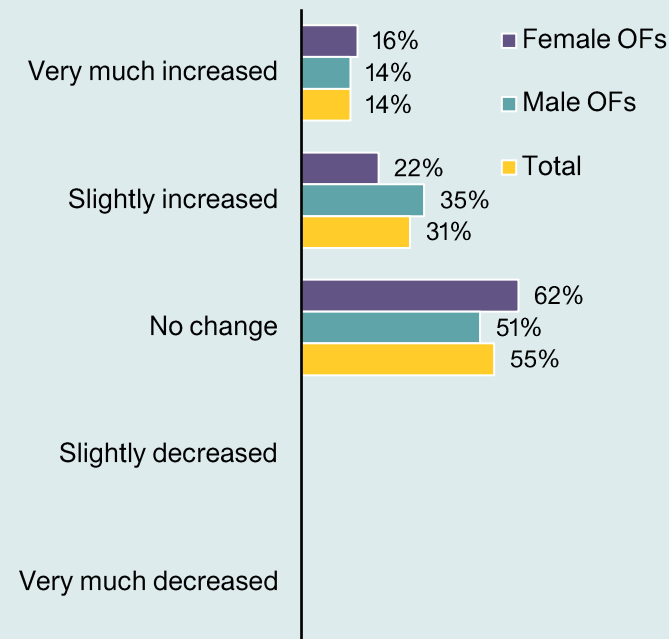
We asked OFs who consume cowpea if they believe adopting PBR cowpea has impacted the amount of cowpea they consume.

Most OFs and SRs report 'no change'. These farmers primarily mention that they:

- have not changed the amount consumed from before
- are preserving PBR cowpea for the next planting season
- do not have much PBR cowpea to consume due to low availability of PBR cowpea
- are preserving their cowpea for the next season
- have not harvested yet

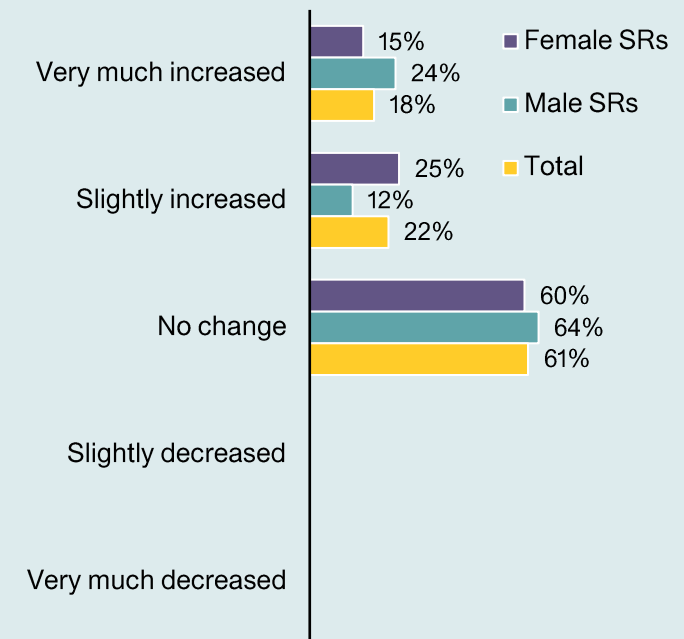
OFs' Perceived Change in Household Cowpea Consumption

(male n = 211, female n = 79, total n = 290)*



SRs' Perceived Change in Household Cowpea Consumption

(male n = 58, female n = 141, total n = 199)



*Only asked to those who said they consumed PBR cowpea, or purchased grains for consumption

Reasons for Increase in Consumption

OFs and SRs were asked to describe – in their own words – why they think cowpea consumption has increased in their household. The top reasons OFs mention are shown on the right.

Other reasons include:

- More family members now consume PBR cowpea
- Local cowpea is now supplemented with PBR cowpea
- PBR cowpea is now a household staple
- High yield of PBR cowpea

Most OFs and SRs believe increases in household consumption are driven by PBR cowpea’s better taste.

