



CARE Mali Pathways
(Project Nyeleni)
Final Evaluation

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ACRONYMS

| | |
|---------|---|
| BMGF | Bill and Melinda Gates Foundation |
| CEFODES | Cabinet d'Etudes et de Formation pour le Développement Economique et Social |
| CSI | Coping strategy index |
| FG | Focus group |
| FGD | Focus group discussions |
| HDDS | Household dietary diversity score |
| IHA | Intra-household access |
| IFPRI | International Food Policy Research Institute |
| KI | Key informant |
| KII | Key informant interview |
| M&E | Monitoring and Evaluation |
| MJT | Musow ka Jigiya Ton |
| NGO | Non-governmental organization |
| ODK | Open Data Kit |
| PPS | Probability proportionate to size |
| PPT | Participatory Performance Tracking |
| 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 |
| XOF | Mali Franc |

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To the many Malian households who took time from a long, busy day to participate in this endline evaluation during January of 2016, it is our sincere hope that the findings within will contribute to programming that improves your well-being.

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Darren Hedley, Vicki Brown, and TANGO International

EXECUTIVE SUMMARY

CARE Pathways project, known in Mali as Project Nyeleni, has been funded by the Bill and Melinda Gates Foundation (BMGF) since 2012. It works mainly with poor women smallholder farmers who are currently members of Village Savings and Loans Associations (VSLA), with a target of 442 groups and 15,000 participants in 106 villages of Segou and Mopti regions. In Mali, Pathways is implemented through a strong program approach, closely integrated with other interventions, which CARE has been carefully developing for over five years, and this was specifically an approach intended for Pathways globally. The project is implemented through partners, AMAPROS, ASAFE, GRET and Ya-G-Tu, and this is in itself a positive capacity-building initiative which increases sustainability of Pathways' innovations.

Pathways Mali is a striking illustration of CARE's integrated approach to livelihood strengthening and transformation of gender relations, and it succeeds in its intentions, in many ways. Broadly speaking, considerable evidence comes through for positive impact in terms of livelihood impact for a significant percentage of beneficiary women and their families, with positive trends for coping strategies, dietary diversity, increased revenue, and improved yields, despite unfavorable rainfall during the previous year. The qualitative research strongly shows a gradual transformation of gender relations in households and communities, and quantitative findings on confidence show that this is the case for many beneficiaries. Less progress is apparent in several areas such as the value chain approach (with the main VCs selected being millet, rice and shallot), in terms of increasing opportunities for access to inputs and credit, and enhancing marketing arrangements. Other areas present multiple challenges, such as obtaining land titles for women, but the project has been able to promote land access for most VSLAs to farm together. The program approach has likely helped reinforce training in sustainable agriculture, and achieve significant advocacy for women's rights, but there could be greater clarity in terms of distinguishing the unique contribution of each project and thinking through exit strategies.

Evaluation Methodology

The endline evaluation was carried out in January, 2016. A quantitative survey was carried out with 517 households using a panel design, repeating interviews with those contacted for the baseline survey. The baseline was drawn randomly from a sample frame composed of all households with a female member of the VSLA in the Pathways Mali program. The quantitative enumeration team used tablets loaded with a software system allowing an extensive quantitative questionnaire for recording information from the household interviews. Male and female heads of households and women primary decision-makers in households were interviewed. The qualitative study included visits to seven villages selected randomly and split equally between the regions of Segou and Mopti. Qualitative research included focus groups with women members of VSLAs and also engaged men, key informants from the level of village to commune to region, and village observations.

The endline survey was conducted at the end of the harvest season for the majority of the main seasonal crops in Mali, a time when food shortages are not as prevalent, while the baseline survey was conducted several months earlier (September-October 2012) *which could lead to a somewhat more positive picture for the endline in terms of questions involving responses for current conditions at the

time of the survey. The context for the project is a country gradually emerging from civil war and struggling to cope with insurgency and terrorist attacks. Rainfall in the region over the past two years has been inadequate and highly variable over the project area, reducing yields and making it more difficult for Pathways to ensure consistent measurements, though project data shows improvements.

Impacts

On balance, the food and livelihood security indicators are generally encouraging. Dietary diversity¹ remained stable with a Household Dietary Diversity Score (HDDS) of 6.4 recorded both during the baseline and endline, and a modest reduction in women's intra-household food access from 6.1 to 5.8. Still, focus groups highlight that Pathways has helped establish improved gender relations with women and men daily eating meals together, which should lead to more equitable food security. Disaggregating consumption by food categories showed an overall improvement in high-energy and high-protein food (9% more women consumed meat and 7% more had pulses), while 10% fewer women consumed vegetables, and focus groups asserted that more people are consuming proteins and vegetables and new products such as moringa leaves.

In terms of coping strategies, the number of households reporting food shortages in the three months prior to the survey decreased substantially from 30% at baseline to 19% at endline. The mean Coping Strategy Index (CSI) at baseline was low (2.4 out of a possible 100) and increased only slightly to 3.6. This signifies that while more households experienced stress from food shortages, the level of stress did not increase substantially. The use of non-consumption or negative coping strategies had dropped from 23% to 13% at endline, though the level increased in the case of female-headed households (from 22 to 31%). Respondents reported fewer shocks than at baseline (such as disease, illness or death of household members, drought or dramatic price increases), though on average each household experienced one such shock.

In terms of other household economic findings, some hopeful trends were observed for monthly per capita income, with growth in net total per capita income (farm and non-farm) income from \$9.24 USD at baseline to \$11.05 at endline. This is a 20% increase which is significant, even if these levels are still very low. Female-headed households report higher monthly per capita incomes (farm and non-farm sources) of \$19.11 USD versus \$10.34 for male-headed households. At the same time, average monthly per capita expenditures for all households has increased substantially, from \$13.11 USD to \$19.59 USD for the total sample, exceeding reported income for all types of households. This may be due to under-reporting of income, but it may also suggest an accumulation of debt and therefore a risk of increased vulnerability. Farm income for male-headed households rose from \$2.87 at baseline to \$3.82 USD per month, and from \$1.36 USD to \$5.36 USD per month for female-headed households, which suggests a strong, positive cash-flow. Taken in combination with findings about the increase in households accessing agricultural inputs, there could be some households (approximately 10% of respondents) with higher costs and income, but not necessarily increased profitability. Other findings were encountered in terms of asset ownership, with a decline observed in the asset index from 430 to 326, indicating a condition of greater vulnerability. A major decline was experienced in household savings in a formal or

¹ Based on their diet of the previous 24 hours

informal institution, from 34% at baseline to 5% at endline, which could reflect a worrying trend of some households using savings for consumption. Nonetheless, given that the survey took place after harvest and at the time of year when many women invest in small businesses or non-rain-fed agriculture activities, this decline could be due to women converting their savings through VSLAs into investment funds (as credit or fund share-outs).

All of those interviewed in focus groups and individually attest to the effect of the project in changing gender relations, from creating spaces for women and men to share meals together and discuss household affairs, to an increasing prominence of women in community activities. CARE's Women's Empowerment Index (WEI) and Five Domains of Empowerment (5DE) provide objective measures of the growth in capacity, resources, autonomy and self-confidence, and the indications are quite encouraging even taking into consideration that change should be expected to be gradual and incremental. Female participants in Pathways Mali have experienced a significant gain in the level of empowerment, with the mean 5DE score increasing from .32 to .46, and an increase in the percentage of women who have crossed the .80 threshold, from 2.5% to 6.7%. Women have made tremendous advances in most areas, including: an increase in those having decision-making input for production (from 31% at BL to 75% at EL), increased joint control of assets (ownership of household assets rising from 7% to 34%, sale of assets from 7% to 43%), control over household income and expenditures (from 8% to 34%). The percentage of women respondents expressing self-confidence grew from 41% to 75%, which is a very significant accomplishment. Areas which still appear to be challenging for women are attitudes that support gender equitable roles in family life and autonomy in production, suggesting that respondents are more conscious about their rights and these issues, but there is still much work to be done to make workloads and decision-making more equitable.

Male household members also made some improvements in empowerment measures, such as their ability to participate in groups and confidence to speak about gender and community issues, and other self-confidence domains. Gaps remain between men's and women's empowerment in the domains of production and resources, although the gaps are closing. There are indications that men feel they have less individual control and autonomy, for example with fewer men stating they have autonomy in household production domains (a decline from 96% at baseline to 69% at endline), or control over household income and expenditures (from 82% at baseline to 70% at endline). CARE interprets this as a move away from men's authoritarian control and towards greater gender parity, and this is consistent with qualitative findings where men spoke of sharing decision-making and responsibility with their wives, which was a positive change for them. Still, taken together with other findings about gender equity attitudes (see below, on gender-based violence), the project still has much work to promote widespread support for women's empowerment.

In terms of perceptions of the impact of Pathways, nearly three-quarter of both female and male participants believe their household is better off after participating in Pathways activities and a majority of the rest stated there has been no change to household well-being. Highlighting what it is that they actually had benefited from, virtually all women surveyed (81%) are members of a Pathways self-help group; in 31% of these households the male is also a member. The next most common activities for

women to participate in are kitchen/gardening groups (70%) and gender dialogues (54%). One third (31%) belong to a marketing group, a group for reflection (31%) or a resource group (30%).

Effectiveness of Change Levers

The Theory of Change by which Pathways was expected to achieve these impacts envisaged a set of five highly-interrelated but somewhat distinct levers of change.

Change Lever 1 – Improved Capacity and Participation in Local Institutions. This Change Lever targets improved knowledge, skills, self-confidence and conviction of power in project participants, particularly their participation and representation in formal and informal community groups. VSLAs are the entry point and foundation for other livelihood activities, and focus group participants spoke of how the groups offer social cohesion and help them to pay household costs such as food or medical expenses. Given that the project had to reduce the number of VSLAs supported, and that members do drop out, this raises a question about those who are left without support within the framework of VSLAs. These groups provide a forum for capacity-building and encouragement to speak out in public and participate in community groups related to women’s issues (such as health and education), and there is heightened awareness of the importance of women being involved in governance. Though as yet there is limited evidence of women occupying formal leadership positions (such as women councillors in communes or in village councils), there has not been an election for communal local government since 2009 so the project’s impact in this area would not have been perceived yet. In addition, the process of gender transformation at other levels would reasonably be expected to be gradual.

Change Lever 2 – Access to Productive Resources, Assets, Markets, and Appropriate and Reliable Services and Inputs. This Change Lever aims to improve the linkages between service providers (private sector and government) and women farmers for training in technical and extension skills and obtaining inputs such as seed and fertilizers. Pathways often overlaps with other CARE Mali projects and while this allows for reinforcement of capacities and procedures, at times it becomes difficult to accurately identify the influence of each project on observed changes, such as precise ways that projects reinforce VSLAs which are a crucial means for empowering women. The VSLAs provide access to loans and allow sharing out savings, which are highly beneficial for investment and addressing social needs, though there is some indication that a certain percentage of women do not feel they have effective control over these funds. In terms of access to credit from microfinance institutions and banks, despite some more favorable localized arrangements, it has not been possible to reach agreements on interest rates and credit terms that are attractive for Pathways participants. The extension services of Pathway field staff, community programmers, or *relais*, and government officers helped achieve an elevated knowledge of sustainable agriculture techniques such as conservation tillage, pre-soaking seeds, and the use of micro-doses of fertilizer. There have been an increased number of households that access inputs such as fertilizer and seeds, though feedback from focus groups shows that this is far from uniform. Marketing committees have been established and there is an increased discussion of the costs and benefits of different intermediaries, but most respondents requested for the Pathways project to help broker deals with larger-scale buyers. All things considered, the Pathways value chain approach is not as well articulated or advanced as most other aspects of the project.

Change Lever 3 – Productivity: Improvement in Yield and Income through Sustainable Agriculture and Value Addition. Project activities were designed to sensitize smallholders on crop production, conservation agriculture, soil and water conservation, and irrigation, and to train smallholders in improved practices for production of target crops according to needs. While there were more women earning farm incomes, their own net income declined from \$222 USD to \$214 USD, even while household total farm income increased. There was a minor increase in the number of crops grown by women, with the main crops being millet, peanut and shallots, but with a reduction in those cultivating peanuts. This latter reduction may be influenced by the backdrop of unfavorable rainfall patterns over the past two years, but also the practice of Pathways in selecting and focusing on value chains of millet, rice and shallots. While the project reports that a comprehensive value chain analysis was conducted at the start of the program, with these VCs chosen according to criteria which included the farmers’ own choices, some key informant interviews (KIIs) felt that the crops may not match the current needs and interests of women farmers. Reported agricultural yields for millet and sorghum had increased from the baseline to the endline, while yields had decreased for rice, maize and fonio (with a smaller number of respondents producing these). Focus group participants spoke of having adopted the practices they learned (as reported in Change Lever 2), and 26% of respondents in the endline quantitative survey stated they were practicing three or more of the techniques promoted by Pathways, as compared with 19% at the baseline. Pathways also aimed to strengthen post-harvest management by training communities in improved crop/seed storage systems, and the practice of improved storage methods doubled from one-third (33%) of female farmers at baseline to 62% at endline. Nonetheless, there was a reduction in respondents using two or more post-harvest processes.

Change Lever 4 – Household Influence. This strategy aims to ensure that poor women farmers have increased contributions to and influence over household income and decision-making. There was a very consistent message given by focus groups of women and men participants in Pathways Mali in that they had strengthened family relationships and had learned to consult. Endline results show significant improvements across all households in the percentage of women who report decision-making control over household assets (increased from 10% at baseline to 47% at endline), and household income and expenditures (from 25% at baseline to 48% at endline). Agricultural income for women in male-headed households increased from 6% at baseline to 23% at endline. An increased percentage of women report that they have (some degree of) decision-making control over land assets, with nearly 35% stating that they can make decisions over the sale or purchase of land compared to only 14% at baseline. Husbands do often allocate a portion of land to their wives for their own purposes, and it is significant that virtually all villages now have collective plots of 1 Ha or less for VSLAs, including some examples of semi-formal agreements approved by mayors and chiefs. Malian law does not permit women to have legal title to land, and there could be more done to advocate for this.

Change Lever 5 - Enabling Attitudes and Institutions. This component promotes the attitudes, behaviors, policies and institutions to safeguard women’s rights, with some aspects reported under Change Levers 1 and 4. Pathways Mali has innovative dialogues that engage both women and men in a consideration of themes such as the “daily clock” to encourage reflection on how household workload is shared. Qualitative findings convincingly demonstrated that such dialogues had a positive effect on participants and their attitudes towards women’s rights, yet – as might be expected - quantitative

findings show that more work is needed to significantly spread attitudes both among women and men respondents in favor of family gender equity. A modestly increased percentage of women expressed a rejection of gender-based violence, while far fewer men stated a similar rejection (dropping from 56% at baseline to 20% at endline). Women's freedom of mobility has increased, with the percentage of those who are considered to be mobile having increased from 4 at baseline to 11 at endline, though this is clearly still an area of significant limitation.

Management

The management of Pathways Mali (Project Nyeleni) appears to be broadly satisfactory, with an effective team of three senior staff, supported by CARE offices in Segou, Mopti, and Bamako, and they coordinate effectively with implementing NGOs. This partnership with local NGOs is a positive feature of Pathways and their full engagement facilitates sustainability of the gains of the project. There may be a need to reassess the time allocation of staff, in terms of support for the value chain approach and possibly for advocacy issues. The M&E system is working well, especially the aspect of participatory performance management. The project goals and commitments in terms of donor requirements are not very clear, nor is it clear how the inputs of Pathways integrate with other projects and are distinguished in terms of their relative contribution to outcomes. Exit strategies are also important to have in place, in case project financing does not continue.

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 selected regions of Mali (the focus of this study) as well as selected regions of Ghana, India, Malawi, Bangladesh, and Tanzania. CARE Mali refers to Pathways program as Project Nyeleni, named after a famous Malian woman who embodied food security, but the project will be referred to in this report as Pathways Mali. The aim of the global Pathways program was to gain 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; and
4. Producing publishable comparative and synthesis baseline and final reports.

The Evaluation Plan 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). **Error! Not a valid bookmark self-reference.** represents the Pathways TOC.

Figure 1. 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 Mali Pathways project is implemented two rural regions of central Mali: Ségou and Mopti. 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 15,000 poor women small holder farmers in 106 villages.²

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 Mali'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.

This report first describes the methodology used in the studies, including data collection and data analysis, followed by a presentation of results and qualitative findings for food security, resilience, income, and empowerment impact indicators for CARE's targeted program participants and their households. Sections 3.6 through 3.11 present results and qualitative findings for CARE Pathways outcome indicators. Section 3.12 touches on Project Management, reviewing the successes and challenged related to staffing, resources, and monitoring and evaluation. Section 4 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, 71 VSLA clusters were first randomly selected (from 582 in the Pathways operational area) using probability proportionate to

² CARE Mali Pathways 2014 Annual Report

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. 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. This is explained in detail in section 2.2.

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.³ 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.

Summary of Pathways Impact Indicators

Food and Nutrition Security

- Mean household dietary diversity scores
- Mean women's intra-household food access

Livelihoods Resilience

- Coping strategies index
- % households adopting negative coping strategies in past 3 months
- % households using adaptation strategies to reduce the impact of future shocks

Economic Poverty Reduction

- 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

Women's Empowerment

- Women's empowerment index

³ 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. Mali (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. Mali set the non-response factor at 3%, attrition rate at 5%, 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 785, keeping the sample within the 3% non-response rate that Mali 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 575 (27% attrition versus the 2% the country office had budgeted for).

Survey Instrument

The data collection tools originate from a standardized set of global tools developed in collaboration with CARE USA and CARE AUSTRALIA. CARE Mali 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*⁴ (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)⁵ and IFPRI's *Engendering Agricultural Research, Development and Extension*.⁶

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.

Survey Training and Logistics

CARE Mali hired the Malian research bureau CEFODES to assemble a quantitative team comprised of 20 Malian enumerators, four supervisors and a team leader, to carry out the household survey. For the qualitative research, CEFODES provided six qualitative facilitators (four female and two male) and a team leader. CARE Mali staff provided administrative and logistical support for the quantitative and qualitative teams throughout the survey, and partner NGOs arranged interviews and facilitated our movement through the villages. The Evaluation Team (ET) was composed of Malians with extensive experience in carrying out similar surveys, who had knowledge of the context and included many who resided in the same areas.

TANGO International trained all endline ET team members, with the assistance of CEFODES – 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 (January 11 -16, 2016) with four days in a workshop and two days for field testing. 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

⁴ USAID. 2011. *Women's Empowerment in Agriculture Index*.

⁵ 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.

⁶ 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 French and English. During the course of training, several modifications were made to the French translation and to specific questions to make them relevant to the local context, and the ET discussed further how they would be stated in local languages Bambara, Dogon and Peulh. Enumerators practiced the questionnaire in French and local languages repeatedly to ensure that they understood the questions, and had practice in conducting interviews using the tablet.

The M&E supervisors from CARE Pathways program were responsible for logistical coordination of the field-based survey teams. Fieldwork was carried out in remote and difficult locations without reliable communications facilities, and given the security concerns in Mali, coordination with the authorities was constant to avoid exposing the survey team to undue risks.

Data Collection and Data Quality Measures

Survey data were collected January 18 -29, 2016 in two regions of Mali, Ségou and Mopti, two operational areas of CARE Mali's Pathways project. Quantitative data were collected using Nexus 7 tablets programmed with ODK. Each enumerator used the French version of the questionnaire to record interviews. Filled-out questionnaires were uploaded daily for TANGO to compile, using wifi hotspots connected to the Orange phone network. 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 regular 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.

Survey Response

The final sample size was 517. This much smaller endline sample size was due to three main factors. First, in 2014 the number of targeted VSLA groups was revised from 616 to 442 to enable better monitoring and support. Thus, from the 785 baseline respondents, 210 were no longer included in the Pathways program, leaving 575 potential respondents. Therefore, having "lost" 27% of the baseline sample, in planning for the endline survey, 575 was the targeted number of respondents. Second, attrition was much higher than anticipated from baseline to endline, with a number of respondents being unavailable as they no longer participated in the program (some villages had been abandoned by the project), they had moved to another area, had died, or had willingly dropped out. Given that the main harvest had been completed only one month prior to the survey, many villagers (particularly men) tend to travel for work away from home, and thus were not available at the time of the survey. Finally, a last-minute decision was made to leave out two villages (23 households) from the endline survey due to security reasons, on the recommendation of Malian government officials. As a result of these modifications, 517 households

were interviewed out of a potential 575 for the endline survey, constituting a 10% non-response rate, or an overall 3% rate of attrition and non-response compared to households interviewed at baseline (Table 1).

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,C}</i> |
|----------|--------------------------------------|---|-------------------------------------|--|
| Pathways | 785 | 575 | 517 | 34.1% |

^AThis list was based on all households that completed 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. This figure does not include two villages that were not visited due to security reasons. Households which remained on the endline target list were not program participants, and should have been omitted from the endline target list. This figure includes households chosen during the random sample procedure that could not be located, households for which the surveyed member at baseline was not present, households which were located but stated they were never a member of the program, and households that did not agree to participate.

^CAny household that does not have a valid baseline and endline survey was omitted from endline analysis. This includes households which never participated in the program, but were included in the baseline survey, were removed at the time of the endline from the baseline sample frame. Point values for the baseline are recalculated to better reflect the status of the project participant population.

