

CARE PATHWAYS Final Evaluation Malawi



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ACRONYMS

BMGF	Bill and Melinda Gates Foundation
CSI	Coping strategy index
FG	Focus group
FGD	Focus group discussions
GVH	Group village head
HDDS	Household dietary diversity score
IHA	Intra-household access
KI	Key informant
KII	Key informant interview
M&E	Monitoring and Evaluation
MAISP	Malawi Agricultural Input Subsidy Program
MARDEF	Malawi Rural Development Fund
MFI	Microfinance institution
MWK	Malawi Kwacha
NGO	Non-governmental organization
OIBM	Bank of Malawi
PPS	Probability proportionate to size
TA	Traditional authority
TOC	Theory of change
USD	United States Dollar
VSLA	Village savings and loan association
WEI	Women's empowerment index
WEAI	Women's empowerment in agriculture index

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To the many Malawian households who took time from a long, busy day to participate in this endline evaluation during August of 2015, it is our sincere hope that the findings within will contribute to programming that improves your well-being.

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Laurie Starr, TANGO International

EXECUTIVE SUMMARY

Overview

Using a strong gender focus, CARE's Pathways program seeks to increase poor women farmers' productivity and empowerment in more equitable agriculture systems at scale. Pathways, funded through the Bill and Melinda Gates Foundation, is implemented in Malawi (the focus of this study) as well as selected regions of Ghana, India, Mali, and Tanzania.

Thus, the program theorizes that marginalized, poor women farmers will be more productive, and that their families will be more food secure when:

- women have increased capacity (skills, knowledge, resources), capabilities (confidence, bargaining power, collective voice), and support
- local governance and institutions have/implement gender-sensitive policies and programming that are responsive to the rights and needs of poor women farmers
- agricultural service, value chain, and market environments of relevance to women are more competitive, gender-inclusive, and environmentally sustainable.

The Malawi Pathways project is implemented two rural districts of central Malawi: Dowa and Kasungu which lie within the same agro-ecological zone and have similar traditional and cultural values and challenges. They were prioritized because they represent areas of entrenched gender discrimination, rural poverty, chronic food insecurity and unsustainable farming practices. The project works directly with 10, 814 poor women small holder farmers in 235 villages.¹

CARE contracted with TANGO International to design and support the implementation of a global evaluation framework for Pathways and to lead the baseline and endline evaluations in all of the program countries. The baseline study took place in July and August of 2012; the endline study in August and September of 2015.

Methodology

The baseline assessment and endline evaluation used a mixed-methods approach. Quantitative survey offers statistically representative results; qualitative research helps to understand why project indicators may or may not have changed.

Quantitative sample: The Pathways baseline and endline quantitative surveys are “beneficiary-based” in that the sample was randomly drawn from a sample frame composed of all households with a female member in a collective with which Pathways is working. Designed as a longitudinal study, data are to be collected from the same households for both surveys. TANGO and CARE calculated a sample size that provides statistically representative results for household and individual level indicators at the project level. Due to attrition rates and Pathways dropping activities in areas that baseline data showed did not meet targeting criteria, the endline sample is significantly reduced. The unanticipated attrition could have resulted in some indicators for which the reduced sample size was now too small to detect change; however this did not occur, as explained in Section 2.

Quantitative data: A 25-member Malawian quantitative team administered the household survey in Chichewa using Nexus 7 tablets. Survey data were collected August 23rd through September 20th, 2015 in the Traditional Authorities of Dzoole, Kaomba, Mwase, and Njombwe. Supervisors

¹ CARE Malawi Pathways 2014 Annual Report

conducted one spot check per day, per enumerator, allowing them to regularly review the accuracy of the data. TANGO provided comprehensive daily feedback to CARE and the survey supervisors on data quality. TANGO used SPSS v20.0 software to collate and analyze the data. Statistical differences are determined with t-tests or non-parametric tests. We report probability levels for statistically significant differences only.

Qualitative data: An eight-member qualitative team (seven Malawian team members and one TANGO consultant) carried out participatory research in six communities that are a subset of the quantitative sample. The villages were purposively selected, maximizing diversity of relevant criteria. The qualitative methods included focus group discussions, key informant interviews, and ranking exercises. The team interviewed female VLSA members, husbands of female VLSA members, female non-members, marketing committee and village development committee members, village agents, community-based extension agents, literacy instructors, produce buyers, government officials, and CARE Malawi staff.

Study limitations: The endline survey was programmed into the tablets in Chichewa. The baseline survey was programmed in English and translated by enumerators into Chichewa as they administered the questionnaire. While a translated survey greatly improves the accuracy and reliability of the endline data, it may also mean that baseline and endline questions were asked slightly differently. If so, survey participants may have elicited different types of responses due to differences in translation. The extent to which this limitation affected the results, if at all, is unknown.

Neither baseline nor endline data are able to determine the depth of food insecurity that populations face during lean season. The surveys were conducted at the end of the harvest season for the majority of the main seasonal crops in Malawi, a time when food shortages are not as prevalent as other times of the year. The baseline survey was conducted in late July - early August, 2012. Endline data were collected one month later than baseline (late August), however; 2015 harvests were delayed due to the climate-related late start of planting,² resulting in similar timing of the survey relative to household harvests, and therefore comparable data.

RESULTS AND FINDINGS

Household Characteristics: Participant targeting has been accurate and successful with 94% of male-headed households and 99% of female-headed households meeting the criteria for CARE's impact groups at endline. The average number of household members reported at endline is 5.7 compared to 5.1 members reported at baseline, presumably due to an increase of children. Level of education of the household head remains constant with few achieving more than a primary education. At endline, more households are headed by females than at baseline (31% versus 24%). This is possibly due to death of the husband (the number of widows appears higher than at baseline³). Qualitative evidence provides another explanation: some women residing in male-headed households still face barriers to participation that are not experienced by women residing in female-headed households, although it was much less common to hear that men prevent women's participation in 2015 compared to 2012.

² FEWS NET. Malawi Food Security Outlook. April to September 2015.
http://www.fews.net/sites/default/files/documents/reports/Malawi_FSO_2015_04.pdf

³ No statistical test conducted.

Impact: economic poverty reduction, food security, livelihoods resilience, and women's empowerment

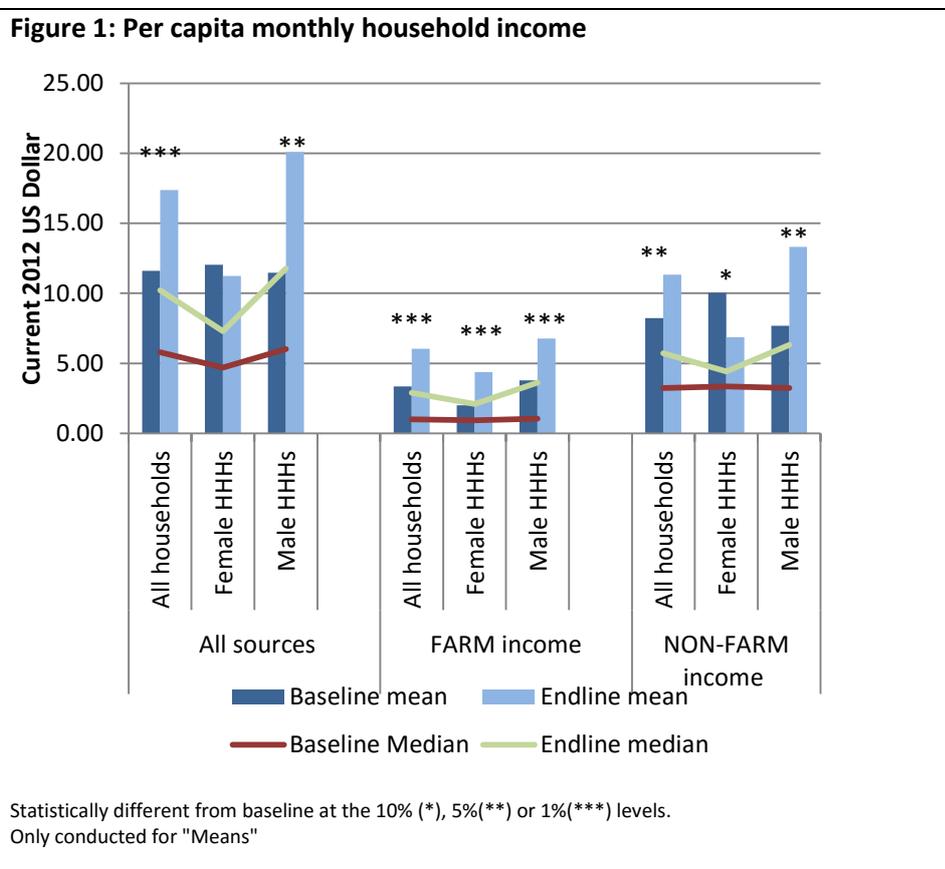
Household income and expenditures: Male-headed households show significant gains in total (farm and non-farm) income, almost doubling their 2012 earnings of 11.47 to 20.08 at endline (Figure 1). Female-headed households did not experience this gain. Of particular importance to the Pathways project are changes to farm income. Male- and female-headed households alike show strong gains in this area. Male-headed households are earning 6.77 USD per month, about 3.00 USD more than at baseline (3.79 USD); female-headed households have more than doubled their farm earnings since baseline and are now reporting approximately \$4.39 per month, per capita (BL value was 2.00 USD).

Monthly per capita non-farm income has also increased for male-headed households (13.31 USD versus 7.68 USD); however results indicate that female-headed households' per capita monthly non-farm income has declined by approximately 2.39 USD, a decline likely due to outliers in the baseline data.

Some focus group (FG) participants assert that women are more likely than men to earn income these days. They state that the project has influenced a change in their past conviction that they

should depend on a man to support them, although this change comes with pros and cons. The greater acceptance for women's income-earning capacity sometimes results in men believing that gender equality means women should bear the financial burden for the family.

In line with increased income, monthly per capita expenditures increased substantially, from



19.55 USD to 27.02 USD for the total sample. Similar to income gains, the increase is greater for male-headed households than for female-headed households.

Household savings: The vast majority of households report they have savings in a formal or informal institution, and, as might be expected in a survey sampling female VSLA members, the results are similar for the percentage of women who report savings in a formal or informal institution. For both groups the percentage declined slightly since baseline from 97% to 94% for households and from

97% to 93% for women. An explanation for this slight drop is that women may continue to save, but not necessarily through the VSLA. Qualitative findings show that a few VSLAs faced challenges with fund mismanagement and as a result women save in their homes rather than the group. Other FGDs reveal that some women do not like the pressure to borrow that comes with saving in a group. They too, are convinced that saving is essential to their lives, but opt to save at home instead.

While the number of households who are saving did not increase, it is quite likely that the *amount* of savings increased substantially. Qualitative evidence strongly supports this theory as do survey data which show that 85% of women interviewed believe that participating in Pathways activities has resulted in improved household savings.

Food security: Across the total sample the mean household dietary diversity score increases from 5.3 to 6.0 from baseline to endline, meaning households are on average accessing six different types of food daily. Most of this change is due to increases for members of male-headed households, who now access one more food group on average than at baseline (5.4 vs. 6.3). Across all households, food access for women, specifically, also increased since baseline from 5.2 to 5.7 food groups. While specific nutrition metrics are not included in this evaluation, it is plausible that household nutrition also improved given the substantial increase in access to high protein foods, such as dairy products, pulses, eggs, and fish.

Participant perceptions of how the Pathways project has improved household well-being validate improved dietary diversity scores. Over half of all surveyed women (56%) state that participation in the program has resulted in improved food security; 45% assert they have improved their nutrition knowledge as a result of project activities.

Household assets: As income and expenditures increase for the Pathways sample, so do asset holdings. The index value of all assets across the sample increased remarkably between 2012 and 2105, from 200 to 400. Male-headed households experienced the greatest gain—a 206% increase in asset holdings. Female-headed households experienced a 195% gain. The gap between the total asset holdings of female- and male-headed households widened slightly.

Consumption coping strategies: Due to contextual factors, in 2015 more households experienced stress from food shortages than they did three years ago; however, the level of stress did not increase substantially. Extended dry periods caused maize and other cereal production to severely decline to below-average levels.⁴ Higher maize prices in 2015 constrained food access across the country—the national average maize price in July 2015 was 54 percent higher than in July 2014.⁵ Furthermore, households experienced more shocks than three years ago, particularly shocks that impact crop and livestock food supplies, such as drought, hailstorm and disease. As a result, the coping strategy index increased from 2.0 to 5.6; the number of households reporting food and income shortages increased from 12% at baseline to 25% at endline. Given the contextual factors of 2015, it is remarkable that the coping strategy index at endline did not spike much higher than it did, and that households were able to increase income, expenditures and asset holdings.

Non-consumption coping strategies: The use of non-consumption coping strategies considered to be “negative” or irreversible also increased across the sample between 2012 and 2015 (8% BL versus

⁴ FAO. 2015. GIEWS Country Briefs. Malawi. Reference Date 06-August-2015. <http://www.fao.org/giews/countrybrief/country.jsp?code=MWI>

⁵ FAO. 2015. GIEWS Country Briefs. Malawi. Reference Date 06-August-2015. <http://www.fao.org/giews/countrybrief/country.jsp?code=MWI>

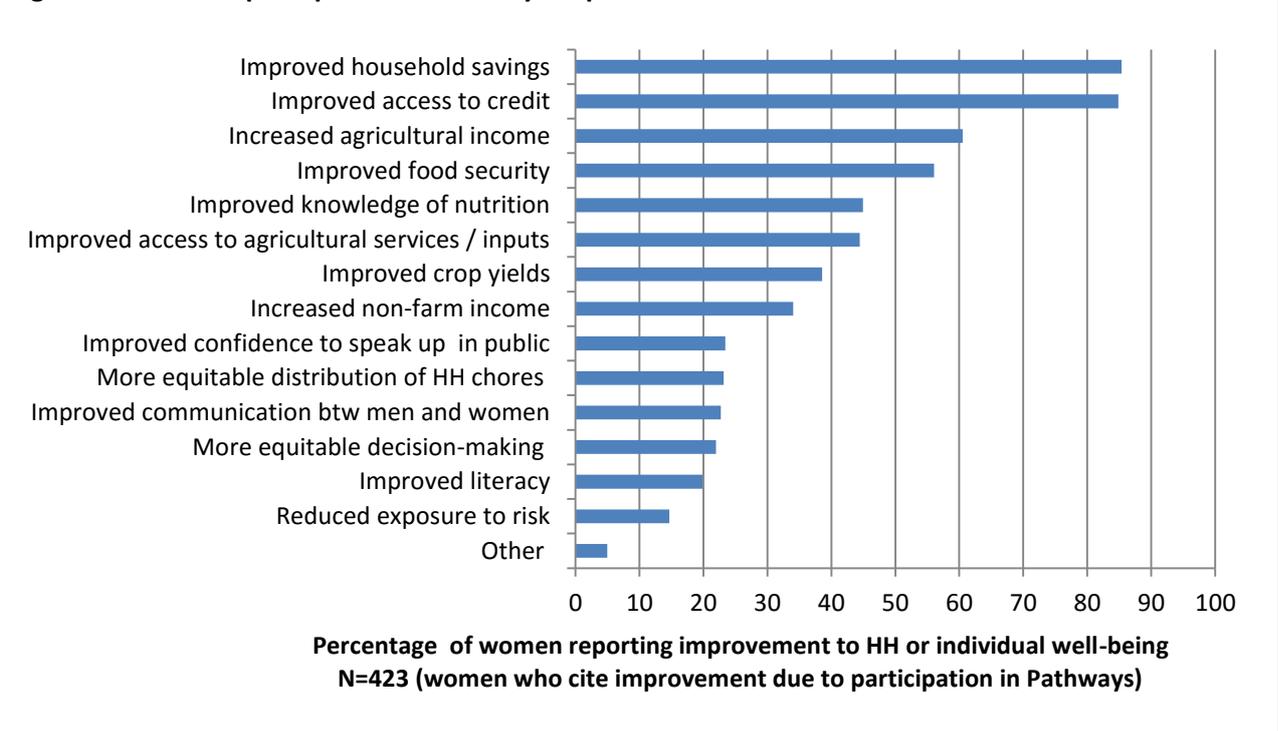
17% EL); the increase is even larger for female-headed households (6% BL versus 17% EL). On a positive note, the availability and or use of informal and formal social protection mechanisms (factors considered to be contributors to increased resilience) in response to food and income shortages increased since baseline. Also of note is the percentage of households who cite the use of savings to cope with shock and stress; it increased substantially across all shocks (59% EL versus 45% BL) indicating greater absorptive resilience capacity. The increase is even greater for female-headed households (62% EL versus 41% BL).

Adaptation strategies: Two adaptation strategies stand out when looking at baseline and endline values Households at endline are appreciably more likely to use drought-tolerant or early-maturing crops compared to three years ago (26% EL versus 10% BL) and are more likely to diversify livelihood activities (52% EL versus 42% BL).

Empowerment: Female participants in the Malawi Pathways project experienced a slight gain in empowerment—both the level of empowerment and the prevalence of women who have achieved empowerment. The mean empowerment score increased from .60 to .66. Worth noting is that the score for women in male-headed households increased from .55 to .60. In addition to a greater level of empowerment, more women have crossed the .80 threshold of CARE’s criteria for achievement. In three years, the prevalence of empowered women increased from 21% to 29%.

Domains where Pathways participants experience the greatest gains are Resources, and Leadership/Community. Women are more likely to make sole or joint decisions about the sale and purchase of assets than in 2012; their ownership of assets also increased, as did their access to and control of credit Women’s agency also substantially increased and political participation, which was quite high at baseline increased slightly. Areas in which there has been no detectable change and which still appear to be challenging for women are mobility, attitudes that support gender equitable roles in family life, and autonomy in production, and decision-making control for productive decisions.

Figure 2: Women’s perceptions of Pathways impact



Project Participant Perceptions of Impact: To understand participant’s perceived impact on the household, the endline survey explored perceived level of well-being compared to four years ago. Female and male participants overwhelmingly believe their household is better off after participating in Pathways activities. Only 6% of female respondents and 9% of male respondents state there has been no change to household well-being as a result of participating in Pathways. The top improvements noted by females are shared in Figure 2 .

Change Lever 1 - Capacity

Improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers.

Women’s Participation in Formal and Informal Groups: All (100%) women sampled are active members of at least one formal or informal group that exists in their community. Qualitative discussions with members and non-members in all six villages indicate that groups are open to anyone who wants to join. In ranking exercises all groups (women, men, and community leaders) rank VSLA participation as the most beneficial activity of all Pathways initiatives. Benefits include increased ability to purchase livestock and farming inputs, start small businesses, pay school fees, and purchase clothing for children. The vast majority of VSLA participants greatly appreciate the ability to borrow as few financial services are available with attractive lending terms. Participants also appreciate access to nutritional and “family life” knowledge shared in groups and the enhanced social ties.

Among women who participate in groups, the number of women who state they hold leadership positions increased over the three-year period from 53% to 72%, surpassing the project target of 64%. Despite these promising results, similar to baseline findings, qualitative 2015 findings suggest that, for the most part, women are recognized as capable leaders only in their gender-normative sectors (e.g., school committee) or positions (e.g., secretary or treasurer of marketing committees).

Self-confidence: Of interest is that despite budget constraints causing Pathways to drop activities related to enhancing men and women’s voice and dialogue, and providing citizen education about rights and responsibilities, Pathways’ participants of both sexes made great strides in voice and agency regarding community affairs. The number of women stating they are comfortable speaking up in public drastically increased since baseline from 53% to 77%. Male respondents also show increased agency with 87% stating they are comfortable speaking up about these issues versus 74% who reported the same at baseline. Both endline results surpass project targets. Qualitative findings yield no insight as to what factors external to the Pathways project may have contributed to the increase in agency. Given the connection that women make between financial independence and empowerment (Table 18, Section 3.5.1) it is plausible that the significant gains in income contributed to greater agency. This should be explored by further qualitative research to determine if the theory is valid.

Change Lever 2- Access

Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers

Women’s access to financial services: Across the sample there is a marked increase (57% BL versus 69% EL) in the percentage of households where women have access to and control over loans used

for income-generating activities (Table 26).⁶ Of concern is that women in male-headed households do not experience any gain. Less than one-fourth (23%) report access to and control over loans used for income-generating activities. As at baseline, the source of loans for the vast majority of women (> 92%) is a VSLA. Only 2% state they have borrowed from a formal lender. Qualitative findings show that formal lenders are available but people prefer the VSLA over these institutions because of the distance required to access them (usually 15 km or more), the less-desirable loan terms, and the collateral requirements.

Women’s access to agricultural extension services: Access to agricultural extension increased dramatically over the three year period. At baseline only 29% of female respondents stated they, themselves, had met with an agricultural extension worker in the last 12 months; three years later, that number increased to nearly 82%, exceeding the project’s cumulative target by 15 percentage points (Figure 9). Qualitative evidence supports the survey results. All FGD with female VSLA members report that agricultural information is more readily available to women compared to three years ago, due to community extension officers, government extensions officers, and the private sector whose link to the women is through a VSLA. Most non-members spoke about spillover from the project and relate that they too, have more access to information about agriculture than they did three years ago due to the increased presence of community extension workers. In qualitative ranking activities, across all groups (male, female, and village development committees) increasing access to extension services ranks as the third (of 11) most effective project activity, relative to Pathways’ impact on individual and household well-being. People specifically link increased access to extension services with the ability to get higher yields from small land parcels, increasing crop diversity, and adopting early-maturing varieties that help buffer increasingly unpredictable rains. They also appreciate additional tips shared by extension providers on topics such as nutrition, gender equality, and the importance of savings.

Women’s access to agricultural inputs: Three years ago, 78% of female farmers had accessed agricultural inputs such as seeds and fertilizers from at least one external source. At endline, 86% of women report they access such inputs. While this number does not reach the project’s target of 93% access, it is a noteworthy increase. A particularly important finding is that the percentage of women who source the inputs from cooperative groups jumped from only 3% to over 18%.

In the qualitative ranking exercise, females rank “Increasing access to agricultural inputs” as the 4th (of 11) most effective effort of the Pathways’ project. Virtually all female participants in the qualitative study agree that VSLA shareouts are the main reason women are more able to access fertilizer and seeds. For the most part, similar to baseline qualitative findings, endline qualitative findings demonstrate that despite increased access availed by way of VSLA loans; numerous constraints still plague women’s and men’s ability to obtain the inputs they want and need. Price and distance to a supplier are the primary obstacles.

Women’s access to output markets: At endline, the number of women who state they have accessed an output markets increased by more than 20 percentage points from 42% to 63% surpassing the project’s cumulative target of 60% . Qualitative findings suggest that although the project achieves its target for improving market access for targeted women, there is room for improvement.

⁶ Control over loans is defined as solely determining to take out the loan *and* solely determining how the borrowed capital was used.

In contrast to baseline qualitative findings, endline findings show that producer groups are prevalent throughout the Pathways implementation areas. Survey data also show that 62% of women report participating in a producer group (Table 20). Despite the prevalence of the groups, community opinion on the extent to which the groups benefit households varies significantly by geographic location. Half of the communities visited by the qualitative team appreciate the linkages that Pathways developed with NASFAM and are encouraged by the higher prices they've been able to obtain. The other half states that it is challenging to get buyers to come and purchase their crops. They claim the producer groups are not functioning as planned and farmers must sell individually to vendors at lower prices than planned for. Women rank the activity 6th (of 11 Pathways activities) for effectiveness. Finally, qualitative evidence indicates that women are beginning to negotiate with traders for better prices, but none interviewed feel they have adequate negotiating skills.

Change Lever 3: Productivity

Improvement in yield and income through adoption of sustainable and intensified agriculture and value addition

Women's agricultural and post-harvest practices: At endline women are far more likely to use improved agricultural practices than they were at baseline (70% EL versus 47% BL) surpassing Pathway's cumulative target of 50% (Table 14). The practices showing increased adoption are: use of improved seeds, use of manure or composting, crop rotation, and alley cropping. Specifically, the number of female farmers using improved seeds almost doubles (34% versus 66%). All of the practices showing large increases are promoted by the Pathways project. In qualitative ranking exercises, across all groups (male, female, and village development committees), improving agricultural skills ranks second of 11 activities. There are also dramatic increases in the adoption of post-harvest practices (Table 31). Nearly three-fourths (74%) of female farmers state they use two or more post-harvest practices, compared to 60% at baseline. Again, Pathways surpasses the project cumulative target of 69%.

Crop diversification: There is a small increase in the mean number of crops grown by women from 2.6 to 3.0 (Table 29); the majority of this gain taking place among female-headed households, who are growing almost one full crop more than they did 3 years ago (2.3 BL versus 3.4 EL).

Women's agricultural yields: Using only 2012 and 2015 crop data, it does not appear that the increased use of improved practices and greater access to inputs resulted in higher yields, however; other data points must be considered because 2015 was a particularly difficult year for farmers throughout Malawi. At endline, women's soya yields, at 795 per hectare, are not statistically larger than baseline values (712 per hectare), and per hectare yields for groundnuts and maize declined (groundnuts 802 BL versus 763 EL; maize 1850 BL versus 1790 EL). There is a slight increase in the amount of land devoted to soya ($p < .05$) and groundnuts ($p < .1$) (Figure 16), so *total* yields (as opposed to yield per hectare) should increase accordingly. The data set contains variables that allow CARE to do additional analysis of total yields.

Despite the apparent stagnation or decline in yields per hectare, there is plentiful evidence from qualitative and secondary sources to indicate that until 2015, production has been increasing since 2012, and endline results for crop data are not representative of farmers' experience over the three year period. District reports show that extended dry periods caused local maize production to fall by

35% to 50% in Dowa and Kasungu Districts, in comparison to the five-year average.⁷ Groundnuts, a rain-fed crop, also suffered severe declines in production.⁸ Furthermore, the baseline 2012-13 season hosted unusually favorable weather conditions for groundnuts,⁹ which could have positively skewed baseline results. In contrast to the poor survey results for “yield per hectare”, almost two-fifths (39%) of surveyed households state that a key improvement as a result of participating in Pathways is better crop yields.

Women’s income from agriculture: Since 2012, the percentage of households with a woman earning farm income increased by 20 percentage points, from 74% at baseline to 94% at endline (Figure 14). This is true for both female- and male-headed households. Women’s annual net income from agricultural production¹⁰ substantially increased over the past three years from 165 USD to 253 USD (Table 28). While income more than doubled for women farmers in female-headed households, and nearly doubled for women in male-headed households, the former group still earns considerably less than the latter (156 USD versus 295 USD). Over 60% of women state that agricultural income increased due to their participation in the Pathways project (Figure 2). Qualitative findings also indicate that women link increased agricultural income to increased soya production, promoted by Pathways.

There is a notable disconnect between the large increase in women’s agricultural income and the decrease or stagnant levels for agricultural yields. Several factors could influence the conflicting data points. First, while yields may not have improved in 2015 compared to 2012, prices for corn, soya, and groundnuts did increase substantially. Women may have earned more income despite lower yields. Second, the survey took place within the 2015 harvest season, when crops may have been harvested but may not yet have been sold. In some cases, households may have reported 2015 crop yields but reported income from the 2014 harvest, which qualitative evidence indicates was much higher.

Change Lever 4 - Household Influence

Increased poor women farmer contributions to and influence over household income and decision-making

Women’s control of income, expenditure and asset decisions: Across all household types, women’s decision-making control over household assets increased by roughly 16 percentage points to 73%. All of the gain is due to increased decision-making control for women in male-headed households—68% now report decision-making control of household income and expenditures compared to 50% at baseline. For agricultural assets, 73% of women residing in male-headed households now enjoy decision-making control compared to 53% at baseline. Of key importance to the Pathways program is the increased number of women who report they have decision-making control over land assets (Figure 19); over 78% state they can make decisions over the sale or purchase of land compared to only 67% at baseline. While results show impressive change for asset decisions, no change is detected since baseline in the number of women who have decision-making control over either

⁷ FEWS NET Malawi Food Security Outlook. July to December 2015.

http://reliefweb.int/sites/reliefweb.int/files/resources/Malawi_FSO_2015_07_1.pdf

⁸ Interviews with Ministry of Agriculture.

⁹ Fitzgerald, G. 2015. The production of ready to use therapeutic food in Malawi: Smallholder farmers’ experience with groundnut production. Results from a four year livelihoods analysis in Malawi’s Central region. Department of Food Business and Development. University College Cork.

¹⁰ Women’s reported mean annual net agricultural income is calculated from estimated women’s estimated sole and/ or joint earnings from agricultural sources, minus estimated annual costs of inputs for each income source.

household or agricultural income and expenditures. Qualitative findings generally support this result indicating that while women are able to make decisions on the use of some income, it is the male who makes the majority of the decisions.

Women’s control of reproductive and health care decisions: Women did not experience similar advances in control over health care decisions; in fact women in female-headed households actually have less control of health decisions than they did at baseline (84% versus 98%) which contributes to a slight decline across the sample. In both male- and female-headed households, survey data indicate that the majority of women are still the sole or joint decision-maker family planning decisions (92%), but across the sample there is a small decline (95% baseline to 92% endline). Qualitative findings provide no explanation for the decline.

Change Lever 5: Enabling Environment

More positive and enabling attitudes, behaviors, social norms, policies and institutions

Attitudes about gender equality in family life: Results show that patriarchal attitudes about family life are held not only by men, but are ingrained in women’s opinions of their own role in family life. Fewer than half of women (47%) or men (45%) demonstrate attitudes that reflect gender equality in family life (Table 34). This was true at baseline and there is no statistically detectable change at endline.

While the majority of surveyed men and women reject gender-based violence (82% and 80% respectively) there is no detectable improvement since baseline (Table 34). The data provide insight on attitudes toward domestic abuse, but may or may not reflect actual practice. Qualitative evidence from FGD participants, key informants, and project staff strongly suggests gender-based violence is reduced in most villages visited at endline and specifically links the reduction to the shifts in household workloads and improved relationships, much of which participants credit to Pathways messaging and initiatives, as well as to increased ability to report domestic violence to authorities.

Women’s freedom of mobility: across the sample freedom of mobility did not improve for women, and has in fact declined for women residing in female-headed households. The result is perplexing and is not supported by qualitative findings. It is possible that the results are due to enumerator confusion on the question. More detail is offered in section 3.11.2.

Project Management

Staffing: Project staff are highly-committed to the project objectives. They are technically and professionally competent in M&E, value-chain, and agriculture sectors. Currently staffing levels are adequate for a project that is phasing out, but ups and down levels over the years were difficult for Pathways and at times affected the ability to optimally implement such a complex and comprehensive undertaking. There is no gender specialist and only two females on staff, neither of whom are field officers. Staff did not come to the project with gender specialization or hands-on experience in gender initiatives, but recently, with the help of CARE headquarters the project devoted significant time and resources to enhancing staff capacity in gender.

