



REPUBLIC
OF
KENYA



**PROFIT Financial Graduation
Endline Report
Funded by IFAD**

June 2019

Grantees: The BOMA Project and CARE International Kenya

**Prepared by
Catherine Sanders, PhD; Francis Kimani**



Contents

Executive Summary	4
Background on PROFIT Financial Graduation Interventions	9
Methodology	13
Impact sampling	14
Impact model	16
Focus Group Discussions (FGDs)	18
Key Informant Interviews (KIIs)	19
Introduction to findings	20
BOMA – PROFIT Financial Graduation	21
Sample description	21
Livelihoods and Financial gains (EQ1/3)	22
Savings (EQ1/3)	26
Empowerment (EQ2)	28
Food security and health (EQ1/3)	31
Education (EQ1/3)	35
Synthesis – BOMA	36
CARE – PROFIT Financial Graduation	37
Sample description	37
Livelihoods and Financial gains (EQ1/3)	38
Savings (EQ1/3)	40
Empowerment (EQ2)	41
Food security and health (EQ1/3)	43
Synthesis – CARE	46
Sustainability of program impact (EQ3)	47
Conclusions	51
Appendix	i

List of Figures

Figure 1: Graduation interventions	12
Figure 2: Summary of evaluation methods	13
Figure 3: Outcome measurement schedule	16
Figure 4: Average income	22
Figure 5: Average income by source of income	23
Figure 6: Business worth... ..	24
Figure 7: Self-reported PROFIT impacts, by business model.....	24
Figure 8: PROFIT business helpers, by business model	25
Figure 9: Income diversity	25
Figure 10: Average total savings	26
Figure 11: Savings by source (KES).....	26
Figure 12: Uses of Mpesa	27
Figure 13: Changes in confidence since baseline.....	28
Figure 14: Decision-making (DM) change.....	29
Figure 15: Leadership role assumption.....	30
Figure 16: Dietary recall	31
Figure 17: Household illness and treatment-seeking	33
Figure 18: Proportion of children enrolled in school (n=851)	35
Figure 19: Average business income in the past 30 days	38
Figure 20: Average income by source of income	39
Figure 21: Income diversity	39
Figure 22: Average group savings.....	40
Figure 23: Savings by non-savings group source (KES).....	40
Figure 24: Changes in confidence since baseline.....	41
Figure 25: Decision-making (DM) change.....	42
Figure 26: Leadership role assumption.....	42
Figure 27: Dietary recall: meals per day in the past 7 days.....	43
Figure 28: Lasting impacts of PROFIT Financial Graduation	48
Figure 29: Improvements to future Graduation models.....	49

Executive Summary

The PROFIT Financial Graduation Sub-Component, funded by the International Fund for Agricultural Development (IFAD) and the Government of Kenya (GOK), aimed to enable vulnerable women and youth to build sustainable livelihoods and reduce risk aversion on supply and demand sides of financial sustainability through a sequenced set of interventions, including an asset transfer, technical and life skills training, mentorship, consumption and savings support. The program targeted 1,000 women and youth in Kitui and 1,600 women in Samburu. Ultimately, the goal of the program is to place vulnerable households on an upward trajectory out of ultra-poverty.

Since January 2017, with technical assistance from BRAC USA, the PROFIT Financial Graduation program was implemented by The BOMA Project and CARE International Kenya in Samburu and Kitui, respectively. Expanding Opportunities conducted a quasi-experimental impact evaluation of the PROFIT Financial Graduation pilots by assessing changes in income, savings, food security, health, and confidence that can be reliably attributed to program activities. This report comprises the results of the endline impact evaluation. The questions used to guide the evaluation were:

1. Do program activities, including consumption support, savings support, asset transfer, and skills training and coaching, provide increased livelihood sustainability among participant households?
2. Does participation in the program empower women and youth?
3. What are the factors that may affect sustainability and scale-up of this and similar programs in the future?

To address the evaluation questions, endline evaluation compared progress against the baseline (conducted in July 2017) of income, savings, empowerment, health treatment, and education. The evaluation explored the project's impacts in a quasi-experimental design (QED) through baseline and endline surveys administered to 50% of the treatment sample and matched comparison groups from nearby areas. Monitoring data, 14 Focus Group Discussions (FGDs) and nine Key Informant Interviews (KIIs) in Samburu District, and 21 Focus Group Discussions (FGDs) and 10 Key Informant Interviews (KIIs) in Kitui District previously conducted at midline provide further insights into sustainability factors, stakeholder networks, and mechanisms of program benefits.

While the evaluation covered two locations – Samburu and Kitui Counties – it does not make a comparison between the two pilots as there were great differences in context, Graduation interventions, and evaluation instruments. The evaluation aims to show the impacts of the Graduation approach in different settings when adapted for the local context.

In this report, we summarize the results of the endline evaluation, but we use all the data available from baseline, midline, and implementing partner (IP) monitoring to draw conclusions and provide essential contextual information about the varying regions' economic and social dynamics.

Using five evaluation criteria developed from and in addition to the five Graduation Criteria areas targeted (income, savings, food security, health, women's empowerment), the endline report details results in the following outcome areas expected to impact livelihood sustainability:

- Livelihoods and financial gains
- Savings
- Empowerment
- Food security and health
- Education¹

As presented below, PROFIT Financial Graduation has, in 21 months, drastically improved the lives of participants in both pilots. Baseline levels of income, savings, empowerment, food security, and health indicators were among the lowest in Kenya, according to comparison with DHS country and district-level data. According to results from analysis of the average effects of treatment on the treatment (ATT), endline improvement in all five areas among the treatment group can be attributed to the impacts of PROFIT Financial Graduation. According to interviews and focus groups, the effects were felt mainly through the impact of sustained income and training on participants' confidence. In turn, the confidence led to more risk-taking in business, better relationships within and external to the family, and more social mobility among the community's most vulnerable individuals and households.

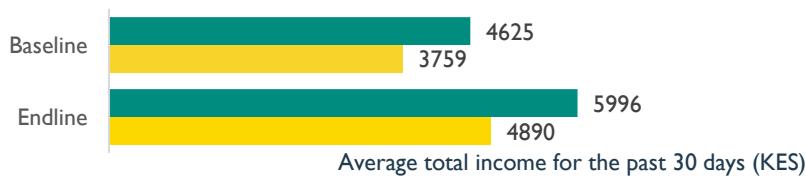
¹ Education was not a Graduation criterion, but it was an area in which we were interested in the potential benefits of the programming.

BOMA's PROFIT Financial Graduation:

- The increase in household income between baseline and endline was 1,371 KES and the difference was statistically significant.
- By endline monitoring, BOMA business values averaged 56,652, or, about 22,000 KES over initial values. As one midline KII respondent stated, “On market day, you will see so many women doing business from grassroots, and they started with nothing.”
- Evidence from the quantitative analysis suggests that PROFIT participants had more income diversity by two income sources than the comparison. Group businesses provided more income diversity by an average of one source per household, and thus resilience in the case of shocks to members, than individual businesses.
- Savings were also statistically significantly higher at endline compared to baseline, with participants at endline saving an average of 12,744 KES more than at baseline.
- Women’s empowerment, through confidence (27% increase), decision-making, and leadership roles (6% increase each), grew significantly between baseline and endline.
- Participants were eating 25% more of a meal per day on average over baseline, a difference which was significant when compared to the comparison group. PROFIT participants were treating water at a rate 51% higher than that of the comparison group at endline.
- School enrollment increased significantly compared to the school enrollment increases among the comparison group, from 82% to 84% enrolled.

Treatment Comparison

Total household income: BOMA



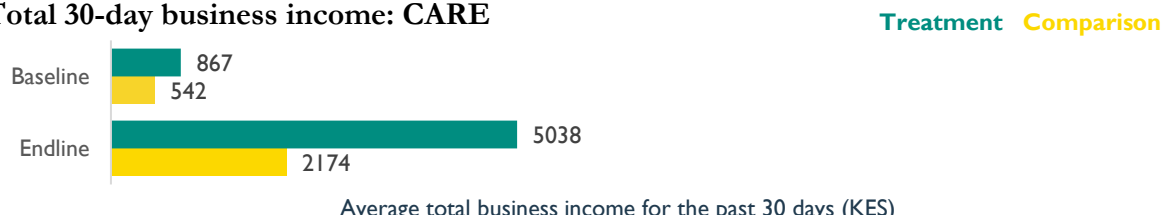
Total savings: BOMA



CARE’s PROFIT Financial Graduation:

- 30-day business income was about 4,000 KES higher at endline compared to baseline².
- Savings were significantly higher at midline compared to baseline, with treatment households at endline saving an average of about 14,000 KES more than they could at baseline because of savings groups.
- Empowerment, measured by decision-making (a 20% increase), leadership (a 7% increase), and confidence (a 27% increase), increased significantly between baseline and endline in all indicators.
- Household food security grew by over a meal per day among PROFIT participants at endline, a statistically significant difference.

Total 30-day business income: CARE



Group savings: CARE



² Issues with data collection meant we relied on monitoring data for the endline treatment business income figures, so these analyses do not reflect QED robustness, only immediate form of T-tests. Endline treatment monitoring sample n=641.

For both CARE and BOMA PROFIT Financial Graduation models, qualitative data from the midline and program information from the endline helped to triangulate results and explored pathways of attribution to PROFIT Financial Graduation for the evaluation. Findings from FGDs and KIIs in both sites suggested that, just as in other Graduation programs, small-to-medium effect sizes in terms of income and savings were compounded in terms of confidence and empowerment³. That is, small changes in income and savings appeared to lead to large gains in confidence, due to regular support from the Graduation program, the meaningfulness of income increase, and the ability of participants to take on new economic, political, and social roles in their surrounding communities.

According to analysis of the program's sustainability:

- Both IPs have made efforts to connect the most vulnerable participants to the support they need post-PROFIT to sustain financial gains. To this end, partnerships with other programs, such as government organisations (e.g. NHIF, Ushanga, KRA, WEF, National Government Affirmative Action Fund, and NDMA) and non-governmental organisations /private institutions (e.g. Supa Sacco, Equity, CARITAS, SNV, UNAITAS, Kenya Commercial Bank) are being expanded and deepened.
- Through training, saving, and earning, PROFIT participants' confidence and financial prowess have enabled them to access formal financial institutions.

³ See: Halder, S. R., & Mosley, P. (2004). Working with the ultra-poor: learning from BRAC experiences. *Journal of International Development*, 16(3), 387-406.

Background on PROFIT Financial Graduation Interventions

Graduation activities and strategies aimed to increase sustainable livelihoods among women and youth in high-poverty areas of the Arid and Semi-Arid Lands (ASAL) regions of Kitui and Samburu counties. The BOMA Project and CARE International are implementing partners, with BRAC USA providing technical assistance. The BOMA Project implemented Graduation interventions targeting 1,600 women in Samburu, while CARE International's Graduation interventions targeted 1,000 women and youth in Kitui. Both programs were based on the BRAC-pioneered Graduation model, which has core components that include consumption support, savings support, asset transfer, skills training, coaching, and health support.

BOMA has been implementing a women-focused financial graduation program in Marsabit and Samburu counties for ten years. For this pilot, BOMA included a comparison of group and individual graduation approaches. PROFIT Financial Graduation was the first Graduation implementation experience for CARE's programming. The focus of CARE's implementation was on enhancing and supporting informal vocational skills of ultra-poor youth and women and linking those skills to related livelihoods. The primary goal for both pilots is to enable households to build sustainable livelihoods and resilience.

Locally selected and village-based Mentors (BOMA) and Community-Based Trainers (CBTs-CARE) support intervention activities by providing technical and life skills training and intensive mentorship, so that targeted communities can increase overall wellbeing⁴. Asset/cash transfers, savings group formation, leadership committee formation, and enrollment in the national health insurance scheme are also essential elements of programming in both sites, and directly relate to the topics encompassed by the Graduation Criteria which defines successful impact of Graduation programming. BRAC USA has worked with both organisations to develop criteria pertinent to the interventions and regions of programming. Six evaluation criteria (discussed below), expanding on Graduation criteria guidelines, are used to guide the impact evaluation:

- Food security
- Livelihoods (financial gains and assets)
- Resilience (savings and social capital)
- Agency and self-confidence
- Health (WASH behaviours and technologies and illness)
- Education⁵

⁴ For the purposes of this report, we define "wellbeing" following the social science conception of wellness, which incorporates the social, economic, and infrastructural influences on and implications for individual and group health. See, for example, Nyman, C., & Nilsén, Å. (2016). Perspectives on health and well-being in social sciences. *International Journal of Qualitative Studies on Health and Well-being*, 11:1, DOI: 10.3402/qhw.v11.31468

⁵ Education was not a Graduation criterion but it was an area in which the programming hoped to make a positive impact. On CARE's side, missing education data meant we forewent this criterion area.

BOMA geography, interventions, and criteria

Samburu ranks as one of the four poorest counties in Kenya with an overall poverty rate of 76% in 2015-16, up from 73% in 2005-2006⁶. Samburu is also one of the six counties with registered food poverty among more than half of the population (60.1%). People in Samburu County make their living primarily through managing livestock, in part due to the region's aridity and conditions unfavorable to agricultural livelihoods. Livestock management requires long hours and semi-nomadic movements across the landscape.

