WOMEN'S EMPOWERMENT IN UGANDA

Impact evaluation of the project 'Piloting gender sensitive livelihoods in Karamoja'

Effectiveness Review Series   2014/15

Etiyata Kapei women's group sensitising communities on women's rights using songs and drama.
Photo credit: Joel Dengel/Oxfam

SIMONE LOMBARDINI & KANAKO YOSHIKAWA

OXFAM GB

www.oxfam.org.uk/effectiveness

OXFAM

CONTENTS

ACKNOWLEDGEMENTS

We would like to thank the Oxfam in Uganda and local partner teams for being so supportive during the exercise. Particular thanks to Joselyn Bigirwa, Eris J.B. Lothike, Joel Dengel, Francis Chesilyong from Oxfam, Akello Loy and Akidi Rose Moding from Church of Uganda, as well as Joseph Rujumba and Japheth Kwiringira, the two consultants who managed the fieldwork.

EXECUTIVE SUMMARY

Oxfam GB's Global Performance Framework is part of the organisation's effort to better understand and communicate its effectiveness, as well as enhance learning across the organisation. Under this framework, a small number of completed or mature projects are selected at random each year for an evaluation of their impact, known as an 'Effectiveness Review'. The project '*Piloting Gender Sensitive Livelihoods in Karamoja*' (UGAB55) was one of those selected for an Effectiveness Review in the 2014/15 financial year, under the thematic area of Women's Empowerment.

The Effectiveness Review took place in Kotido district, (Karamoja, Uganda) in August 2014, and set out to evaluate the impact of the project '*Piloting gender sensitive livelihoods in Karamoja*' on dimensions of women's empowerment in Karamoja. Project activities were implemented by Oxfam and partner organisations in the Kotido and Kaabong districts, Karamoja region, between July 2011 and March 2014.

The project intended to achieve two main objectives through the implementation of two distinct interventions.

The first objective was to improve the livelihoods of poor women through the support of enterprises. In order to achieve this objective, the project worked in Kotido sub-county, Kotido district, implementing a Gender Action Learning System approach (GALS) with 10 women's groups, consisting of 40 women per group. The GALS is a community-led empowerment methodology that aims to promote economic, social and political transformation to gender justice. The approach works with women and men jointly to develop achievable visions for change, including journeys and road maps. The project also provided training on how to run small enterprises and businesses; supported women's groups' access loans to start new businesses; and provided equipment and inputs needed to start up businesses. For the remainder of this report, the set of activities that contributed to this objective will be referred as the project's WEE activities.

The second objective was to reduce violence against women (VAW) by promoting awareness and influencing attitude and behavioural change. In order to achieve this goal the project used a variety of approaches and methods in a wider geographical area. Actions included training duty bearers and community leaders and supporting them to implement positive actions addressing violence against women within their communities and holding a number of awareness-raising sessions in schools through school drama clubs on violence against women. The project also implemented a 'change makers' strategy, recruiting a number of participants within project communities, talking to them about gender equality and the problems associated with domestic violence against women, and supporting them to reflect on and change their own attitudes and behaviours and encourage others to do the same. The expectation was that this strategy would improve levels of awareness and reduce violence against women more broadly within the project communities. These activities were conducted in four sub-counties in Kotido district and four sub-counties in Kaabong district. For the remainder of the report, the set of activities that contributed to this objective will be referred to as the project's VAW activities.

Evaluation design

This impact evaluation study took place in Kotido district in August and September 2014. The evaluation investigated the impact the two components had on women's empowerment.

Oxfam recognises that women's empowerment is a complex, multi-dimensional concept. While not arguing for a standard set of women's empowerment characteristics that are applicable to all contexts, Oxfam has developed a multi-dimensional index to support the quantification of this hard to measure area. This sets out five dimensions of women's empowerment that the organisation considers to be important in all contexts. Recognising the importance of context, however, each Effectiveness Review begins by identifying a set of characteristics under these five dimensions that is considered to be important to the particular context of the project that has been selected. For this evaluation, these characteristics were identified through a workshop conducted with a range of project stakeholders including Oxfam staff, partner organisations and local consultants considered experts in the local area. The aim was to obtain a holistic measure of women's empowerment in Karamoja, even if not all characteristics were directly linked to the project activities or intended outcomes. It is worth noting that the characteristics identified for use in this evaluation include a predominance of indicators associated with women's economic empowerment.

The review adopted a quasi-experimental impact evaluation design, which involved comparing women that had been supported by the project with women in neighbouring communities that had similar characteristics in 2010. A household survey was carried out with 185 women randomly selected from those who participated in the project's WEE activities, and 185 women who participated in the project's VAW activities, but who had not been involved in GALS activities, selected from within the social network of the project's change makers. Finally 380 comparison women who had never been involved in any Oxfam project were also surveyed in order to enable comparisons with the two groups of women who had participated in project activities. For a more comprehensive description of the sampling and evaluation strategy please refer to part 4 of this report.

At the analysis stage, the statistical tools of propensity-score matching and multivariate regression were used to control for demographic and baseline differences between the individuals surveyed in project and comparison areas to provide additional confidence when making estimates of the project's impact.

Results

Survey results provide compelling evidence that the project has been successful in improving women's overall empowerment, women's business activities, and overall material wealth for the women involved in WEE activities. The evaluation did not find similar evidence of improved overall women's empowerment among those project participants involved in VAW activities. As detailed above, it is important to note that the evaluation considered the impact of these two interventions against a holistic index of women's empowerment in Karamoja, rather than only those characteristics directly linked to the project activities or intended outcomes, and we note that the characteristics identified for use in this evaluation include a predominance of indicators associated with women's economic empowerment. Table 1 sets out the key results and includes details about whether outcome areas considered by the evaluation were linked to the project logic or not.

Table 1: Key results of this Effectiveness Review

Outcome area	WEE activities		VAW activities		Comments
	Linked to the project logic	Evidence of impact	Linked to the project logic	Evidence of impact	
Overall measure of women's empowerment	Yes	Yes	Yes	No	Women involved in project's WEE activities present statistically significant higher levels of women's empowerment overall. On the other hand, women involved in project's VAW activities do not present higher levels of women's empowerment.
Self-perception, personal change and opinions	Yes	Yes	No	No	Women involved in WEE activities appear to have changed their opinions on women's economic role, gender rights, and property rights.
Personal freedom and violence	Yes	Not clear	Yes	Not clear	Results on attitudes to gender-based violence are unclear. The evaluation identified higher acceptability of gender-based violence among the group of women involved in VAW activities. However, the literature suggests that these estimates should be treated with caution as they may reflect instead a greater willingness to discuss the issue. Estimates suggest lower prevalence of violence among women who participated in WEE activities as well as among women who participated in VAW activities; however, these differences are not statistically significant.
Access and control over resources	Yes	Yes	No	No	Women involved in WEE activities reported higher levels of contribution of personal income to the household; however, this is not reflected in higher levels of asset ownership by the household. The evaluation also found evidence that women engaged in the project's WEE activities had higher levels of access to savings and credit.
Decisions and influence	Yes	No	No	No	There is no evidence of improved decision-making power within the household for either group of project participants. Women involved in project's WEE activities report lower levels of household decision-making power than women in the comparison group.
Support from social network	Yes	Yes	No	Yes	The evaluation found higher levels of group participation associated with both groups of project participants, and higher levels of support from the different groups these women were involved with to pursue own initiative.
Care and unpaid work	Yes	No	No	No	Estimates suggest that women involved in project's WEE activities are associated with a smaller amount of time devoted to leisure, compared with women not involved into project activities.
Household wealth	Yes	Yes	No	No	There is evidence that women involved in the project's WEE activities appear to have greater levels of household wealth compared with similar women not involved into the project.
Involvement in business activities	Yes	Yes	No	No	Women involved in the project's WEE activities appear to be 17 percentage points more likely to be participating in business activities than similar women not involved in project activities.

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

6

Results for women involved in WEE activities

The evaluation found evidence of improved household wealth associated with project participants in WEE activities, as well as higher levels of involvement in business activities associated with project participants involved in women's groups compared with similar women in the comparison group.

Project participants involved in WEE activities also show higher levels of women's empowerment overall, compared with similar women not involved in Oxfam interventions. In particular project activities seem to be associated with higher levels of self-confidence and opinions on women's economic role, gender rights and property rights. This might indicate that training delivered on gender relations and women's rights were effective in changing women's self perceptions. On the other hand, there is no evidence of changes in self-efficacy, freedom of movement, personal autonomy and likelihood of experiencing violence. Results on attitudes to gender-based violence appear to be inconclusive and consequently more qualitative work should be conducted.

The evaluation found that women who participated in the project's WEE activities were associated with higher levels of access to savings and access to credit, group participation, and group decision-making. The evaluation also found some evidence of increased proportion of contribution to household income. However, there is no evidence that this has resulted in improved control over household assets or improved household decision-making.

Finally, estimates on time use and care activities suggest that involvement in the project's WEE activities seem to be associated with a smaller amount of time devoted to leisure activities compared with women not involved in project activities. Despite training on gender relations, the evaluation did not find evidence of different attitudes towards care activities or an improved ability to redistribute care activities within the household associated with project participants.

Results for women involved in VAW activities

The evaluation did not find evidence of improvements in overall women's empowerment linked to the project's activities conducted with local change makers. As detailed above, it is important to note that the index used for measuring overall women's empowerment in this evaluation includes a predominance of indicators associated with women's economic empowerment, and it is perhaps not surprising, therefore, to not find evidence of improvement in women's overall empowerment for the group of women involved in project activities to reduce VAW.