Top Three Reasons 45% of OFs Believe Household Cowpea Consumption Has Increased

59%

say PBR cowpea’s better taste
(27% of all respondents who consumed PBR cowpea)

19%

mention the crop’s accessibility/availability
(9% of all respondents who consumed PBR cowpea)

13%

report PBR cowpea’s nutritional value
(5% of all respondents)

“We all like this variety of cowpea very much, we eat it almost every day because we mix it with rice and make mormon with it as well.” – Observer Farmer, Male, 52

Top Three Reasons 40% of SRs Believe Household Cowpea Consumption Has Increased

59%

say PBR cowpea’s better taste
(23% of all respondents who consumed PBR cowpea)

27%

talk about PBR cowpea’s less cooking time
(11% of all respondents who consumed PBR cowpea)

21%


report PBR cowpea’s nutritional value
(8% of all respondents)

“We have it available and everybody in the house has testified that the PBR cowpea is sweeter than the traditional beans.” – Observer Farmer, Male, 40


OFs Decision to Try PBR Cowpea

Three quarters of female OFs report being the final decision maker to try PBR cowpea. All of them provide a lot of input in this decision.


Final Decision Maker to Try PBR cowpea

(n = 405 male OF) 


Level of Input in Decision to Try PBR cowpea

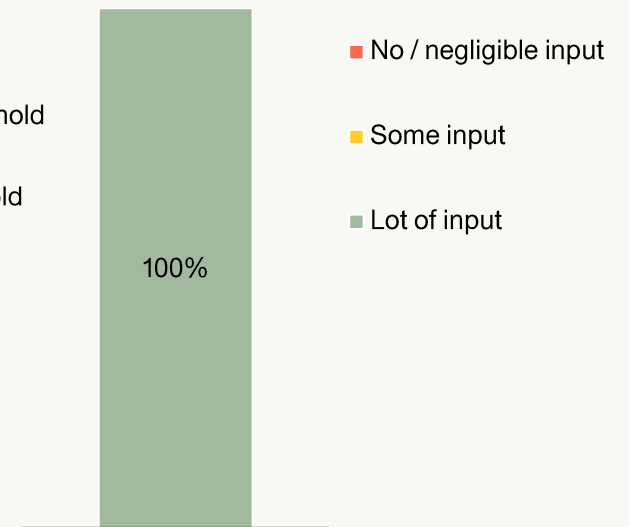
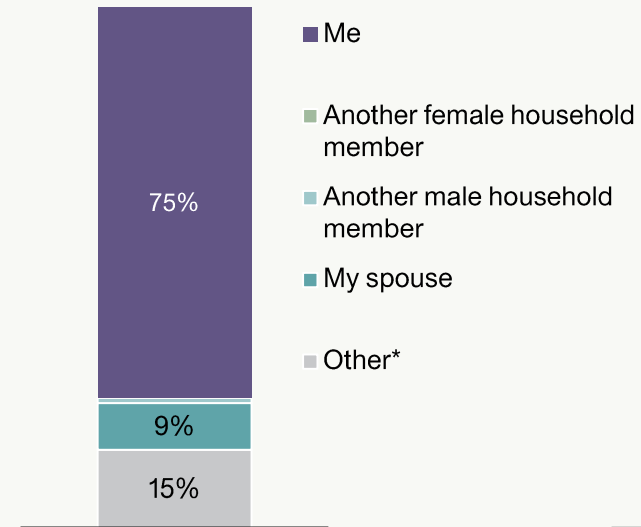
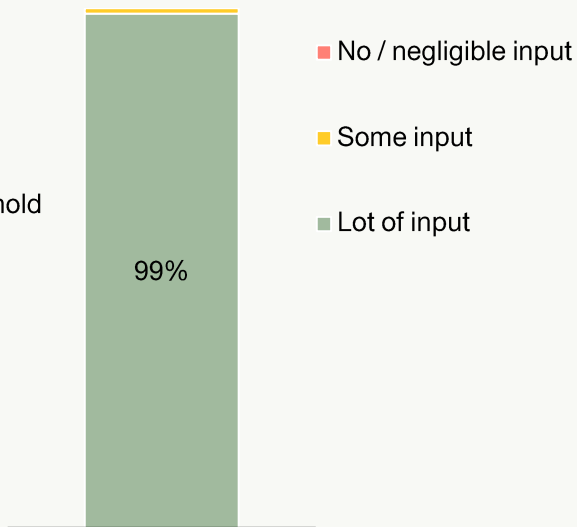
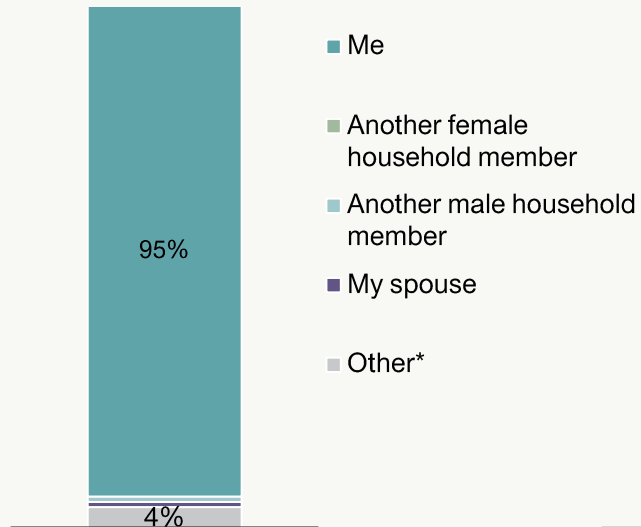
(n = 405 male OF) 

