Baseline Survey Report of the Resilience Food Security Activity Graduating to Resilience in Uganda, Cohort 2

August 2022 | Volume I

IMPEL | Implementer-Led Evaluation & Learning Associate Award

ABOUT IMPEL

The Implementer-Led Evaluation & Learning Associate Award (IMPEL) works to improve the design and implementation of Bureau for Humanitarian Assistance (BHA)-funded resilience food security activities (RFSAs) through implementer-led evaluations and knowledge sharing. Funded by the United States Agency for International Development (USAID) BHA, IMPEL will gather information and knowledge in order to measure performance of RFSAs, strengthen accountability, and improve guidance and policy. This information will help the food security community of practice and USAID to design projects and modify existing projects in ways that bolster performance, efficiency, and effectiveness. IMPEL is a seven-year activity (2019–2026) implemented by Save the Children (lead), TANGO International, Tulane University, Causal Design, Innovations for Poverty Action, and International Food Policy Research Institute.

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CONTACT INFORMATION

IMPEL Activity
c/o Save the Children
899 North Capitol Street NE, Suite #900
Washington, DC 20002
www.fsnnetwork.org/IMPEL
IMPEL@savechildren.org

PREPARED BY:

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ACRONYMS

BHA	Bureau for Humanitarian Assistance
FCS	Food Consumption Score
FFBS	Farmer Field Business School
FFP	Office of Food for Peace
HFIAS	Household Food Insecurity Access Scale
HH	Household
HHS	Household Hunger Scale
IMPEL	Implementer Led Evaluation and Learning
IPT-G	Interpersonal Psychotherapy in Groups
LTFU	Long-Term Follow-Up
N	Number of Households or Individuals in the Survey Sample
OECD	Organization for Economic Co-operation and Development
OPM	Office of the Prime Minister
PPP	Purchasing Power Parity
RCT	Randomized Control Trial
RFSA	Resilience Food Security Activity
ROSCA	Rotating Savings and Credit Association
SACCO	Savings and Credit Cooperative Organization
SD	Standard Deviation
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
VSLA	Village Savings and Loan Association
WASH	Water, Sanitation, and Hygiene

EXECUTIVE SUMMARY

This survey reports on data collected as part of the baseline survey of Cohort 2 of the Graduating to Resilience activity, which is a Resilience Food Security Activity (RFSA) implemented by the AVSI Foundation, an international non-governmental organization, and funded by the United States Agency for International Development (USAID) Bureau for Humanitarian Assistance (BHA). The Graduating to Resilience activity is implemented in and around the Rwamwanja Refugee Settlement in Kamwenge District, Uganda, and is offered to extremely poor households living in both the refugee and host communities in this area. The goal of the activity is to graduate extremely poor refugee and Ugandan households from conditions of food insecurity and fragile livelihoods to self-reliance and resilience.

The report provides an overview of the RFSA, describes the evaluation design for the activity's second cohort, and provides summary statistics and indicator estimates based on a recently completed round of baseline data collection. Innovations for Poverty Action (IPA), with a team of 38 enumerators, administered a baseline survey to 2,570 households in November and December 2021, in the Kamwenge district and in the Rwamwanja settlement. The survey took place before the kickoff of the Graduating to Resilience Cohort 2 and its Interpersonal Psychotherapy in Groups (IPT-G) interventions, which will start in February 2022.

Key findings from the baseline survey include the following:

- **Demographics & poverty**
  - A total of 16,560 people live in the 2,570 households interviewed at baseline.
  - The share of adults over 18 years was 41% in the host community and 35% in the refugee community.
  - The share of children under 5 years was 15% in the host community and 21% in the refugee community.
  - The share of women of reproductive age (15–49 years) was 21% in the host community and 20% in the refugee community.
  - In the host community, 38% of households lived on less than Purchasing Power Parity (PPP) $1.90 per day and per adult, while 31% of those in the refugee community lived under this threshold.
- **Water, sanitation, and hygiene (WASH) & housing**
  - Similar numbers of people in the host and refugee communities had access to basic drinking water services (12% and 15%, respectively), but host community members were much more likely to boil their water than refugee community members (75% and 49% respectively).
  - Members of the host community lived in higher quality housing, with 91% having iron roofs compared to 21% in the refugee community.
- **Land & agriculture**
  - In the host community, 86% of households own land. In the settlement, the Office of the Prime Minister (OPM) allocates plots to refugee households when they join the camp and grant them temporary usage right on these plots. Most refugee households (93%) reported having land for which they had usage rights.

- o Almost all households in both communities cultivated at least one crop (98% host and 99% refugee), and the cultivation of at least one cash crop was common (62% of all hosts and 54% of all refugees).
- **Employment & off-farm business**
  - o Most people engaged in employment activities, mostly daily agricultural wage employment. The rate of employment was similar for both communities (71% for host households and 74% of refugee households).
  - o Refugees are somewhat more likely to have their own off-farm businesses, with 43% of refugees and 30% of host community members operating at least one. In the host community, the most common types of businesses were petty trade (9% across all surveyed host community households) and retail shops (4%). In the settlement, the most common types of business were petty trade (27% across all surveyed refugee households) and produce trading (5%).
- **Access to finance**
  - o Most households reported having outstanding loans—77% in the host community and 68% in the settlement.
  - o Almost all households reported having at least some savings (92% in host community and 94% in refugee community), which were mostly held informally.
- **Food security**
  - o Most households reported being either moderately or severely food insecure using the Household Food Insecurity Access Scale (HFIAS). The rate of household deemed as "severely food insecure" was 39% in the host community and 29% in the settlement.
  - o Households in both communities also reported eating diverse diets, with 95% of host community members and 86% of refugee community households reporting an "acceptable" Food Consumption Score (FCS).
  - o Dietary diversity is a particular concern for women of reproductive age and children ages 6–23 months, in the same proportions for refugee and host community. For women of reproductive age, 30% (host) and 29% (refugee) were meeting minimum standards of dietary diversity. For children aged 6–23 months, 14% (host) and 15% (refugee) were receiving a minimum acceptable diet, which measures dietary diversity and frequency of feeding.
  - o Exclusive breastfeeding rates for children under 6 months varied between communities, with 69% of 61 children in this age group exclusively breastfed in the host community, and 83% of 146 such children in the refugee community.

1. CONTEXT AND INTERVENTION

1.1 Background on Graduating to Resilience Activity, Phase 1

In October 2017, United States Agency for International Development (USAID)'s Bureau for Humanitarian Assistance (BHA) awarded the implementation of the Resilience Food Security Activity (RFSA) Graduating to Resilience in Kamwenge District, Uganda to AVSI Foundation (AVSI), an international non-governmental organization operating in the country since the early 1980s, together with a consortium including TrickleUp and IMPAQ International (now American Institutes for Research–AIR). The Graduating to Resilience RFSA is part of a portfolio of RFSAs that BHA funds in low-income countries across Africa. The goal of Graduating to Resilience is to improve food and nutrition security and self-reliance among extremely poor households in refugee settlements and host community.

As shown in Figure 1, Kamwenge District (in green) is in the southwest of Uganda and is home to approximately 78,543[1] mostly Congolese refugees, as well as a non-refugee population facing chronic food insecurity.

Figure 1. Map of Kamwenge District, 2018[2]

Kampala
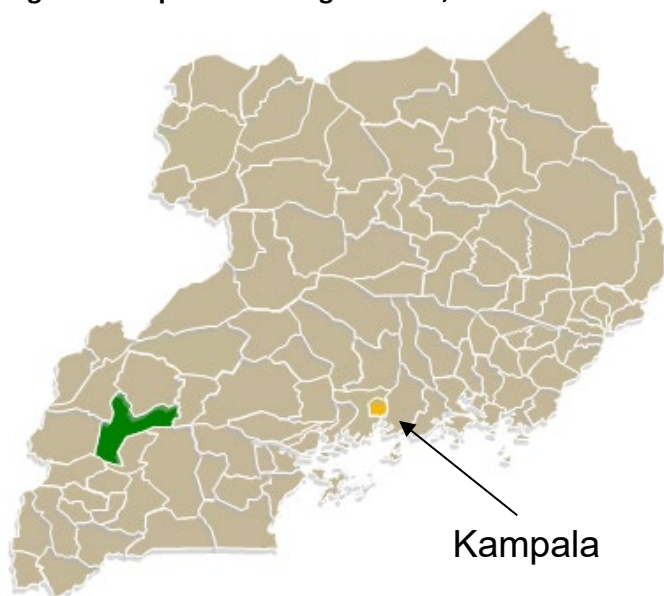
Graduating to Resilience is based on the "graduation from extreme poverty" approach, which is a holistic set of services for targeted "ultra-poor" households,[3] designed to help recipients build new

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[1] UNHCR Uganda comprehensive refugee response portal. Accessed March 9, 2022. https://data2.unhcr.org/en/country/uga
[2] Graduating to Resilience is located in the northern part of Kamwenge district in this 2018 map of Uganda's political districts. Kamwenge district boundaries were redrawn in 2019, but the activity is still located within the new boundaries of the district.
[3] Ultra-poor households are households who have typically been identified through a three-stage targeting process: 1) Target an area considered as poor according to socio-economic indicators; 2) Identify the ultra-poor households through a community approach such as participatory wealth ranking to identify the poorest and most vulnerable in the community; 3) Administer a poverty assessment to households to verify the results and screen out any households who are too well off.

livelihoods while building skills and confidence, along with an asset base to diversify income, protect themselves from shocks, and sustain well-being.

BHA awarded Innovations for Poverty Action (IPA) a Cooperative Agreement to design a randomized controlled trial (RCT) on the 6-year Graduating to Resilience RFSA to measure the impact and cost-effectiveness of different variations of graduation activities for refugees and host community. Informed by the results from the RCT in year four, AVSI is now implementing a refined version of the Graduation Approach.[4] This second version is based on findings from the Cohort 1 endline, and implemented with households that were not previously participating in interventions of the activity. As such, the Graduating to Resilience RFSA has two cohorts of participants: Cohort 1 (2018–2021) and Cohort 2 (2022–2024). Each cohort includes extremely poor households from both the refugee and host communities in Kamwenge district.