The evaluation found evidence of women's improved knowledge on where to go and what support to seek in the case of violence, as well as higher levels of support provided by groups to pursue their own initiative.

The evaluation also identified some puzzling results concerning attitudes on gender-based violence. Estimates show a higher acceptability of gender-based violence among women involved in project activities to reduce VAW than among women not involved in any project activities. These estimates should be treated with caution, however, as they may reflect greater willingness to discuss the issue rather than higher acceptability. Estimates also suggest a lower prevalence of experience of violence among the women that participated in VAW activities compared with women who have never been involved in Oxfam's project. However, this difference is not statistically significant. More research should be conducted in order to investigate these results.

As expected, the evaluation did not find evidence on contribution to personal income, access to credit and savings, household decision-making and group participation as these were not part of the theory of change of the project activities.

Finally, estimates on time use and care activities suggest that women involved in VAW activities were less likely to report that time devoted to care activities had decreased, as well as less likely to report that time devoted to care activities for men in the household had increased more than in the comparison group. They were also less likely to report that time devoted to leisure and socialising had decreased since the beginning of the project.

Programme learning considerations

Some important lessons have emerged from the evaluation that can be applied to other projects of this type in Uganda and elsewhere. The Uganda country team and the project team in particular are encouraged to consider the following:

- **Consider a scale up of WEE activities**

This Effectiveness Review provides evidence that WEE activities are associated with positive impact on: household wealth, women's participation in business activities and overall women's empowerment. The country team is encouraged to explore whether and how WEE activities could be scaled up in a sustainable way.

- **Consider integrating activities addressing power within the household**

This evaluation has found that activities implemented on WEE had a positive impact on a number of women's empowerment indicators, including higher contribution by women to household income. However the evaluation did not find evidence of improved decision-making power within the household and control over household assets. Future projects are encouraged in working more explicitly around this area, creating space to sensitise both men and women with regard to shared household decision-making, as well as improving influencing skills and generating confidence in women.

- **Explore the reasons behind lack of impact of activities on violence against women**

This evaluation did not find evidence of improved women's empowerment linked to the project's VAW activities. It was found to have a modest impact on knowledge on where women could go in cases of violence and on higher levels of support from the group to pursue their own initiative. On the other hand, estimates from the survey suggest that women involved in project's VAW activities present higher levels of acceptability of violence against women. For future VAW projects, it is advisable to consider also holistic women's empowerment indicators when developing the project's theory of change.

The programme team is encouraged to consider what are the mechanisms and dynamics behind the VAW component. Particular attention should be paid to identifying the characteristics of the change makers that have been selected, and their motivations in the project.

- **Consider evaluation questions during programme design**

This evaluation identified a positive impact for activities conducted on WEE. In future projects, if there is an interest in exploring impact questions, it is advisable to consider including an impact evaluation framework in the project design.

Evaluation is a key tool for learning, to help projects and programmes succeed and generate evidence of success. When designing a project, the programme team is encouraged to consider and define key evaluative questions that they would like addressed; which components and characteristics of the intervention should be evaluated; and what are the reasons for conducting the evaluation (e.g. influencing, accountability, learning), and to plan sufficient budget, time and resources. Different evaluation designs and methodologies provide different types of evidence with different levels of confidence. For large-scale development interventions, a counterfactual evaluation design will allow the team to consider whether or not changes can be attributed to the project intervention.

1 INTRODUCTION

Oxfam GB's Global Performance Framework is part of the organisation's effort to better understand and communicate its effectiveness, as well as enhance learning across the organisation. Under this framework, a small number of completed or mature projects are selected at random each year for an evaluation of their impact, known as an 'Effectiveness Review'. One key focus is on the extent to which they have promoted change in relation to relevant OGB global outcome indicators, which in this case is women's empowerment.

The global outcome indicator for the thematic area of women's empowerment is defined as change in empowerment of supported women, measured by a composite index assessing indicators of empowerment that are relevant to the socio-economic context of the project under analysis. The indicator is explained in more detail in Section 5.

This evaluation took place in Kotido district, (Karamoja, Uganda) in August 2014 and was intended to evaluate the impact of the project '*Piloting gender sensitive livelihoods in Karamoja*' in supporting women to achieve a greater empowerment. The project was implemented in Kotido district and Kaabong districts in Karamoja region between July 2011 and March 2014 by Oxfam and partner organisations. Due to budgetary and time constraints, survey work was not carried out in Kaabong, and so the project's work in that province is not covered by this Effectiveness Review.

This report presents the findings of the Effectiveness Review. Section 2 briefly reviews the activities and the intervention logic of the project. Section 3 describes the evaluation design used for assessing the project's impact, and Section 4 describes how this design was implemented in this evaluation. Section 5 presents the results of the data analysis, including differences in outcome measures between the intervention and comparison groups. Section 6 concludes with a summary of the findings and some considerations for future learning.

Figure 1.1: Map of Uganda, with Kotido district highlighted

Source: Wikimedia Commons. Author: Slomox.

2 PROJECT DESCRIPTION

2.1 PROJECT ACTIVITIES

The project, '*Piloting Sensitive Livelihoods in Karamoja*' started in July 2011 in Karamoja, in the north-east of Uganda, and was completed by March 2014. The overall objective of the project was to promote socio-economic empowerment for poor women. In particular, the project intended to achieve two specific objectives:

- Objective 1: Improve the livelihoods of poor women through supporting enterprises
- Objective 2: Reduce violence against women through creating awareness and influencing attitude and behavioural change

Poor women in Karamoja live in a context of great disempowerment caused by discrimination, exploitation and stereotypes in gender roles. In this context women face lack of awareness of their rights, are subject to gender-based violence and face cultural restrictions. They lack economic opportunities, right to ownership of and control over assets, and they suffer from physiological, physical and sexual violence from their husbands. This project aimed to create awareness of the rights of women and girls, strengthening the cooperation of men and women to support gender equality supporting the development of strategic assets that women can control to increase their economic empowerment, and implementing interventions that address gender-based violence. The overall goal of the project was to increase ability of poor women in Karamoja to exercise their rights and achieve socio-economic empowerment.

In order to achieve its overall goal the project implemented two lines of intervention aiming to achieve respectively objective 1 and objective 2.

The first set of project activities implemented under objective 1 aimed to economically empower women using the Gender Action Learning System approach (GALS). GALS is a community-led empowerment methodology aiming to promote economic, social and political transformation of gender justice. The approach involves women and men together developing achievable visions for change, journeys and road maps. The project established 10 women's groups consisting of 40 women members each. These women were selected within existing groups at the outset of the project. The participants were then equipped with tool kits to promote savings and investment opportunities and received training in order to increase knowledge for running small enterprises and businesses. The project also supported women's groups in gaining access to loans to start new business. Women groups selected different vocational skills in existing enterprises that they wanted to develop. These include bakeries, hair dressing, tailoring, hand crafts and poultry-rearing. Equipment and inputs, such as sewing machines, needed to start up the business was also provided. In addition, women's husbands were trained jointly with their wives using the GALS approach. This was expected to improve gender relations and women's rights within the household and community. For the remainder of the report, the set of activities that contributed to this objective are referred as the project's WEE activities.
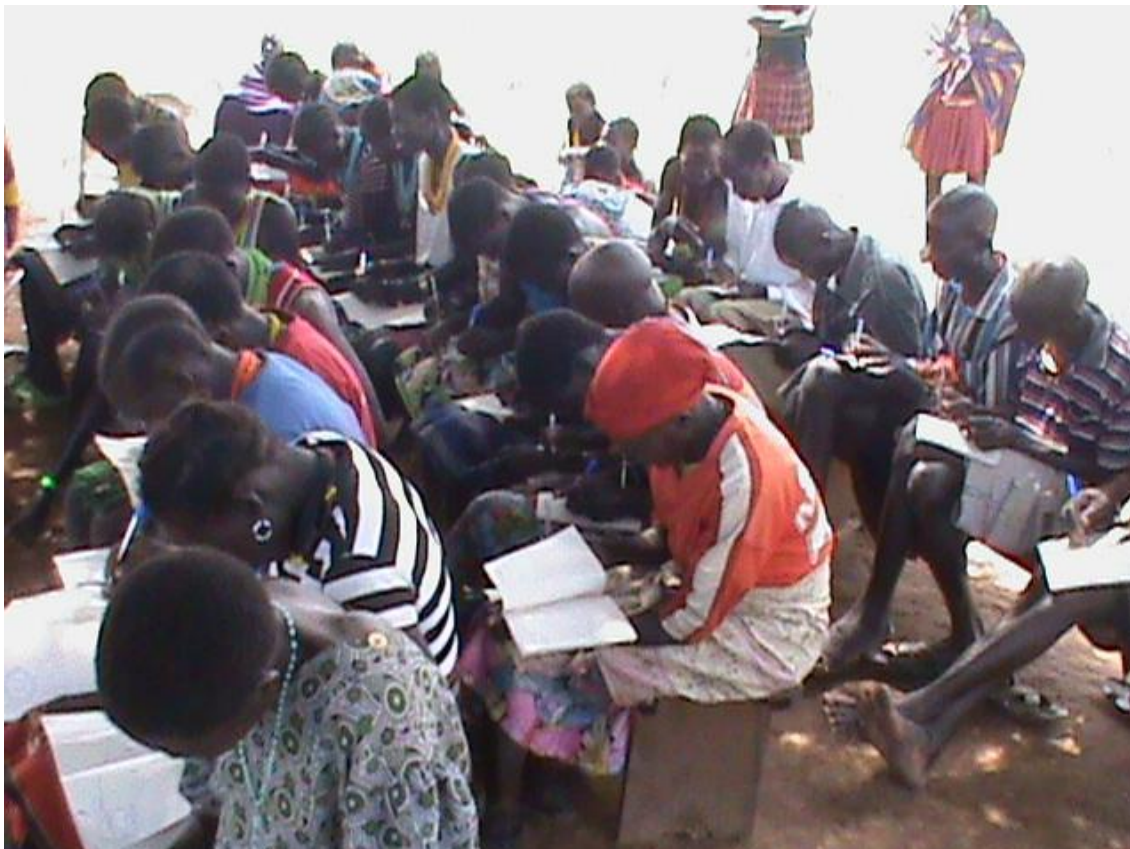
Couples drawing their individual visions during the GALS training in Looi. Photo credit: Josephine Kasande/Oxfam.