Final Decision Maker to Try PBR cowpea

(n = 147 female OF) 

Level of Input in Decision to Try PBR cowpea

(n = 147 female OF) 




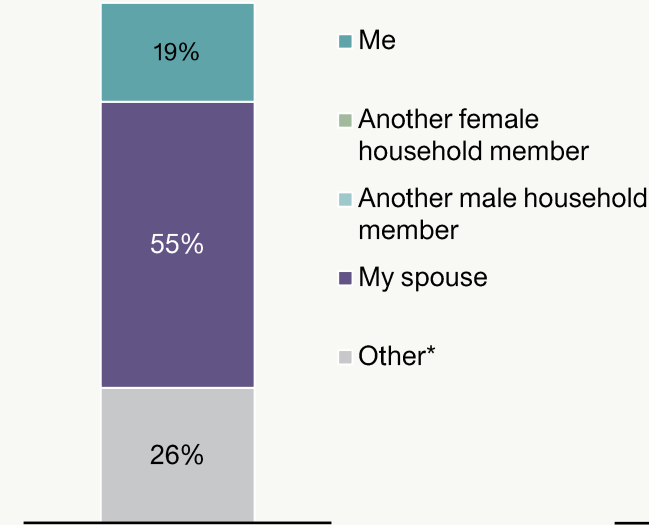
*OFs that reported 'other' said they made a joint decision to try PBR cowpea with their spouses (8%), their parents (2%), their children (1%). 25 said their parents made the decision

SRs Decision to Try PBR Cowpea


Only 4% of female SRs report being the final decision maker to try PBR cowpea. 79% provide at least some input in this decision.

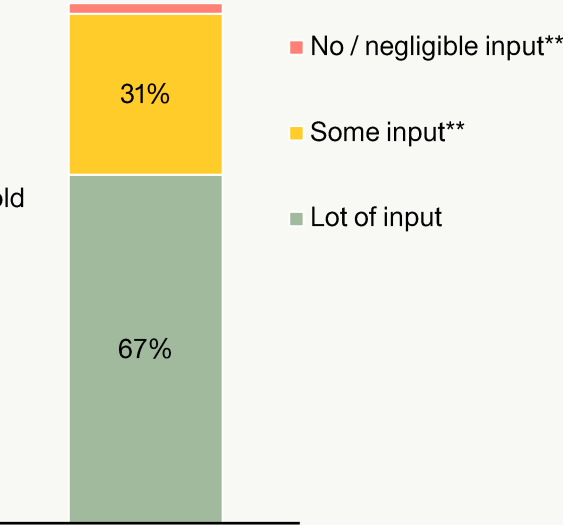
Final Decision Maker to Try PBR cowpea

(n = 58 male SR) 