1.2   Phase 2 Evaluation of Graduating to Resilience

In 2021, the BHA-funded Implementer-Led Evaluation and Learning (IMPEL) mechanism awarded IPA the evaluation of Phase 2, which consists of both a round of follow-up surveying of Cohort 1 study participants to measure longer-term impacts, as well as an evaluation designed specifically around Cohort 2 interventions. The latter aims to provide new evidence on how to amplify the impact of the Refined Graduation Approach by incorporating low-cost mental health treatments using Interpersonal Psychotherapy in Groups (IPT-G) methodology. This report focuses on a recent round of baseline surveying that was conducted as part of the design to evaluate Cohort 2.

The study area of the Cohort 2 Graduating to Resilience activity is equivalent to that of Cohort 1. For the refugee settlement this includes the entire refugee community. In the host community, the activity is implemented and evaluated in six sub-counties contiguous to the settlement: Nkoma, Biguli, Bihanga, Bwizi, Nkoma Katalyeba Town Council, and Lyakahungu Town Council. Cohort 2 offers a package of interventions to about 7,200 households, split more or less evenly between the refugee and host community. The interventions are informed by the knowledge acquired during the implementation of the first cohort and its accompanying multi-arm RCT. To distinguish the package of interventions administered in Cohort 2 from those of Cohort 1, the approach of this second cohort will be referenced in this document as "Refined Graduation."

The key interventions of the Refined Graduation Approach are:

1. Consumption support: a small, regular cash transfer provided over 12 months to stabilize incomes and enable households to focus on new livelihoods, as well as prevent consumption of productive assets. This cash transfer is about $4–5 per household member and per month. The total transfer per household over the course of the cash transfer periods sums to about $300.

2. Productive asset transfer: a lump sum cash transfer for any small-scale income-generating activity of about $300 that takes place about 6 months after the beginning of the activity.

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[4] The refined variation of the Graduation Approach is mostly based on the "group coaching and cash transfer" approach since that proved to be the most cost-effective approach in the Phase 1 evaluation.

3. Training on technical skills: including financial literacy, enterprise selection, planning and management, improved agricultural skills (crop and livestock), and bank linkages. These trainings happen in the first 6 months on the activity, before the asset is given out.

4. Coaching on various themes: including health, nutrition, gender, life skills, and sanitation. Each participant will attend 48 group coaching sessions over 24 months and will have 8 quarterly individual touch points over the same period.[5]

5. Access to Savings: creation of Village Savings and Loan Associations (VSLAs) and meetings to create a secure place to save income and access low interest loans.

6. Referrals and Linkages: referral for domestic violence, protection, health, nutrition, and linkages to services within the public and private sector like extension services, energy, finance, markets, and agricultural inputs.

One difference between the Cohort 1 and Cohort 2 activities is the intensity of coaching. Cohort 1 participants received two different coaching approaches—individual coaching (every 2 weeks) and group coaching (weekly). AVSI is employing a hybrid approach for Cohort 2 activities. This hybrid approach is mostly based on group coaching sessions happening every two weeks, but also includes quarterly individual touch points to maintain individual contact between participants and coaches.

For Cohort 2 activities, AVSI decided to add a group-based psychotherapy intervention component—Interpersonal Therapy in Groups (IPT-G). In an AVSI study in Palabek refugee settlement in Northern Uganda,[6] 35% of respondents indicated that they were experiencing depression at the time, and 64% of these individuals reported that their depression was interfering with their daily lives. Up to 23% of all respondents said that they had had suicidal thoughts within the last two weeks. In addition, during Cohort 2 sensitization sessions, AVSI collected data that indicated that up to 80% of refugees had experienced depression at some point in their lives, as well as 60% of host community members.

Against this backdrop of substantial mental health concerns, AVSI will implement IPT-G with half of the Cohort 2 participants. This therapeutic approach is participatory and group-based, empowering isolated and vulnerable women[7] to improve relationships, develop communication and conflict resolution skills, and foster lasting support networks. Within these groups, participants share their own challenges, discuss actions they have taken to manage these challenges, and provide support to one another. There are eight sessions across a 2-month period (weekly sessions over 2 months) and each session will last 60 minutes.

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[5] Cohort 1 participants received two different coaching approaches—individual coaching (every two weeks) and group coaching (weekly). For Cohort 2 activities, AVSI Foundation is employing a hybrid approach with group coaching sessions and quarterly touch points

[6] Mental health rapid assessment of refugee and host community in Palabek refugee settlement conducted by AVSI Foundation and Strong Mind in 2018.

[7] Graduating to Resilience activity primarily focuses on women, with 89% of the primary participants being female.

IPT-G has three phases, each with distinct objectives:

- Initial Phase: Group Sessions 1–2. This phase focuses on creating initial bonds between group members and building rapport with one another, so women feel comfortable sharing personal information and discussing the reasons for their depression.
- Middle Phase: Group Sessions 3–6. This phase ensures that all members are actively engaged and helping each other by making suggestions regarding one another's problems. This is also the phase where important progress is made for members to fully understand all the symptoms and triggers of depression.
- Termination Phase: Group Sessions 7–8. These sessions prepare members to end formal sessions. Members are reminded to continually identify their own triggers of depression in the future, and what they should do to respond. Individual action plans are created and reviewed.

The timeline for Cohort 2 of the RFSA is as follows:

- Beneficiary registration and forming groups: February 2022
- Intervention kickoff: February 2022
- Consumption support cash transfer: February 2022 to February 2023
- Coaching sessions: February 2022 to February 2024
- IPT-G sessions: April to July 2022
- Farmer Field Business School (FFBS), VSLA, and other intervention elements: February 2022 to February 2024

2.   EVALUATION OF COHORT 2

2.1   Overview

The evaluation of Cohort 2 of the Graduation to Resilience activity has two objectives. The first is to assess the impact of the Refined Graduation Approach in the context of the Phase 2 evaluation. The second objective is to provide new evidence on how to amplify the impact of the Graduation Approach by incorporating low-cost mental health treatments through the IPT-G intervention.

The test of the addition of an IPT-G component is motivated by early-stage evidence from IPA's research in Ghana[8] and Niger[9] that suggests that the integration of mental health interventions into graduation interventions could improve participants' economic and health outcomes for minimal additional cost. However, other research from Kenya suggests that participants in a cash transfer program who were also enrolled in a 5-week psychotherapy program did not see any benefits from the mental health treatment. There is a clear need for additional research on this topic.

While there is evidence that IPT-G works in Uganda outside the context of a graduation activity, the present study will help to understand whether addressing mental health will cost-effectively improve outcomes of a refined version of the Graduation Approach. This is especially important in a refugee context where mental health issues may pose a particular challenge for individuals who have experienced conflict and trauma. The evaluation of this intervention will examine not only the effect on the mental health, but also test for effects on economic outcomes for the primary participants. We hypothesize that better mental health allows participants to engage more effectively with their livelihoods. Beyond mental health outcomes, potential additional downstream effects on consumption can be compared against the additional costs, to evaluate cost-effectiveness.

The Cohort 2 evaluation is designed as two separate two-arm trials. In both trials, households were randomly assigned to experimental arms at the household level. Households participating in both trials were recruited from households who were not invited to join Cohort 1. Trial A seeks to evaluate the overall effect of the Cohort 2 interventions, while Trial B seeks to measure the additional effects of IPT-G programming.

In Trial A, we compare households randomized into offers of participation in Cohort 2 interventions ("Refined Graduation") to households who were randomized out ("control"). The goal of Trial A is to evaluate the overall impact of the Cohort 2 interventions. Cohort 2 interventions evaluated as part of Trial A include IPT-G programming for some households, but the trial is not designed to test for differential impacts of this programming element. Instead, the trial will deliver estimates of the impact of Cohort 2 interventions averaged across households receiving and not receiving IPT-G programming

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[8] Nathan Barker, Gharad Bryan, Dean Karlan, Angela Ofori-Atta, and Christopher Udry. 2021. "Mental Health Therapy as a Core Strategy for Increasing Human Capital: Evidence from Ghana." Working paper. https://www.povertyactionlab.org/sites/default/files/research-paper/working-paper_2754_Cognitive-Behavioral-Therapy_Ghana_April2021.pdf
[9] Thomas Bossuroy, Markus Goldstein, Dean Karlan, Harounan Kazianga, William Parienté, Patrick Premand, Catherine Thomas, Christopher Udry, Julia Vaillant, and Kelsey Wright. 2021. "Pathways out of Extreme Poverty Tackling Psychosocial and Capital Constraints with a Multi-faceted Social Protection Program in Niger." World Bank Policy Research Working Paper 9562.

(see the description of Trial B below, which delivers estimates that can be used to assess the impact of the Cohort 2 graduation activity *without* IPT-G). Households participating in Trial A were selected from households that were part of the control group of Cohort 1 and were previously interviewed in survey data collection as part of the Cohort 1 evaluation.

In "Trial B," we compare households who were randomly assigned to offers of participation in Cohort 2 *with* IPT-G with those who were assigned to offers of participation in Cohort 2 *without* IPT-G. The purpose of Trial B is to measure the additional effect of IPT-G programming. Households participating in Trial B were largely recruited from households that were part of the holdout control group of Cohort 1 and who were not previously surveyed, but the sample also includes households who were part of the Cohort 1 "regular," non-holdout control group.[10]

Trial A and Trial B have similar but not identical sampling frames. Trial A recruits from Cohort 1 non-holdout controls. Trial B recruits from a mix of former Cohort 1 non-holdout controls and holdout controls (across all villages). Non-holdout controls underwent an additional screening step (mainly availability during baseline surveying) during the recruitment for Cohort 1 participants but are otherwise comparable to holdout controls. As a result, the two trials are internally valid and since the sampling frames are similar, the results from one trial can be used to inform the interpretation of the results from the other. But since experimental conditions were not randomly assigned across both trials but within each, regression analysis for the two trials will be done separately. We discuss additional details on sampling for the two-trial design for Cohort 2 further below.

The two-trial design is a response to implementation constraints stemming from the desire to integrate a study of Cohort 2 with a long-term follow-up of Cohort 1 and the large number of Cohort 2 participants that AVSI is aiming to serve. Ideally, the Cohort 2 evaluation would have been designed as a more straightforward, single three-arm design with a control group and two treatment group variations instead of the two two-arm trials summarized above. However, to maintain the integrity of the design of Cohort 1 for long-term follow-up, any implementation of Cohort 2 interventions needed to be balanced across any Cohort 1 treatment and control villages in which Cohort 1 study households will be followed up with in future rounds of surveying. If, for example, control villages were to have a relatively higher share of Cohort 2 participant households, this would mean that a comparison of Cohort 1 participant households in treatment with households in control villages would no longer isolate the effect of the Cohort 1 participation. Treatment effects estimates would be confounded either indirectly due to the additional economic activity injected by Cohort 2 interventions or directly (if, for example, control village households participate in Cohort 2 but Cohort 1 participant households in treatment villages do not).