The survey team made an effort to contact all respondents, even those who were not active, and 12% of respondents considered themselves to be inactive. Their responses would no doubt have an impact on many of the questions, as they would presumably show less effect of the project interventions, but this is a realistic picture of how the initial beneficiary group have benefited or changed their status through the period of the project.

Following discussions between CARE headquarters and TANGO, it was agreed that the endline would only include households who reside in communities where Pathways was initially operating and continued to operate through the endline. The restricted baseline sample is the source of data of estimates presented in this report (Table 2). Point estimates of baseline values 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 | 785 | 449 | 449 |
| Female-headed households | 81 | 37 | 37 |
| Male-headed households | 695 | 412 | 412 |

^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.

2.3 Qualitative Study

Relevant project documents were reviewed during the evaluation, to triangulate and assist in the interpretation of fieldwork. These included the semi-annual report dated June 2015, the internal mid-term evaluation and a 2015 global program assessment carried out by BMGF.

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. During focus group discussions with women participants, respondents were asked to identify project components which had been particularly helpful.

Topic guides were also prepared to interview key informants within the four partner NGOs, regional and communal staff in the Ministry of Agriculture and the Ministry of Women, Children and the Family.

Qualitative Team and Training

The qualitative data collection team was composed of the TANGO consultant and six Malian research assistants (5 women and 2 men), one of which functioned as the team leader once TANGO returned to the United States. All the Malians were fluent in French and combined language abilities in local languages Bambara, Peulh and Dogon. In addition to the joint training with the quantitative team mentioned above, the qualitative team spent three days in training on interview techniques, understanding the objectives of the program in depth so that researchers could "think on their feet" and ask appropriate questions to dig up the most relevant information about the program and local conditions. Training also focused on effective group facilitation, probing for content, other complementary research methods and how to record findings. The qualitative team helped review and adjusting the focus group and key informant topical outlines and agreed on the phrasing of questions in local languages.

Site selection

The qualitative sample of seven communities was selected randomly from across the Pathways program area. First, two communes were selected randomly from all of the Pathways operational communes in each of the two regions of Segou and Mopti, then two villages were selected randomly from all operational villages in each of the communes. The selection was not limited to those villages where quantitative survey had been done during the baseline and endline surveys. By this means, the qualitative sample captured the diversity of the program experience, without any possible bias. In the final selected commune in Mopti region, due to security restrictions and then budget constraints, a substitution was made and the list was held to seven villages.

Annex 4 provides more detail on the selection of villages by the qualitative team.

Data Collection

Participatory methodology was used throughout the assessment to secure information from program participants, including their views of what is most valuable and relevant. Qualitative data collection was performed through three main focus group discussions (FGDs) in each of the seven communities visited. The three focus groups were with a) Female VLSA members, b) husbands of female VLSA members; c) female non-members. Additionally, in each village a small group discussion was held with members of the marketing committee and nutrition groups. All focus group discussions were conducted in local languages.

About 50 key informants were interviewed at community and national level including customary authorities (village heads, group village heads, traditional authorities), community volunteers (farmer to farmer trainers, adult literacy volunteers, and village agents), local traders, and officers of the Ministry of Agriculture and the Ministry of Women, Children and the Family. Finally, TANGO conducted over ten process interviews with implementing partners and CARE staff.

Topical outlines and list of persons interviewed are presented in the Supplemental Annexes accompanying this report.

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,⁷ 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 the households' 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 two days 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 recorded in English. This information was later integrated with the quantitative analysis by the TANGO consultant.

2.5 Study Limitations

The most substantial limitation, significantly affecting the analysis and the ability to confidently assert the validity, reliability, and representativeness of the sampled data, is the reduced endline sample size, which

⁷ Annex 5 provides a description of how the asset and coping strategy indices were computed. Annex 6 describes the computation of the WEI, as well as how it aligns to and differs from the WEAI.

impacts the level of precision that key indicators can be measured. A significant number of baseline respondents left the program, or were not available for the endline. It was therefore necessary for TANGO to recalculate the baseline indicators for only households that actually participated in Pathways.

Of those respondents who could not be included in the endline survey, many were left out due to security concerns in their villages, which prevented the survey team from travelling to interview them. This leaves out a small number of respondents who were living under potentially more adverse conditions than others, and this may have skewed the results towards the more positive side.

A second limitation is with the quasi-panel study approach, there are a limited number of respondents who are identified and widely known to the NGOs. There is a risk that the NGO could provide an additional level of attention and resources to those individuals and villages to ensure a positive impact with them, knowing that they will be sought out for the endline survey. On the positive, a panel study should trace quite directly the influence of the project on specific people who benefited from the project. This aspect may be dampened however if a significant number of baseline respondents are no longer active in the project by the time the endline was completed, and in this case, some 12% of respondents stated that they were not active group members.

Several limitations became apparent with the qualitative research, as key issues were identified through initial interviews and the review of documents which became available, but it was not possible to follow up on this with the restrictions of time available and challenges of arranging meetings in a timely manner. For example, one of the main challenges faced by participants has been the lack of credit from sources beyond the VSLAs, and it normally would have been optimal to have arranged interviews with CARE partners who could shed further light on this challenge – in this case, the potential micro-finance institutions or banks. Thus, the conclusions and recommendations related to such issues will have to remain fairly general and will require further follow-up by the project team.

3 RESULTS AND FINDINGS

This report presents the findings of the final evaluation in terms of:

- discussion of the target group
- impact level results (goal level indicators in the project results framework)
- project participant perceptions of impact
- Change Lever findings according to the Pathways Theory of Change (outcome-level indicators under the first and main objective, in the project results framework)
- observations on project management

Where information was available about project targets⁸, these are referred to in the text.

⁸ There was a results framework with targets for Pathways Mali available to the evaluation team, but structured according to the original Mali proposal with a different set of outcomes and indicators. In this case, impact indicators from the Pathways global proposal are used, as well as initial estimates of numbers who would be supported for different types of productivity

3.1 Target Group Household Characteristics

In the latest report available to the evaluation team⁹, the level of quantitative achievement against key targets is as follows, with relevant targets presumed from the global proposal (though these may have been modified since project start):

- Beneficiaries (poor women smallholder farmers) – **14,386**, compared with a presumed target of 15,000¹⁰
- VSLAs – **442**, compared with an initial estimate of 800¹¹, but the project clarified that the number was reduced eventually to 442 in 2014
- Cooperatives/networks – **57**, compared with a presumed target of 400

Core Impact Groups

One of the important questions for Pathways to consider is the socioeconomic status of project participants, and according to project design – as reaffirmed during KIIs – the project targeted low income women. CARE Mali defined three impact groups for the Pathways project: 1) households earning less than \$1.25 USD per day where 50% of their income derives from farming; 2) households earning less than \$1.25 USD per day where 50% of their income derives from fishing/aquaculture; and 3) households earning less than \$1.25 USD per day where 50% of their income derives from livestock.

Using these criteria, Table 3 shows that fewer households are earning at least half of their household income from farming or fishing/aquaculture than what they were at baseline. There was a significant increase for households earning at least 50% of their monthly income from livestock (Table 3. Percentage of households meeting criteria for Pathways impact group).

| Impact Group | Point Estimate | | | Sample Size | |
|-------------------------------------|----------------|--------------|----|-------------|-----|
| | Baseline (BL) | Endline (EL) | | BL | EL |
| Less than \$1.25 USD per day where: | | | | | |
| 50% income derives from farming | 44.2 | 34.8 | ** | 265 | 333 |
| 50% income derives from fishing | 10.5 | 0.0 | * | 19 | 32 |
| 50% income derives from livestock | 22.1 | 34.8 | ** | 127 | 115 |

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

While Pathways Mali had initially anticipated working with fishermen/fisherwomen and promoting enhanced fishing practices, later this was deemed beyond the means of the project. Therefore it is not

⁹ Semi-Annual report of June 2015.

¹⁰ This target for objective 1 is reported in the 2014 annual report, while the 2015 semi-annual report provides a figure of 52,000 which is the global consolidated target

¹¹ Taken from the global proposal

very surprising that the number of respondents with 50% of income deriving from fishing has dropped to zero.

An important question has been raised in other Pathways country projects, and indeed by the mid-term assessment: is Pathways still targeting the most vulnerable? In Mali, qualitative research generally confirmed that while participants had been selected according to their low incomes, they had become somewhat less vulnerable as a result of the project. Given the Pathways methodology of working with existing VSLA groups, this also might mean that other women who are not capable of joining a VSLA may be left out, and during fieldwork there were some reports of women who had left VSLA groups. Thus, this is a relevant concern if the project is meant to serve as a safety net for particularly vulnerable households and ought to be considered in any future phases of the project. Still, the project aims to empower its participants to help transform gender relations and demonstrate an innovative value chain approach, and pursuing these objectives has been the priority for Pathways.

Household Demographics

Household demographics shifted between the baseline and endline surveys. **Error! Reference source not found.** shows that the average number of household members reported at endline is 8.0 compared to 12.0 members reported at baseline, likely due to a decrease of children under 18 (6.2 BL versus 4.5 EL). The percentage of female-headed households in the sample did not change (8.2% at both BL and EL).

Table 4. Household demographics

| Indicator | Point Estimate | | Sample Size | |
|---|----------------|------|-------------|-----|
| | BL | EL | BL | EL |
| Household size | 12.0 | 8.0 | 449 | 449 |
| Number of children (under 18) | 6.2 | 4.5 | 449 | 449 |
| Number of females in household | 6.0 | 3.4 | 449 | 449 |
| Number of females involved in Ag in HH | 3.3 | 1.4 | 449 | 449 |
| % of female headed households | 8.2 | 8.2 | 449 | 449 |
| Age of head of household | 53.6 | 52.1 | 447 | 403 |
| Education of head of household (%) | | | | |
| No education | 49.4 | 49.9 | 449 | 449 |
| Primary 1 | 6.0 | 5.1 | 449 | 449 |
| Primary 2 | 4.2 | 3.6 | 449 | 449 |
| Secondary or more | 2.9 | 3.1 | 449 | 449 |
| Literacy only | 8.5 | 3.8 | 449 | 449 |
| Koranic only | 29.0 | 29.4 | 449 | 449 |
| Marital status of head of household (%) | | | | |
| Single | 0.4 | 1.6 | 449 | 449 |
| Married (Less than or equal to two years) | 1.1 | 9.8 | 449 | 449 |
| Married (More than two years) | 90.6 | 72.8 | 449 | 449 |
| Divorced | 1.6 | 0.9 | 449 | 449 |
| Widow/Widower | 6.2 | 4.7 | 449 | 449 |
| % of households with a disabled member | 15.8 | 15.6 | 449 | 449 |

While the changes in household size are somewhat surprising, it should be noted that this is a somewhat fluid concept in Mali, with changing numbers living under a roof and “eating from the same pot”.

3.2 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 and nutrition security. The primary indicators used in this study to measure levels of food security are: 1) the household average dietary diversity score (HDDS), a proxy for food access, and 2) the mean women’s intra-household food access score.

As an introduction to all aspects of project impact related to agricultural production, it should be noted that recent rainfall conditions have not been optimal. The Pathways Mali project team reported that rainfall has been insufficient during the previous two growing seasons particularly in Segou region, and this was confirmed during the ET fieldwork. To be more specific, Ministry of Agriculture field official and some village respondents reported that the pattern of rainfall during the 2015 growing season was unfavorable, with rain falling heavily and prematurely while seedlings were still vulnerable to flooding, and subsequently there was an early end to the season limiting growth potential. As a result, the national market in 2015 showed higher maize prices and constrained access across the country—the national average maize price in July 2015 was 54 percent higher than in July 2014. Furthermore, extended dry periods caused maize and other cereal production to severely decline to below-average levels.¹²

3.2.1 Dietary Diversity and Intra-Household Access

The main food preparer (typically the sampled Pathways participant) was 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 household dietary diversity score (HDDS) between 0 and 12, with a higher score demonstrating access to diverse food groups. Of course, HDDS does not answer the question of *absolute* access (i.e., at any time) but rather *recent* access (previous 24 hours), and after determining whether *any* household member consumed each of the 12 food groups, the main food preparer was 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 5. Dietary Diversity and Intra-Household Access

| Indicator | Point Estimate | | Sample Size | |
|--|----------------|-----|-------------|---------|
| | BL | EL | BL | EL |
| IM 1.1: Mean household dietary diversity scores | | | | |
| All households | 6.4 | 6.4 | 399 | 363 |
| Female HHHs | 5.7 | 6.2 | 34 | 30 |
| Male HHHs | 6.5 | 6.4 | 365 | 333 |
| IM 1.2: Mean women’s intra-household food access | | | | |
| All households | 6.1 | 5.8 | * | 399 363 |
| Female HHHs | 5.6 | 5.9 | | 34 30 |
| Male HHHs | 6.1 | 5.8 | * | 365 333 |

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

¹² FAO. 2015. GIEWS Country Briefs. Mali. Reference Date 06-August-2015. <http://www.fao.org/giews/countrybrief/country.jsp?code=MWI>

The mean HDDS for all surveyed households remained the same between the two surveys. In view of the recently poor agricultural production, this can be considered a positive outcome. A score of 6.4 indicates households are on average accessing six different types of food daily. Change occurred for female-headed households, who are now accessing nearly one additional food group on average (5.7 at endline vs. 6.2 at baseline). Female-headed households at endline access the same food groups daily as male-headed households (6.2 versus 6.4).

Women’s intra-household food access scores did not change noticeably, and in fact there was a minor reduction for women in male-headed households, highlighting a concern that women’s access to food within households remains a concern. This finding may not be subtle enough in measuring the positive direction underway. It was clearly stated during FGDs with women and also for men, that women in many households now eat their meals together with their husbands, consuming the same food items on a daily basis.

Error! Reference source not found. helps to disaggregate the data and understand how access to specific food items has changed since baseline, including access for women.

| Indicator | Point Estimate | | Point Estimate | | | |
|------------------------------------|--|-----|--|------|-----|------|
| | BL | EL | BL | EL | | |
| Food categories consumed yesterday | % of HHs reporting someone in HH consumed item | | % of HHs reporting women consumed item | | | |
| Cereals | 99.3 | ** | 96.7 | 98.5 | *** | 92.6 |
| Tubers | 14.8 | *** | 26.5 | 12.3 | *** | 23.4 |
| Vegetables | 90.0 | *** | 79.6 | 87.7 | *** | 76.3 |
| Fruits | 12.0 | | 15.4 | 10.3 | | 10.7 |
| Meat | 29.3 | *** | 41.3 | 27.6 | ** | 36.6 |
| Eggs | 6.5 | | 7.4 | 4.5 | | 5.5 |
| Fish | 81.0 | * | 75.8 | 77.9 | | 73.6 |
| Pulses | 15.5 | ** | 22.9 | 13.0 | ** | 20.1 |
| Dairy | 49.1 | | 52.6 | 45.9 | | 46.8 |
| Fats/Oils | 80.0 | *** | 53.2 | 78.2 | *** | 49.0 |
| Sugars | 87.0 | | 85.4 | 85.0 | ** | 77.1 |
| Condiments, etc. | 77.7 | ** | 84.9 | 68.2 | | 67.8 |
| n | 399 | | 363 | 399 | | 363 |

While six food items were consumed by more households between baseline and endline, consumption of six other food items decreased. There has been a significant increase in the percentage of households in which women are reported to consume high protein foods, including meat (from 28% at baseline to 37% at endline), pulses (13% at baseline to 20% at endline), tubers (12% at baseline to 23% at endline). There was a drop in the percentage of households in which women consumed cereals (from 99% at baseline to

93% at endline), vegetables (from 88% to 76%), sugars and condiments. The reduction in cereal consumption was larger for women (99% to 93%) than for all household members (99% baseline to 97% at endline), which could reflect a trend in some households for women to forego consumption in favor of other members. At the same time there was an even larger increase in tuber consumption (12% at baseline to 23% at endline), which may offset the reduction in cereals for some households. The largest change in any food group was for fats/oil, the consumption of which fell substantially for all household members, from 80% to 53% at endline. Such a reduction could indicate the presence of external factors such as a food assistance program which provided oil to households at baseline, but which was no longer present at endline.

The higher rate of consuming high value foods is generally a positive finding, though of course it should be noted that these are results for selected beneficiaries only. In other words, while acknowledging that some households have improved their dietary diversity, there should still be some concern for women who did not consume cereal or proteins during the past 24 hours. During qualitative research, most respondents asserted that the project had helped them diversify their consumption to include more vegetables, as well as new or less-commonly used foods such as moringa leaves or baobab seeds. As will be discussed below in sections 3.3 and 3.9.3, the past two years have been unfavorable for agricultural production, so it would appear to be a positive impact that dietary diversity and food access continue roughly consistent or even improved from baseline.

3.3 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).

3.3.1 Consumption Coping Strategies

Coping Strategy Index (CSI): The CSI is a tool used to measure behavior change in households when they cannot access adequate or preferred foods. It can be used as a food security and early warning indicator, and can also be used as an indicator of longer-term changes in food security status.¹³ The CSI attempts to answer the following question: “What do you do when you don’t have enough food, and don’t have enough money to buy food?” The various answers to this question comprise the basis of the CSI score. Annex 5 provides more details on how the CSI is computed. The following table shows the findings:

¹³ 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.

Table 7: Coping with food shortages

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| IM 1.3: Coping strategies index | | | | | |
| All households | 2.4 | 3.6 | ** | 449 | 449 |
| Female-headed households | 3.6 | 8.3 | | 37 | 36 |
| Male-headed households | 2.3 | 3.2 | | 412 | 412 |
| Households who did not have enough food or money to buy food in past 3 months | | | | | |
| All households | 30.1 | 18.8 | *** | 425 | 448 |
| Female-headed households | 30.6 | 31.4 | | 36 | 35 |
| Male-headed households | 30.1 | 17.7 | *** | 389 | 413 |
| % of HHs to use consumption coping strategy 1 or more times each week | | | | | |
| <i>Borrowed food or borrowed money to buy food</i> | 11.6 | 12.7 | | 449 | 449 |
| <i>Relied on less preferred or less expensive foods</i> | 6.9 | 10.0 | * | 449 | 449 |
| <i>Reduced number of meals or the quantity eaten per day</i> | 12.9 | 10.5 | | 449 | 449 |
| <i>Skipped eating due to lack of money/ food entire day</i> | 1.6 | 4.9 | ** | 449 | 449 |
| <i>Consumed taboo food, wild food, famine foods which are normally not eaten</i> | 0.5 | 1.8 | * | 449 | 449 |
| <i>Restricted consumption of some family members so that others could eat normally or more</i> | 5.6 | 3.8 | | 449 | 449 |
| <i>Eat seed stock held for next season</i> | 3.8 | 7.6 | ** | 449 | 449 |
| <i>Beg or scavenge</i> | 1.1 | 4.2 | ** | 449 | 449 |

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

Data in Table 7 show the number of households reporting food shortages in the three months prior to the survey decreased substantially from 30% at baseline to 19% at endline, which is a significant outcome. Both the baseline and endline were conducted at the end of the harvest season for the majority of the main seasonal crops in Mali, a time when food shortages are not as prevalent. The mean CSI at baseline was low (2.4 out of a possible 100) and increased slightly to 3.6. This means that while more households experienced stress from food shortages, the level of stress did not increase substantially. On the whole, the CSI data shows a positive situation for food security continued from baseline through to endline, though with a caveat that it reflects the most favorable period of the year, and that more food insecurity would be likely if the survey was done during the lean period of the year (e.g., April). In fact, given other information which is available about food scarcity over the past two years, these low CSI scores reflect a significant impact that the project probably had on buffering participants from food insecurity.

Data in Table 7 also show the percentage of households using eight common consumption coping behaviors one or more times per week in the 30 days preceding the survey. As previously mentioned, the survey was administered at the end of Mali'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

an increase from baseline to endline for six of the eight consumption coping strategies, while there was a decrease in—the practice of reducing the number of meals or quantity eaten, and restriction of the consumption of some family members.

3.3.2 Non-consumption Coping Strategies

A similarly favorable picture emerges when looking at other coping strategies. Households were also asked to report on other 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. These are shown in Table 8.

Table 8: 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 | 22.5 | 13.1 | *** | 449 | 449 |
| Female-headed households | 21.6 | 30.6 | | 37 | 36 |
| Male-headed households | 22.6 | 11.6 | *** | 412 | 413 |
| Percentage of households to utilize specific "negative" coping strategies: | | | | | |
| Take a loan with interest | 13.6 | 5.8 | *** | 449 | 449 |
| Sell seed stock for next season | 0.7 | 3.1 | *** | 449 | 449 |
| Pledge or sell labor/crops/livestock in advance | 2.2 | 4.2 | * | 449 | 449 |
| Sell a higher number of livestock than usual | 7.8 | 2.5 | *** | 449 | 449 |
| Reduce expenditures (e.g., health care, education) | 4.9 | 2.0 | ** | 449 | 449 |
| Reduce expenditure on livestock and agricultural inputs | 3.3 | 0.9 | ** | 449 | 449 |
| Unusual sales (e.g., household assets, firewood, charcoal, etc.) | 2.7 | 0.9 | ** | 449 | 449 |
| Migrate | 2.5 | 0.9 | ** | 449 | 449 |
| Send children away to better-off relatives and friends | 0.2 | 0.7 | | 449 | 449 |
| Lower attendance or drop out from school | 0.7 | 0.5 | | 449 | 449 |
| Slaughter more animals than usual | 0.5 | 0.2 | | 449 | 449 |
| Percentage of households to utilize "other" coping strategies:¹⁴ | | | | | |
| Use own savings | 5.6 | 3.6 | | 449 | 449 |
| Participate in food or cash for work programs | 0.0 | 1.1 | ** | 449 | 449 |
| Request local government for assistance | 0.9 | 1.3 | | 449 | 449 |
| Receive remittances (food or cash) from relatives, friends | 7.1 | 3.8 | ** | 449 | 449 |

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

¹⁴ 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 8 shows that the number of households who report using at least one of these “negative” coping strategies has decreased from 22.5% at baseline to 13.1% at endline, and this change is mostly attributable to the magnitude of decrease among male-headed households (22.6% at BL to 11.6% at EL).