BOMA interventions targeted 1,600 female participants. 1,350 of these participants were enrolled using a group business type (a three-person business model pioneered by BOMA in Northern Kenya) and 250 participants using the individual business type (one-woman businesses). The interventions included a 350 USD cash transfer for livelihoods, a mobile phone with access to Mpesa, a consumption stipend of 15 USD per month for six months, bi-weekly financial skills and health and social messaging (malaria, WASH, nutrition, maternal and child health, HIV, alcohol and drug abuse, family planning, gender empowerment, drought management, child education, and child marriage), mentoring through local mentors, savings groups, national health insurance enrollment, and locational committee establishment to reaffirm and triangulate messaging.

BOMA monitoring tracked participant progress against the following Graduation criteria:

- Household members had two meals a day in the past week
- No child goes to bed without an evening meal in the past week
- Value of business is 25% higher than total conditional cash transfer
- Participant can access two sources of income
- Participant is a member of a savings group (with a formal constitution, credit, and loan protocols), has access to credit, and has a minimum of KES 6,500 in savings.
- Participant has greater awareness of family planning

In addition, BOMA tracked school attendance among primary school-eligible girls and, where possible, monitored health-seeking as potential arenas in which positive impacts as a result of the intervention are desired. Expanding Opportunities, under the leadership of Dr. Sanders, collaborated with BOMA to select participants, develop research design, refine the survey tool, and train and supervise data collectors in endline efforts.

⁶ Kenya National Bureau of Statistics. (2018). Basic report on well-being in Kenya: based on Kenya integrated household budget survey, 2015/16. Kenya National Bureau of Statistics.

CARE geography, interventions, and criteria

CARE interventions focus on Mwingi North in Kitui District, where the semi-arid climate means that most inhabitants practice mixed cultivation with some livestock management. Water lines are long there, but the region is known for the sweetness of their green grams, or mung beans. CARE's interventions include a 350 USD asset package (in-kind asset transfer), technical and financial skills training, mobile phone with access to Mpesa, 15 USD per month for six months consumption stipend, social and health messaging (same as BOMA), savings groups, enrollment in national health insurance, and establishment of a social integration committee to reinforce social and health messaging.

Similar to BOMA, CARE established the following Graduation criteria to track participant progress:

- Household had access to 2 meals a day the past week
- Participants have achieved at least a 25% growth of the asset received
- Participant has at least two sources of income (e.g., farming, business), one of which is from the asset received.
- Participant is a member of a Village Savings Group, saving regularly, and has accumulated savings of KES 6,500.
- Participant demonstrates greater awareness of hygiene practices.

Like BOMA, CARE looked to school attendance and health-seeking for anticipated impacts, although they recognized that full-scale change may not be possible within the scope of the program.

Expanding Opportunities, under the leadership of Dr. Sanders, led research design, enumerator training, selection, survey design, and data collection.

The PROFIT Graduation interventions took place between March 2017 and March 2019 and were harmonized across pilot locations. They included targeting, asset transfer, technical training, consumption stipend, health support, savings support, mentoring and life skills training, and social integration, as summarized in the table below.

Figure 1: Graduation interventions

Intervention	BOMA	CARE
Targeting	Participatory rural appraisal (PRA) followed by verification survey	Participatory rural appraisal (PRA) followed by verification survey
Asset Transfer	35,000 Ksh (350 USD) in cash to group and individual businesses	35,000 Ksh (350 USD) in-kind transfer and partial cash transfer based on asset options finalized by rapid livelihood assessment
Technical Training	Business skills (pricing, recordkeeping, marketing), financial literacy, and asset management	Business skills (pricing, recordkeeping, marketing), financial literacy, and asset management
Consumption Stipend	1,500 Ksh (15 USD) per month for 6 months (transferred through M-pesa)	1,500 Ksh (15 USD) per month for 6 months (transferred through M-pesa)
Health Support	Free enrollment in National Hospital Insurance Fund for 18 months	Free enrollment in National Hospital Insurance Fund for 18 months
Savings Support	Savings groups (10-15 participants per group) that meet on a weekly basis	Savings groups (15-20 participants per group) that meet on a weekly/bi-weekly basis depending on the constitution of the group
Mentoring & Life Skills Training	Bi-weekly home visits by mentors who discuss social and health issues including maternal and child health, WASH, HIV/AIDS, alcohol and drug abuse, gender empowerment, etc.	Bi-weekly home visits by mentors who discuss social and health issues including maternal and child health, WASH, HIV/AIDS, alcohol and drug abuse, gender empowerment, etc.
Social Integration	Support from BOMA Locational Committee and linkages to market and the County Social Services office and other relevant government and non-governmental services and resources	Linkages to local government and non-government services

Methodology

Expanding Opportunities conducted a quasi-experimental impact evaluation of the PROFIT Financial Graduation pilots implemented by CARE and BOMA in Kitui and Samburu counties. The evaluation questions used to guide the evaluation were:

1. Do program activities, including consumption support, savings support, asset transfer, and skills training and coaching, provide increased livelihood sustainability among participant households?
2. Does participation in the program empower women and youth?
3. What are the factors that may affect sustainability and scale-up of this and similar programs in the future?

Comparing propensity score-matched treatment to comparison samples at baseline and endline, household surveys assessed impacts of program activities on livelihoods and individual wellbeing. Focus groups and key informant interviews conducted among PROFIT participants and other stakeholders in 2018 provided insights into the mechanisms of program benefits and into program sustainability and institutional integration.

Outcome indicators included measures of livelihood sustainability, autonomy, decision-making capability and empowerment, workforce development, and health/wellbeing, particularly among women and youth, and analyses controlled for baseline measures of health, socioeconomic status, and treatment variables (e.g. differing business models). Evaluators used ATT and difference-in-difference models to determine differences between treatment and comparison groups attributable to treatment, and the effect sizes of those differences. The table below summarizes the evaluation methods.

Figure 2: Summary of evaluation methods

Concepts measured	Targeted evaluation participants	Targeted comparison	Data source	Time frame
RQ1: Do program activities provide increased livelihood sustainability among participant households?				
Income and income diversity	Male and female adults from 1,100 treatment households	Male and female adults from 1,200 matched households	Survey PRAs and eligibility verification process	April-May 2017 March 2019
Assets				
Healthcare access, use, and health-seeking				
Physical health				
Confidence				
Household structure				
Education				
Livelihood skills				
Socioeconomic status				

Concepts measured	Targeted evaluation participants	Targeted comparison	Data source	Time frame
RQ2: Does participation in the program empower women and youth?				
Financial autonomy	Women from 1,100	Women	Survey	April-May
Food security	treatment households	from 1,200	PRAs and	2017
Healthcare access, use, and health-seeking		matched	eligibility	March
Physical health		households	verification	2019
Labour roles and occupations			process	
Educational attainment and attendance				
Confidence and associated factors				
Marital status				
Household dynamics (in terms of substance abuse)				
RQ3: Can the Graduation program be reliably scaled within Kenya's most vulnerable populations and beyond?				
Future outlook	Male and female adults	Male and	Survey	April-May
Livelihood sustainability (see RQ1)	from 1,100 treatment	female adults		2017
	households	from 1,200		March
		matched		2019
		households		
Strength of program partnerships	Stakeholder	N/A	Interviews	Jul-Aug
Alignment of program goals	organizations		Focus	2018
Management structure			groups	

Households comprise the unit of analysis for RQ1; individuals within selected households, the unit of analysis for RQ2; and program stakeholder groups, including community organizations and individuals, IFAD, BOMA, CARE, and GoK, the analysis level for RQ3.

Impact sampling

Both BOMA and CARE teams identified geographically distant treatment and control locations in their respective regions to minimize spillover effects on the comparison condition from the treatment. Regions were selected on the basis of remoteness and poverty, to maximize treatment effects and match conditions in treatment and comparison areas. Both programs used participatory rural appraisal to identify the most vulnerable households in Kitui and Samburu counties. Household surveys then verified and further limited the program population to the poorest and most vulnerable households and participants using a locally-informed ranking system.

From BOMA's verification data, focus group data informed weights by which the internal evaluation team delimited household well-being for eligibility purposes. Livestock assets were weighted due to their centrality in people's lives and the focus of the intervention. A weighted asset score of 50 or less, measured from assets listed in the verification surveys, further narrowed the eligible population to about 9000 (out of about 21,000) households in identified locations throughout Samburu West and Samburu Central. BOMA evaluators randomly selected 1600 from the eligible population for

treatment. Of these, 600 were selected to be surveyed in the baseline, again randomly, 200 of which were selected into one-person business treatment, and 400 of which were members of 3-person businesses. At endline, the resulting surveyed treatment sample was 1,046 participants, and a 3:1 ratio of group and individual businesses.

CARE's initial criteria for eligibility after the PRA consisted of youthfulness, evidence of skill sets, lack of productive assets, lack of access to assistance, and lack of WASH practices/technologies found in the homes. However, due to the remote terrain and data collection inconsistencies during the PRA and verification processes, population density was later deemed insufficient to meet the study and target demands. As a result, skillsets, WASH technologies, and some age restrictions were dropped from the criteria, resulting in an eligible population of women between the ages of 18 and 55, and men between the ages of 18 and 35, within households that had no regular source of income.

Dr. Sanders worked with CARE data collectors and evaluators to adjust the baselining process so that a re-verification process could occur alongside the baseline to accommodate the adjusted criteria. Data collectors asked a series of age and income questions at each PRA household to determine eligibility, then alternated among eligible households to obtain a 50% sample to meet the target of 500 of 1000 eligible participants and 600 eligible control individuals selected for the baseline. In CARE areas, ~500 out of nearly 1000 intervention households were selected, with 60/40 female:male gender ratio target, and an age range of 18-35 for males and 18-55 for females. The resulting surveyed sample was 901 households, and a 89/11 female:male gender ratio.

Comparison group selection

Comparison locations and survey participants, to the extent possible, were selected according to the same criteria as the treatment sample: low income and few-to-no services available. Comparison regions also went through the PRA and verification process as described above.

For BOMA data, using `pscore` commands in Stata 14, evaluators assigned each eligible household in treatment and comparison groups a propensity score and common support weight based on logit regression of treatment assignment on wealth and treatment-related independent variables from the household verification surveys. We performed `psmatch2`'s nearest neighbor matching with five neighbors to produce the list of comparison households, totaling 600 comparison individuals in the BOMA region.

Due to remoteness and selection issues, the entire eligible sample in comparison locations (n=559) was selected for the evaluation survey in the CARE areas.

In both Kitui and Samburu sites, interventions began immediately after the conclusion of the baseline survey in May, and continued through March of 2019.

Figure 3: Outcome measurement schedule

April-May, 2017	March-April, 2019
M O ₁ X	O ₂
M O ₁	O ₂

Notes.

M=Matched groups; O=Observation; X=‘Treatment.

Impact model

As detailed above, PROFIT Financial Graduation took on different forms in Samburu and Kitui counties due to the varying context and target population. Some methodological techniques also differed as a result of intervention variation. Expanding Opportunities worked with BOMA and CARE separately to design an evaluation that would provide for each implementing partner’s formative and summative needs. The following tools were used to assess progress toward Graduation as defined by PROFIT Financial Graduation targets in each area.

A difference-in-differences model estimated the impacts of BOMA and CARE intervention activities and addressed evaluation questions. First, comparison respondents were matched to treatment groups according to baseline characteristics. Matching methods varied by sample and evaluators chose the best fit for the data depending on analysis outcomes for each matching occasion. Among the Samburu sample, radius matching revealed balanced matching covariates and small bias in 1,036 cases. For the CARE sample, missing data required multiple (multivariate normal imputation). Even so, the radius matching using balanced covariates narrowed the sample to those within “common support” or to a “matched” sample. Post-imputation samples varied by outcome between resulting in analyses of 534 and 718 cases.

A difference-in-difference model tested the impact of program activities on measured outcomes by comparing the difference between baseline and endline outcome measures across treatment and comparison groups. Using above outcome measures as dependent variables in separate analyses, and treatment indicators and covariates from propensity score matching models as independent variables, evaluators calculated the effect size of treatment interventions on the treatment samples.

For our model estimating average treatment effect on the treated (ATT), we used the Roy-Rubin model⁷ for a sample defined by:

⁷ Roy, A. D. Some thoughts on the distribution of earnings. *Oxford economic papers*, (1951) 3(2), 135-146; and, Rubin, D. B. Estimating causal effects of treatments in randomized and nonrandomized studies. *Journal of educational Psychology*, (1974) 66(5), 688.

$$E[Y(0) | D = 1] - E[Y(0) | D = 0] = 0, \text{ so,}$$

$$T_{\text{ATT}} = E(T | D = 1) = E[Y(1) | D = 1] - E[Y(0) | D = 1].$$

Assumptions

Evaluators tested the conditional independence of the model used, as specified above, with baseline measures of observables, including health-seeking. The measurements described in the summary of methods were either measured prior to participation or deterministic with respect to time, and do not confound outcomes.