The need for balance of implementation of Cohort 2 across Cohort 1 treatment and control villages drastically limits the total number of households that could have been recruited for a three-arm Cohort 2 study since in Cohort 1 treatment villages only a relatively small fraction of households eligible to participate in Cohort 1 were not offered participation. In addition, the AVSI organizes its Graduation Approach interventions—coaching, savings groups, FFBS—around groups of about 20–30 participants. This means that there are "small" villages where there were not enough eligible Cohort 1 non-

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[10] Control group households of the RCT around Cohort 1 can be separated into two distinct groups: those recruited for the study including for surveying by IPA and those who were initially identified by AVSI as eligible but were randomized out of baseline and other follow-up surveying. We refer to the latter group as the holdout control.

participants to form at least two groups of 20–30 people necessary for a three-arm trial that would accommodate two treatment variations (Refined Graduation with and without IPT-G) *and* would contain enough additional such households so that Cohort 2 control condition could be formed. The specific design with two two-arm trials that IPA and AVSI are implementing was chosen to accommodate the above constraints while maintaining its ability to achieve the two study goals of measuring the impact of Cohort 2 relative to a control group *and* measuring the additional impact of adding IPT-G to the Graduation Approach.

There are an expected 7,200 Cohort 2 participants and not all will be part of the Cohort 2 evaluation's surveys data collection. Specifically, due to constraints on the total sample size in the Phase 2 study, while *all* households participating in Cohort 2 activities were randomized into either receiving IPT-G programming or not, only a subset of households will be interviewed in follow-up surveys as part of the Cohort 2 evaluation.

The evaluation of Cohort 2 includes the following data collection rounds:

- Baseline survey: November to December 2021
- Process evaluation: May to November 2022
- Outcome monitoring: October 2022
    - Trial A: September–October 2022
    - Trial B: December 2022 to February 2023.
- Endline: Mid-2024

2.2 Sampling

To understand the sampling strategy for Phase 2 of the evaluation, it is important to understand the original study design employed for Cohort 1. At the start of Cohort 1, AVSI had conducted a social mapping exercise as well as a household scorecard exercise yielding a total of 25,104 households considered eligible to benefit from the Graduating to Resilience activity. Among those, 11,145 were interviewed at baseline. Of those, 6,631 were assigned to treatment and 4,514 to control.

The assignment of the 25,104 households identified as eligible by AVSI to experimental conditions in Cohort 1 was done in three stages: in the first stage, half of the 114 villages (42 in the refugee settlement and 72 in the host community) were randomly selected as treatment villages and half as control villages.[11] In the second stage, households were selected to be targeted for interviews to participate in the Cohort 1 study. Households that were ultimately not selected for interviews became "holdout" controls. In the third stage, households who were recruited into the study in treatment villages were randomly assigned to one of the three treatments arms or to a control group. The Cohort 2 evaluation that is part of Phase 2 takes places in all villages that were part of Phase 1.

Cohort 2 participants sampled for the Phase 2 evaluation are drawn from the 25,104 initially eligible households and consists of either a) former Cohort 1 control households some of whom were offered participation in interventions as part of Cohort 2 (while other were not and remain in the control group

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[11] Some "villages" were the result of combining or splitting up administratively assigned villages for the purpose of organizing implementation and the intervention. In this report, we refer to the villages as they are used in the study rather than referring to the local administrative units.

or b) Cohort 1 holdout controls (which both come from treatment and from control villages) but are offered participation in Cohort 2 interventions. In addition, Phase 2 includes the long-term follow-up of Cohort 1 households. Since the sample for the Cohort 2 study in Phase 2 is made up in part of former Cohort 1 control households that had been interviewed in the 2021 Cohort 1 endline, the Cohort 2 baseline survey was only administered to holdout controls. The total sample size of the Cohort 2 study is 5,872 households but only 2,612 were interviewed in the Cohort 2 baseline survey data collection.

Table 1 summarizes the sample size of Cohort 2 separately by Cohort 1 (regular, non-holdout) control and holdout control status. The total sample size of the Cohort 2 evaluation is 5,872 households.

Table 1. Sampling of Cohort 2 households as a function of Cohort 1 study status

	Trial A	Trial B	Total
Selected from among Cohort 1 controls (previously interviewed as part of Cohort 1)	2,662	598	3,260
Selected from among Cohort 1 holdout controls (not previously interviewed; in Cohort 2 baseline sample)	0	2,612	2,612
Total number of households	2,662	3,210	5,872

2.3 Cohort 2 Eligibility Assessment

The Graduating to Resilience activity targets poor and extremely poor households that have an economically active woman or a male youth.[12] To identify households satisfying these criteria and eligible for participation in Cohort 2, AVSI conducted an eligibility assessment to all Cohort 1 households that had not received any intervention (holdout and non-holdout controls).

AVSI administered a scorecard questionnaire to calculate a poverty score, from 0 (poorest) to 8 (richest). In addition, AVSI completed a bucketing exercise with community members to ask them to categorize households into three categories in terms of poverty: "Extremely poor," "Poor," and "Moderate." AVSI considered households as poor or extremely poor if a) their scorecard score was less than 6 or b) their scorecard was equal to 6 but the household had been classified by the community as poor or extremely poor.

Eligible households were those who satisfied the above poverty criteria and had an economically active woman or a male youth to be the designateed primary participants in the household. The primary participant is the individual who receives cash and participates in the various Cohort 2 interventions, VSLAs, coaching sessions, IPT-G, and trainings. Among the individuals that AVSI selected as primary participant, 89% were female.

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[12] In this activity, a youth is someone between 18 and 35 years old.

2.4   Trial A: Impact of the refined Graduating to Resilience Activity

The purpose of this trial is to evaluate the impact of the "refined" Graduating to Resilience Activity by comparing households who were offered Cohort 2 participation ("treatment") to those assigned to a control group ("control") that is not offered service. Because AVSI Foundation required that half of all Cohort 2 participants receive IPT-G, the treatment group in Trial A is a combination of households receiving IPT-G and those who do not. While assignment to treatment vs. control was randomized at the individual level, assignment of treatment as part of Trial A to IPT-G (vs no IPT-G) was randomized at the village level. This was done at the village level because the per-village number of Trial A participants was typically too small, especially in the refugee community, to form at least two implementation groups (IPT-G versus not) into which households could be separately assigned--and by the nature of the intervention, IPT-G gets delivered at the group level and not individually. Because the sample size for Trial A is limited and because IPT-G was assigned at the village level in this trial, the trial is not designed to detect meaningful differences in the effects of Refined Graduation by comparing between IPT-G participants and IPT-G non-participants. As a result, in this trial we focus on the overall effect of Refined Graduation relative to the control, averaging across all participants irrespectively of their IPT-G status.

The total number of households in Trial is 2,662. All were initially assessed for activity eligibility in 2018 and participated in the Cohort 1 study as members of the control group. The households that form the Trial A sample were those households that were additionally found eligible as part of the Cohort 2 eligibility assessment (described in detail in the previous section). Table 2 shows the sample sizes in Trial A and their division between refugee and host community.

Table 2. Number of households in Trial A

	Control	Refined Graduation*
Refugee	591	595
Host	782	694
Total	1,373	1,289

*Notes: *Refined Graduation in Trial A includes both households who are receiving IPT-G and households who are not. See text for details.*

2.5   Trial B: The Impact of Adding Interpersonal Psychotherapy in Groups

The purpose of this trial is to evaluate the impact of adding IPT-G to the 'refined' Graduating to Resilience RFSA. Trial B compares households assigned to Refined Graduation without IPT-G to those assigned to Refined Graduation with IPT-G.

The total sample size for Trial B is 3,210. As shown in Table 1, 598 of the 3,210 households participating in this trial were Cohort 1 non-holdout control group members who have been reassessed to be eligible during the Cohort 2 eligibility assessment and have been offered participation in Cohort 2. Another

2,612 households were selected from the Cohort 1 holdout control group and were enrolled into the study as part of the Cohort 2 baseline survey.

Table 3 shows the breakdown of the Trial B sample by the refugee and host community.

Table 3. Number of households in Trial B

	Control	Refined Graduation*
Refugee	915	915
Host	690	690
Total	1,605	1,605

3. BASELINE HOUSEHOLD SURVEY

3.1 Objectives

In November and December 2021, IPA conducted a baseline survey as part of the Cohort 2 evaluation. The survey was only administered to a subset of households that form the sample for Trial B because some households were previously interviewed as part of the recent endline of Cohort 1. The objective of the Cohort 2 baseline survey is to collect pre-intervention data that can be used to verify that the different arms of the study are comparable, will be used to improve statistical precision in analysis of follow-up data, and will allow for valid sub-group analysis of follow-up data. In addition, the data from this baseline can be used by AVSI to inform activities.

3.2 Pilot Test Survey Training

Before training the enumerators, the survey instruments were bench tested and piloted to fine-tune them, to ensure that the questions flowed well, to ensure logic patterns were well implemented and to estimate the duration of the interviews. Two further pilot tests were conducted during the training that took place between August 17 and September 1, 2021. The training introduced enumerators to the survey instruments and explained the survey questions and procedures using the training manual, anthropometric protocol, and survey replacement guidelines.

During training, the enumerators practiced administering the survey instruments through role-playing by interviewing each other. A pilot test was conducted in one village, not part of the study sample, to allow enumerators to practice administering the baseline and taking anthropometric measures in a real field setting and trouble-shoot any bugs in the programmed survey versions. Subsequently, a debriefing session was held in which enumerators shared their experiences and clarified issues that emerged during the pilot test. A few changes were made to the logical patterns and other sections of the survey based on the enumerators' observations and recommendations.

3.3 Questionnaire

The survey instrument for the baseline of Cohort 2 is a shortened version of the questionnaire used for the Cohort 1 evaluation, developed in consultation with BHA, and in accordance with the BHA baseline/endline indicator handbook. One additional module was added to capture respondent's wellbeing and aspiration with three open-ended questions that were recorded.