Members of Kawalapei Women's group receiving goats to be reared for income generation . Photo credit: Joel Dengel/Oxfam

In order to achieve the second objective under the second line of intervention, several activities were implemented using a variety of approaches and methods. Duty bearers and community leaders were trained and supported in order to implement positive actions addressing violence against women within the community and influencing change of attitudes and practices. A number of awareness-raising sessions on violence against women were also carried out in schools through school drama clubs. Finally, 38 change makers were recruited from project communities, and supported to learn about gender equality and the problem of domestic violence against women. Change makers were recruited among men and women alike. After the training, change makers were asked to talk with at least 10 people in their own community, to share what they had learnt and help to shift cultural norms about negative gender stereotypes towards women and promote positive action addressing violence against women in the intervention communities. For the remainder of the report, the set of activities that contributed to this second objective are referred to as the project's VAW activities.

Local Artists performing from a mobile van and using songs to sensitise women on their rights. Photo credit: Joel Dengel / Oxfam

2.2 PROJECT LOGIC AND INTENDED OUTCOMES

It can be seen from the previous section that the project was intended to have an impact on a broad range of outcomes. This section presents the project logic and expected changes in outcomes for the two lines of intervention.

Women's economic empowerment activities implemented under objective 1 intended to encourage women to start up their business in the community, providing enterprise training, tools and access to credit based on GALS methodology. This support intended to increase skills on management and livelihoods, as well as increasing access to credit and savings in order to promote investment in business opportunities. Higher investment in business opportunities are expected to increase women's independent income and increase self-confidence. Higher levels of independent income within the household are expected to foster women's role in managing cash in the household, increasing ownership of assets and financial resources, and finally increase decision-making power within the household.

The GALS methodology implemented under objective 1 also involved the provision of gender training for women and their spouses. This training intended to raise awareness on women's rights, increase recognition of unpaid care work leading to a more equal division of housework within the household, and finally change attitudes towards domestic violence – reducing physical, psychological and sexual domestic violence.

Activities to address issues of violence against women implemented under objective 2 included working with duty bearers, community leaders and schools to reach and change cultural norms that have gender stereotyping penalising women. This intervention aimed to change attitudes towards domestic violence, and reduce violence against women in the region.

The theory of change for this is shown in Figure 2.1.

The Effectiveness Review aimed to evaluate the project effects on five key dimensions of women's empowerment. Relevant characteristics under each dimension were identified through a workshop conducted with a range of project stakeholders including Oxfam staff, partner organisations and local consultants considered experts in the local area. The aim was to obtain a holistic measure of women's empowerment in Karamoja, even if not all characteristics are directly linked to the project activities or intended outcomes. The project's impact on each of those outcome areas will be examined in Section 5.3.

- Household wealth
- Women's economic status
- Overall women's empowerment:
    - Women's self-perception and personal change
    - Women's personal freedom
    - Women's access to and control over resources
    - Women's ability to take decisions and influence
    - Women's support from social network
    - Women's attitude to care work and unpaid work

Figure 2.1: Logic model of the project
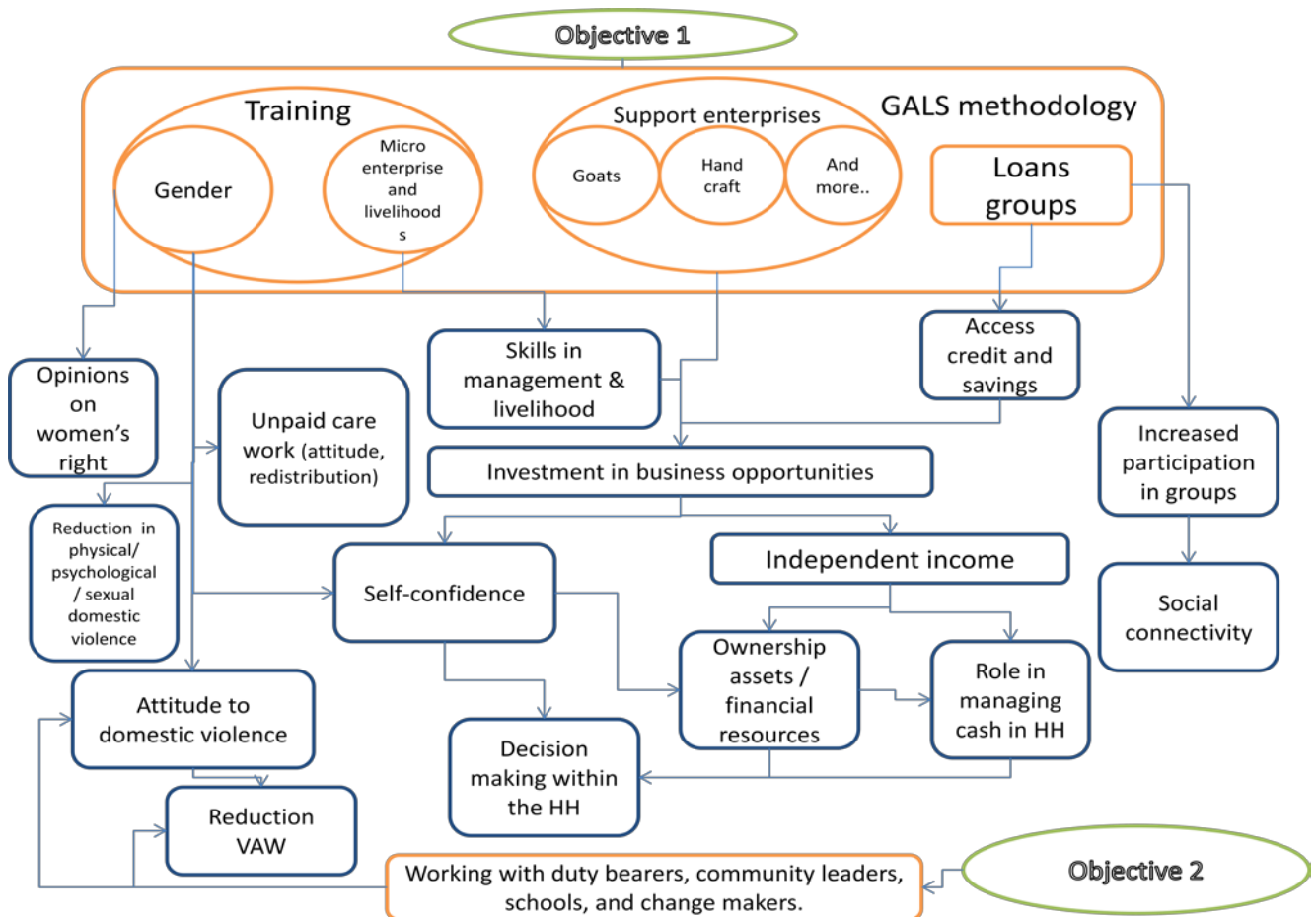
3 EVALUATION DESIGN

The central problem in the evaluation of any social programme is how to compare the outcomes that result from that programme with *what would have been the case* without that programme having been carried out. In the case of this Effectiveness Review, the situation of women in the villages where the project was implemented was examined through a individual questionnaire – but clearly it was not possible to observe what their situation would have been had they not had the opportunity to participate in this project. In any evaluation, this 'counterfactual' situation cannot be directly observed, it can only be estimated.

In the evaluation of programmes that involve a large number of units (whether individuals, households, or communities), common practice is to make a comparison between units that were subject to the programme and units that were not. As long as the two groups can be assumed to be similar in all respects except for the implementation of the specific programme, observing the situation of units where the programme was not implemented can provide a good estimate of the counterfactual.

An ideal approach to an evaluation such as this is to select the units in which the programme will be implemented at random. Random selection minimises the probability of there being systematic differences between the programme and non-programme units, and so maximises the confidence that any differences in outcome are due to the effects of the programme.

In the case of project examined in this Effectiveness Review, the unit at which the programme was implemented was the village: within each of the project areas, specific villages were selected for a women's group to be established and for the other activities to be implemented, while other villages were not selected. The selection of villages was not made at random; in fact, activities were started in Kotido sub-county and then expanded to other sub-counties. However, discussions with the implementation staff revealed that there were, in fact, more villages that were considered suitable for implementation than could actually be covered by the project. This allowed a 'quasi-experimental' evaluation design to be adopted, in which the situation of households in those non-implementation villages was assumed to provide a reasonable counterfactual for the situation of households in the implementation villages.