3.3.3 Shocks and Adaptation

Table 9 shows that number of shocks households experienced in the five years prior to the interview decreased from 1.6 at baseline and 1.0 at endline.

| | Point Estimate | | | Sample Size | |
|---|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| Number of shocks experienced per household | | | | | |
| All households | 1.6 | 1.0 | *** | 425 | 448 |
| Female-headed households | 1.7 | 1.3 | | 36 | 35 |
| Male-headed households | 1.6 | 1.0 | *** | 389 | 413 |
| Types of shock experienced: % of households reporting shock | | | | | |
| Epidemic disease (crop, livestock, human) | 17.0 | 21.7 | * | 425 | 448 |
| Chronic illness or severe accident of HH member | 8.9 | 18.5 | *** | 425 | 448 |
| Sudden or dramatic increase in food prices | 59.8 | 18.3 | *** | 425 | 448 |
| Death of HH income earning members | 6.6 | 13.6 | *** | 425 | 448 |
| Major drought | 53.2 | 12.3 | *** | 425 | 448 |
| Decreased or cut off regular remittances | 1.2 | 6.0 | *** | 425 | 448 |
| Divorce or abandonment | 2.9 | 3.1 | | 425 | 448 |
| Major conflicts | 1.4 | 2.5 | | 425 | 448 |
| Major flood or hailstorms | 4.0 | 1.6 | ** | 425 | 448 |
| Loss of a regular job of a HH member | 2.1 | 1.3 | | 425 | 448 |
| Failure or bankruptcy of business | 0.2 | 0.7 | | 425 | 448 |
| Issues with division of father’s property | 4.7 | 6.9 | *** | 425 | 448 |
| Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. | | | | | |

Fewer households experienced sudden or dramatic increase in food prices, drought or floods since baseline. It should be noted that while droughts have been reduced in recent years, this is distinct from the uneven and inadequate rainfall which was reported by key informants as being a major factor depressing food production. The most dramatic increases have occurred for the number of households experiencing chronic illness of a HH member, death of an income earning HH member, issues with dividing father’s property and decrease in remittances. Among households who had experienced at least one shock, roughly half at both baseline (47%) and endline (49%) used one or more adaptive strategy to protect themselves from the impact of a similar future shock (Table 10).

Table 10: Adaptation to shock

| 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 | 47.1 | 48.7 | 329 | 269 |
| Female-headed households | 48.0 | 29.2 | 25 | 24 |
| Male-headed households | 47.0 | 50.6 | 304 | 245 |

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

Project data suggests that farmers are uptaking promoted drought tolerant and early maturing varieties, but according to quantitative findings, households at endline are reportedly less likely to use drought tolerant or early maturing crops compared to three years ago (7% EL versus 15% BL). The reason for the low reported use of these varieties, and even the slight reduction by EL, is not known, but may be due to the promotion of higher-yielding and improved seeds, and other mitigating management techniques, though this would require further investigation.

Table 11: % of households using various adaptation strategies

| Adaptation strategies | BL | | EL |
|--|------|-----|------|
| Invested in savings | 21.0 | | 20.8 |
| Diversified Income-generating activities | 24.9 | | 20.5 |
| Purchase additional livestock | 18.2 | | 13.8 |
| Used drought tolerant/early maturing crops | 14.9 | ** | 7.1 |
| Invested in irrigation infrastructure | 2.1 | | 1.5 |
| Accessed additional land | 12.5 | | 10.0 |
| Did nothing for at least one of the shocks | 45.3 | *** | 29.7 |
| | 329 | | 269 |

3.3.4 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 5. A higher asset index value 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. The asset index is critical to understanding the resilience capacity of Pathways participants at endline.

Asset holdings have reduced substantially since baseline, with the value of all assets for all households decreasing from 430 to 326 (Table 12). Male-headed households have experienced the greatest reduction in asset holdings, with a value of 335 compared to 448 at baseline. The gap between female- and male-headed households has decreased from 134 points to 113 points. Overall, household resilience to shock is much stronger than at baseline; however, female-headed households are still less resilient to shock than their male-headed household counterparts.

When the asset index is calculated without land assets, female-headed households have seen an 8 point increase, while male-headed households and the full sample show decreases of 81 points and 73 points, respectively. Despite the increase, asset holdings (without land) for female-headed households are 28% less than male-headed households, although the gap is shrinking somewhat—at baseline female-headed households owned 33% fewer assets than males.

Table 12. Mean Asset Index

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|-------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| IM 1.6: Mean asset index (w/ ag land) | | | | | |
| All households | 430.0 | 326.3 | *** | 449 | 449 |
| Female HHHs | 235.4 | 221.6 | | 37 | 36 |
| Male HHHs | 447.5 | 335.4 | *** | 412 | 413 |
| IM 1.6: Mean asset index (w/o ag land) | | | | | |
| All households | 333.4 | 260.2 | *** | 449 | 449 |
| Female HHHs | 158.7 | 167.1 | | 37 | 36 |
| Male HHHs | 349.1 | 268.3 | *** | 412 | 413 |

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

Error! Reference source not found. 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.

Table 13. Mean number of assets owned

| Indicator | Female Headed Households | | All Households | | All Households | | | | |
|---|-------------------------------|------|----------------|------|------------------------------|------|------|------|-----|
| | BL | EL | BL | EL | BL | EL | | | |
| Asset | Mean # of assets owned | | | | % of HH owning assets | | | | |
| Chickens, ducks, turkeys, pigeons | 5.1 | 10.9 | 9.6 | 11.3 | | 71.3 | 79.7 | ** | |
| Agricultural land (acres) | 3.1 | 2.2 | 3.9 | 2.7 | *** | 90.4 | 96.7 | *** | |
| Farm equipment (non-mechanized) | 4.4 | 6.0 | 8.0 | 6.3 | *** | 90.6 | 89.5 | *** | |
| Small livestock (goats, sheep) | 5.1 | 5.5 | 9.7 | 8.0 | ** | 75.3 | 81.3 | ** | |
| Cell phone | 1.8 | 2.1 | 2.4 | 2.4 | | 80.6 | 82.4 | | |
| Small consumer durables | 1.0 | 0.8 | 1.6 | 1.2 | *** | 69.0 | 68.4 | | |
| House (and other structures) | 1.3 | 0.6 | ** | 2.4 | 1.2 | *** | 73.7 | 54.3 | *** |
| Means of transportation (bicycle) | 1.3 | 0.8 | 2.2 | 0.9 | *** | 83.5 | 63.9 | *** | |
| Other land not used for agricultural purposes | 0.1 | 0.4 | 0.4 | 0.4 | | 17.1 | 15.1 | | |
| Nonfarm business equipment | 0.2 | 0.0 | 0.2 | 0.1 | | 9.4 | 8.0 | | |
| Large livestock (oxen, cattle) | 1.5 | 1.4 | 4.9 | 3.7 | ** | 65.9 | 65.3 | | |
| Large consumer durables | 1.0 | 0.7 | 0.9 | 0.6 | ** | 31.4 | 31.0 | | |
| Farm equipment (mechanized) | 0.2 | 0.0 | 0.1 | 0.1 | | 7.6 | 7.1 | | |
| Fishing ponds | 0.1 | 0.1 | 0.0 | 0.1 | ** | 1.1 | 6.9 | | |
| Fishing nets | 0.2 | 0.3 | 0.4 | 0.3 | | 11.6 | 10.7 | | |
| Canoe for fishing | 0.1 | 0.0 | 0.1 | 0.0 | | 3.6 | 2.2 | | |
| n | 37 | 36 | 449 | 449 | | 449 | 449 | | |

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

Since baseline, across the full sample, the percentage of households owning asset categories has increased for poultry (from 71% at baseline to 80% at endline), agricultural land (from 90% to 97%), small livestock (goats, sheep), and fishing ponds. This suggests that some households were able to invest in agriculturally productive activities. A significant reduction occurred in households owning a house (from 75% at baseline to 54% at endline) and bicycle (from 84% to 65%). Ownership decreased slightly for larger livestock, non-mechanized farm equipment, houses, and means of transportation. The reasons for these decreases are not provided, but it may well be related to the problematic and uneven meteorological conditions and a need for households to compensate for lower production.

In focus groups, respondents did not bring up asset acquisition as an impact of the project, either positively or negatively. Rather they stressed improved food security, income, and improved gender relations. Communal land has been made available for VSLAs to use in most villages – usually one hectare or less, which is an important impact of the project, but this would not be reflected in this question which deals with assets owned by individual households.

3.4 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.

3.4.1 Household Income and Expenditures

Monthly per capita income¹⁵ is presented in **Error! Reference source not found.**, as is monthly per capita farm income and monthly per capita non-farm income.

Table 14. Per capita monthly household income (USD)

| Indicator | Point Estimate | | Sample Size | |
|---|----------------|-------|-------------|-----|
| | BL | EL | BL | EL |
| IM 1.7: Mean per capita monthly household income (All sources) | | | | |
| All households | 9.24 | 11.05 | 449 | 449 |
| Female HHHs | 5.68 | 19.11 | ** 37 | 36 |
| Male HHHs | 9.56 | 10.34 | 412 | 413 |
| IM 1.7: Mean per capita monthly household income (farm) | | | | |
| All households | 2.75 | 3.95 | ** 449 | 449 |
| Female HHHs | 1.36 | 5.36 | ** 37 | 36 |
| Male HHHs | 2.87 | 3.82 | ** 412 | 413 |
| IM 1.7: Mean per capita monthly household income (non-farm) | | | | |
| All households | 6.49 | 7.10 | 449 | 449 |
| Female HHHs | 4.31 | 13.75 | ** 37 | 36 |
| Male HHHs | 6.69 | 6.52 | 412 | 413 |
| IM 1.7: Median per capita monthly household income (All sources) | | | | |
| All households | 3.51 | 6.00 | 449 | 449 |
| Female HHHs | 4.14 | 8.05 | 37 | 36 |
| Male HHHs | 3.49 | 5.80 | 412 | 413 |
| IM 1.7: Median per capita monthly household income (farm) | | | | |
| All households | 0.66 | 1.62 | 449 | 449 |
| Female HHHs | 0.29 | 2.00 | 37 | 36 |
| Male HHHs | 0.70 | 1.62 | 412 | 413 |
| IM 1.7: Median per capita monthly household income (non-farm) | | | | |
| All households | 1.18 | 2.98 | 449 | 449 |
| Female HHHs | 2.92 | 4.40 | 37 | 36 |
| Male HHHs | 1.12 | 2.81 | 412 | 413 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means. No statistical tests were conducted on median values.

¹⁵ Average amount of household income from all income sources/earners earned per month, divided by the total number of individuals living in the household.

Overall, results are quite promising and across the total sample households surveyed show significant gains in net total (farm and non-farm) per capita household income. The mean per capita household income from all sources increased from \$9.24 USD at baseline to \$11.05 USD at endline. Female-headed households report higher monthly per capita incomes from both non-farm and farm sources with an average total monthly per capita household income of \$19.11 USD (compared with \$5.68 at BL) versus \$10.34 USD for male-headed households (compared with \$9.56 at BL). It is important to acknowledge that results related to income are only indicative; conclusive findings on the relative profitability of different income sources requires a more comprehensive analysis of expenses for each source of income.¹⁶

Of particular interest for the Pathways project is changes to farm income. Male- and female-headed households alike show strong gains in this area. Male-headed households are earning \$3.82 USD per month, about \$1.00 USD more than at baseline (\$2.87 USD); female-headed households have more than quadrupled their farm earnings since baseline and are now reporting approximately \$5.36 USD per month, per capita (BL value was \$1.36 USD). Monthly per capita non-farm income has significantly increased for female-headed households (\$13.75 USD versus \$4.31 USD). Taken in combination with findings about the increase in households accessing agricultural inputs (see section 3.8.3), there could be some households (approximately 10% of respondents) with higher costs and income, but not necessarily increased profitability.

The large increase for female-headed households is most likely due to extreme outliers in both the baseline and endline data and the very small sample sizes. The median per capita monthly income is a value less-likely to be influenced by extreme data values. The data show that female-headed households are still accounting for the substantial rise in income, but contrary to the mean values, the median values show that the gain is attributable more to farm income than non-farm income. Qualitative research confirmed that a number of beneficiaries are practicing profitable agricultural activities, from growing onions (and shallots), sesame or peanuts, to community gardening. The quantitative data also demonstrate that this is not universal, however, and clearly some women and households may be benefiting more than others.

Expenditures

In line with increased income, across the sample, the mean for monthly per capita expenditures has increased substantially, from 13.11 USD to 19.59 USD for the total sample (**Error! Reference source not found.**). 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 conditions that would lead to accumulation of debt, which is an eventuality the project would do well to watch out for. If there is a continued gap between income and expenditure, a debt could arise which contributes to increased vulnerability to both food and livelihood insecurity for surveyed households. Additional analysis of specific types of expenditures that have increased, and the types of items households report borrowing for, will help to explain these patterns.

¹⁶ This type of analysis is beyond the scope of the final evaluation of the Pathways project.

Table 15. Household expenditures

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|-------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| IM 1.8: Mean per capita monthly household expenditures | | | | | |
| All households | 13.11 | 19.59 | *** | 449 | 449 |
| Female HHHs | 12.84 | 23.44 | ** | 37 | 36 |
| Male HHHs | 13.13 | 19.26 | *** | 412 | 413 |
| IM 1.8: Median per capita monthly household expenditures | | | | | |
| All households | 9.13 | 14.15 | | 449 | 449 |
| Female HHHs | 10.39 | 15.48 | | 37 | 36 |
| Male HHHs | 8.97 | 14.10 | | 412 | 413 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means. No statistical tests were conducted on median values.

3.4.2 Savings

Results in Table 16 demonstrate that household savings in a formal or informal institution has dramatically declined since baseline from 34% to 5%. This was not an expected finding, as project monitoring suggests a regular increase in savings. A possible explanation for this reduction is that women may continue to save, but not necessarily through the VSLA; the reduction of savings in VSLA dropped from 32% to 4% (Table 16). Per the indicator criteria, saving at home or with relatives is not considered an informal source.

Table 16. Household savings

| Indicator | Point Estimate | | | Sample Size | |
|-----------------------------------|----------------|-----|-----|-------------|-----|
| | BL | EL | | BL | EL |
| IM 1.9: % households with savings | | | | | |
| All households | 34.2 | 5.4 | *** | 447 | 448 |
| Female HHHs | 27.0 | 8.6 | * | 37 | 35 |
| Male HHHs | 34.9 | 5.1 | *** | 410 | 413 |
| IM 1.10: % women with savings | | | | | |
| All households | 32.6 | 4.7 | *** | 442 | 447 |
| Female HHHs | 27.0 | 8.6 | * | 37 | 35 |
| Male HHHs | 33.1 | 4.4 | *** | 405 | 412 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means. No statistical tests were conducted on median values.

Data in Table 17 show that the percentage of women who report keeping some of their savings at home or with relatives has decreased only slightly since baseline from 27% to 23%.

Table 17. Locations of household savings

| Indicator | Point Estimate | | | Sample Size | |
|--------------------------|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| Location of savings | | | | | |
| Home | 26.6 | 22.5 | * | 447 | 448 |
| VSLA/MJT | 32.0 | 3.6 | *** | 447 | 448 |
| Bank | 2.9 | 0.2 | *** | 447 | 448 |
| Other | 0.9 | 0.5 | | 447 | 448 |
| NGO | 0.0 | 0.0 | | 447 | 448 |
| Friends/Relatives | 1.8 | 2.0 | ** | 447 | 448 |
| CHIT | 0.5 | 1.1 | | 447 | 448 |
| Insurance company | 0.0 | 0.7 | * | 447 | 448 |
| Agricultural Cooperative | 0.0 | 0.0 | | 447 | 448 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means. No statistical tests were conducted on median values.

To partly explain this finding, it should first be noted that Pathways Mali did not emphasize strengthening the operations of the VSLAs, but rather has aimed to promote transformation of gender relations and productivity of the women who are members of VSLAs. It may be prudent to see VSLAs maintain a certain level of savings, but this is not a question that Pathways would likely have emphasized. While some qualitative respondents mentioned that they had received support for fund management, this may have been from other CARE projects. Still, the project would have expected that increased revenues and productivity would lead to increased savings.

Some findings from qualitative research may help explain why the savings could be down. Many respondents spoke with enthusiasm about their new knowledge of agriculture productive techniques, their engagement in small businesses, and their new-found freedom to pursue their own livelihood plans. At the same time, in most villages the access to credit from microfinance institutions or banks has been disappointing, due to ongoing high interest rates and challenging repayment terms. Thus, many respondents spoke of how they were maximizing use of their own VSLA savings in order to invest in productive activities. Given that the harvest was in late 2015, all households have more resources (including Pathways beneficiaries and others), so it is a time when women will likely be investing in small businesses such as retailing or possibly dry-season agriculture (including vegetable gardening). As reported below, see section 3.8.1, a high percentage of respondents are accessing loans for agriculture needs, and by far the main source of credit is the VSLAs. That is to say, they are borrowing against their savings of their group, and therefore they may not answer that they have savings if they have borrowed out the same savings. Also the relatively improved food security situation and reduced shocks in recent

years may decrease households' propensity to save as insurance against emergencies. This marked trend away from savings is well worth monitoring, as it could be exposing respondents to additional risk.

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).¹⁷ 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,¹⁸ 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 18 shows that female participants in the Pathways project have experienced a significant gain in empowerment— both the level of empowerment and the prevalence of women who have reached empowerment. The mean 5DE score has increased from .32 to .46, worth noting is that the score for women in male-headed households has increased from .30 to .45.

Table 18. Women's empowerment index

| Indicator | Point Estimate | | | Sample Size | |
|---|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| Women's 5 domains of empowerment score | | | | | |
| All households | .32 | .46 | *** | 449 | 449 |
| Female HHHs | .58 | .57 | | 37 | 36 |
| Male HHHs | .30 | .45 | *** | 412 | 413 |
| % of women achieving empowerment (.80 or greater) | | | | | |
| All households | 2.5 | 6.7 | *** | 449 | 449 |
| Female HHHs | 21.6 | 27.8 | | 37 | 36 |

¹⁷ International Food Policy Research Institute. 2012. *Women's Empowerment in Agriculture Index*. Feed the Future.

¹⁸ The WEI does not include the indicator for workload, however this topic was explored by the qualitative team.

| | | | | | |
|---|-----|-----|-----|-----|-----|
| Male HHHs | 0.7 | 4.8 | *** | 412 | 413 |
| Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. | | | | | |

In addition to a greater level of empowerment, more women have crossed the .80 threshold of CARE’s criteria for the WEI. Four years later, the prevalence has increased from 2.5% to 6.7%.

Table 19. Five domains of empowerment

| Domain | Indicator | Point Estimate | | | Sample Size | |
|------------------------|--|----------------|------|-----|-------------|-----|
| | | BL | EL | | BL | EL |
| Production | With decision-making input for at least two of five HH productive decision domains | 33.5 | 69.6 | *** | 442 | 408 |
| | With autonomy in one or more HH production domains | 27.4 | 31.4 | | 442 | 408 |
| Resources | With sole or joint ownership of 50% of household assets | 11.3 | 31.6 | *** | 444 | 446 |
| | With sole or joint control over purchase or sale of 50% household assets | 11.0 | 41.9 | *** | 444 | 446 |
| | With access to and decisions on credit | 88.9 | 87.5 | | 360 | 375 |
| Income | With control over household income and expenditures in 50% of HH decision-making domains | 11.7 | 32.3 | *** | 445 | 415 |
| Leadership & community | Participating in formal and informal groups | 83.3 | 94.0 | *** | 443 | 447 |
| | Confident speaking about gender and other community issues at the local level | 43.2 | 50.1 | ** | 445 | 447 |
| | Demonstrating political participation | 54.8 | 63.8 | ** | 445 | 447 |
| | Who express self-confidence in 3 of 7 statements | 43.4 | 73.3 | *** | 449 | 449 |
| Time/Autonomy | Satisfied with the amount of time available for leisure activities | 78.9 | 83.5 | * | 445 | 447 |
| | Achieving a mobility score of 16 or greater | 4.3 | 11.2 | *** | 445 | 447 |
| | Expressing attitudes that support gender equitable roles in family life | 12.7 | 15.8 | | 449 | 449 |

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

Women have made tremendous advances in most areas, including: an increase in those having decision-making input for production (from 31% at BL to 75% at EL), increased joint control of assets (ownership of household assets rising from 7% to 34%, sale of assets from 7% to 43%), control over household income and expenditures (from 8% to 34%). The percentage of women respondents expressing self-confidence grew from 41% to 75%, which is a very significant and encouraging accomplishment. It means that now a solid majority of Pathways participants can answer in the affirmative to at least three of the following statements:

- I can always resolve household problems if I try hard enough
- If somebody opposes me, usually I can find a way to get what I want

- I always find some way to deal with problems that confront me
- I have the skills and information I need to improve my agricultural production
- I have access to the resources and services I need to improve my agricultural productivity
- I can take action to improve my life
- I can influence important decisions in my community

As with all percentage findings, a positive trend should be balanced with a concern for the group of respondents which does not show the same trend. In this connection, 27% of women respondents cannot answer affirmatively even to three of the above statements, which shows the need for an ongoing attention to such project participants who remain relatively disempowered and arguably in need of some form of assistance.