The questionnaire was divided into three parts. The first part, administered to the head of household of the target participant, asked about household characteristics, expenses, income, finance, assets, and other information about the household. The second part asked the target respondent, who was an economically active female (in 95% of the households) or a youth, about his/her mental health, well-being and social network. The target respondent is the individual in the household who is going to be the primary participant if randomized into a treatment group. Those individuals in the treatment arm will participate in coaching sessions, IPT-G, and VSLAs. The third part of the questionnaire, administered to the caregiver, was about women's and children's nutrition.

The modules of the questionnaire are as follows:

Part I: Household survey (administered to head of household)

1. Polygamy
2. PPI. Poverty Measurement[13]
3. Housing Characteristics
4. Livestock: ownership, inputs, production, and assets
5. Agriculture over the past two seasons: land, inputs, practices, and production, including perennial crops
6. Employment
7. Business
8. Assets
9. Organizational support
10. Remittances and Transfers
11. Consumption
12. Finance
13. Food Consumption Score
14. Household Food Insecurity Access Scale
15. Social Cohesion and Trust
16. WASH
17. Deceased and Roster before Displacement

Part II: Target respondent or participant

1. Subjective well-being
2. Open-ended questions about respondent's well-being and aspiration
3. General wellbeing
4. Social capital
5. Social networks
6. Grit
7. Self-efficacy scale
8. Mental health
9. Financial health

Part III: Women and children's nutrition (administered to caregiver)

1. Child nutrition and feeding practices
2. Woman's nutritional status and feeding practices

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[13] The Poverty Probability Index (PPI®) is a poverty measurement tool that is used to compute the likelihood that the household is living below the poverty line. The module used in this survey had 5 questions and was specifically tailored for our context. The PPI was also used in the baseline of Cohort 1. See https://www.povertyindex.org/about-ppi

3.4   Field Preparation

As all questionnaire modules but one was administered during Cohort 1 evaluation, need for pre-testing was minimal. This module needed bench testing and field testing to test the quality of the recordings and the flow of the questions.

IPA conducted three rounds of pre-testing prior to the launch of data collection. In the first two rounds of piloting, the enumerators only administered the new open-ended questions module. These pre-tests were conducted by a team of two Field Officers on October 11 and October 13, 2021, in Akempunu village in Kahungye sub-county. This village is in the host community around a 30-minute motorcycle ride to the closest baseline village. A total of 6 surveys were carried out on both days, to identify any potential challenges with the new module, including the quality of recordings. Based on the findings, IPA refined the questionnaire after each initial round of pre-testing. A third pre-test was administered on October 27 and 28, 2021 when four Field Officers went to Kaswa village in Kabuuga sub-county in the host community, located near the two previous villages used for pre-testing. The Field Officers surveyed one person each and tested relevant questions from the Cohort 1 endline plus the additional questions added for the Cohort 2 survey.

IPA recruited the field team for the data collection for Cohort 2 among enumerators who had worked on the Cohort 1 endline. Training of the team took place from October 25 to October 29, 2021. A total of 38 people participated in the training. The training consisted of presentations by IPA field supervisors and support staff, classroom practice, group discussions, and role play, and covered the responsibilities of the enumerators, objectives of the study, completion of field forms, and a question-by-question review of the household questionnaire. Enumerators were then put into teams of two to practice the questionnaire in both English and the languages spoken in the enumeration areas—Swahili and Kinyabwisha in the refugee community and Runyankole in the host community. IPA refined the translation and complexity of the questionnaires based on feedback from this exercise. IPA also selected several enumerator teams to role-play the questionnaire to identify methods to resolve plausible field challenges. During the training, enumerators practiced the new open-ended questions extensively to ensure that they were administering it well and recording properly.

3.5   Field Activities

This section describes the procedures for the soft launch, fieldwork, replacement strategy, and data quality assurance.

3.5.1   Soft Launch

IPA conducted a full-scale soft launch of the baseline survey in the villages of Kakinga and Kanoyonza II in the host community and Base Camp 4 in the settlement on November 20, 2021.[14] That day, all 38 enumerators conducted one survey each. The Field Manager and Senior Research Associate observed the preparedness of the enumerator teams, contact strategies, familiarity with the questionnaires, and

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[14] The launch of the data collection was slightly delayed while details of the study design, including randomization, sampling frame, and sampling were finalized with AVSI.

understanding of the objective of the survey. The enumerator teams received feedback on their performance, discussed challenges, and clarified any final questions, especially on the module of the new open-ended questions.

3.5.2   Data Collection

IPA conducted data collection in both the refugee settlement and host community between November 20 and December 18. The field teams included the following personnel:

- In the refugee settlement, IPA deployed a total of 26 field staff, including 19 enumerators, four mobilizers, two team leaders and one auditor.
- In the host community, IPA deployed a total of 26 field staff, with an identical team structure as the settlement field team.

The Research Associate transmitted the list of households to survey to the field team. Mobilizers visited the villages before the rest of the team and worked with the village chairperson or local council to locate the selected household respondents and make appointments. Mobilizers conducted a mobilization survey with the households to determine the household member who would be the primary participant. The participant had to be an economically active woman or a youth. Then, a few days after or the following day, an enumerator visited the household to conduct the survey.

3.5.3   Replacement Strategy

IPA successfully reached and interviewed 1,317 (99%) of the 1,336 households sampled in the settlement, and 1,253 (98%) of the 1,277 households sampled in the host community.

3.5.4   Data Quality

IPA ensured data quality through two processes: survey audits and high-frequency checks of recorded data. Audit surveys repeated approximately 40 questions from the original surveys.

Every day, auditors administered a shortened version of the survey to a subsample of respondents surveyed the previous day. They asked them questions and probed whenever the answer they received differed from the one originally recorded by the enumerator, to assess whether there were any issues in survey administration, comprehension, or completion. The audit survey revisited the household module. The respondent re-interviewed was the same as the one interviewed the first time for this section (head of household or primary participant). IPA conducted audit surveys with 10% of the household respondents. Whenever discrepancies arose, enumerators and auditors met to understand the origin of the discrepancy and verify the correct response, sometimes verifying answers with the household respondent. IPA research staff then corrected the verified answer in the database. The goal of the audit survey was also to verify that enumerator did the survey with the right respondent and that the enumerator did not commit fraud. No case of fraud was detected.

IPA also performed high-frequency checks daily on incoming data using Stata. This could be done every day since the team uploaded data to the server every day after coming back from the field. IPA research staff wrote code to look for data outliers, logical inconsistencies, key variables, missing data, and differences among enumerators on key variables. If IPA research staff identified any issues during this

process, they consulted with enumerators to clarify or correct the answers. IPA discovered no intentional data manipulation by enumerators.

3.6 Limitations and Challenges

3.6.1 Limitations Related to Self-Reported Data

Self-reported data have limitations, such as the possibility of exaggeration or omission of information, inaccurate recollection of experiences or events, reporting of untruthful information, and reduced validity when respondents do not fully understand a question. This is especially true in areas such as a refugee settlement where a high density of assistance programming may encourage respondents to believe they may receive a benefit for providing one answer over another. As outlined above in data quality, IPA deployed audit surveys to check the validity of answers.

3.6.2 Challenges Related to Field Conditions and COVID-19

The field team encountered infrastructural challenges due to the poor state of roads in the survey area, heavy rains, large distance between households in some host community villages, and restrictions introduced in light of COVID-19. The survey period fell during the rainy season which further exacerbated the low quality of roads and slowed the data collection process by complicating access to some areas. In addition, the population density in the host communities is low and households were separated by large areas of farmland or accessible only through small, steep paths where not even motorcycle taxis were able to pass. For this reason, enumerators had to walk up to 30 minutes to reach some respondents. Restrictions introduced to curb the COVID-19 pandemic resulted in further challenges for the field team. A curfew at 7:00 PM combined with long ways between Kamwenge where the field team was based and the survey sites led to the team having to leave the field early to make it back in time before the curfew. The distances and the curfew did not add extra days of data collection since the IPA accounted for them when planning for the data collection.

4.   RESULTS

4.1   Characteristics of the Study Sample

The tables present summary statistics from data of the households interviewed as part of the Cohort 2 baseline survey. Given the differences between communities, the tables below provide summary statistics disaggregated by community. The key variables show USAID indicators and indicators on household demographics, assets, livestock, farming, employment, business and finance, to provide an outlook of the situation of the population before AVSI began implementing the package of interventions for Cohort 2.

In total, 2,570 households were interviewed at Cohort 2 baseline, 1,317 households were from the host community and 1,253 were from the settlement. In the tables below, the number of observations corresponds to the numbers of households, unless specified otherwise.

4.2   Household Demographics

Table 4 shows demographic characteristics of both samples at the individual level (not the household level). These numbers are based on 8,098 individuals in the host sample and 8,462 individuals in the refugee sample.

Table 4. Individual demographic characteristics

	Host	Refugee
Number of individuals in sampled households	8,098	8,462
Share of adults aged 18 or over	3,310 (41%)	2,920 (35%)
Share of children under 5 years of age	1,208 (15%)	1,762 (21%)
Share of women of reproductive age (15–49)	1,699 (21%)	1,658 (20%)
Youth (18–35)	1,847 (23%)	1,738 (21%)

Notes: The number of observations corresponds to the number of individual of each category.