To improve the confidence in making this comparison, women in the project villages were 'matched' with women with similar characteristics in the non-project (or 'comparison') villages. Matching was performed on the basis of a variety of characteristics – including household size, ethnicity, education level, productive activities, and indicators of material well-being, such as housing conditions and ownership of assets. Since some of these characteristics may have been affected by the project itself (particularly those relating to productive activities and wealth indicators), matching needed to be performed on the basis of these indicators *before* the implementation of the project. Since baseline data were not available, survey respondents were asked to recall some basic information about their household's situation from 2010, before the project was implemented. Although this recall data is unlikely to be completely accurate, it should not lead to significant bias in the estimates as long as measurement errors due to the recall data are not significantly different for respondents in the intervention and comparison groups.

The survey data provided a large number of individual and household characteristics on which matching could be carried out. Matching was based on a 'propensity score',

which represented the conditional probability of the women being in an intervention village, given particular background variables or observable characteristics. Women in the project and comparison villages were matched based on their having propensity scores within certain ranges. Tests were carried out after matching to assess whether the distributions of each characteristic were similar between the two groups. Details on the validity of the propensity-score matching procedure are reported in Appendix 3.

As an additional check on the validity of the results derived from the propensity-score matching procedure, results were also estimated using multivariate regression models. Like propensity-score matching, multivariate regression also controls for measured differences between intervention and comparison groups, but it does so by isolating the variation in the outcome variable explained by being in the intervention group after the effects of other explanatory variables have been accounted for. Appendix 4 provides estimates for the robustness checks.

It should be noted that both propensity-score matching and multivariate regression rely on the assumption that the 'observed' characteristics (those that are collected in the survey and controlled for in the analysis) capture all of the relevant differences between the two groups. If there are 'unobserved' differences between the groups, then estimates of outcomes derived from them may be misleading. Unobserved differences between the groups could potentially include differences in attitudes or motivation (particularly important when individuals have taken the initiative to participate in a project), differences in community leadership, or local-level differences in weather or other contextual conditions faced by households. The choice of which intervention and comparison villages to survey for this Effectiveness Review was made principally to minimise the potential for any such unobservable differences to bias the results.

4 DATA

4.1 SELECTION OF INTERVENTION AND COMPARISON VILLAGES

The first stage in identifying an appropriate comparison group for a quasi-experimental evaluation is to understand the process by which participants were selected. The project was implemented in two districts within Karamoja region: Kaabong and Kotido. Given logistical and budget constraints, Kaabong district was not reachable for conducting household surveys; therefore the evaluation is representative only for the activities implemented in Kotido district.

Kotido district is composed of five sub-countries: Kacheri, Kotido, Nakapelimoru, Panyangara, and Rengen, and one town council Kotido town. The project started in 2011 implementing activities only in Kotido sub-county. The project formed 10 women's groups and implemented project activities using the GALS methodology (previously described under objective 1) only within Kotido sub-county. Subsequently, project activities under objective 2 were then rolled out into Kotido sub-county as well as in Kacheri, Rengen, Panyangara. It should be noted that activities implemented under objective 1 have not been scaled up in the other sub-counties and only remained in Kotido sub-county.

In conclusion, within Kotido district the only sub-county where the project has not been rolled out is Nakapelimoru, while Kotido sub-county received activities conducted under objective 1 and objective 2 and Kacheri, Rengen and Panyangara received only objective 2 activities.

In order to assess the impact of the project, three groups were identified:

The first group (Group 1) consisted in a stratified random sample of women involved in the 10 women's groups where GALS and other women's economic activities were implemented by the project in Kotido sub-county. Within each of the 10 women's groups, 19 respondents were randomly selected for interview, giving a total of 185 women interviewed.

The second group (Group 2) consisted of a sample of women living in villages where violence against women activities were carried out under objective 2. These activities were implemented in four sub-counties in Kotido district (Kacheri, Rengen, Panyangara and Kotido). Kotido sub-county was excluded from the sample because it was already captured in Group 1 and Kacheri was also excluded for logistical reasons due to its distance and difficulties in reaching it during the data collection process. Four out of nine parishes were randomly selected within Rengen and Panyangara sub-counties, giving a total of 185 women interviewed.

Finally a comparison group of women not exposed to project activities was identified within Nakapelimoru sub-county. Nakapelimoru consists of 20 villages; from each village 19 women were randomly selected giving a total of 380 women.

Comparing women in Group 1 with women in the comparison group provides information on the impact of WEE activities. Comparing Group 2 with the comparison group provides information on the impact of VAW activities. Finally the overall project is assessed by merging Group 1 and Group 2 and comparing with the comparison group.

Neighbouring sub-counties outside Kotido district were also considered for potential comparison sites, but they have been excluded given that the socioeconomic characteristics of the population living in those areas differed significantly from the population of Kotido district.

4.2 SAMPLING OF RESPONDENTS

Group 1 aimed to capture information from project participants that have been involved in WEE activities, providing women with training, tools and access to credit using the GALS methodology. Group 1 was created by a stratified random sample of project participants involved in the 10 women's groups in Kotido sub-county supported by the project. Within each Group 18 or 19 women were randomly selected to be interviewed, giving a total sample of 185 women.

As described in Section 4.1, Rengen and Panyangara sub-counties were selected for sampling women involved in VAW activities. Within the sub-counties of Rengen and Panyangara, we randomly selected four out of nine parishes where Oxfam worked in partnership with the Church of Uganda, who conducted project activities with local change makers. The selected parishes were Kotyang, Nakwakwa and Lopuyo in Rengen sub-county and Loletio in Panyangara sub-county. Within these parishes, Oxfam worked with a total of 17 change makers. The enumerators interviewed the change maker directly if she was woman, or the spouse if the selected change maker was man. As previously described, the change makers received training on gender equality and problems associated with domestic violence against women and were also supposed to engage with other members of their village encouraging them to change their behaviour. For this reason the enumerators obtained from the change makers a list of 10 other people to whom the change maker talked about the messages promulgated by the project intervention. In cases where the change maker talked to men, the interview was conducted with one of the wives.[1] The total sample size for Group 2 is 187 women.

It should be noted that the sampling approach allows the investigation of only one type of intervention, which is the one relying on change makers in communities. However, it may be possible that the same women involved in the change maker intervention were also involved in other violence-against-women activities. In any case, more qualitative work should be conducted in order to evaluate the impact of other interventions, such as awareness-raising sessions in schools on violence against women. It is therefore possible that the evaluation may be underestimating the impact of VAW activities conducted under objective 2.

Finally the comparison group was composed of women who had never received support from Oxfam interventions. These were located within Nakapelimoru sub-county. Enumerators interviewed 19 women from each village, selected by a random process that consisted of spinning a pen from the centre of the village and following the direction of the pen. The total sample for the comparison group was 380 women.

Table 4.1 shows the total number of project women benefitting from the project and interviewed within the intervention and comparison groups.

Table 4.1: Numbers of intervention and comparison villages and sample sizes

Treatment/ Comparison	Sub-county	Number of supported women with WEE activities	Number of women involved in sensitisation activities with change makers (number of change makers)	Total sample size
Group 1	Kotido	400		**185**
Group 2	Rengen	n/a	590 (38)	**187**
	Panyangara	n/a		
Comparison	Nakapelimoru	n/a	n/a	**380**
Total		**1600**		**752**

4.3 ANALYSIS OF BASELINE CHARACTERISTICS

Women in project and comparison villages were compared in terms of their demographic characteristics and economic activities in 2010. These data are based on information recalled by respondents in all groups during the survey questionnaire or reconstructed from the household composition at the time of the survey.

The full comparison is shown in Appendix 2. Some important differences were found between women in project and comparison villages. For example:

- women participating into the project were more likely to have some primary education compared with women in the neighbouring sub-county
- women participating in the project were more likely to already participate in other existing groups
- women who participated in the project presented on average, higher levels of material wealth compared with the women in the comparison group
- women who participated in the project were more likely on average, to receive rent from property and be more involved in income-generating activities.

These differences, which existed before the project, have the potential to bias any comparison of the project's outcomes between the project and comparison villages. It was therefore important to control for these baseline differences when making such comparisons. As described in Section 3, the main approach used in this evaluation to control for the baseline differences was propensity-score matching (PSM). The full details of the matching procedure applied are described in Appendix 3. After matching, women in the project and comparison villages were reasonably well-balanced in terms of the recalled baseline data, with few significant differences between them. However, not all of the women interviewed in the project villages could be matched, and because of this 22 of the 371 women surveyed in Groups 1 and 2 were dropped from the analysis. The reasons for and consequences of this decision are described more in detail in Appendix 3.

5 RESULTS

5.1 INTRODUCTION

This report is intended to be free from excessive technical jargon, with more detailed technical information being restricted to the appendices and footnotes. However, there are some statistical concepts that cannot be avoided in discussing the results. In this report, results will usually be stated as the average difference between women who participated in project activities (the 'intervention group') and the matched women in villages where the project was not implemented (the 'comparison group').

This section presents a comparison between the households interviewed in project and comparison villages in terms of various outcome measures relating to the project. The results are shown after correcting for baseline differences between the women interviewed in the project villages (the 'intervention group') and the women in comparison villages using a propensity-score matching (PSM) procedure. The details of this procedure are discussed in Appendix 3. All outcomes have also been tested for robustness to alternative statistical models. Where those alternative models produce markedly different results from those shown in the tables in this section, this is discussed in the text or in footnotes.