Evaluators will include only statistically significant covariates in the predictive model. Balancing tests were also performed on each stratum after measuring the propensity score and before matching to ensure appropriate strata and models. Similarly, after-matching tests determined whether significant differences in covariates exist between comparison and treatment groups, and we eliminated differences by altering the propensity score model or matching technique.

To verify common support for participation, evaluators will compare propensity score ranges for treatment and comparison groups before and after matching, removing outliers if necessary to make treatment and comparison scores conform to an overlapping region, with distance dependent on mean and variance in the two distributions⁸.

Missing data

Evaluators excluded individuals with no outcome measurements from the analyses (for example, due to attrition from the program, enumerator error, or lack of consent by the participants). If excluding cases for which covariate data are missing biased the model in terms of other covariates and outcomes, we incorporated a missing data indicator⁹ to balance observed values of the covariates and missing data patterns¹⁰. We considered a covariate balanced if the standardized bias was less than .25¹¹.

Subgroups

Evaluators “exact matched” any characteristics (age of respondent, household illness, and total income for BOMA, and food security and age for CARE) that were found to be particularly

⁸ Cochran, W. G., & Rubin, D. B. Controlling bias in observational studies: A review. *Sankhyā: The Indian Journal of Statistics*, (1973) Series A, 417-446.

⁹ Rosenbaum, P.R. *Design of Observational Studies* (2009) New York: Springer.

¹⁰ Harder, V. S., Stuart, E. A., & Anthony, J. C. Propensity score techniques and the assessment of measured covariate balance to test causal associations in psychological research. *Psychological methods*, (2010) 15(3), 234.

¹¹ Rubin, D.B. Using propensity scores to help design observational studies: Application to the tobacco litigation. *Health Services & Outcomes Research Methodology* (2001) 2:169–188.

influential on selection, and conducted the propensity scoring separately for subgroups of the characteristic in question, e.g. landholdings in Kitui and livestock holdings in Samburu.

Minimum Effect Size

We evaluated results in light of the expectation that the difference in outcomes between experimental group and comparison group will be statistically significant and that overall grades and rates of attainment and persistence for the treatment will be improved 5-10% over the comparison. Evaluators also estimated the effect size of standardized differences using Cohen's d and partial η^2 for large samples when comparing means, and adjusted R^2 statistics when analyzing with regressions. While Durlak's scale served as a guide for interpreting effect sizes (.2=small; .5=medium; .8=large), evaluators interpreted effect sizes within the context of sample sizes, interventions, and power for the tests performed¹².

Focus Group Discussions (FGDs)

Focus Group Discussion questions were conducted during the midline evaluation and designed to understand mechanisms of change and reflect areas of change not being captured by monitoring data, e.g. empowerment. In 14 Focus Group Discussions, the BOMA team consisted of one facilitator, one note-taker, and one translator (see Appendix for the FGD tool). We conducted two focus groups per day for seven days during the beginning of August, 2018 and spoke with roughly 105 female Graduation participants. The groups were homogenous on the basis of business group type. Expanding Opportunities designed the questionnaire in concert with the BOMA evaluation team, and refined it during training with the data collectors, Treasury representatives, and BOMA staff. The FGDs resulted in 11 finished transcripts (three incomplete transcripts were dropped from analysis), representing seven 1-person and four 3-person business groups. The FGD results therefore underrepresent three-person businesses and should be interpreted with caution.

In 21 Focus Group Discussions, the CARE team consisted of one facilitator, one note-taker, and, where necessary for the supervisor, one translator. We conducted three focus groups per day for seven days during the last week of July, 2018. The groups were homogenous on the basis of age (above or below age 35) and gender. In total, we conducted 8 FGDs with 11-16 participants each with women 35 or under, 4 with men 35 or under, and 5 with women over 35 years of age, roughly approximating the beneficiary demographics. In sum, we spoke with 225 men and women with an average of 11 participants per focus group. Most FGDs were conducted in Kamba language. Expanding Opportunities designed the questionnaire in concert with the CARE leadership team, and refined it during training with the data collectors, Treasury representatives, and CARE staff (see Appendix). Because questions were open-ended, even small-n responses carry a lot of weight in the following sections.

¹² Durlak, J. A. How to Select, Calculate, and Interpret Effect Sizes. *Journal of Pediatric Psychology*, (2009) jsp004.

Analysis was conducted by the lead researcher and a research assistant in Dedoose, qualitative analysis software available online. Question-level codes were preset, and the research team refined within-question coding using codes generated from the data. After the generated coding scheme was applied, we checked inter-rater reliability and recoded according to refinements suggested by the inter-rater process. After a final check, we developed definitions for the coding scheme and generated frequencies for responses coded at question level and for the “children” of those codes. We also explored and recorded representative quotes suggestive of the larger sample’s sentiments for certain codes.

Key Informant Interviews (KIIs)

Key Informant Interviews were conducted during midline evaluation and designed to understand the broader contexts of impact for PROFIT Financial Graduation, such as sustaining links among organizations and built infrastructure in the project regions. In nine KIIs in Samburu, we spoke with a Member of County Assembly (MCA), an NGO collaborator, two Village Administrators, a religious leader, a village Chief, a Social Development Officer, an NHIF administrator, and a National Drought Management Authority member who had experience with the Pilot. In 10 KIIs in Kitui, we spoke with one CARE leader, two private distributors who supply goods to CARE participants for income-generating activities (including one beneficiary distributor), two clinical officers at a private hospital and one district-level NHIF representative, one member of the social development office, two county extension officers in cereals and livestock, and two administrators at village and county levels who had experience with the PROFIT Financial Graduation.

Findings from KIIs and FGDs were referenced in the endline where applicable to provide context for how and why observed changes impacted PROFIT participants.

Introduction to findings

According to endline analyses, Financial Graduation impacted multiple aspects of socioeconomic status in observable ways, including livelihoods, resilience, social networks and status, health, and future outlook. The most significant findings regarding PROFIT impacts were in terms of increased incomes, substantial savings, and participant confidence in navigating their local financial/service contexts, now and in the future.

The mechanisms for these impacts – identified through both theory-driven and data-driven research – are thought to be the combination of training in several areas foundational to socioeconomic status (health, insurance, finance, business management) with asset disbursement in a supported (mentored) entrepreneurial environment. Also key to social change were the IPs responsiveness to any glitches, social, business or otherwise, and their involvement of local leaders in the planning and rollout of the program.

Along with impact findings we present below, we include our analysis of the most probable means by which change was affected. To organize our findings, we discuss the livelihoods, savings, empowerment, health, and education impacts measured through the impact evaluation, first in the BOMA pilot, then in the CARE pilot. In the final section, we explore factors related to the sustainability of the observed impacts in both areas. For this report, we analyzed quantitative data from baseline-to-endline surveys and monitoring data, and qualitative data from midline FGDs and KIIs. Wherever we mention significance throughout the report, we are referring to statistical significance.

In the sections for each IP, we focus on findings from the quasi-experimental study (QED), so unless otherwise noted, the results presented below are sourced from baseline and endline surveys among treatment (PROFIT participants) and comparison (untreated) groups in Samburu and Kitui counties.

BOMA – PROFIT Financial Graduation

Sample description

Expanding Opportunities (ExOp) used propensity score matching to match treatment to comparison on the following baseline metrics which proved significant ($p < .05$) in outcome regressions¹³:

- Livestock ownership
- Household income
- Age
- Highest female level of education in the household
- Worker-to-household proportion
- Aggregate confidence in accessing resources
- Household illnesses in the past year

From the 1200 baseline observations, estimation of the propensity score based on this model resulted in a sample of 1,036 respondents on common support (reduced from 1,046 total observations, 536 in the treatment and 500 in the comparison¹⁴). For the resulting sample, there were no significant missing data on outcome or covariate measurements. Since household illness, income, and age were biased covariates after matching, we used a propensity score algorithm that allowed us to match on those characteristics when estimating the effects of treatment (ATT)¹⁵. Mean age of the sample was 39, with female-headed households comprising 3% of households. The average household had six members. Within the treatment sample, group businesses were represented by 357 respondents, and individual businesses by 179 respondents.

¹³ To obtain a matching sample, we regressed on an index created from the outcome variables from endline measurement in each criterion category: household income, income sources, savings, child food security, livestock, NHIF status/treatment, latrine, family planning use, proportion of females, confidence, decision making power, and committee participation.

¹⁴ Unless otherwise noted, these sample sizes remain constant throughout the sections below.

¹⁵ Leuven, E., & Sianesi, B. (2018). PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing.

Livelihoods and Financial gains (EQ1/3)

Monitoring data provided descriptive information about BOMA business values and the amount of income and credit provided from BOMA businesses as of May, 2019, while baseline and endline surveys collected 30-day income recall data to show how income differed at the beginning and endline of the project.

For all businesses, according to FGDs and KIIs, training in business skills was integral to the program's success, especially given extremely low literacy levels and baseline knowledge of business management among participants. At midline, many FGD respondents proclaimed, "we started with nothing, and now we are businesswomen!" in response to questions about program impacts. It was clear they were referring to social roles as well as financial success. Throughout the data collection period, this confluence of empowerment and livelihood gains predominated discussions about impacts.

Household Income over the past 30 days

To compare with baseline income, we totaled the amount earned in the past 30 days (Feb-March, 2019) per household from an exhaustive list of income activities, including BOMA businesses (endline only) and non-BOMA income (see income by source below). Incomes were higher at endline among the treatment group, which averaged almost 6000 KES in the past month, compared to the comparison group's nearly 5000 KES. 727 KES of the treatment group's income that is higher than the comparison group can be attributed to PROFIT programming ($p=.05$)¹⁶.

Figure 4: Average household income



While at midline, individual businesses were seeing more income per household than group businesses, group business respondents at endline had 1749 KES more 30-day income than at baseline, whereas individual respondent households had only gained 618 KES over baseline ($p=.054$)¹⁷. Group business incomes were more stable over the course of the program, improving resilience as well as financial gains, probably via the division of labour and risk-sharing possible in group businesses. While both group and individual incomes were significantly higher at endline, group business respondents' incomes remained the highest.

¹⁶ According to regressions accounting for 13% variation in ATT estimation using the radius method. See Huber, M., Lechner, M., & Wunsch, C. (2013). The performance of estimators based on the propensity score. *Journal of Econometrics*, 175(1), 1-21; Lechner, M., Miquel, R., & Wunsch, C. (2011). Long-run effects of public sector sponsored training in West Germany. *Journal of the European Economic Association*, 9(4), 742-784.

¹⁷ Independent samples T-test $t(422.7) = -1.93$, SE 588

Disaggregating by non-BOMA income sources, we find that generally, incomes were higher in terms of PROFIT businesses, shopkeeping, milk production, crop sales, employment, and remittance. As seen in the figure below, temporary and less stable sources of income (firewood, casual labour, etc.) decreased substantially among the treatment group.

Figure 5: Average income by source of income

	Endline average		Change since baseline	
	Treatment	Comparison	Treatment	Comparison
PROFIT business*	1060	0	1060	0
Shop	406	253	220	110
Livestock*	1235	1736	-135	632
Milk	86	61	73	56
Charcoal/firewood*	283	546	-613	-305
Tourism	0	0	-20	-24
Pension	13	17	6	7
Crops	367	265	150	139
Casual labour	693	676	-263	-86
Employment*	1137	568	1034	456
Cash transfer	97	52	-77	-79
Remittance	370	310	122	170
Other*	256	405	-181	54

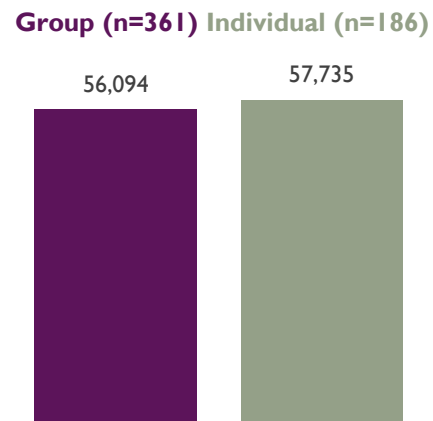
*significant in Difference-in-difference T-tests, $p < .05$

About 95% of BOMA's original participants still ran active businesses at the time of the endline, and businesses contributed substantially to overall incomes. The BOMA team targeted strategic market links among participants between August, 2018 and May, 2019 to address the PROFIT FGD participants' biggest challenge of competing markets, particularly among individual business owners, and participants raising goats for sale.