Table 5. Household demographics

	Host (N=1,253)		Refugee (N=1,317)	
	Mean	Standard Deviation (SD)	Mean	SD
Average age of household head	45.90	14.61	39.54	12.32
Average number of children per household				
Under 18	3.81	2.02	4.20	2.17
Under 5	0.96	0.90	1.33	1.02
Under 3	0.52	0.63	0.78	0.71
Household head is under 30 years old	14%	35%	21%	41%
Female household head	44%	50%	50%	50%

	Host (N=1,253)		Refugee (N=1,317)	
	Mean	Standard Deviation (SD)	Mean	SD
Widow(er) household head	21%	40%	12%	33%
HH has adult female (18+) and no adult male	15%	36%	18%	38%
HH has adult male (18+) and no adult female	15%	36%	18%	38%
HH has adult male (18+) and adult female	98%	13%	98%	13%
Household head education				
No formal education	28%	45%	38%	48%
Completed at least 1 year of primary	71%	45%	62%	49%
Completed At least 1 year of secondary	9%	28%	14%	34%

4.3   Poverty Indicators

4.3.1   Consumption Per Capita

To calculate whether a household falls under the poverty threshold, IPA first calculated households' daily consumption. In Cohort 2 baseline, IPA used a short module questionnaire based on a comprehensive consumption module from Cohort 1 endline.[15] To compute the total consumption value, IPA predicted the consumption per capita using the consumption value of a subset of types of food as well as the size of the household. The subset of types of food comprised the types of food with the highest consumption value at endline: millet, ground nuts, onions, cassava, Irish potatoes, matooke, sweet banana, beef, chicken, milk, maize, rice, and beans. These were the types of food that represented the biggest shares of the households' food expenditures at endline. During baseline analysis, Irish potatoes and matoke were excluded from the variables used in the prediction; there was a harvest of Irish potatoes during most of the baseline, making its consumption value less comparable to the endline that was conducted over many months, and the price of matooke during the baseline was much higher than what was observed during the endline (even though quantities remained similar). To consider household economy of scale and the fact that children (under 18 years old) consume less than adults, we used the concept of adult equivalence and specifically the Organization for Economic Co-operation and Development (OECD) scale. The number of adult equivalents in the household corresponds to the following formula:

$$Nb.\,adult\,equivalents = 1\,+\,0.7*(number\,of\,adults\,-\,1)\,+\,0.5*(number\,of\,children)$$

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[15] In the Cohort 1 endline, IPA had calculated it from a consumption module that listed all the types of expenses of the household in the past 7 days, 30 days, 12 months. Some expenses were asked about the past 7 days (food consumption for instance), some others were asked about the past 30 days or past 12 months. IPA converted these expenses to a daily household total expenditure and divided it by the number of household members (in terms of adult equivalents, see explanation below).

4.3.2   Prevalence of Poverty

IPA compared household average daily per capita consumption to the international poverty line of 2011 Purchasing Power Parity (PPP) $1.90 to determine if consumption falls below or above the poverty line. To do this comparison, IPA converted the international poverty line to Ugandan shillings using the 2011 USD PPP exchange rate and adjusting for inflation. All the amounts in U.S. dollars (USD) mentioned in this section are in 2011 PPP USD.

Approximately 31% of households in the refugee community fall below the poverty line, as compared to 38% of households in the host community. These results are summarized below in Table 6.

4.3.3   Depth of Poverty

Depth of poverty measures, on average, how far below the PPP $1.90 consumption poverty threshold are the poor in the study sample. IPA calculated the mean depth of poverty by converting the PPP $1.90 per person per day poverty threshold into local currency units and then inflating it using Uganda's Consumer Price Index. In the refugee community, the mean depth of poverty is 51%, meaning it would cost about USD $0.97 (51% * $1.90) per household member per day to lift the average household in the refugee sample out of poverty. In the host community, the mean depth of poverty is 48%, meaning it would cost about $0.91 per household member per day to lift the average household out of poverty. These results are summarized in Table 6.

Table 6. Poverty levels

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
BL01. Prevalence of Poverty: Percentage of people living on less than $1.90/day 2011 PPP	1,252	38%	48%	1,317	31%	46%
BL02. Depth of Poverty of the Poor: Mean percentage shortfall of the poor relative to the $1.90/day 2011 PPP poverty line	470	48%	52%	402	51%	50%

Notes: For the indicator BL02, the number of observation corresponds to the number of households below the $1.90/day 2011 PPP poverty line.

4.4   Water, Sanitation, and Hygiene

4.4.1   Use of Basic Drinking Water Services

The BHA indicator handbook describes basic drinking water services as *"improved sources or delivery points that meet three technical criteria: (1) are protected from outside contamination by nature of their construction or through active intervention, in particular from outside contamination with fecal matter, (2) where collection time is no more than 30 minutes for a round-trip including queuing, and (3) that consistently produce (i.e., year-round) basic drinking water."* The rate of households accessing such infrastructure in the survey area is low, only 12% in the host and 13% in the refugee community.

4.4.2 Percentage of Households in Target Areas Practicing Correct Use of Recommended Household Water Treatment Technologies

Households are considered practicing correct use of recommended household water treatment technologies if they use one of the evidence-based household water treatments. These treatments are:

- Chlorination (chemical disinfection)
- Flocculants/disinfectant (physio-chemical disinfection)
- Filtration (physical removal)
- Solar disinfection (UV/heat disinfection)
- Boiling (disinfection by heat)

Most households reported the use of at least one of these techniques. The most common is boiling. In the host community, 75% of the households boil their water, and 49% of the households in the settlement do it. There are a number of potential reasons that could explain this difference. Drawing on information about the context and the baseline data, we note that, first, households in the refugee community generally have worse access to firewood to boil water. In the host community, firewood available for collection from the surrounding forested areas. In contrast, inside the settlement, households are not allowed to cut trees and so they would need to buy firewood or walk to the host community to collect it. Second, households in the settlement seem to have access to cleaner water: 80% of the households in the settlement used boreholes compared to only 30% in the host community, where 39% used unprotected wells. Those using boreholes may not feel the need to boil water (even if it is still recommended).

We tested the statistical significance of the differences in terms of WASH behavior between the two communities. All these differences are statistically significant at the 10% level, some are statistically significant at the 5% level.

Table 7. Household WASH characteristics

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
BL16. Percentage of households using basic drinking water services	1,253	12%	32%	1,317	15%	36%
BL17. Percentage of households with soap and water at a handwashing station on premises	1,253	8%	27%	1,317	3%	18%
BL18. Percentage of households in target areas practicing correct use of recommended household water treatment technologies	1,253	75%	43%	1,317	58%	49%
BL19. Percentage of population in target areas practicing open defecation	1,253	2%	14%	1,317	11%	31%

Table 8. Household water use and source

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Reported the use of the following water treatment technique						
Boiling	1,253	74%	44%	1,317	49%	50%
Filtration	1,253	3%	18%	1,317	5%	21%
Chlorination	1,253	0%	7%	1,317	6%	23%
Flocculant/disinfectant	1,253	0%	5%	1,317	3%	18%
Solar disinfection	1,253	0%	0%	1,317	0%	05%
Source of water						
Tube well/borehole	1,253	29%	46%	1,317	80%	40%
Unprotected well	1,253	39%	49%	1,317	2%	13%
Public tap/standpipe	1,253	12%	33%	1,317	5%	22%
Surface water (river, pond, etc.)	1,253	5%	23%	1,317	5%	22%
Protected well	1,253	5%	23%	1,317	3%	18%
Protected spring	1,253	2%	16%	1,317	3%	17%
Piped to yard/plot	1,253	3%	18%	1,317	0%	3%
Unprotected spring	1,253	2%	14%	1,317	1%	9%
Piped into dwelling	1,253	1%	11%	1,317	1%	8%

4.5   Housing and Assets

Table 9. Roof materials

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Iron sheet	1,253	91%	28%	1,317	21%	41%
Tarpaulin	1,253	0%	6%	1,317	78%	42%
Straw, thatch, sod	1,253	8%	27%	1,317	0%	5%

Notes: In the settlement, 15 individuals have other types of materials on their roofs.

In the host community, houses typically have iron sheets on the roof while in the refugee settlement United Nations High Commissioner for Refugees (UNHCR) tarpaulins are the dominant type of roofing. In the refugee settlement, iron sheet roofs used to be prohibited to keep housing temporary. They were allowed 2 years ago and those who could afford started installing them.

Table 10. Key assets owned

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Chairs, bench, or stool	1,253	96%	19%	1,317	92%	26%
Beds, cot—wooden or metal	1,253	90%	30%	1,317	09%	28%
Dining table	1,253	47%	50%	1,317	30%	46%
Radio/transistor/stereo	1,253	40%	49%	1,317	27%	44%
Television	1,253	5%	21%	1,317	6%	24%
Mobile phone	1,253	80%	40%	1,317	70%	46%
Solar power/electric inverters	1,253	63%	48%	1,317	63%	48%
Motorcycle	1,253	4%	20%	1,317	3%	17%

During the Cohort 2 baseline survey, IPA asked about a subset of the most valuable assets that were identified during the Cohort 1 endline. Asset ownership rates are higher in the host community than in the refugee community (or equal in the case of solar panels).

4.6   Land and Agriculture

In the baseline survey, IPA collected data about the two previous agricultural seasons, the March to May 2021 season and the September to December 2021 season.

IPA collected data on land use, input use, practices used, and crops cultivated and sold. IPA also collected data on perennial crops like matoke. Given that the season was still ongoing while IPA was administering the survey, the questionnaire also had questions about expectations on input use, harvest, and income (e.g., whether they expected to sell their harvest and if so, the quantity they expected to sell).

In the host community, most households (86%) own land. Host community households own 0.87 acres on average (one acre equals 4,047 m^2).

Table 11. Agricultural land ownership in the host community during the September to December 2021 season

	N	Mean	SD
The household owns any plot	1,253	86%	0.35
Surface of plot owned by the household (acre)	1,253	0.87	1.17

In the settlement, the Office of Prime Minister (OPM) in charge of the settlement allocates plot to the refugees when they arrive in the camp. The refugees have temporary rights to use the plot. They cannot sell the land. In the settlement, 93% of the households have such plots. On average, they can use a surface of 0.69 acres.

Table 12. Agricultural land rights of usage in the host community during the September to December 2021 season

	N	Mean	SD
The household has temporary usage rights on any plot	1,317	93%	26%
Surface of plot that household can use for free (acre)	1,317	0.69	0.59

Farming provides food to the household and can also be a source of income when the harvest is sold. Tables 13 through 17 below show the input use during the September to December 2021 seasons and the main cash and food crops during the March to May and the September to December 2021 seasons.

Table 13. Agriculture land and inputs during the September to December 2021 season

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Used organic fertilizer	1,253	36%	48%	1,317	61%	49%
Used inorganic fertilizer	1,253	13%	34%	1,317	13%	33%
Used pesticides	1,253	15%	35%	1,317	33%	47%
Used herbicides	1,253	29%	45%	1,317	44%	50%
Hired agricultural labor	1,253	37%	48%	1,317	51%	50%
Used irrigation	1,253	2%	13%	1,317	4%	20%
Used mechanical plow	1,253	6%	23%	1,317	0%	7%
Used knapsack chemical sprayer	1,253	34%	47%	1,317	56%	50%
Used motorized grain mill	1,253	52%	50%	1,317	35%	48%

Table 14. Main food crops during the September to December 2021 season[16]

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Household is cultivating any crop	1,253	98%	0.13	1,317	99%	0.11
Crops considered as top three food crops						
Maize	1,253	50%	50%	1,317	70%	46%
Kanyobwa beans	1,253	23%	42%	1,317	46%	50%
Irish potatoes	1,253	21%	41%	1,317	22%	41%
Mixed beans	1,253	30%	46%	1,317	7%	26%
Other beans	1,253	14%	35%	1,317	18%	38%
Cassava	1,253	14%	35%	1,317	7%	26%
Millet	1,253	15%	35%	1,317	1%	7%
Nambale beans	1,253	7%	26%	1,317	4%	19%

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[16] Top three food crops are sorted by overall sense across sample. We used the same type of ordering in other tables.