Funding: The Malawi project continuously faced funding hurdles year after year, because the project timeline was only two years rather than the five-year timeline that the other countries enjoy. Although extensions occurred, it has been very difficult for staff to plan one year at a time.

Project adaptation and implementation: The Pathways program continually evolved since its inception. This includes selecting niche areas of focus in order to avoid geographic overlap with other actors implementing projects that would contribute to Pathways' overall goals. The country projects and headquarters team routinely held learning meetings to gauge progress and adapt as needed. One key learning from annual meetings was recognizing the need to strengthen staff capacity in gender and to modify the entire program approach to gender. Another key learning was to place an intense focus on the Farmer Field Business School approach, which integrates agriculture, marketing, nutrition, and gender in a comprehensive training package and adapts to the trainings to farmers' natural calendars.

Monitoring and evaluation: Although the project struggled with M&E in early years, at times having no lead at all in the M&E position, the project currently has good M&E capacity, with staff who are highly motivated to learn about and apply best M&E practices. Project monitoring documents are up to date, annual reports provide a good level of detail, and cumulative targets are appropriately set for the majority of outcome indicators. Annual review studies and progress markers are highlights of Pathways' efforts to monitor for learning, in addition to monitoring for accountability purposes.

Conclusions

Overall Impact: food security, economic security, livelihoods resilience, and women's empowerment

The CARE Pathways Malawi levers of change appropriately address some of the greatest barriers to economic and social equity for poor rural women farmers Dowa and Kasungu districts. The project enhanced women's capacity, increased women's access to markets and services, and increased control of productive assets for women in a traditional social and economic setting that favors men. Over the course of three years (2012-2015), households participating in the Pathways program have better food access, increased resilience to shocks, and much stronger economic security. The project is also slowly contributing to changes in women's empowerment, specifically within the domains of resources and leadership and community.

Pathways' Malawi created a solid marketing vision when it decided value chains would be a niche area. Complemented by solid technical staff who have agriculture and business backgrounds, the project's efforts to integrate women into soya and groundnut value chains and collective marketing contributed to substantial increases in farming income, particularly for female-headed households who have more than doubled their farm earnings since baseline. Increased income contributed to a sizeable increase of asset holdings. Households headed by both sexes are investing in assets that will help to perpetuate agricultural and non-farm income gains and build resilience to shocks and stressors (e.g., land, small livestock, poultry, tools, and business equipment). Women consistently report that VSLA savings and income from soya or groundnuts help to pay for education. Given current thinking on contributors to resilience, this type of investment should positively influence the adaptive and transformative resilience capacities of the next generation.

Overall, household resilience to shock is much stronger than at baseline. Households have been affected by more shocks and stressors in the last year compared to three years ago, but have been able to maintain or in some cases even see gains in key well-being outcome indicators. Absorptive resilience capacity increased through an enhanced asset base and households' capacity to save and use savings to cope with shock or stress. Women and their households are more able to adapt to

shocks and stressors because they have greater access to information and increased their use of improved agricultural practices. Specifically, female farmers are more likely to use drought tolerant or early-maturing crops and are more likely to diversify livelihood activities, both a result of Pathway's influence. Of concern is that generally, female-headed households are still less resilient to shock compared to their male-headed counterparts. For example, they have not increased non-farm income to the extent male-headed households have, meaning they have little ability to buffer shocks that severely threaten farm income. Additionally their asset base did not increase to the extent male-households' did—in fact the gap between the two groups widened.

Increased income allowed for a substantial increase in dietary diversity, particularly access to high protein foods, many of which are animal products—small livestock and poultry are typically purchased with savings or loans from VSLAs, or with the increased income from farm and off-farm activities.

Women's empowerment, an extremely difficult issue to mitigate in a short time frame, shows signs of slow positive change for women having more control over which assets are purchased and which are sold. Women's access to credit also improved and women show small gains in self-confidence. The improved confidence may be related to the increases in women's income as women's opinions of an "empowered woman" are tightly linked to financial independence. Given the notable gains in income, much of which appear to be the result of women's efforts in farming, it is worrisome that results show no improvement for women's control for productive decisions, women's control over income, or women's mobility. Additionally, despite substantial efforts at gender sensitization over the past year and one half, women and men alike are no more likely to express attitudes that support gender equitable roles in family life. While the project is undoubtedly improving food security, household economic status, and resilience, endline results suggest that women are not experiencing the empowerment the project hypothesized would result from the five levers of change. Plenty of evidence indicates current implementation of Pathways gender initiatives are thorough, conscientious, and well-done, however; because serious efforts to build staff awareness about gender and to remodel the methods Pathways uses to promote gender awareness in the field started only after midterm, Pathways did not make as large an impact as hoped for.

The results also bring into question the theory of change logic. Households are reaching the higher level goal, without realizing some change levers thought to be critical to reaching this goal. Essentially change has barreled ahead—only developing a relationship with productivity and profitability domains, without traveling through the empowerment and equity pathways in the process.

Conclusions: Change Lever 1 – Capacity

Participating in Pathways VSLA and producer groups helped women (and other members of their households) improve their knowledge in a number of critical areas, increase important skills, build relationships, and build self-confidence and conviction related to their role in farming. The main skills and knowledge gained by women relate to agriculture: planting early-maturing and higher yielding varieties; spacing; crop rotation; soil erosion prevention; timely weeding; and construction of box ridges for water retention. Spillover of farming skills and knowledge is also apparent among women who are not members of the collectives, essentially benefiting whole communities.

Women participating in Pathways collectives are transitioning their identities into agricultural growers with a market orientation. They are feeling more confidence and conviction that they have an important role in smallholder farming for income. This change of attitude is a pre-requisite for changed practice required to increase crop productivity and profitability. While producers are generally more satisfied with prices offered by the larger buyers compared to middlemen, and women's capacity to negotiate with traders is slightly better than at baseline, there is much room to further strengthen capacity.

Beyond soya and groundnut production, the project has not made notable progress in increasing women's capacity to engage in business. This is a critical gap, as a key use of VSLA capital is to start small businesses. Training on business selection, planning, and management has been spotty, and there is little evidence that project staff have conducted a thorough analysis of potential economic activities for women to engage in. Business failure has doubled since baseline, affecting more than half of all households. Qualitative evidence suggests that many of these failed businesses are the small businesses women started with VSLA loans but have not been able to maintain due to insufficient knowledge on market demand and saturation, and few skills to enhance the profitability of small businesses. Notably, those who have taken part in Pathways business training state that it has helped them to manage finances, and budget any profits so that the businesses sustain. On a positive note, those with successful businesses report they have used the profits to buy farm inputs and buy VSLA shares.

Conclusions: Change Lever 2 – Access

The efforts of Pathways Malawi contributed to most women farmers having greater access to productive resources, assets, markets, services, and inputs. Gains vary depending on whether a woman is from female- or male-headed household.

The Pathways Malawi project made important contributions to increasing access to productive resources and assets at both household and individual levels. Through capital available from VSLA participation (loans and savings), women are more able to purchase (or rent) productive assets such as land, small livestock, and tools. Women are managing family land devoted to soya and groundnuts and if husbands will not allocate family land, women are increasingly taking the initiative to collectively rent land for this purpose. There is a marked increase in the number of female-headed households where women have access to and control over loans used for IGAs, but women from male-headed households did not experience any gain. Had the current gender strategy and activities been rolled out earlier, the project may have had more influence in this area. As discussed in section 5.2, it is important to recognize that access to financial resources does not always result in successful investment, if not accompanied by business training.

By training community-based extension agents in technical skills and extension skills and equipping them with materials and equipment to support training and their own mobility the Malawi Pathways project greatly improved linkages between community service providers (FFTs and VAs) and female farmers. Pathways also did a decent job facilitating linkages between the community agents and district-level structures for recognition, certification and support. The increased access to these actors directly contributed to the increased capacity in agricultural skills, previously discussed.

Pathways moderately increased linkages between women and private sector buyers, and positive changes to market access appear to be clearly linked to Pathways' initiatives to develop networks of

producer groups. Qualitative evidence from female participants suggests that while success is not ubiquitous across communities, the majority of participants believe that linkages to larger buyers directly contributed to increased income. At this point, there is little diversity in buyers (NASFAM and Export Trading purchase most of the production), however; there are clear signs that the project and the participants are making earnest efforts to attract a larger buying base.

Participation in a Pathways VSLA is a key reason that financial access to fertilizer and seed improved—the majority of women use VSLA capital (loans or shareouts) to purchase agricultural inputs, especially fertilizer for maize, even though there is consensus that these inputs are extremely expensive. Physical access to inputs remains a key challenge, although Pathways initiatives contributed to small gains by facilitating collective buying of seed, fertilizer, and other productivity enhancing inputs through the VSLAs or producer groups. Little progress is evident of VSLA, producer groups and/or individual members operating as input suppliers. Seed multiplication schemes have been one of Pathways larger efforts, but are rarely valued by participants because they feel too few seeds are distributed among very few participants to make a difference in the community. Poor rains have also diminished the effectiveness of the seed multiplication program as low harvests affected farmers' ability to pay back the seed per agreement.

Conclusions: Change Lever 3 – Productivity

Pathways' promotion of sustainable and intensified agriculture and encouragement for women's participation in soya and groundnut value chains had impressive results related to improving household farm income.

Project activities designed to sensitize smallholders on crop production and diversity have taken hold and more women are using improved agricultural practices and are growing soya and groundnuts compared to baseline. Female-headed households seem most receptive to project efforts to promote crop diversity; they now grow one more crop on average than they did three years ago.

Since 2012, Pathway's value-chain approach substantially encouraged women to engage in farming for income. The increase is generally as high for female-headed households as it is for male-headed households, suggesting that integration into agricultural value chains is benefiting all households. However, not all changes associated with increased production are positive. Qualitative evidence indicates that generally, women work longer and harder than they did before, as they manage their own crops, work in their husband's fields, and complete their domestic obligations. Gender initiatives to sensitize households and communities on inequitable time burdens and equitable contributions to household chores have not been implemented by Pathways long enough for the ideas to take hold.

Using only 2012 and 2015 crop data, it does not appear that the increased use of improved practices and greater access to inputs resulted in higher yields for Pathways participants, however; other data points must be considered because 2015 was a particularly difficult year for farmers throughout Malawi. Notably, the amount of land devoted to soya, groundnuts, and maize increased slightly—enough to feasibly contribute to an additional 92 kg of groundnuts per year, an additional 32 kg of soya per year, and an additional 90 kg of maize per year (amounts based on kg. per hectare results) for each household. There is also plentiful evidence from qualitative and secondary sources to indicate that until 2015, production has been increasing since 2012, and endline results for crop data are not representative of farmers' experience over the three year period. In light of climatic

challenges faced by farmers in 2015 it is quite remarkable that farmers were able to maintain 2012 production levels, suggesting strengthened resilience to decreased and unpredictable rainfall.

Net annual income from the agriculture production activities that women participate in substantially increased over the past three years and survey and qualitative findings show that women strongly link increased agricultural income to their participation in the Pathways project. With no evidence of increased yields, it appears that the increase is primarily due to households obtaining higher prices for crops rather than selling greater amounts of produce. Country-wide prices for corn, soya, and groundnuts increased substantially since 2012. Additionally qualitative evidence shows that some producer groups, particularly those who live close to a tarmac and a larger town, are able to obtain higher prices through linkages to large buyers, such as NASFAM and Export Trading, that Pathways helped to establish.

Notably, while net annual income from agriculture production *more than doubled* for women in female-headed households, and nearly doubled for women in male-headed households, the former group still earns considerably less than the latter (152 USD versus 296 USD). Due to the way crop income is captured in the survey (no disaggregation by crop) the disparity may be due to tobacco income (male crop) being factored into overall earnings, and may not reflect that women from female-headed households are earning less from soya and groundnuts than their counterparts in male-headed households.

Conclusions: Change Lever 4 - Household Influence

Substantial positive changes occurred in women's influence and control over which assets (both household and agricultural) a household buys and what assets can be sold, particularly for women who reside in male-headed households, an important target group for initiatives focused on improving household influence. Specifically, women are more likely to have decision-making control over land assets. Despite this positive trend in asset control, survey data and qualitative findings show little progress for women's contributions to and influence over household income and decision-making.

The changes in women's control of assets can be partially attributed to women's increased productive and financial contribution to the household which qualitative data show increases women's influence and respect within the household. Pathways participants and their spouses stated in qualitative interviews that some men are listening to and consulting with their wives when making decisions that affect the household. Women are determining what crops to plant and what businesses they would like to invest in, and women believe they have more influence in household decisions about education, clothing, and whether a daughter will marry.

Participants and key informants attribute this change to increased awareness of the women about their rights through Pathways, other organizations, and the media. Gender sensitivity training for couples, and dialogues to promote a shared understanding of how greater equity for women in the household benefits the husband and family, are reported as key factors in increasing respect for women and their right to participate in joint household decisions. While participants give positive feedback about the benefits to their household, they acknowledge that these changes have occurred in a minority of households in the community and men retain most of the decision-making power.

As mentioned, little progress has been made related to women's contributions to and influence over household income and decision-making. This is worrisome as Pathways contributed to a substantial

increase in income for women through soya and groundnut value chains, yet women are no more likely than they were at baseline to control their own or household income. While acknowledging shifts in gender norms and roles take significant time to manifest, part of the slow progress is also likely due to the short period of time in which Pathways has been using a comprehensive, integrated and participatory gender approach.

Conclusions: Change Lever 5 - Enabling Environment

It has been challenging for Pathways to stimulate substantial positive change related to enabling attitudes, behaviors, social norms, policies and institutions. Similar to Change Lever 4, the project did not begin to implement focused gender initiatives until late 2014, limiting prospects for improvement. Simply put, gender dialogue sessions and other promising gender initiatives have not been implemented long enough to influence positive change in the complicated and deeply-rooted issues related to gender roles and norms.

The most positive trend noted for the “enabling environment” change lever is the reduction in gender-based violence reported by participants in the qualitative study. While the problem is far from eradicated, findings suggest that women are more likely to speak up about gender-based violence, and importantly are more likely to receive support from Victim Support Units, village committees, and community police, or other agencies. Participants in one FGD directly attributed the positive change in attitudes about domestic abuse to project initiatives.

Women greatly appreciate the Pathways gender dialogue sessions, but repeatedly express concern that most men do not attend the sessions. Survey data confirm this showing only 23% of male respondents had taken part in gender dialogues. There is anecdotal evidence that a few men are beginning to help with household chores, but for the majority, traditional gender norms prevail. When males help with chores it is typically because a woman is sick or she has traveled out of the village. Males openly talk about being superior to women and feel confident that they are the one” who should make all decisions.” Survey data show that patriarchal attitudes about family life are held not only by men, but are ingrained in a woman’s opinion of her own role in family life.

The project is certainly on the right track now with extensive efforts to enhance the gender initiatives within Pathways, but it is reasonable to expect that shifts in societal values could have been much greater if from the beginning, the admirable emphasis placed on agriculture initiatives had been equally placed on gender initiatives.

Recommendations

Based on the findings of the final evaluation, this section provides a few suggestions for a follow-up phase of Pathways or any future program designed to overcome the constraints to women’s productive and equitable engagement in agriculture.

1. Strengthen the theory of change and use it to strategically sequence project activities.

The current theory of change may be useful for higher level stakeholders because it offers a broad overview of anticipated change, but the theory of change does not offer adequate detail to be useful at the field level. By having a detailed visual representation of the anticipated sequence in which change will occur, and a detailed visual representation of all of the factors that need to come together in order for change to occur, CARE could have a stronger communication tool to gain agreement among stakeholders about what defines success and what it takes to achieve success. A

strong theory of change will help future projects identify the most strategic outcomes for interventions and most importantly, will help future projects identify the most strategic *sequencing* of interventions. All involved in CARE Pathways agree that the comprehensive gender approach should have been started much earlier than Year 3. This misstep could have been avoided had the program worked through the logical sequence in which change occurs in more detail, which in turn would have led to more effective sequencing of activities.

2. *Strengthen staff capacity in key technical areas prior to implementation.*

Pathways' Malawi management acknowledges that future programs could maximize project impact by building gender awareness among staff and giving them hands-on practice in implementing participatory gender dialogues *prior to* starting any field work. In this way, staff will be better equipped to support volunteers to plan and implement gender equality discussions and activities designed to address gender gaps. Throughout program implementation, future programs could greatly contribute to staff capacity by involving staff in gender analyses and the setting of progress markers, as Pathways did at midterm.

3. *Continue to scale up the inclusion of men and adolescent boys in the empowerment strategy.*

Toward the end of the project, Pathways began to intensify efforts to sensitize men and adolescent boys to gendered norms which contribute to inequitable entitlements between males and females. This was a significant turning point for the project. It is likely that impact could have been greatly increased had an inclusive strategy been used from day one.

4. *Place greater focus on marital status when designing and targeting specific initiatives.*

Differences between females residing in male- and female headed households should be noted and activities aligned to the circumstances of each. The initiatives Pathways began to implement after midterm show great focus on the needs of women in male-headed households; this focus is indeed critical to catalyzing changes in productive decision-making and women's control of assets, expenditures, and income, and should certainly be a part of future projects. While it is commonly assumed that women residing in female-headed households have more autonomy in decision-making, Pathways results show 15- 25% of these women are not even making joint decisions on important issues, much less sole decisions. More research into *who* controls the decisions of women in female-headed households could help future projects design initiatives that specifically target these parties for inclusion in the gender dialogue sessions.

Additionally progress for female-headed households in areas such as non-farm income, asset accumulation (especially land), and food access, could be enhanced if future projects take a more critical look at the factors hindering their ability to achieve equal status with their male-headed counterparts and specifically design initiatives to address these challenges.

5. *Expand training and follow up for business development skills.*

Critical aspects of effective empowerment advocacy such as negotiation skills and small business development were not sufficiently addressed by Pathways. Training on these topics was not scaled out to most communities and typically was a one-off event. For these concepts to take root, reinforcement is necessary. Future training programs on business development should be strengthened and reinforced by offering refresher and follow-up sessions.

6. Make changes to specific indicators that will allow programs to more precisely measure change

The past four years of working with Pathways offered TANGO the opportunity to reflect on our own “lessons learned” regarding evaluation design for programs with a strong gender and agriculture focus. Several changes to current indicators or the survey would allow future programs to measure change more precisely. They are as follows:

- Include additional indicators for food security, such as months of adequate food provisioning. Currently, food access is the only aspect of food security that is measured.
- Thinking around resilience measurement has advanced significantly since the Pathways M&E plan was designed. New indicators should be used in place of the current metrics that Pathways is using to determine resilience.
- Disaggregate crop income such that the program can attribute any changes to farm income to the value chains promoted by the project. Currently, as measured, increases could just as easily be due to tobacco income as due to soya or groundnut income.
- Include the number of women earning farming income as an outcome indicator
- Simplify the women’s empowerment index.
- Redesign the survey to capture sole and joint decision-making with more precision.
- Revise the questions in the survey that contribute to the indicator “% women accessing agricultural financial services (loans, savings) in last 12 months to clearly ask about “agricultural” financial services, or revise the indicator to “ % of women using financial services to invest in agriculture”. Currently, the indicator is not captured with precision.

1 INTRODUCTION AND BACKGROUND

Using a strong gender focus, CARE's Pathways program seeks to increase poor women farmers' productivity and empowerment in more equitable agriculture systems at scale. Pathways, funded through the Bill and Melinda Gates Foundation (BMGF), is implemented in Malawi (the focus of this study) as well as selected regions of Ghana, India, Mali, and Tanzania. The aim of the Pathways program was a deeper understanding of the pathways that particular segments of poor women smallholder farmers take toward empowerment and toward more secure and resilient livelihoods for their households. CARE hoped to grow the program over time to serve as an effective programming platform with evolving networks of influence and learning partnerships at many levels, and to achieve impact at scale for prioritized segments of smallholder farmers.

TANGO International designed and supported the implementation of an evaluation plan for CARE Pathways that involves:

1. A global evaluation framework;
2. Identification of the most appropriate, rigorous, and ethical impact assessment methodology to use across the different countries allowing for comparability between projects and countries;
3. Support to CARE country offices and their local partners in conducting the baseline and endline evaluations, ensuring quality data collection protocols and supporting data analysis;
4. Producing publishable comparative and synthesis baseline and final reports.

The Evaluation Plan, provided as Annex 3 in the Supplementary Annexes, presents a comprehensive overview of the following:

1. Pathways goals and objectives with corresponding impact and outcome indicators
2. Data source definitions and collection methods for both quantitative and qualitative data;
3. Frequency and schedule of data collection and analysis;
4. Indicator descriptions, definitions, and analysis approach;
5. Approach and methodologies for analysis and interpretation;
6. Description of and approach for baseline and endline surveys; and
7. Designation of individuals responsible for monitoring and evaluation (M&E) tasks.

1.1 Pathways Goals and Objectives

Pathways Theory of Change

CARE's previous work on the Women's Empowerment Strategic Impact Inquiry along with an 18-month analysis process of women in agriculture in all six Pathways countries provided the basis of the Pathways Theory of Change (TOC), which includes five domains of change, or change levers: a) women's capacity (i.e., skills, knowledge self-confidence), b) access to productive assets/resources (e.g., inputs, financial tools), c) increased productivity, d) increased influence over household decisions and assets, and e) improved enabling environments (i.e., cultural and social norms and attitudes, gender-sensitive policies). Figure 1 represents the Pathways TOC.

Figure 3: Pathways Theory of Change



Thus, the program theorizes that marginalized, poor women farmers will be more productive, and that their families will be more food secure when:

- women have increased capacity (skills, knowledge, resources), capabilities (confidence, bargaining power, collective voice), and support
- local governance and institutions have/implement gender-sensitive policies and programming that are responsive to the rights and needs of poor women farmers
- agricultural service, value chain, and market environments of relevance to women are more competitive, gender-inclusive, and environmentally sustainable.

The Pathways results framework (see Annex 1) illustrates the program's TOC approach, with positive change toward increased food security and empowerment resulting from the five change levers: capacity, access, productivity, household influence and enabling environments. Objectives 2 and 3 ensure lessons learned from the Pathways experience contribute to positive change in the global discourse on equitable agricultural programming at scale.

The Malawi Pathways project is implemented two rural districts of central Malawi: Dowa and Kasungu which lie within the same agro-ecological zone and have similar traditional and cultural values and challenges. They were prioritized because they represent areas of entrenched gender discrimination, rural poverty, chronic food insecurity and unsustainable farming practices. The project works directly with 10, 814 poor women small holder farmers in 235 villages.¹¹

Baseline and Endline Comparison Data

The main purpose of the baseline and endline studies is to provide quantitative and qualitative data on food and livelihood security, agricultural productivity and gender equality in CARE Malawi's impact groups. The studies provide information necessary to characterize the status of beneficiaries at the project's start-up and again at endline, in order to assess the effect of project interventions. The purpose of both surveys is to estimate and analyze the status of key impact and outcome indicators described in the CARE Pathways Indicator Framework (Annex 2).

Baseline information was used for setting short and long-term targets for tracking progress of Pathways activities. Findings were also used for refining and/or prioritizing project activities in the operational area. The baseline survey was also explicitly designed to enable an evaluation of program performance through implementation of a directly comparable endline survey. Results for all indicators for which information was collected at baseline and endline are presented in Annex 3. Evidence related to Pathways Malawi progress markers is presented in Annex 4.

This report first describes the methodology used in the studies, including data collection and data analysis. Sections 3.1 through 3.11 present quantitative results for CARE Pathways impact and outcome indicators and qualitative findings. Section 4 touches on Project Management, reviewing the successes and challenges related to staffing, resources, and monitoring and evaluation. Section 5 presents the conclusions of the evaluation team about the extent to which the Pathways theory of change, and each contributing lever of change have been realized. The report concludes with a few recommendations for a second phase of Pathways or for similar projects aiming to integrate agricultural productivity, profitability and gender equality.

2 METHODOLOGY

The Pathways baseline and endline surveys used a non-experimental design for pre-post comparison of results. The survey was "beneficiary-based" in that the sample was drawn randomly from a sample frame composed of all households with a female member in a collective with which Pathways is working. The sample size was determined to provide statistically representative results for household and individual level indicators at the project level. At baseline, in a two-stage selection process, 69 VSLA clusters were first randomly selected (from 490 in the Pathways operational area) using probability proportionate to size (PPS) based on female membership in CARE's VSLAs. In the second-stage of sampling, 12 female VSLA members were randomly selected from each VSLA cluster. In cases where a VSLA did not have 12 or more members, two to three VSLA's were clustered based on geographical

¹¹ CARE Malawi Pathways 2014 Annual Report

proximity and the second stage sample was drawn from these clusters. Designed as a longitudinal study, data were to be collected from the same households for both the endline and the baseline surveys. Due to the project reducing project implementation areas and overall attrition, the endline sample was significantly reduced. Section 2.2 explains this in detail.

2.1 Development of Indicators and Data Collection Tools

Pathways impact and outcome indicators were developed through discussions at the CARE M&E workshop held in Pondicherry, India in May, 2012 and subsequent comments from CARE-USA management and staff. As a result of the May workshop, indicators were developed that would allow for assessing the broader impact of CARE’s work with systems that affect women’s productive engagement in agriculture, and in particular with the CARE Australia WE-RISE program because of its strong gender focus, similar program approach and methodology, and overlapping countries of implementation. Thus, a set of “global” indicators was designed to align with better practices and has been validated by experts from FANTA-2, USAID, IFPRI, and others. Detailed descriptions of indicators, along with direction of change targets, are summarized in the CARE Pathways Evaluation Plan.¹² Indicators included in the matrix represent those that are tracked at the impact and outcome levels; some are composite indicators that require the combination of two or more variables. Some indicators are disaggregated by sex or sex of the household head; others target women beneficiaries only; and some are disaggregated by male and female respondents within the same household.

Impact indicators are presented below. The full set of indicators (impact and outcome levels) and results are presented in Annex 3.

<p>Pathways Impact Indicators</p> <p>Food and Nutrition Security</p> <ul style="list-style-type: none"> • Mean household dietary diversity scores • Mean women’s intra-household food access <p>Livelihoods Resilience</p> <ul style="list-style-type: none"> • Coping strategies index • % households adopting negative coping strategies in past 3 months • % households using adaptation strategies to reduce the impact of future shocks <p>Economic Poverty Reduction</p> <ul style="list-style-type: none"> • Per capita monthly household income in USD (farm and non-farm combined) • Per capita monthly household expenditures • % households with savings • % women with savings • Mean asset index <p>Women’s Empowerment</p> <ul style="list-style-type: none"> • Women’s empowerment index

¹² TANGO International. 2012. CARE Pathways Evaluation Plan.

2.2 Quantitative Study

Sample size: The baseline survey design was discussed at a workshop in Pondicherry, India May 21-25, 2012 and subsequently reviewed by CARE USA before implementation of the survey. Malawi (and all other countries) independently calculated their sample size based on household expenditures, with a targeted improvement of 30% (X_2) over the life of the activity. A design effect of 2, $Z_\alpha = 1.282$ (Z-value corresponding to a 90% significance level), and $Z_\beta = .84$ (Z-value corresponding to 80% power) were used for all country-level calculations. Malawi set the non-response factor at 3%, attrition rate at 2%, and X_1 at 1.

The minimum sample size required was computed using the formula for means provided in the FANTA Sampling Guide:

$$n = N * D [(Z_\alpha + Z_\beta)^2 * (sd_1^2 + sd_2^2) / (X_2 - X_1)^2] * A$$

where:

n = required minimum sample size per survey round or comparison group

N = non-response factor

D = design effect

A = attrition factor (baseline to endline)

X_1 = the estimated mean of the indicator at the time of the first survey

X_2 = the *expected* mean of the indicator either at some future date or for the program area such that the quantity $(X_2 - X_1)$ is the size of the magnitude of change or comparison-group differences it is desired to be able to detect

Z_α = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size $(X_2 - X_1)$ would not have occurred by chance (α - the level of statistical significance)

Z_β = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size $(X_2 - X_1)$ if one actually occurred (β - statistical power)

sd_1 = the expected standard deviation of the indicator the time of the first survey

sd_2 = the expected standard deviation of the indicator at some future date

Using these values, n (the minimum baseline sample size) was computed as 787. The total number of households surveyed at baseline was 763, keeping the sample within the 3% non-response rate that Malawi had budgeted for, but not allowing for any non-response at endline. Prior to the endline survey, project staff updated participant rosters to exclude households who are longer participating in the program or who had migrated out of the program area—resulting in an endline target sample of 492 (37% attrition versus the 2% the country office had budgeted for).

This much smaller endline sample was due to two main factors. First, during and following the 2012 baseline activities CARE Pathways determined that some of the VSL groups targeted (previously established by another CARE program) did not meet targeting criteria for the Pathways program—they were from better-off households and/or resided near urban hubs where access to land was difficult. In

October 2012, the project determined to stop all activities in these areas. The 152 women from the baseline sample who resided in these communities were dropped from the endline sample. Second, attrition was much higher than anticipated from baseline to endline. Over 15% of the baseline sample (119 households) no longer participated in the program either because they had moved to another area, had died, or had willingly dropped out. Together these factors resulted in a reduction of the baseline sample by nearly more than 37%, putting the endline target sample size at 492. The endline survey experienced an 8 % non-response rate, resulting in 451 households total interviewed, for an overall 41% rate of attrition and non-response compared to households interviewed at baseline (Table 1).

The unanticipated high level of attrition could have resulted in some indicators for which the reduced sample size is now too small to detect change (increasing the 30% difference in means that the study was designed to be able to detect between the endline and baseline). To the extent that the evaluation team is able to determine, this did not occur for Pathways Malawi data for two reasons. In some cases the coefficient of variance is less than the 1.7 estimated in the study design meaning the full sample is not needed to detect a 30% change. In other cases the difference in percentages is so small that even the original sample size could not have detected a statistical difference at the 90% confidence level

Table 1: Sample sizes

	<i>Baseline achieved sample size</i>	<i>Endline target sample size^A</i>	<i>Endline achieved sample size</i>	<i>Attrition and non-response rate^B</i>
Pathways	763	492	451	41.0%

^AThis list was based upon all households to complete the baseline survey, and was updated for project staff to exclude households no longer participating in program or to have migrated away from program area

^BThis figure includes non-response and attrition since baseline. Households who could not be located, households where the female interviewed at baseline was not available, households who were located but stated they had not participated in the program in over a year, and households who did not consent to participate in the survey.