The results presented in this section provide estimates of the impact of the project for:
- the entire project; comparing overall sample of women involved in the project (Group 1 + Group 2) with the matched comparison group
- the project's WEE activities; comparing Group 1 (composed of a random sample of women involved in WEE activities) with a matched comparison group
- the project's VAW activities; comparing Group 2 (composed of a sample of women identified within the network of change makers) with a matched comparison group.

In the tables of results on the following pages, statistical significance is indicated with asterisks. Three asterisks (***) indicate a p-value of less than 10 per cent, two asterisks (**) indicate a p-value of less than 5 per cent and one asterisk (*) indicates a p-value of less than 1 per cent. The higher the p-value, the less confident we are that the measured estimate reflects the true impact. Results with a p-value of more than 10 per cent are not considered to be statistically significant.

5.2 INVOLVEMENT IN PROJECT ACTIVITIES

Before considering the project's effect on outcomes, it is important to examine whether the respondents report having participated in the activities implemented under this project.

As presented in Section 2, the project provided training to women and their partners on a range of activities. Figure 5.1 compares women in the three groups that reported receiving training on different topics. Almost 75 per cent of the respondent in the sample of women involved in project's WEE activities reported having received training on crop, compared with roughly 60 per cent in the women sampled in Group 2 and 55 per cent in the comparison group. These differences appear even bigger when considering training on women's leadership. More than 60 per cent of the women in

Group 1 reported having received training on women's leadership, compared with less than 20 per cent in the comparison group. There appears to be not much difference between the three groups on the proportion of women who received training on family planning and health. It is possible that there are other organisations promoting family planning and health training in the region. It is important to take into account these findings when interpreting indicators that are likely to be influenced by these other activities.

Figure 5.1: Respondent receiving training
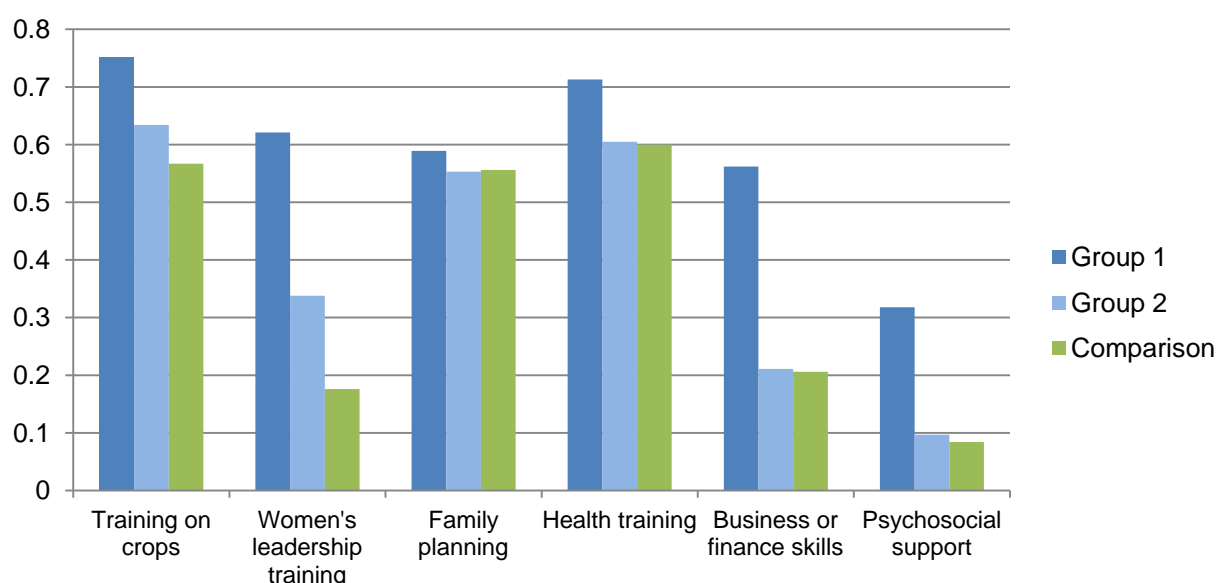
The project also provided inputs to improve agricultural activities, such as seeds, hoes, pangas, etc; and inputs for improving business activities, such as cash, raw material and equipment. Figure 5.2 shows the proportion of women in the three groups identified in our sample who reported having received external support on inputs for improving agricultural and business activities since 2010. Almost all women participating in WEE activities reported receiving inputs for agricultural activity, with roughly only 70 per cent of women in the other two groups reporting having received support for agricultural activity, mainly from other NGOs.

The difference in proportions between the three groups is much bigger when comparing women who received inputs for improving business activities. While more than 70 per cent of the sampled women participating in the WEE activities reported having received inputs for improving business, less than 15 per cent reported having received any support in the comparison groups.

Figure 5.2: Proportion of households that received inputs for agricultural or business improvement
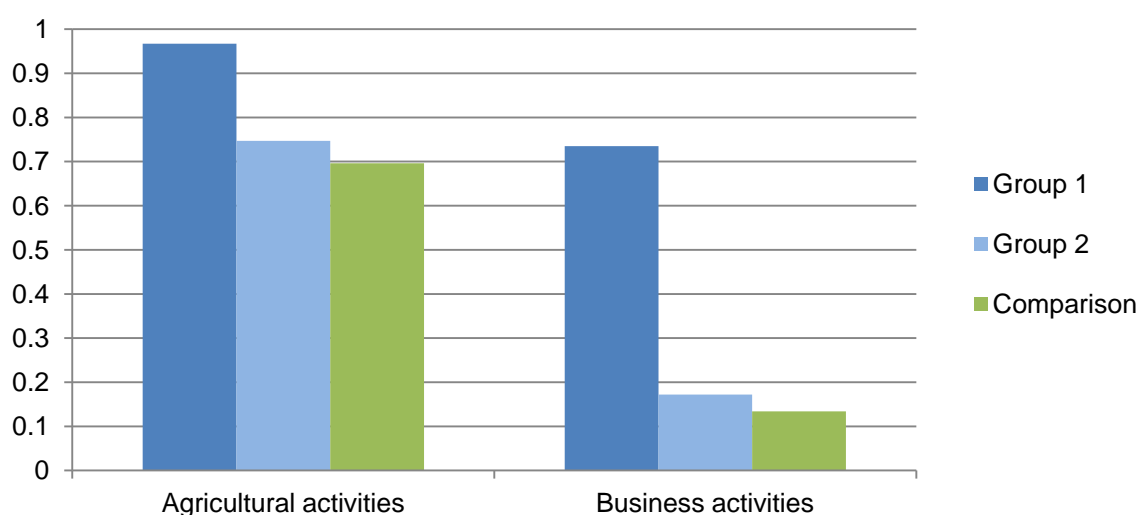
The final line of project intervention is working with the change makers who have been trained in order to convey messages on gender equity within their villages. Figure 5.3 reports the proportion of women in the three groups who reported having heard anything from other people from the same village from a list of thematic areas, including women's economic role, women's rights, domestic violence, violence against women and children's rights. Given the project design, we would expect that in both Group 1 and Group 2 women would report higher levels of peer-network engagement on topics related to gender equality. On average, almost 90 per cent of the women in Group 1 had heard someone from her village talking about domestic violence, compared with slightly more than 70 per cent in Group 2 and roughly 60 per cent in the comparison group. This difference increases when considering women's economic role and women's rights, where roughly 85 per cent of women in Group 1 reporting hearing someone in her village talking about these thematic areas, compared with 60 per cent in Group 2 and less than 50 per cent in the comparison group.

Figure 5.3: Proportion of women who heard anything on selected thematic areas
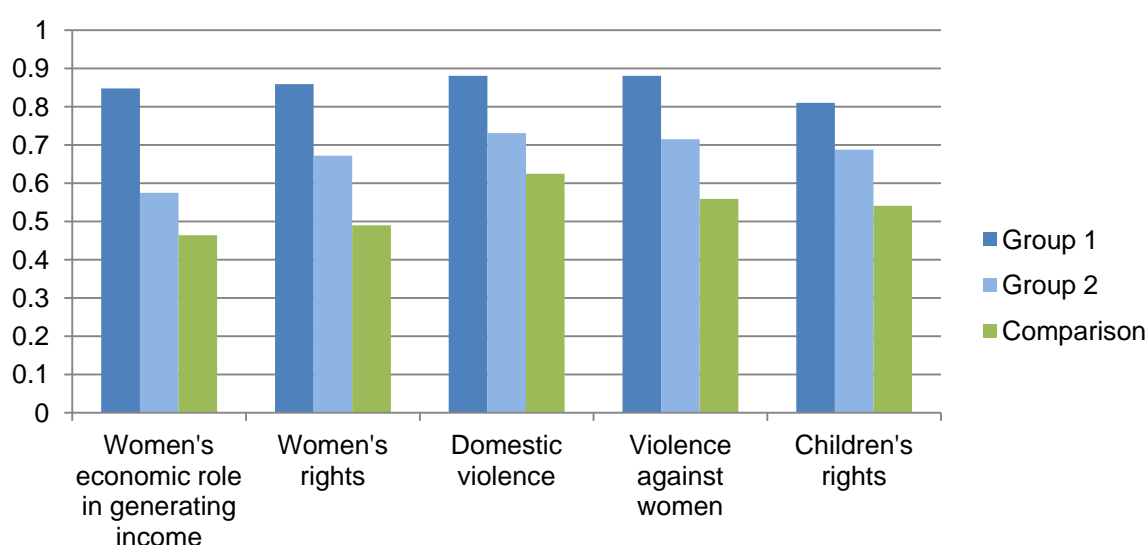
5.3 ANALYSIS OF OUTCOMES

This section will examine the differences between the women in the communities where the project was implemented and women in the comparison communities, in terms of outcome measures examined in the household survey and discussed as part of the project's theory of change in Section 2.