BOMA Business values

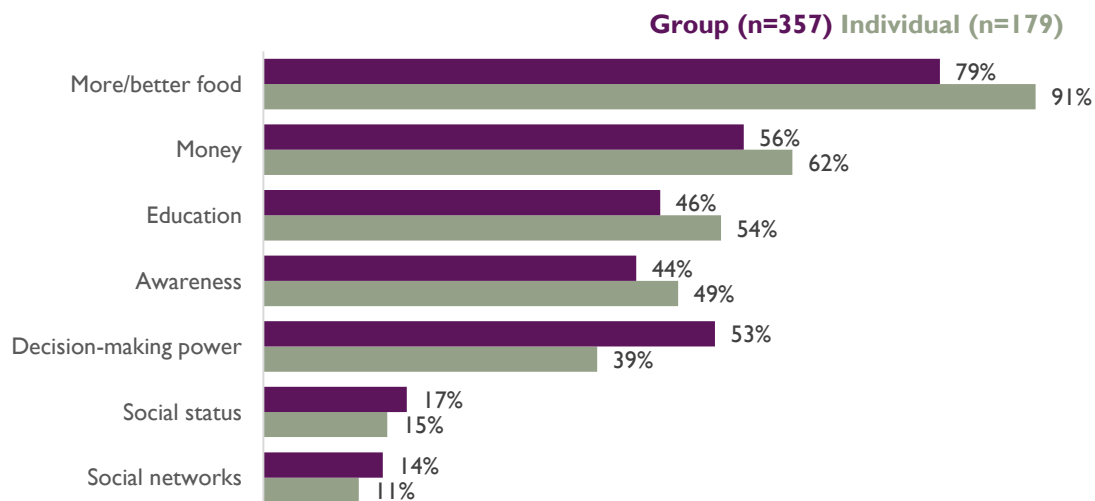
According to monitoring data at endline, average business values among participants had reached 56,652, or, about 22,000 KES more than the original asset disbursement. Between February and March, 2019, BOMA businesses gained an average of 1,313 KES in value, with individual businesses growing about four times more than group businesses, most likely due to the seasonal nature of livestock businesses and their prevalence among individual businesses ($p=.00$ in independent samples T-tests).

Figure 6: Business worth



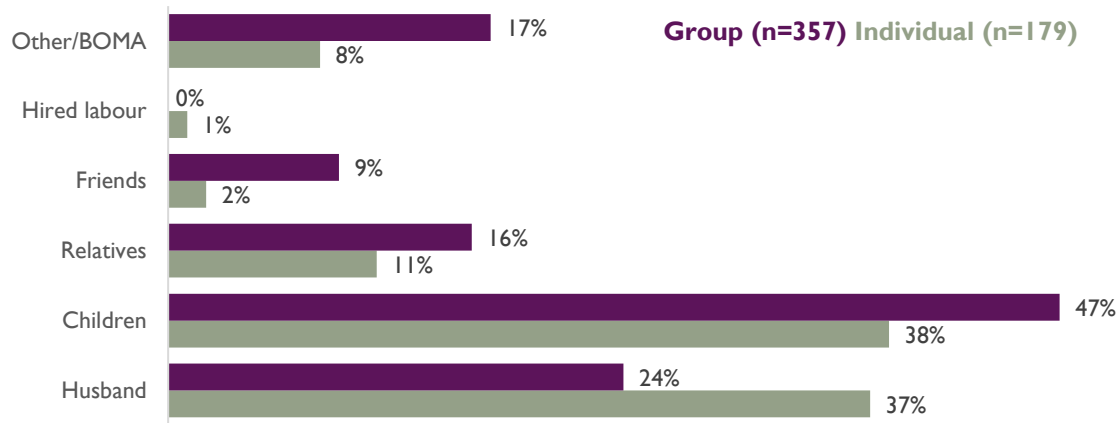
Basic necessities such as food and money topped the list of PROFIT’s top benefits in endline surveys among PROFIT participants (see Figure 7). This suggests that both targeting and programming were on point. Education also figured prominently among treatment respondents’ mentioned benefits (see Education section below). These results suggest some income is being redirected to future planning in a way that is novel to most participants.

Figure 7: Self-reported PROFIT impacts, by business model



Whether group or individual, PROFIT businesses were group endeavors. Children, particularly in group businesses, provided important support to their entrepreneurial mothers, usually in the form of technological savvy (e.g. using phones and Mpesa), and bridging the illiteracy gap (i.e. reading and doing bookkeeping). Husbands were also key in helping to run the PROFIT businesses, with a higher proportion of individual business respondents reporting their reliance on spouses.

Figure 8: PROFIT business helpers, by business model

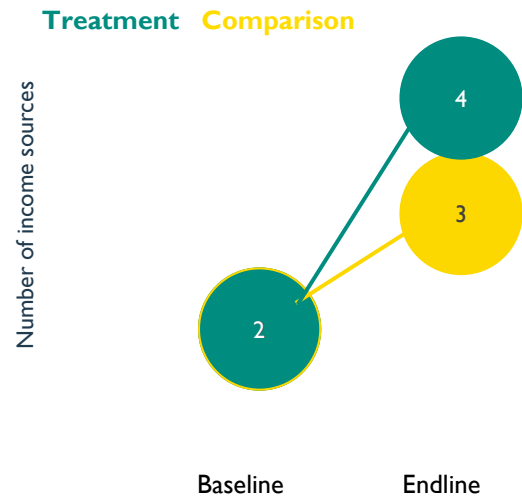


Income diversity

An important implication for sustained income in rural areas, income diversity protects people from shocks in one market sector versus another¹⁸. Treatment households increased the number of sources of income they used to make ends meet by an average of two sources since baseline. This increase constituted one source more than the comparison group’s increase since baseline, attributable to PROFIT programming according to ATT estimation ($p=.000^{19}$). All BOMA participants were accessing statistically significantly more income sources at endline compared to baseline, most directly through PROFIT businesses resulting from the program.

Group business respondents were responsible for a large portion of this growth, as they accessed, on average, 2.3 more income sources than at baseline, compared to individual business respondents’ 1.2 source increase, on average ($p=.000^{20}$). Three-person businesses had an advantage over individual businesses in terms of income diversity, most likely because co-managing the businesses provided group members the opportunity to share responsibilities, which afforded the time and resources to diversify, particularly in terms of income from crop production, milk production, employment, and remittance.

Figure 9: Income diversity



¹⁸ See: Ersado, L. (2006). Income diversification in Zimbabwe: Welfare implications from urban and rural areas. The World Bank.

¹⁹ ATT estimation using kernel matching resulted in the smallest standard errors, and the resulting weights were used when regressing income diversity on the treatment condition and covariates ($R^2=17\%$).

²⁰ Independent samples T-test $t(391) = -6.60$, SE .176

Savings (EQ1/3)

We measured savings via surveys at baseline and endline in aggregate and by source. With 47% of total savings variation explained by participation in PROFIT Financial Graduation, treatment respondents increased savings by 11,896 KES more than the comparison group because of their participation in PROFIT ($p=.000^{21}$). Sources included BOMA savings groups, other savings groups, ROSCA, Mpesa, banks, microloan institutions, and other forms of savings. Savings were drastically higher in the treatment at endline in every category in DiD T-tests ($p=.000$), with few differences between individual and group businesses.

Figure 10: Average total savings



Unsurprisingly, the highest increases in savings were through savings groups. However, even excluding BOMA savings groups, endline participants increased savings more than the comparison in every category. One hundred percent of treatment respondents had some amount in formal savings in the endline, compared to only 36% at baseline.

Figure 11: Savings by source (KES)

	Endline average		Change since baseline	
	Treatment	Comparison	Treatment	Comparison
Cash	1450	230	1325	166
Savings groups	7166	0	6928	-183
ROSCA	616	444	476	281
Mpesa	546	45	517	36
Bank	747	110	687	89
Business	39	67	-6	39
Other	48	11	34	4
PROFIT Assets ²²	2532	0	2532	0

Since being provided phones via the PROFIT Pilot, attitudes and preferences about where to keep money had also experienced shifts, according to FGD results in which “Mpesa” was the most frequently cited – and novel – category of savings. At endline, cash was still a popular way of

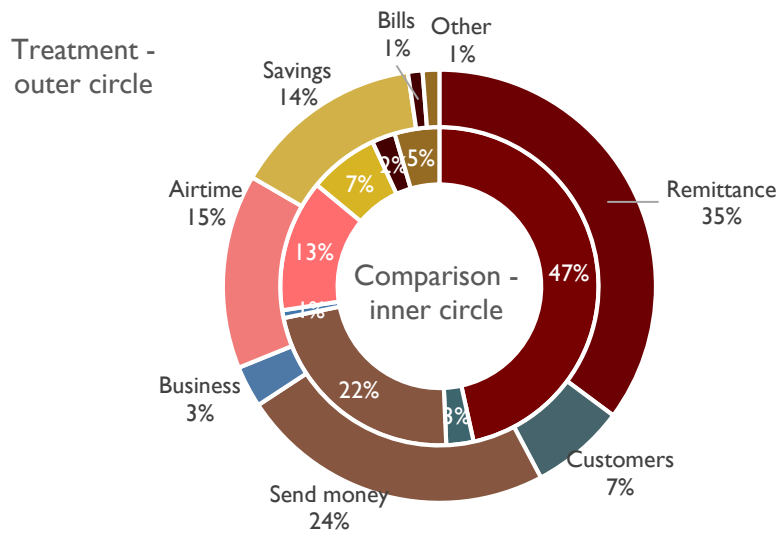
²¹ ATT estimation and covariate weighting used radius matching. The resulting regression model showed treatment status as the most significant predictor of savings increases.

²² For instance, savings in the form of PROFIT livestock, or other shop/hotel assets.

keeping savings, but the majority of treatment respondents' money was being kept in financial institutions.

The top reason Mpesa was gaining popularity – security – was repeated frequently in FGDs, often accompanied by, “safe... even from my husband!” Women expressed delight at this independence and autonomy, although the second most popular reason for saving in a certain way was “accessibility”, which sometimes had to be balanced with security due to the lack of nearby Mpesa tellers. The predominant ways in which Mpesa use at endline differed between treatment and comparison groups was that more treatment participants (n=479, or 89%) used Mpesa than comparison respondents (n=250, or 50%). Treatment participants also used Mpesa for savings, airtime, customers, and other business to a higher degree than comparison respondents.

Figure 12: Uses of Mpesa



Financial sustainability

To ensure success of businesses beyond the life of the project, BOMA facilitated multiple kinds of market linkages across scales. They created connections among similar businesses, both within and without the PROFIT participant pool, through partnership and connections with, e.g., the GoK’s Ushanga Initiative, which provides business support throughout value chains. They also built their savings group model around future business investment through partnership with financial institutions (Supa Sacco, Women’s Enterprise Fund) and programs like Enhancing Opportunities for Women’s Enterprise (EOWE, a Caritas-SNV collaboration targeting 30 Saving Groups within five agricultural value chains – vegetables, poultry, cereals, beekeeping and livestock). By building strong relationships among participants, financial institutions, suppliers, and buyers, they helped to ensure sustainability of the businesses throughout the value chain.

Empowerment (EQ2)

BOMA's woman-centric PROFIT program targeted women's confidence in accessing social protections and services, decision-making within the household, and their role in the broader community as potential arenas by which Graduation skills combined with a disposable income may have a positive effect. Decision-making and confidence were measured through self-reported ranking on scales interpreted with the help of local experts.

PROFIT participants were distinctly more confident (by 18% of a point on the 3-point scale, whereby 1 = not confident and 3 = extremely confident) in all areas at endline compared to baseline levels and comparison group changes in confidence ($p=.000^{23}$). Growth in treatment group confidence was particularly pronounced in terms of obtaining loans, sending their children to school, joining committees, and joining savings groups, suggesting that PROFIT Financial Graduation activities, such as creating savings groups and business and financial skills training have had the desired effect. Indeed, in midline FGDs, PROFIT participants claimed this confidence and the knowledge from which it grew as the most sustainable aspects of the program.

Figure 13: Changes in confidence since baseline

	Endline score		Change since baseline (% of a point)	
	Treatment	Comparison	Treatment	Comparison
Joining a local committee	2.45	2.33	43%	22%
Obtaining vocational training	2.76	2.66	15%	4%
Knowing where to seek medical treatment	2.64	2.46	14%	-3%
Affording medical treatment	2.56	2.29	19%	-6%
Obtaining a loan	2.2	1.79	59%	13%
Receiving food aid	2.12	2.09	-7%	-17%
Joining a savings group	2.8	2.61	31%	15%
Getting help in an emergency	2.5	2.29	23%	1%
Sending children to the right school	2.67	2.47	48%	30%
Aggregate confidence	2.52	2.33	27%	6%

In group versus individual business comparisons, individual PROFIT respondents were more confident overall than their group business counterparts ($p=.000^{24}$), most likely because they did not have a built-in support system for navigation of business and other financial services, and therefore had to navigate the system themselves.

²³ Multiple linear regression of aggregate confidence on treatment, incorporating all matching covariates as independent variables, weighted according to ATT estimation radius-match bootstrapping which accounted for unbalanced covariates ($R^2=38\%$).

²⁴ Independent samples T-test $t(534)=4.2$

Decision-making survey questions were limited to women who were living with a partner or spouse to better reflect gender dynamics within households. In baseline and midline surveys in Samburu, we measured decision-making on a Likert scale with 1 = “no decision-making power” and 5 = “complete decision-making power” with regard to several topic areas. To assess relative power in decision-making, “joint decision-making” “most decision-making” and “complete decision-making” were recoded as “1” in analysis while “partial decision-making” and “no decision-making” were recoded as “0”. Decision-making questions addressed decision-making power about: buying food in the household, seeking treatment for household members, school expenditures, sending children to school, buying and selling household and personal livestock, and buying household items.