Areas in which there has been no detectable change, and which still appear to be challenging for women are attitudes that support gender equitable roles in family life (16% achievement) and autonomy in production (31% achievement). This may reflect a heightened awareness of their rights, while the issues have not gone away. For example, family equity appears to be focused on respondents' perception of the equitable sharing of productive and domestic workload, and this is a subject that is clearly on the minds of Pathways participants given the dialogues about daily time usage and equity which the project has produced. The finding that respondents remain unsatisfied about this issue suggests that they are more conscious about it but there is still work to be done to make workloads more equitable.

This should not be interpreted as a failure on the part of the project, as these are issues that take decades to address in any part of the world. As discussed in section 3.10, the project has made significant advances in these areas as well, and this was strongly reinforced in the qualitative research. Indeed, the simple fact that women and men are now consulting and sharing family decision-making may be the main nucleus of significant change in community gender relations.

The percentage of women reporting satisfactory mobility remains surprisingly low at 6% and only very modestly changed from baseline. This is in contrast to findings from focus groups in which women reported having greater freedom to travel outside their home and village. Men's mobility score also remains very low at 30%, as shown in the table below so the difference is not that significant. It may be that the manner in which respondents interpreted the question did not provide for a clear response, though the findings also should be followed up with project beneficiaries in case of future phases. Also, as discussed above, the percentage expressing satisfaction with family gender roles is surprisingly low, and out of keeping with other indicators such as shared decision-making over production.

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 answered 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.

Table 20 shows the contrast between women and men in terms of these key measures of empowerment.

| 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 at least two of five HH productive decision domains | 30.8 | +++ | 98.5 | 74.8 | +++ | 93.2 | *** | ** |
| | With autonomy in one or more HH production domains | 24.9 | +++ | 96.1 | 30.6 | +++ | 69.1 | | *** |
| RESOURCES | With sole or joint ownership of 50% of household assets ^a | 6.9 | +++ | 84.2 | 33.5 | +++ | 81.4 | *** | |
| | With sole or joint control over purchase or sale of 50% household assets ^a | 6.9 | +++ | 86.3 | 42.5 | +++ | 83.8 | *** | |
| | With access to and decisions on credit | 89.0 | | 91.6 | 85.0 | ++ | 70.6 | | *** |
| INCOME | With control over household income and expenditures in 50% of HH decision-making domains ^b | 7.7 | +++ | 82.4 | 33.6 | +++ | 69.8 | *** | ** |
| LEADERSHIP & COMMUNITY | Participating in formal and informal groups | 86.6 | +++ | 52.1 | 95.8 | +++ | 80.4 | *** | *** |
| | Confident speaking about gender and other community issues at the local level | 41.1 | ++ | 49.4 | 53.9 | +++ | 73.1 | ** | *** |
| | Demonstrating political participation | 57.1 | | 57.9 | 67.1 | +++ | 89.2 | ** | *** |
| | Who express self-confidence in 3 of 7 statements | 40.8 | +++ | 73.8 | 74.9 | +++ | 91.6 | *** | *** |
| AUTONOMY | Satisfied with the amount of time available for leisure activities | 77.4 | | 81.2 | 82.6 | | 85.0 | | |
| | Achieving a mobility score of 16 or greater | 2.4 | | -- | 6.0 | | 29.3 | ** | |
| | Expressing attitudes that support gender equitable roles in family life | 11.0 | ++ | 6.3 | 13.2 | + | 7.8 | | |
| | | N ^c | 281-336 | 131-336 | 140-167 | | 85-167 | | |

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.

There was not the same trend of improvement with men, as was observed with women, which is unsurprising, given that the project focused more on women, and indeed it was women who had very low levels of empowerment at the baseline. Still, some significant improvements were made in terms of participation in groups and confidence to speak about gender and community issues, as well as self-confidence domains as discussed above. This is surely an encouraging sign about the ability of the Pathways approach to positively impact men even when they are not the main target group.

The largest gaps between men's and women's achievement of empowerment remain in the domains of production, and resources, although the gaps are closing (Table 20). The greatest change has occurred in the control over the purchase or sale of assets—the 35 percentage point spread between men and women has been reduced to 19%; likewise, the 44 percentage point spread between men and women for control of productive decisions has been reduced by 11 points, to 33. In the area of access to credit, women have the same perceived access as men.

Interpretation of men's attitudes to empowerment vis a vis gender equity is not straightforward. In several areas, fewer men express being empowered than at the baseline, which should be a cause for potential concern, depending on how men interpreted the question. For example, fewer men now believe they have autonomy in household production domains (a decline from 96% at baseline to 69% at endline), or control over household income and expenditures (from 82% at baseline to 70% at endline). On the one hand, CARE seems to take this as a sign that these men no longer have unilateral and authoritarian control over household production domains, income and expenditure, which is as an inevitable by-product of women having a greater role and participation in this decision-making. On the other hand, it may also mean that at least for some men (10-20% of those surveyed), they feel a reduction in empowerment, and that they are losing out as a result of changes which the project has brought about. This could become a source of tension, conflict and even violence within households, not to mention resistance to the principles of gender equity which the project stands for. Pathways is aware of this and as such it does engage with men and uses gender dialogue tools to reduce the gender gap and promote more a win-win approach to gender equity and mutual empowerment.

Either way the finding is interpreted, it is clear that the responses and experience of men are different (i.e. 69% of men still answer that they have autonomy and 70% have control over household income and expenditures), and the incredibly challenging work of gender equity isn't resolved in only a few years. The evaluation team was reassured that the project is making significant progress in this area. During focus groups discussions, there was little expression of a sense of loss or dissatisfaction with the changes, and some men expressed that they felt supported and relieved that they no longer carried the burden of economic responsibility and decision-making. The qualitative sample group did, however, often participants who were active in gender equity work. What is essential is to ensure that these views become increasingly widespread, and there is continued support to sustain these changes.

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 four years ago.

Table 21. Women reporting household participation in CARE activities

| N= 444 | Self | Spouse | Other HH member | No one |
|-----------------------|------|--------|-----------------|--------|
| VSLA | 80.9 | 30.9 | 20.0 | 9.2 |
| Gender dialogue | 53.9 | 21.8 | 11.0 | 33.7 |
| Marketing group | 30.9 | 21.7 | 10.1 | 46.4 |
| Male motivating group | 15.9 | 35.2 | 13.2 | 44.8 |

As expected, virtually all women surveyed (81%) are members of a Pathways VSLAs; in 31% of these households the male is also a member. More than half participate in gender dialogues (54%), and one third (31%) belong to a marketing group, which is a good indication of the reach of the program with this important intervention. The most common activity for male spouses to take part in is a motivational group for men, with 35% stating their husbands participate in this group. According to women, 31% are

Table 22. Participant perception of HH status after project participation

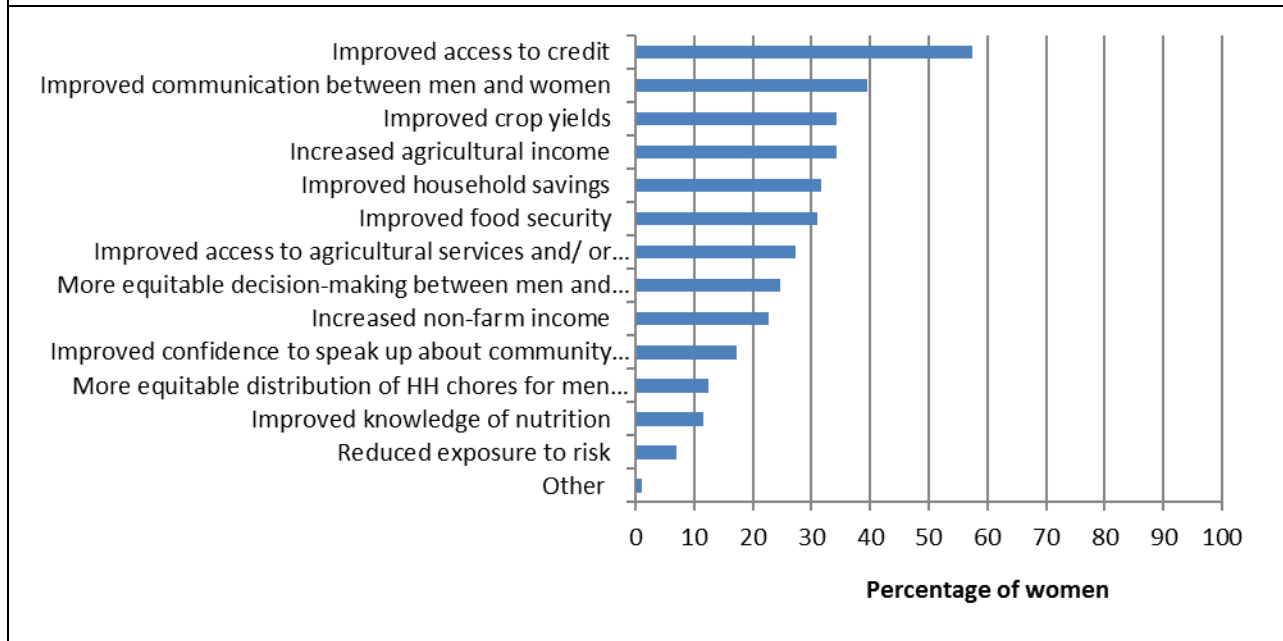
| | Female respondents | Male respondents |
|---|--------------------|------------------|
| Better off than 4 years ago | 71.8 | 72.6 |
| Same as 4 years ago | 22.1 | 24.6 |
| Worse off than 4 years ago | 2.2 | 0.0 |
| Better in some ways and worse in others | 3.8 | 2.9 |
| n | 447 | 175 |

members of a self-help group, but less than one-fourth (22%) of men have taken part in gender dialogues. Project activities typically include at least one other household member with 9% upwards to 20% reporting participation for all activities.

Nearly three-quarter of both female and male participants believe their household is better off after participating in Pathways activities while a majority of the rest stated there has been no change to household well-being (Table 22).

Among the 313 women who state the Pathways project has improved individual or household well-being, the key benefits experienced are improved household access to credit (56%) and improved communication between men and women (40%). One-third of all females who state their household is better off believe that they have improved crop yields (34%), increased agricultural income (34%), improved household savings (32%), improved food security (31%) and improved access to agricultural services and/or inputs (27%). Upwards of one-fourth note changes that suggest increased agency and gender equity within the household, as well as an increase in non-farm income. One in ten females indicate a more equitable distribution of chores for men and women and improved nutritional knowledge.

Figure 2. Women reporting improvement to HH or individual well-being as a result of participation in Pathways activities



3.7 Change Level 1 – Improved Knowledge, Skills, Relationships, Self-Confidence, and Belief of Women Smallholder Farmers

The anticipated outcome for Pathways Change Level 1 is improved knowledge, skills, relationships, self-confidence and conviction of power in project participants. To determine if change has taken place since the baseline in any of these areas, the surveys explored women’s participation and representation in formal and informal community groups; women’s leadership within these groups; women’s comfort level with speaking up in public about important issues; women’s political participation; and women’s self-confidence.

This evaluation report follows the indicators as set out in the Pathways global results framework. It should be noted that Pathways Mali perceived the Change Level 1 differently, and in its semi-annual reports included all capacity-building activities (including agriculture) in this section. The project reported on household gender transformations under Change Level 4 and community gender transformation under Change Level 5.

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 determined whether 10 different types of groups existed in the community, including those for agriculture and commercial purposes, savings and loans, civic and charitable aims, elders and council, and religious groups. If groups existed, women were asked about their level of participation, reasons for not participating, amount of decision-making input they contribute, and whether they held a leadership position. This section presents the results.

Data in **Error! Reference source not found.** show that nearly all (94%) of the women sampled are active members of at least one formal or informal group that exists in their community.

Table 23. 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 | 83.3 | 94.0 | *** | 443 | 447 |
| Female HHHs | 86.1 | 97.1 | * | 36 | 35 |
| Male HHHs | 83.1 | 93.7 | *** | 407 | 412 |
| OC 1.2: % women holding leadership positions in formal and informal groups | | | | | |
| All households | 41.9 | 34.8 | ** | 368 | 420 |
| Female HHHs | 45.2 | 47.1 | | 31 | 34 |
| Male HHHs | 41.7 | 33.2 | ** | 336 | 383 |

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

The practice of holding leadership positions in those groups has somewhat decreased at the endline, but this does not necessarily reflect negatively on the impact of Pathways, since the vast majority of these

groups are in fact women’s groups, as shown below. For example, a given respondent may have had a leadership position at the baseline, but now has been replaced by another group member – also a Pathways participant but not a survey respondent. Table 24 shows the breakdown of the type of group that respondents participated in:

Table 24. Women’s participation in groups

| Indicator | Point Estimate | | |
|---|----------------|------|-----|
| | BL | EL | |
| Percentage of women who is an active member in each group type: | | | |
| Credit or microfinance group | 80.4 | 88.8 | *** |
| Agricultural / livestock producer’s group | 14.0 | 28.0 | *** |
| Religious group | 14.2 | 17.9 | |
| Other women’s group | 3.2 | 7.2 | ** |
| Mutual help or insurance group | 1.1 | 1.8 | *** |
| Local government | 3.4 | 1.3 | ** |
| Civic groups or charitable group | 1.1 | 1.8 | |
| Trade, business, or cooperatives association | 0.5 | 2.2 | ** |
| Water users’ group | 8.6 | 1.1 | *** |
| Forest users’ group | 1.1 | 0.9 | |
| Other non-women's group | 0.7 | 1.3 | |
| n | 443 | 447 | |

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

As shown above, VSLA groups are the most common type, referred to in Pathways Mali *Nyeleni* project as MJT, the CARE Mali VSL approach known as Musow ka Jigiya Ton. In most cases, these VSLA groups existed before the project, or were created with the assistance of other CARE projects, and the role of Pathways was to help reinforce their functioning chiefly through sustainable agriculture and gender empowerment capacity-building. All Pathways participants (and survey respondents) are meant to be members of VSLA, but the question asked if they were active members, and the level of activity has evidently increased through the project. This is consistent with the findings of focus groups with women and other key informants in villages, which suggest that the project has reinforced the functioning and effectiveness of the VSLAs, and members tend to derive more benefits from the groups.

The benefits of VSLAs related most strongly to learning about agriculture, livelihood and empowerment themes, such that, for example, focus group participants spoke of how they are able to pay household costs including covering the cost of food accompaniments (i.e., anything other than staple foods, such as vegetables and beans) or medical expenses. Qualitative feedback shows that the groups more broadly offer friendship and encouragement to their members. In every village visited by the qualitative ET, focus group participants stated that they felt that the VSLA offered the advantage of social cohesion and that moreover, their husbands were supportive of their membership. They maintain that the groups are an important means of increasing their autonomy, and that they at times fulfill other functions such as supporting community health and hygiene.

For those listed as not being active members of the VSLA groups, the survey team did indeed make an effort to contact all respondents. The responses of those who leave the VSLA would no doubt have an impact on many of the other questions, if they had not had the advantage of learning and support that should accrue from being a VSLA member. To better understand changes to gender-based barriers to group participation, the quantitative surveys asked women who reported they were not a member of an existing group in their community about the reasons they were not a member. One potential response was that they could not join the group due to their sex. Table 25 shows that gender as a constraint for females to join groups decreased among women residing in male-headed households from 45% at baseline to 37% at endline.

Table 25. Barriers to group participation

| Indicator | Point Estimate | | Sample Size | |
|--|----------------|------|-------------|-----|
| | BL | EL | BL | EL |
| OC 5.4: % of women reporting their sex as a barrier to participation in local groups | | | | |
| All households | 44.5 | 38.3 | 429 | 256 |
| Female HHHs | 40.0 | 61.1 | 35 | 18 |
| Male HHHs | 44.9 | 36.6 | ** | 394 |

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

Membership of the groups is open to anyone, and there is certainly a high level of supportiveness and flexibility among the members, which would help participants stay active and sustain their membership. Still, there were stories of some people leaving the groups. At times, the focus group participants maintained that the dropouts did not seem to have obvious justification, but evidently had their own reasons. A common reason that people drop out of VSLA groups includes the inability to pay the monthly fees. A common pattern for VSLAs is that they start with a very feasible weekly fee such as 125 FCFA, and this is increased to a level of 1000 FCFA, for example. Other rules for membership include regularly attending its meetings, being a member of the village, and having good morality.

Belonging to a VSLA may contribute to feelings of empowerment among the members. However, for those who do not have the capability to participate in a group, individual and collective empowerment is out of reach. Pathways did not have a procedure or means for following up with those who left VSLA groups, and as such, the project had to narrow its focus from over 600 VSLA groups to 442 in 2014 in order to provide better support. There is a risk that this selection process could exclude those who have difficulties to participate, and these may in fact be some of the most vulnerable or otherwise marginalized people in the village.

One of the observations made during qualitative research was that many of the VSLAs were said to have large memberships (e.g., more than 100 members), and this is not in keeping with best practice for VSLAs normally. One village stated that three groups of 30 had been combined into one group of 90. It is possible they could be referring to a network rather than a VSLA, although the respondents did not state it as such, referring to it only as *MJT*. There appears to be a lack of clarity among all project participants about what a VSLA group is, and what a network is. The network is meant to be a combination of several

groups, to serve a different function, such as helping operate a community reserve of grains. The networks were seen functioning effectively in some villages and indeed at the level of commune, and one mayor interviewed paid tribute to the effectiveness of the network. There is a small risk, however, that if participants have the idea that a VSLA group normally has so many members, they may have difficulty sustaining such a high number of members in the future.

Membership in such women's groups helps to build capacity and confidence, and this creates both capacity in women and also recognition by others of the existence of women's issues. This leads to the question of how the broader process of the empowerment of women (and men) could be ensured in the long term. The sustainability of the VSLA groups and of this process of transformation of gender relations is one that the project may not have explicitly considered, but should be an issue on the agenda as being related to exit strategies.

VSLA groups probably have a very high degree of sustainability, which could make them appropriate to continue as the focal point of a wider process of empowerment and education in the communities, but to date, they have been more focused on their own internal functioning as savings and loans groups. In the near future, a more enlightened system of local governance may be able to take on the task, whether through the structures of village chief/council and communal mayor/council, or through some other institution with a broader mandate such as a Village Development Council.

Other groups in which women are participating may offer some promise both as avenues to continue women's empowerment and for other developmental aims. The qualitative team heard of numerous examples of women playing leading roles in health centre committees and various education programs. The team met with nutrition committees which were active, though their work is under-reported in Pathways.

3.7.2 Participation in Community Affairs and Self-Confidence

Important to the achievement of Pathways Outcome 1 is the promotion of self-confidence and engagement of women in community affairs and institutions. In general, the project aims to enhance men and women's voice and dialogue, and citizen education about rights and responsibilities, and specific advisory inputs are provided by the project to promote access of women to land and to encourage more women's participation in decision-making. Pathways Mali did not pursue a wider program of training and other "governance" activities to improve accountability, transparency, and effectiveness of district and community structures in planning and budgeting and management processes were completely dropped from the program.¹⁹

Still, qualitative research confirmed that gender transformation is taking place in local institutions, and given that this is a daunting challenge which normally should take many years to unfold, the project has done well to make progress in this area. At the commune level, mayor and council often integrate women in consultations, with specific representatives from the village often being called upon. At the village levels, women are likewise called in when "women's issues are involved" such as community gardens, health and education. In one village, they said that when a prominent person visited the village,

¹⁹ Mali Pathways Milestone tracker December 2014 – May 2015.

the chief would request that women's representatives be present to meet with them. If anything, it may take longer to change the very tradition-bound village structure of chief and council, while the mayors and communal council may have higher education levels and be exposed to wider influences. A typical challenge mentioned in one village was that a woman leader was invited to join the village council to listen and provide information when required, but she understood that she could not provide an opinion opposed to that of the chief or other prominent men. There was one quite impressive woman councilor encountered in one commune, and while it was obvious that while she had much to contribute, it may take some time before she would be accepted by men and voted in as mayor. During a KII at the Malian Ministry of Women, Children and the Family, the regional director pointed out that there has been significant work done by numerous agencies, and this has resulted in 25 women councilors and two women mayors.