Specifically, the outcomes to be considered are as follows:

- Household wealth
- Women's economic status
- Overall women's empowerment:
    - Women's self-perception and personal change
    - Women's personal freedom
    - Women's access to and control over resources
    - Women's ability to take decisions and influence
    - Women's support from social network
    - Women's attitude to care work and unpaid work.

5.3.1 Household wealth

Measuring household income directly is problematic. Self-reported measures of total income are generally regarded as unreliable, given the wide variety of endeavours such populations engage in to generate income. Most households were engaged in other livelihood activities; a direct income measure would have to collect detailed information about the contribution of each of these activities to household income.

For these reasons, the survey did not attempt to collect data on total household income directly. An alternative way to consider income is to investigate asset ownership. For this reason, respondents were asked about their ownership of various types of household goods and assets, as well as about the condition of their housing. These data were used to create a wealth index using Cronbach's alpha.[2] A total of 27 assets and other wealth indicators were used to construct the household wealth index, with their inter-item correlations. The wealth indices were then created through applying principal component analysis (PCA) to the selected indicators. PCA is a data reduction technique that narrows in on the variation in household asset ownership, which is assumed to represent wealth status: the more an asset type is correlated with this variation, the more weight it is given.

Table 5.1: Household wealth

	Overall project	WEE activities	VAW activities
	Wealth index	Wealth index	Wealth index
Intervention group mean:	0.244	0.809	-0.254
Comparison group mean:	-0.086	0.143	-0.111
Difference:	0.330*	0.666**	-0.143
	(0.188)	(0.282)	(0.255)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

23

Table 5.1 shows the difference in the wealth index measured between intervention and comparison groups for the whole sample, as well as comparing the WEE group with the comparison group and the VAW group with the comparison group. Estimates suggest that on average, women in the intervention group have an overall material wealth that is higher than women in the comparison group. This difference is positive and statistically significant both when we look at the full sample of women and when focusing only on women involved in WEE activities. On the other hand, there is no statistically significant difference with women involved in VAW activities. This is consistent with the fact that interventions with change makers did not aim to increase material wealth.

5.3.2 Women's economic status

Women involved in WEE activities received material support for improving business activities as well as training. Table 5.2 presents the probability of a woman to being involved in business activities. Column two shows that on average, 88.7 per cent of the sample of women involved in the WEE activities reported participating in business activities, compared with 71.6 percent of the woman in comparison group. This difference of 17 percentage points is statistically significantly different from zero, suggesting that the project had a positive impact in improving the probability for women of being involved in business activities.

Table 5.2: Women's economic status

	Overall project	WEE activities	VAW activities
	1[Women participating in business activities]	1[Women participating in business activities]	1[Women participating in business activities]
Intervention group mean:	0.742	0.887	0.618
Comparison group mean:	0.673	0.716	0.624
Difference:	0.069**	0.171***	-0.006
	(0.035)	(0.038)	(0.047)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

As expected, this difference is not statistically significantly different from zero when comparing the sample of women interviewed in the change-maker's network, who did not receive any support on business activities. Finally, the first column in Table 5.2 suggests that overall, women involved in the project are more likely to participate in business activities compared with women not involved in the project.

5.3.3 Overall measure for women's empowerment

The project under review was specifically aimed at increasing women's empowerment. In order to assess a multi-dimensional concept, such as women's empowerment, Oxfam GB has adopted and adapted an approach that assesses several dimensions. This approach builds on the 'Women's Empowerment in Agriculture Index'[3] (WEAI) developed by the Oxford Poverty and Human Development Initiative (OPHI) with support from the United States Agency for International Development (USAID) and the International Food Policy Research Institute (IFPRI).

Figure 5.4: Key dimensions of women's empowerment

Self-perception & Personal Change | Personal Freedom | Access to & Control over resources | Decisions & Influence | Collective process (Support from Social Networks) | Care and unpaid work
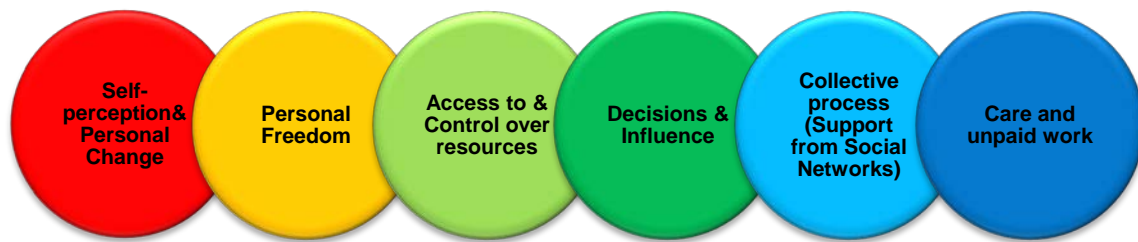
Using the WEAI approach, the index used in this Effectiveness Review assesses **six dimensions of women's empowerment**. Several indicators have been specified for each of these six dimensions. There is no one generic set of 'women's empowerment' characteristics that are applicable to all contexts. Given this, efforts were made to specify characteristics relevant to the specific area where the survey was carried out through a workshop conducted with a range of project stakeholders, including Oxfam staff, partner organisations and local consultant experts in the area. The six dimensions and the 26 characteristics identified are listed in Table 5.3. It is important to note at this stage that while not all characteristics considered in this Effectiveness Review may be directly linked to the project activities, all are deemed to be important to women's empowerment in this particular context.

Table 5.3: Characteristics of women's empowerment examined in this Effectiveness Review

Dimension	Characteristic
Self-perception & personal change	Self-confidence
	Self-efficacy
	Opinions on women's: • Economic role • Gender rights • Power within the house • Property rights • Freedom of movement
Personal freedom	Personal autonomy
	Attitude to gender-based violence and domestic violence
	Experience of domestic violence
	Knowledge where to go and what to do in the case of violence
Access to & control over resources	Contribution to household income
	Control over household assets
	Access to savings
	Access to credit
Decisions & influence	Control over sexuality
	Involvement in expenditure decisions of the household
	Involvement in investment decisions of the household
	Investment in household-management decisions
	Influence in women's group decision-making
	Influence in community decision-making
Support from Social Network	Participation in groups
	Level of support provided by groups to pursue own initiative
Care and unpaid work	Ability to redistribute burden of care responsibilities
	Attitude towards and awareness of care work
	Women have more time for leisure and socialising

A questionnaire was designed and tested in order to include questions capturing each of the characteristics listed in Table 5.3. For each characteristic, a benchmark was defined, based on what it means for a woman to be fairly reasonably well in relation to the characteristic in question. The particular benchmarks used for each characteristic are described in Appendix 1. Recognising that there is inevitably a degree of arbitrariness in defining such cut-off points, the sections that follow present estimates of the same indicators without cut-off points, explaining in more detail the indicators and dimensions under analysis.

In the sections that follow, we consider how project participants differ from comparison women in each of the women's empowerment characteristics listed in Table 5.3. First, however, we examine how all of the characteristics combine to provide an overall

measure of women's empowerment. The first measure of overall women's empowerment, which was used to derive the following results, is the proportion of characteristics in which the women scored positively, which we define as the *empowerment index.*[4]

Table 5.4 presents the differences between the women surveyed in the project and comparison communities in terms of overall women's empowerment. On average, women involved in WEE activities in Kotido sub-county present levels of empowerment that are higher and statistically significant compared with women in the comparison group. This difference is not significant when comparing women involved only in VAW activities with change makers.

Table 5.4: Overall women's empowerment index

	Overall project	**WEE activities**	**VAW activities**
	Women's empowerment	Women's empowerment	Women's empowerment
Intervention group mean:	0.589	0.618	0.562
Comparison group mean:	0.575	0.576	0.578
Difference:	0.014	0.041***	-0.017
	(0.009)	(0.011)	(0.011)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

The following sections will present more detail on the dimensions and indicators included in the indicator.

Figure 5.5: Results for characteristics of women's empowerment

Personal freedom

Personal freedom

- Personal autonomy
- Attitude to GBV**
- Experiece of domestic violence
- Knowledge of where to go and what to do in case of violence

Access & control over resources

- Contribution to household income
- Control over household assets
- Access to savings***
- Access to credit***

Decisions & influence

- Control over sexuality
- Involvement in expenditure decisions***
- Involvement in investment decisions*
- Involvement in household management decisions
- Influence in women's group decision-making***
- Influence in community decision-making

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive
livelihoods in Karamoja. Effectiveness Review Series 2014–15   29

29

Support from Social Network

- Participation in groups***
- Level of support provided by groups to pursue own initiative

Care and unpaid work

- Ability to redistribute care responsibility*
- Ability to reduce care responsibilities
- Awareness of care work
- Women have more time for leisure and socialising ***

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15   30

30

Self-perception and personal change

This dimension looks at changes taking place at individual level, specifically on opinions and self-perception (self-confidence and self-efficacy).

Self-confidence

The first indicator looks at **self-confidence**. Respondents were asked for the extent to which they agreed or disagreed with the following statements:

- I often do what community group leaders tell me to do even if it is against my interests.
- I often trust community group leaders over decisions concerning my life.