Following discussions between CARE headquarters and TANGO, it was agreed that the baseline and endline comparisons would not include households who reside in communities where Pathways ceased to operate in 2012. The restricted baseline sample is 611 household. Point values for the baseline have been recalculated to better reflect the status of the project participant population. Annex 3 presents original and restricted baseline values for all impact and outcome indicators.

Table 2: Endline analysis sample size

	<i>Baseline Sample Size</i>	<i>Restricted Baseline^a</i>	<i>Endline Sample Size</i>
All households	763	611	451
Female-headed households	189	146	138
Male-headed households	574	464	313

^a Households who reside in communities where Pathways ceased to operate are omitted from endline analysis. Point values for the baseline are recalculated to better reflect the status of the project participant population.

Survey Instrument

The data collection tools originate from a standardized set of global tools developed in collaboration with CARE-USA and CARE-AUS. CARE Malawi helped to contextualize the standardized tools to the local context. The quantitative survey instrument was designed to ensure that baseline information on project indicators is sufficiently captured. The indicators emphasize women's empowerment across the five domains identified in Feed the Future's (FTF) *Women's Empowerment in Agriculture Index*¹³ (WEAI), including agricultural production, access to and ownership of resources, control over income and expenditures, leadership and community participation, and allocation of time. TANGO and CARE also drew on other sources to develop the indicators, including CARE's Strategic Impact Inquiry on Women's Empowerment (SII)¹⁴ and IFPRI's *Engendering Agricultural Research, Development and Extension*.¹⁵

Learning from baseline survey implementation, where the excessively long survey potentially jeopardized data quality, CARE USA, CARE Australia, and TANGO collaborated on reducing the survey to only the essential variables that are needed to measure and shed light on impact and outcome variables. This was a great improvement and resulted in enumerators and respondents who were much more engaged with the survey process. Annex 1 in the Supplementary Annex document contains the revised quantitative survey tool.

Survey Training and Logistics

CARE Malawi recruited 20 Malawian enumerators and five supervisors to carry out the household survey, and seven qualitative facilitators (five female and two male) to carry out the complementary qualitative research. CARE Malawi staff provided administrative and logistical support for the quantitative and qualitative teams throughout the survey.

TANGO International trained all endline survey team members – household interviewers, team supervisors, and program M&E staff responsible for coordinating the data collection and aggregation. Training took place over a total of six days (August 17 -22, 2015) with four days in a workshop, one day for field testing, and one day to debrief and make revisions after the field test. The field visit served as a pilot test of the survey and qualitative tools and provided interviewers with experience in interviewing households and conducting focus groups.

Quantitative training covered the following topics:

1. Overview of CARE's Pathways program and Country Project
2. Review of the objectives of the endline evaluation
3. Detailed discussion of the survey tool (question-by question)
6. Training on administering the questionnaire with tablets
7. Pilot testing of the survey tool
8. Modifications to the survey tool in response to the pilot test

¹³ USAID. 2011. Women's Empowerment in Agriculture Index.

¹⁴ CARE International. 2006. The Courage to Change: Confronting the limits and unleashing the potential of CARE's programming for women. Synthesis Report: Phase 2. CARE International Strategic Impact Inquiry on Women's Empowerment.

¹⁵ IFPRI. 2011.

Enumerators and supervisors received basic training on the use of Nexus 7 tablets, including how to enter data, recharge batteries, and navigate the survey using ODK software. Supervisors also received training on how to transfer data files from tablets to the TANGO server via wireless connection. Training modules on tablets were based on similar materials developed by TANGO for quantitative surveys. The questionnaire was programmed into the tablets in both Chichewa and English. During the course of training, several modifications were made to the Chichewa translation and to specific questions to make them relevant to the local context. Enumerators practiced the questionnaire in Chichewa repeatedly to ensure that they understood the questions, and had practice in conducting interviews using the tablet.

The M&E supervisors from CARE Pathways and CARE WE-RISE programs were responsible for logistical coordination of the field-based survey teams.

Data Collection and Data Quality Measures

Survey data were collected August 23rd through September 20th, 2015 in the Traditional Authorities (TA) of Dzoole, Kaomba, Mwase, and Njombwe, four operational areas of CARE Malawi's Pathways project. Each enumerator used the Chichewa version of the questionnaire to record interviews. Supervisors conducted one spot check per day, per enumerator. This allowed them to regularly check the quality and accuracy of the data entered by the enumerators. Supervisors regularly communicated the results of spot checks to TANGO.

TANGO provided direct oversight for the quantitative teams for the first three days of fieldwork. For the remainder of the study, TANGO provided comprehensive daily feedback to CARE and the quantitative survey supervisors on the quality of data collection. The feedback highlighted issues with specific questions or enumerators in a way that enabled supervisors to work with individual enumerators to improve data collection efforts.



2.3 Qualitative Study

Qualitative Tools

A variety of qualitative participatory tools were developed to explore contextual factors, including agency, structure, and relations and their impact on poor smallholder women farmers. The qualitative tools allowed the team to capture information on norms that affect women's empowerment and power relationships, particularly as these factors relate to women's ability to actively engage in and have control over agricultural production and marketing activities. The tools were designed to provide insight

to better understand and interpret the quantitative indicators and to help identify the key factors critical to the success of the program, including progress markers defined at midterm by participants and country team. In addition to topical outlines, participatory tools including a ranking exercise that captured the perceived effectiveness of Pathways project activities, a wealth ranking matrix, and a daily activity record for women. Tools are provided in Annex 2 of the Supplementary Annexes.

Qualitative Team and Training

The qualitative data collection team was composed of the TANGO consultant and seven Malawian research assistants (5 women and 2 men), one of whom functioned as the team leader once TANGO returned to the United States. All the Malawians were fluent in Chichewa and English. In addition to the joint training with the quantitative team mentioned above, the qualitative team spent three days reviewing and adjusting the focus group topical outlines and agreeing on the phrasing of questions and the Chichewa translation. Training also focused on effective group facilitation, probing for content and recording of information in matrices developed for data collection.

Site selection

The qualitative sample (six communities) was a subset of the quantitative sample, and included two villages each in Kaomba and Mwase; and one each in Njombwa and Dzoole. The villages were purposively selected by TANGO in collaboration with CARE Malawi staff, maximizing diversity of relevant criteria listed below:

- population size
- road accessibility
- coverage of other development programs
- access to services
- Project staff perception of success or lack of success of marketing initiatives

Data Collection

Participatory methods were used throughout the evaluation to secure information from program participants, including their views of what project activities are most valuable and relevant. Qualitative data were collected through three main focus group discussions (FGDs) in each of the six communities visited. The three focus groups were with a) female VLSA members, b) male partners of female VLSA members; c) female non-members. Additionally, in each village a small group discussion was held with members of the marketing group. All focus group discussions were conducted in Chichewa. Annex 5

offers an overview of qualitative data collection.

The qualitative team interviewed a total of 296 people (204 female and 92 male). Focus group discussions included 106 VLSA members, 48 men who were partners of a VLSA member, and 44 non-members. Over 110 key informants were interviewed at community and national levels including customary authorities (village heads, group village heads), village development committee members, marketing group members,



community volunteers (farmer-to-farmer trainers, and village agents (VA)), local traders, soya warehouse buyers, and officers of the Ministry of Agriculture. Finally, TANGO conducted 12 process interviews with CARE staff. Annex 6 presents the list of persons interviewed.

2.4 Data Analyses

Quantitative analysis: The quantitative data were collated and configured by TANGO International staff using SPSS v20.0 software. This included organization of the data to align to the common indicator framework, calculation of secondary variables (asset index, coping strategy index, etc.) from primary variables where appropriate,¹⁶ and formulation of tables and charts. Analysis and reporting is consistent with the CARE Pathways Evaluation Plan, therefore some data are disaggregated by sex of respondent, some data are reported for female respondents only and are disaggregated by the sex of their households' head, other data are reported for female respondents only and are not disaggregated, and finally some data are reported for the household, disaggregated by sex of household head (e.g., demographic data, savings, etc.)

Statistical differences were determined with t-tests or non-parametric tests (e.g., Mann-Whitney U). Probability levels are reported for statistically significant differences only.

Qualitative analysis: After each day of data collection, the team spent one day to review all data collected, cross check information and its interpretation, and to sharpen inquiry tools as necessary. All notes were electronically captured in English into informational matrices. Later, the TANGO consultant triangulated the qualitative and quantitative findings.

2.5 Study Limitations

The endline survey was programmed into the tablets in Chichewa. The baseline survey was programmed in English and translated by enumerators into Chichewa as they administered the questionnaire. While this greatly improves the accuracy and reliability of the endline data (all enumerators asked questions exactly the same way) it may also mean that baseline and endline questions were asked slightly differently. If so, survey participants may have elicited different types of responses due to differences in translation. The extent to which this limitation affected the results is unknown.

Neither baseline or endline data are able to determine the depth of food insecurity that populations face during lean season. The surveys were conducted at the end of the harvest season for the majority of the main seasonal crops in Malawi, a time when food shortages are not as prevalent as other times of the year. The baseline survey was conducted in late July - early August, 2012. Endline data were collected one month later than baseline (late August), however 2015 harvests were delayed due to the climate-related late start of planting,¹⁷ resulting in similar timing of the survey relative to household harvests, and therefore comparable data.

¹⁶ Annex 7 provides a description of how the asset and coping strategy indices were computed. Annex 8 describes the computation of the WEI, as well as how it aligns to and differs from the WEAI.

¹⁷ FEWS NET. Malawi Food Security Outlook. April to September 2015. http://www.fews.net/sites/default/files/documents/reports/Malawi_FSO_2015_04.pdf

3 RESULTS AND FINDINGS

3.1 Household Characteristics

Core Impact Groups

CARE Malawi defined two impact groups for the Pathways project: 1) females residing in male-headed households who report per capita household income less than 2 USD per day, and 2) female-headed households reporting per capita household income less than \$2 per day. At endline, 94% of male-headed households and 99% of female-headed households surveyed met the criteria for CARE’s impact group, with no statistical difference noted between baseline and endline (Table 3).

Table 3. Percentage of households meeting criteria for Pathways impact group (<2 USD per day)

Indicator	Point Estimate		Sample Size	
	Baseline (BL)	Endline (EL)	BL	EL
All households	97.7	95.8	611	451
Female HHHs	95.2	99.3	146	138
Male HHHs	98.5	94.2	465	313

Household Demographics

As would be expected in a longitudinal study, household demographics are similar between baseline and endline surveys. Table 4 shows that the average number of household members reported at endline is 5.7 compared to 5.1 members reported at baseline, presumably due to an increase of children under 18 (2.7 BL versus 3.2 EL). The percentage of female-headed households in the sample increased from 24% to 31% ($p < .05$). One explanation for this increase may be death of a husband, as the number of widows appears higher than at baseline (8.2% compared to 12.5%).¹⁸ Another explanation may be due to men’s attitudes about women’s participation. At baseline, qualitative findings suggested that it may be easier for female-headed household members to participate in VSLAs. Women reported that males were at times distrustful of women’s participation, feeling it was just a way for women to waste time. The qualitative team found evidence of this attitude much less prevalent at endline, but some women residing in male-headed households still face barriers to participation that are not experienced by women residing in female-headed households. Focus group (FG) participants relate that some men will beat their wife if she tries to join a VSLA; others “allow” their wives to join, but prevent them from attending meetings or planting in the project demonstration fields during rainy season, demanding that they work in the household crop field instead.

As expected, the increase in mean age of the household head (currently 45.5 years) is relative to the three years between the two surveys. Levels of education of households head remain constant.

¹⁸ No statistical comparison conducted.

Table 4: Household demographics

Indicator	Point Estimate		Sample Size	
	BL	EL	BL	EL
Household size	5.1	5.7	611	451
Number of children (under 18)	2.7	3.2	611	451
Number of females in household	2.6	3.0	611	451
Number of females involved in Ag in HH	1.5	1.5	611	451
% of female-headed households	23.9	30.6	611	451
Age of head of household	42.5	45.5	611	429
Education of head of household (%)				
No education	9.2	9.5	611	451
Junior Primary (1-4)	18.0	18.8	611	451
Senior Primary(5-8)	51.2	51.3	611	451
Junior Secondary (1-2)	11.1	11.4	611	451
Senior Secondary (3-4)	8.7	7.2	611	451
Tertiary	1.8	1.9	611	451
Marital status of head of household (%)			611	431
Single	1.0	0.7	611	431
Married (Less than or equal to two years)	11.3	5.8	611	431
Married (More than two years)	72.0	73.3	611	431
Divorced	7.5	7.7	611	431
Widow/Widower	8.2	12.5	611	431
% of households with a disabled member	14.9	17.1	611	451

3.2 Impact: Economic Poverty Reduction

To understand progress toward the long-term goal of *“To increase poor women farmers’ productivity and empowerment in more equitable agriculture systems at scale”*, Pathways tracked information to inform four key economic impact areas: Per capita monthly household income (farm and non-farm); per capita monthly household expenditures; percentage of households with savings; and the percentage of women with savings.

3.2.1 Household Income and Expenditures

Monthly per capita income¹⁹ is presented in Figure 4 , as is monthly per capita farm income and monthly per capita non-farm income. Results are promising particularly for female- and male-headed households earning farming income. It is important to acknowledge that results related to income are only

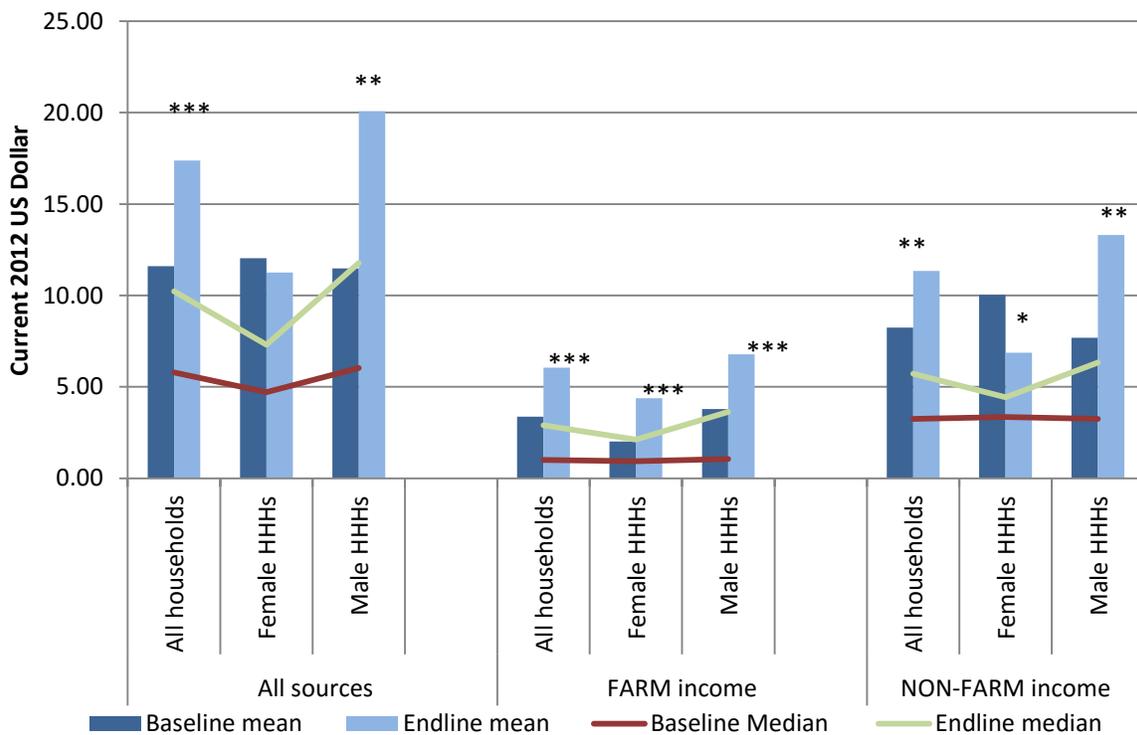
¹⁹ Average amount of household income from all income sources/earners earned per month, divided by the total number of individuals living in the household.

indicative; conclusive findings on the relative profitability of different income sources requires a more comprehensive analysis of expenses for each source of income.²⁰

Male-headed households show significant gains in total (farm and non-farm) income, almost doubling their 2012 earnings of 11.47 USD to 20.08 USD at endline. Female-headed households did not experience this gain, reporting earnings of 11.25 USD at endline with data trending in the wrong direction even though no statistical difference is noted.

Of particular importance to the Pathways project are changes to farm income. Male- and female-headed households alike show strong gains in this area. Male-headed households are earning 6.77 USD per month, about 3.00 USD more than at baseline (3.79 USD); female-headed households have more than doubled their farm earnings since baseline and are now reporting approximately \$4.39 per month, per capita (BL value was 2.00 USD).

Figure 4: Per capita monthly household income



Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels. Only conducted for "Means"

Monthly per capita non-farm income also increased for male-headed households (13.31 USD versus 7.68 USD); however, results indicate that female-headed households' per capita monthly non-farm income

²⁰ This type of analysis is beyond the scope of the final evaluation of the Pathways project.

declined by approximately 2.39 USD. The decline in the mean value is likely due to outliers in the baseline data—mean non-farm income for female-headed households was unusually high (10.04 versus 7.68 for male-headed households) with a great level of variance in the data (standard deviation= 20.66). Median per capita non-farm monthly income (a value less-likely to be influenced by extreme data values) in fact suggests an increase: 4.43 USD at endline versus 3.35 USD at baseline. Table 37, Annex 9 presents detailed results for income and expenditures.

“Men no longer have full control as to how much a women can be involved in income-generating activities”

Female FGD participant

In most of the six sampled villages, female focus group participants state that women have equal access to income-generating activities; interviewed males contrast this assertion claiming women are rarely involved in tobacco sales and have less access to construction jobs. At baseline there was a collective awareness that women were paid less for their labor; endline findings suggest that women and men earn equal pay for *ganyu* (agricultural wage labor) and cash for work projects, such as road work, but men still tend to earn more than women from small businesses and non-farm agricultural labor. Participants explained that the types of businesses men own are larger (shops, bicycle repair, taxi service, goat sales), compared to the small businesses owned by women (selling tomatoes, fish, vegetables, second-hand clothes and fritters). A challenge to these types of businesses, as related by FGD participants and key informants, is that women cannot make a lot of profit because typically many people in the community engage in the same type of business. Product saturation was cited as a reason for a number of small businesses failing. Focus group participants in all sampled villages expressed frustration that they have had no business training at all, or one-off trainings for just a few participants. They often use VSLA resources to invest in small business, but without exposure to business skills and knowledge it is very difficult to have a successful, profitable business.

“We have businesses but we lack training on what we can do to make our business grow.”

Female FGD participant

Men were thought to have more diversity in the types of income activities they could pursue, due to greater mobility. Similar to baseline findings, a women’s mobility to pursue income activities is still limited by her domestic obligations.

“Men say that since there is gender equality women should be the bread winners of the family. The financial burden of the household is mostly falling to women nowadays.”

Female FGD participant

Some FGD participants assert that women are more likely than men to earn income these days. They state that the project has influenced a change in their past conviction that they should depend on a man to support them, although this change comes with pros and cons. Per women interviewed in two focus groups “men no longer have full control as to how much a women can be involved in income-generating activities”, yet as noted in the box to the left, greater acceptance for women’s income-earning capacity can manifest as a burden.

Expenditures

In line with increased income, monthly per capita expenditures have increased substantially, from 19.55 USD to 27.02 USD for the total sample (Table 5). Similar to income gains, the increase is greater for male-headed households than for female-headed households. Mean and median expenditures greatly exceed mean and median income for all types of households, which may be due to under-reporting of income; it may also suggest an accumulation of debt, which could increase vulnerability. Additional analysis by CARE of specific types of expenditures that have increased, and the types of items households report borrowing for, will help to understand any positive or negative consequences.

Table 5: Household expenditures

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.8: Per capita MEAN monthly household expenditures (Current USD)					
All households	19.55	27.02	***	609	449
Female HHHs	19.36	22.97	***	146	138
Male HHHs	19.60	28.83	***	463	311
Per capita MEDIAN monthly household expenditures (Current USD)					
All households	11.84	21.44		609	449
Female HHHs	12.37	17.68		146	138
Male HHHs	11.78	23.59		463	311

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

3.2.2 Savings

Results on household savings demonstrate that the vast majority of sampled households report they have savings in a formal or informal institution, and, as might be expected in a survey sampling female VSLA members, the results are similar for the percentage of women who report savings in a formal or informal institution (Table 5).

For both groups the percentage who save in formal or informal institutions declined slightly since baseline from 97% to 94% for households and from 97% to 93% for women. An explanation for this

Table 6: Household savings

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.9: % households with savings					
All households	97.0	94.2	*	610	451
Female HHHs	97.3	93.5		146	138
Male HHHs	97.0	94.6	*	464	313
IM 1.10: % women with savings					
All households	96.7	93.3	**	610	451
Female HHHs	97.3	93.5		146	138
Male HHHs	96.6	93.3	**	464	313

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

slight drop is that women may continue to save, but not necessarily through the VSLA. Per indicator criteria, saving at home or with relatives is not considered an informal source. Data show that the percentage of women who report keeping some of their savings at home or with relatives increased since baseline from 13% to 20% (Table 38,

Annex 9). Qualitative findings may offer an explanation for this preference. Some VAs and group

members in a few of the sampled villages share that some VSLAs have faced challenges with fund mismanagement (e.g., treasurers running off with the money). One VA did not report the embezzlement because the male treasurer threatened to beat her if she did. As a result, women are afraid to save in this group, but continue to save in their homes. Other FGD findings reveal that some women do not like the pressure to borrow that comes with saving in a group. They too, are convinced that saving is essential to their lives, but opt to save at home instead.

While the number of households who are saving has not increased, it is quite likely that the *amount* of savings increased substantially. Qualitative evidence strongly supports this theory as do survey data which show that 85% of women interviewed believe that participating in Pathways activities has resulted in improved household savings (Figure 7, Section 3.6). The baseline and endline data sets include variables that allow CARE to carry out further analysis on the extent to which level of savings have increased.

At baseline, a general opinion heard by the qualitative team was that men mistrust women gathering with a focus on money, especially in the first stage of VSLA initiatives, and they tend to associate women handling cash with the existence of extramarital relationships. Three years later, this perception has radically changed, and a culture of savings seems to be strongly developed in all Pathways villages visited by the qualitative team. FGD findings also suggest that the source of women's savings contributions is much more likely to be their own income, rather than their husband's income, which was the primary way women obtained VSLA contributions at baseline. While some of this income comes from small businesses and crop sales, key informants and male and female FGD participants in most villages also noted that more women are participating in *ganyu* than in the past for the sole purpose of investing in savings. CARE will want to explore ways to mitigate this unintended consequence in subsequent programs.

Women's main reasons for savings are similar to those reported at baseline—to purchase productive assets (roughly 62% of all households in both surveys) and for emergencies (roughly 54% of all households in both surveys) (Table 39, Annex 9). Notably, given last year's poor harvest as a result of little rain, women at endline are much more likely to report saving in order to avoid seasonal hunger than they were three years ago (35% versus 25% of all households). Qualitative findings were aligned with survey results; the vast majority of all FGD participants state that women mainly use their savings from the VSLA to purchase fertilizer and seeds, purchase livestock, and pay for children's schooling.

3.3 Impact: Food Security

Critical to realizing the overarching long-term Pathways impact goal "*More secure and resilient livelihoods for poor women farmers*" are improvements in food security. The primary indicators used in this study to measure levels of food security are: 1) the mean household dietary diversity score (HDDS), a proxy for food access, and 2) the mean women's intra-household food access score. Table 7 illustrates that there have been great improvements in both areas.

3.3.1 Dietary Diversity and Intra-Household Access

The main food preparer (typically the sampled CARE member) is asked to report on 12 different food groups consumed by any household member over a 24-hour period (the day and night prior to the

interview). The responses produce a HDDS between 0 and 12, with the higher score demonstrating access to diverse food groups. After determining whether *any* household member consumed each of the 12 food groups, the main food preparer is asked if all, some, or no female household members over the age of 15 ate the food item. The responses for “all women” or “some women” produce an intra-household access (IHA) score between 0 and 12, with the higher score indicating greater access to diverse food groups.

Table 7: Food security

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.1: Mean household dietary diversity scores					
All households	5.3	6.0	***	499	432
Female-headed HH	5.0	5.4	*	118	133
Male-headed HH	5.4	6.3	***	381	299
IM 1.2: Mean women’s intra-household food access					
All households	5.2	5.7	***	499	432
Female-headed HH	4.8	5.2		118	133
Male-headed HH	5.3	6.0	***	381	299

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

The mean HDDS for all surveyed households increases from 5.3 to 6.0 food groups from the baseline to endline period, meaning households are on average accessing six different types of food daily. Most of this change is due to increases for male-headed households, who now access one more food group on average than at baseline (5.4 vs. 6.3). Diverse food access for female-headed households has also increased since baseline, from 5.0 to 5.4 food groups, but, similar to baseline results, this group accesses almost one food group less than male-headed households (5.4 versus 6.3, $p = .000$).

Endline results show that across all households, food access for women, specifically, also increased since baseline from 5.2 to 5.7 food groups. However, within a household, females over the age of 15 years still access fewer food categories than other household members (5.7 compared to 6.0, $p = .000$). Although differences between women’s dietary diversity and household dietary diversity are small, the gap increased since baseline.

Participant perceptions of how the Pathways project improved household well-being validate improved dietary diversity scores. Over half of all surveyed women (56%) state that participation in the program resulted in improved food security; 45% assert they have improved their nutrition knowledge as a result of project activities.

Table 8 helps to explain how access to specific food items changed over the 3-year period. With exception of cereals and sugars, nine food items show improvements between baseline and endline, with only one food item (tubers) showing decreased access. While specific nutrition metrics are not included in this evaluation, it is plausible that household nutrition improved given the substantial increase in access to high protein foods. Notable protein increases include dairy products (11% of households accessing at BL compared to 23% EL); pulses (47% BL compared to 63% at endline); eggs (9% BL compared to 19% EL), and fish (29% BL compared to 38% EL). Household access to fats and oils substantially increased since baseline; access to meat, fruits, and vegetables has moderately increased since baseline.

Table 8: Access to specific food categories

Indicator	Point Estimate		Point Estimate	
	BL	EL	BL	EL
Food categories	% of households reporting someone in HH consumed item in 24-hour period preceding interview		% of HH reporting women consumed item in 24-hour period preceding interview	
Cereals	99.4	100.0	97.6	98.6
Tubers	62.8	***	31.9	61.8
Vegetables	84.6	***	91.2	83.4
Fruits	33.4	*	38.7	31.8
Meat	19.0	**	25.7	18.8
Eggs	9.1	***	18.8	8.1
Fish	29.4	***	38.2	28.3
Pulses	47.2	***	62.7	45.7
Dairy	11.3	***	22.5	11.3
Fats/Oils	38.9	***	69.2	38.3
Sugars	53.4		57.6	52.2
Condiments, etc.	49.2	*	43.8	47.6
n	494	432	494	432

3.4 Impact: Livelihoods Resilience

To understand progress toward the long-term goal of “More Secure and Resilient Livelihoods”, Pathways tracked information to inform four key areas: the coping strategy index (CSI), adoption of negative coping strategies in past three months; adaptation strategies to reduce the impact of future shocks; and household asset holdings, reflected in an asset index. Measuring the resources that individuals and



households can draw upon to reduce vulnerability, provides insight on household capacity to absorb a range of different risks and adapt to various external drivers of change (e.g., ecological, economic, and socio-cultural).

3.4.1 Consumption Coping Strategies

Coping Strategy Index (CSI): The CSI measures behavior change in households when they cannot access adequate or preferred foods. It is a food security and early warning indicator, including longer-term changes in food security status.²¹ Respondents are asked, “What do you do when you don’t have enough food, and don’t have enough money to buy food?”. The

²¹ Developed by CARE and field tested by WFP and CARE, the CSI has been used for early warning and food security monitoring in African and Asian countries, in addition to several Middle Eastern countries.

various answers to this question comprise the basis of the CSI score. Annex 7 provides more details on CSI computation.

Data in Table 9 show that at baseline very few (12%) households reported food and income shortages in the three months prior to the survey. The baseline CSI score was correspondingly low (2.0 out of a possible 100). The number of households reporting food shortages in the three months prior to the endline survey increases substantially from baseline to 25%; yet, the mean CSI only increases slightly and the value remains relatively low (5.6 out of a possible 100). This means that while more households experienced stress from food shortages than they did three years ago, the level of stress did not increase substantially.²²

Table 9: Coping with food shortages

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.3: Coping strategies index					
All households	2.1	5.6	***	611	451
Female-headed households	1.7	4.2	***	146	138
Male-headed households	2.2	6.3	***	465	313
Households who did not have enough food or money to buy food in past 3 months					
All households	12.6	24.8	***	611	451
Female-headed households	11.6	23.2	**	146	138
Male-headed households	12.9	25.6	***	465	313
% of households to use a consumption coping strategy one or more times each week					
<i>Borrowed food or borrowed money to buy food</i>	10.6	20.6	***	611	451
<i>Relied on less preferred or less expensive foods</i>	8.3	21.0	***	611	451
<i>Reduced the number of meals or the quantity eaten per day</i>	8.2	16.6	***	611	451
<i>Skipped eating due to lack of money or food for entire day</i>	4.7	11.3	***	611	451
<i>Consumed taboo food, wild food, famine foods which are normally not eaten</i>	2.3	6.4	***	611	451
<i>Restricted consumption of some family members so that others could eat normally or more</i>	3.9	6.9	**	611	451
<i>Eat seed stock held for next season</i>	5.6	11.1	***	611	451
<i>Beg or scavenge</i>	3.8	5.5		611	451

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

Key contextual factors help to explain why more households reported food shortages at endline. Extended dry periods in 2015 caused maize and other cereal production to severely decline to below-average levels.²³ As a result, higher maize prices constrained access across the country—the national average maize price in July 2015 was 54 percent higher than in July 2014. Several endline data points

²² As explained in Section 2.5 Limitations, these data do not reflect the depth of food insecurity that households may experience during lean season.

²³ FAO. 2015. GIEWS Country Briefs. Malawi. Reference Date 06-August-2015. <http://www.fao.org/giews/countrybrief/country.jsp?code=MWI>

help to illustrate how the drought, food price spikes, and other shocks affected the sampled population, ultimately undermining food and income security. The data in Section 3.4.3 reveal that households experienced more shocks than three years ago, particularly shocks that impact food supplies (Table 11). Additionally, crop production for the three main crops (maize, soya, and groundnuts) has declined in the past five years. Over 58% of households reported maize production had decreased; 46% stated soya production had decreased, and 28% reported groundnut production had decreased (Table 40, Annex 9). The overwhelming reason given for decreased production was insufficient rainfall (Table 41, Annex 9). Given these contextual factors, it is remarkable that the CSI at endline did not spike much higher.