What Pathways Mali has done is to explore the way that women and men perceive this aspect of empowerment, and it was clear in FGDs that women define an "autonomous" woman as one who can speak out in public. What was less clear is recognition of the potentially long and sometimes uneven process towards autonomy - that there is a ladder that women could gradually climb in their efforts towards empowerment, or a model of the transformation of community gender relations. For example, there is a general reporting by the project that women have their own groups or participate in local institutions such as health centres and schools, but this has not been much analyzed, and the fact is somewhat obscured by referring to general project indicators of "formal and informal groups". There is a need to conceptualize the relationship between the latter indicator and representation in more formal local institutions. Another key issue which has not been clarified is the way in which a women's group democratically selects someone to represent it when the village or communal council asks for women's participation.

A key strategy followed in Mali is to develop a personal PPT train groups of "engaged men", who are mostly the spouses of the women members of VSLAs. The qualitative team met with a number of these groups, who displayed a remarkable level of awareness and behavior change related to gender equity. Focus groups with women and men in all seven villages confirmed that men are supporting women with tasks like gathering wood, even helping with childcare. These engaged men play a key role in influencing other men in the community, which can gradually change attitudes and practices, though again it would be unrealistic to expect major changes at this level without more significant training and other interventions, and without a longer-term process put into place.

The quantitative surveys asked 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 had expressed their opinion in a public meeting (other than VSLA or producer group meetings) any time in the last 12 months. Respondents who responded positively to three of the four questions are considered to have achieved CARE Pathways Outcome Indicator 1.3, *% respondents confident speaking about gender and other community issues at the local level.*

Pathways participants of both sexes have made great strides in voice and agency regarding community affairs (Table 26). The number of women stating they are comfortable speaking up in public

substantially increased from 39% to 60%. Male respondents show an even more dramatic increased agency with 82% stating they are comfortable speaking up about these issues versus 45% at baseline.

Table 26. Agency - expressing opinions about 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 | 38.9 | 59.3 | *** | 445 | 447 |
| Male respondents | 45.2 | 82.3 | *** | 447 | 175 |

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

One of the key areas for Pathways to potentially have a wider impact is for the women (and men) who have been trained and empowered to play a role and influence other projects and community development processes. Several possible ways this might take place were seen during the qualitative research in the areas of the management of community gardens, and water supplies. Currently, Pathways Mali is not systematically gathering information on these collateral benefits, and this could be a significant loss of information about unintended impacts as well as valuable lessons learned. For example, in one village that had received garden financing from IFAD and CIDA/GEF, the presence of trained *relais* and women had a positive influence on enhancing the financial aspects for the garden management committee.

In numerous KIIs and FGDs, participants stressed that education – and in particular, literacy training - are key limiting factors for women’s participation, particularly in positions of leadership. Thus, one of the clearest recommendations given during the qualitative research was that CARE should include literacy training in future projects. What was not clear from these comments is whether there is an actual shortfall of capacity of women to play leadership roles, which literacy would address, or whether literacy would provide women with the credibility to be elected and command the respect of the community. Often, quite effective local leaders – whether men or women – can be lacking in formal education and literacy, and compensate for that through other qualities such as hard work, good networking, wisdom, business acumen, accomplishments in their personal and work life etc.

3.8 Change Lever 2- Access

To realize the outcome for Change Lever 2 -- *increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers* -- the Mali Pathways Project made efforts to improve the linkages between service providers (private sector, institutions, and government) and women farmers. Key efforts of Pathways Mali related to increased access to reliable services include training *relais* in technical skills (agronomy, processing, storage, etc.) and extension skills (capacity to train others); and facilitating linkages between *relais* and district-level structures for recognition, certification and support. Key efforts of Pathways Mali related to increased access to inputs include linking VSLA groups with relevant input suppliers, and linking FFTs to information sources and input suppliers.

The first challenge to note (as discussed under Change Lever 5) in terms of assessing how Pathways has helped provide access to training and other inputs, is that CARE Mali has strongly integrated several projects with similar approaches and sometimes overlapping geographical areas. Thus, there is a small caveat in the results reported below, that there could be reinforcing influences of more than just Pathways project. IFONS (Initiative for Food Security and Nutrition in Segou) is designed to empower women to have a greater voice in decision-making and demand that their right to healthy food is not ignored, supporting women as independent entrepreneurs through farming, livestock breeding and other activities. The Women and Girls' Empowerment Program (*PEF* - Programme de Empowerment des Femmes) is a Norwegian-funded that increases women's autonomy and addresses gender-based violence, helps establish VSLAs, and promotes increased access to credit and to sexual and reproductive health. A common thread has been the *Ecoferme* or eco-agriculture approach, which was also the name of a specific project that ended several years ago, but it remains as the distinguishing feature of CARE's work in food and livelihood security. In some villages, respondents during focus groups and informal conversations would refer to CARE as *Ecoferme*, rather than make reference to *Nyeleni* or another current project.

The training in environmentally sustainable agriculture provides the most appropriate current jumping-off point for discussions on the environmental aspects of Pathways. It should be noted that although there is not really an environmental strategy in the global program, this aspect of the Mali program is crucial and there is a significant base to build on. The program participants live in a harsh environment, in which a growing population ekes out a living drawing on limited resources of water, land, compromised soil fertility, with irregular rainfall and the constant threat of drought, flooding, and disease epidemics of plants, animals and humans. Efforts to stabilize national governance and secure the population against the threats of terrorism and insurgency should take these constraints into consideration. Pathways potentially is doing this by weaving these considerations into appropriate value chains in partnership with private partners, and strengthening governance capacities to help integrate these efforts sustainably with local institutions. Current indicators do little to capture the impact of the project or measure its effectiveness against environmental criteria.

To explore the success of attempted linkages between farmers and productive resources, assets, markets, and services, the baseline and endline surveys included a range of questions related to women's access to financial services to support income generation, their access to and satisfaction with agricultural extension services, women's access to agricultural inputs, and the types of output markets women are using for sale of agricultural products. The following section presents the results.

3.8.1 Women’s Access to Financial Services

Table 27 illustrates an overall decrease in the number of households where women have access to and control over loans used for income-generating activities (IGA).

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|------|----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 2.1: % women with access to and control over loans for IGA ¹ | | | | | |
| All households | 61.9 | 53.9 | ** | 360 | 375 |
| Female-headed households | 37.9 | 55.6 | | 29 | 27 |
| Male-headed households | 64.1 | 53.7 | ** | 331 | 348 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.
¹Includes households that have taken out a loan or want to take out a loan

Qualitative research findings strongly suggest that in fact the *availability* of credit (mainly from VSLAs) is not reduced, and therefore the reduction reported here may refer to the *control* over loans. Control over loans is defined as when the woman alone determines to take out the loan and alone she determines how the borrowed capital should be used. Among female VSLA members who took out loans and those who wanted to borrow but were unable to, 56% of women from female-headed households reported at endline they had access to and control over loans, and that they used these loans for income-generating activities such as investments in a business enterprise, the purchase of agricultural inputs or production assets, or the lease or purchase of land for agricultural purposes—an increase of 18 percentage points. Women in male-headed households, however, experienced a reduction of 10% in control over the loans.

This reduction may be related to the general lack of diversity of available credit sources. In line with this, one possible explanation of the reduction of control over loans is that for some households, when there are no alternative sources of credit, the woman accesses a loan from her VSLA and gives that to her husband. Another possible explanation for this finding is that women who are no longer active members of a VSLA may not have access to credit any more.

| Indicator | Point Estimate | |
|-----------------------|----------------|------|
| | BL | EL |
| VSLA/MJT | 86.3 | 84.6 |
| Friends/Family | 6.7 | 7.5 |
| Formal lender | 3.7 | 3.6 |
| Other community group | 0.6 | 1.7 |
| Shop/merchant | 0.9 | 0.6 |
| NGO | 0.3 | 0.6 |
| Government extension | 0.0 | 0.3 |

As at baseline, the source of loans for the majority of women (> 80%) is a VSLA (Table 28). Less than 4% state they have taken a loan from a formal lender. Other lenders are available (NGO, informal lender, Farmer club/Producer Group, and Government Extension) all of which were available at baseline.

| | | |
|-------|-----|-----|
| Other | 0.3 | 0.0 |
| N | 328 | 358 |

In terms of the use of loans, there are modest changes observed since the baseline study.

| Indicator | Point Estimate | |
|--|----------------|------|
| | BL | EL |
| Business capital (IGA, etc.) | 47.9 | 48.0 |
| Purchase agricultural inputs/seed | 22.3 | 31.4 |
| To buy food | 35.7 | 25.0 |
| Other | 7.6 | 14.0 |
| For medical expenses | 8.5 | 9.6 |
| Clothing | 7.0 | 7.6 |
| To purchase livestock | 2.7 | 5.5 |
| Pay for school expenses | 1.5 | 4.9 |
| Wedding | 4.6 | 4.1 |
| Purchase/lease of land for agriculture | 2.7 | 2.9 |
| Furniture/utensils | 0.0 | 0.6 |
| To repay other loan | 0.6 | 0.6 |
| Funeral expenses | 0.3 | 0.3 |
| Housing | 0.0 | 0.0 |
| n | 328 | 344 |

While women's use of loans to invest in business capital remained unchanged, they increased the amount used to purchase agricultural inputs from 22% at baseline to 31% at endline, while decreasing the amount used to buy food from 36% to 25% (Table 29). These results are supported by qualitative data: small business and inputs were cited by FG participants as the most common use for VSLA loans and share outs. It is not clear what the large percentage of "other" refers to in the endline results, as qualitative findings only reveal similar uses as those found in the menu of survey responses. During focus groups, the ET was told that the typical terms of a loan were to receive 5,000 FCFA and to pay back 5,500 FCFA.

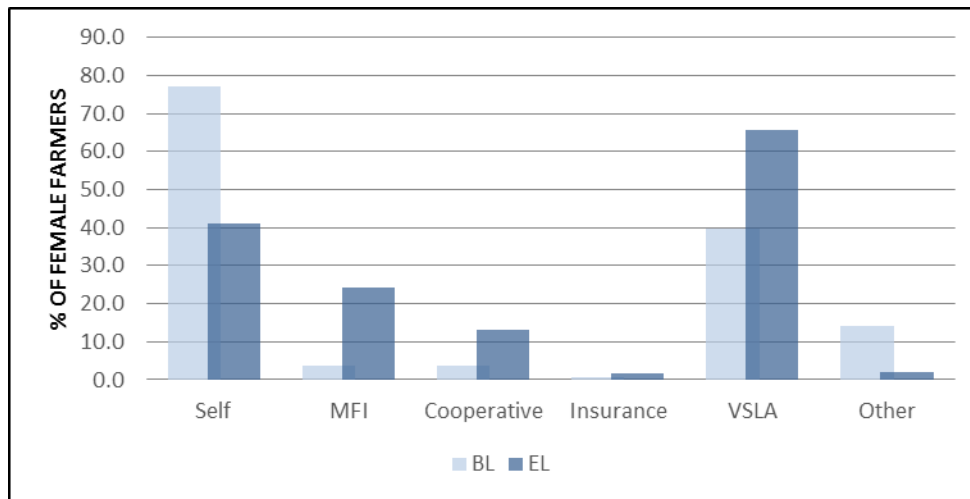
Access to financial resources was reported as follows:

| 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 ¹ | 44.4 | 80.1 | *** | 405 | 331 |

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

Twice as many women interviewed at endline (80%) report accessing financial services to support agricultural activities in the last 12 months (Table 30) as compared to baseline (44%). **Error! Reference source not found.** shows that the primary source of agricultural finance has shifted to the VSLA with 66% of women at endline citing this source compared to 40% at baseline ($p < .001$). Significantly fewer women are financing agricultural activities with their own incomes (77% BL to 41% EL, $p < .01$).

Figure 3. Sources of finances for agricultural investment



During focus group discussions in villages and other KIIs, there was considerable expression of dissatisfaction with the availability of credit from financial services. A common complaint was the only credit available was with an interest rate of 14% or more, and participants did not find it profitable at this rate. The main available sources that the project has been trying to make arrangements with are Nyesigiso microfinance institution and the BNDA (Banque National du Developpement Nationale). Some more beneficial arrangements have been arranged in certain districts, depending on the negotiations which have taken place: one such example mentioned was Niono. In Mopti region, one report was given of a loan provided by ADS for amounts as large as 900,000 FCFA, which was divided among members who received 40,000 each. There apparently has been an expression of willingness for banks to provide loans at lower interest rates (or otherwise enhanced conditions) if CARE is able to provide a guarantee fund, but this has not been possible to date. If women had some title over land, this would also make it more feasible for banks and microfinance to lend funds.

3.8.2 Women's Access to Agricultural Extension Services

The number of female farmers who state they themselves have met with an agricultural extension worker or a livestock/fisheries worker in the last 12 months has increased dramatically, as shown below:

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 2.2: % women with access to agricultural extension services in last 12 months | 20.3 | 62.5 | *** | 405 | 331 |
| OC 2.3: % women reporting satisfaction with agricultural extension services | 80.5 | 86.2 | | 87 | 210 |

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

At baseline, one out of every five women (20%) responded “yes” (Table 31); three years later, that number has increased to 62%. Similar to baseline results, among women who had met with an extension worker, the vast majority of respondents (86%) were satisfied with the services provided. The Pathways partner NGOs have “junior expert” community extension workers who reach large numbers, and work through *relais* to provide ongoing support and advice to farmers. During focus group discussions, respondents also spoke positively about Ministry of Agriculture technicians and how their services have improved during the project.

3.8.2.1 Training and Community Promoters – Relais

Pathways uses a potentially innovative approach which is called Farmer Field and Business Schools (FFBS), a variation on Farmer Field Schools, combining village-based demonstrations and training, in sustainable agriculture and also in gender. The role of Ministry of Agriculture local technicians is critical, and the ET met with one of the key staff who had worked with Pathways. The focus of the Ministry is broadly supportive, though the emphasis seemed to be on encouraging farmers to make maximum use of relatively expensive inputs, more than the lower-cost emphasis of the *ecoferme* approach.

The training that qualitative respondents spoke of was remarkably consistent and in keeping with the *Ecoferme* approach, clearly including: conservation tillage by leaving crop residue on the fields, pre-soaking seeds, preparation and transfer of seedlings, use of micro-doses of fertilizer, preparation of composting animal vaccinations, post-harvest conservation. This training is adapted by each partner NGO and in accordance with the particularities of each region and the value chain which is emphasized: in villages of Mopti, participants reported having training in the techniques of conservation of shallots. Quite frequent learning sessions are organized, between two to three sessions per month, and an emphasis is given to training in preparation for the planting season.

One of the confusing issues in talking with community members was to distinguish what Pathways (Nyeleni) had contributed in this training, as opposed to what had been already accomplished under the previous *Ecoferme* project, or by other concurrent projects. This was by no means straightforward, since

the *relais* and NGO partner field staff were often the same, the techniques were the same, and the general explanation was that other projects had provided the training and Pathways had reinforced it. CARE staff stress that the focus of Pathways in FFBS and other modules has been on farmer adoption of techniques in their own plots. One *relais* explained to the ET that while the previous project had demonstrated the techniques, under Pathways those techniques had been disseminated and applied in farmers' own fields. This is the type of distinction that needs to be clearly stated in Pathways reporting, though it also raises the question of whether the previous projects (ie. Ecoferme) actually intended only to be left at the stage of piloting or they simply failed to reach the stage of dissemination. For the purposes of Pathways, the end point needs to be defined (farmer adoption), including an exit strategy, without the assumption of further projects coming along to simply continue wherever Pathways leaves off.

The community promoters, or *relais*, are key actors in the extension process, and are the lynchpins of the FFBS. The qualitative team interviewed numerous *relais*, and they were knowledgeable and enthusiastic. They clearly are responsible for much of the learning which takes place. One of the questions brought up in particular by the local NGO partners was the issue of motivation of the *relais*, with the suggestion that they should receive incentives like bicycles. In at least one village, where irrigated community gardening was available for all women of the village, both the woman and man *relais* were given a plot for their personal use, so this seemed to be an appropriate form of incentive for them.

A key innovation in Pathways has been the Participatory Performance Tracking tool for monitoring adoption of improved practices promoted by the project, which broke down the key steps in improved production, and engaged participants in discussing, reflecting, and learning from this. This innovation is particularly valuable in a context where participants are mostly illiterate or at best semi-literate, and the project was able to find a way to work around this limitation. The large posters used, with photos illustrating each step, appear likely to be well used.

Still, as might be predicted, the application of good practices was not universal. In one community garden, for example, some poor practices were observed: the soil surface was not levelled as required, watering was not done using the sprinklers but in an uncontrolled gush of water, and the compost applied was actually positioned optimally for the growth of the plants²⁰. While it is difficult to say how widespread such poor practices were (and the evaluation did not sample community gardens to be able to compile many observations), the fact that they were observed in one of the few gardens visited should be taken as a sign that this requires more attention.

3.8.3 Women's Access to Agricultural Inputs

The baseline survey found that almost two-thirds (59%) of female farmers had accessed agricultural inputs such as seeds and fertilizers from at least one external source (e.g., Government program, agro dealer, local supplier) in the 12 months prior to the survey (Table 32). At endline, Pathways did not reach its end of project target: while there was an increase in women accessing such inputs to 69%.

²⁰ This example was observed and discussed with a community promoter, who acknowledged exactly how the practices were not in accordance with what he and others were training.

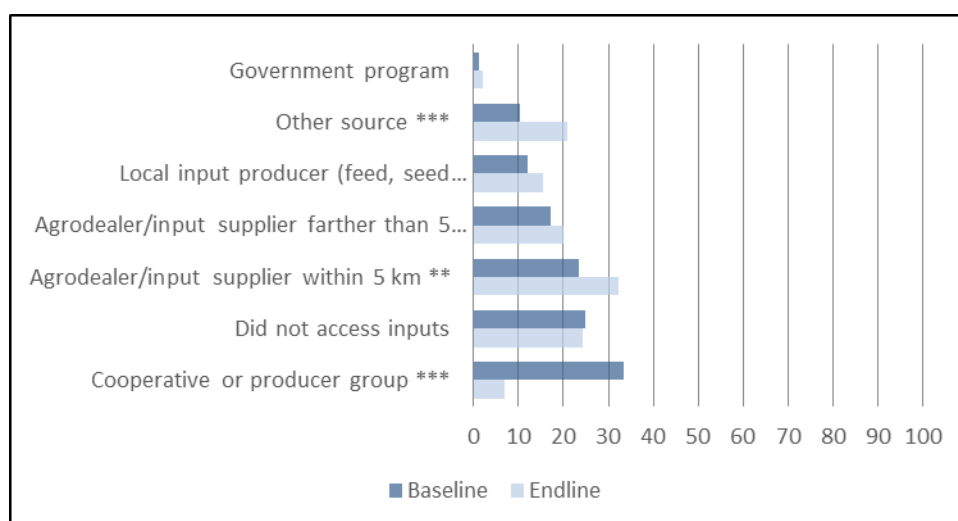
Table 32. Women's access to agricultural inputs

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|------|----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 2.5: % women accessing agricultural inputs (seeds, fertilizers, etc.) over the last 12 months | 59.3 | 69.5 | ** | 405 | 338 |

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

The sources of agricultural inputs reveals an improvement in most of the categories since the baseline survey, but the percentage sourcing the inputs from cooperatives has declined from 34% to only 7%.

Figure 4. Women's sources of agricultural inputs in last 12 months



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

The results from the qualitative research were actually less favorable. Most focus group participants maintained that they did not have improved access to inputs since the beginning of the project. The sources are too expensive or far away for them, and generally the only way they can afford them is when they share out their VSLA funds or take a loan. The inputs can, at times, be obtained at weekly fairs which take place at communal level, but a Ministry of Agriculture official warned that such sources may be contaminated and are highly unreliable and that villagers should only procure from established dealerships. Still, the quantitative results show that at endline, increasing numbers are able to overcome the cost and distance barriers, as compared to the baseline. This fact, together with the emphasis of the project on judicious use of fertilizers through micro-dosing, no doubt contributes to the trend of improved yields - or sustained yields despite adverse pluviometry.

The project has been focused recently on helping Pathways participants to gain access to the fertilizer which the government provides at subsidized prices prior to the rainy season. While this is undoubtedly useful for project participants, it is not the sort of solution that can be scaled up to benefit a wider group of beneficiaries: the subsidy is limited and can only be accessed by a small proportion of those who otherwise would qualify. In fact it could be seen as unfair that an externally-funded project uses its influence to gain greater access to a limited government resource. In any case, unless there is a move by the Government to extent and to sustain this benefit, it may be important to focus on other sources.

Aside from fertilizer, seeds and pesticides, another constraint frequently mentioned during the qualitative research was water supply for gardening and field cultivation.

3.8.4 Women’s Access to Output Markets

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.

Table 33 shows that one-quarter (24%) of the number of women surveyed at baseline had accessed an output market (outside of the local market) to sell their agricultural production in the last 12 months. There was no increase at endline (23%), which is clearly is not the desired outcome for Pathways.

| Indicator | Point Estimate | | Sample Size | |
|---|----------------|------|-------------|-----|
| | BL | EL | BL | EL |
| OC 2.6: % women accessing output markets to sell agricultural production over the last 12 months ¹ | 24.4 | 23.0 | 405 | 331 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels.
¹ Female farmers who reported selling products themselves

Many participants in focus groups asserted that they had improved marketing arrangements, though probably the majority of those would be fairly localized, and indeed women were travelling more often to sell in markets at the communal or district level. Also, VLSA members do recognize and appreciate that Pathways project has established marketing committees, which has the potential to help them, as yet there were very limited examples of how they have made a difference. It was not clear to participants if the marketing committees were in fact established by Pathways or CARE’s PEF project, as in one village they (mistakenly) maintained that the idea was introduced by PEF.