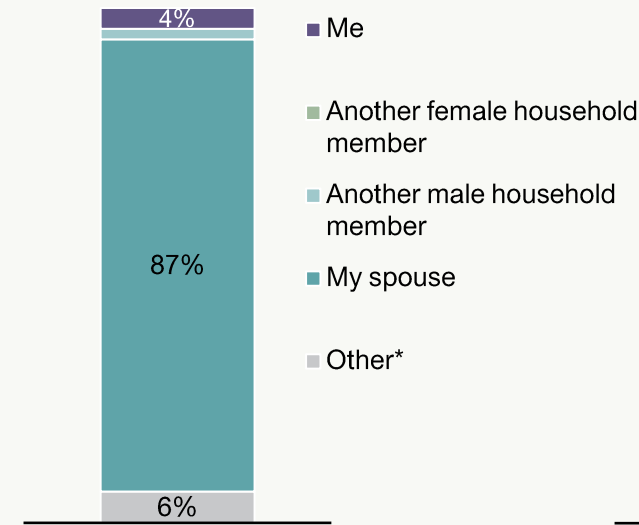
Level of Input in Decision to Try PBR cowpea

(n = 58 male SR) 




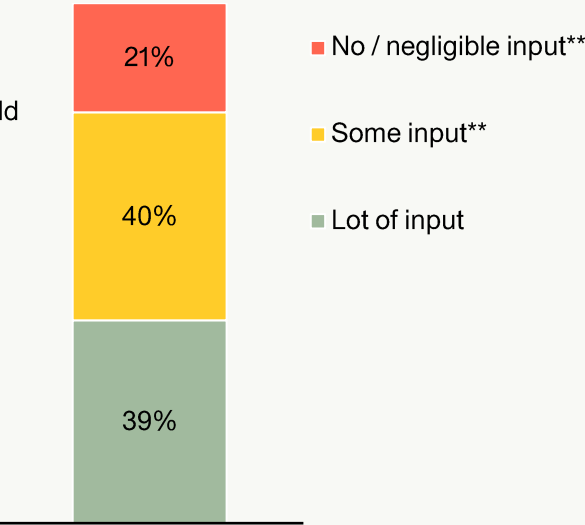
Final Decision Maker to Try PBR cowpea

(n = 141 female SR) 



Level of Input in Decision to Try PBR cowpea

(n = 141 female SR) 



*SRs that reported 'other' said they made a joint decision to try PBR cowpea with their spouses (8%), their parents (2%), their children (1%). 25 said their parents made the decision

**Of the 19 male SRs who reported some or none/negligible input, 56% reported that "this is just how things are done", 31% reported "I do not know enough about PBR cowpea" and 5% reported "I don't have time to contribute".

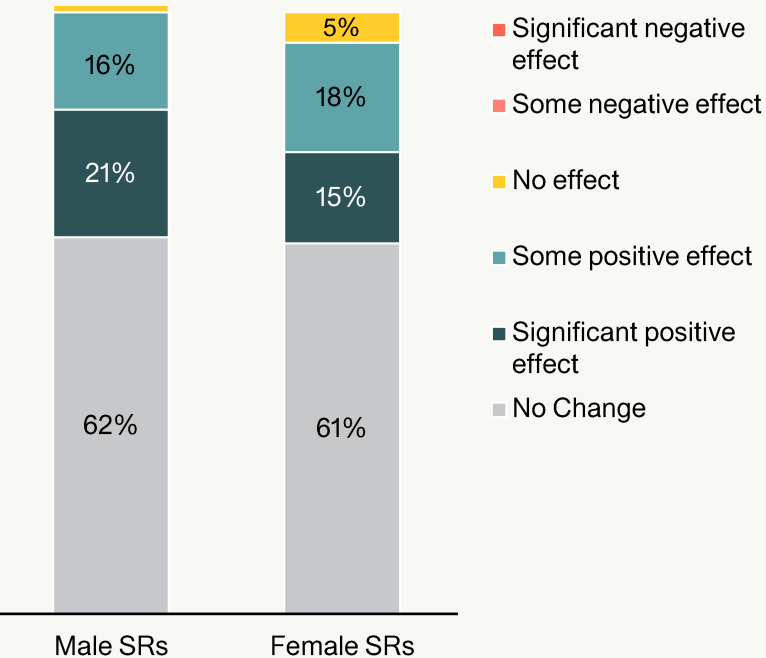
**Of the 86 female SRs who reported some or none/negligible input, 58% "I do not know enough about PBR cowpea", 42% reported "this is how things are done" and 20% reported "I do not participate in the farm".