Table 9 also offers detail on the percentages of households using eight common consumption coping behaviors one or more times per week in the 30 days preceding the survey. As mentioned, the survey was administered at the end of Malawi's harvest season, a period when staple foods are usually available, thus the majority of respondents at baseline and endline reported *never* engaging in any of these eight coping strategies. However, among the small numbers using these strategies, there has been a marked increase from baseline to endline for seven of the eight strategies—begging or scavenging is the only consumption coping mechanism for which a statistically significant difference is not noted between base- and endline periods.

3.4.2 Non-consumption Coping Strategies

Households also report on non-consumption strategies used to cope with food and income shortages in the three months prior to the survey, many of which are more likely to contribute to longer-term irreversible effects, such as sale of productive assets, sale of land, or selling seed held for next season. Table 10 shows that the number of households who report using at least one of these “negative” coping strategies doubled across the sample (8.3% versus 16.9%), and almost tripled for female-headed households (6.2% versus 16.6%). The largest increase noted was for “taking a loan with interest”. While it can be argued that borrowing with interest may not be a negative strategy per se, in the context of using this strategy as a direct result of not having enough food or money to buy food, there is high potential for entering a cycle of debt. This data point is supported by results in Table 25 (Section 3.8.1), which show that nearly half of all households use borrowed capital to purchase food. It is further supported by qualitative evidence from FGDs (members and non-members), relating that a key challenge to VSLA participation is it is common for people to borrow from the VSLA in times of need, and then be unable to pay back the loans.

Notably, the availability and/or use of informal and formal social protection mechanisms (factors considered as contributors to increased household resilience) in response to food and income shortages increased since baseline. Over 12% of households report participating in food for work or cash for work programs, compared to less than 1% at baseline, and nearly 7% of households state they now receive remittances compared to 3% at baseline.

Table 10: Non-consumption coping strategies adopted by households

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.4: % households adopting negative coping strategies in past 3 months					
All households	8.3	16.9	***	611	451
Female-headed households	6.2	17.4	***	146	138
Male-headed households	9.0	16.6	***	465	313
Percentage of households to utilize specific "negative" coping strategies:					
Pledge or sell labor/crops/livestock in advance	4.9	3.3	**		
Take a loan with interest	3.9	9.1	***		
Sell seed stock for next season	2.1	4.0	***		
Lower school attendance or drop out from school	1.0	2.7	***		
Unusual sales (e.g., household assets, firewood, charcoal, etc.)	0.7	1.8	***		
Send children away to better-off relatives and friends	0.5	1.6	***		
Slaughter more animals than normal	0.3	1.6	***		
Migrate	0.3	0.0	**		
Reduce expenditure on livestock and agricultural inputs	0.3	1.6	***		
Sell a higher number of livestock than usual	0.2	1.6	***		
Reduce expenditures (e.g., health care, education)	0.2	3.3	***		
Percentage of households to utilize "other" coping strategies:²⁴					
Use own savings	2.1	4.0	***		
Participate in food or cash for work programs	1.0	12.4	***		
Request local government for assistance	0.5	0.0	***		
Receive remittances (food or cash) from relatives, friends	2.6	6.7	***		
Do nothing	1.5	1.6			
n	611	451			

Statistically different from baseline at the 10% (*) , 5%(**) or 1%(***) levels.

3.4.3 Shocks and Adaptation

Table 11 shows that number of shocks that households experienced in the five years prior to the interview is one-and-a-half times higher at endline than it was at baseline (4.1 versus 2.8.); the increase is even greater for female-headed households (4.4 at endline versus 2.6 at baseline). All but three types of shocks (death, divorce, and issues with property division) were experienced by more households since baseline. The most dramatic increases occurred for the number of households experiencing drought, failure of a business, hailstorms, disease, and conflict/ theft.

²⁴ At baseline, the strategies listed as "other" coping strategies were included in the calculation of "negative" coping strategies, per the M&E plan. With growing evidence related to factors that contribute to resilience, these strategies have been removed from the calculation of the index, as they normally would not contribute to irreversible decline in household well-being.

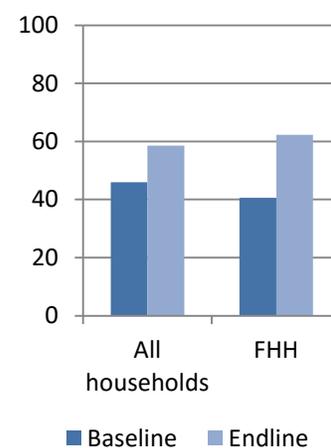
Table 11: Shocks

	Point Estimate			Sample Size	
	BL	EL		BL	EL
Number of shocks experienced per household					
All households	2.8	4.1	***	611	451
Female-headed households	2.6	4.4	***	146	138
Male-headed households	2.8	4.0	***	465	313
Types of shock experienced:					
	% of households reporting shock				
Sudden or dramatic increase in food prices	83.5	88.0	***	611	451
Epidemic disease (crop, livestock, human)	53.7	68.7	***	611	451
Failure or bankruptcy of business	25.0	51.4	***	611	451
Major drought	15.5	49.2	***	611	451
Hailstorm	34.4	47.0	***	611	451
Major conflicts / theft	5.6	26.6	***	611	451
Chronic illness or severe accident of HH member	18.8	25.9	***	611	451
Divorce or abandonment	12.6	14.2		611	451
Waterlogging or flooding	7.5	10.4	***	611	451
Death of HH income earning members	8.0	9.1		611	451
Decreased or cut off regular remittances	5.4	6.9	**	611	451
Loss of a regular job of a HH member	4.7	6.9	***	611	451
Issues with division of father's property	1.8	3.5		611	451

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

When households relate how each shock or stressor directly impacted the household, “loss of income”, loss of food sources (“crops and/or livestock”), and increased hunger in household are the top responses for the main five shocks that households experienced more often since baseline. Across all 13 shocks, greater percentages of households at endline report they had to eat “less or lower quality of food” in order to cope with the impact of a shock (45% EL compared to 37% BL ($p < .05$)). Given these results, it is logical to assume that the number of shocks experienced contributed to the increased percentage of households who report food and income shortages (Table 9, Section 3.3.1).

Of note is the percentage of households who cite the use of savings to cope with shock and stress (Figure 5); it increased substantially across all shocks (58.8% EL versus 45.0% BL) indicating greater absorptive resilience capacity. The increase is even greater for female-headed households (62.3% EL versus 40.6% BL).

Figure 5: Percentage of households using savings to cope with shock

Statistically different from baseline at the 1%(***) level.

Data show that for most households interviewed at endline, many shocks (drought, failure of business, disease, hailstorms, sudden increase in food prices, and waterlogging or flooding) occurred within the 12 months prior to the survey. In contrast, at baseline the average length of time that had passed since a shock was 24 months prior to the survey. The questionnaire is not designed to capture whether these shocks occurred within the three months prior (the recall period for coping strategies), but given the reported effect on crop and income loss, again it seems logical to assume that increased shock is a key contributor to the slightly higher CSI value at endline.

	Shocks most frequently mentioned in household survey				
	Major drought	Hailstorm	Epidemic disease	Failure/bankruptcy of business	Major conflicts / theft
How shock reportedly affected household (Most frequent responses)	Loss of income Loss of crops Increased hunger in HH	Loss of income Loss of crops Increased hunger in HH.	Loss of income Lost livestock	Loss of income HH more indebted Increased hunger in HH	Lost livestock Lost crops ***

Among households who experienced at least one shock, baseline values were relatively high (83%) for households who used one or more adaptive strategy to protect themselves from the impact of a similar future shock (Table 13). At endline, even more households report using such strategies (89%), particularly female-headed households for whom the percentage increased by 10 percentage points (82% BL versus 92% EL).

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.5: % households using at least one adaptation strategy to reduce the impact of future shocks					
All households	83.0	90.4	***	595	449
Female-headed households	81.6	93.5	***	141	138
Male-headed households	83.5	89.1		454	311

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

Two adaptation strategies stand out when looking at baseline and endline values (Table 14). Households at endline are appreciably more likely to use drought-tolerant or early-maturing crops compared to three years ago (26% EL versus 10% BL) and are more likely to diversify livelihood activities (52% EL versus 42% BL).

Table 14: Percentage of households using specific adaptation strategies

Adaptation strategies ²⁵	BL		EL
Invested in savings	67.1		62.6
Diversified Income-generating activities	42.2	***	52.3
Stored food for future use			34.3
Purchase additional livestock	27.4		29.8
Invested in animal health care			29.4
Used drought tolerant/ early maturing crops	10.4	***	26.1
Reinforced housing			12.2
Participated in conflict resolution			10.5
Invested in human health care			9.8
Invested in irrigation infrastructure	3.4	***	7.3
Improved drainage/ dam or dyke construction			5.6
Accessed additional land	8.9	**	5.1
Other	6.1		11.6
Did nothing for at least one of the shocks	45.2		44.8
	611		451

3.4.4 Household assets

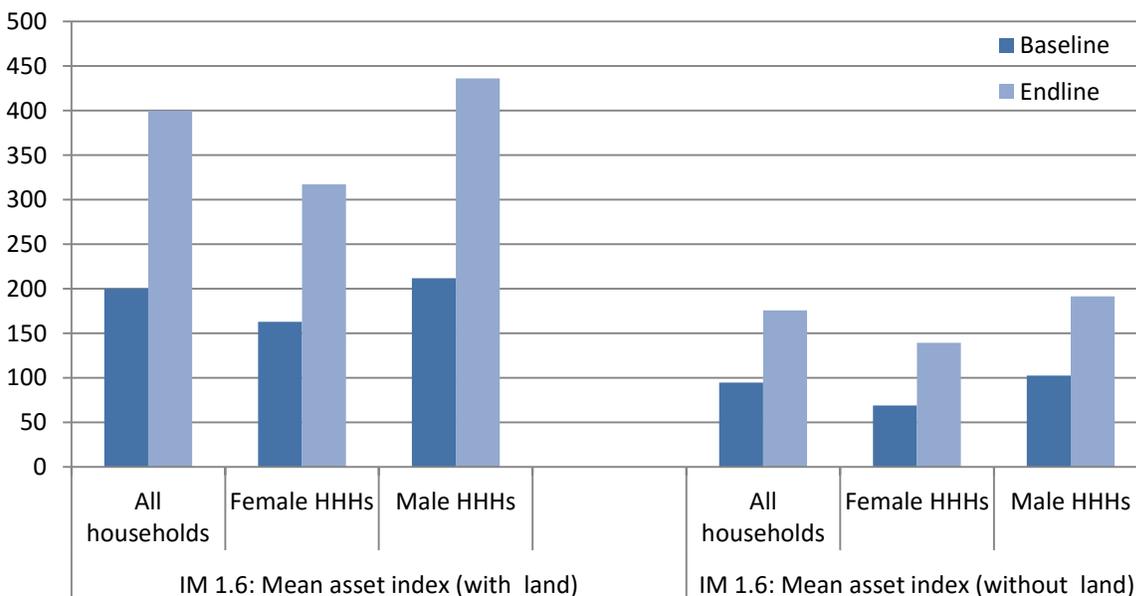
The mean asset index is a proxy for household wealth and measures the number and weighted value of animal and other productive and household assets. This index is computed by multiplying the number of each type of household asset by the index value for that particular asset type. Index values of household assets used for construction of the asset index are presented in Annex 7. A higher asset index value indicates that households have accumulated assets over time. Households are able to accumulate assets if income is greater than the necessary expenditures to meet household subsistence requirements. Assets also provide households with a cushion to adjust to shortfalls in incomes, or sudden increases in necessary expenditures. Thus, households with a higher asset index are less vulnerable than households with lower asset index values. The asset index is critical to understanding the resilience capacity of Pathways participants at endline.

Asset holdings increased remarkably since baseline, with the index value of total assets for all households doubling from 200 to 400 (Figure 6). Male-headed households experienced the greatest gain (206% increase) in asset holdings, with an index value of 436 compared to 212 at baseline. While the spike in asset holdings for female-headed households (from 163 to 317, or 195% gain) now puts them firmly above the baseline index value for all households, the gap between female- and male-headed households widened from 49 points to 119 points. Across the full sample, household resilience to shock is much stronger than at baseline; however with 27% fewer assets than their male counterparts, female-headed households are still less resilient to shock.

²⁵ Some strategies were not specifically asked about at baseline, but appeared when respondents specified “other”. These were added to the menu of endline responses, but statistical tests cannot be carried out between the individual strategies.

When the asset index is calculated without land assets, female-headed households show the greatest increase in asset holdings (202%); male-headed households and the full sample show increases of 186%. Despite the increase, asset holdings (without land) for female-headed households are 28% less than male-headed households, although the gap is shrinking slightly—at baseline female-headed households owned 33% fewer non-land assets than male-headed households.

Figure 6: Mean asset index score



All endline values are statistically different from baseline values at the 1% (***) level.

Table 15 offers detail on selected assets that are statistically different from baseline to endline, providing insight on what type of assets households have been investing in over the past three years.

Since baseline, across the full sample, ownership dramatically increased for non-farm business equipment; small durables such as radios, cookware, and irons; poultry; and large durables such as air conditioners, refrigerators, and sofas. The percentage of households reporting ownership of cell phones and land not used for agriculture increased by roughly 20 percentage points, and the percentage of households owning poultry increased from 70% to 83%.

Notably the mean number of acres owned by female-headed households increased from 1.8 to 3.4; for all households the number of acres owned increased from 2.0 to 4.3. Flock sizes for female-headed households, are, on average, three more than at baseline. Female-headed and all households own, on average, one more head of small livestock, two more non-mechanized farm tools, one more piece of non-farm business equipment and two more large consumer durables than they did at baseline.

Table 15: Number of assets owned and percentage of households owning asset types

Asset	Female-headed HH		All households			All households			
	BL	EL	BL	EL	BL	EL	BL	EL	
	Mean # of assets owned						% of HH owning asset		
House (and other structures)	1.2	***	1.9	1.2	***	2.0	83.3	***	99.3
Agricultural land (acres)	1.8	***	3.4	2.0	***	4.3	94.1	***	98.4
Non-mechanized farm equipment	3.4	***	5.7	4.1	***	6.5	92.8	***	98.0
Small consumer durables (radio, cookware, iron)	0.6	***	3.9	1.0	***	5.3	55.0	***	83.4
Chickens, ducks, turkeys, pigeons, guinea fowl	5.9	*	8.7	7.3	***	9.8	69.7	***	82.5
Cell phone	0.5	***	0.9	0.7	***	1.1	47.5	***	68.7
Bicycle, car or motorcycle	0.4		0.5	0.7	***	0.8	52.4	***	64.3
Nonfarm business equipment	0.1	***	1.5	0.3		1.7	12.6	***	63.4
Small livestock (goats, sheep)	1.7	**	2.7	2.3	***	3.4	50.4	***	59.9
Large consumer durables	0.5	***	2.5	0.7	***	3.0	21.6	***	58.7
Other land not used for agricultural purposes	0.3	**	0.6	0.4	***	0.9	19.9	***	42.7
Large livestock	0.1		0.2	0.3	***	0.6	5.3	***	10.4
n	144-			604-		445-	609-		445-
	146		138	611		451	611		451

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

Across the six sampled villages in the qualitative study, qualitative findings regarding changes to women's land access do not fully support quantitative findings. Women state that little has changed in the past few years. Male and female FG participants state that women typically come to a man's home village when they marry, and as such, land is a man's asset—women own very little compared to men and it is the man who determines how any land will be used and/ or distributed. Males explain that it is important that the most fertile land be used for tobacco and maize; as such, if they decide to allocate land to their spouse for groundnuts and soya, it is the least fertile land.

In two of the six villages, women reported that now that women are growing soya and groundnuts, land has become an important issue for women; some women have been able to use VSLA shares to rent or buy land individually or as a group of producers.

3.5 Impact: Women’s Empowerment

3.5.1 Women’s Empowerment Index

TANGO constructed a Women’s Empowerment Index (WEI) for CARE modeled after the Women’s Empowerment in Agriculture Index (WEAI).²⁶ Similar to the WEAI, two sub-indices comprise CARE’s WEI—the Five Domains of Empowerment (5DE) and Gender Parity.

The 5DE reflects the percentage of women who are considered empowered, based on their empowerment score. This score is calculated from 13 weighted indicators within five domains: production, resources, income, leadership, and family life (Annex 6 presents the domains, their total weight within the index, and the weight of each indicator). CARE’s WEI includes 9 of the 10 indicators that comprise the WEAI,²⁷ as well as indicators for political participation, mobility, self-confidence, and attitudes on gender, for a total of 13 indicators distributed among the five domains. A woman who achieves an empowerment score of .80 or greater is considered to be empowered.

The 5DE index is calculated using the following formula.

$$5DE = H_e + H_d A_e = (1 - H_d A)$$

Where:

H_e is the percentage of empowered women

H_d is the percentage of disempowered women

A_e is the average absolute empowerment score among the disempowered

Table 16 shows that female participants in the Pathways project experienced a slight gain in empowerment— both the level of empowerment and the prevalence of women who have reached empowerment. The mean 5DE score increased from .60 to .66, worth noting is that the score for women in male-headed households increased from .55 to .60.

In addition to a greater level of empowerment, more women crossed the .80 threshold for achievement.

Three years later, the prevalence of women considered to be empowered increased from 21% to 29%.

Areas where Pathways participants experienced the greatest gains are in the Resources and

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
Women's 5 domains of empowerment – 5DE mean score					
All households	0.60	0.66	***	611	451
Women in female HHHs	0.78	0.79		146	138
Women in male HHHs	0.55	0.60	***	465	313
% of women achieving empowerment (.80 or greater)					
All households	20.9	28.8	***	611	451
Female HHHs	57.5	63.8		146	138
Male HHHs	9.5	13.4	*	465	313

Statistically different from baseline at the 10% (*), 5% (**), or 1% (***) levels.

²⁶ International Food Policy Research Institute. 2012. *Women’s Empowerment in Agriculture Index*. IFPRI, Oxford Poverty and Human Development Initiative (OPHI) and Feed the Future. Washington, D.C.

²⁷ The WEI does not include the indicator for workload; however this topic was explored by the qualitative team.

Leadership/ Community domains. At endline, the percentage of women claiming they are able to make sole or joint decisions about the sale and purchase of assets increased by 15 percentage points (76% versus 61%). Ownership of assets also increased (64% of all women at EL versus 57% BL), as has women’s access to and decisions on credit (83% versus 75%). Within the domain of leadership and community, women’s agency substantially increased. More than 77% now report they are comfortable speaking about gender and other community issues at the local level—only 53% stated this was true at baseline. Political participation increased (94.5% EL versus 83% BL) as did women’s self-confidence—86% EL versus 72% at baseline.

[An empowered woman] “is a woman who does not wait for her husband for fetch for her, she does business and finds money to support her family on her own.”

FGD participant - Njombwa

Areas in which there is no detectable change, and which still appear to be challenging for most women are: mobility (46% achievement); attitudes that support gender equitable roles in family life (47% achievement); autonomy in production (42% achievement); and decision-making control for productive decisions (61% achievement).

Table 17: Five domains of empowerment

Domain	Indicator	Point Estimate		Sample Size	
		BL	EL	BL	EL
Production	With decision-making input for all HH productive decision domains	59.2	60.8	610	451
	With autonomy in one or more HH production domains	38.4	42.4	610	451
Resources	With sole or joint ownership of household assets	57.0	** 64.1	607	451
	With sole or joint control over purchase or sale of household assets	61.4	*** 76.1	607	451
	With access to and decisions on credit	74.6	*** 83.0	559	446
Income	With control over household income and expenditures in 60% of HH decision-making domains	56.7	54.8	610	451
Leadership & community	Participating in formal and informal groups	99.0	** 100.0	610	451
	Confident speaking about gender and other community issues at the local level	53.3	*** 77.2	610	451
	Political participation	83.1	*** 94.5	610	451
	Self-confidence	71.5	*** 86.5	610	451
Autonomy	Satisfied with the amount of time available for leisure activities	83.3	86.5	610	451
	Achieving a mobility score of 16 or greater	47.5	46.3	610	451
	Expressing attitudes that support gender equitable roles in family life	44.4	47.2	610	451
	Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.				

The WEI also examines men’s and women’s parity in each empowerment domain. Gender parity measurements are based only on households in which a man and a woman answer questionnaire modules respective to their sex. Thus, no female-only households are included, and no households where a man was unavailable to respond to the male portion of the questionnaire are included. Empowerment scores are constructed (as defined above) for all men and women.

The largest gaps between men’s and women’s achievement of empowerment remain in the domains of income, production, and resources, although the gaps are closing (Table 19). The greatest change occurred in the control over the purchase or sale of assets—the 37 percentage point spread between men and women declined to 19%; likewise, the 44 percentage point spread between men and women for control of productive decisions declined to 33%.

Males at endline report much greater access to and decisions about credit than they did at baseline (76% versus 57%). Like women, men are also more likely to be empowered in the Leadership and Community domain than they were at baseline, achieving gains for all four indicators that contribute to this domain. Men are less likely than women to have access to credit or to achieve the indicator for group participation; however the gaps are relatively small. These results mirror baseline findings.

What are the characteristics of an “empowered woman”?	How does the community view a woman with these characteristics?
<ul style="list-style-type: none"> • “she is a woman who is financially independent and she is capable of making sound decisions on her own e.g. being able to run a business and take care of the home” • “she never asks for money from the husband to go and buy clothes or shoes” • “she at times stands up to provide even for the kids” • “This is a woman who does not wait for her husband for fetch for her she does business and finds money to support her family on her own.” • “she is able to do what men can do e.g. generate income for the family through business and farming” • “she is financially stable that she can have her own land and cultivate maize where she can be able to buy fertilizer” • “she does not go to other households to beg for necessities like salt and soap” • “she is business minded, able to feed the family” 	<ul style="list-style-type: none"> • “The community views this as a good thing because the woman is independent and she will not suffer if the husband leaves... she will still be able to support the family. • “People view this woman as someone who is facing gender-based violence” • “Some community members feel that this women is abused because a man is not taking care of her while others feel that she is going out with other men” • “People think ‘how can she be doing all this when she has a man to take care of her?’” • “Some men are not happy because they think that such women are whores... that they are getting the money from other men but other men are happy to have empowered women as their wives because the women are able to bring money in the home and they help the men in taking care of the household” • “The community thinks that an empowered woman is not a good woman so they try to bring her down by saying all kinds of bad things against her.”

Table 19: Gender parity

Domain	Indicator	% achieving indicator at baseline			% achieving indicator at endline			Females BL to EL	Males BL to EL	
		Females	Difference F & M	Males	Females	Difference F & M	Males			
PRODUCTION	With decision-making input for all HH productive decision domains	39.9	+++	84.1	49.8	+++	82.9	*		
	With autonomy in one or more HH production domains	20.3	+++	59.4	26.6	+++	51.8			
RESOURCES	With sole or joint ownership of 75% of household assets ^a	54.2	+++	79.4	61.3	+++	79.4			
	With sole or joint control over purchase or sale of 75% household assets ^a	54.2	+++	91.2	72.9	+++	91.5			
	With access to and decisions on credit	74.0	+++	57.1	80.8		76.7			
INCOME	With control over household income and expenditures in 60% of HH decision-making domains ^b	44.0	+++	84.7	39.7	+++	78.4			
LEADERSHIP & COMMUNITY	Participating in formal and informal groups	98.7	+++	82.8	100.0	+++	93.0			***
	Confident speaking about gender and other community issues at the local level	58.0	+++	74.5	79.9	++	87.4			***
	Demonstrating political participation	86.0		91.1	94.5	++	98.5			***
	Demonstrating self-confidence	67.5		73.9	90.0		93.0			***
AUTONOMY	Satisfied with the amount of time available for leisure activities	82.2		82.8	84.9		86.4			
	Expressing attitudes that support gender equitable roles in family life	45.2		48.1	43.7		45.2			
	Achieving freedom of mobility	37.0		-	46.2	+++	52.8	*		
	N ^c	136-157		136-157	199		199			

^a excluding poultry, non-mechanized farm equipment, and small consumer durables as modelled in the WEAI. This indicator is based on the female respondent's perception of who makes decisions on household assets. Male respondents were not directly asked questions about asset ownership and control.

^b excluding minor household expenditures as modelled in the WEAI.

^c Specific N values for each indicator are presented in Annex 9.

^d Test across surveys not completed due to a difference in credit access between males and females in HHs with a male and female respondent. Used smallest N for pairwise testing between sexes. Endline results statistically different from baseline at the 10% (*), 5% (**), or 1% (***) levels.

Male results statistically different (pairwise) from Females (during same time period) at the 10% (+), 5% (++) or 1% (+++) levels.

3.6 Project Participant Perceptions of Impact

To understand saturation of project activities and participant’s perceived impact on the household, the endline survey asks male and female respondents to list who within the household participates in each type of activity. Follow up questions explore perceived level of well-being compared to three years ago.

As expected, virtually all women surveyed are members of a Pathways VSLA; in 20% of these households the male is also a savings group member. The next most common activities for women to participate in are producer group (62%), gender dialogues (57%), and cooking demonstrations (54%). Almost half (46%) have taken part in seed multiplication activities, 32% belong to a marketing group, and 18% take part in literacy training. The most common activity for male spouses to take part in is a producer group, with 28% of women stating their husbands belong to this group. According to women, less than one-fourth (23%) of men have taken part in gender dialogues. Project activities seldom include other household members with less than 1% reporting participation for all activities with exception of VSLA (5%) and producer groups (1%).

Table 20: Women reporting household participation in CARE activities

n= 451	Self	Spouse	Other HH member	No one
VSLA	96.7	19.7	4.7	0.2
Producer group	61.9	27.7	1.3	29.7
Gender dialogue	57.2	23.1	0.7	39.7
Cooking demonstration	54.1	7.1	0.7	41.7
Seed multiplication	45.5	10.0	0.4	52.8
Marketing group	31.9	19.7	0.7	58.1
Literacy training	17.7	3.5	0.0	80.7

Female and male participants overwhelmingly believe their household is better off after participating in Pathways activities. Only 6% of female respondents and 9% of male respondents state there is no change to household well-being as a result of participating in Pathways. Approximately 2% of both sex, feel that they are better-off in some ways, and worse off in others.

Among the 423 women who state the Pathways project has improved individual or household well-being, the key benefits experienced are improved household savings and credit (both cited by 85%),

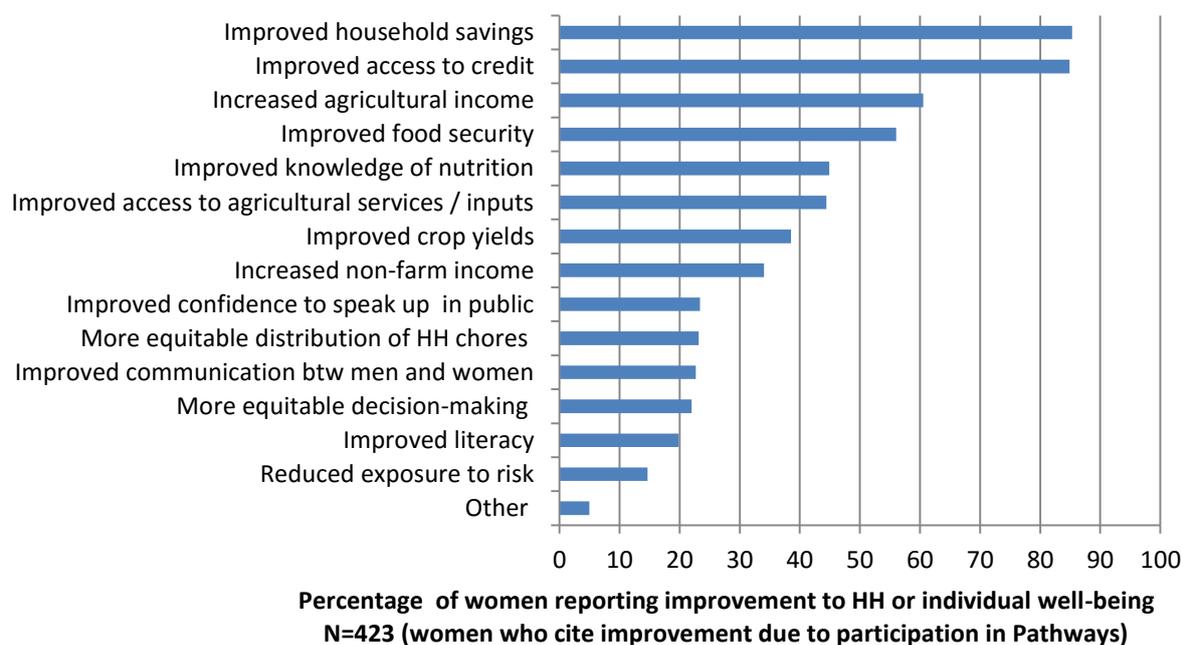
increased agricultural income (61%), and improved food security (56%). Almost half of all females who state their household is better off believe that that they have improved nutritional knowledge (45%) and better access to agricultural services and inputs (44%) as a result of

Table 21: Participant perception of HH status after project participation

	Female respondents	Male respondents
Better off than 4 years ago	91.4	87.4
Same as 4 years ago	5.5	9.0
Worse off than 4 years ago	.7	3.5
Better in some ways and worse in others	2.4	1.6
n	451	199

project activities. Almost two-fifths (39%) state crop yields increased as a result of Pathways activities, and over one-third (34%) claim non-farm income increased. About one-fourth (22% - 23%) note changes that suggest increased agency and gender equity within the household.

Figure 7: Women’s perceptions of Pathways impact



3.7 Change Lever 1 - Capacity

Improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers

The anticipated outcomes for Pathways Change Lever 1 are improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers. To determine if change has taken place since baseline in any of these areas, the surveys explore women’s participation and representation in formal and informal groups; women’s leadership within these groups; women’s comfort level with speaking up in public about important issues; and women’s self-confidence.

3.7.1 Women’s Participation in Formal and Informal Groups

To understand change to women’s participation and leadership in formal and informal groups, the surveys first determine whether 10 different types of groups exist in the community. If groups exist, women are asked about their active participation, reasons for not participating, amount of decision-making input they contribute, and whether they hold a leadership position. This section presents the results.