The main sources of sales are shown as follows:

| Indicator | Point Estimate | |
|--------------------------------------|----------------|----|
| | BL | EL |
| Sources of sale (% of women sellers) | | |

| | | | |
|--|------|-----|------|
| Sold individually in local market | 75.6 | *** | 89.7 |
| Sold individually to middle men | 35.6 | | 27.2 |
| Sold in bulk via farmer's/producer group | 1.1 | | 3.8 |
| Sold through contract with formal sector buyer | 2.2 | | 0.6 |
| n | 180 | | 158 |

Thus, with an increase in sales individually through local markets (from 76% at BL to 90% at EL), it appears women have been empowered and to some extent can move around to local markets. A reduction in sales through middle men (from 36% at BL to 27% at EL) could be interpreted in different ways, depending on the prices and other terms that these intermediaries provide. In some villages, qualitative respondents maintained that these intermediaries were providing improved prices from what they had before, while in other villages they felt the arrangements were less favorable.

Many Pathways participants expressed a desire for better marketing through larger scale purchasers in order to access more favorable markets. For example, this was mentioned in connection with sesame, a crop which has a strong market overseas, and which some said was the most profitable crop that they could grow. Participants felt that the village-level marketing committees could help negotiations on a bilateral basis, but they felt the need for a consolidated and wider scale effort. Essentially, they requested for Pathways to intervene in some way at a central level to help them to market their produce.

3.9 Change Lever 3: Productivity

To realize Change Lever 3, CARE Pathways Outcome 3 aims for *“Improvement in yield and income through adoption of sustainable and intensified agriculture and value addition”*. Project activities were designed to sensitize smallholders on crop production, conservation agriculture, soil and water conservation, and irrigation, and to train smallholders in improved practices for production of target crops according to needs.

The project design document also included fishing components, but limited resources (human 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 VSLA groups on relevant practices for advance crop production and processing opportunities, and facilitating links to relevant input providers for higher level commodities. The focus of Pathways is ostensibly on production for sales, and through enhanced income there may be a diversification of diet - but focus groups confirmed that household consumption of their own production is also important, and this is underemphasized in project reporting.

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 engaged in any agricultural activity, including primary production, processing, or marketing of food, fiber, or fuel crops, large and small livestock, fish, horticultural crops such as vegetables, fruit, nuts, berries, herbs or natural products (non-timber forest products, wood products and wild fisheries) were interviewed to understand numerous aspects of their involvement in and experiences with production. Women whose only involvement in agriculture was wage labor were 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 has increased by 10 percentage points, from 57% at baseline to 67% at endline (Table 35). The increase is true for both female- and male-headed households.

| Indicator | Point Estimate | | | Sample Size | |
|---------------------------------------|----------------|------|----|-------------|-----|
| | BL | EL | | BL | EL |
| % of women earning agriculture income | | | | | |
| All households | 57.2 | 66.5 | ** | 425 | 448 |
| Female HHHs | 50.0 | 71.4 | * | 36 | 35 |
| Male HHHs | 57.8 | 66.1 | ** | 389 | 413 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means.

Data in Table 36 show the trends in incomes over the course of the project:

| 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 (USD 2015, Base year 2008) | | | | |
| All households | 222.49 | 214.34 | 231 | 276 |
| Female HHHs | 99.84 | 160.56 | 16 | 24 |
| Male HHHs | 231.61 | 219.46 | 215 | 252 |
| Median annual net income of women from agricultural production and/or related processing activities (USD 2015, Base year 2008) | | | | |
| All households | 87.68 | 106.38 | 231 | 276 |
| Female HHHs | 85.84 | 108.88 | 16 | 24 |
| Male HHHs | 87.68 | 99.73 | 215 | 252 |
| OC 3.1 Mean annual net income of women from agricultural production and/or related processing activities (FCFA 2015) | | | | |
| All households | 126,872.47 | 128,948.55 | 231 | 276 |
| Female HHHs | 56,931.25 | 96,593.88 | 16 | 24 |
| Male HHHs | 132,077.40 | 132,029.95 | 215 | 252 |

Median annual net income of women from agricultural production and/or related processing activities (FCFA 2015)

| | | | | |
|----------------|-----------|-----------|-----|-----|
| All households | 52,749.10 | 64,000.00 | 231 | 276 |
| Female HHHs | 51,641.37 | 65,500.00 | 16 | 24 |
| Male HHHs | 52,749.10 | 60,000.00 | 215 | 252 |

Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. Independent t-test only conducted on means. No statistical tests were conducted on median values.

Women’s annual net income from agricultural production²¹ has declined over the past three years from \$222 USD to \$214 USD. While income has increased for women farmers in female-headed households, they are still earning considerably less than those in male-headed households (\$161 USD versus \$219 USD). It should be stressed that these findings concern the women’s own production and income, as distinct from the household production and income which is reported in section 3.4.1, in which there is a finding of an increase in household farm income.

As commonly found with income data, the standard deviations for net income are large (\$376 USD BL/ \$307 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 \$88 USD for the total sample at baseline and \$106 USD at endline—still, median income has increased for all household categories since 2012.

While the quantitative results are essential in understanding income trends, there were numerous insights provided from the qualitative research. First, all VSLA members asserted that they had benefited from the project and their membership in the VSLA, with increased production and food security. There is obviously a considerable degree of consumption of their own products, which is not counted as income but is a direct benefit to the household. Also, in numerous villages, the VSLAs are combining to organize warehouses to stock cereals for their ongoing access throughout the year, which is available on short term loans at low or very low rates of interest. In one village, for example, a VSLA member could borrow a 100 kg sack of millet and reimburse it without interest after the next harvest, while non-members would repay 113 kg.

Other information is relevant regarding income for women and men. Numerous focus groups stated that men would be paid more for agricultural field labor than women. In one village, the daily rate was 1000 FCFA for men and 750 FCFA for women, in another village it was a difference of 1500 FCFA for men and 1250 FCFA for women. Respondents stated that this difference had not changed during the course of the project.

²¹ 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.

3.9.2 Crop Diversification

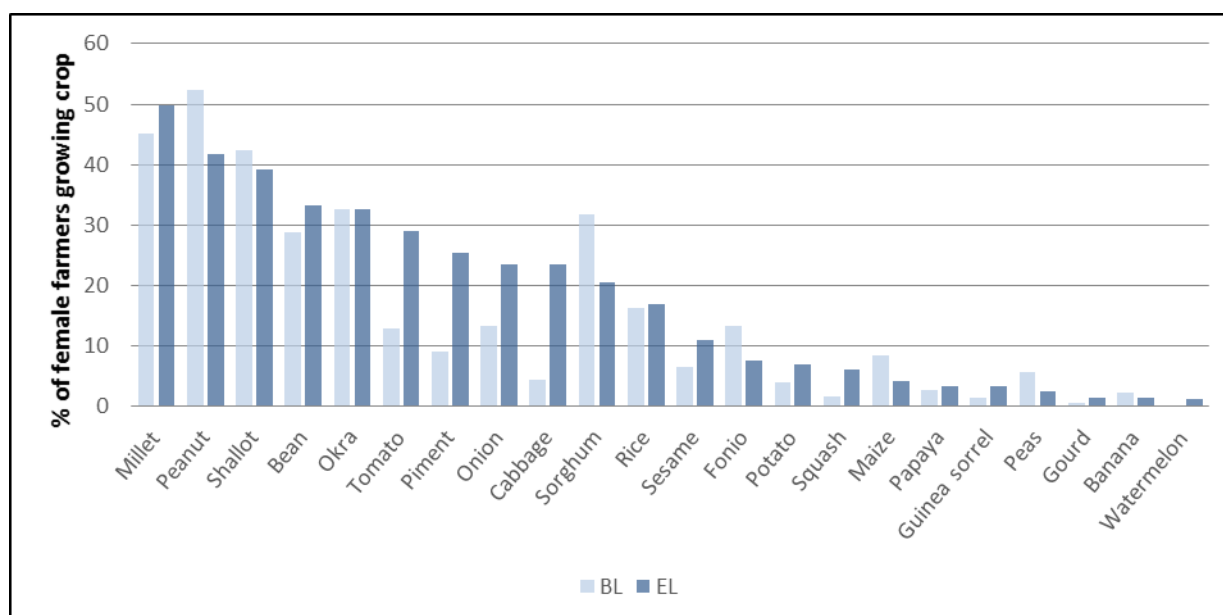
The mean number of crops grown by women has increased from 3.4 to 3.8 (Table 37); while the majority of this growth is taking place for female-headed households, who have increased number of crops by one (2.8 BL versus 3.7 EL), it is not significant due to small sample issues.

| Indicator | Point Estimate | | | Sample Size | |
|---|----------------|-----|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 3.3: Number of different crops grown | | | | | |
| All households | 3.4 | 3.8 | ** | 405 | 333 |
| Female-headed households | 2.8 | 3.7 | | 32 | 24 |
| Male-headed households | 3.4 | 3.8 | *** | 373 | 309 |

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

The trend over time of growing various crops by female farmers is shown below in Figure 5.

Figure 5. Percent of female farmers growing crops



Similar to baseline, the main crops grown are millet, peanut and shallots, and this reflects the work that women do on their household farms, managed by their husbands. At endline, there are significantly fewer women cultivating peanuts (42% as compared with 52% at baseline). Sorghum, maize, and fonio have also decreased, but vegetable crops (tomato, piment, onion, cabbage, potato, squash, guinea sorrel, potato and peas) have increased. As discussed elsewhere (see 3.9.3, 3.3), the backdrop is that the rainfall patterns have been unfavorable the past two years, which will have influenced both what women are willing to invest in and what they report as having grown.

The Pathways project design emphasizes selecting and focusing on specific value chains (millet, rice, shallots), but the perception in Mali was that even if there was good justification for the selection at the beginning of the project, now the preference was somewhat different. There was considerable expression among KIIs and FGDs that crops like peanuts, sesame and beans that are more suitable for

women and are considered women’s domain. Peanuts were mentioned by some women’s groups as their crop for small collective plots. Sesame is an interesting crop in that focus group participants and KIIs stated it was one of the most profitable products, and this is attracting more attention by women farmers, with almost a doubling in the percentage of those growing it. It may be that the farmers’ opportunities and priorities have changed during the course of Pathways, and this should provide a key reference point for subsequent project phases.

3.9.3 Women’s Agricultural Yields

Respondents were asked about household production of key crops, and they answered generally according to their recollection of the number of 100-kg sacks or other measuring units. Yields (kilogram (kg) per hectare) are calculated for millet, sorghum, rice, fonio and maize (crops promoted by the project), based on reported production in the 12 months prior to the survey (Table 38).

| | Point Estimate | | Sample Size | | |
|-----------------------------------|----------------|----|-------------|-----|-----|
| | BL | EL | BL | EL | |
| Key crops reported by respondents | | | | | |
| <i>Millet</i> | 552.4 | ** | 805.5 | 181 | 143 |
| <i>Sorghum</i> | 773.7 | | 1038.8 | 123 | 59 |
| <i>Rice</i> | 1900.8 | * | 1253.2 | 63 | 55 |
| <i>Fonio</i> | 1100.0 | | 805.7 | 53 | 24 |
| <i>Maize</i> | 1875.6 | | 555.8 | 24 | 14 |

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

The figures show an increase in yield for millet and sorghum from the baseline to the endline, which is what the majority of respondents reported on growing. Project monitoring data also consistently demonstrates increased yields for those growing shallots²². There was a reported decrease in rice, maize and fonio production from 2012 to 2015, though the total number of respondents growing these three was 93, as compared with 143 producing millet. The drop in rice yield bears further analysis, as project monitoring data and national yields are generally higher than those reported here²³, but explanation may be that individuals were expected to answer the survey according to individual/household fields only. On the other hand, rice was promoted by the Pathways project through the System of Rice Intensification, but this was practiced only on collective plots and not individual fields. The backdrop for these results is an inconsistency of rain during the last two growing seasons, particularly in Segou region, so all yields may well have been affected by that. That there would be an increase in millet and sorghum

²² Endline data for shallots was not available

²³ Pathways Mali project staff.

production is a positive sign, and is probably attributable to the influence of Pathways, through its extensive capacity-building in improved techniques.

3.9.4 Women’s Agricultural and Post-harvest Practices

Sampled women are more likely to use an integrated approach to improved agricultural production than they were at baseline. In 2012, 19% of surveyed women stated they had adopted three or more of the practices CARE Pathways considers to be improved; three years later, that percentage has increased to 26% (Table 39).

Table 39. Improved agricultural, harvest, and storage practices

| Indicator | Point Estimate | | | Sample Size | |
|--|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 3.4: % women adopting 3 or more improved agricultural practices | 19.0 | 26.3 | ** | 405 | 331 |
| OC 3.5: % women farmers adopting 2 or more post-harvest processes | 22.7 | 10.9 | *** | 405 | 331 |
| OC 3.6: % women adopting improved storage practices | 33.1 | 62.3 | *** | 405 | 342 |

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

On the other hand, the data shows a trend of decreasing adoption of post-harvest practices. Only one in ten (11%) of female farmers surveyed state they have adopted two or more post-harvest practices, compared to 23% at baseline. The practices break down as follows (Table 40):

Table 40. Post-harvest practices

| Indicator | Point Estimate | |
|---|----------------|------|
| | BL | EL |
| Post-harvest practices adopted (% of women farmers) | | |
| Packaging | 13.6 | 24.5 |
| Sorting | 28.4 | 9.7 |
| Cleaning | 0.7 | 7.9 |
| Bulk transportation | 2.0 | 7.0 |
| Grading | 15.6 | 6.0 |
| Processing | 12.8 | 5.1 |
| n | 405 | 331 |

While there is an improvement in packaging and cleaning of agricultural products, there has been a significant reduction in sorting and also in grading and processing.

The Pathways program in Mali has attempted to strengthen post-harvest management by training communities in improved crop/seed storage systems e.g. seed banks, including demonstration units. To determine whether there has been any change in storage practices, the surveys queried female farmers about their current method of storage. Table 40 displays the results, which show that one-third (33%) female farmers reported using improved storage at baseline, and this has doubled in three years to 62% at endline.

The cereal storage facilities managed by VSLAs and networks are impressive and the borrowing mechanisms of those facilities visited were well-managed. Members can borrow millet with no interest cost, and non-members pay a modest amount, and there were no reports of non-repayment. This may be more an impact of CARE’s PEF project than Nyeleni (Pathways) but participants of the latter are closely also involved in this facility. On the negative side, one facility visited that had received funding from PEF had sub-optimal food storage conditions, with sacks essentially thrown into a small room that was not very frequently monitored.

3.9.5 Women’s Livestock Practices

At baseline, among all female farmers, 56% reported practicing one or more forms of improved livestock management (Table 41). This figure has decreased to 30% at endline.

| Indicator | Point Estimate | | | Sample Size | |
|---|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 3.7: % women using one or more improved livestock practice | 55.8 | 29.5 | *** | 405 | 332 |

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

Pathways did not emphasize livestock practices so it is difficult to make a connection with project interventions. In qualitative fieldwork, some KIIs reported enhanced livestock practices as a result of general empowerment and enhanced credit access.

3.10 Change Lever 4 - Household Influence

The focus of Pathways Change Lever 4 is to ensure that poor women farmers have increased contributions to and influence over household income and decision-making.

There was a very consistent message given by focus groups of women and men participants in Pathways Mali, to the effect that husbands and wives had learned to consult and had gained intimacy and increased trust as they became accustomed to sharing tea together and talking about family matters. This was the foundation for increased influence over decision-making and generally transformed gender relations. This simple increased interaction was revolutionary, considering the following examples of how the marital relation was prior to Pathways:

- Men would tend to have dinner and converse with other men, while the women would have their meals with other women
- While serving their husbands a meal, women were ashamed to look at their husband or even mention their name
- if a man accepted to talk to women about serious matters, they would be judged as unworthy of the friendship and fellowship of other men

Though much still remains to be addressed, the way that family relations have changed through the activities of Pathways has led to much greater equity. Now, women are generally able to make their own decisions regarding the use of the money they earn from their own agriculture and business activities, and regarding food stocks and money used to prepare meals, plus they are more autonomous when it comes to education and health of their children. Decisions that men are still likely to make, such as

those regarding the use of large amounts of money, very often are discussed between husband and wife, with the man listening to the wife’s opinion even if he makes his own decision eventually. Men stated that the decisions that were made in this consultative atmosphere, whether jointly or by him, were better decisions that both would support. So the men realized that this new way was far better than for him to make unilateral decisions, which sometimes in the past led to conflicts. This also suggests that conflict may at times be minimized through such practices, even while concerns might remain about the potential for conflict and even violence to occur when women begin to challenge old methods.

Interestingly, one of the few areas in which men consistently retained control included decisions regarding the marriage of children, which respondents said was very clearly in their culture for men to decide. And of course there is variability among respondents in many of these characteristics.

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

To determine if there have been changes to women’s contributions to and influence over household income and decision-making, the surveys measured women’s control of household and agricultural income and expenditures²⁴, women’s control of household and agricultural assets²⁵, and women’s decision-making related to health care and reproductive health (Table 42). Substantial positive changes in control of assets (both household and agricultural) have occurred for women, particularly those who reside in male-headed households.

| Indicator | Point Estimate | | | Sample Size | |
|---|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 4.1: % women with sole or joint control over household income and expenditures | | | | | |
| All households | 24.5 | 48.0 | *** | 445 | 415 |
| Female HHHs | 62.2 | 56.3 | | 37 | 32 |
| Male HHHs | 21.1 | 47.3 | *** | 408 | 383 |
| OC 4.2: % women with sole or joint control over agricultural income and expenditures | | | | | |
| All households | 9.4 | 24.9 | *** | 445 | 409 |
| Female HHHs | 51.4 | 48.4 | | 37 | 31 |
| Male HHHs | 5.6 | 23.0 | *** | 408 | 378 |
| OC 4.3: % women with sole or joint decision-making and control over household assets | | | | | |

²⁴ 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 Mali, the outcome indicator is computed as the percentage of women who have control in 50% or more of the domains in which the household reports that decisions are made, excluding minor household expenditures.

²⁵ 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 Mali’s Pathways project the outcome indicator is computed as the percentage of women who have control in 50% or more of the domains in which the household reports they hold assets.

| | | | | | |
|---|------|------|-----|-----|-----|
| All households | 9.8 | 46.7 | *** | 428 | 438 |
| Female HHHs | 48.7 | 51.6 | | 37 | 31 |
| Male HHHs | 6.2 | 46.4 | *** | 401 | 397 |
| <hr/> | | | | | |
| OC 4.4: % women with sole or joint decision-making and control over agricultural assets | | | | | |
| All households | 21.7 | 48.4 | *** | 442 | 444 |
| Female HHHs | 75.0 | 57.1 | | 36 | 35 |
| Male HHHs | 17.0 | 47.7 | *** | 406 | 409 |
| <hr/> | | | | | |
| Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. | | | | | |

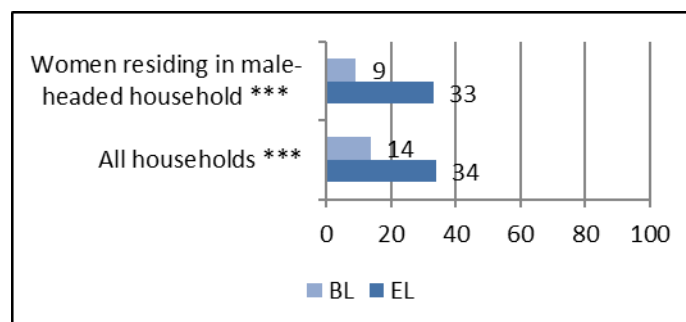
Endline results show that across all households the number of women who report decision-making control over household assets has increased from 10% at baseline to 47% at endline. For women residing in male-headed households, the gain has been even greater—46% now enjoy decision-making control of household assets compared to 6% at baseline. For agricultural assets, nearly half (48%) of women residing in male-headed households now enjoy decision-making control compared to 17% at baseline. These findings are consistent with qualitative research, which showed that women were more actively involved in decision-making.

Impressive changes have also been detected since baseline in the number of women who have decision-making control over household and agricultural income and expenditures. Women experience more decision-making capacity over household income and expenditures now (48%) than at baseline (25%); control over agricultural income is also reported by women in male-headed households at endline (23%) compared to 6% at baseline. There is a decline in these percentages for women in female-headed households, though the smaller sample size renders this result statistically negligible.

3.10.1.1 Land

Of key importance to the Pathways program is the increased number of women reporting they have decision-making control over land assets (Figure 6); overall, nearly 35% state they can make decisions over the sale or purchase of land compared to only 14% at baseline. The gain is similar for women living in male-headed households (9% BL versus 33% EL).