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Kabulangiti beans	1,253	2%	15%	1,317	9%	28%
Sweet potato	1,253	9%	28%	1,317	0%	7%

Table 15. Main cash crops during the September to December 2021 season

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Any cash crop	1,253	61%	0.49	1,317	53%	0.50
Crops considered as top two cash crops …						
Maize	1,253	43%	49%	1,317	36%	48%
Irish potatoes	1,253	9%	29%	1,317	11%	31%
Kanyobwa beans	1,253	10%	30%	1,317	7%	25%
Mixed beans	1,253	11%	32%	1,317	2%	13%
Other beans	1,253	5%	22%	1,317	3%	16%
Nambale beans	1,253	4%	20%	1,317	1%	10%
Millet	1,253	5%	22%	1,317	0%	6%
Ground nuts	1,253	4%	19%	1,317	1%	9%

Table 16. Main food crops during the March to May 2021 season

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Household was cultivating any crop	1253	95%	22%	1317	97%	18%
Crops considered as top three food crops …						
Maize	1253	52%	50%	1317	83%	38%
Kanyobwa beans	1253	24%	43%	1317	51%	50%
Mixed beans	1253	32%	47%	1317	5%	23%
Other beans	1253	14%	35%	1317	15%	35%
Cassava	1253	17%	38%	1317	7%	25%
Irish potatoes	1253	17%	37%	1317	6%	25%
Kabulangiti beans	1253	2%	14%	1317	1%	30%
Nambale beans	1253	7%	25%	1317	5%	21%
Sweet potato	1253	8%	27%	1317	1%	9%
Ground nuts	1253	6%	23%	1317	1%	12%

Table 17. Main cash crops during the March to May 2021 season

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Any cash crop	1,253	44%	50%	1,317	42%	49%
Crops considered as top two cash crops …						
Maize	1,253	22%	41%	1,317	32%	47%
Kanyobwa beans	1,253	8%	27%	1,317	8%	27%
Irish potatoes	1,253	6%	24%	1,317	4%	20%
Mixed beans	1,253	8%	28%	1,317	1%	10%
Other beans	1,253	5%	22%	1,317	3%	16%
Nambale beans	1,253	2%	14%	1,317	1%	11%
Cassava	1,253	1%	12%	1,317	1%	11%
Kabulangiti beans	1,253	0%	7%	1,317	2%	14%
Yellow beans	1,253	1%	9%	1,317	0%	6%

4.7   Livestock Holdings

In terms of livestock holdings, most households have owned at least one type of livestock in the past 6 months. The most common type of livestock owned is chicken, owned by 68% by households in the host community and 76% of the households in the settlement. Livestock can be a source of income through livestock trading or livestock product trading like eggs and milk. It can also be a source of food, from either slaughtering or livestock products consumption.

Table 18. Livestock ownership

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Livestock owned in the past 6 months						
Chicken	1,253	68%	47%	1,317	76%	43%
Pig	1,253	53%	50%	1,317	40%	49%
Goat	1,253	39%	49%	1,317	26%	44%
Duck	1,253	11%	31%	1,317	22%	41%
Cow	1,253	13%	34%	1,317	5%	22%
Sheep	1,253	10%	31%	1,317	6%	24%
Rabbit	1,253	3%	18%	1,317	1%	11%
Other	1,253	1%	4%	1,317	5%	19%
No livestock	1,253	13%	34%	1,317	12%	32%
Livestock products: produced						

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Eggs	1,253	33%	47%	1,317	36%	48%
Milk	1,253	5%	22%	1,317	3%	16%

On average, households own 3.83 chickens in the host community and 3.87 chickens in the refugee community, as shown in Table 19.

Table 19. Number of chickens owned

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Number of chickens owned	1,253	3.83	5.11	1,317	3.87	5.23
Number of chickens owned among households owning at least one chicken	851	5.63	5.32	1,003	5.08	5.45

4.8   Employment

Most households engaged in some form of employment, mostly through agricultural daily labor. They offer their services to other households to dig, weed, or harvest. Some households also do other daily labor, for instance in construction or brick laying. The rate of employment is similar among communities.

Table 20. Employment

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Any employment	1,253	71%	45%	1,317	74%	44%
Employed in						
Agricultural daily labor	1,253	64%	48%	1,317	62%	49%
Tending animals for other households	1,253	3%	17%	1,317	2%	15%
Other daily labor	1,253	9%	28%	1,317	13%	34%
Household work for another household	1,253	2%	13%	1,317	2%	15%
Salaried/formal employment	1,253	4%	19%	1,317	3%	18%

In terms of agricultural daily labor, 41% of the adult women were employed in this activity versus 37% of the adult men. Among youths (18 to 35 years old), 41% were employed in agricultural daily labor versus only 2% among people above 35 years old.

In terms of other daily labor like construction or brick laying, less than 1% of the adult women had been employed in this activity versus 9% in of the adult men. Among youths, 6% were employed in this activity versus less than 1% for people above 35.

4.9   Off-Farm Business

This section covers off-farm businesses. These businesses were typically petty trade (selling small quantities of food or goods at the market for instance), produce trading (trading maize, or other types of food in large quantities), retail shops, or boda boda (moto taxi). Other off-farm businesses included selling alcohol, cooked food, groceries, and second-hand clothes. Engagement in off-farm business was higher in the settlement (43%) than in the host community (30%).

Table 21. Main business types

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Any business	1,253	30%	46%	1,317	43%	50%
Number of businesses	1,253	0.33	0.55	1,317	0.52	0.68
Has any business of						
Petty trade	1,253	9%	29%	1,317	27%	44%
Produce trading	1,253	2%	14%	1,317	5%	22%
Retail shop	1,253	4%	20%	1,317	2%	13%
Boda boda driver	1,253	2%	15%	1,317	3%	16%

Notes: Other off-farm businesses include selling alcohol, selling cooked food, groceries, second-hand clothes etc. 70% of the households in the host and 57% of the households in the settlement don't have any off-farm business.

Table 22. Main Business types among youths (18–35 years old)

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Any business	1,847	12%	32%	1,738	20%	40%
Number of businesses	1,847	0.12	0.33	1,738	0.21	0.43
Has any business of						
Petty trade	1,847	3%	17%	1,738	12%	32%
Retail shop	1,847	2%	13%	1,738	1%	10%
Produce trading	1,847	0%	7%	1,738	2%	14%
Tailoring	1,847	1%	7%	1,738	1%	9%
Boda boda driver	1,847	1%	11%	1,738	1%	12%

4.10   Savings and Loans

Most households reported having some savings while at the same time many also reported having outstanding loans. Part of it can be explained by the participation in a VSLA or other savings groups that

can allow participants to save and take loans. However, many respondents also reported taking out loans from friends and neighbors, as well as shopkeepers.[17]

Table 23. Outstanding loans

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Has any outstanding loan	1,253	77%	42%	1,317	68%	47%
Number of outstanding loans	1,253	1.52	1.3	1,317	0.99	0.96
Main source of loans						
VSLA	1,253	20%	40%	1,317	9%	29%
Friend	1,253	11%	31%	1,317	14%	35%
Savings and credit cooperative organization (SACCO)	1,253	13%	33%	1,317	7%	25%
Shopkeeper	1,253	5%	23%	1,317	14%	34%
Neighbor	1,253	2%	12%	1,317	15%	35%
Other savings groups	1,253	13%	34%	1,317	0%	3%
Other sources	1,253	5%	23%	1,317	3%	17%
Moneylender	1,253	1%	8%	1,317	4%	21%
Rotating savings and credit association (ROSCA)	1,253	4%	21%	1,317	1%	10%

In terms of savings, a large majority of respondents reported having saved some money in the past 3 months. Most of them did so in savings groups, 64% in the host and 82% in the settlement. Other popular saving methods include carrying the money or storing it at home despite the risks. Households in our sample do not use commercial banks. The closest commercial bank is in Kamwenge town, which is far away for most respondents (one hour away by public transport from the biggest trading center of the study area).

Table 24. Savings over the last 3 months

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Saved in any place	1,253	92%	27%	1,317	94%	23%
Saved in ...						
VSLA, SACCO, or another savings group	1,253	64%	48%	1,317	82%	39%
Pocket, clothes, or bag that is carried	1,253	55%	50%	1,317	34%	48%

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[17] For further information about loan use, we can draw on data from previous data collection rounds, specifically data from control village households collected as part of the Cohort 1 endline survey. In that data, the average amount of outstanding loans was PPP $177 in the host communities and PPP $77 in the settlement. The median amount of outstanding loans was PPP $67 in the host communities and PPP $38 in the settlement. In the Cohort 1 endline, in the control villages, 46% of the households were part of a VSLA. Among those households, 21% had no outstanding loans, 14% had outstanding loans solely with the VSLA and only 3% had outstanding loans from both VSLA and neighbors, or friends of family.

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
A secret place at home	1,253	21%	41%	1,317	39%	49%
Mobile money	1,253	15%	36%	1,317	24%	43%
Box in the household	1,253	4%	18%	1,317	8%	27%
With family member outside the household	1,253	2%	15%	1,317	0%	7%
With a friend	1,253	1%	12%	1,317	1%	10%
Commercial bank	1,253	1%	10%	1,317	1%	7%
Other	1,253	1%	11%	1,317	1%	10%
With a neighbor	1,253	1%	9%	1,317	0%	6%
With a shopkeeper	1,253	0%	5%	1,317	0%	4%

4.11 Nutrition and Food Security

Food security is essential to well-being, and elimination of hunger is the second goal of the United Nations Sustainable Development Goals. Food diversity is important to ensure sufficient intake of micronutrients that are key for individuals' development to their full potential, in particular in the first years of life.