SR Perspective on Other Household Changes

While there may be positive changes in some households, a significant percentage of households may not have experienced any notable changes.

SR Perspective on Whether There Have Been Other Changes for Women

(male n = 58, female n = 141)



SRs believe positive changes for women and girls are...

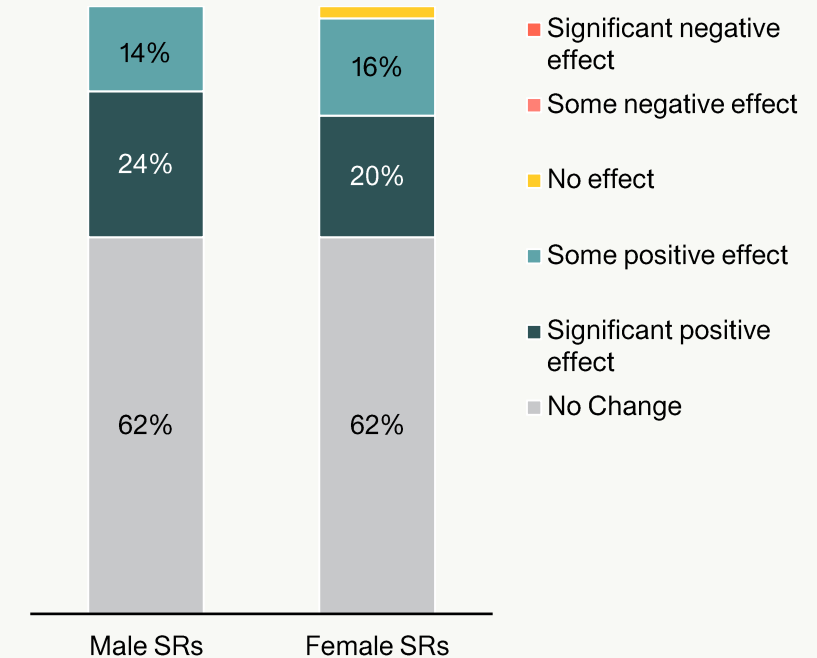
1. More engagement in farming (48%)
2. Less time spent on cooking (34%)
3. More healthy eating habits (19%)

SRs believe positive changes for men and boys are...

1. More engaged in farming (37%)
2. Reduced expenses (34%)
3. Less time spent in the farm (16%)
4. More healthy eating habits (12%)

SR Perspective on Whether There Have Been Other Changes for Men



(male n = 58, female n = 141)



RECOMMENDATIONS




Recommendations from Some Initial Findings

We had a few suggestions for AATF and EAs based on two of the findings presented on [page 6](#).

Finding	Recommendation	For More Information
<div></div> <p>Finding #1: There is effective dissemination of knowledge on PBR cowpea among farmers, as well as gender differences in learning styles.</p>	<p>Expanding the number of Demo Farms and field days that are open to both male and female SRs would heighten their familiarity and engagement with PBR cowpea.</p> <p>Developing additional tailored training materials and programs that account for the diverse learning styles and preferences of male and female SRs could also be beneficial.</p>	<p>Pages: 13, 14, 15, 16</p>
<div></div> <p>Finding #2: PBR cowpea has been widely adopted and well-received among households, with high satisfaction and perceived benefits of its high yield and resistance to pests.</p>	<p>Promoters of PBR cowpea say they value the crop’s good/high yield, resistance to pests, insects, and legume Pod Borer and early maturity. This is consistent with the top three takeaways on PBR cowpea training for SRs.</p> <p>Leverage the high satisfaction of Observer Farmers to promote the benefits of PBR cowpea among other farmers. This can be done through testimonials and workshops that showcase the success of PBR cowpea.</p>	<p>Pages: 25, 27, 28</p>

Additional Recommendations

Providing seeds on loans, encouraging more farmer field days, and informing Extension Agents of the results of this study could improve uptake and impact of PBR cowpea.