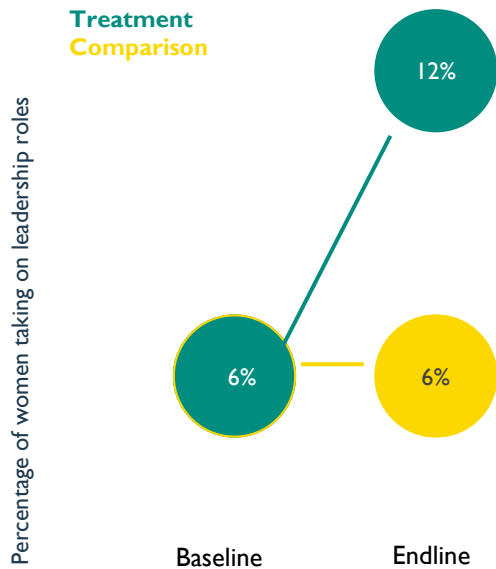
In baseline-endline comparisons, overall differences in decision-making indicators were significant ($p=.022^{25}$), and treatment respondents had more decision-making power at endline compared to baseline, particularly in terms of decision making power about buying and selling household livestock, areas previously thought to be solely a man’s purview in this region. In contrast, decision-making within comparison respondent households experienced no significant change in any direction.

Figure 14: Decision-making (DM) change

	Endline		Change since baseline (% of a point)	
	Treatment	Comparison	Treatment	Comparison
N	396	374	396	374
Food	92%	88%	1%	0%
Medical treatment	89%	84%	12%	7%
Paying for school	85%	78%	9%	7%
Buying personal livestock	90%	86%	6%	0%
Buying household livestock	73%	65%	6%	-5%
Buying household items	99%	98%	0%	1%
Sending children to school	87%	84%	12%	6%
Selling household livestock	86%	79%	8%	1%
Aggregate decision-making power	88%	83%	6%	2%

²⁵ ATT estimation using radius matching resulted in the smallest standard errors, and the resulting weights were used when regressing income diversity on the treatment condition and covariates. Results were significant, though the model explained little decision-making variance ($R^2=2\%$).

Figure 15: Leadership role assumption



Similarly, assumption of leadership roles was higher among the treatment endline respondents than among the comparison group ($p=.001$), although regression results suggested other factors were more important in this shift²⁶. Church and school committees were the most popular committees on which PROFIT participants were participating at endline. Among the comparison group, Maendeleo ya Wanawake membership participation had risen since baseline, suggesting the Kenyan women’s empowerment organization has been more active in the region since baseline, potentially diluting the experimental condition in terms of committee membership.

FGDs and KIIs further detailed the empowerment brought to women via BOMA’s Graduation efforts.

One KII respondent, a senior official at the district level, said, jokingly, “we fear they [women] will take our [parliament] seats!” Other local leaders said, “now we call them [for meetings] and they are open-minded about it” and the program “has removed all shyness” among participants. Local development committees and leadership topped that list of female membership, but female FGD respondents also referred to subtler forms of empowerment, such as people listening to them when they speak, in general (“now we have a voice”), gender equality in the home and in public, the newfound ability/permission to conduct business, heightened status as a result of having money, expanded social roles to spheres outside the home, and belief shifts concerning the right to own property as ways in which Graduation had changed their lives.

²⁶ Probability for ATT estimation using radius matching. However, the significance dropped out in logit regression ($p=.226$) when accounting for covariates, particularly baseline female education levels, income, illnesses, and worker ratios within the household; $R^2=8\%$.

Food security and health (EQ1/3)

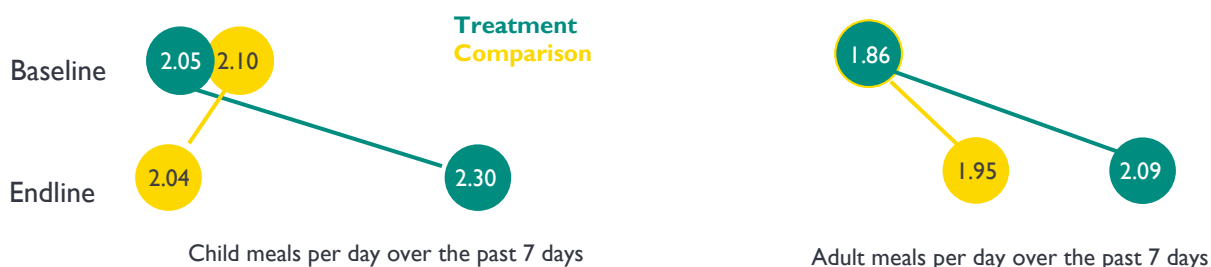
Health impacts were captured in the baseline and endline surveys in terms of food security, water treatment, treatment-seeking, illness prevalence, and NHIF use. Midline FGDs also explored, in particular, opinions and challenges associated with use of WASH technologies and family planning, and experiences with the healthcare system.

Food security

Measured in terms of recall over the previous seven days at baseline and endline, we looked at BOMA's food security separately for children and adults within the household. On average, Samburu children received more meals per day than adults, because of school feeding programs whereby children may receive an additional meal than other family members while attending school, because adults may skip meals while they are out grazing livestock, and because protecting children is valued in this society. An additional recall variable also calculated the number of days in the previous week that children in the household went to bed without supper due to lack of food in the household.

Among the treatment, children averaged 17% more of a meal ($p=.004$) and adults 13% more of a meal ($p=.000$) than comparison per day at endline than at baseline due to participation in PROFIT²⁷. FGDs revealed that this change most likely occurred as a result of one or more of the following program features: a) increased knowledge about dietary health resulting from program mentorship; and, b) more food security as a result of more buying power on the part of women in the household.

Figure 16: Dietary recall



Similarly, treatment households went to bed without supper fewer times in the previous seven days compared to baseline ($p=.000$). Treatment household reductions in this indicator were more dramatic than that of the comparison group, with a 9% reduction attributable to PROFIT programming according to regressions performed with the matched sample²⁸.

²⁷ Radius matched weights in ATT estimation regression controlling for covariates; $R^2 = 3\%$

²⁸ ATT estimation using radius matching generated weights used to regress food security on treatment condition and covariates, $R^2=9\%$

Differences between individual and group businesses were contradictory and cancelling, in that children in group business households increased their meals per day by over a quarter of a meal over that of individual ($p=.000$), but children in individual business households reduced the number of times they went to bed hungry since baseline to a greater degree (by nearly 40% of a day) than those of group businesses ($p=.001$)²⁹. Despite statistical significance, these results suggest that few substantial differences existed between group and individual businesses with respect to food security.

WASH behaviours & family planning

While the comparison group decreased their water treatment between baseline and endline, the treatment group increased. 26% percent of the difference in water treatment was due to PROFIT programming, according to regressions weighted on bootstrap propensity score estimation using radius matching ($p=.054$), primarily in the form of awareness-raising and training by mentors, most likely. Differences between individual and group businesses were not statistically significant.

FGD respondents were knowledgeable about and interested in water treatment but competing priorities and the inaccessibility of treatments kept them from implementing treatments 100% of the time. Among the two treatment methods available, Waterguard (chlorine) and boiling, boiling was more popular due to the costliness and difficulty in accessing Waterguard. The higher rate of water treatment in the treatment group with respect to the comparison is notable in light of the region's remoteness and the above challenges in accessing water treatment technologies.

Differences in latrine construction/use between baseline and endline were not statistically significant, partially, no doubt, due to parallel and widespread efforts by the government to increase open-defecation free zones throughout remote regions of Kenya. Among FGD respondents who did not have latrines, participants explained, the main challenges were skills and labour for building a high-quality latrine, and the materials with which to build them. Also, some respondents are nomadic, so latrines are incompatible with their lifestyle. Attitude and knowledge barriers also accounted for a small but substantial proportion of responses.

In terms of changes in family planning, treatment respondents' use of reliable, biomedical methods rose while comparison levels decreased since baseline ($p=.090$)³⁰. The difference between treatment and comparison use of reliable, biomedical family planning technologies at endline was significant ($p=.040$)³¹, suggesting that awareness-raising resulting from PROFIT mentorship has had an impact. Differences between business model respondents were not significant with respect to family planning.

²⁹ Independent samples T-tests

³⁰ Kernel match bootstrap-weighted ATT estimation multiple regression, $R^2=1\%$

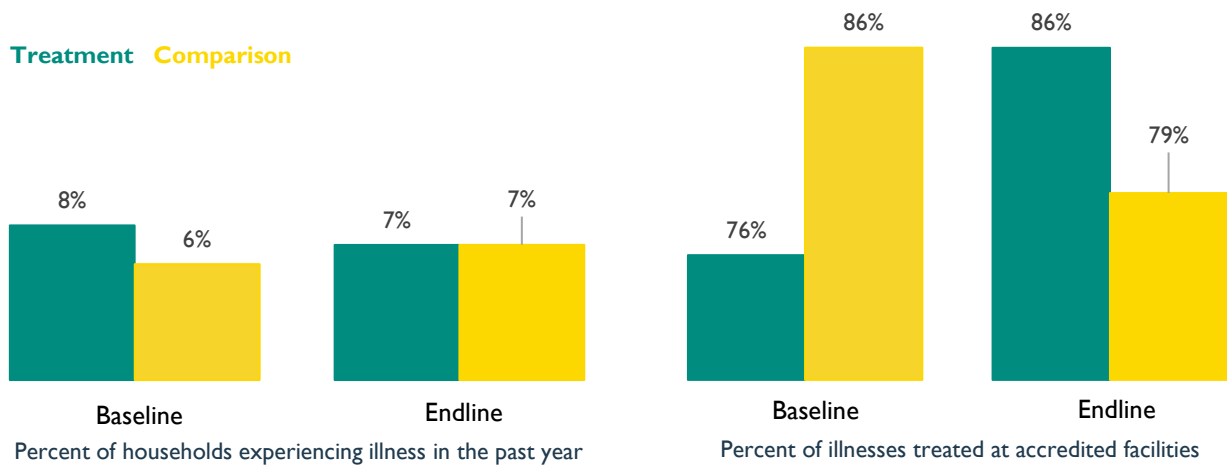
³¹ Independent samples T-test $t(500)=-2.06$

FGD conversations at midline highlighted the barriers to family planning use, the types of family planning used, and reasons why people used them. Beliefs about family planning side effects, like the risk of weakness to the woman or disability and death for future births, deterred a number of women from using family planning, as did male and female beliefs about the morality or benefits of family planning (or lack thereof). Injections were the most common type used, presumably because they tend to be more available in the region, and they are relatively discreet forms of family planning. The women who used family planning used it for limiting, delaying, and spacing births.

Illness and treatment-seeking

Treatment at accredited health facilities increased for the treatment population 18% over comparison households, which decreased accredited treatment-seeking since 2016 ($p=.007^{32}$). Extrapolating from the BRAC theory of change and from focus group discussions at midline, the changes probably occurred through multi-pronged PROFIT activities, including awareness-raising about dietary diversity and nutrition through mentor health messaging, access to healthcare through NHIF enrollment, and increased food security via PROFIT businesswomen’s increased incomes.

Figure 17: Household illness and treatment-seeking



Individual business respondents increased their accredited health facilities treatment-seeking significantly over group business respondents ($p=.032^{33}$). There were no significant differences for illness among treatment, comparison, group, or individual business respondents.

³² Multiple linear regression based on radius-matched ATT estimation: $R^2=3\%$

³³ Independent samples T-test $t(105)=2.1$

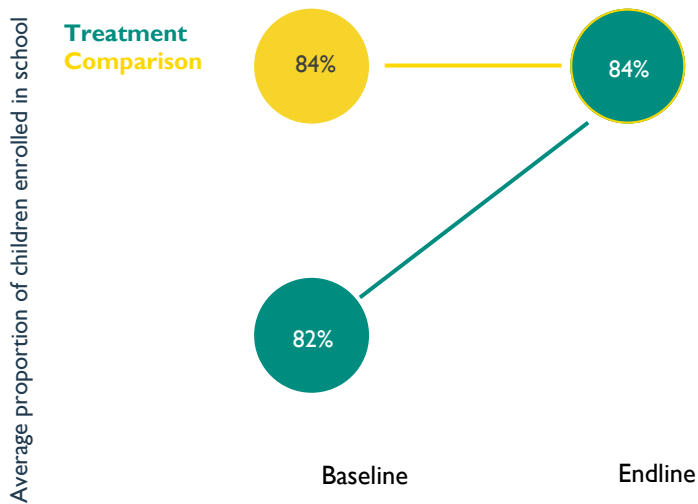
192 of 536 treatment respondents (19%) had used NHIF while seeking treatment in the past year, compared to five of 500 comparison respondents (1%). Differences were statistically significant ($p=.000$) despite limited hospitals accrediting NHIF cards in the region. Between business models there were no significant differences in enrollment or card possession.

According to BOMA's internal monitoring data, after BOMA-facilitated NHIF training, 60% of participants made payment premium for a period of six months, 20% paid for two months, and the remaining 20% planned to pay after savings groups share outs.

Education (EQ1/3)

In surveys, BOMA data collectors collected information about each school-aged child in the household. Differences between baseline and midline were in the expected direction and significant. More treatment respondent children were enrolled in school at endline compared to the comparison group increase over the same period ($p=.027^{34}$). In particular, more of the treatment respondents' primary-aged children were enrolled in school at endline compared to the comparison group ($p=.023^{35}$), especially males ($p=.031^{36}$). According to regression analysis, worker-dependent ratios in the household were another important predictor of primary school-age child enrollment in school.