In terms of food insecurity at the household level, IPA computed two indicators, the Food Consumption Score (FCS) and the Household Food Insecurity Access Scale (HFIAS). IPA also computed the Household Hunger Scale (HHS), using a subset of the HFIAS questions.

The FCS is a measure of food diversity and frequency of the consumption of the different food groups.[18] The FCS is calculated with the weighted average of the number of days the households consumed different categories of items: staples, pulses, vegetables, fruits, meat/fish/eggs, milk, sugar, oil, and condiments.

The HFIAS is a measure of the food insecurity experienced by the household.[19] It is calculated from a series of questions about the food insecurity and hunger experienced by the household over the past 4 weeks and the frequency of those episodes.

The HHS is a measure of hunger and food deprivation experienced by the household.[20] It uses a subset of the HFIAS questions that are focused on food deprivation.

There may seem to be a mismatch between FCS and HFIAS when comparing the discrete categories that are based on the respective scores, but further analysis shows that these two indicators are consistent with each other and strongly correlated. In terms of FCS, most households are categorized as "acceptable" (respectively 95% and 86% in the host and refugee community) while in terms of HFIAS, many of them are categorized as "moderately food insecure" (respectively 48% and 54% in the host and

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[18] https://inddex.nutrition.tufts.edu/data4diets/indicator/food-consumption-score-fcs. Accessed on March 16, 2022.

[19] https://www.fantaproject.org/sites/default/files/resources/HFIAS_ENG_v3_Aug07.pdf

[20] https://www.fantaproject.org/sites/default/files/resources/HHS-Indicator-Guide-Aug2011.pdf

refugee community). The apparent difference in assessments by indicator is mainly related to the pre-defined score cut-offs for each category. The HFIAS index is constructed such as lower means better. To be consistent with the FCS index, we used the negative of the HFIAS so that higher means better. The negative of the HFIAS and the FCS are strongly positively correlated, see Appendix Table 31. In other words, households that are doing relatively better according to the HFIAS also are also doing relatively better according to the FCS. In addition, correlations of the individual components of each score have the expected sign: more frequent consumption in the different food categories as elicited in the FCS is negatively correlated with reported experiences of food insecurity, see Appendix Table B1.

To further the analysis on food insecurity and the apparent mismatch between FCS and HFIAS category labels (but not between the scores, which are strongly correlated as described above), Table 25 also shows the categories based on the Household Hunger Scale (HHS). On this scale, most households are categorized as having, "little to no hunger in the household." That is the case for 85% of the households in the host community and 91% of the households in the settlement, broadly in line with the FCS-based categorizations.

Table 25. Food insecurity at the household level

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
BL10. Percentage of households with poor, borderline, and acceptable food consumption score (FCS)						
Acceptable (> 35)	1,253	95%	22%	1,317	86%	34%
Borderline (21.5–35)	1,253	5%	22%	1,317	13%	34%
Poor (0–21)	1,253	0%	3%	1,317	0%	6%
HFIAS						
Food Secure	1,253	6%	24%	1,317	11%	31%
Mildly Food Insecure	1,253	7%	26%	1,317	7%	25%
Moderately Food Insecure	1,253	48%	50%	1,317	54%	50%
Severely Food Insecure	1,253	39%	49%	1,317	29%	45%
HHS						
Little to no hunger in the household (0–1)	1,253	85%	36%	1,317	91%	28%
Moderate hunger in the household (2–3)	1,253	13%	34%	1,317	8%	27%
Severe hunger in the household (4–6)	1,253	2%	15%	1,317	0%	0.07

In terms of HFIAS, host community households are more "severely food insecure" (39%) than refugee community households (29%). That could be explained by the fact that refugee households have been receiving food or cash from the World Food Program (WFP) since 2018. That support was equivalent to PPP $15 per household member in November and December 2021. But note that according to the FCS, hosts have a higher rate of, "acceptable" scores.

IPA also collected data on nutrition about women of reproductive age (15–49 years), children 6–23 months, and children 0–5 months. Related summary statistics are shown in the following subsections.

4.11.1 Prevalence of Women of Reproductive Age Consuming a Diet of Minimum Diversity

This measures the food diversity of women of reproductive age to ensure they receive a sufficient intake of micronutrients. Women ages 15–49 years were asked whether they consumed at least five of 10 specific food groups during the previous day and night to evaluate the diversity of their consumption. As shown in Table 26, the share of women of reproductive age who had a diet of minimum diversity was 30% in the host community and 29% in the settlement.

4.11.2 Prevalence of Children 6–23 Months Consuming a Diet of Minimum Diversity

This indicator measures the percentage of children 6–23 months who receive a minimum feeding frequency and minimum dietary diversity. IPA asked caregivers the liquid and solid types of food consumed by these children in the day and night preceding the survey. As shown in Table 26, the share of children having a minimum acceptable diet was 14% in the host community and 15% in the settlement.

4.11.3 Prevalence of Exclusive Breastfeeding of Children Under 6 Months

According to the BHA indicators handbook, *"Exclusive breastfeeding means that the infant received breast milk (including milk expressed or from a wet nurse) and might have received oral rehydration solution (ORS), vitamins, minerals, and/or medicines, but did not receive any other food or liquid, including water."* Exclusive breastfeeding reduces the risk of mortality from infectious diseases that could come from food or water and is recommended for children until 6 months.

Exclusive breastfeeding is higher in the refugee community (83% of children) than in the host community (69% of the children). The difference between the two communities seems to relate to caregivers in the host communities being somewhat more likely to give food or liquids to their children under 6 months than their counterparts in the settlement, see information in Table 27.

Table 26. Nutrition status for women of reproductive age and young children

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
BL11. Prevalence of women of reproductive age consuming a diet of minimum diversity	947	30%	45%	1,174	29%	45%
BL39. Prevalence of children 6–23 months consuming a diet of minimum diversity	357	14%	34%	579	15%	35%
BL13. Prevalence of exclusive breastfeeding of children under 6 months	61	69%	47%	146	88%	33%

Notes: For the indicator BL11, the number of observations corresponds to the number of households with at least one woman in reproductive age. For the indicator BL39, it corresponds to the number of households with at least one child 6–23 months. For the indicator BL13, it corresponds to the number of households with at least one child under 6 months.

Table 27. Subcomponents of the exclusive breastfeeding indicator for children under 6 months

	Host			Refugee		
	N	Mean	SD	N	Mean	SD
Age in months	61	2.93	1.70	146	2.65	1.63
Breastfed yesterday	61	100%	0%	146	99%	8%
Yesterday, the child had						
Plain water	61	11%	32%	146	9%	29%
Formula	61	0%	0%	146	1%	8%
Animal milk	61	7%	25%	146	1%	12%
Juice	61	2%	13%	146	1%	8%
Clear broth	61	0%	0%	146	1%	8%
Yogurt	61	0%	0%	146	0%	0%
Thin porridge	61	13%	34%	146	8%	26%
Other liquids	61	0%	0%	146	2%	14%
Solid or semi-solid, food	61	15%	36%	146	6%	24%

Notes: The number of observations in this table corresponds to the number of households with at least one child under 6 months, excluding about 10% of the children under 6 months for which the caregiver was absent and respondents available did not have the knowledge to serve as a proxy.

5. COMPARISON OF EXPERIMENTAL GROUPS

This section compares households participating in the different experimental conditions of Trials A and B to confirm that the households across conditions, within each trial, are comparable to each other on average. Note that this analysis combined data from the Cohort 2 baseline (for newly enrolled study households from Cohort 1 holdout controls) as well as from the Cohort 1 endline (from Cohort 1 controls that were selected to participate in Cohort 2). This is in contrast to the rest of this report which discusses the newly collected Cohort 2 baseline data. The data is combined for the baseline balance analysis since data from the two types of households will be similarly combined for the analysis of endline data, thus, the comparisons presented here are the ones that are relevant to assess balance for follow-up analyses. The results confirm that the groups are comparable as the variables are balanced among groups on average. Few, if any, variables have statistically significantly different means between treatment and control village households, implying that the random assignment was successful, and these households are comparable on average."

Table 28. Trial A: Comparison of refined graduation and control

	(1)			(2)			(1)–(2)
	Treatment: Refined Graduation*			Control			T vs. C
	N	Mean	SD	N	Mean	SD	P-Value
Age of household head	1,272	43.21	13.93	1,357	43.01	13.85	0.75
Number of children under 5 years old in the household	1,272	1.17	1.00	1,357	1.11	0.94	0.15
Living on less than $1.90 PPP/day	1,272	39%	49%	1,357	38%	49%	0.86
FCS score	1,272	50.28	14.46	1,357	49.42	14.55	0.14
HFIAS score	1,272	8.98	6.21	1,357	9.11	6.37	0.57
Owns radio	1,272	34%	47%	1,356	35%	48%	0.65
Owns mobile phone	1,272	77%	42%	1,356	74%	44%	0.07
Bought inorganic fertilizer in the first season of 2021	1,272	8%	27%	1,357	7%	26%	0.52
Sold any crop in the first season of 2021	1,272	55%	50%	1,357	52%	50%	0.16
Owns chicken	1,272	75%	43%	1,357	72%	45%	0.15
Employed in agricultural daily labor	1,272	60%	49%	1,357	60%	49%	0.92
Household engages in any business	1,272	31%	46%	1,357	30%	46%	0.53
Joint Test P-Value: 0.31							

*Notes: *Refined Graduation in Trial A includes both households who are receiving IPT-G and households who are not. Trial A is not designed to separately analyze the effects of the activity with and without IPT-G and the balance table is aligned with the analysis that will be carried out using follow-up data.*

For Trial B, Table 29 compares the two treatment groups separately. Recall that there is no control group in this trial.