Table 22: Women’s participation and leadership in groups

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 1.1: % women participating in formal and informal groups					
All households	99.0	100.0	**	610	451
Female HHHs	98.6	100.0		146	138
Male HHHs	99.1	100.0		464	313
OC 1.2: % women holding leadership positions in formal and informal groups					
All households	53.1	72.3	***	604	451
Female HHHs	61.1	76.8	***	144	138
Male HHHs	50.7	70.3	***	460	313

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

All (100%) women sampled are active members of at least one formal or informal group that exists in their community (Table 22). Qualitative discussions with member and

non-member in all six sampled villages indicate that groups are open to anyone who wants to join, although at times it is necessary for newly-interested people to form their own group, if an existing VSLA feels it has reached capacity. In some cases, VSLAs will make extra efforts to ensure anyone who wants to join is able, as long as she or he can pay back a loan. For example, FGD participants in one village shared that members who are HIV positive may buy shares at lower prices. VSLA members also visit and help HIV+ members when they are ill. Rarely was tension between members and non-members mentioned as an issue in FGDs or key informant interviews.

In qualitative ranking exercises with women, men, and community leaders, VSLA participation is cited as the most beneficial activity of all Pathways initiatives. Across all six villages participants cite diverse benefits of VSLA participation, especially the increased ability to purchase livestock and farming inputs, start small businesses, pay school fees, purchase clothing for children. The vast majority of VSLA participants greatly appreciate the ability to borrow as few financial services are available with attractive lending terms.

Participants also appreciate access to nutritional and “family life” knowledge shared in groups and the enhanced social ties that result from being in a group together.

Belonging to a VSLA may contribute to feelings of empowerment among the members, however for those who live in such poverty they cannot participate in a group, individual and collective empowerment is out of reach. Former VSLA members who had dropped out of a group were interviewed by the qualitative team. Their statements suggest that VSLAs are not always interested in supporting individual paths of empowerment of women per se, but focus instead on ensuring that loans are repaid so that profits from interest paid is maximized.

An unintended consequence of VSLA participation was observed by the qualitative team. One of Pathways Malawi’s progress markers (Annex 4) is that women will stop participating in casual labor. The qualitative team found no evidence to suggest that women are reducing their involvement in *ganyu*, or even desire to reduce casual labor. In contrast, women state their participation in *ganyu* increased over the past three years because it is one of the main ways they earn money for VSLA shares.

“I have no children and no one to talk to. When I go to the [VSLA] meetings, I am always comforted because we share a lot more than what we share at church.”

Widow, Mwase District

Reasons for VSLA drop out were explored in FGDs. Women, men, and VAs identify the inability to pay back a loan as one key determinant for leaving the program. The second most common barrier mentioned by women is male domination related to control over the loan. In some cases, husbands take the borrowed money and never repay it. Other men do not repay it per the timeframe agreed upon by his wife and the VSLA. In these situations, women feel they have no control over loan use and repayment. In cases where men leave their wives and take the money, women receive no amnesty from the group and are requested to repay the debt anyway. Qualitative evidence indicates the situation has not changed much since baseline.

Among women who participate in groups, the number of women who state they hold leadership positions increased over the three-year period from 53% to 72% (Table 22), surpassing the project target of 64%. Despite these promising results, similar to baseline findings, qualitative 2015 findings suggest that, for the most part, women are recognized as capable leaders only in their gender-

“Men still want to lead in this community especially in higher positions like chieftaincy.”

*Female FG Participant –
Mwase District*

normative sectors (e.g., school committee) or positions (e.g., secretary or treasurer of marketing committees). In the six communities visited by the qualitative team, women are a part of the village development committee, but all village heads and group village heads are male.

3.7.2 Self-confidence

Important to the achievement of Pathways Outcome 1 are the self-confidence and conviction held by poor women farmers. Pathways Malawi intended to support community advocacy to ensure citizens understand their rights and responsibilities, and are able to engage with local government structures on issues that affect them. As of September 2015, specific activities related to enhancing men and women’s voice and dialogue, and citizen education about rights and responsibilities, had been postponed, due to budget constraints, with no specific plans for implementation prior to project’s end. Activities related to improving accountability, transparency, and effectiveness of district and community structures in planning and budgeting and management processes are completely dropped from the program.²⁸

Even though these activities are dropped in Malawi, the global M&E system requires that all Pathways countries measure changes to agency. To do so the surveys ask men and women about their comfort level in speaking up about three topics (gender issues, infrastructure decisions, and the misbehavior of authority figures) and whether they expressed their opinion in a public meeting (other than VSLA or producer group meetings) any time 12 months prior to the interview. People who respond positively to three of the four questions are considered to have achieved the public speaking indicator.

Table 23: Agency—expressing opinions in community affairs

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 1.3: % respondents confident speaking in public about gender and other community issues at the local level					
Female respondents	53.3	77.2	***	610	141
Male respondents	73.8	87.4	***	451	199

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

²⁸ Malawi Pathways Milestone tracker December 2014 – May 2015.

“In the past when people say that a woman is a whore because she is empowered the woman would stop doing business and just stay at home, but nowadays women do not get disappointed over what people say.”

Female FG Participant

Of interest is that despite Pathways dropping activities in this area, per self-reporting, Pathways’ participants of both sexes are making great strides in voice and agency regarding community affairs. The number of women stating they are comfortable speaking up in public drastically increased since baseline from 53% to 77%. Male respondents also show increased agency with 87% stating they are comfortable speaking up about these issues versus 74% who reported the same at baseline. Both endline results surpass project targets. Qualitative findings yield no insight as to what factors external to the Pathways project might have contributed to the

increase in agency. Given the connection that women make between financial independence and empowerment (Table 18, Section 3.5.1) it is plausible that the significant gains in income have contributed to greater agency. This should be explored by further qualitative research to determine if the theory is valid.

3.8 Change Lever 2- Access

Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers

To achieve Change Lever 2 the Malawi Pathways Project designed activities to improve the linkages between service providers (private sector, institutions, and government) and women farmers. Key efforts of Pathways Malawi related to increased access to reliable services include training community-based extension agents (FFTs) in technical skills (agronomy, processing, storage, etc.) and extension skills (capacity to train others); equipping FFTs with materials and equipment to support training and their own mobility; and facilitating linkages between FFTs and district-level structures for recognition, certification and support. Key efforts to increase access to inputs include facilitating collective buying of seed, fertilizer and other productivity enhancing inputs through the VSL-IGA groups; enabling capable VSL-IGA groups and/or individual members to operate as input suppliers; linking VSL-IGA groups with relevant input suppliers; and linking FFTs to information sources and input suppliers.

To explore the success of Pathway’s linking efforts, the baseline and endline surveys include a range of questions related to women’s access to financial services to support income generation; women’s access to and satisfaction with agricultural extension services; women’s access to agricultural inputs; and the types of output markets women are using to sell agricultural products. This section presents the results.

3.8.1 Women’s Access to Financial Services

Table 24 illustrates a marked increase in the number of households where women have access to and control over loans used for income-generating activities (IGA).²⁹ Income-generating activities may include investments in a business enterprise, the purchase of agricultural inputs or production assets, or the lease or purchase of land for agricultural purposes. The percentage of women from female-headed households who have access and control over IGA loans increased 12 percentage points since the baseline period, from 57% to 69%. Women in male-headed households did not

²⁹ Control over loans is defined as solely determining to take out the loan *and* solely determining how the borrowed capital was used.

experience any gain; similar to baseline results, less than one-fourth (23%) report access to and control over loans used for income-generating activities.

Table 24: Access to and control over loans for income-generation

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 2.1: % women with access to and control over loans for IGA					
All households	29.9	36.8	**	559	446
Female-headed households	56.5	68.6	**	131	137
Male-headed households	21.7	22.7		428	309

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

As at baseline, the source of loans for the vast majority of women (> 92%) is a VSLA. Only 2% state they have taken a loan from a formal lender. Qualitative findings show that other lenders are available (FINCA, Microloan, Malawi Rural Development Fund (MARDEF), and Bank of Malawi (OIBM)) all of which were available at baseline. Focus group participants state that most women and men in their villages prefer the VSLA over these institutions because of the distance required to access them (usually 15 km or more), less desirable loan terms, and collateral requirements. Households who do use these institutions are typically those in the community who are better off. A newcomer in the financial service arena is Airtel money—mentioned by all sampled villages but one—and offered by several institutions such as Opportunity Bank. Women and men report that keeping money safe in their phones and easily accessing it is an attractive prospect. They are excited about the opportunity to use Airtel money, although few have an account yet.

Among those women who take a loan, data suggest there has been a shift since baseline in how that

Table 25: Women's use of loans

Loan use: multiple response	Baseline	Endline
Business capital (IGA, etc.)	62.7	53.3
Purchase agricultural inputs/seed	14.4	29.1
Purchase/lease of land for agriculture	0.8	5.2
To purchase livestock	2.3	6.1
To buy food	43.5	48.3
Pay for school expenses	10.3	14.9
Pay for medical expenses	12.9	12.9
Clothing	15.4	11.5
Furniture/utensils	5.3	8.1
Housing	9.7	7.7
To repay other loan	3.6	5.2
Funeral expenses	2.7	5.0
Wedding/ marriage	0.8	1.6
Other	6.3	27.1
N = women who took a loan valued at 1000 MK or more	526	443

capital is used.³⁰ Just over half (53%) of all women interviewed at endline report using loans to invest in business capital compared to two-thirds (63%) at baseline, while three years ago only 14% of women reported using a loan to purchase agricultural inputs compared to 29% in 2015. These results are strongly supported by qualitative data: small business and inputs were cited by FG participants far more often than any other item when asked how VSLA loans and share outs were

³⁰ Tests of significance not conducted.

used. It is not clear what the large percentage (27%) of “other” refers to in the endline results, as qualitative findings only reveal similar uses as those found in the menu of survey responses.

Qualitative findings at baseline suggested that lack of self-confidence together with a husband’s hostility or a males’ control of women’s decisions and household assets were the main causes that prevented women from requesting loans to start up business activities. Qualitative findings at endline found no evidence to suggest that this constraint prevails.

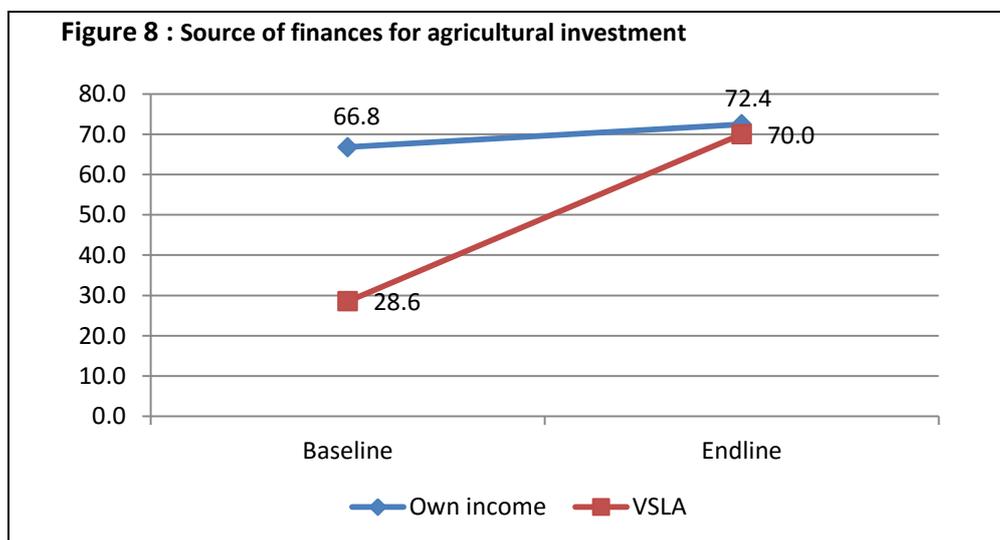
Similar to baseline, the vast majority of women interviewed at endline (> 96%) report accessing financial services to support agricultural activities in the last 12 months (Table 26). Figure 8 shows that the primary source of agricultural finance has shifted to the VSLA with 70% of women at endline citing this

Table 26: Women's access to resources

Indicator	Point Estimate		Sample Size	
	BL	EL	BL	EL
OC 2.4: % women accessing agricultural financial services (loans, savings, crop insurance) in last 12 months	96.9	96.4	581	450

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

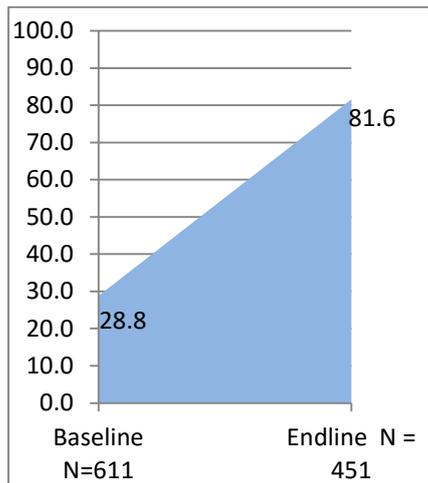
source compared to 29% at baseline ($p < .001$). The number of women financing agricultural activities from their own income has also increased slightly (67% BL to 72% EL, $p < .01$).



3.8.2 Women’s Access to Agricultural Extension Services

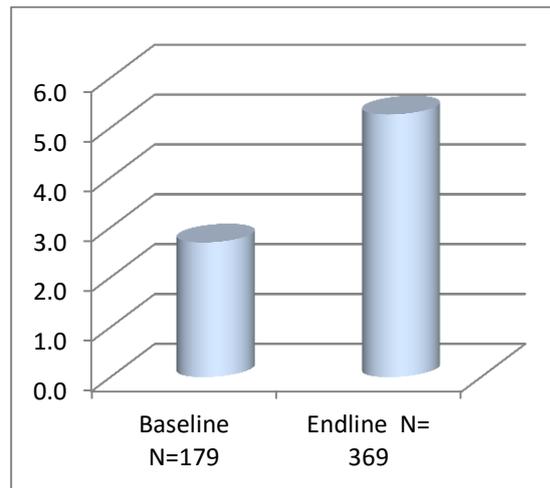
The number of women who state they, themselves, met with an agricultural extension worker or a livestock / fisheries worker in the last 12 months increased dramatically. At baseline only 29% of female respondents responded “yes” (Figure 9); three years later, that number increased to nearly 82%, exceeding the project’s cumulative target by 15%. Figure 10 demonstrates that the frequency of visits with an extension representative doubled (2.7 times in the last 12 months at baseline compared to 5.3 visits in the last 12 months at endline). Among women who met with an extension worker, the vast majority of respondents (94%) are satisfied with the services provided, with no change detected since baseline period.

Figure 9 : Percentage women with access to agricultural extension services in last 12 months



Statistically different from baseline at 1% level.

Figure 10 : Number of times woman met with extension representative in 12 months



Statistically different from baseline at 1% level.

Qualitative evidence supports the survey results. Female VSLA members in all FGDs relate that agricultural information is more readily available to women compared to three years ago, due to community extension officers, NGOs (CARE and Total Land Care), NASFAM and the private sector whose link to the women is through a VSLA. Only one FG of VSLA members mentioned that although access to information increased, it is still not sufficient. This group claims that the extension workers have too many groups to manage (25), thus timely information on crop issues is difficult to obtain.

In qualitative ranking activities, across all groups (male, female, and community leaders) increasing access to extension services ranks as the third most effective project activity, relative to improving household well-being. People interviewed specifically link increased access to extension services to the ability to get higher yields from small land parcels, increasing crop diversity, and adopting early-maturing varieties that help buffer increasingly unpredictable rains. Women also appreciate additional information shared by extension providers such as nutrition tips, gender equality, the importance of savings, among other topics.

“Without extension services women would still be in the dark about most issues that have changed their lives for better.”

Female FG participant- Mbwinda

Qualitative interviews with non-members suggest information access as a result of Pathways efforts is not limited to VSLA members only. Most non-members spoke about spillover from the project and relate that they too, have more access to information about agriculture than they did three years ago due to the increased presence of community extension workers. Only two non-member FGs claim that because they are not members of VSLAs, they have no access to any information.

3.8.3 Women’s Access to Agricultural Inputs

Three years ago, 78% of female farmers had accessed agricultural inputs such as seeds and fertilizers from at least one external source (e.g., Government program, agro dealer, or local supplier) in the 12 months prior to the baseline survey (Table 27), yet only 2.5% used a cooperative group to do so (Figure 11). At endline, considerably more women (86%) report they access such inputs. While this

number does not reach the project’s target of 93% access, it is a noteworthy increase. A particularly important finding is that the percentage who source the inputs from cooperative groups jumped to over 18%.

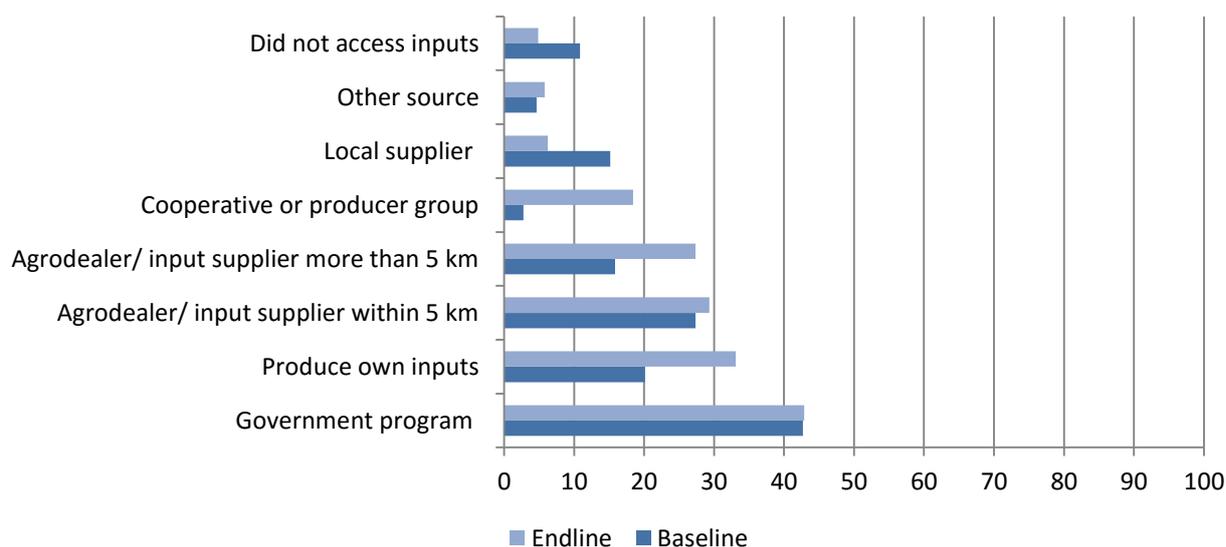
Table 27: Women's access to agricultural inputs

Indicator	Point Estimate		***	Sample Size	
	BL	EL		BL	EL
OC 2.5: % women accessing agricultural inputs (seeds, fertilizers, etc.) over the last 12 months	78.1	86.4	***	581	450

Statistically different from baseline at the 10% (*) , 5%(**) or 1%(***) levels.

At baseline, women were primarily sourcing inputs from a government program (quite likely the Malawi Agricultural Input Subsidy Program), agrodealers within 5 kilometers, or producing their own inputs. The main sources of inputs cited at endline are more diverse. Government programs remain the top source (43%), and one-third of women produce their own inputs, and 29% report accessing inputs from an agrodealer within 5 kilometers. However, a notable proportion of women are also accessing inputs from more distant suppliers (27%) and as mentioned, from cooperatives or producer groups (18%). At endline, only 5% of women state they did not access inputs from any source compared to 11% at baseline.³¹

Figure 11 : Sources of agricultural inputs in last 12 months



In the qualitative ranking exercise, female participants rank “Increasing access to agricultural inputs” as the 4th (of 11) most effective effort of the Pathways’ project. Virtually all female participants in the qualitative study agree that VSLA shareouts are the main reason women are more able to access fertilizer and seeds. Interviewed males and community leaders do not share such a positive view of the Pathways activity, ranking it 9th and 7th respectively, and focusing on the hurdles of price and

³¹ No statistical test of significance.

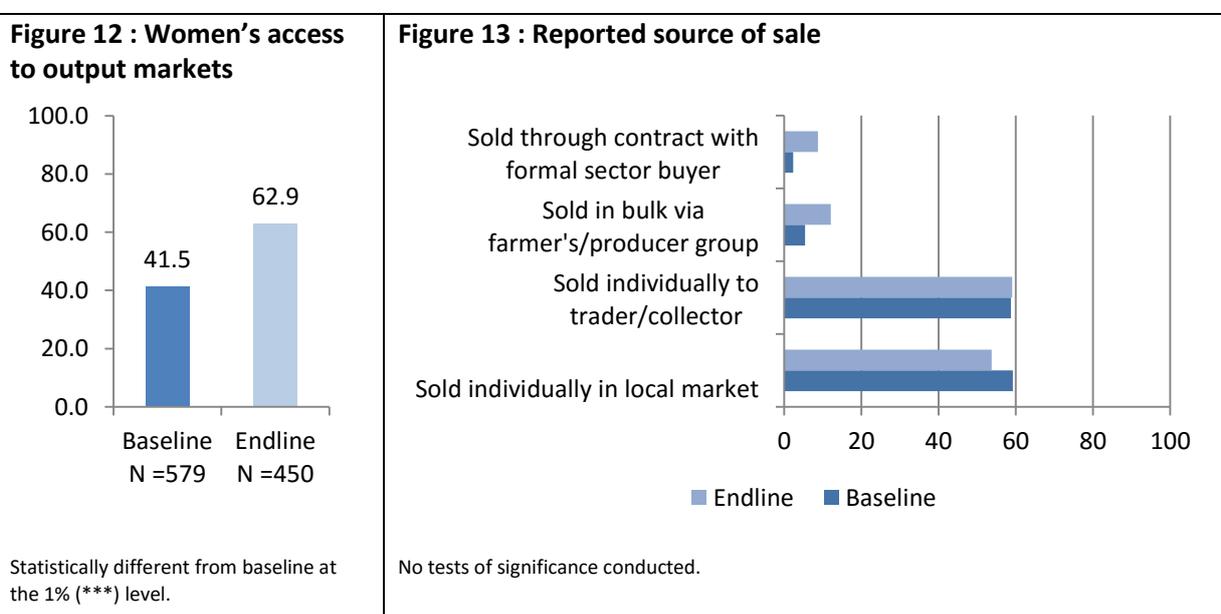
distance. Pathway’s seed multiplication efforts are not considered to be very effective by women or men because only a few people benefit and the amount of seed they receive is reportedly not enough to make a difference. When rankings by women, men and community leaders are combined, seed multiplication ranks very low (9th).

For the most part, similar to baseline qualitative findings, endline qualitative findings demonstrate that despite increased access availed by way of VSLA loans; numerous constraints still plague women’s and men’s ability to obtain the inputs they want and need. Price and distance to a supplier are the primary obstacles. Those who participate in the government subsidy program, relate that corruption is still as rampant as it was three years ago. Targeting is reportedly riddled with inclusion and exclusion error, due to lack of use of objective criteria to create the lists. Problems with agro-dealers were also described in FGDs. Vendors reportedly sometimes cheat the clients, by adding foreign matter to fertilizer or selling poor quality seeds and tools that are not durable.

It is interesting to note that the number of female farmers who report they rely on inputs which they produce themselves increased from 20% to 33%. In conjunction with the finding that shows a dramatic increase (43% BL to 58% EL) in the use of compost and manure (Figure 17 section 3.8.4), a sustainable and improved agricultural practice, it is plausible that this group of farming women seek to optimize the use of on-farm resources and minimize the use of expensive purchased inputs. Therefore, although these women will not be counted in the tabulation of CARE’s Outcome Indicator: “% women accessing agricultural inputs over the last 12 months”,³² they may very well increase their own short-term farm profitability by lowering production costs; may improve long-term sustainability by reducing surface and groundwater pollution; and may protect household health by reducing pesticide residues in food. Is it equally plausible that these women are producing their own inputs because they cannot access or afford the improved inputs they desire.

3.8.4 Women’s Access to Output Markets

Lack of market information on prices is a common constraint to farm profitability. Through the development of clusters and networks of producer groups, CARE Pathways aims to not only improve purchasing for poor women farmers, but also to improve their marketing and negotiation power.



³² The tabulation of Outcome indicator 2.5 in the Global M&E plan does not include “produce own inputs” as a qualifying response.

Figure 12 shows that at baseline only 42% of women surveyed accessed an output market (outside of the local market) to sell agricultural products in the 12 months preceding the survey. At endline, this number increased by more than 20 percentage points to (63%) surpassing the project’s cumulative target of 60%. Figure 13 displays the sales points where women state they have sold at least a portion of their production.³³ Although no tests of significance are conducted for source of sale, data are trending in the right direction, and suggest that access to formal sector buyers and bulk sales through producer groups is increasing slightly.



At baseline, in very few cases, did FGD participants report that VSLA members were operating producer cooperatives oriented at selling crops they themselves cultivate. In contrast, endline qualitative findings indicate that producer groups are present in all sampled communities and are prevalent throughout the Pathways implementation areas. Survey data show that 62% of women report participating in a producer group (Table 20, Section 3.6). Despite the prevalence of the groups, community opinion on the extent to which the groups benefit households varies significantly by geographic location. Three of the six communities visited in the qualitative study rank this Pathways activity as beneficial to communities and households. These communities appreciate the linkages that have been developed with NASFAM and are encouraged by the higher prices they’ve been able to obtain. The three other communities state that it has been challenging to get buyers to come and purchase their crops. The producer groups have not been functioning as planned and farmers must sell individually to vendors at lower prices than planned for. The groups rank as the 4th most effective Pathways activity when rankings of women, men, and community leaders are combined. Women alone rank the activity 6th (of 11).

3.9 Change Lever 3: Productivity

Improvement in yield and income through adoption of sustainable and intensified agriculture and value addition

To realize Change Lever 3, project activities were designed to sensitize smallholders on crop production, conservation agriculture, soil and water conservation, and irrigation; to train smallholders in improved practices for production of target crops according to needs. The project design document also includes livestock and husbandry components, but limited resources (human

³³ No statistical tests of significance.

and financial) resulted in these elements being dropped before implementation began. The project promoted crop diversification for women with available land by procuring and distributing seed for demonstration purposes, training mature VSL-IGA groups on relevant practices for advance crop production and processing opportunities, and facilitating links to relevant input providers for higher level commodities.

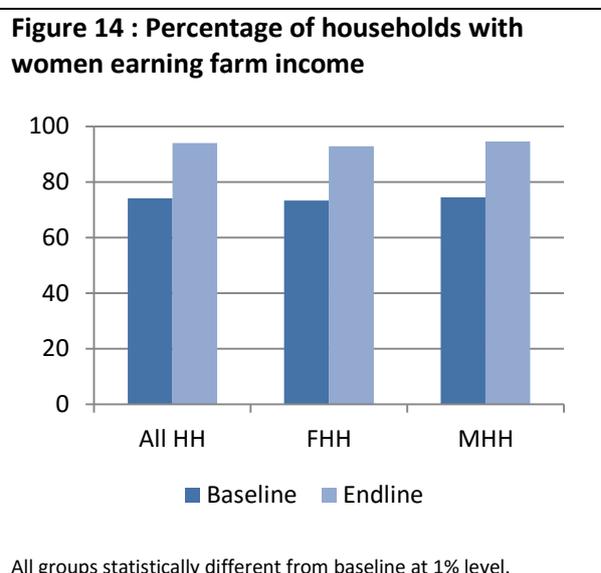
To determine change in the status of poor women farmer’s agricultural productivity this evaluation compares baseline and endline values for women’s net income from agricultural production and/or related processing activities; the number and type of crops grown; the agricultural yield of crops supported by the project; and whether women are adopting agricultural, livestock, storage, and post-harvest practices which promote sustainable production and value addition.

Women who engage in any agricultural activity, including primary production, processing, or marketing of food, fiber, or fuel crops, large and small livestock, bees, fish, horticultural crops such as vegetables, fruit, nuts, berries, herbs or natural products (non-timber forest products and wild fisheries) are interviewed to understand numerous aspects of their involvement in and experiences with production. Women whose only involvement in agriculture is wage labor are not interviewed about these topics. Section 3.8 summarizes the baseline to endline results from surveyed female farmers.

3.9.1 Women’s Income from Agriculture

Since 2012, the percentage of households with a woman earning farm income increased by 20 percentage points, from 74% at baseline to 94% at endline (Figure 14). This is true for both female- and male-headed households.

Women’s annual net income from agricultural production³⁴ substantially increased over the past three years from 165 USD to 253 USD (Table 28). While income more than doubled for women farmers in female-headed households, and nearly doubled for women in male-headed households, the former group is still earning considerably less than the latter (156 USD versus 295 USD).



As commonly found with income data, the standard deviations for net income are large (488 USD BL/ 527 USD EL) meaning that many cases in the data set are far from the mean. The median annual net income for women (a value less-likely to be influenced by extreme data values) is much lower, at 49 USD for the total sample at baseline and 102 USD at endline—still, when using median results income more than doubles for all household categories since 2012.

Data points that support this finding include participant’s own perceptions of project impact displayed in Table 21, Section 3.6. Over 60% of women state that agricultural income increased due to their participation in the Pathways project.

³⁴ Women’s reported mean annual net agricultural income is calculated from estimated women’s estimated sole and/ or joint earnings from agricultural sources, minus estimated annual costs of inputs for each income source.

Qualitative evidence indicates that women are beginning to negotiate with traders for better prices, but none interviewed feel they have adequate negotiating skills. Female marketing committee members assert they have not received any training in price negotiation and while producers are generally more satisfied with prices offered by the larger buyers compared to middlemen, they still worry that they don't have the skills to negotiate optimal prices.

Table 28: Women's net annual income from agricultural production

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 3.1 Mean annual net income of women from agricultural production and/or related processing activities (Current USD 2015) Base year 2012					
All households	165.07	253.01	**	448	421
Female HHHs	64.24	155.72	***	106	126
Male HHHs	196.32	294.56	**	342	295
Median annual net income of women from agricultural production and/or related processing activities (Current USD 2015) Base year 2012					
All households	49.03	101.59		448	421
Female HHHs	35.83	74.12		106	126
Male HHHs	56.57	115.32		342	295
OC 3.1 Mean annual net income of women from agricultural production and/or related processing activities (MWK). Base year 2012 .					
All households	75,718.20	116,057.98	**	448	421
Female HHHs	29,468.62	71,430.95	***	106	126
Male HHHs	90,052.86	135,119.01	**	342	295
Median annual net income of women from agricultural production and/or related processing activities (MWK) Base year 2012.					
All households	22,490.00	46,600.00		448	421
Female HHHs	16,435.00	34,000.00		106	126
Male HHHs	25,950.00	52,900.00		342	295
Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels. Only conducted for "Means"					

Not all changes associated with increased production are positive, however. Qualitative evidence suggests that women's time burden increased. While women interviewed are enthused about managing their own crops, the amount of time she must spend in her husband's maize and tobacco fields does not decline, nor do her domestic obligations. Generally, qualitative evidence indicates women are working longer and harder than they did before. In contrast to qualitative findings, survey data show women are no less satisfied with available leisure time than they were at baseline.