Figure 18: Proportion of children enrolled in school (n=851)



³⁴ Multiple regression of the total proportion of household children enrolled in school on covariates and treatment condition, weighted by radius-matched ATT estimation-produced propensity score weights, $R^2=4\%$.

³⁵ Multiple regression of the total proportion of primary-aged children enrolled in school on covariates and treatment condition, weighted by radius-matched ATT estimation-produced propensity score weights, $R^2=3\%$.

³⁶ Multiple regression of the total proportion of male primary-aged children enrolled in school on covariates and treatment condition, weighted by radius-matched ATT estimation-produced propensity score weights, $R^2=1\%$

Synthesis – BOMA

EQ1/3: Livelihood sustainability

BOMA's PROFIT Financial Graduation participants gained significant income earning through the program's multi-pronged efforts to train women in business skills, provide guidance for entrepreneurial activities, and disburse market-appropriate assets. According to participants, it is the knowledge gained through mentorship that makes them feel most secure about continuing income earning in the future.

Endline analysis suggests there are long-term trade-offs between individual and group businesses in light of social capital effects, quantified differences, and community perceptions of the two models over time. Evidence from the quantitative analysis suggests that group businesses provided more income diversity and division of labour benefits, and thus resilience in the case of shocks, to members than individual businesses, though individual businesses grew faster. Individual businesses were preferred over group businesses, despite their overall less successful resilience outcomes, due to the challenges involved in maintaining equal investment among business partners and agreeing on business decisions in group businesses. FGD responses to questions about challenges added that individual businesses were more difficult to get started and keep afloat, however. Though more difficult to maintain, group businesses had more benefits than individual businesses in terms of resilience and sustainability (more income diversity and less reliance on short-term income sources) of income-generating activities.

Health: Health emerged as a major area of impact on PROFIT participant livelihoods, and it occurred through multiple program streams, including awareness-raising, NHIF facilitation, and income generation. With knowledge, service facilitation, and income earning occurring simultaneously, PROFIT participants a) gained knowledge about how best to feed and maintain their households, b) earned the income with which to implement the new knowledge, c) expanded their social networks to enhance knowledge sharing and information diffusion within the community, and d) gained access to national healthcare.

EQ2: Empowerment

PROFIT participants showed significant improvement in decision-making power and confidence over the course of the program. BOMA's responsiveness to gender dynamics was essential to its success, as was BOMA's response to gendered politics resulting from female ownership and control of assets. Continuing to involve men, local community members, and leaders in this process emerged as a key to sustained social change in KIIs and FGDs. For family planning in an area where wealth may be counted in children as well as livestock, BOMA leadership recognized that it is essential for interventions to target men as well as women. Assessing for local needs, they identified additional interventions targeting men to be part of an overall, gender-focused approach. BOMA's mediation on certain conflicts and through spousal education provided the impetus for what may be major, livelihood-enhancing, social behavioural change as a result of PROFIT programming.

CARE – PROFIT Financial Graduation

Sample description

Expanding Opportunities (ExOp) used propensity score matching to match treatment to comparison on the following baseline metrics which proved significant ($p < .05$) in outcome regressions³⁷:

- Livestock ownership
- Income from casual labour
- Household income diversity
- Age
- Confidence in accessing services
- Food security
- WASH behaviours

From the 1,049 baselined observations, estimation of the propensity score based on this model resulted in a sample of 901 respondents. Attrition primarily occurred due to baseline participants in both groups moving out of the area in search of better opportunities. Of the resulting 901, only 750 had complete information due to enumerator and data clerk error. Multiple imputation using multivariate normal regression allowed us to impute missing propensity scores and covariates prior to matching³⁸. Matching was performed before and after multiple imputation, so the charts and tables below show the “on support”, or matched, participants prior to multiple imputation. Food security and respondent age were unbalanced covariates after the final matching, so we used a propensity score algorithm that allowed us to match on those characteristics when estimating the effects of treatment (ATT)³⁹. Even with multiple imputation, the results of matching meant that many treatment participants were dropped from analysis due to lack of sufficient “matching”, meaning the results reported below cannot be generalized beyond the sample.

Mean age of the sample at endline was 38, with female-headed households comprising 23% of households. The average household had 6.5 members. Eighty-nine percent of the endline, matched sample was female, with 44% falling into the “young” category (age 35 or less at the start of PROFIT). The remaining 11% were men (mostly “youth” males).

³⁷ To obtain a matching sample, we regressed on an index created from the outcome variables from endline measurement in each criterion category: household income, income sources, savings, child food security, livestock, NHIF status/treatment, latrine, family planning use, proportion of females, confidence, decision making power, and leadership.

³⁸ Mitra, R., & Reiter, J. P. (2016). A comparison of two methods of estimating propensity scores after multiple imputation. *Statistical methods in medical research*, 25(1), 188-204.

³⁹ Leuven, E., & Sianesi, B. (2018). PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing.

Livelihoods and Financial gains (EQ1/3)

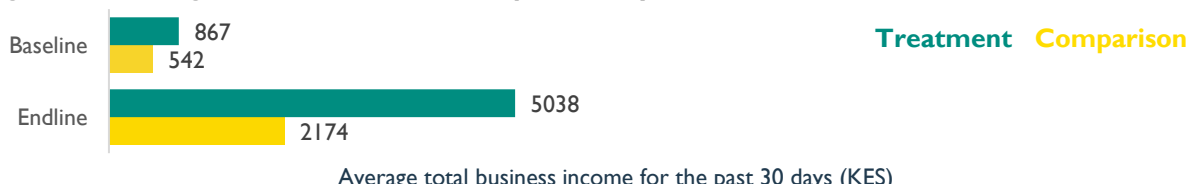
Baseline and endline surveys collected 30-day income recall and income diversity data to show how income differed at the beginning and end of the project.

Monitoring data provided descriptive information about CARE business values and CBT-checked 30-day business income figures. At endline, according to CARE monitoring data, business values among treatment participants averaged 42,691 KES, or 7,000 KES more than the initial transfer of 35,000 KES.

Business Income over the past 30 days

We gathered data on the amount earned in the past 30 days at baseline and endline per household from a list of income activities, including PROFIT businesses (endline only) and non-PROFIT business income (see other incomes by source below). At endline measurement of business income, the PROFIT participants made substantially more money with respect to baseline compared to the comparison group ($p=.000$)⁴⁰. According to midline FGD respondents, add-on livelihood benefits of PROFIT included: the ability to plan for the future due to both financial training and educational opportunities resulting from increases in income; peace of mind accompanying the ability to put something in savings; decreasing debt; quality-of-life improvements resulting from disposable income; leveraged employment opportunities due to the PROFIT program's training and recognition within the broader community; and, the ability to take a loan.

Figure 19: Average business income in the past 30 days



By non-business income sources, we find that generally, incomes grew in the same sources as the comparison with the exception of firewood/charcoal, but they grew more for the treatment group, except with respect to government and non-governmental aid program benefits, and “other” sources of income, which usually had to do with selling livestock to meet the needs of school fees or other major household expenses. All but 29 of CARE’s original participants still ran active businesses at the time of the endline, and businesses contributed substantially to overall incomes.

⁴⁰ Issues with data collection meant we relied on monitoring data for the endline treatment income figures, so these analyses do not reflect matched-sample QED robustness, only immediate form of independent samples T-tests. Endline treatment monitoring sample $n=641$.

Figure 20: Average income by source of income

	Endline average		Change since baseline	
	Treatment	Comparison	Treatment	Comparison
Cash transfer	675.0929	865.0424	578.81	688.54
Firewood/charcoal	645.5019	335.8475	211.45	-389
Casual labour	5834.387	3906.441	3953.05	2159.05
Food-for work	60.40892	140.4343	26.95	42.55
Pension	21.56134	42.16102	21.56	42.16
Employment	1438.476	894.0678	1072.31	632.63
Remittance	874.3048	783.4131	652.74	433.98
Other	1632.156	2786.483	1438.1	2283.52

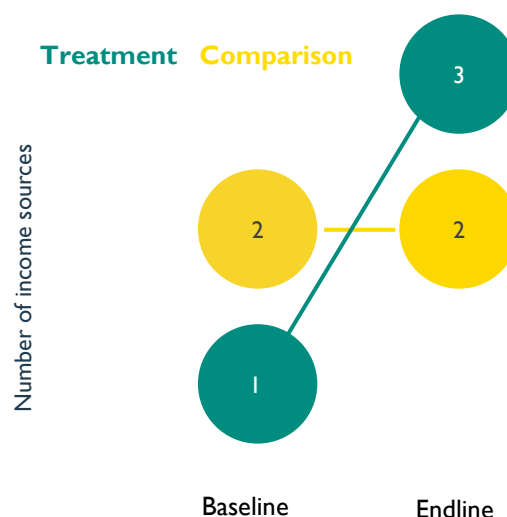
Income diversity

As discussed above, income diversity is an important aspect of resilience⁴¹. Treatment respondents in the matched sample increased the number of sources of income they used to make ends meet by an average of almost two sources since baseline. This increase was significantly more than that of the comparison group increase, according to ATT estimation-weighted regression ($p=.000^{42}$). All CARE respondents were accessing statistically significantly more income sources at endline compared to baseline, most ostensibly through PROFIT businesses.

Other considerable differences between comparison and treatment samples included the treatment’s increase in earning income from remittance (nearly double that of the comparison respondents’) and casual labour as well, cautioning that participation in the program did not mean that all respondents could reduce their reliance on casual labour.

Cereals production also increased more among the treatment than the comparison between baseline and endline by about 70 kilograms ($p=.001^{43}$), probably resulting from PROFIT activities including

Figure 21: Income diversity



⁴¹ See: Ersado, L. (2006). Income diversification in Zimbabwe: Welfare implications from urban and rural areas. The World Bank.

⁴² ATT estimation using radius matching resulted in weights used when regressing income diversity on the treatment condition and covariates ($R^2=27\%$).

⁴³ Radius-matched ATT estimation weights in multiple regression on total kgs cereal production, $n=558$, $R^2=3\%$

business training and connecting cereal business owners to county extension officers to help manage pests, disease, and inputs.

Participant perspectives

According to endline survey responses among PROFIT participants (n=267), opportunities to generate more income, better health, educational opportunities, and financial independence were the most-cited benefits of PROFIT Financial Graduation. From midline FGDs, income increases were made possible by both asset distribution and CBT mentorship and financial training. Health benefits accrued primarily due to training by the CBTs about nutrition and diet, although others had martialled assets or financial benefits from their businesses towards household health. Educational opportunities were more affordable because of income generation, and financial independence resulted from owning a business and controlling assets, rather than having to ask a spouse or other relative for school fees, household supplies, etc.

Savings (EQ1/3)

We measured savings via surveys at baseline and endline. Treatment respondents increased savings by about 14,400 KES more than the comparison group through PROFIT savings groups ($p=.000^{44}$).

Figure 22: Average group savings



Even excluding CARE savings groups, the endline PROFIT sample increased savings more than the comparison in every category. See Figure 23 for endline figures and growth since baseline in other sources of savings.

Figure 23: Savings by non-savings group source (KES)

	Endline average		Change since baseline	
	Treatment	Comparison	Treatment	Comparison
Microloan institutions	449.41	324.1144	380.73	321.89
Mpesa	2106.93	156.5466	2093.55	147.88
Bank	2232.97	435.3983	2232.97	432.22
Other	1454.31	124.8263	1446.88	125.09

⁴⁴ ATT estimation and covariate weighting used radius matching. The resulting regression model showed treatment status as the most significant predictor of savings group savings increases ($R^2=43\%$).

Empowerment (EQ2)

CARE’s youth-centric PROFIT program targeted young people’s confidence in accessing social protections and services, decision-making within the household, and their role in the broader community as potential arenas by which Graduation skills combined with a disposable income may have a positive effect. Decision-making and confidence were measured through self-reported ranking on scales interpreted with the help of local experts.

PROFIT participants were more confident (by 27% of a point on the 3-point scale, whereby 1 = not confident and 3 = extremely confident) in all areas at endline compared to baseline levels and comparison group changes in confidence ($p=.000^{45}$).

Figure 24: Changes in confidence since baseline

	Endline score		Change since baseline (% of a point)	
	Treatment	Comparison	Treatment	Comparison
Joining a local committee	2.57	2.13	10%	-39%
Obtaining vocational training	2.60	2.17	29%	3%
Knowing where to seek medical treatment	2.72	2.08	37%	-21%
Affording medical treatment	2.64	1.91	38%	-30%
Obtaining a loan	2.43	1.68	76%	21%
Receiving food aid	1.95	2.05	-9%	-8%
Joining a savings group	2.73	2.09	36%	-25%
Getting help in an emergency	2.51	1.94	12%	-39%
Sending children to the right school	2.40	1.77	12%	-53%
Aggregate confidence	2.51	1.98	27%	-22%

Decision-making survey questions were limited to people living with a partner or spouse. In baseline and endline surveys in Kitui, we measured decision-making on a Likert scale with 1 = “no decision-making power” and 3 = “complete decision-making power” with regard to several topic areas. To assess relative power in decision-making, “joint decision-making” and “complete decision-making” were recoded as “1” in analysis while “no decision-making” were recoded as “0”. Decision-making questions addressed decision-making power about: buying land, house construction/repair, obtaining loans, sending children to school, buying food and goods for the household, and seeking treatment for ill household members.