Table 5.5 provides estimates for an indicator looking at self-confidence that counts if the respondent disagrees or strongly disagrees with the first statement and agrees or strongly agrees with the second statement. Estimates from Table 5.5 suggest that the project was successful in increasing the sense of self-confidence among the project participants. Women involved in the project activities reported higher self-confident statements compared with women in the comparison group. This effect is driven by those women involved in WEE activities; however, this difference is no longer statistically significant when looking only at women involved in VAW activities.

Table 5.5: Self-confidence

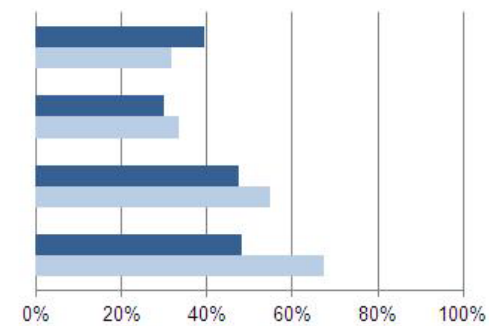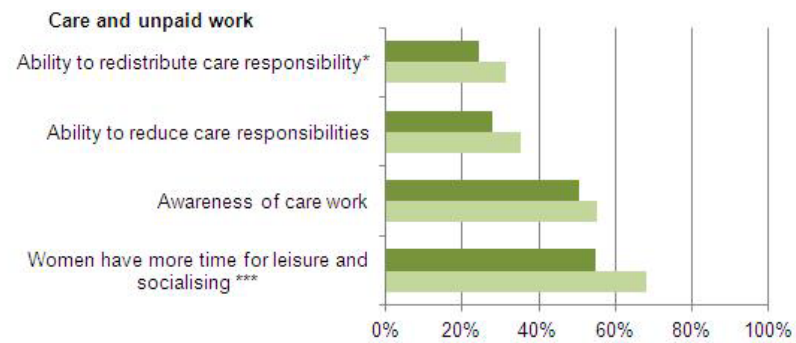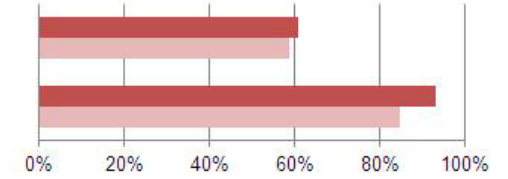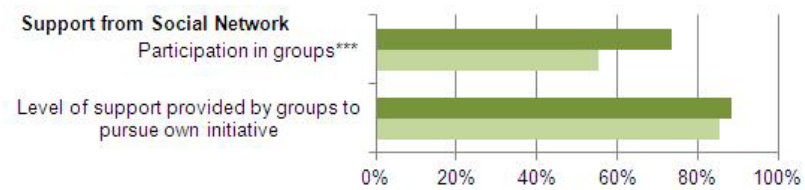|	Overall project	WEE activities	VAW activities
	Self-confidence (number)	Self-confidence (number)	Self-confidence (number)
Intervention group mean:	1.052	1.119	0.978
Comparison group mean:	0.970	0.965	0.969
Difference:	0.082**	0.154***	0.008
	(0.033)	(0.048)	(0.038)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

These results suggest that the project activities implemented on WEE were successful in improving self confidence, while activities implemented on VAW were not successful.

These results seem driven mainly by responses to the first statement, where more than 80 per cent of women in the intervention group reported disagreeing or strongly disagreeing with the statement, compared with only 60 per cent in the matched comparison group.

Self-efficacy

The second indicator is **self-efficacy** – a measure of a person's self-confidence and ability to overcome difficulties. An adapted version of the General Self-Efficacy Scale (GSE) was included in the questionnaire, in which the respondent was asked to state whether the following statements were 'true', 'sometimes true' or 'false':[5]

- You can always manage to solve difficult problems if you try hard enough.
- You are confident that you could deal efficiently with unexpected events.
- If you are in trouble, you can usually think of a solution.
- It would be impossible for you to start up a new business on your own.

Table 5.6 provides estimates on the number of questions in which the respondent provided answers in reflecting high self-efficacy. The intervention group reported on average, 1.7 answers indicating self-efficacy statements, compared with 1.5 in the

comparison group. This difference is statistically significant for the overall project and for the sample of women involved in the VAW group.

Table 5.6: Self-efficacy

	Overall project	WEE activities	VAW activities
	Self-efficacy (number)	Self-efficacy (number)	Self-efficacy (number)
Intervention group mean:	1.724	1.702	1.746
Comparison group mean:	1.496	1.552	1.509
Difference:	0.229**	0.146	0.236*
	(0.110)	(0.141)	(0.137)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Opinions on women's economic role

The first indicator on opinions investigates **women's economic role**. Respondents were asked for the extent to which they agreed or disagreed with the following statements:

- Women are just as capable as men of contributing to household income.
- A man's job is to earn money; a woman's job is to look after the home and family.[6]

A woman scored positively if she agreed or strongly agreed with these statements. Estimates in Table 5.7 suggest that women who participated in WEE activities reported higher positive opinions towards women's economic role, comparable with women in the comparison group. However, this difference does not appear to be present when comparing women in the overall sample, and there seems to be a negative impact if considering only those women involved VAW activities.

Table 5.7: Opinions on women's economic role

	Overall project	WEE activities	VAW activities
	Economic role (number)	Economic role (number)	Economic role (number)
Intervention group mean:	1.189	1.345	1.034
Comparison group mean:	1.118	1.136	1.141
Difference:	0.071	0.209***	-0.107*
	(0.052)	(0.060)	(0.058)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.7 suggests that WEE activities implemented in Kotido sub-county were effective in changing the perception of women's economic role, but the same cannot be said for VAW activities.

Opinions on women's gender rights

The second indicator is **opinions on women's gender rights**. Respondents were asked about the extent to which they agreed or disagreed with the following statements:

- A good marriage is more important for a girl than good education.
- Boys and girls should be given equal opportunities to education.[7]

A woman scored positively on this indicator if she disagreed or strongly disagreed with the first statement and agreed or strongly agreed with the second statement.

Table 5.8: Opinions on women's gender rights

	Overall project	WEE activities	VAW activities
	Gender rights (number)	Gender rights (number)	Gender rights (number)
Intervention group mean:	1.513	1.583	1.449
Comparison group mean:	1.403	1.409	1.398
Difference:	0.110***	0.174***	0.052
	(0.048)	(0.057)	(0.058)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in table 5.8 suggest that on average, there is a statistically significant difference between woman involved in the project and those in the comparison groups. It appears that project interventions had a positive impact on improving opinions on gender rights, particularly among those women who participated in WEE activities. However, this difference is no longer statistically significant when comparing women involved only in VAW activities.

Opinions on women's power within the house

The third indicator is **opinions on power within the house**. Respondents were asked to express the extent to which they agreed or disagreed with the following statements:

- If a woman does not agree with her husband, she should discuss it openly with the husband.
- A wife should never question the decisions made by her husband.[8]

Table 5.9: Opinions on power within the house

	Overall project	WEE activities	VAW activities
	Women's power within the house (number)	Women's power within the house (number)	Women's power within the house (number)
Intervention group mean:	1.232	1.268	1.185
Comparison group mean:	1.226	1.221	1.243
Difference:	0.007	0.047	-0.058
	(0.052)	(0.072)	(0.059)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in Table 5.9 suggest that there are no statistically significant differences between what reported by woman in the intervention group and women in the comparison group. It therefore appears that the project did not have impact on opinions around power within the house.

Opinions on women's freedom of movement

The fourth indicator on opinion is **opinions on freedom of movement**. Respondents were asked the extent to which they agreed or disagreed with the following statement:

- A woman should always seek permission from her husband before participation in community meetings or women's group activities.

The indicator takes a value equal to one if the respondent disagrees or strongly disagrees with the statement above.

Table 5.10: Freedom of movement

	Overall project	WEE activities	VAW activities
	1[Women's freedom of movement]	1[Women's freedom of movement]	1[Women's freedom of movement]
Intervention group mean:	0.453	0.458	0.455
Comparison group mean:	0.400	0.419	0.393
Difference:	0.053	0.039	0.062
	(0.040)	(0.053)	(0.050)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in Table 5.10 suggest that 45 per cent of women in the intervention group disagree with the statement above, compared with 40 per cent in the comparison group. There are no statistically significant differences between woman in the intervention group and those in the comparison group regarding opinions on freedom of movement. These estimates confirm the prevalence of gender-biased beliefs around women's expected behaviour towards their husbands in the area under analysis.

Opinions on women's property rights

The final indicator is **opinions on property rights**. Respondents were asked:

- Would your husband/brother/or other man in your household allow you to own land?
- Would your husband/brother/or other man in your household allow you to own cattle?[9]

Estimates in the second column of Table 5.11 range from 0 to 2 reflecting respondents' opinions on women's property rights. It appears that women involved in women's groups for objective 1 positively answered to the sentences above on average, 0.97 times, compared with 0.67 in the comparison group. This difference is statistically significant at the 1 per cent level, suggesting that the project had a positive impact on changing women's opinions on property rights for women involved in WEE activities. However, estimates in the first column and third columns suggest that this difference is not statistically different between women in the intervention and comparison groups for the overall sample and for women involved in VAW activities.

This provides evidence suggesting that participation in WEE activities had impact on opinions about woman's property rights.