3.9.2 Crop Diversification

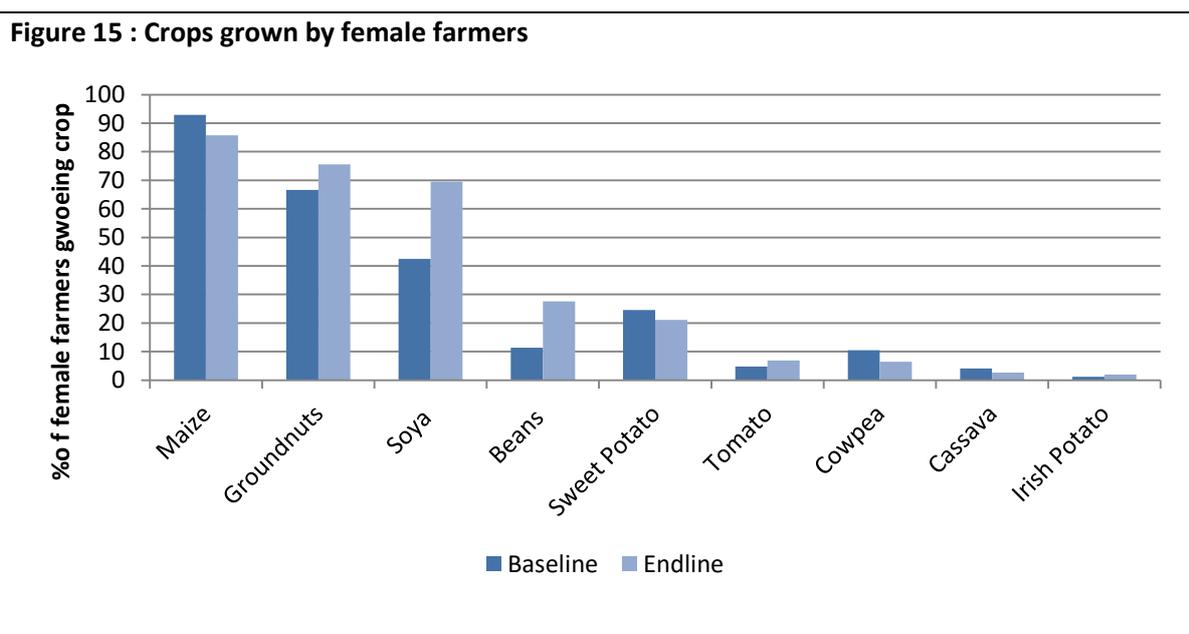
There is a small increase in the mean number of crops grown by women from 2.6 to 3.0 (Table 29); the majority of this gain taking place among female-headed households, who are growing almost one full crop more than they did 3 years ago (2.3 BL versus 3.4 EL).

Table 29: Crop diversity

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 3.3: Number of different crops grown					
All households	2.6	3.0	***	581	450
Female-headed households	2.3	3.4	***	127	137
Male-headed households	2.7	2.8		454	313

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

Figure 15 : Crops grown by female farmers



Similar to baseline, the main crops grown in 2015 are maize, groundnuts and soya; however at endline, as demonstrated in Figure 15, substantially more women grow soya (70% versus 42%, $p < .001$); bean cultivation more than doubled (27% versus 11%, $p < 001$), and more women grow groundnuts (76% versus 67%, $p < .01$). Of interest is that fewer women are growing maize (86% versus 93%, $p < .001$).

Despite the growth in crop diversity, qualitative findings suggest that the quantity of crops produced by poor farmers is still not enough to cover a household's food needs. As was true at baseline, casual (mostly agricultural) labor is a necessary complementary livelihood.



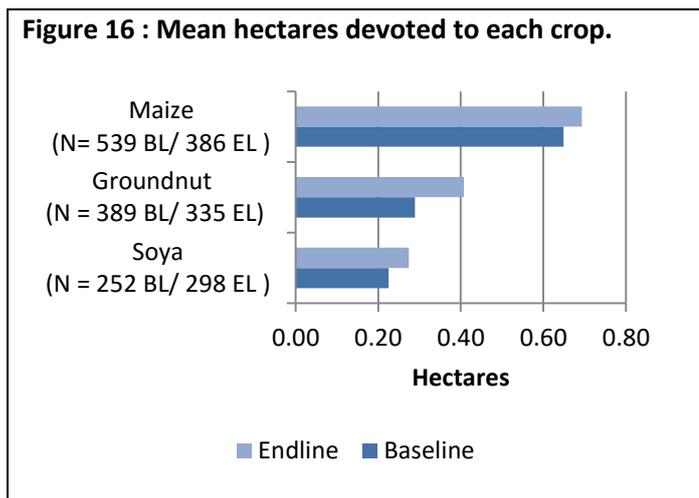
3.9.3 Women's Agricultural Yields

Yields (kilogram (kg) per hectare) are calculated for soya and groundnuts (crops promoted by the project) and maize, based on reported production in the 12 months prior to the survey.³⁵ There is no detectable change in crop yields per hectare from 2012 to 2015, although there is a slight increase in the amount of land devoted to soya ($p < .05$) and groundnuts ($p < .1$) (Figure 16), so total yields should increase accordingly. The data set contains variables that will allow CARE to do additional analysis of total yields.

	Point Estimate		Sample Size	
	BL	EL	BL	EL
Crops directly supported by Pathways				
<i>Soya</i>	711.8	794.5	202	298
<i>Groundnut</i>	801.9	762.8	329	334
Crops not directly supported by Pathways				
<i>Maize</i>	1849.7	1789.5	503	386

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

The finding that project participants did not experience any change in yields per hectare from baseline to endline, does not indicate that production never improved during the past three years. In fact, 2015 was a particularly difficult year for farmers. District reports indicate that local maize production fell by 35 to 50 percent in comparison to the five-year average, in Dowa and Kasungu Districts a result of extended dry periods.³⁶ Interviews with Ministry of Agriculture officers indicate that groundnuts, a rain-fed crop, also suffered severe declines in production. Additionally, the 2012-13 season hosted unusually favorable weather conditions for groundnuts,³⁷ which may have positively skewed baseline results. In this light, it is quite remarkable that farmers were able to maintain 2012 production levels, and suggests improve resilience to climate shock.



³⁵ Yield values should be interpreted as illustrative only. Numerous studies question the validity of using self-reporting of land size. Small farmer often over-report land size, while larger farmers under-report resulting in artificially high yields. The tendency to round (by farmer or enumerator) reported plot size also contributes to inaccuracies in calculating yields.

³⁶ FEWS NET Malawi Food Security Outlook. July to December 2015.

http://reliefweb.int/sites/reliefweb.int/files/resources/Malawi_FSO_2015_07_1.pdf

³⁷ Fitzgerald, G. 2015. The production of ready to use therapeutic food in Malawi: Smallholder farmers' experience with groundnut production. Results from a four-year livelihoods analysis in Malawi's Central region. Department of Food Business and Development. University College Cork.

There is a notable disconnect between the large increase in women’s agricultural income and the decrease or stagnant levels for women’s agricultural yields. Several factors could influence the conflicting data points. First, while yields may not have improved in 2015 compared to 2012, prices for corn, soya, and groundnuts did increase substantially. Women may have earned more or the same despite lower yields. Second, the survey recall period is 12 months for both data points. The survey took place within harvest season, when production may have been harvested but may not have yet been sold. If this were true, households could be reporting yields for 2015 crops and income from the 2014 harvest, which reportedly was much higher. Third, there are many new growers of both soya and groundnuts since baseline. The percentage of households (male- and female-headed) with a woman earning farm income increased 20 percentage points since baseline. Due to learning curves, new growers may be less-likely to have high yields when they first start cultivating a product. Their yield per hectare may pull down the mean value.

Finally, survey results for participants’ perceptions of impact support the theory that, with the exception of 2015 yields, many project participants did indeed increase their productivity. Almost two-fifths (39%) of women state that a key improvement to their lives as a result of Pathways participation is better crop yields; 61% claim project participation helped to increase household farm income.

3.9.4 Women’s Agricultural and Post-harvest Practices

Sampled women are more likely to use improved agricultural practices than they were at baseline. In 2012, close to half of surveyed women (47%) stated they used three or more of the practices CARE Pathways considers to be improved; three years later, that percentage soars to almost 70% (Table 31), surpassing Pathway’s cumulative target of 50%.

Table 31: Women's agricultural and post-harvest practices

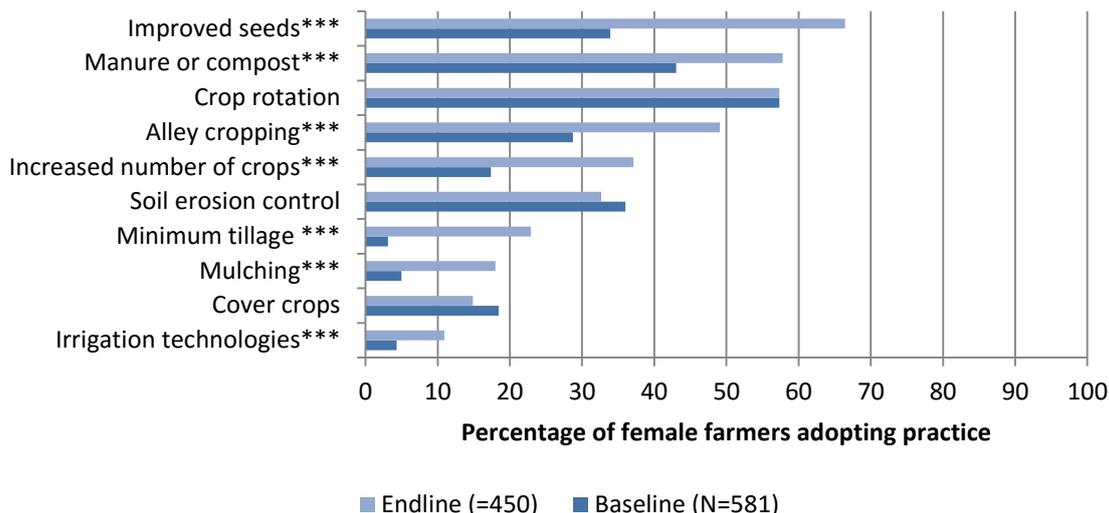
Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 3.4: % women adopting three or more improved agricultural practices	46.8	69.8	***	581	450
OC 3.5: % women farmers adopting two or more post-harvest processes	61.3	73.6	***	581	450
OC 3.6: % women adopting improved storage practices	27.0	25.1		581	450

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

Endline results indicate that of the ten improved practices asked about, seven practices have more farmers using them compared to baseline. Figure 17 shows that the greatest increases in number of farmers using improved practices occur for: adoption of improved seeds, use of manure or composting, crop rotation, and alley cropping. Specifically, the number of female farmers using improved seeds almost doubles since baseline (34% versus 66%).

When FGD participants were asked to rank Pathways’ activities in order of positive impact at the household and community level, improving agricultural skills ranks second among 11 activities. Specific new skills most-appreciated by participants include planting early-maturing and higher yielding varieties; spacing; crop rotation; soil erosion prevention; timely weeding; and construction of box ridges for water retention.

Figure 17 : Adoption of improved practices



Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

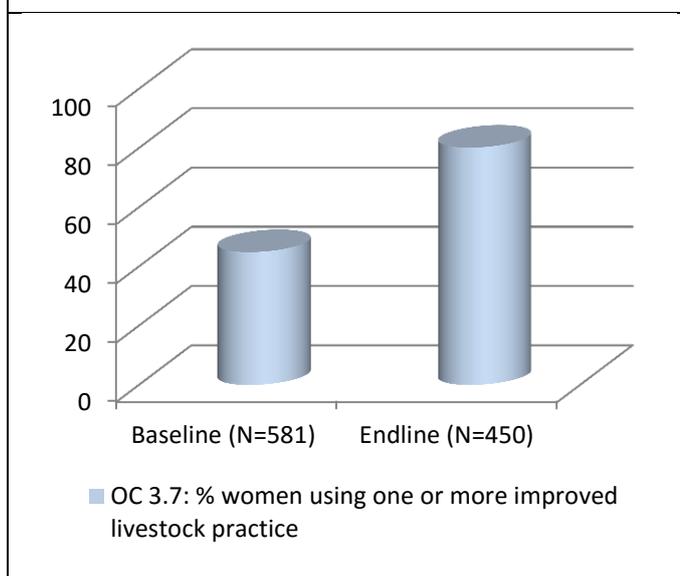
There are also dramatic increases in the adoption of post-harvest practices (Table 31). Nearly three-fourths (74%) of female farmers surveyed state they use two or more post-harvest practices, compared to 60% at baseline. Pathways, again, surpasses the project cumulative target of 69%.

The Pathways program in Malawi attempted to strengthen post-harvest management by training communities in improved crop/seed storage systems (e.g., seed banks, including demonstration units). Very few (25%) female farmers report using improved storage at endline, and there is no statistically detectable change in three years (27% BL) (Table 31).

3.9.5 Women’s Livestock Practices

At baseline, among all female farmers, 45% reported practicing one or more forms of improved livestock management (Figure 18). This figure drastically increased to 80% at endline. It is difficult to attribute these results to the Pathways project because livestock and husbandry components being dropped from the program before implementation began due to limited resources (human and financial).

Figure 18 : Adoption of improved livestock practices



3.10 Change Lever 4 - Household Influence

Increased poor women farmer contributions to and influence over household income and decision-making

To determine if there have been changes to women’s contributions to and influence over household income and decision-making, the surveys measure women’s control of household and agricultural income and expenditures;³⁸ women’s control of household and agricultural assets;³⁹ and women’s decision-making related to health care and reproductive health (Table 32).

3.10.1 Women’s Control of Income, Expenditure and Asset Decisions

Substantial positive changes in control of assets (both household and agricultural) occurred for women, particularly those who reside in male-headed households. Endline results show that across all households the number of women who report decision-making control over household and agricultural assets increased by more than 16 percentage points. For women residing in male-headed households the gain is even greater—68% now enjoy decision making control of household assets compared to 50% at baseline. For agricultural assets, 73% of women residing in male-headed households now enjoy decision making control compared to 53% at baseline.

Table 32: Gender-equitable decision-making for income, expenditures, and assets

Indicator			Sample Size	
	BL	EL	BL	EL
OC 4.1: % women with sole or joint control over household income and expenditures				
All households	63.0	63.4	610	451
Female HHHs	82.9	75.4	146	138
Male HHHs	56.7	58.1	464	313
OC 4.2: % women with sole or joint control over agricultural income and expenditures				
All households	54.8	57.2	610	451
Female HHHs	78.1	77.5	146	138
Male HHHs	47.4	48.2	464	313
OC 4.3: % women with sole or joint decision-making and control over household assets				
All households	57.2	72.9	***	593
Female HHHs	79.9	83.3		139
Male HHHs	50.2	68.4	***	454
OC 4.4: % women with sole or joint decision-making and control over agricultural assets				
All households	60.4	76.2	***	606
Female HHHs	84.1	83.3		145
Male HHHs	52.9	73.1	***	461

Statistically different from baseline at the 10% (*), 5% (**) or 1%(***) levels.

³⁸ Women’s control of income and expenditures is defined as women who have input into most or all decisions relative to a household or agricultural domain AND who have input into most or all decisions regarding the use of income from the activity (if it is an income-generating activity). For CARE Malawi, the outcome indicator is computed as the percentage of women who have control in 60% or more of the domains in which the household reports that decisions are made, excluding minor household expenditures.

³⁹ Women’s control of household assets is defined as women who state they are a sole or joint decision maker regarding the sale or purchase of various household and agricultural assets. For CARE Malawi’s Pathways project the outcome indicator is computed as the percentage of women who have control in 80% or more of the domains in which the household reports they hold assets.

Of key importance to the Pathways program is the increased number of women who report they have decision-making control over land assets (Figure 19); over 78% state they can make decisions over the sale or purchase of land compared to only 67% at baseline.

FGD findings from baseline indicated that fear of domestic violence often prevented women from making their own decisions on several subjects,

primarily the use of household assets. The qualitative team found no evidence at endline that women hold this same fear. In fact, input from most women and men in FGDs support the survey findings, and indicate that women are more able than in the past to participate in investment

Women composed a song about decision-making which they shared during the FGD; “*popita ku munda ndinu amayi, popita ku madzi ndinu amayi, ikabwera sell sheet ndiwe chitsiru, chitsiru, zipita kwanu.....*” meaning “*when going to the farm you are a woman, when going to fetch water you are a woman, once the sell sheet comes, you are a fool go back to your home village.....*”

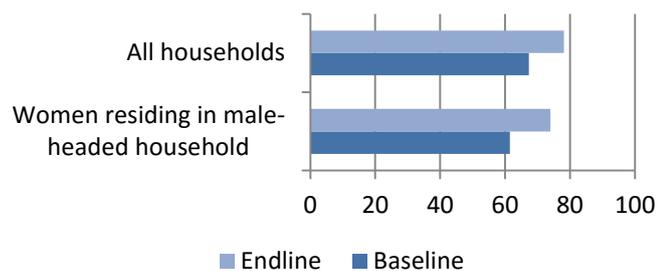
FGD Kaomba District

decisions for household assets. The change is not ubiquitous; all informants acknowledge that there are still plenty of men who believe that if they let women help with decisions it signifies that men have started wearing skirts.

While results show impressive change for asset decisions, no change is detected since baseline in the number of women who have decision-making control over either household or agricultural income and expenditures.

Qualitative findings generally support this result indicating that while women are able to make decisions on the use of some income, it is the male who makes the majority of the decisions.

Figure 19 : Women’s sole and joint decision-making control over land



Statistically different from baseline at the 1% (***) level.

3.10.2 Women’s Control of Reproductive and Health Care Decisions

In both male- and female-headed households, survey data indicate that the majority of women are still the sole or joint decision-maker for health care and family planning decisions. Perplexing, however, is the statistically significant decline in these percentages for women in female-headed households.

At baseline, virtually all (98%) of women from female-headed households reported they made sole or joint decisions about seeking medical treatment for themselves or their children; at endline only 84% state the same. Similarly, across all households there is a slight decline in the number of women who report they make sole or joint decisions over issues such as family planning including contraception, to space or limit births (95% BL to 92% EL). The evaluation team has no concrete explanation for the decline; however it is worth noting that at baseline, qualitative evidence did not support quantitative findings and suggested that most women did not have an open say on birth control and child bearing. While not specifically asking about birth spacing, endline qualitative inquiry related to one of CARE Malawi’s progress markers (intimacy and harmony in the household, Annex 4) reveals that while women feel comfortable communicating with their husbands about their sexual needs, men get angry if a woman says no to sex, or they put a timeline on celibacy (e.g., can’t be more than two days). The majority of women agree that it is rarely possible to refuse sex.

Another FG reported that gender-based violence is considered appropriate if a woman aborts a pregnancy.

Table 33: Gender-equitable decision-making for health care and reproductive health

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 4.5: % women making sole or joint decisions about health care					
All households	85.8	82.0	*	605	450
Female HHHs	97.9	83.9	***	146	137
Male HHHs	81.9	81.2		459	313
OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions (family planning; spacing of children)					
All households	94.9	91.9	*	454	333
Female HHHs	98.4	92.8		64	69
Male HHHs	94.4	91.7		390	264

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

3.11 Change Lever 5: Enabling Environment

More positive and enabling attitudes, behaviors, social norms, policies and institutions

The aim of Pathways Change Lever 5 is to facilitate the social changes necessary to create more positive and enabling attitudes, behaviors, social norms, policies and institutions that promote women’s rights. For CARE Malawi, the VSLA is the key entry point for women to discuss gender equality issues, challenging traditional gender and cultural related barriers in social and economic activities. To determine whether there is any change in men’s and women’s attitudes toward gender-equality, male and female respondents are asked questions about their attitudes, perceptions, and practices related to gender roles, household violence,⁴⁰ and women’s mobility. The surveys also explore whether sex is a barrier to participating in various local groups.

3.11.1 Attitudes about Gender Equality in Family Life

Respondents are asked whether they agree or disagree with four statements that reflect men’s and women’s roles in family life. Results show that patriarchal attitudes about family life are held not only by men, but are ingrained in women’s opinions of their own role in family life (Table 34). Fewer than half of women (47%) or men (45%) achieve the indicator. This was true at baseline and there is no statistically detectable change at endline.

Women greatly appreciate the Pathways gender dialogue sessions, but repeatedly express concern that most men do not attend the sessions. Survey data confirm this showing only 23% households report a male participated in gender dialogues (Table 20). There is anecdotal evidence that a few men are beginning to help with household chores, but for the majority traditional gender norms prevail. When males do help with chores it is typically because a woman is sick or has traveled out of the village. In male FGDs, men openly talk about being superior to women and feel confident that they are “the one” who should make all decisions.

⁴⁰ Male and female respondents were asked to agree or disagree with two statements: 1) *There are times women deserve to be hit*, and; 2) *a women should tolerate violence in order to maintain stability in the family*. For this study, disagreeing with both qualifies as a rejection of household gender-based violence and serves as the underlying measurement for the outcome indicator.

While the majority of men and women reject gender-based violence (82% and 80% respectively) there is no detectable improvement since baseline (Table 34). Although these data provide insight on attitudes toward domestic abuse, they may or may not reflect actual practice.

Table 34: Gender-equitable attitudes

Indicator	Point Estimate		Sample Size	
	BL	EL	BL	EL
OC 5.1: % of respondents expressing attitudes that support gender-equitable roles in family life				
Female respondents	44.4	47.2	610	451
Male respondents	50.7	45.0	138	200
OC 5.3: % of respondents expressing attitudes that reject household gender-based violence				
Female respondents	79.5	80.3	610	451
Male respondents	83.3	81.5	138	200

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

In contrast to survey data, many participants in FGDs spoke about positive changes in attitudes related to domestic abuse and violence. At baseline, qualitative findings indicated that gender-based violence was prevalent in all the communities visited, mostly occurring in the form of physical domestic violence. The qualitative team at endline found that women and men agree gender-based violence is not as common and that women have a greater tendency to report abuse to the Victim Support Units, the Catholic Commission of Peace and Justice, village committees, community police, or other agencies, than they did three years ago. FG participants also state that gender-based violence is slowly declining. Despite perceived improvements, the problem is far from eradicated, with plentiful examples given by FG participants of situations where it is acceptable to beat a woman (See box).

“Violence toward women is acceptable if:

- ~ She has extra-marital affairs
- ~ She refuses to have sex
- ~ She steals from other people
- ~ She aborts a pregnancy”

Female FG participants

3.11.2 Women’s Mobility

To understand freedom of mobility, female VSLA members are asked if they have to ask permission from their spouse or another family member to go to ten different locations. Four responses are possible: ‘Yes, always’ ‘Yes, most often’ ‘yes, but only now and then’, and ‘No, never’. Table 35 presents the data as a

Table 35: Women’s mobility

Indicator	Point Estimate		Sample Size	
	BL	EL	BL	EL
OC 5.4: % of women achieving freedom of mobility				
All households	47.5	46.3	610	451
Female HHHs	66.4	46.4	146	138
Male HHHs	41.6	46.3	464	313

Statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

mean score of women’s individual answers.⁴¹ The maximum score is 30. Women with a score of 16 or greater are considered to have freedom of mobility.

Results in Table 35 indicate that across the sample freedom of mobility did not improve for women, and has in fact declined for women residing in female-headed households. The result is perplexing and is not supported by qualitative findings. It is possible that the results are due to enumerator confusion on the question. During the midterm for Pathways’ sister program WE-RISE, despite repeated explanation to the qualitative team that the question asks “do you need to ask *permission* to go to [location]”, the qualitative team continued to ask respondents if the woman “*notified her husband*” before going to a particular place or if the man “*notified his wife*”. Somehow the concept of asking permission was difficult for the team. Given the results of men’s mobility, which show only 46% of males achieving this indicator, it seems quite plausible that the results for this indicator are the due to poor survey implementation of this question. Another possible explanation, which needs further qualitative investigation to substantiate, relates to community concepts of an empowered woman. Virtually all FGs relate that an empowered woman “did not have to ask her husband for money, conducted business on her own, and grew her own crops”---all are characteristics of many successful project participants. The flipside is that the community views empowered women as prostitutes. It is possible that women from households without a male head to “keep them in line” are subjected to even more community scrutiny as they begin to bring in income from their own crops and small businesses. Mothers, sons, and other household members may be more protective or demanding about knowing the women’s whereabouts. CARE could conduct further quantitative analysis based on age of women and her relationship to the household head to understand the dynamics within a female-headed household. CARE could also conduct additional qualitative research to understand specifically who these women must ask permission from.

3.11.3 Gender-based Barriers to Group Participation

Table 36: Barriers to group participation

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
OC 5.5: % of women reporting their sex as a barrier to participation in local groups / forums					
All households	3.0	14.2	***	610	451
Female HHHs	1.4	15.9	***	146	138
Male HHHs	3.4	13.4	***	464	313

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.

To better understand changes to gender-based barriers to group participation, the surveys ask women who report they are not a member of an existing group in their community about the reasons they are not a member. One potential

response is that they could not join the group because they are a woman. Table 36 shows that at baseline only 3% reported they could not join a group for this reason; at endline that number increased to 14% of women. Qualitative findings do not support quantitative results, in fact participants in FGDs and key informants relate that it is more common for women to be in various groups than it was in 2012. One explanation for the survey result may be slight differences in the way the question was asked at baseline and endline. At baseline, the survey was not translated to

⁴¹ The scores for women’s mobility are calculated by taking the mean across women’s individual scores. They are calculated using the following categories and score values from 3 (most mobile) to 0 (least mobile): "Never" (3), "Yes, but only now and then" (2), and "most often" (1) and 'always' (0).

Chichewa; at endline it was. The baseline response choice which contributes to this indicator is “not allowed because of sex”—for enumerators less fluent in English, it is possible that they misunderstood this baseline response, and thought it referred to sexual activity rather than being male or female. In an effort to ease translation at endline, the response was changed to “not allowed because I am a woman”. Further analysis by CARE which explores the specific types of groups women cannot belong to due to their sex, could shed more light on this perplexing result.

4 Project management

Staffing

By design, the Pathways project is a complex and comprehensive effort. Numerous outputs were planned in order for the project to reach the complex objectives. Collectively the outputs put forth in the project design require a staff with specific technical expertise in agriculture, value-chain development, and gender equality. The project started off with a fair-sized staff—a team of eight that included four field officers, one for each targeted traditional authority—but experienced several ups and downs in staffing levels over the course of three years.

About a year into implementation, Pathways lost three-quarters of staff for various reasons, and the project operated with a slim team of three; a project manager, a business manager, and one agricultural coordinator. All three had to function as field officers in addition to their regular jobs, and there was no M&E coordinator or gender specialist.

Since February 2014, the project has benefitted from its own M&E coordinator, one field officer with agricultural and business expertise for every TA, an agricultural coordinator, a business coordinator, and a project manager. Interviews with all project staff show them to be highly-committed to the project objectives. They are technically and professionally competent in M&E, value-chain, and agriculture sectors, and seem to enjoy experimenting with programming to see what works best. Field staff relate that higher level management and CARE headquarter staff have done a good job to motivate them.

Notably for a project with gender as an overarching theme, there are only two females on staff, neither of whom are field officers. There is no gender specialist, nor did any of the staff come to the project with gender specialization or hands-on experience in gender initiatives. In the past year and a half, with the help of CARE headquarters the project devoted significant time and resources to enhancing staff capacity in gender. This is discussed in more depth in subsequent paragraphs.

Funding

The Malawi project has continuously faced funding hurdles year after year. Unlike other Pathways projects, Malawi is not an anchor country for the BMGF. For this reason, the project timeline was only two years rather than the five-year timeline that the other countries enjoy. While Pathways Malawi has successfully received extensions to continue the project for additional years, key staff relate that it has been very difficult to plan one year at a time. The team works very hard on areas where they have to show results, presuming each year is the final year, and feels they have had insufficient opportunity to think creatively about how to best improve the country project, or adapt the project as they would like to.

Project adaptation and implementation

The Pathways program has been continually evolving since its inception. In 2012, when the project first arrived in Kasungo and Dowa districts, there were many programs (funded by CARE and other institutions) that overlapped a number of Pathways initiatives called for in the global design document. These included VSLA groups, post-harvest projects, and nutrition projects. Due to overlap, Pathways selected value chains as its niche.

According to key staff, while the in-country focus helped the Malawi team determine what type of initiatives to implement, the same type of adaptation was taking place in the five other countries. As a result, the Pathways program as a whole was a bit disjointed. Each country was implementing projects they were comfortable with and there was no coordination or real similarity across the six countries, despite the global framework.

In 2013, at the annual meeting in Ghana, the Pathways country teams discovered that in the first year, agriculture production, marketing, and nutrition components were doing well in most countries, but the gender component in all projects was struggling. A gender specialist from headquarters put monitoring tools together for household influence and the enabling environment and in 2014 spent considerable time building gender awareness among staff and giving them hands-on practice in implementing participatory gender dialogues. A KII from headquarters relates “Malawi has great facilitators. They took what they learned and quickly applied it in the field.” Additionally, the whole team was deeply involved in the internal midterm review, which specifically examined intra-household and community-level changes. Staff report that being involved with the analysis for the midterm was a turning point. According to Pathways staff (in Malawi and at headquarters), after these adaptations to the program and the intensive awareness-building exercises, the team had more clarity about how to approach gender.

The Farmer Field Business School (FFBS) approach—now purportedly a hallmark of the Pathways program and included in many CARE proposals—also became clearer to the Malawi team in Year 2. The approach focuses on integrating agriculture, marketing, nutrition, and gender in one comprehensive toolkit. The toolkit adapts to farmers’ natural calendars and attempts to complement whatever is going on with their lives, such that the training topics fit the timeframe of their activities.

One area the project team would have liked to be more engaged in is addressing climate resilient agriculture. The program manager relates “Every year there are problems with rain, drought, and hailstorms. Needs on the ground are not met, but they are too big for the current budget. The project design did not recognize the breadth of the problem at start up, and thus did not allocate sufficient human or financial resources to address it.” Pathways Malawi is making a solid effort to learn from the oversight and by early 2015 was filling some of the gap with complementary programming funded by the Margaret Cargill Foundation.

Monitoring and evaluation

Although the project struggled with M&E in early years, at times having no lead at all in the M&E position, the project currently has good M&E capacity, with staff who seem highly motivated to learn about and apply best M&E practices. Project monitoring documents are up to date, annual reports provide a good level of detail, and cumulative targets are very well set for the majority of outcome indicators. A few targets are set lower than what would seem necessary to achieve higher

level outcomes (e.g., 5% increase set for attitudes expressing gender-equitable roles and attitudes rejecting gender-based violence). TANGO did not receive any cumulative targets for impact indicators, and thus can make no comment on how they are set. The result framework demonstrates good causal logic, with indicators that clearly relate to the outcomes they fall under.