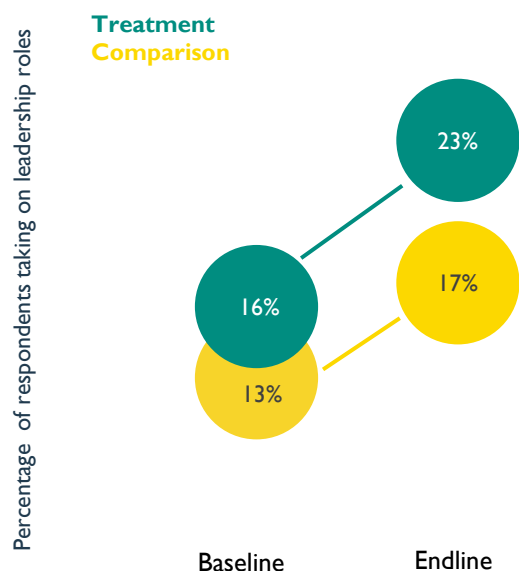
⁴⁵ Multiple linear regression of aggregate confidence on treatment, incorporating all matching covariates as independent variables, weighted according to ATT estimation radius-match bootstrapping which accounted for unbalanced covariates ($n=532$; $R^2=51\%$).

Among non-single treatment respondents, decision-making power grew significantly with respect to baseline levels compared to the comparison respondents ($p=.000^{46}$).

Figure 25: Decision-making (DM) change

	N	Endline		Change since baseline (% of a point)	
		Treatment	Comparison	Treatment	Comparison
Buying land	269	2.42	2.20	15%	-10%
Borrowing money	269	2.43	2.12	24%	-12%
Sending children to school	269	2.43	2.24	17%	0%
Buying household things	269	2.61	2.36	25%	6%
Seeking treatment	269	2.56	2.27	22%	1%
Aggregate decision-making power	269	2.48	2.23	20%	-3%

Figure 26: Leadership role assumption



Assumption of leadership roles was higher among the treatment endline respondents than among the comparison group ($p=.027$)⁴⁷. As in Samburu, church and school committees were the most popular committees on which respondents were participating.

FGDs and KIIs highlighted changes in community leadership among participants as well. Respondents attributed to PROFIT their newfound roles in meetings, giving advice in the community, public speaking, and as chairperson on local committees. They mentioned that now they are asked to attend important community meetings and chief barazas, and they expressed pride in their higher status in the community.

⁴⁶ Radius match ATT estimate-weighted regressions on aggregate decision-making levels; $n= 532$, $R^2=5\%$.

⁴⁷ Radius match ATT estimate-weighted logistic regressions on dummy for leader role; $n=692$, $R^2=4\%$

Food security and health (EQ1/3)

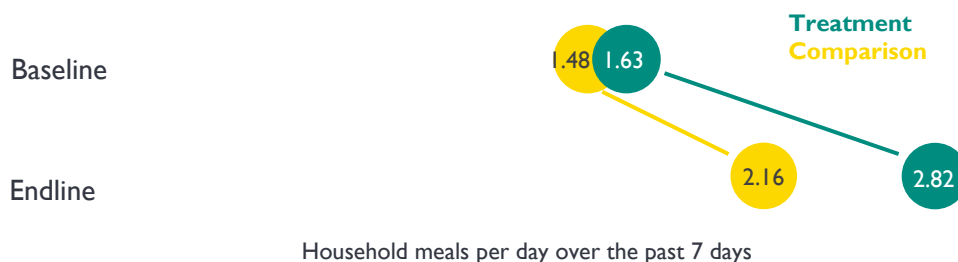
Health impacts were captured in the baseline and endline surveys in terms of food security, water treatment, treatment-seeking, illness prevalence, and NHIF use. Midline FGDs also explored, in particular, opinions and challenges associated with use of WASH technologies and family planning, and experiences with the healthcare system.

Food security

Like in Samburu, we measured food security based on seven-day recall, but in Kitui we were interested in combined household-level food security. We also asked the number of days in the previous week that children in the household went to bed without supper due to lack of food in the household.

Among the treatment, households averaged 61% more of a meal ($p=.000$) than comparison per day at endline than at baseline⁴⁸. Similarly, treatment households went to bed without supper fewer times in the previous seven days compared to baseline ($p=.000$ in independent samples t-tests). While FGD participants at midline spoke enthusiastically about the critical nature of the lessons they had learned from CARE's CBTs about nutrition and diet diversity in this regard, they also acknowledged the importance of business earnings for nutrition accessibility.

Figure 27: Dietary recall: meals per day in the past 7 days



Key players in local goods supply chains recognized the PROFIT consumption stipend as a key component of the Graduation model in allowing participants the 'cushion' they would need to buy food for the household while their businesses got started⁴⁹. Far from fostering dependency, we observed, the consumption stipend in combination with business training allowed participants the opportunity to take financial risks and many of them also used the consumption itself as an experimental investment. That is, they began applying lessons about planning financially for the future to the stipend as they bought chickens that would supply eggs for the family and/or serve as future earning opportunities.

⁴⁸ Radius matched weights in ATT estimation regression controlling for covariates; $n=538$, $R^2 = 42\%$

⁴⁹ In KIIs during midline evaluation

WASH behaviours & family planning

In terms of water treatment, PROFIT respondents' increases in water treatment were higher than comparison respondents ($p=.000^{50}$) between baseline and endline measurement, with 88% of treatment respondents treating at endline compared to 37% of comparison respondents. Much of this change occurred through increases in the use of Waterguard, a reliable water treatment that must be bought, suggesting that PROFIT participants were again integrating PROFIT training with income generation, using their higher income to pay for items that would enhance household health.

Adoption of latrines had increased more among the treatment sample, too. In fact, the number of working latrines had decreased for the comparison sample but increased among PROFIT respondents between baseline and endline ($p=.001^{51}$).

While use of reliable, biomedical family planning technologies increased among PROFIT participants, the change was not significant with respect to the comparison group⁵², suggesting family planning is on the rise throughout the region.

Health and treatment-seeking

Differences in tobacco, alcohol, and drug use among either group were not significant from baseline to endline. However, among women in the treatment sample, there appeared to be a downward trend in using tobacco products ($p=.060^{53}$), which may have had a relationship with CBT health messaging. Otherwise, there were no major differences between comparison and treatment with respect to household health.

Counter to expectations, treatment at accredited health facilities declined significantly among the treatment population experiencing household illnesses ($p=.000^{54}$). While illness did not differ significantly between baseline and endline, we did not measure the seriousness of illnesses or ask about preventative healthcare visits, so one explanation may be that the seriousness of illnesses declined through preventative NHIF card use, and treatment-seeking declined as a result. This will be an important investigation to follow up if ex-post evaluations occur.

Indeed, NHIF and other insurance use was significantly higher among the treatment sample ($p=.000^{55}$). Between baseline and endline, Kitui County also implemented a county-level insurance, known locally as “K-CHIC”, so we included knowledge of the county health insurance when asking about health coverage and awareness (see baseline-endline changes in Figure 28 above).

⁵⁰ Radius match bootstrap-weighted ATT estimation multiple regression; $n=718$, $\text{coef}=.25$, $R^2=5\%$

⁵¹ Radius match bootstrap-weighted ATT estimation multiple regression; $n=696$, $\text{coef}=.48$, $R^2=5\%$

⁵² Radius match bootstrap-weighted ATT estimation multiple regression; $n=694$, $p=.946$

⁵³ Radius match bootstrap-weighted ATT estimation multiple regression; $n=685$, $\text{coef}=.96$, $R^2=6\%$

⁵⁴ Radius match bootstrap-weighted ATT estimation multiple regression: $n=554$, $\text{coef}=-.22$, $R^2=7\%$

⁵⁵ Radius match bootstrap-weighted ATT estimation multiple regression: $n=554$, $\text{coef}=-.81$, $R^2=5\%$

In midline FGDs, health benefits were primary among the Graduation benefits respondents listed. Among respondents who mentioned improvements as a result of WASH messaging as a benefit, increased compound cleanliness and the prevalence of latrines were most frequently mentioned, followed by water treatment and disease prevention practices. Responses pertaining to “nutrition” referred to knowledge and resources for balanced and diverse diets enabled by participation in Graduation. NHIF was the third most common health benefit listed, and as mentioned above, FGD respondents experienced reduction in stress along with direct benefits of NHIF, due to the constant, underlying knowledge that illness or accident could be handled should they occur.

Synthesis – CARE

EQ1/3: Livelihood sustainability

According to the matched sample, CARE's PROFIT Financial Graduation participants gained significant income earning through the program's multi-pronged efforts to train women in business skills, provide guidance for entrepreneurial activities, and disburse market-appropriate assets. Endline analyses suggest optimism with respect to PROFIT's contribution to higher socioeconomic wellbeing, but they were inconclusive as to certain attribution owing to problems with missing data.

Among treatment respondents, the businesses themselves along with the knowledge it took to run them were the biggest benefit of PROFIT, followed by the health benefits (from extra income, NHIF, and awareness), and education (because of skills training and opportunities to send household members to school). These were ways in which the majority of PROFIT participants responded that their lives were changed because of the program.

While the patterns of income-seeking did not change, through mixed methods we observed two major impacts from higher incomes: 1) increased opportunities to leverage new capital through social networks and social status resulting from participation in a locally respected program, and 2) increased predisposition to financial risk-taking through the confidence and peace of mind accompanying the safety nets and skill-building that were integral to the program.

Health: Health emerged as a major area of impact on PROFIT participant livelihoods, and as with the Samburu pilot, it occurred through multiple program streams, including awareness-raising, NHIF facilitation, and income generation. Insurance access is the remaining piece, in that accreditation and systematization in how programs are put into place and how knowledge about them is distributed will determine their ultimate success, and the ability of PROFIT graduates to enact the lessons they have learned through PROFIT about prevention and treatment of health issues.

EQ2: Empowerment

PROFIT participants showed significant improvement in decision-making power and confidence over the course of the program, and these effects were demonstrated in qualitative as well as quantitative data. Confidence in the largely female sample grew the most with respect to obtaining financial services and seeking medical treatment. That is, people were empowered when multi-pronged program components targeted an impact, e.g. through training and asset distribution, or through NHIF and education. This empowerment also required CARE's careful attention and deliberate management of the project around social attitudes about gender roles and division of labour within the household. Like BOMA, the CARE field team spent a lot of time coordinating meetings and gently encouraging a transition in how village chiefs, administrators, etc approached gender and youth empowerment and potential conflicts resulting from empowerment, according to KIIs with local stakeholders at midline.

Sustainability of program impact (EQ3)

Evaluation Question 3 addressed the sustained impacts of PROFIT Financial Graduation. While only follow-up after a year or two will provide definitive evidence of PROFIT Financial Graduation's impact, many indicators addressed above provide support for the future of sustained PROFIT impacts in the region beyond the life of the program. In particular, the impacts of health, business, and financial training, market linkages across value chains, and the success of savings groups and business savings training, will continue to provide the basis for income generation and resilience in the face of shocks throughout PROFIT participants' lifetimes. As was made clear in the FGDs and KIIs even at midline, simply knowing how to manage money in order to put aside a small amount each month was, in many participants' experiences, revolutionary, because it provided the peace of mind and confidence that forms the basis for entrepreneurial risk-taking⁵⁶.

Endline surveys also included a series of questions designed to understand participants' perceptions of program sustainability. Treatment respondents were asked, "What PROFIT impacts do you think will continue to benefit you even after the program ends?" ExOp developed categories of responses for this question with the IPs based on participants' responses to similar, open-ended questions asked during midline FGDs and KIIs.

Figure 29 provides a synopsis of the resulting response rates in Samburu and Kitui. Behavioural independence, or some version of "I rely less on others' permission when there is something I want to do", and sustained income and/or business activity, were the most prevalent responses among respondents of both business models.

Financial independence, or responses suggesting respondents would have some control over household finances in the future, was another arena in which respondents strongly predicted sustainability. As these were the areas that the Graduation model primarily targets, these responses suggest that, a) the program worked as it was intended to do, and b) the knowledge and resources women gained through this program will continue to serve them in their financial and social endeavors even though the program has ended.