Finding	Recommendation	For More Information
 <p>Finding #3: The introduction of PBR cowpea is bringing significant economic benefits for farmers and their households.</p>	<p>AATF can use this information to promote the adoption of PBR cowpea among farmers and increase its production and consumption.</p> <p>Additionally, AATF can provide support and training to farmers on the best practices in cultivating, harvesting, and marketing PBR cowpea to maximize their economic potential further.</p>	<p>Pages: 30, 32, 33, 37</p>
 <p>Finding #4: Gender inequalities exist in decision-making processes regarding the adoption of PBR cowpea among farmers.</p>	<p>Targeted outreach and education programs for female farmers can help empower them. This could include organizing targeted training and capacity-building programs for female farmers on PBR cowpea. AATF could also work with local organizations and stakeholders to ensure that women have equal access to information and resources related to PBR cowpea.</p>	<p>Pages: 10, 14, 35, 36</p>
 <p>Finding #5: 7% of farmers reported experiencing challenges with PBR cowpea.</p>	<p>Despite the high levels of adoption and satisfaction observed with PBR cowpea, it is essential to address the challenges faced by the 7% of farmers who reported difficulties with it.</p> <p>The common theme among those reporting challenges, Detractors, and knowledge gaps in the availability of PBR cowpea. Improving access to PBR cowpea could help address the challenges faced by these farmers and further promote its adoption and success.</p>	<p>Pages 19, 26, 27</p>

What Next?

...& Appendix



Impact Management Project

We aligned your results to the Impact Management Project. We’re big fans of the IMP – it’s a simple, intuitive and complete way of conceptualizing impact.

We take pride in making the data we collect easy to interpret, beautiful to look at, and simple to understand and act upon.

We also align our data with emerging standards of best practice in our space, such as the [Impact Management Project](#) (IMP).

The IMP introduces five dimensions of impact: Who, What, How Much, Contribution, and Risk.

These dimensions help you check that you haven’t missed any ways of thinking about, and ultimately measuring, the positive and negative changes that are occurring as a result of an intervention.



Dimension	Explanation
Who ○	The Who of impact looks at the stakeholders who experience social and environmental outcomes. All things equal, the impact created is greater if a particularly marginalised or underserved group of people is served, or an especially vulnerable part of the planet protected. For the who of impact, we tend to work with our clients to understand poverty levels, gender and disability inclusivity.
What Impact □	What investigates the outcomes the enterprise is contributing to and how material those outcomes are to stakeholders. We collect most of this what data using qualitative questions designed to let customers tell us in their own words the outcomes they experience and which are most important to them.
How Much ≡	How Much looks at the degree of change of any particular outcome.
Contribution +	Contribution seeks to understand whether an enterprise’s and/ or investor’s efforts resulted in outcomes that were better than what would have occurred otherwise. In formal evaluation this is often studied using experimental research such as randomised control trials. Given the time and cost of gathering these data, this is not our typical practice. We instead typically ask customers to self-identify the degree to which the changes they experience result from the company in question. We ask customers whether this was the first time they accessed a product of technology like the one from the company, and we ask how easily they could find a good alternative. If a customer is, for the first time, accessing a product they could not easily find elsewhere, we consider that the product or service in question has made a greater contribution to the outcomes we observe.
Risk △	Impact Risk tells us the likelihood that impact will be different than expected. We are admittedly still in the early days of figuring out how best to measure impact risk – it’s an especially complex area. That said, where customers experience challenges using their product or service, we do think that this correlates with a higher risk that impact does not happen (i.e. if a product or service is not in use then there’s no impact). Hence, we look at challenge rates (the percent of customers who have experienced challenges using a product or service), and resolution rates (the percent of customers who experienced challenges and did not have them resolved) as customer based proxies for impact risk.