Two components of Pathways' monitoring for learning efforts are worth highlighting: annual review studies and progress markers.

Annual review studies were conducted each year of the program with a small sample of project households. The in-depth studies track the progress of one woman and one man from the households using questions from the baseline survey tool. Additionally, key photos are taken each year that offer a visual record of progress in areas such as crop storage and asset purchase. The exercise served to strengthen quantitative skills of Pathways staff and helped staff reflect on the factors that contribute to or prevent women's empowerment. There is one concern related to the data produced by the annual review. The results are entered into the results framework and are reported in annual documents as if they are generated from a representative sample, which they are not. The very small sample size is not reported, which can be misleading when presented next to the representative baseline results.

The project set up progress markers following the internal midterm review (Annex 4). Using Outcome Mapping methodology, Pathways initiated participatory sessions to come up with a set of specific, achievable and progressive statements of behavioral change desired by project participants themselves. The statements are aligned to the M&E framework, but are more tangible to program participants and staff than some indicators. The progress markers are not measured by targets, but on behaviors that participants themselves and field staff can observe. The exercise served to strengthen qualitative skills of Pathways staff and helped staff know what to look for in the field to get a sense of whether Pathway's gender equality efforts were on track.

5 Conclusions

5.1 Overall Impact: food security, economic security, livelihoods resilience, and women's empowerment

The CARE Pathways Malawi levers of change appropriately address some of the greatest barriers to economic and social equity for poor rural women farmers Dowa and Kasungu districts. The project enhanced women's capacity, increased women's access to markets and services, and increased control of productive assets for women in a traditional social and economic setting that favors men. Over the course of three years (2012-2015), households participating in the Pathways program have better food access, increased resilience to shocks, and much stronger economic security. The project is also slowly contributing to changes in women's empowerment, specifically within the domains of resources and leadership and community.

Pathways' Malawi created a solid marketing vision when it decided value chains would be a niche area. Complemented by solid technical staff who have agriculture and business backgrounds, the project's efforts to integrate women into soya and groundnut value chains and collective marketing contributed to substantial increases in farming income, particularly for female-headed households who have more than doubled their farm earnings since baseline. Increased income contributed to a sizeable increase of asset holdings. Households headed by both sexes are investing in assets that will

help to perpetuate agricultural and non-farm income gains and build resilience to shocks and stressors (e.g., land, small livestock, poultry, tools, and business equipment). Women consistently report that VSLA savings and income from soya or groundnuts help to pay for education. Given current thinking on contributors to resilience, this type of investment should positively influence the adaptive and transformative resilience capacities of the next generation.

Overall, household resilience to shock is much stronger than at baseline. Households have been affected by more shocks and stressors in the last year compared to three years ago, but have been able to maintain or in some cases even see gains in key well-being outcome indicators. Absorptive resilience capacity increased through an enhanced asset base and households' capacity to save and use savings to cope with shock or stress. Women and their households are more able to adapt to shocks and stressors because they have greater access to information and increased their use of improved agricultural practices. Specifically, female farmers are more likely to use drought tolerant or early-maturing crops and are more likely to diversify livelihood activities, both a result of Pathway's influence. Of concern is that generally, female-headed households are still less resilient to shock compared to their male-headed counterparts. For example, they have not increased non-farm income to the extent male-headed households have, meaning they have little ability to buffer shocks that severely threaten farm income. Additionally their asset base did not increase to the extent male-households' did—in fact the gap between the two groups widened.

Increased income allowed for a substantial increase in dietary diversity, particularly access to high protein foods, many of which are animal products—small livestock and poultry are typically purchased with savings or loans from VSLAs, or with the increased income from farm and off-farm activities.

Women's empowerment, an extremely difficult issue to mitigate in a short time frame, shows signs of slow positive change for women having more control over which assets are purchased and which are sold. Women's access to credit also improved and women show small gains in self-confidence. The improved confidence may be related to the increases in women's income as women's opinions of an "empowered woman" are tightly linked to financial independence. Given the notable gains in income, much of which appear to be the result of women's efforts in farming, it is worrisome that results show no improvement for women's control for productive decisions, women's control over income, or women's mobility. Additionally, despite substantial efforts at gender sensitization over the past year and one half, women and men alike are no more likely to express attitudes that support gender equitable roles in family life. While the project is undoubtedly improving food security, household economic status, and resilience, endline results suggest that women are not experiencing the empowerment the project hypothesized would result from the five levers of change. Plenty of evidence indicates current implementation of Pathways gender initiatives are thorough, conscientious, and well-done, however; because serious efforts to build staff awareness about gender and to remodel the methods Pathways uses to promote gender awareness in the field started only after midterm, Pathways did not make as large an impact as hoped for.

The results also bring into question the theory of change logic. Households are reaching the higher level goal, without realizing some change levers thought to be critical to reaching this goal. Essentially change has barreled ahead—only developing a relationship with productivity and profitability domains, without traveling through the empowerment and equity pathways in the process.

5.2 Conclusions: Change Lever 1 – Capacity

Improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers

Participating in Pathways VSLA and producer groups helped women (and other members of their households) improve their knowledge in a number of critical areas, increase important skills, build relationships, and build self-confidence and conviction related to their role in farming. The main skills and knowledge gained by women relate to agriculture: planting early-maturing and higher yielding varieties; spacing; crop rotation; soil erosion prevention; timely weeding; and construction of box ridges for water retention. Spillover of farming skills and knowledge is also apparent among women who are not members of the collectives, essentially benefiting whole communities.

Women participating in Pathways collectives are transitioning their identities into agricultural growers with a market orientation. They are feeling more confidence and conviction that they have an important role in smallholder farming for income. This change of attitude is a pre-requisite for changed practice required to increase crop productivity and profitability. While producers are generally more satisfied with prices offered by the larger buyers compared to middlemen, and women's capacity to negotiate with traders is slightly better than at baseline, there is much room to further strengthen capacity.

Beyond soya and groundnut production, the project has not made notable progress in increasing women's capacity to engage in business. This is a critical gap, as a key use of VSLA capital is to start small businesses. Training on business selection, planning, and management has been spotty, and there is little evidence that project staff have conducted a thorough analysis of potential economic activities for women to engage in. Business failure has doubled since baseline, affecting more than half of all households. Qualitative evidence suggests that many of these failed businesses are the small businesses women started with VSLA loans but have not been able to maintain due to insufficient knowledge on market demand and saturation, and few skills to enhance the profitability of small businesses. Notably, those who have taken part in Pathways business training state that it has helped them to manage finances, and budget any profits so that the businesses sustain. On a positive note, those with successful businesses report they have used the profits to buy farm inputs and buy VSLA shares.

5.3 Conclusions: Change Lever 2 – Access

Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers

The efforts of Pathways Malawi contributed to most women farmers having greater access to productive resources, assets, markets, services, and inputs. Gains vary depending on whether a woman is from female- or male-headed household.

The Pathways Malawi project made important contributions to increasing access to productive resources and assets at both household and individual levels. Through capital available from VSLA participation (loans and savings), women are more able to purchase (or rent) productive assets such as land, small livestock, and tools. Women are managing family land devoted to soya and groundnuts and if husbands will not allocate family land, women are increasingly taking the initiative to collectively rent land for this purpose. There is a marked increase in the number of female-headed households where women have access to and control over loans used for IGAs, but women from male-headed households did not experience any gain. Had the current gender strategy and activities

been rolled out earlier, the project may have had more influence in this area. As discussed in section 5.2, it is important to recognize that access to financial resources does not always result in successful investment, if not accompanied by business training.

By training community-based extension agents in technical skills and extension skills and equipping them with materials and equipment to support training and their own mobility the Malawi Pathways project greatly improved linkages between community service providers (FFTs and VAs) and female farmers. Pathways also did a decent job facilitating linkages between the community agents and district-level structures for recognition, certification and support. The increased access to these actors directly contributed to the increased capacity in agricultural skills, previously discussed.

Pathways moderately increased linkages between women and private sector buyers, and positive changes to market access appear to be clearly linked to Pathways' initiatives to develop networks of producer groups. Qualitative evidence from female participants suggests that while success is not ubiquitous across communities, the majority of participants believe that linkages to larger buyers directly contributed to increased income. At this point, there is little diversity in buyers (NASFAM and Export Trading purchase most of the production), however; there are clear signs that the project and the participants are making earnest efforts to attract a larger buying base.

Participation in a Pathways VSLA is a key reason that financial access to fertilizer and seed improved—the majority of women use VSLA capital (loans or shareouts) to purchase agricultural inputs, especially fertilizer for maize, even though there is consensus that these inputs are extremely expensive. Physical access to inputs remains a key challenge, although Pathways initiatives contributed to small gains by facilitating collective buying of seed, fertilizer, and other productivity enhancing inputs through the VSLAs or producer groups. Little progress is evident of VSLA, producer groups and/or individual members operating as input suppliers. Seed multiplication schemes have been one of Pathways larger efforts, but are rarely valued by participants because they feel too few seeds are distributed among very few participants to make a difference in the community. Poor rains have also diminished the effectiveness of the seed multiplication program as low harvests affected farmers' ability to pay back the seed per agreement.

5.4 Conclusions: Change Lever 3 – Productivity

Improvement in yield and income through adoption of sustainable and intensified agriculture and value addition

Pathways' promotion of sustainable and intensified agriculture and encouragement for women's participation in soya and groundnut value chains had impressive results related to improving household farm income.

Project activities designed to sensitize smallholders on crop production and diversity have taken hold and more women are using improved agricultural practices and are growing soya and groundnuts compared to baseline. Female-headed households seem most receptive to project efforts to promote crop diversity; they now grow one more crop on average than they did three years ago.

Since 2012, Pathway's value-chain approach substantially encouraged women to engage in farming for income. The increase is generally as high for female-headed households as it is for male-headed households, suggesting that integration into agricultural value chains is benefiting all households. However, not all changes associated with increased production are positive. Qualitative evidence indicates that generally, women work longer and harder than they did before, as they manage their

own crops, work in their husband's fields, and complete their domestic obligations. Gender initiatives to sensitize households and communities on inequitable time burdens and equitable contributions to household chores have not been implemented by Pathways long enough for the ideas to take hold.

Using only 2012 and 2015 crop data, it does not appear that the increased use of improved practices and greater access to inputs resulted in higher yields for Pathways participants, however; other data points must be considered because 2015 was a particularly difficult year for farmers throughout Malawi. Notably, the amount of land devoted to soya, groundnuts, and maize increased slightly—enough to feasibly contribute to an additional 92 kg of groundnuts per year, an additional 32 kg of soya per year, and an additional 90 kg of maize per year (amounts based on kg. per hectare results) for each household. There is also plentiful evidence from qualitative and secondary sources to indicate that until 2015, production has been increasing since 2012, and endline results for crop data are not representative of farmers' experience over the three year period. In light of climatic challenges faced by farmers in 2015 it is quite remarkable that farmers were able to maintain 2012 production levels, suggesting strengthened resilience to decreased and unpredictable rainfall.

Net annual income from the agriculture production activities that women participate in substantially increased over the past three years and survey and qualitative findings show that women strongly link increased agricultural income to their participation in the Pathways project. With no evidence of increased yields, it appears that the increase is primarily due to households obtaining higher prices for crops rather than selling greater amounts of produce. Country-wide prices for corn, soya, and groundnuts increased substantially since 2012. Additionally qualitative evidence shows that some producer groups, particularly those who live close to a tarmac and a larger town, are able to obtain higher prices through linkages to large buyers, such as NASFAM and Export Trading, that Pathways helped to establish.

Notably, while net annual income from agriculture production *more than doubled* for women in female-headed households, and nearly doubled for women in male-headed households, the former group still earns considerably less than the latter (152 USD versus 296 USD). Due to the way crop income is captured in the survey (no disaggregation by crop) the disparity may be due to tobacco income (male crop) being factored into overall earnings, and may not reflect that women from female-headed households are earning less from soya and groundnuts than their counterparts in male-headed households.

5.5 Conclusions: Change Lever 4 - Household Influence

Increased poor women farmer contributions to and influence over household income and decision-making

Substantial positive changes occurred in women's influence and control over which assets (both household and agricultural) a household buys and what assets can be sold, particularly for women who reside in male-headed households, an important target group for initiatives focused on improving household influence. Specifically, women are more likely to have decision-making control over land assets. Despite this positive trend in asset control, survey data and qualitative findings show little progress for women's contributions to and influence over household income and decision-making.

The changes in women's control of assets can be partially attributed to women's increased productive and financial contribution to the household which qualitative data show increases women's influence and respect within the household. Pathways participants and their spouses stated in qualitative interviews that some men are listening to and consulting with their wives when making decisions that affect the household. Women are determining what crops to plant and what businesses they would like to invest in, and women believe they have more influence in household decisions about education, clothing, and whether a daughter will marry.

Participants and key informants attribute this change to increased awareness of the women about their rights through Pathways, other organizations, and the media. Gender sensitivity training for couples, and dialogues to promote a shared understanding of how greater equity for women in the household benefits the husband and family, are reported as key factors in increasing respect for women and their right to participate in joint household decisions. While participants give positive feedback about the benefits to their household, they acknowledge that these changes have occurred in a minority of households in the community and men retain most of the decision-making power.

As mentioned, little progress has been made related to women's contributions to and influence over household income and decision-making. This is worrisome as Pathways contributed to a substantial increase in income for women through soya and groundnut value chains, yet women are no more likely than they were at baseline to control their own or household income. While acknowledging shifts in gender norms and roles take significant time to manifest, part of the slow progress is also likely due to the short period of time in which Pathways has been using a comprehensive, integrated and participatory gender approach.

5.6 Conclusions: Change Lever 5 - Enabling Environment

More positive and enabling attitudes, behaviors, social norms, policies and institutions

It has been challenging for Pathways to stimulate substantial positive change related to enabling attitudes, behaviors, social norms, policies and institutions. Similar to Change Lever 4, the project did not begin to implement focused gender initiatives until late 2014, limiting prospects for improvement. Simply put, gender dialogue sessions and other promising gender initiatives have not been implemented long enough to influence positive change in the complicated and deeply-rooted issues related to gender roles and norms.

The most positive trend noted for the "enabling environment" change lever is the reduction in gender-based violence reported by participants in the qualitative study. While the problem is far from eradicated, findings suggest that women are more likely to speak up about gender-based violence, and importantly are more likely to receive support from Victim Support Units, village committees, and community police, or other agencies. Participants in one FGD directly attributed the positive change in attitudes about domestic abuse to project initiatives.

Women greatly appreciate the Pathways gender dialogue sessions, but repeatedly express concern that most men do not attend the sessions. Survey data confirm this showing only 23% of male respondents had taken part in gender dialogues. There is anecdotal evidence that a few men are beginning to help with household chores, but for the majority, traditional gender norms prevail. When males help with chores it is typically because a woman is sick or she has traveled out of the village. Males openly talk about being superior to women and feel confident that they are the one"

who should make all decisions.” Survey data show that patriarchal attitudes about family life are held not only by men, but are ingrained in a woman’s opinion of her own role in family life.

The project is certainly on the right track now with extensive efforts to enhance the gender initiatives within Pathways, but it is reasonable to expect that shifts in societal values could have been much greater if from the beginning, the admirable emphasis placed on agriculture initiatives had been equally placed on gender initiatives.

6 Recommendations

Based on the findings of the final evaluation, this section provides a few suggestions for a follow-up phase of Pathways or any future program designed to overcome the constraints to women’s productive and equitable engagement in agriculture.

1. Strengthen the theory of change and use it to strategically sequence project activities.

The current theory of change may be useful for higher level stakeholders because it offers a broad overview of anticipated change, but the theory of change does not offer adequate detail to be useful at the field level. By having a detailed visual representation of the anticipated sequence in which change will occur, and a detailed visual representation of all of the factors that need to come together in order for change to occur, CARE could have a stronger communication tool to gain agreement among stakeholders about what defines success and what it takes to achieve success. A strong theory of change will help future projects identify the most strategic outcomes for interventions and most importantly, will help future projects identify the most strategic *sequencing* of interventions. All involved in CARE Pathways agree that the comprehensive gender approach should have been started much earlier than Year 3. This misstep could have been avoided had the program worked through the logical sequence in which change occurs in more detail, which in turn would have led to more effective sequencing of activities.

2. Strengthen staff capacity in key technical areas prior to implementation.

Pathways’ Malawi management acknowledges that future programs could maximize project impact by building gender awareness among staff and giving them hands-on practice in implementing participatory gender dialogues *prior to* starting any field work. In this way, staff will be better equipped to support volunteers to plan and implement gender equality discussions and activities designed to address gender gaps. Throughout program implementation, future programs could greatly contribute to staff capacity by involving staff in gender analyses and the setting of progress markers, as Pathways did at midterm.

3. Continue to scale up the inclusion of men and adolescent boys in the empowerment strategy.

Toward the end of the project, Pathways began to intensify efforts to sensitize men and adolescent boys to gendered norms which contribute to inequitable entitlements between males and females. This was a significant turning point for the project. It is likely that impact could have been greatly increased had an inclusive strategy been used from day one.

4. Place greater focus on marital status when designing and targeting specific initiatives.

Differences between females residing in male- and female headed households should be noted and activities aligned to the circumstances of each. The initiatives Pathways began to implement after

midterm show great focus on the needs of women in male-headed households; this focus is indeed critical to catalyzing changes in productive decision-making and women's control of assets, expenditures, and income, and should certainly be a part of future projects. While it is commonly assumed that women residing in female-headed households have more autonomy in decision-making, Pathways results show 15- 25% of these women are not even making joint decisions on important issues, much less sole decisions. More research into who controls the decisions of women in female-headed households could help future projects design initiatives that specifically target these parties for inclusion in the gender dialogue sessions.

Additionally progress for female-headed households in areas such as non-farm income, asset accumulation (especially land), and food access, could be enhanced if future projects take a more critical look at the factors hindering their ability to achieve equal status with their male-headed counterparts and specifically design initiatives to address these challenges.

5. Expand training and follow up for business development skills.

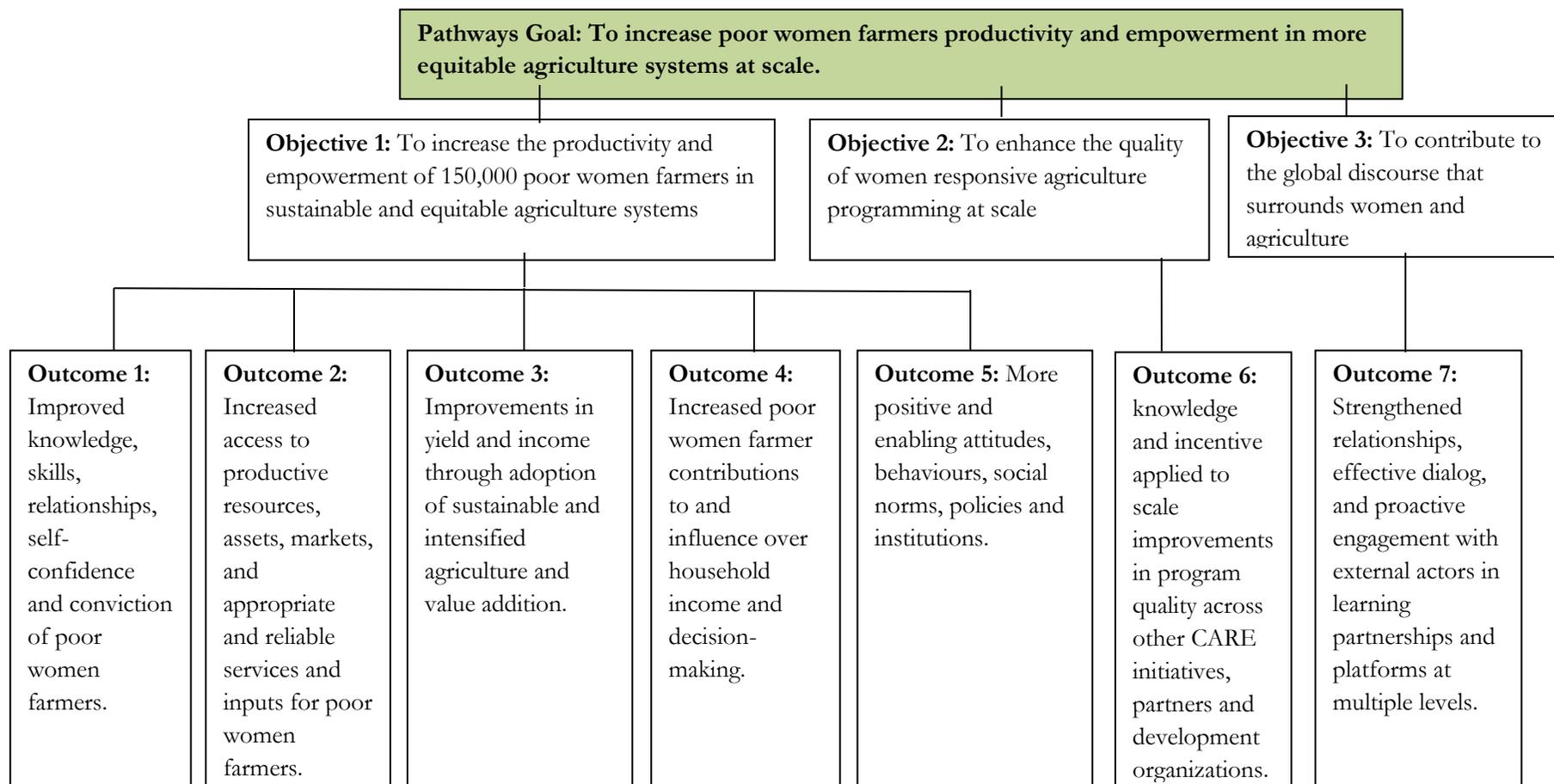
Critical aspects of effective empowerment advocacy such as negotiation skills and small business development were not sufficiently addressed by Pathways. Training on these topics was not scaled out to most communities and typically was a one-off event. For these concepts to take root, reinforcement is necessary. Future training programs on business development should be strengthened and reinforced by offering refresher and follow-up sessions.

6. Make changes to specific indicators that will allow programs to more precisely measure change

The past four years of working with Pathways offers TANGO the opportunity to reflect on our own "lessons learned" regarding evaluation design for programs with a strong gender and agriculture focus. Several changes to current indicators or the survey would allow future programs such as Pathways to measure change more precisely. They are as follows:

- Include additional indicators for food security, such as months of adequate food provisioning. Currently, food access is the only aspect of food security that is measured.
- Thinking around resilience measurement has advanced significantly since the Pathways M&E plan was designed. New indicators should be used in place of the current metrics that Pathways is using to determine resilience.
- Disaggregate crop income such that the program can attribute any changes to farm income to the value chains promoted by the project. Currently, as measured, increases could just as easily be due to tobacco income as due to soya or groundnut income.
- Include the number of women earning farming income as an outcome indicator
- Simplify the women's empowerment index.
- Redesign the survey to capture sole and joint decision-making with more precision.
- Revise the questions in the survey that contribute to the indicator "% women accessing agricultural financial services (loans, savings) in last 12 months to clearly ask about "agricultural" financial services, or revise the indicator to "% of women using financial services to invest in agriculture". Currently, the indicator is not captured with precision.

Annex 1: Pathways Results Framework



Annex 2: Pathways Common Indicator Framework

Pathways Results Framework

Results	Performance Indicators	Frequency	Source	Responsible
Pathways Goal: To increase poor women farmers' productivity and empowerment in more equitable agriculture systems at scale.				
Long-term impact: More secure and resilient livelihoods for households of particular segments of poor women farmers impacted through the goal.	<p>Food & Nutrition Security</p> <ul style="list-style-type: none"> • IM 1.1: Mean household dietary diversity scores • IM 1.2: Mean women's intra-household food access <p>Livelihoods Resilience</p> <ul style="list-style-type: none"> • IM 1.3: Coping strategies index • IM 1.4: % households adopting negative coping strategies in past 3 months • IM 1.5: % households using adaptation strategies to reduce the impact of future shocks • IM 1.6: Mean asset index <p>Economic Poverty Reduction</p> <ul style="list-style-type: none"> • IM 1.7: Per capita monthly household income (farm and non-farm) • IM 1.8: Per capita monthly household expenditures • IM 1.9: % households with savings • IM 1.10: % women with savings <p>Women's Empowerment</p> <ul style="list-style-type: none"> • IM 1.11: Women's empowerment index 	Baseline/ end-line; annual monitoring	Quantitative / qualitative surveys; producer group records; annual HH tracer study	External consultant
Objective 1: To increase the productivity and empowerment of 150,000 poor women farmers in sustainable and equitable agriculture systems.				
Outcome 1: Improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers.	<ul style="list-style-type: none"> • OC 1.1: % women participating in formal and informal groups • OC 1.2: % women holding leadership positions in formal and informal groups • OC 1.3: % respondents confident speaking about gender and other community issues at the local level 	Baseline/ end-line; annual monitoring	Quantitative/ qualitative surveys; producer group records; post-harvest surveys of tracer HHs	External consultant; M&E unit
Outcome 2: Increased access to productive	<ul style="list-style-type: none"> • OC 2.1: % women with access to and control over loans for IGA 	Baseline/ end-line; annual	Quantitative/ qualitative	External consultant;

resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers.	<ul style="list-style-type: none"> • OC 2.2: % women with access to agricultural extension services in last 12 months • OC 2.3: % women reporting satisfaction with agricultural extension services • OC 2.4: % women accessing agricultural financial services (loans, savings, crop insurance) in last 12 months • OC 2.5: % women accessing agricultural inputs (seeds, fertilizers, etc.) over the last 12 months • OC 2.6: % women accessing output markets to sell agricultural production over the last 12 months 	monitoring	surveys; producer group records; annual HH tracer study	M&E Unit
Outcome 3: Improvements in yield and income through adoption of sustainable and intensified agriculture and value addition.	<ul style="list-style-type: none"> • OC 3.1: Net income of women from agricultural production and/or related processing activities • OC 3.2: Agricultural yield in crops supported by Pathways • OC 3.3: Number of different crops grown • OC 3.4: % women adopting (project defined) minimum number of improved agricultural practices (list of improved practices TBD by country) • OC 3.5: % women farmers adopting (project defined) minimum number of post-harvest processing (list of improved practices TBD by country) • OC 3.6: % women adopting (project defined) improved storage practices (list of improved practices TBD by country) • OC 3.7: % women using [project defined] minimum number of improved livestock practices (list of improved practices TBD by country) 	Baseline/ end-line; annual monitoring	Quantitative/ qualitative surveys; annual reports	External consultant; M&E Unit
Outcome 4: Increased poor women farmer contributions to and influence over household income and decision making.	<ul style="list-style-type: none"> • OC 4.1: % women with sole or joint control over household income and expenditures • OC 4.2: % women with sole or joint control over agricultural income and expenditures • OC 4.3: % women with sole or joint decision-making and control over household assets • OC 4.4: % women with sole or joint decision-making and control over agricultural assets • OC 4.5: % women making sole or joint decisions about health care • OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions (family planning; spacing of children) 	Baseline/ end-line; annual monitoring	Quantitative/ qualitative surveys; annual reports	External consultant; M&E Unit

<p>Outcome 5: More positive and enabling attitudes, behaviors, social norms, policies and institutions.</p>	<ul style="list-style-type: none"> • OC 5.1: % of the project’s groups that have developed a gender policy • OC 5.2: % of respondents expressing attitudes that support gender-equitable roles in family life • OC 5.3: % of respondents expressing attitudes that reject household gender-based violence • OC 5.4: Women’s mobility • OC 5.5: % of women reporting their sex as a barrier to participation in local groups / forums 	<p>Baseline/ end-line; annual monitoring</p>	<p>Quantitative/ qualitative surveys; annual reports</p>	<p>External consultant; M&E Unit</p>
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Annex 3: Pathways Baseline to Endline results

Pathways Goal: To increase poor women farmers' productivity and empowerment in more equitable agriculture systems at scale.					
IMPACT INDICATORS	Baseline	Restricted BL	Cumulative Target	Actual Achieved	Statistically significant BL to EL
Food Security					
· IM 1.1: Mean household dietary diversity scores	5.4	5.3	?	6.0	***
· IM 1.2: Mean women's intra-household food access	5.3	5.2	?	5.7	***
Livelihoods Resilience					
· IM 1.3: Coping strategies index	2.0	2.1	?	5.6	***
· IM 1.4: % households adopting negative coping strategies in past 3 months	9.7	8.3	?	16.9	***
· IM 1.5: % households using adaptation strategies to reduce the impact of future shocks	83.9	83.0	?	90.4	***
· IM 1.6: Mean asset index	194.5	200.1	?	399.8	***
Economic Poverty Reduction					
	2012 USD	2015 USD		2015 USD	
· IM 1.7: Per capita monthly household income (farm and non-farm)	21.25	11.60	?	17.38	***
· IM 1.8: Per capita monthly household expenditures	28.29	19.55	?	27.02	***
· IM 1.9: % households with savings	97.4	97.0	?	94.2	*
· IM 1.10: % women with savings	97.1	96.7	?	93.3	**
Women's Empowerment					
· IM 1.11: Women's empowerment index	0.66	.60	?	.66	***
Cells shaded orange indicate data are trending in the wrong direction					

Objective 1: To increase the productivity and empowerment of 150,000 poor women farmers in sustainable and equitable agriculture systems.						
CHANGE LEVER	PERFORMANCE INDICATORS	Baseline	Restricted BL	Cumulative Target	Actual Achieved	Statistically significant BL to EL
					ENDLINE 2015	
Outcome 1: Improved knowledge, skills, relationships, self-confidence and conviction of poor women farmers						
CAPACITY	% women holding leadership positions in formal and informal groups	53.2	53.1	63.8	72.3	***
	% respondents confident speaking about gender and other community issues at the local level					
	· Female respondents	53.7	53.3	69.8	77.2	***
	· Male respondents	73.3	73.8	80.6	87.4	***
Outcome 2: Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers.						
ACCESS	% women with access to and control over loans for IGA	31.8	29.9	No target	36.8	**
	Women in female-headed households	57.8	56.5	No target	68.6	**
	Women in male-headed households	23.4	21.7	No target	22.7	
	% women accessing agricultural inputs (seeds) over the last 12 months	77.1	78.1	92.5	86.4	***
	% women accessing output markets to sell agricultural production over the last 12 months	39.9	41.5	59.9	62.9	***
	% women with access to agricultural extension services in last 12 months	26.4	28.8	65.0	81.6	***
	% women accessing agricultural financial services (loans, savings) in last 12 months	96.9	96.9	98.8	96.4	