Table 29. Trial B: Comparison of refined graduation with and without IPT-G

	(1)			(2)			(1)–(2)
	Refined Graduation + IPT-G			Refined Graduation			IPT-G vs. Not
	N	Mean	SD	N	Mean	SD	P-Value
Age of household head	1,544	42.03	13.6	1,613	42.39	13.61	0.37
Number of children under five in the household	1,544	1.21	1.01	1,613	1.17	0.97	0.27
Living on less than $1.90 PPP/day	1,544	34%	48%	1,612	35%	48%	0.64
FCS score	1,544	49.33	13.51	1,613	48.75	13.78	0.32
HFIAS score	1,544	9.19	5.57	1,613	9.61	5.84	0.07
Owns radio	1,544	32%	47%	1,613	31%	46%	0.72
Owns mobile phone	1,544	74%	44%	1,613	75%	44%	0.65
Bought inorganic fertilizer in the first season of 2021	1,544	9%	28%	1,613	8%	27%	0.69
Sold any crop in the first season of 2021	1,544	43%	50%	1,613	43%	49%	0.66
Owns chicken	1,544	73%	45%	1,613	72%	45%	0.75
Employed in agricultural daily labor	1,544	62%	49%	1,613	64%	48%	0.22
Household engages in any business	1,544	37%	48%	1,613	36%	48%	0.58
Joint Test P-Value: 0.74							

6.   NEXT STEPS

IPA will conduct a process evaluation on the quality of the implementation of Graduating to Resilience RFSA interventions and will conduct follow-up surveys to evaluate the impact of the interventions.

6.1   Process Evaluation

IPA will conduct a process evaluation to understand the extent to which the interventions are implemented as planned. Findings from this process evaluation will be critical for interpreting the results of the impact evaluation. IPA will monitor RFSA implementation throughout the RFSA delivery period. IPA's methodology for the process evaluation comprises a mix of site visits and observations, face-to-face interviews, discussion groups, desk-based research, and review of existing reports and secondary data. The process evaluation will happen around July–August 2022.

6.2   Outcome Monitoring

IPA will conduct an outcome monitoring survey in two phases. The goal of Trial A outcome monitoring will be to evaluate the short-term impact of IPT-G sessions. The Trial A outcome monitoring will happen around September–October 2022, about a month after the end of the IPT-G sessions. The goal of Trial B outcome monitoring survey will be to evaluate the impact of the activity 6 months after the asset transfer. That survey will happen around December 2022.

6.3   Endline Survey for Cohort 2 Evaluation

IPA will conduct a follow-up survey 2 years after the beginning of the Cohort 2 activity to evaluate the impact of the Cohort 2 Graduating to Resilience activity. It will happen around mid-2024. It will be administered to approximately 4,500 households.

Table 30. Future Activities

Activity	2021	2022	2024
Cohort 2 baseline data collection	X		
Process monitoring		X	
Cohort 2 Outcome monitoring data collection		X	
Cohort 2 endline data collection			X

APPENDIX

Additional Tables on Cohort 2 Design

Table 31. Appendix: Phase 1, Cohort 1, households found eligible by AVSI in 2018, prior to Cohort 1 implementation

Treatment Villages		Control Villages	
Baseline by IPA in 2018 **Spillover control (1,100 /1.100)** T1 (1,100/1,100) T2 (1,100/1,100) T3 (1,100/1,100)	**Holdout** 700 / 1,900 Add Cohort 2 Participants Equally Across T and C Villages	**Baseline** **Pure control** 1,100 /1,100	**Holdout** 4,100/5,600 Add Cohort 2 Participants Equally Across T and C Villages

In Phase 1 of the evaluation, IPA randomly assigned some eligible households to the holdout control group. These households were not surveyed at baseline in 2018 and were not enrolled in Cohort 1 interventions. Cohort 2 treatment households needed to be added to Cohort 1 such that treatment villages and remaining control villages have the same shares of Cohort 2 participants, to preserve the Cohort 1 for the long-term follow-up (LTFU) of.

Table 32. Appendix: Phase 2, household level randomization

Cohort 1 Treatment Villages		LTFU Cohort 1 Control Villages	
Baseline by IPA in 2018 **Remaining Spillover-C: 550 (ref.)/550 (host)** **Spillover-C→Coh-2 (assessed and randomly selected)** T1 T2 T3	Holdout **→ All Coh-2 assessed and selected**	**Baseline** **Remaining Pure-C: 183 (r)/474 (h)** **Pure-C→Coh-2 (assessed and randomly selected)**	Holdout **→ PARTLY Coh-2 assessment, calibrated to match share of Coh-2 targets in Cohort 1 treatment Villages**

In Phase 2 of the evaluation, AVSI conducted an eligibility assessment of households from Cohort 1 that had not received Cohort 1 interventions, i.e., Cohort 1 control households (Pure Controls, Spillover Controls, and Holdout Controls). After the eligibility assessment, some eligible households were offered to participate in the activity, while others were not and remained in the control group. All study participants who were previously in Holdout Control in Cohort 1 were offered to participate in the activity.

Table 33. Appendix: Trial A

Cohort 1 Treatment Villages		LTFU Cohort 1 Control Villages	
Remaining Spillover-C IF found Cohort 2 eligible Vs. SC→Coh-2 assessed and selected		Remaining Pure-C: IF found Coh-2 eligible Vs. PC→Coh-2 assessed and selected	

IPA selected Trial A participants among former Cohort 1 participants, in spillover control group, and in pure control group. In each group (Spillover Control and Pure Control), some households were randomly selected to be offered the activity and some remained in control group.

Table 34. Appendix: Trial B

Dropped Cohort 1 Treatment Villages		Large Host (Only!) Cohort 1 LTFU	
Former Coh-1 Pure Control:	Former Coh-1 Hold-Out		50% Coh-2 with IPT-G Vs. 50% Coh-2 without IPT-G
50% Coh-2 with IPT-G Vs. 50% Coh-2 without IPT-G			

In Phase 2, some Cohort 1 control villages were dropped from the long-term follow-up evaluation of Cohort 1. In these dropped villages, there will be no control group and all eligible households were offered to participate. Half of these households were offered to participate in the Graduation Approach with IPT-G, and the other half were offered to participate in the same activity without IPT-G.

In the host community, Trial B also takes place in former treatment villages that had enough holdout control households to form at least two interventions groups.

Additional Figures and Tables

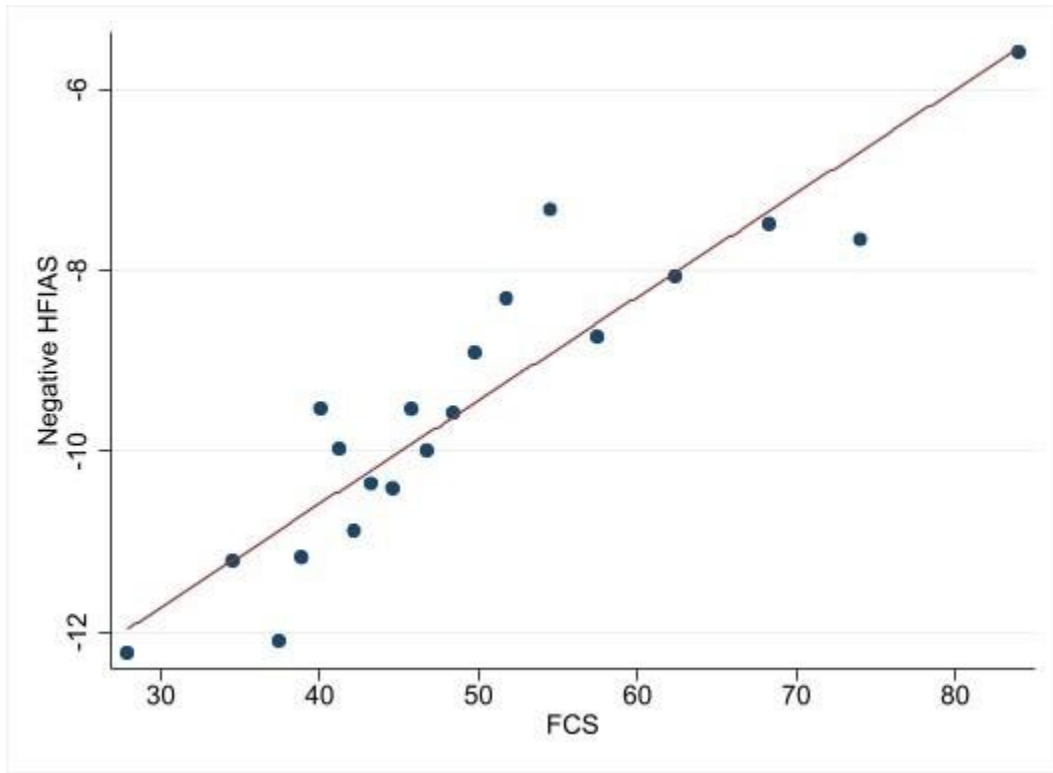**Figure 2. Appendix: Binscatter plot of Negative HFIAS against FCS**

Table 35. Appendix: Correlations between HFIAS and FCS components

HFIAS components, binary indicators: In the past four weeks…	FCS components, number of days for which food type was consumed out of past 7 days								
	Main staples	Nuts and pulses	Vegetables	Meat, fish, and animal products	Fruits	Milk products	Fats/ Oil	Sugar	Spices/ Condiments
Did you worry that your household would not have enough food?	-0.02	0.03	-0.01	-0.20	0.01	-0.09	-0.21	-0.15	-0.02
Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	-0.01	0.05	-0.05	-0.19	-0.03	-0.15	-0.16	-0.15	0.00
Did you or any household member have to eat a limited variety of foods due to a lack of resources?	-0.03	0.01	-0.06	-0.16	-0.07	-0.12	-0.12	-0.13	-0.01
Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	-0.01	0.07	-0.04	-0.22	-0.03	-0.13	-0.17	-0.16	-0.01
Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	-0.02	-0.02	-0.06	-0.11	-0.12	-0.13	-0.07	-0.14	-0.02
Did you or any household member have to eat fewer meals in a day because there was not enough food?	-0.03	-0.05	-0.06	-0.13	-0.11	-0.12	-0.10	-0.15	-0.05
Was there ever no food to eat of any kind in your household because of lack of resources to get food?	-0.05	-0.08	-0.04	-0.15	-0.08	-0.11	-0.19	-0.14	-0.08
Did you or any household member go to sleep at night hungry because there was not enough food?	-0.04	-0.01	-0.01	-0.12	-0.05	-0.09	-0.17	-0.12	-0.04

HFIAS components, binary indicators: In the past four weeks…	FCS components, number of days for which food type was consumed out of past 7 days								
	Main staples	Nuts and pulses	Vegetables	Meat, fish, and animal products	Fruits	Milk products	Fats/ Oil	Sugar	Spices/ Condiments
Did you or any household member go to sleep at night hungry because there was not enough food?	-0.00	-0.01	0.03	-0.09	-0.03	-0.06	-0.12	-0.08	-0.10