Calculations & Definitions

For those who like to geek out, here’s a summary of some of the calculations we used in this deck.

Metric	Calculation
Net Promoter Score®	The Net Promoter Score is a common gauge of customer loyalty. It is measured through asking customers to rate their likelihood to recommend your service to a friend on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of customers rating 9 or 10 out of 10 ('Promoters') minus the % of customers rating 0 to 6 out of 10 ('Detractors'). Those rating 7 or 8 are considered 'Passives'.

Thank You For Working With Us!

We hope you can apply these insights right away!

About IGNITE

The Impacting Gender & Nutrition through Innovative Technical Exchange in Agriculture (IGNITE) mechanism is a five-year invested funded by the Bill & Melinda Gates Foundation and implemented by Tanager, Laterite, and 60 Decibels (60dB) to improve household nutrition and women's empowerment by strengthening African institutions' ability to integrate gender and nutrition into their way of doing business and their agricultural interventions.

IGNITE works with African institutions to design, implement, and evaluate nutrition-sensitive and gender-integrated agriculture interventions

Your Feedback

We'd love to hear your feedback on the 60dB process; take 5 minutes to fill out our [feedback survey!](#)

Acknowledgements

Thank you to Cecilia Limera, Emmanuel Okogbenin, Moses Taiwo, Ruth Rotich, Millicent Sedi, and Ijeoma Akaogu from the AATF and Catherine Macharia-Mutie, Samwel Oando, Maureen Munjua, Benson Mutuku, and Charles Karari from Tanager for their support throughout the project.

This study was undertaken by 60dB as part of the IGNITE project.

IGNITE Partner Profiles

About 60 Decibels

60 Decibels makes it easy to listen to the people who matter most. 60 Decibels is an impact measurement company that helps organizations around the world better understand their customers, suppliers, and beneficiaries. Its proprietary approach, Lean Data, brings customer-centricity, speed and responsiveness to impact measurement.

60 Decibels has a network of 1000+ trained Lean Data researchers in 70+ countries who speak directly to customers to understand their lived experience. By combining voice, SMS, and other technologies to collect data remotely with proprietary survey tools, 60 Decibels helps clients listen more effectively and benchmark their social performance against their peers.

60 Decibels has offices in London, Nairobi, New York, and Bengaluru. To learn more, visit 60decibels.com.

We are proud to be a Climate Positive company.



About Tanager

Tanager, an ACDI/VOCA affiliate, is an international nonprofit that brings people together at the table, on the ground, and across supply chains to co-create economic and social opportunities that change lives. Working closely with our partners, we align interests to expand market access and unlock the full potential of shared market opportunities that result in reliable supply chains, stable incomes, healthy families, and resilient communities.

About Laterite

Laterite is a data, research and advisory firm dedicated to providing high-quality research services for social impact in East Africa. We provide technical advice on the design and implementation of research projects, development interventions, and socio-economic policies. We strive to deliver impactful research that helps decision-makers find solutions to complex development problems. Our approach is structured, data intensive, and embedded in the local context. Laterite has been in operation for ten years and is currently established in Rwanda, Ethiopia, Kenya, Uganda and the Netherlands.

Acronyms & Abbreviations

A list of acronyms / abbreviations used in this report.

Abbreviation	Definition
DF	Demo Farmer
NPS®	The Net Promoter Score is a common gauge of customer loyalty. It is measured through asking customers to rate their likelihood to recommend your service to a friend on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of customers rating 9 or 10 out of 10 ('Promoters') minus the % of customers rating 0 to 6 out of 10 ('Detractors'). Those rating 7 or 8 are considered 'Passives'.
OF	Observer Farms / Observer Farmers (Primary Respondent)
PBR	Pod Boer Resistant Cowpea
SR	Secondary Respondnet



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Thank you!

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