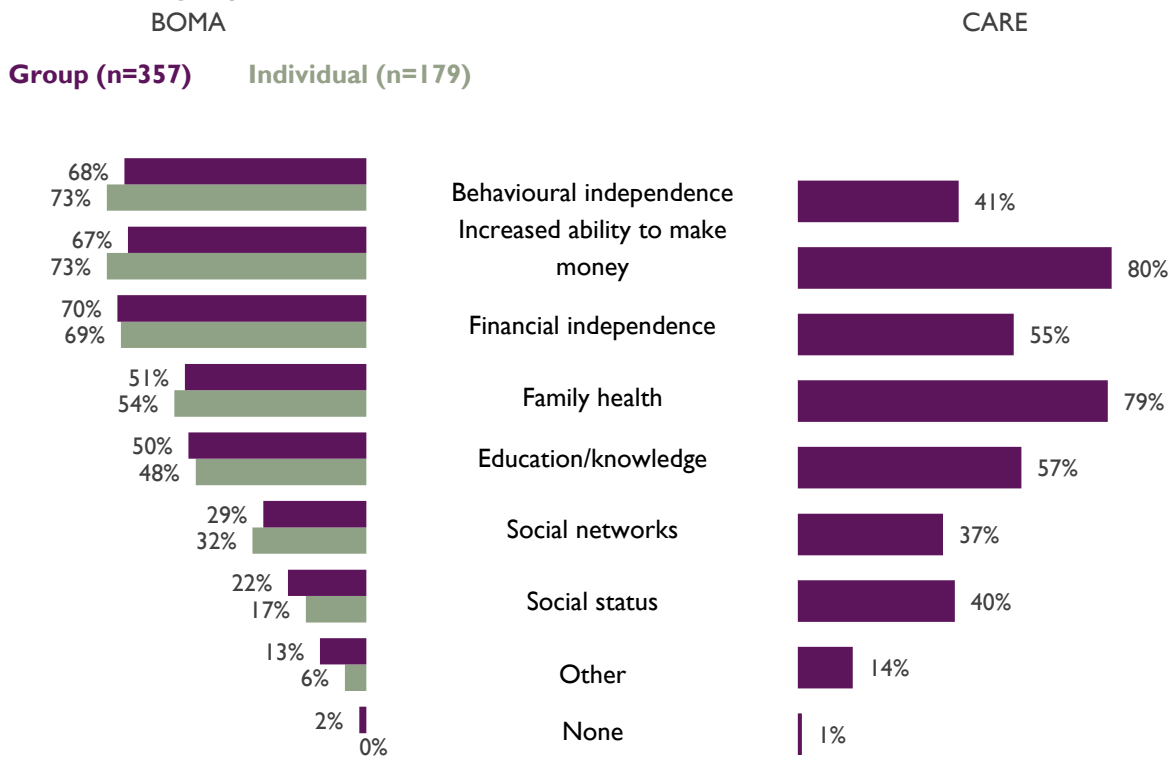
The program's lasting benefits in other areas, though less mentioned, provided evidence that the intended targets were met. In the area of family health, mothers felt they had a better grasp of their family's nutritional needs as well as knowing how to manage household resources to provide for them as a result of PROFIT training. Also, in education, many participants revealed this area to be the goal of their income generation in the first place, so that knowing how to start and maintain a business would provide the financial ability to educate their children well into the future.

⁵⁶ See Wärneryd, K.E. (1988). The psychology of innovative entrepreneurship. In W.F. Van Raaij, G.M. Van Veldhoven, & K.E. Wärneryd (Eds.), *Handbook of economic psychology* (pp. 404–447). Dordrecht, Netherlands: Kluwer.

Participants also pointed to an increase in social capital as a result of the program. Not only did the maintenance of a business and membership in a savings group get them “out of the house” and socializing in new ways according to FGD participants, PROFIT activities also raised their social status within the community. PROFIT participants were perceived as people “who had something to contribute,” and the impacts of this were twofold: a) they gained social status and were invited to more networking and leadership opportunities; and b) the increased presence of women in these spheres, along with IPs working closely with chiefs and village leadership to change attitudes about gender dominance, meant that the broader community’s attitudes about women’s roles have begun to shift in important ways, according to FGD respondents.

Filtered into the “other” category in the figure below were statements about other aspects of women’s lives for which PROFIT participation has raised their quality of life, including buying land or animals, going back to school, less reliance on casual labour, possessing a phone, building a better home, etc.

Figure 28: Lasting impacts of PROFIT Financial Graduation



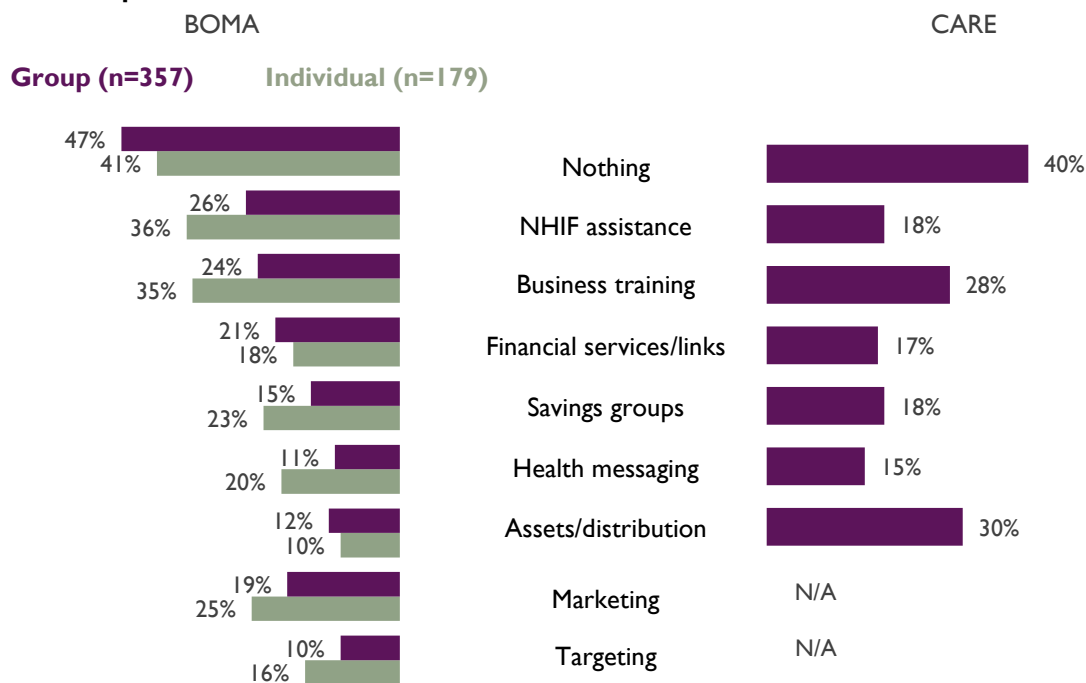
*What aspects of PROFIT do you expect to continue 1-2 years after the PROFIT Graduation program has ended?

Addressing challenges to sustainability

During endline administration, we also asked participants what aspects of the program should be improved the next time a program like PROFIT Financial Graduation is implemented. We categorized responses according to the program activities. In general, respondents hesitated to say anything negative, most likely due to a) the popularity of the program among participants, and b) social desirability bias⁵⁷. As shown in Figure 30, “no changes necessary” was the most popular response.

NHIF was the top improvement response in Samburu, and tied for fourth in Kitui. The issues with NHIF were largely beyond the control of the PROFIT pilot. Despite consistent coordination between PROFIT and NHIF during the course of the program, both enrollment of respondents and accreditation gaps meant that the – largely remotely located and low literacy (especially in Samburu) – PROFIT participants had difficulty navigating the system. For instance, PROFIT participants did not always know which health facilities would accept their NHIF cards, or sometimes they grew suspicious when they were told to wait in long lines while non-NHIF treatment-seekers received treatment ahead of them, according to FGDs.

Figure 29: Improvements to future Graduation models



**If PROFIT were to implement a program like this elsewhere, what aspects should they change or improve?*

⁵⁷ See, for instance, Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of consumer research*, 20(2), 303-315.

35% of individual business respondents and 24% of group business respondents in BOMA's pilot mentioned business and financial training as an area for improvement. In CARE's pilot, 28% also suggested this area for improvement. The discussions during midline FGDs and KIIs, though, suggested the major training improvement recommendation was to "add more" training, rather than to change the content or the quality of the training. As mentioned above, part of being "ultra poor" in this region means low literacy, so that sometimes IP trainers were forced to start "financial training" with a lesson on the written alphabet. Only after people have the ability to read and write can they understand how to keep books and use numbers to manage their households. IPs were ingenious in working with low-literacy populations, and they developed 'work-arounds' for illiteracy, like tying knots with cordage to keep track of their books.

Low literacy is why facilitation of loans and links to financial services began late in the programming in Samburu, in early 2019, as BOMA was forced to focus on laying a foundation of knowledge prior to throwing women into credit-debt navigation that might leave them vulnerable to financial distress. Navigation of financial services was something that 17% of CARE's treatment sample did not feel expert with yet.

Only a category in the Samburu survey, marketing and market linkages posed another challenge for 19% of group respondents and 25% of individual respondents for BOMA. Another aspect of ultra-poverty in this region is remoteness, in that getting goods to market without a vehicle was prohibitive in some cases. In order to facilitate market linkages in remote areas where competition for livestock and shop businesses was high, CARE and BOMA undertook a market study to better prepare their participants to compete in local markets. The knowledge they gained from those helped them connect local participants to lucrative skills, businesses, and supplies. In order to facilitate market linkages in remote areas where competition for livestock and shop businesses was high, BOMA facilitated connections among participants, financial institutions (e.g. Supa Sacco), and investment organizations (e.g. EOWE) to create and sustain business and financial supports beyond Graduation (described above).

Asset distribution ranked high as an area for improvement in the CARE survey, as money was provided to CBTs and CBTs used it to procure assets, sometimes without extensive input from participants. Assets and asset distribution were not as frequently mentioned in BOMA's survey, reflecting the fact that transfers were done via cash, and participants were provided mentorship on how to invest the money transferred for assets.

Conclusions

While PROFIT Financial Graduation targeted financial aspects of livelihood sustainability, the program's theory of change recognized the livelihood-interlinked aspects of socioeconomic status that contribute to long-term stability among the most vulnerable members of a community: health, empowerment, social service connectedness, and education. When these aspects are represented in people's lives, they mean people possess the power to enact resilience when they face certain financial risks and 'hits'. This evaluation undertook to understand the impacts of the program on participants in both the short and long term.

The most striking impacts, according to quantitative analysis as well as the participants' perspectives, were in terms of participants' ability to make money ($p < .05$) and in financial savings ($p < .00$). These impacts were all the more striking when we explored their relationship to other aspects of people's lives, e.g. adult education, social and financial relationships, and confidence, whereby the financial business training participants received both made them more money and increased their confidence in their future ability to make money, while the connections that IPs facilitated with financial and extension services provided access to business financing and asset improvement. According to FGDs, low-income young men and women who participated in the PROFIT pilots feel more secure and confident in their ability to perform social roles and make ends meet, and this security is influencing risk-taking behaviours and social dynamics in the community.

In fact, for participants, money was not the ultimate goal of PROFIT Financial Graduation, but the food and health of their family was. Most participants in PROFIT Financial Graduation agreed that the ways in which the program addressed these local goals were the primary benefits of the program.

The program also directly affected many other areas of participants' lives, including their relationships with their spouses and other family members, their overall level of health, social roles, education and abilities, and even community politics. The asset transfer and technical training were particularly revolutionary for PROFIT Financial Graduation participants, where women's roles previously dictated strict confinement to home spheres of influence in most of the project area. The various forms of training accompanying the asset transfer provided women the necessary confidence to affect change. In addition, through constant follow-up and monitoring, implementing partners were able to address the unintended consequences of programming on gender dynamics, like when husbands tried to usurp assets or phones, and these issues were addressed in real time and with the involvement of communities and community leaders. Thus, the follow-up and mentorship aspects of the program were critical in tracking participant progress and ensuring positive outcomes related to financial and social gains.

PROFIT's most daunting challenges were revealed to be infrastructural and bureaucratic at a scale the program was not designed to address. For instance, the NHIF challenges highlighted the ways

in which national and county-level programs and rollout may be at odds with local capacity and infrastructure. However, the program facilitated partnerships between the government and the public and provided the NHIF with important knowledge about the capacity and challenges of community members. The savings groups, through training and links with financial institutions and programs facilitated by the IPs, also provided a local alternative and bridging apparatus to more formal financial institutions, like microfinance and banking, which tend to offer prohibitive interest rates on loans for the poorest members of a community.

As we exit Graduation, institutionally, IPs and the GoK look forward to other efforts to provide social protections in a targeted way, and this coordination will be essential to the sustainability of the program, e.g. through Ushanga and NHIF at the national governmental level, and through partners like SNV and CARITAS at the non-governmental level. Ultimately, the IPs' role in this institutional network provided participants a) knowledge about how to navigate the local healthcare and financial services scene, b) introduction to local key players who can provide support, and c) supported entrepreneurs into a bureaucracy few community members felt they knew about. In short, they provided an essential connection between government services and the public who could most benefit from them.

For programs like these to continue to be successful in the long term, coordination among local services and income generation activities needs to occur at all levels, including national as described above. Regionally, county officials and health facilities must have a common vision and communication plan for nascent programs like NHIF. Locally, village and ward administrators need to be aware and supportive of social protections efforts, and local leadership must help inform higher-level policy, especially in terms of targeting criteria for social protection and the feasibility of local investment at nationally-defined rates for social services like NHIF. Only in this way can local community members confidently access the resources they need to combat poverty.

Appendix

Please find the relevant tools, data, and do files at the following link:

<https://drive.google.com/drive/folders/1iViBmqLL9S3QbXDBfHpZ4xNm3lid0w7i?usp=sharing>