Outcome 3: Improvements in yield and income through adoption of sustainable and intensified agriculture and value addition.						
PRODUCTIVITY	· OC 3.1: Net income of women from agricultural production and/or related processing activities	165.78	165.07	No target	253.01	**
	· OC 3.2: Agricultural yield in crops supported by Pathways (kg. per hectare)					
	<i>Groundnuts</i>	837	802	1046.0	763	
	<i>Soya</i>	795	712	993.8	795	
	· OC 3.3: Number of different crops grown	2.7	2.6	No target	3.0	***
	· OC 3.4: % women adopting at least 3 improved agricultural practices	45.2	46.8	49.7	69.8	***
	· OC 3.5: % women farmers adopting at least 2 post-harvest processing practices	62.7	61.3	69.0	73.6	***
	· OC 3.6: % women adopting improved storage practices	26.0	27.0	28.6	25.1	
	· OC 3.7: % women using at least one improved livestock practice	43.7	44.9	No target	80.2	***
Outcome 4: Increased poor women farmer contributions to and influence over household income and decision making.						
HOUSEHOLD INFLUENCE	· OC 4.1: % women with sole or joint control over household income and expenditures	64.2	63.0	70	63.4	
	Women in female-headed households	82.5	82.9	No target	75.4	
	Women in male-headed households	58.1	56.7	No target	58.1	
	· OC 4.2: % women with sole or joint control over agricultural income and expenditures	55.5	54.8	70.0	57.2	
	Women in female-headed households	78.8	78.1	No target	77.5	
	Women in male-headed households	47.8	47.4	No target	48.2	
	· OC 4.3: % women with sole or joint decision-making and control over household assets	57.6	57.2	75.0	72.9	***
	Women in female-headed households	50.4	79.9	No target	83.3	
	Women in male-headed households	80	50.2	No target	68.4	***

	· OC 4.4: % women with sole or joint decision-making and control over agricultural assets	45.2	60.4	70.0	76.2	***
	Women in female-headed households	82.3	84.1	No target	83.3	
	Women in male-headed households	33.0	52.9	No target	73.1	***
	· OC 4.5: % women making sole or joint decisions about health care	86.2	85.8	No target	82.0	*
	Women in female-headed households	98.4	97.9	No target	83.9	***
	Women in male-headed households	82.2	81.9	No target	81.2	
	· OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions	94.6	94.9	No target	91.9	*
	Women in female-headed households	98.7	98.4	No target	92.8	
	Women in male-headed households	94.0	94.4	No target	91.7	
Outcome 5: More positive and enabling attitudes, behaviors, social norms, policies and institutions.						
ENABLING ENVIRONMENT	· OC 5.1: % of respondents expressing attitudes that support gender-equitable roles in family life					
	· Female Respondents	48.4	44.4	50.8	47.2	
	· Male Respondents	46.2	50.7	48.5	45.0	
	· OC 5.3: % of respondents expressing attitudes that reject household gender-based violence					
	· Female Respondents	79.4	79.5	83.4	80.3	
	· Male Respondents	83.4	83.3	87.6	81.5	
	· OC 5.4: Women's mobility	49.6	47.5	?	46.3	
	Women in female-headed households	67.2	66.4	?	46.4	***
	Women in male-headed households	43.8	41.6	?	46.3	
	· OC 5.5: % of women reporting their sex as a barrier to participation in local groups / forums	3.4	3.0	?	14.2	***
	Women in female-headed households	2.1	1.4	?	15.9	***
	Women in male-headed households	3.8	3.4	?	13.4	***
	Cells shaded orange indicate data are trending in the wrong direction					

Annex 4: Evidence on Achievement of Pathways Progress Markers

Outcome Challenge: Women Women strategize to influence production and household decisions					
	Category 1: <i>Gender division of labor / workload</i>	Category 2: <i>Intra-household negotiation, communication, decision-making</i>	Category 3: <i>Control of productive assets & resources</i>	Category 4: <i>Self-confidence, autonomy & leadership</i>	Category 5: <i>Intimacy and Harmony in household</i>
Expect to see ...	✓ Women ask husbands for support with household tasks (cooking, fetching firewood and water, childcare)	~ Women ask husbands to allocate a plot for them to grow groundnut and soya	✓ Women purchase small household items (soap, food, clothes), and pay maize milling services	~ Women travel outside villages by themselves	
EVIDENCE AT ENDLINE	Yes. Qualitative data show women are asking, but husbands do not regularly respond positively to the request. Quantitative data show women & men have not fully bought into the idea of domestic labor division. The majority still hold traditional attitudes about gender roles and norms.	Some evidence. Quantitative data show increase in amount of land allocated to groundnuts and soya.	Yes. Substantial qualitative and quantitative evidence.	Indicator needs more precision. Qualitative data suggests it is possible for women to travel outside village, but is not common. Domestic obligations tether a woman to the house. Quantitative data indicates women cannot travel without a husband's permission.	

<p>Like to see ...</p>	<p>~ Women cultivate together with husbands in <i>all</i> crops</p>	<p>✓ Women independently decide what crop variety to plant/business to start</p> <p>~ Women negotiate collectively with community leaders for fertile land to grow own crops</p> <p>✓ Women make suggestions to husbands with regard to HH decisions (education, children, school fee's, clothes, marriage, food)</p>	<p>✓ Women invest in productive assets and inputs (livestock, seeds and fertilizer) and pay for school fees enterprises and income sources]</p> <p>✓ Women manage their own piece of land (family, rented, owned, etc.)</p> <p>✗ Women manage their own income (& avoid conflict)</p> <p>~ Women diversify their income</p>	<p>✓ Women dress nicely and look good (have bathed, combed hair, put lotion, clean clothes)</p> <p>✓ Widowed /divorced women freely choose not to remarry (to maintain financial independence and make their own decisions)</p> <p>~ Women negotiate for better marketing terms for agriculture crops</p> <p>✗ Women stop doing casual labor</p>	<p>~ Women communicate with husbands about sexual needs</p>
<p>EVIDENCE AT ENDLINE</p>	<p>Trending in a positive direction. Indicator needs more precision.</p> <p>“Cultivating together” is fraught with obstacles and tradeoffs. Tobacco is still defined as a “man’s crop”. Families may cultivate together but that generally means</p>	<p>Substantial qualitative evidence that women are determining what crops to plant and what businesses to support and that women feel they can influence HH decisions about education, clothing, marriage, and food).</p> <p>Capacity to ask community</p>	<p>Quantitative and qualitative evidence showing women are investing in productive assets, inputs, and educations, specifically with loans & savings from VSLAs.</p>	<p>Qualitative observations suggest women are taking pride in their appearance; qualitative evidence suggests widowed and divorced women have the right to remarry or remain single. Some still experience community</p>	<p>Indicator needs more precision.</p> <p>Virtually all women interviewed in FGD state they are able to communicate their sexual needs, but</p>

	<p>women’s time burden increased substantially...she must manage her own crops, take care of domestic obligations, and also labor for her husband, without the benefit of making decisions about tobacco or maize income.</p>	<p>leaders is trending in a positive direction, but is not yet the norm.</p>	<p>Women are managing land devoted to soya and groundnuts and are taking initiative to collectively rent land for this purpose if husband will not allocate family land.</p> <p>Survey data show no change in women’s control of their own income.</p> <p>Women diversify income using VSLA loans, but very few have had any business training. Businesses often fail due to saturation of product. Businesses women feel they are capable of investing in, are rarely those with potential for substantial income generation.</p>	<p>slander if they do not marry.</p> <p>Women are beginning to negotiate with traders for better prices, but none interviewed feel they have adequate negotiating skills. They assert they have received no training in negotiation and still worry that they are being taken advantage of.</p> <p>There is no evidence to suggest that women are or even want to reduce casual labor. In contrast, women state their participation in <i>ganyu</i> increased—they view it as a key way to earn money for VSLA shares.</p>	<p>husbands still do not respect their requests.</p>
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<p>Love to see ...</p>		<p>✓ Women make their own production decisions around soya and ground nuts</p>	<p>✗ Women decide independently how to spend their own money</p>	<p>~ Women publically speak out against GBV ~ Married women consult local leaders for advice on their relationship and problem solving</p>	<p>~ Women resolve conflicts amicably and in a non-violent way</p>
<p>EVIDENCE AT ENDLINE</p>			<p>Qualitative and quantitative data indicate this is not true for most women.</p>	<p>~ Definite positive trend in women reporting GBV. Clear awareness of who GBV should be reported to. ~ Did not gather evidence to determine if women are consulting local leaders for relationship advice.</p>	<p>Positive trend, but not yet common. Qualitative data show women can be the abuser as well as the abused.</p>

Annex 5: Qualitative Data Collection Itinerary

TA	Dzoole	Mwase	Kaomba	Njombwa		
GVH	Kamwana	Galika	Mtembwe	Ngwata	Mankhaka	Mbwindi
Village for FGDs	Kawala,	Galika	Mtembwe	Kadyaka	Mankhaka	Chidiku
Date	Sept. 2	Sept. 4 th	Sept. 7 th	Sept. 9 th	Sept. 11 th	Sept. 14 th

In each of the six **villages** selected we need to interview these KEY focus groups:

- 2 FGD female VSLA members (6-10 women) – one in morning/ one in afternoon
- 1 FGD female non-VSLA members (6-10 women)- one in morning preferred (could be in afternoon however depending on women’s availability)
- 2 FGD males whose female partner is in a VSLA (6-10 members) one in morning/ one in afternoon. Please include engaged and less-engaged males.

These group discussions will take approximately 1.5- 2 hours. If there are not enough male or female VSLA members/ partners to hold two separate groups in any given village, we can move to a nearby village (preferably one that has also been sampled in the quantitative study) and conduct the afternoon FGDs there.

Additionally, in each **GVH** we will hold several small group discussions with key informants. It will make it easier if these can be held in the same village(s) as the FGDs, but if not possible, we will provide transport to the most convenient meeting area. These interviews will take 45 minutes to 1.5 hours.

- VAs (2-3 mixed sex)
- FFTs/FFBS facilitators (2-3 mixed sex)
- Community leaders (2-3 mixed sex).

NO MORE THAN 3 key focus groups can be scheduled at any given time, due to # of available qualitative teams. No more than 1 male FGD / 2 female FGDs at any given time, for same reason. See sample schedule below.

SAMPLE for scheduling				
8:30	Female VSLA members	Female FGD – non members	Male FGD – partners of VSLA	VAs
11:00ish	Unscheduled transect walks/ wealth rankings		FFTs/ FFBS facilitators	Unscheduled time use exercises
After lunch	Female VSLA members	Community leaders	Male FGD – partners of VSLA	Unscheduled transect walks/ wealth rankings

DISTRICT OR TA LEVEL interviews

TA	Available date range	NAME	POSITION	MINSITRY
DZOOLE			Agriculture Development Officer (s)	MOA
			Community Development Officer (s)	Ministry of Gender and Children Welfare
			Private sector soya OR groundnut purchasers	
MWASE			Agriculture Development Officer (s)	MOA
			Community Development Officer (s)	Ministry of Gender and Children Welfare
			Private sector soya OR groundnut purchasers	

Annex 6: List of persons interviewed

Key informant interviews

Michael Rewald	CARE Malawi Country Director
Lemekeza Mokiwa	CARE Malawi Program Manager
Salome Mhango	CARE Malawi Pathways Project Manager
Lilian Mpama	CARE Malawi Pathways M&E Coordinator
Daniel Soka	CARE Malawi Pathways Business Officer
Charles Mkangara	CARE Malawi Pathways Agricultural Advisor
George Kamanga	CARE Malawi Pathways Field Officer
Mabvuto Shauli	CARE Malawi Pathways Field Officer
Crispin Manda	CARE Malawi Pathways Field Officer
Wiseman Msimuko	CARE Malawi Financial Officer
Masauko Myembe	CARE Malawi Financial Officer
Emily Hillenbrand	CARE USA Technical Advisor, Gender and Livelihoods
Godfrey Nasalira	Warehouse Manager- Export Trading
Phillipe Lumiwira	Ministry of Agriculture - AEDO

Focus group discussions and small key informant group interviews.

Kawala, Kamwana GVH, TA Dzoole	# Male	# Female
Male partners: FGD & ranking - morning	6	
Female members: FGD & ranking: morning		8
Female members: FGD afternoon		6
Village agents	1	2
Female FGD non-member		10
FFT	2	1
Marketing group		2
Galika, Galika GVH, TA Mwase		
Male partners: FGD & ranking - morning	8	
Female members: FGD & ranking: morning		10
Female members: FGD afternoon		9
Village chief/ GVH	2	
Community leaders	4	2
Female FGD non-member		6
FFT - Village agents		3
Time use		7
Marketing group	1	2

Mtembwe, TA Mwase		
Male partners: FGD & ranking - morning	8	
Female members: FGD & ranking: morning		9
Female members: FGD afternoon		9
Community leaders	4	1
Female FGD non-member		9
FFT and VA	1	1
Marketing group	1	2
Kadyaka, Ngwata GVH, TA Kaomba		
Male partners: FGD & ranking - morning	8	
Female members: FGD & ranking: morning		10
Female members: FGD afternoon		10
Female FGD non-member		8
Community leaders	2	2
FFT and VA	1	1
Marketing group		4
Time use		5
Mankhaka, Mankhaka GVH, TA Kaomba		
Male partners: FGD & ranking - morning	8	
Female members: FGD & ranking: morning		10
Female members: FGD afternoon		10
Community leaders	5	1
Female FGD non-member		8
FFT and VA		2
Marketing group	0	6
Chidiku, Mbwindi GVH, TA Njombwe		
Male partners: FGD & ranking - morning	10	
Female members: FGD & ranking: morning		7
Female members: FGD afternoon		8
Community leaders	6	
Female FGD non-member		3
FFT and VA	3	3
Marketing group		4

Annex 7: Computation of secondary variables related to household economic status and food security

Household Dietary Diversity Score (HDDS)

This indicator is computed by summing the number of different food categories reported eaten by the household in day prior to the interview. This indicator was measured as recommended by FANTA, using the following 12 food groups: cereals, tubers, legumes, dairy, meat, fish, oils, sugar, fruits, eggs, vegetables, and others. The HDDS provides a measure of a particular household's food access. A higher HDDS represents a more diverse diet, which is empirically highly correlated with a household's income level and access to food.⁴²

Asset Index

The weighted asset index is computed by multiplying the number of each type of household asset by the index value for that particular asset type. Index values of household assets used in the construction of the asset index are presented in the table below. A higher value of the asset index indicates that households have been able to accumulate assets over time. Households are able to accumulate assets if income is greater than the necessary expenditures to meet household subsistence requirements. Assets also provide households with a cushion to adjust to shortfalls in incomes, or sudden increases in necessary expenditures. Thus, households with a higher asset index are less vulnerable than households with lower asset index values.

Asset type	Asset weights	Notes
Small consumer durables	1	
Farm equipment non-mechanized	1	
Cell phone	5	
Transportation Means	10	The low weight is based on DHS 2010 data and qualitative observations that show the vast majority of rural transportation assets are bicycles
Non-farm business equipment	10	
Large-consumer durables	10	
House	10	
Poultry	3	
Small livestock	10	
Large livestock	25	
Fishing equipment / fish ponds	5	Low weight is based on fishing equipment: qualitative observations found no ownership of fish ponds.

⁴² Swindale, Anne, and Paula Bilinsky. *Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2)*. Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 2006.

		Few exist, and those that do are community property.
Farm equipment mechanized	10	
Agricultural Land	50	
Non-agricultural land	10	

Coping strategy index

The coping strategy index is computed on the basis of a series of questions asked to respondents about how frequently they utilize a list of possible consumption coping strategies in response to times when the household does not have food or enough money to buy food.⁴³ The eight strategies used for this study are:

1. Borrow food or borrowed money to buy food
2. Rely on less expensive or less preferred foods
3. Reduce the number of meals or the quantity eaten per day
4. Gather unusual types or amounts of wild food / hunt
5. Reduce consumption of some family members so that others could eat normally or more
6. Skipped eating due to lack of money or food for an entire day
7. Consume seed stock to be saved for next season
8. Beg or scavenge

The frequency of adoption of each category is coded according to the following categories:

- 0 = never
- 1=1 day each week
- 2=2-3 days each week
- 3=4-6 days each week
- 4=daily

The coded frequency response for each strategy is then weighted by the severity weight of each strategy. Average severity weights across several coping strategies conducted in countries around the world are then applied to each coping strategy, using the following formula:

$$CSI = \sum (\text{frequency category}_i * \text{severity weight}_i)$$

i=1 to 8

The severity weights are as follows:

⁴³ Maxwell, Daniel, Richard Caldwell and Mark Langworthy. "Measuring food insecurity: Can an indicator based on localized coping behaviors be used to compare across contexts?" *Food Policy*, Volume 33, Issue 6, December 2008

Strategy	Severity weight
Borrow food or borrowed money to buy food	2.5
Rely on less expensive or less preferred foods	1.8
Reduce the number of meals or the quantity eaten per day	2.7
Skipped eating due to lack of money or food for an entire day	4.6
Consumed taboo food, wild food, famine foods which are normally not eaten	2.9
Reduce consumption of some family members so that others could eat normally or more	2.6
Consume seed stock to be saved for next season	3.6
Beg or scavenge	3.4

Annex 8: Construction of the Women’s Empowerment Index

The Women’s Empowerment Index (WEI) indicator used as part of CARE’s evaluation plan was adapted from, and follows closely, the Women’s Empowerment in Agriculture Index (WEAI) developed for Feed the Future. The WEAI is comprised as an average of two sub-indices: the 5 domains of empowerment index (5DE) and the Gender Parity Index (GPI).

The 5DE index is a direct measure of women’s empowerment and is split into two main components:

- Incidence of Women’s Empowerment: calculated as the percentage of women that are empowered
- Adequacy of the Disempowered: empowerment score of those women that are disempowered

Empowerment, as defined in the WEAI, is achievement in 80% or better of a weighted-index of the 10 indicators underlying the WEAI. The table below shows the weighting used for both the WEAI index and the adapted WEI index being used by CARE for this evaluation. The differences in weighting between the two are driven in large part by additional indicators that were included as part of CARE’s evaluation plan. Those new indicators include:

- Women’s self confidence
- Women’s mobility
- Women’s attitudes towards gender equitable roles in family life
- Women’s political participation.

The addition of the new indicators adds several important dimensions directly related to women’s empowerment that were previously unaccounted for in the WEAI. Women’s engagement in the political process and a measure of self-confidence were added to the leadership domain. With the expansion of that domain from two to four indicators, the indicators were re-weighted to 5% from 10%, leaving the domain weighted at 20%.

The WEAI “Time” domain was relabeled “Autonomy” to more accurately reflect the indicators contributing to this domain in the WEI. The workload indicator, weighted at 10% in the WEAI, was replaced by two indicators measuring women’s mobility and their attitudes concerning gender equity in the home. Questions related to women’s workload were explored through qualitative interviews rather than the quantitative survey. Again with the addition of an extra indicator to the time domain the indicators were re-weighted appropriately in order to leave all domains equally weighted at 20%.

WEAI vs. WEI: Indicator weights

Domain	Indicator	WEAI weight	WEI (CARE) weight
PRODUCTION (20%)	With decision-making input for HH productive decision domains	1/10	10%
	With autonomy in HH production domains	1/10	10%
RESOURCES (20%)	With sole or joint ownership of household assets ^a	1/15	6.67%
	With sole or joint control over purchase or sale of household assets ^a	1/15	6.67%
	With access to and decisions on credit	1/15	6.67%
INCOME (20%)	With control over household income and expenditures in HH decision-making domains ^b	1/5	20%
LEADERSHIP & COMMUNITY (20%)	Participating in formal and informal groups	1/10	5%
	Confident speaking about gender and other community issues at the local level	1/10	5%
	Demonstrating political participation	N/A	5%
	Who express self-confidence	N/A	5%
TIME/ AUTONOMY (20%)	Satisfied with the amount of time available for leisure activities	1/10	6.67%
	Workload	1/10	0%
	Achieving a mobility score of 16 or greater	N/A	6.67%
	Expressing attitudes that support gender equitable roles in family life	N/A	6.67%
	Total	100%	100%

Analysis was initially conducted using the WEAI thresholds for indicator achievement, or those specified by CARE in the case of new indicators. These thresholds often resulted in baseline levels of achievement of 90% or greater, leaving little room for project improvement over time. To allow for country-specific improvement, baseline values were adjusted to country-specific thresholds. In cases where baseline indicator values were greater than 50% using the WEAI thresholds, the threshold for the indicator was adjusted until the value fell between 45-60%. The table below gives both the initial WEAI thresholds and the ending country-specific thresholds.

As an example where a threshold was adjusted for Malawi, the initial guidance for the indicator measuring the decision-making import for household productive decision domains was defined as achievement being realized for those women that had input in 2 or more (of 5 total) domains. When calculated, the percentage of women achieving was greater than 95%. Thus, the indicator was recalculated increasing the threshold for achievement until the value fell between 45 and 60% (in this case, to 5 of 5 production domains). Those indicators with “N/A” signify cases where there was no threshold to adjust (i.e., participating in formal and informal groups – either they participated in at least one group or they didn’t).

Domain	Indicator	WEAI Threshold	Country-Specific Threshold
PRODUCTION	With decision-making input for HH productive decision domains	2 of 5	5 of 5
	With autonomy in HH production domains	1 of 5	1 of 5
RESOURCES	With sole or joint ownership of household assets ^a	≥ 50%	≥ 75%
	With sole or joint control over purchase or sale of household assets ^a	≥ 50%	≥ 75%
	With access to and decisions on credit	N/A	N/A
INCOME	With control over household income and expenditures in HH decision-making domains ^b	≥ 50%	≥ 60%
LEADERSHIP & COMMUNITY	Participating in formal and informal groups	N/A	N/A
	Confident speaking about gender and other community issues at the local level	2 of 4	3 of 4

	Demonstrating political participation	N/A	N/A
	Who express self-confidence	2 of 7	5 of 7
AUTONOMY	Satisfied with the amount of time available for leisure activities	N/A	N/A
	Achieving a mobility score of 16 or greater	N/A	N/A
	Expressing attitudes that support gender equitable roles in family life	N/A	N/A

To accommodate the addition of CARE’s new indicators, adjustments were also made to the GPI portion of the WEI. The most conspicuous change comes in the removal of the aggregated GPI component itself. Although a single index number for gender parity was not calculated, examination of the differences in response between males and females for each indicator allows CARE to gain an understanding of parity as it relates to each WEI domain.

Removal of the aggregated GPI component was necessary because of differences between men and women for three indicators. Including these three indicators as part of the GPI would have violated the spirit of what the GPI represents. The three indicators are: women’s mobility, women’s ownership of assets, and women’s input in the purchase in sale of assets.

The GPI includes two components:

- Percentage of women achieving gender parity: measured by the percentage of empowered women + percentage of women that have empowerment scores \geq to the empowerment score of the male respondent in their household
- (Avg.) Difference in empowerment between men and women: calculated for those women that don’t achieve gender parity.

The WEAI is structured to ask both men and women about their own mobility. The question was adapted as a result of input from the Ethiopia baseline survey (the first baseline study to be conducted) wherein men felt it absurd to be asked about their own mobility. The WEI, therefore, asked for men’s perceptions about their spouse’s mobility. Thus, there was no measurement of men’s empowerment as regards their own mobility, making it impossible to measure differences between male and female empowerment in mobility (i.e., parity), as men and women were asked different questions.

Both questions related to asset ownership were only asked of the female household member (in part to help shorten the lengthy survey), again making it impossible to calculate a relative difference in empowerment between males and females for ownership and control of assets.

One option would have been to exclude all three of these indicators from calculation of the gender parity index. However, that would have meant a lack of valuable information and muddled

interpretation of the results. Thus, rather than calculating a single, somewhat meaningless number as indicative of differences in men's and women's overall empowerment, men's and women's empowerment in each domain is used to understand parity. Mobility was excluded due to the interpretation issues cited above. The two asset indicators were included because, as constructed, the questions asked of household females still captured the relative difference in asset ownership and decision-making between household males and females (even if only from the perspective of the household female). Finally, the percentage of women achieving women's parity and the average difference in empowerment between men and women respondents was excluded due to the issues cited above.

Annex 9: Additional tables

Table 37: Per capita monthly household income (Current 2015 USD)

Indicator	Point Estimate			Sample Size	
	BL	EL		BL	EL
IM 1.7: Mean per capita monthly household income (All sources)					
All households	11.60	17.38	***	611	451
Female HHHs	12.04	11.25		146	138
Male HHHs	11.47	20.08	***	465	313
IM 1.7: Mean per capita monthly household income (farm)					
All households	3.36	6.04	***	611	451
Female HHHs	2.00	4.39	***	146	138
Male HHHs	3.79	6.77	***	465	313
IM 1.7: Mean per capita monthly household income (non-farm)					
All households	8.24	11.33	***	611	451
Female HHHs	10.04	6.86	*	146	138
Male HHHs	7.68	13.31	***	465	313
IM 1.7: Median per capita monthly household income (All sources)					
All households	5.79	10.23		611	451
Female HHHs	4.71	7.31		146	138
Male HHHs	6.03	11.77		465	313
IM 1.7: Median per capita monthly household income (farm)					
All households	1.01	2.91		611	451
Female HHHs	0.93	2.11		146	138
Male HHHs	1.05	3.63		465	313
IM 1.7: Median per capita monthly household income (non-farm)					
All households	3.25	5.72		611	451
Female HHHs	3.35	4.43		146	138
Male HHHs	3.24	6.32		465	313

Statistically different from baseline at the 10% (*) , 5%(**) or 1%(***) levels.
Only conducted for "Means"

Table 38: Where households keep savings

Location: multiple response	BL	EL
VSLA	95.7 **	92.7
Home	12.6 ***	20.4
Bank	12.3	14.2
Other	0.9 **	3.1
n	611	451

Statistically different from baseline at the 10% (*) , 5%(**) or 1%(***) levels.

Table 39: Women's reasons for saving

Reason for saving: multiple response	Baseline	Endline	
Productive asset purchase	61.5	62.1	
In case of emergency	53.3	54.3	
Facing seasonal hunger	26.1	34.6	***
Household asset purchase	25.1	28.8	
Invest in small business	23.8	26.2	
Education	18.9	20.8	
Healthcare/medicine	19.0	13.7	**
Social event (wedding, etc.)	3.0	8.4	***
Other	4.8	6.4	
n	610	451	

Table 40: Perceptions on production changes in last 12 months for key crops

		Point Estimate		Sample Size	
		BL	EL	BL	EL
Maize	Increased	32.5	27.7		
	No change	11.7	4.4	539	386
	Decreased	55.8	67.9		
Soya	Increased	28.6	27.2		
	No change	28.6	6.4	248	313
	Decreased	44.8	66.5		
Groundnuts	Increased	38.0	23.8		
	No change	18.6	5.3	387	340
	Decreased	43.4	70.9		

Table 41: Reasons production has declined for key crops, respondent perceptions

Reasons production has decreased (multiple response)	Baseline	Endline	Baseline	Endline	Baseline	Endline
	Maize		Soya		Groundnuts	
<i>No/bad rains</i>	39.5	85.5	42.3	82.7	36.7	86.3
<i>Cultivated less land</i>	15.0	7.3	32.4	14.4	35.5	10.8
<i>Less labor available</i>	16.6	7.6	13.5	12.0	17.2	9.5
<i>No inputs/tools</i>	47.5	17.2	10.8	6.7	13.6	2.9
<i>Decreased soil fertility</i>	21.9	5.3	9.9	3.8	8.3	3.3
<i>Increased pest/diseases</i>	2.7	1.5	7.2	2.9	11.8	6.6
<i>Floods/disasters</i>	4.3	4.6	3.6	2.4	5.3	3.3
<i>Market fluctuations</i>	0.3	0.0	0.0	0.0	0.0	0.4
<i>Other</i>	5.0	5.7	11.7	12.0	13.0	7.5
N= farmers who reported a decrease	301	262	111	208	169	241

Table 42: Gender parity indicators with sample size

Domain	Indicator	% achieving indicator at baseline			% achieving indicator at endline				Diff between males BI to EL
		Female respondents	Difference between male and female at BL	Male respondents	Female respondents	Difference between male and female at EL	Male respondents	Diff between females BI to EL	
PRODUCTION	With decision-making input for all HH productive decision domains	39.9 n=157	+++	84.1 n=157	49.8 n=199	+++	82.9 n=199	*	
	With autonomy in one or more HH production domains	20.3 n=157	+++	59.4 n=157	26.6 n=199	+++	51.8 n=199		
RESOURCES	With sole or joint ownership of 75% of household assets ^a	54.2 n=155	+++	78.7 n=155	61.3 n=199	+++	79.4 n=199		
	With sole or joint control over purchase or sale of 75% household assets ^a	54.2 n=155	+++	91.2 n=155	72.9 n=199	+++	91.5 n=199	***	
	With access to and decisions on credit	74.0 n=119	+++	57.1 n=119	80.8 n=167		76.7 n=167	d	d
INCOME	With control over household income and expenditures in 60% of HH decision-making domains ^b	44.0 n=157	+++	84.7 n=157	39.7 n=199	+++	78.4 n=199		
LEADERSHIP & COMMUNITY	Participating in formal and informal groups	98.7 n=157	+++	82.8 n=157	100.0 n=199	+++	93.0 n=199		***
	Confident speaking about gender and other community issues at the local level	58.0 n=157	+++	74.5 n=157	79.9 n=199	++	87.4 n=199	***	***

	Demonstrating political participation	86.0 n=157		91.1 n=157	94.5 n=199	++	98.5 n=199	***	***
	Self-confidence	67.5 n=157		73.9 n=157	90.0 n=199		93.0 n=199	***	***
AUTONOMY	Satisfied with the amount of time available for leisure activities	82.2 n=157		82.8 n=157	84.9 n=199		86.4 n=199		
	Expressing attitudes that support gender equitable roles in family life	45.2 n=157		48.1 n=157	43.7 n=199		45.2 n=199		
	Achieving mobility freedom	37.0 n=157		-	46.2 n=199	+++	52.8 n=199	*	

^a excluding poultry, non-mechanized farm equipment, and small consumer durables as modelled in the WEAI. This indicator is based on the female respondent's perception of who makes decisions on household assets. Male respondents were not directly asked questions about asset ownership and control.

^b excluding minor household expenditures as modelled in the WEAI.

^d Test across surveys not completed due to a difference in credit access between males and females in HHs with a male and female respondent. Used smallest N for pairwise testing between sexes. Endline results statistically different from baseline at the 10% (*), 5% (**) or 1% (***) levels.

Male results statistically different (pairwise) from Females (during same time period) at the 10% (+), 5% (++) or 1% (+++) levels.