Figure 6: Women’s sole and joint decision-making control over land



While acknowledging this reported gain, the topic of land access is highly contentious and complex. First, on the positive side, it was reported that virtually all villages now have collective plots dedicated for women to use, usually around 1 hectare. This has been a tremendous boon to the women’s groups, enhancing their income and reinforcing their capacities and empowerment. It is possible that some respondents, in fact, were reflecting this fact in this question, though more likely they were responding according to the small plots of land they have available on their household farms. Second, numerous KIIs revealed that land access and especially title is very complicated in Mali, for everyone – women, men and youths. An individual woman may have been ceded effective control over a plot of land by her husband or other male household member, or a women’s group may have control over a collective plot, but this is not the same as having the right to sell the land. It seems that the project has made good progress on the former, but to date there are limited examples of the latter.

Significant challenges exist at the level of policy and law, which a project like Pathways may not be able to change overnight, but it should be able to strongly contribute to incremental changes. The title over the land which has been achieved for women are special fonciere titles established on an ad hoc basis by the chief and mayor, and do not constitute actual title deeds, which Malian law does not allow women to hold. Thus, CARE Mali acknowledges that this remains a very problematic and unclear area, in which probably the project has fallen somewhat short of its expectations. Some aspects of the challenge could be addressed, especially in terms of fostering discussion with the key government counterparts. Quite different views were expressed by the KII from the Ministry of Agriculture and the Ministry of Women, including factual discrepancies about policies for allocation of government land to women.

One of the issues seen with local informal allocation of land to women’s groups was that men sometimes provide access of a hectare for three years, and then take the land back and give the women another plot. This could easily become exploitative, as the women are given marginal soil and when they improve the soil quality it is taken away from them, only to start again with poor soils. There were mixed views of the pros and cons of such arrangements, with some women focus group participants saying that this allowed for biodiversity, so the practice deserves further discussion.

3.10.2 Women’s Control of Reproductive and Health Care Decisions

For women in male-headed households, survey data indicate that the majority are now the sole or joint decision maker for health care and family planning decisions as compared to their decision-making capacity at baseline.

At baseline, roughly one-third (28%) of women in male-headed households made sole or joint decisions about seeking medical treatment for themselves or their children; at endline, 80% now have that role (**Table 43. Gender-equitable decision-making for health care and reproductive health** Table 43). The percentage of women in female-headed households with this capacity has held steady over time at roughly 80%. A similar pattern is seen when considering decisions over reproductive health; across all households and male-headed households, there is a significant increase of roughly 50% percentage points 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.

| |
|---|
| Table 43. 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 | 31.9 | 80.0 | *** | 401 | 414 |
| Female HHHs | 81.8 | 83.9 | | 33 | 31 |
| Male HHHs | 27.5 | 79.6 | *** | 368 | 383 |
| OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions (family planning; spacing of children) | | | | | |
| All households | 35.4 | 82.6 | *** | 441 | 275 |
| Female HHHs | 77.8 | 69.2 | | 36 | 13 |
| Male HHHs | 31.6 | 83.2 | *** | 405 | 262 |
| Statistically different from baseline at the 10% (*), 5%(**) or 1%(***) levels. | | | | | |

3.11 Change Lever 5: Enabling Attitudes 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. This is closely intertwined with Change Levers 1 and 4, such that the discussion of the interventions and impacts can be difficult to categorize and analyze. Much of the discussion about household attitudes has been included under Change Lever 4, and community level changes have been addressed under Change Lever 1. Also, a key discussion is presented in the analysis of the Women’s Empowerment Index, 3.5.1.

For CARE Mali, 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. Pathways Mali uses numerous tools to promote gender transformation, including innovative dialogues that engage both women and men in a consideration of themes such as the “daily clock” that shows how household workloads are shared. Positive deviant examples are captured and shared across the region, such as case studies of the advantages of providing land for women to cultivate, which have helped to transform the attitudes of those who are opposed to gender equity measures. To determine whether there has been any change in men’s and women’s attitudes toward gender-equality, male and female respondents were asked questions about their attitudes, perceptions, and practices related to gender roles, household violence,²⁶ and women’s mobility. The surveys also explored whether sex was a barrier to participating in various local groups.

One issue to acknowledge from the outset is that the results reported here may partly reflect the influence of other projects of CARE (particularly PEF women’s empowerment project) or other organizations operating in the regions, which were cited by the Director of the Ministry of Women, Family and Children. In villages, the ET heard that FODESA (in English, Sahelian Areas Development Fund

²⁶ 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 woman 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.

Programme) had been doing gender education dating back to 2007. It seems likely that the “seed” of gender equity was planted in some areas years before Pathways, and that it has come to fruition with the intensive dialogues, through the interventions of field agents and the ongoing follow-up of the *relais*. To acknowledge the inputs of other projects should in no way detract from the accomplishments of Pathways, but rather would serve to more transparently demonstrate how significant culture change may require numerous inputs and the passage of time.

3.11.1 Attitudes about Gender Equality in Family Life

At the core of changes which have taken place, as discussed in 3.10, has been a changed practice in family consultation and decision-making. As summarized in one village:

There has been a change in our communications, because we have family discussions over tea. Now there is some change in decision-making, because in the past our husbands would make decisions on their own, now they consult with us.

This seems like a modest change, but it was consistently articulated and considered by respondents to represent a major step forward in attitudes that men have towards women and the type of relationship that exists between them. It should be considered as an incremental step and a foundation, for gradual change of more deeply-seated social norms around gender. Respondents were asked whether they agreed or disagreed with four statements that reflect men’s and women’s roles in family life. Data in Table 44 shows 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. This was true at baseline, and there is no detectable change at endline. Nonetheless, focus group participants repeatedly stated that men were playing roles traditionally reserved for women, from carrying firewood and water (more commonly) to caring for children and other household tasks in some cases.

There is, however, a detectable increase in the number of women who reject household-based gender violence (14% BL versus 26% EL). Conversely, rejecting household violence decreased among men from over half (55%) to less than 20% at endline.

Table 44. Attitudes about gender equality in the household

| 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 | 12.8 | 16.0 | 446 | 431 |
| Male respondents | 6.2 | 7.1 | 340 | 183 |
| OC 5.2: % of respondents expressing attitudes that reject household gender-based violence | | | | |
| Female respondents | 14.1 | 25.8 | *** | 446 431 |
| Male respondents | 55.6 | 19.7 | *** | 340 183 |

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

3.11.2 These findings were not in keeping with qualitative findings, and it would be worthwhile to review the survey instrument and ensure that the survey question is being understood correctly and answered accordingly. Particularly unusual is that more than half of men would reject GBV at BL – much higher levels than among women respondents themselves - and that the percentage would drop so significantly by EL. Still, a relatively low percentage of both women and men express gender equitable attitudes (i.e. for both questions as shown in table 44) both at BL and EL, which strongly suggests that much work remains to raise awareness and promote equity among all participants. Women’s Mobility

To understand freedom of mobility, female VSLA members were asked if they had to ask permission from their spouse or another family member to go to ten different locations. Four responses were possible: ‘Yes, always’ ‘Yes, most often’, ‘Yes, but only now and then’, and ‘No, never’. Table 45 presents the data as a mean score of women’s individual answers.²⁷ The maximum score is 30. Women with a score of 16 or greater are considered to be mobile.

Results in Table 45 indicate the percentage of women respondents that have a score of 16 or greater.

| Indicator | Point Estimate | | | Sample Size | |
|--------------------------|----------------|------|-----|-------------|-----|
| | BL | EL | | BL | EL |
| OC 5.3: Women’s mobility | | | | | |
| All households | 4.3 | 11.2 | *** | 445 | 447 |
| Female HHHs | 21.6 | 37.1 | | 37 | 35 |
| Male HHHs | 2.7 | 9.0 | *** | 408 | 412 |

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

A slight increase was recorded in the percentage of women that are considered to be mobile, but if only 11% are mobile this shows that much remains to be done in this critical area that may be suppressing the ability of women to fully develop their agriculture and business activities. Mobility for women in male headed-households is more limited than it is for women living in female-headed households; only 9% achieved mobility score greater than 16 in male-headed households compared to 37% in female-headed households. This is one of the aspects of empowerment that may take longer to achieve. In FGDs women consistently expressed a greater mobility, though this may be limited to those women who require and can afford this mobility.

²⁷ 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).

3.12 Project management

The management of Pathways Mali (Project Nyeleni) is broadly satisfactory, with an effective and light team of three senior staff, supported by the finance and administration teams of CARE offices in Segou, Mopti, and Bamako. There is good interaction between the project team, partners, villages and government counterparts, though some KIIs felt that there could be better consultation with field staff to update them on the rationale behind decisions. There were many requests for enhanced conditions for partner staff, and it may be that inexpensive computers or tablets could make their work easier. The partner NGO senior staff are very knowledgeable and passionate, and it is to the credit of the project that they are creatively engaged in guiding the planning and implementation. The value chain approach and national level advocacy are two issues that don't currently seem to receive a great deal of attention, and for the light staff of Nyeleni, it may not be difficult to find the time available to reach out to private sector and other actors to flesh this out.

The M&E system is working well, especially the aspect of participatory performance tracker (PPT). One limiting factor within this PPT is that it reinforces a focus on the few selected value chain products, such as millet and shallot, whereas in a given village the VSLAs may be more occupied with the production of peanuts or sesame. The system does require the significant data input, and the needed equipment for doing so is only found at the level of partner coordinators rather than field staff who could be inputting it. The project goals and commitments vis a vis donor requirements are not very clearly set out in a results framework which is harmonized with the global Pathways program, thus it is not clear whether all partners are using the PPT to work towards specific goals.

Another lack of clarity is found with the how the inputs of Pathways integrate with other projects and are distinguished in terms of their relative contribution to outcomes, a subject which has been touched on elsewhere in the report (see for example 3.8). The sense is that in fact Pathways (Nyeleni), PEF, IFONS and other projects have excellent working relations, and this probably takes care of 90% of any concerns. Still, this lack of clarity could be improved upon, from the standpoint of learning from a given intervention, and demonstrating to a given donor the relationship between the resources they have provided and a given set of outcomes. This also makes it easier to plan any changes in the program composition, including devising exit strategies, in case financing for any of the current projects does not continue. The evaluation consultant suggested to the Pathways team that it produce a table showing the types of interventions and impacts of the different projects and how they interrelate and combine, to more clearly show the interrelatedness of the interventions. However it was not possible to have this prepared for the purposes of the evaluation. Again this is not necessarily a problem for the program – which is strengthened by having integrated projects in similar areas, and indeed was intended for Pathways globally – but rather is a slight complication for reporting and especially evaluations.

One issue that was encountered by the consultant was at the level of the project design: in order to enter into the logic of Pathways, the Change Levers – or project outcomes – are somewhat confusing in terms of how they are distinct and what is included in each. There isn't a natural logic that enables one to organize and categorize activities, and this has been alluded to earlier: what Pathways Mali was reporting under a given Change Lever was not entirely consistent with the global project design. It is always better to have a coherent shared vision, to allow for a participatory reflection process that draws

on project results to feedback and reinforce the design and plans. This also allows for more clear reporting, in which stakeholders all know what to expect and can compare activities and outputs against a clear and consistent framework.

CARE's gender strategy combines empowerment and economic advancement, and this has evidently paid off, laying the basis for many breakthroughs.

4 Conclusions and Recommendations

The following conclusions and recommendations builds on the analysis of findings, to help move the discussion forward towards next steps for CARE Mali, as the current global Pathways program comes to an end. One option is for CARE Mali to draw lessons from its Project Nyeleni (the Mali expression of Pathways) and work out how to bring the activities to a close in the best possible way. A second option is to draw components and lessons to feed into other future projects, which seems very feasible given that it has already sustained coherent lines of action by successfully stitching together various projects into integrated programs. A third option is for CARE Mali to look at the possible continuation and modification of Nyeleni in its current configuration. While the first option should be considered and prepared for, with exit strategies developed, the discussion and recommendations in this section are more along the lines of the second and third options.

Pathways Mali is an effective application of CARE's approach to the transformation of gender relations through livelihood strengthening, and it succeeds in its intentions, in many ways. Considerable evidence has been recounted here, of the positive impact of the project in terms of the livelihoods of a significant percentage of participant women and their families, with positive trends for coping strategies, dietary diversity, increased revenue, and improved yields, despite unfavorable rainfall during the previous year. The qualitative and quantitative findings jointly provide strong evidence for the transformation of gender relations in households and in community, although these incremental improvements must be considered in the light of the normal pace of change of core cultural norms. The learning that takes place through FFBS has resulted in considerable learning about sustainable agricultural practices that are essential to the long-term viability of these vulnerable communities in a fragile environment, and these have been applied in practice by considerable numbers of beneficiaries. Less progress is apparent in the value chain approach, in terms of increasing opportunities for access to inputs and credit, and enhancing marketing arrangements. Other areas present multiple challenges, such as obtaining land titles for women, but the project has been able to promote land access for most VSLAs to farm together. The program approach has likely helped reinforce training in sustainable agriculture, and achieve significant advocacy for women's rights, but there could be greater clarity in terms of distinguishing the unique contribution of each project and thinking through exit strategies.

4.1 Target Groups:

Pathways Mali has reinforced the existing groups and helped to form some new ones, working in conjunction with PEF, although the scale of impact was reduced due to a reduction in 2014 of the groups supported. As groups leave the project, and as group members drop out of groups, those individuals are left on their own, and it can be legitimately whether the project should be responsible for sustaining them in the longer term. Pathways has tackled a sufficiently large challenge in pursuing a change in gender attitudes and supporting the self-reliance efforts of a large group of beneficiaries, so it may be unfair to also expect the project to provide a safety net for a wider group of women, notwithstanding the apparent need to do so. Even among the current target group, the positive trends for some

respondents should be balanced with a concern for the group of respondents which does not show the same trend – such as the 27% of women respondents who did answer affirmatively regarding self-confidence. What is important, however, is to consider how the empowered VSLAs of Pathways can have a supportive impact on all of their members, and then on their wider environment. Finally, if the Pathways approach has been effective with a specific group of beneficiaries, it should be applied and tested on a larger scale. Also, the work with “engaged men” has been successful and is crucial to the goals of Pathways.

Recommendations – Target Groups

- As a model program, either for Mali in the future, or for other countries, consider what should happen with those participants (e.g., Project-supported VSLA members) that do not reflect a positive impact, as they will often be among the more vulnerable villagers
- In keeping with CARE’s program approach, consider means to extend appropriate assistance to other women in Pathways villages
- Scale up the program to increase the number of targeted VSLA groups, including possible means of multiplying impacts with each group, such as creatively engaging *relais* in new roles
- Consider how men can be included as a target group in their own right (rather than only as husbands of participants) and supported, without significantly deviating resources and focus

4.2 Impacts

The findings show incremental livelihood improvements and resiliency in terms of decreased negative coping strategies, increased dietary diversity, revenue, and yields, despite the unfavorable rainfall during the previous year. This is based on an assumption that indeed the current conditions are a significant constraint, because otherwise the results should be considered as less positive. Combined with other findings about the increased capabilities for sustainable agriculture, and effectiveness of VSLAs, project participants will likely continue to do well when rainfall is favorable and be resilient through the changing environmental conditions of the coming years. The probability of sustainable livelihood improvement will increase greatly if Pathways strengthens its value chain approach, continues to seek solutions to the land titling problem, and pays attention to other potential areas of concern such as the observed reductions in participants’ savings and assets. The positive Women’s Empowerment Index findings attest to the validity of Pathways’ approach, though continued work is needed in areas such as household decision-making.

Recommendations – Impact Monitoring

- Monitor project livelihood, economic and resilience indicators in conjunction with weather patterns to enable better analysis of the impact

4.3 Change Lever 1 – Capacity and Local Institutions

Change Lever 1 is concerned with women’s participation in groups and local institutions, and the VSLA has remained the main focus. The VSLA groups are appropriate as pre-existing and quite sustainable focal points for women’s empowerment, and the dialogues anchored in these groups have heightened awareness of women’s roles in family and community decision-making. There are good possibilities for women to move ahead in leadership positions (such as being women councillors in communes or in

village councils), during the upcoming local government elections, though the process will likely be highly variable and gradual. The sustainability of the VSLA groups playing a role in this process of transformation of gender relations is one that the project may not have explicitly considered, but should be an issue on the agenda as being related to exit strategies. VSLA groups probably have a very high degree of sustainability, which could make them appropriate to continue as the focal point of a wider process of empowerment and education in the communities, but to date they have been more focused on their own internal functioning as savings and loans groups. Other community groups may also rise in prominence as nuclei of social transformation, and helping to mainstream the gender education. Though this is not extensively reported on, there are many good examples of where participants have been playing positive leadership roles in such areas as education and water supply. In the near future, a more enlightened system of local governance may be able to take on the task of championing women's empowerment, whether through the structures of village chief/council and communal mayor/council, or through some other local development committees with broader mandates. The program has done very well to strengthen local institutions, indeed a women's empowerment approach is often an effective means of strengthening institutions. Planned activities to improve accountability, transparency, and effectiveness of district and community structures were previously dropped from the program, and such efforts to could help reinforce the main thrust of Pathways empowerment work.

Recommendations – Capacity

- Develop an exit strategy for VSLAs by discussing with them how they will operate independently, including where they could turn when in need of advice, and taking into account their different roles
- Bearing in mind that target group may have left out some in the past, help them think about playing a role in fostering improved livelihoods for a wider range of villagers
- Develop a strategy for an interest group at village level to continue taking up the cause of the transformation of gender relations
- Facilitating the engagement of empowered women in other projects in the villages, such as taking leadership roles in education, health and water supply projects
- Explore the possibility of linking the gender education work with other local institutions that have a wider impact and may help, including revisit whether local institutional strengthening efforts can be undertaken through Pathways or other projects

4.4 Change Lever 2 – Access

Access to quality extension services has certainly been achieved within the framework of Pathways, through its staff and the volunteer relais, and the concern now should be about how the benefits will continue after Pathways. The *relais* are likely going to continue as reference people within their communities, but the best arrangement is for them to be specifically supported continue their training and leading role in community learning. The way forward for finding appropriate incentives for *relais* is not clear so far, though some promising examples exist such as giving them plots of land in irrigated gardens. Also their role has been mostly extension and dissemination, while there also could be a role in facilitating the sharing of good practices among farmers. The *relais* are also providing a form of environmental education, and this project aspect remains relatively underdeveloped. Access to

agricultural inputs has increased modestly according to quantitative data, while qualitative findings stressed that access is very difficult in more remote locations, but this is a positive outcome for villagers to have established access to commercial sources. Attention is needed as to whether this is profitable for those that use them. This is related to the finding that farm-related income has increased, but expenses (and possibly debt) are rising equally fast. In FGDs, it became apparent that much of the access was through government sources, brokered by the project. This is not necessarily sustainable, and raises the question of whether it is really a legitimate goal to simply secure access of the Pathways beneficiaries to services meant for the entire population. Farmers' access to diversified and potentially more profitable markets was a major topic of discussion, and only one quarter of women accessed an output market to sell their agricultural production, which has been unchanged since the baseline. There has been little engagement in national markets or discussions with agroenterprises about purchasing or outgrower arrangements.

Recommendations – Access

- Ensure the continued sustainability of relais by reviewing the strategy for them to continue in their training and learning role, in conjunction with government extension officers or separately, with support from the villagers that they work with and ongoing stimulation and reinforcement from government and other development programs
- Monitor the use of agricultural inputs and their profitability, and review existing channels and discuss with suppliers to see if more access can be extended including in challenging locations
- Dedicate human resources and consider contracting consultants to help develop a more vigorous dialogue with the private sector, engaging in national markets or discussing with agroenterprises about purchasing or outgrower arrangements.
- Attempt to provide access to services (inputs, markets, extension) to project participants in a way that expands access for others as well, not exclusively for the beneficiaries
- Consolidate the environmental aspect of the sustainable agricultural training and consider how to reinforce it within Pathways or parallel project, but still within the framework of livelihood improvement and local institutional development

4.5 Change Lever 3 – Productivity

While the findings are somewhat ambiguous, there is sufficient quantitative and qualitative findings to conclude that the training and VSLA support have succeeded despite poor rainfall in increasing productivity, income, increasing dietary diversity and resiliency, and the consumption of nutritious foods produced by the farmers themselves. There were more women earning farm incomes, and while their own net annual farm income declined from \$222 USD at baseline to \$214 at endline, their household farm per-capita income increased significantly from \$2.75 to 3.95 monthly. The practice of Pathways in selecting and focusing on single value chains such as millet may fail to capture the richness of participants activities and may inadequately support their interests. Sesame is very profitable but is not emphasized, and peanuts are an important crop which are also suitable to marginal soils, but for some reason they are now being cultivated by fewer farmers. Women's yields for millet and sorghum have increased but decreased for rice, maize and fonio, and these trends should be carefully monitored in conjunction with input costs and income and expenditure data. Animal agriculture has not been actively

promoted in Pathways, including fishing or fish farming, even though there has been an expression of need for these (fisheries was included in the original design for Mali). Focus group participants spoke unambiguously of having *adopted* the practices they learned and the endline quantitative survey showed that an increased number are practicing three or more of the techniques promoted by Pathways, though at 26% this is still low; quite possibly, participants apply one or two techniques. The lack of growth in adoption of most post-harvest methods is probably linked to the lack of market development. Still, the cereal storage facilities managed by VSLAs and networks are impressive and the credit mechanisms of those visited were well-managed, though the construction and storage conditions were questionable. The focus of Pathways is ostensibly on production for sales, and through enhanced income there may be a diversification of diet - but focus groups confirmed that household consumption of their own production is also important, and this is underemphasized in project reporting.

Recommendations - Productivity

- Follow-up the endline survey with monitoring of yields to verify if there are optimal yields being reached especially for prioritized crops of rice, millet and shallots, but to consider including other crops that are important for women farmers, such as peanuts, sesame, maize and fonio
- Give more attention to post-harvest processing and linking it to a more dynamic approach to marketing, analyzing current practices for good examples and building on those
- Conduct a more thorough analysis of appropriate crops and livestock for promotion in Mali, including the fish activity that was initially included in the Nyeleni design
- Promote ongoing use of community storage and borrowing cereal stocks, building on the capacity of the VSLAs and networks, though investigate how to reach higher construction standards and safer food storage conditions
- Consider strengthening nutritional education and encouraging consumption of farm products, and incorporating it more explicitly into the project

4.6 Change Lever 4 - Household Influence

In terms of participants' contributions to and influence over household income and decision-making, there is no doubt that the project helped strengthen family relationships and consultation, confirmed consistently through qualitative research and survey results about decision-making control over household assets, income and expenditures. The changes in women's control and influence are evident male-headed HHs, while there are also puzzling findings of a reduction in some aspects of autonomy in female-headed households. Land has been identified as a key issue in Pathways, and there are positive factors to build on. Husbands do often allocate a portion of land to their wives for their own purposes, and it is significant that virtually all villages now have collective plots of 1 Ha or less for VSLAs. These are generally allocated on an informal use basis by the village chief, or by other men, and increasingly there have been examples of semi-formal agreements approved by mayors and chiefs. Still, obtaining a title over land is important to encourage ongoing investment and use of the land, for example, allowing women to use it as collateral for credit, and a formal title is still beyond the reach of Pathways participants. This is clearly a challenge that remains to be fully addressed.

Recommendations – Household Influence

- Review the findings of their being a reduction in some of the domains of autonomy in female-headed households
- Continue awareness raising of positive developments in land allocation to women (individually or collectively), documenting and disseminating the examples
- Discuss further the arrangements in which men allocate marginal land to women and then take it back after several years of the women enhancing soil fertility, reallocating them to other marginal plots
- One concrete step forward on the land issue could be a workshop organized with government and external agency counterparts, to engage chiefs, mayors and councillors in discussing land use for women, to promote more local titling arrangements which provide more stable access to women
- Dedicate additional human resources and consider drawing on wider expertise to explore options for advocating for land titles for women

4.7 Change Lever 5 - Enabling Attitudes and Institutions

This component promotes the attitudes, behaviors, policies and institutions to safeguard women's rights, with some aspects reported under Change Lever 1 and 4. The overlap is considerable, as Change Lever 1 also seeks to address gender changes in behaviors and institutions, but the findings here provide a sober counterbalance to other more positive findings. As stated above, Pathways Mali has facilitated evident, if incremental changes, in family relationships, women's autonomy and the concept that women can play leadership roles in the community. There was not a clear manifestation of this, however, in quantitative findings related to attitudes to equity in family gender roles and gender-based violence. Perception of appropriate roles for women and men, and attitudes towards domestic abuse, can take many years to change. Many feel their beliefs uphold the morality of physical punishment, even by men towards adult women. Breakthroughs reported during focus groups, such as a widespread practice of men sharing "women's" household tasks, can be considered as positive examples which may not be widespread – and even may be exaggerated by those who wish to give a positive impression to outsiders. Though freedom of mobility has increased, with the percentage of those who are considered to be mobile having increased from 4 at baseline to 11 at endline, though this is clearly still an area of significant limitation to women's activities – not least of the agricultural production and marketing activities. Another area of potential concern for the project are indications that men may feel they are losing out, for example with fewer men believing they have autonomy in household production or control over household income and expenditures. This is an indication that around 10-20% of men feel a reduction in empowerment, which could become a source of conflict and even violence within households. On the other hand, in men's focus group discussions, there was little expression of a sense of loss with the changes, and very few men answered quantitative questions by saying that they were worse off after the project (see section 3.6).

Recommendations – Enabling Attitudes and Institutions

- Document and share the good practices of men and women sharing household roles

- Explore attitudes towards gender-based violence and consider how to take the next step in addressing it, both in terms of education and intervention
- Carry out further discussions on women’s apparent lack of mobility, determine if it is in fact a barrier to women in their businesses and farming activities, and undertake specific training on this topic which could be affecting the livelihoods of all household members

Management and Project Design

The management of Pathways Mali (Project Nyeleni) appears to be broadly satisfactory, with an effective team of three senior staff, supported by CARE offices in Segou, Mopti, and Bamako, and they coordinate effectively with implementing NGOs and government. There may be a need to reassess the time allocation of staff in terms of support for the value chain approach, and possibly for advocacy on key issues for women’s empowerment, such as land titling. Some aspects of the M&E system are working well, such as the participatory performance management, which feeds into a dynamic learning practice among project stakeholders. The project goals and commitments in terms of donor requirements are not completely clear, so it is somewhat difficult to judge the project and how wide the impact was intended to be. That is, however, a secondary consideration, if the project has made important advances in the existing impact area. The geographic scale is not inconsiderable, as the locations are very remote and security concerns have been hugely important over the past four years.

In terms of design, the organization of the levers of change may not be optimal for fostering a shared vision and clear reflection and monitoring. Some might argue that having “access” as a separate lever will emphasize the importance of a value chain approach, but this does not seem to have worked very well in Pathways. Under the productivity lever, the project includes the issues of diversification, post-harvest transformation and income, which are closely related to the themes of markets and credit and agriculture inputs. There is a risk that fragmenting these implementation components may prevent joined-up thinking and weaken the overall approach. Another design issue is that the environmental aspects of Pathways are understated and could be more elaborated and made more visible (see discussion in 3.8). The strength of CARE Mali’s program approach is that the boundary between projects is not as pronounced and it becomes more feasible to mix and match aspects according to need and donor interest.

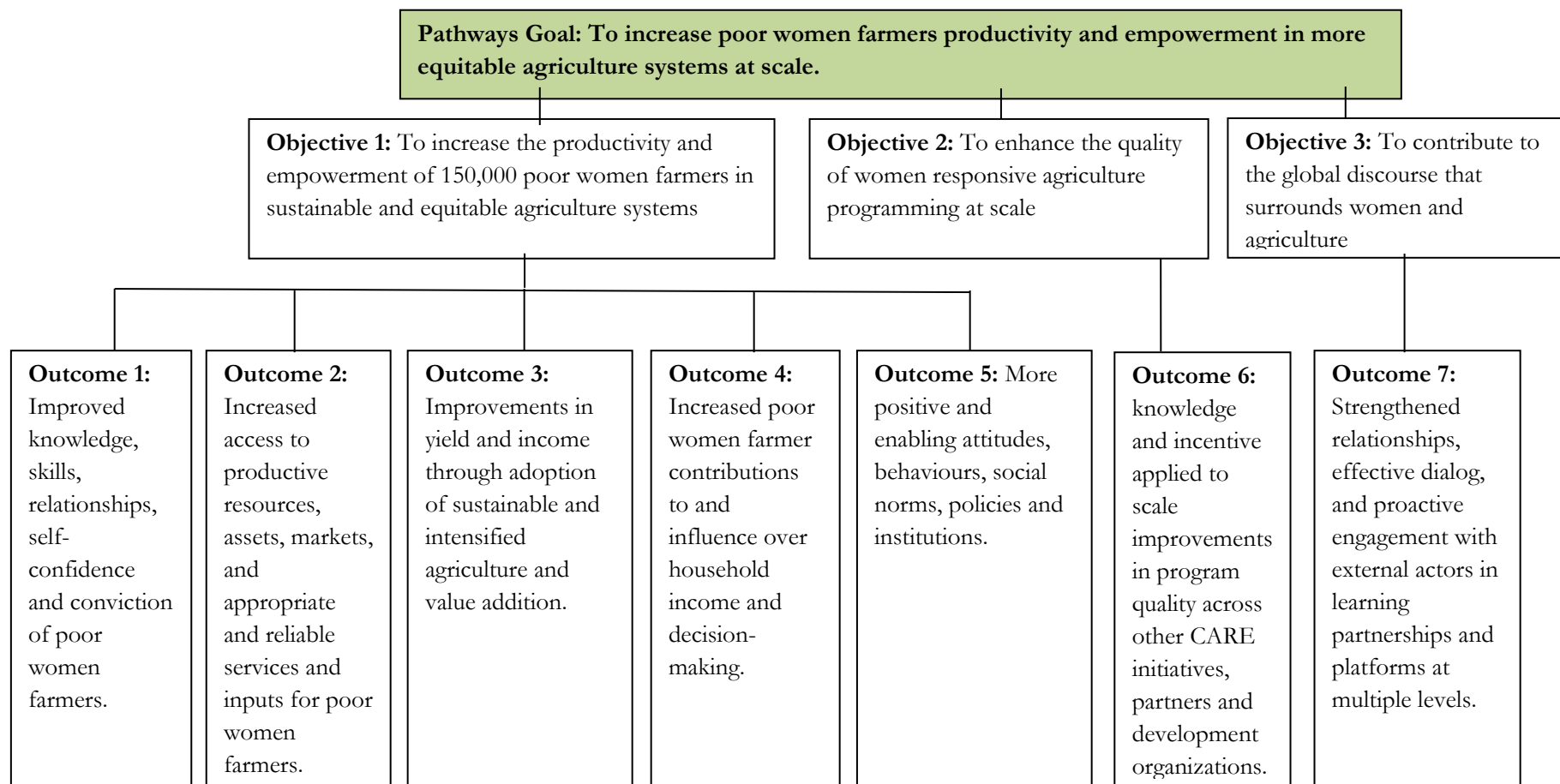
Recommendations – Management and Project Design

- Ensure that project goals and indicators are clear, agreed with donor and all Pathways international stakeholders, and shared with local partners in a way that they can see how their efforts are contributing to goals.
- Present CARE Mali’s integrated program in a way that distinguishes the contribution of each project, such as laying them out in a table showing the community partners, the physical inputs provided etc.
- Consider a more simple project design to group the activities in fewer levers, such as personal and family empowerment (combine current Change Lever 4 and 5), agriculture production (combine current Change Lever 2 and 3), and a new focus of community institution-building (currently Change Lever 1). This could be understood as one unified theory of change flowing from the consciousness-raising and education of women to their engagement in agriculture and

business, and finally towards influencing community institutions. In any formulation, undoubtedly the activities will be concurrent and mutually supportive.

- The theme of environmental protection and sustainability could be more accentuated in future projects, possibly combined with the current Change Level 3.

Annex 1: Pathways Results 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 |

| | | | | |
|---|--|--|--|--|
| <p>Outcome 2: Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers.</p> | <ul style="list-style-type: none"> • OC 2.1: % women with access to and control over loans for IGA • 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 | <p>Baseline/ end-line; annual monitoring</p> | <p>Quantitative/ qualitative surveys; producer group records; annual HH tracer study</p> | <p>External consultant; M&E Unit</p> |
| <p>Outcome 3: Improvements in yield and income through adoption of sustainable and intensified agriculture and value addition.</p> | <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) | <p>Baseline/ end-line; annual monitoring</p> | <p>Quantitative/ qualitative surveys; annual reports</p> | <p>External consultant; M&E Unit</p> |
| <p>Outcome 4: Increased poor women farmer contributions to and influence over household income and decision making.</p> | <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 | <p>Baseline/ end-line; annual monitoring</p> | <p>Quantitative/ qualitative surveys; annual reports</p> | <p>External consultant; M&E Unit</p> |

| | | | | |
|---|---|---------------------------------------|---|-------------------------------|
| | <ul style="list-style-type: none"> • OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions (family planning; spacing of children) | | | |
| <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 | Baseline/ end-line; annual monitoring | Quantitative/ qualitative surveys; annual reports | External consultant; M&E Unit |

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 | EL | sig |
| Food & Nutrition Security | | | | |
| IM 1.1: Mean household dietary diversity scores | 6.0 | 6.4 | 6.4 | |
| IM 1.2: Mean women's intra-household food access | 5.8 | 6.1 | 5.8 | * |
| Livelihoods Resilience | | | | |
| IM 1.3: Coping strategies index | 49.7 | 2.4 | 3.6 | ** |
| IM 1.4: % households adopting negative coping strategies in past 3 months | 29.1 | 22.5 | 13.1 | *** |
| IM 1.5: % households using adaptation strategies to reduce the impact of future shocks | 61.2 | 47.1 | 48.7 | |
| IM 1.6: Mean asset index | 556 | 527 | 392 | *** |
| Economic Poverty Reduction | | | | |
| | 2012 USD | 2015 USD | 2015 USD | |
| IM 1.7: Per capita monthly household income (farm and non-farm) | 12.36 | 9.24 | 11.05 | |
| IM 1.8: Per capita monthly household expenditures | 16.43 | 13.11 | 19.59 | *** |
| IM 1.9: % households with savings | 31.7 | 34.2 | 5.4 | *** |
| IM 1.10: % women with savings | 30.2 | 32.6 | 4.7 | *** |
| Women's Empowerment | | | | |
| IM 1.11: Women's empowerment index | 0.34 | 0.32 | 0.46 | *** |

| CHANGE LEVER | PERFORMANCE INDICATORS | Baseline | Restricted BL | EL | sig |
|---|---|----------|---------------|--------|-----|
| 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 | | | | | |
| CAPACITY | OC 1.1: % women participating in formal and informal groups | 83.0 | 83.3 | 94.0 | *** |
| | OC 1.2: % women holding leadership positions in formal and informal groups | 32.3 | 41.9 | 34.8 | ** |
| | OC 1.3: % respondents confident speaking about gender and other community issues at the local level | | | | |
| | Female respondents | 33.4 | 38.9 | 59.3 | *** |
| | Male respondents | 61.2 | 45.2 | 82.3 | *** |
| Outcome 2: Increased access to productive resources, assets, markets, and appropriate and reliable services and inputs for poor women farmers. | | | | | |
| ACCESS | OC 2.1: % women with access to and control over loans for IGA | 55.9 | 61.9 | 53.9 | ** |
| | Women in female-headed households | 43.6 | 37.9 | 55.6 | |
| | Women in male-headed households | 57.1 | 64.1 | 53.7 | ** |
| | OC 2.2: % women accessing agricultural inputs (seeds) over the last 12 months | 53.4 | 59.3 | 69.5 | ** |
| | OC 2.3: % women accessing output markets to sell agricultural production over the last 12 months | 22.8 | 24.4 | 23.0 | |
| | OC 2.4: % women with access to agricultural extension services in last 12 months | 21.2 | 20.3 | 62.5 | *** |
| | OC 2.5: % women accessing agricultural financial services (loans, savings) in last 12 months | 89.7 | 44.4 | 80.1 | *** |
| | OC 2.6: % women reporting satisfaction with agricultural extension services | 79.9 | 80.5 | 86.2 | |
| Outcome 3: Improvements in yield and income through adoption of sustainable and intensified agriculture and value addition. | | | | | |
| PRO DUC TIVI | OC 3.1: Net income of women from agricultural production and/or related processing activities | 465.27 | 222.49 | 214.34 | |

| | | | | | | |
|---|---|---------|------|------|------|-----|
| | OC 3.2: Agricultural yield in crops supported by Pathways (kg. per hectare) | | | | | |
| | | Rice | 2208 | 1901 | 1253 | * |
| | | Maize | 1481 | 1876 | 556 | |
| | | Millet | 597 | 552 | 806 | ** |
| | | Fonio | 1019 | 1100 | 806 | |
| | | Sorghum | 733 | 774 | 1039 | |
| | OC 3.3: Number of different crops grown | | 3.4 | 3.4 | 3.8 | ** |
| | OC 3.4: % women adopting at least 3 improved agricultural practices | | 18.0 | 19.0 | 26.3 | ** |
| | OC 3.5: % women farmers adopting at least two post-harvest processing practices | | 42.8 | 22.7 | 10.9 | *** |
| | OC 3.6: % women adopting improved storage practices | | 38.2 | 33.1 | 62.3 | *** |
| | OC 3.7: % women using at least one improved livestock practice | | 90.9 | 55.8 | 29.5 | *** |
| 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 | | 33.6 | 24.5 | 48.0 | *** |
| | Women in female-headed households | | 73.8 | 62.2 | 56.3 | |
| | Women in male-headed households | | 28.9 | 21.1 | 47.3 | *** |
| | OC 4.2: % women with sole or joint control over agricultural income and expenditures | | 13.4 | 9.4 | 24.9 | *** |
| | Women in female-headed households | | 55.1 | 51.4 | 48.4 | |
| | Women in male-headed households | | 8.6 | 5.6 | 23.0 | *** |
| | OC 4.3: % women with sole or joint decision-making and control over household assets | | 18.9 | 9.8 | 46.7 | *** |
| | Women in female-headed households | | 55.1 | 48.7 | 51.6 | |
| | Women in male-headed households | | 14.7 | 6.2 | 46.4 | *** |
| | OC 4.4: % women with sole or joint decision-making and control over agricultural assets | | 23.4 | 21.7 | 48.4 | *** |
| Women in female-headed households | | 74.7 | 75.0 | 57.1 | | |

| | | | | | |
|---|--|------|------|------|-----|
| | Women in male-headed households | 17.7 | 17.0 | 47.7 | *** |
| | OC 4.5: % women making sole or joint decisions about health care | 37.5 | 31.9 | 80.0 | *** |
| | Women in female-headed households | 78.5 | 81.8 | 83.9 | |
| | Women in male-headed households | 32.7 | 27.5 | 79.6 | *** |
| | OC 4.6: % women reporting sole or joint decision-making over reproductive health decisions | 76.7 | 35.4 | 82.6 | *** |
| | Women in female-headed households | 73.9 | 77.8 | 69.2 | |
| | Women in male-headed households | 76.8 | 31.6 | 83.2 | *** |
| Outcome 5: More positive and enabling attitudes, behaviors, social norms, policies and institutions. | | | | | |
| ENABLING ENVIRONMENT | OC 5.2: % of respondents expressing attitudes that support gender-equitable roles in family life | | | | |
| | Female Respondents | 2.5 | 12.8 | 16.0 | |
| | Male Respondents | 7.7 | 6.2 | 7.1 | |
| | OC 5.3: % of respondents expressing attitudes that reject household gender-based violence | | | | |
| | Female Respondents | 15.0 | 14.1 | 25.8 | *** |
| | Male Respondents | 8.9 | 55.6 | 19.7 | *** |
| | OC 5.4: Women's mobility | 4.6 | 4.3 | 11.2 | *** |
| | Women in female-headed households | 20.0 | 21.6 | 37.1 | |
| | Women in male-headed households | 2.8 | 2.7 | 9.0 | *** |
| | OC 5.5: % of women reporting their sex as a barrier to participation in local groups or forums | 39.7 | 44.5 | 38.3 | |
| | Women in female-headed households | 28.8 | 40.0 | 61.1 | |
| | Women in male-headed households | 41.0 | 44.9 | 36.6 | ** |

Annex 4: Selection of Qualitative Villages

The qualitative sample of seven communities was selected randomly from across the Pathways program area. First, two communes were selected randomly from all of the Pathways operational communes in each of the two regions of Segou and Mopti, then two villages were selected randomly from all operational villages in each of the communes. The selection was not limited to those villages where the quantitative survey had been done during the baseline and endline surveys. By this means, the qualitative sample captured the diversity of the program experience, without any possible bias. In the final selected commune in Mopti region, due to security restrictions and then budget constraints, a substitution was made and the list was held to seven villages.

The villages where qualitative research was carried out were:

Segou

Cercle : Segou, Commune: Diedougou, Village : Tiécoura Djanwèrè

Cercle : Segou, Commune : Diedougou, Village : Sidjan

Cercle: Segou, Commune: Fatinè, Village: Fatinémarka

Cercle : Segou, Commune : Fatiné, Village : Waita

Mopti

Cercle: Bandiagara, Commune: Bara Sara, Village: Ouo Guina

Cercle: Bandiagara, Commune: Bara Sara, Village: Ouo Sare

Cercle : Bandiagara, Commune : Sasadi, Village : Dandoly

Annex 5: 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.²⁸

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 | |

²⁸ 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.

| | | |
|--------------------------------|-----|---|
| Fishing equipment / fish ponds | 5 | Low weight is based on fishing equipment: qualitative observations found no ownership of fish ponds. Few exist, and those that do are community property. |
| Fishing equipment – canoes | 2.5 | |
| Fishing equipment – nets | 2.5 | |
| 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.²⁹ 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

²⁹ 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

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:

| 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 6: 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 itself 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 Mali, 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 | 2 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% | ≥ 50% |
| | With sole or joint control over purchase or sale of household assets ^a | ≥ 50% | ≥ 50% |
| | 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% | ≥ 50% |
| LEADERSHIP & COMMUNITY | Participating in formal and informal groups | N/A | N/A |
| | Confident speaking about gender and other community issues at the | 2 of 4 | 3 of 4 |

| | | | |
|-----------------|---|--------|--------|
| | local level | | |
| | Demonstrating political participation | N/A | N/A |
| | Who express self-confidence | 2 of 7 | 3 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 muddied 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.