Table 5.11: Property rights

	Overall project	WEE activities	VAW activities
	Women's property rights (number)	Women's property rights (number)	Women's property rights (number)
Intervention group mean:	0.819	0.964	0.685
Comparison group mean:	0.708	0.670	0.740
Difference:	0.111	0.294***	-0.055
	(0.071)	(0.096)	(0.086)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Personal freedom

This dimension looks at characteristics of personal freedom, and mental and physical violence, and how these characteristics were affected by the project intervention.

Personal autonomy

The first characteristic considered under this dimension is the degree of **autonomy** the respondent has in her movements and participation in activities outside the home. To assess this, respondents were asked who would take the decision about whether they could travel to visit relatives outside the community, and whether they could participate in community group activities or meetings. A woman is considered empowered if she reports taking the decision solely or jointly with her husband or anther household member for in both actions. Estimates in Table 5.12 report the proportion in which women report positive indicators on personal autonomy.

Table 5.12: Personal autonomy

	Overall project	WEE activities	VAW activities
	Personal autonomy (proportion)	Personal autonomy (proportion)	Personal autonomy (proportion)
Intervention group mean:	0.908	0.908	0.913
Comparison group mean:	0.899	0.914	0.892
Difference:	0.009	-0.006	0.020
	(0.019)	(0.024)	(0.024)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

As reported in the indicator investigating opinions on women's freedom of movement, it appears that there are no statistically significant differences between intervention and comparison groups, suggesting that the project did not have any impact on this dimension. However, these estimates appear surprisingly high, suggesting that on average, interviewed women take 90 per cent of their decisions jointly with their husbands.

Attitude to gender-based violence and domestic violence

The second indicator on personal freedom investigates the **acceptability of gender-based violence**. Specifically, women were asked whether they believe it is acceptable for a man to hit his wife if the following occur:

1. She spends money on things he does not approve of.
2. She goes outside of the home without his permission.
3. He suspects that she has been unfaithful.
4. She refuses to have sex with him.
5. She burns food.
6. She neglects children.
7. She gets drunk.
8. She won't allow the husband to get another wife.
9. He wants to, for any reason at all.

Estimates in Table 5.13 show the number of times that respondents in intervention and comparison households said it is not acceptable for a man to hit his wife. Overall acceptability of domestic violence appears to be very high in all groups. In particular, conditions 3, 6, 7, and 8 appear to be the most common reasons women consider it to be acceptable for a man to hit his wife. The estimates from the overall sample suggest that women in the intervention group said that it is acceptable for a man to hit his wife for on average, 4.7 out of 9 instances, compared with an average of 5.1 out of 9 in the comparison group. This difference, however, is not statistically significantly different from zero. There is also no statistically significant difference between the intervention and comparison groups for the overall sample.

Table 5.13: Attitude gender-based violence

	Overall project	WEE activities	VAW activities
	Violence NOT acceptable (number)	Violence NOT acceptable (number)	Violence NOT acceptable (number)
Intervention group mean:	4.705	5.369	4.118
Comparison group mean:	5.129	5.230	4.974
Difference:	-0.424	0.139	-0.856***
	(0.210)	(0.266)	(0.250)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Women involved in VAW activities report it not being acceptable for a man to hit his wife on average, in 4 out of the 9 listed cases. This represents a statistically significant difference compared with the comparison group.

In order to try to understand what is happening here, Table 5.13b reports estimates for a variable that counts the number of instances in which it is considered to be acceptable for a man to hit his wife. Higher numbers are associated with acceptability of violence. Estimates from the second column suggest that on average, 3 out of 9 statements are acceptable, compared with the comparison group who reported 3.5 statements out of 9 being acceptable. This suggests that the project's activities on WEE were successful in reducing the acceptability of domestic violence.

On the other hand, estimates in the third column suggest that women exposed to VAW activities are on average, more willing to accept domestic violence than women in the comparison group, confirming what is shown in Table 5.13. Additional research should be conducted to aid understanding of the reasons for this outcome.

Table 5.13b: Attitude towards gender-based violence

	Overall project	WEE activities	VAW activities
	Violence acceptable (number)	Violence acceptable (number)	Violence acceptable (number)
Intervention group mean:	3.871	3.089	4.573
Comparison group mean:	3.568	3.516	3.727
Difference:	0.303	-0.426*	0.846***
	(0.196)	(0.240)	(0.245)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Experience of violence

This indicator looks at **experience of violence**. It is designed to capture reports of violence in its three major components: psychological, physical and sexual. Respondents were asked if, in the last 12 months, anyone did any of the following:

- Say or do something to humiliate you in front of others.
- Threaten to hurt or harm you or someone you care about.
- Insult you or make you feel bad about yourself.
- Push you, shake you, slap you or throw something.
- Twist your arm or pull your hair.
- Punch you with their fist or with something that could hurt you.
- Kick you, drag you, or beat you up.
- Try to choke you or burn you on purpose.
- Threaten or attack you with a knife, gun, or other weapon.
- Physically force you to have sexual intercourse or perform any other sexual acts you did not want.

The indicator takes a value equal to one if the respondent reports not being exposed in the last 12 months to any of the listed forms of violence.

In order to minimise the risk of underreporting, incorrect answers, and physical exposure of the respondents, enumerators were instructed to ask these questions only if no one else was nearby. In addition, all enumerators were women in order to encourage respondents to answer more freely.

Table 5.14: Experience of violence

	Overall project	WEE activities	VAW activities
	1[Experience of violence in the last 12 months]	1[Experience of violence in the last 12 months]	1[Experience of violence in the last 12 months]
Intervention group mean:	0.441	0.440	0.444
Comparison group mean:	0.483	0.452	0.475
Difference:	-0.042	-0.012	-0.031
	(0.040)	(0.051)	(0.049)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in Table 5.14 suggests that on average, 44 per cent of the women in the intervention group reported having experienced some sort of physical, mental, or sexual violence, compared with 48 per cent in the comparison group. This difference represents a reduction in violence, which is consistent in the three groups, but is not statistically significant.

Knowledge of where to go and what to do in the case of violence

This indicator investigates if the respondent is aware **of where she would go for help** in the case of violence. Estimates in Table 5.15 suggest that more than 91 per cent of the women involved in the project activities reported knowing where to go in the case of violence, compared with 89 per cent of women in the comparison group. These are high levels and the differences are not statistically significantly different from zero for the overall sample, but there is a positive and statistically significant increase for the women involved in VAW activities.

Table 5.15: Knowledge of where to go in the case of violence

	Overall project	WEE activities	VAW activities
	1[Knowledge where to go and what to do in the case of violence]	1[Knowledge where to go and what to do in the case of violence]	1[Knowledge where to go and what to do in the case of violence]
Intervention group mean:	0.911	0.869	0.955
Comparison group mean:	0.886	0.901	0.887
Difference:	0.025	-0.032	0.068***
	(0.024)	(0.033)	(0.024)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * $p<0.1$, ** $p<0.05$, *** $p<0.01$. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Results from the entire sample suggest that 42 per cent of the respondents would go to the police for initial help followed by 35 per cent who would go to LC1.

Access to and control over resources

This dimension refers to what extent women are able to access and control over independent income, assets, credit and savings.

Contribution to household income

The first indicator considers the extent to which a woman **contributes to household income**. To assess this, respondents were asked to estimate the proportion of household needs, such as food and money, which they personally contribute to the household.

The first column in Tables 5.16, 5.17 and 5.18 provide estimates for the average difference between income contribution at the time of the survey in 2014 and in 2010. This indicator takes positive values when personal contribution to household income increases, and is negative otherwise, varying between +10 and -10. The second column provides estimates of the proportion of personal contribution to total household income in 2014, varying from zero to 10.

Table 5.16: Personal income – overall

	Overall project	
	1[Respondent's contribution to income increased since 2010]	Contribution to the household's income
Intervention group mean:	0.676	5.287
Comparison group mean:	0.644	5.081
Difference:	0.033	0.205
	(0.039)	(0.157)
Observations intervention group:	349	349
Observations:	728	728

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.17: Personal income – WEE

	WEE activities	
	1[Respondent's contribution to income increased since 2010]	Contribution to the household's income
Intervention group mean:	0.750	5.280
Comparison group mean:	0.663	5.103
Difference:	0.087*	0.177
	(0.046)	(0.187)
Observations intervention group:	168	168
Observations:	547	547

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.18: Personal income – VAW

	VAW activities	
	1[Respondent's contribution to income increased since 2010]	Contribution to the household's income
Intervention group mean:	0.607	5.326
Comparison group mean:	0.620	5.188
Difference:	-0.013	0.138
	(0.046)	(0.199)
Observations intervention group:	178	178
Observations:	552	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in Table 5.17 suggest that women involved in the project's WEE activities increased the proportion of independent income they contributed to the household at a statistically significant level. However, as expected, these differences are not statistically significant for woman involved VAW activities as economic activities were not part of the intended benefits under this project. In addition, overall this difference is not statistically significantly different from zero.

Control over household assets

The second characteristic examined under this dimension was women's **ownership and control over strategic assets**, such as land, livestock and agricultural equipment. Respondents were asked about their household's ownership of various types of asset. As a follow-up to these questions, they were then asked to specify which household member could make decisions about whether to sell, trade or give away an item if the need arose. This information was used to examine which types of asset women themselves have access to. Estimates in Table 5.19 report the average proportion of assets owned by the household in which the respondent reported ownership and control.

Table 5.19: Control over household assets

	Overall project	WEE activities	VAW activities
	Control over household assets (proportion)	Control over household assets (proportion)	Control over household assets *(proportion)*
Intervention group mean:	0.637	0.664	0.616
Comparison group mean:	0.678	0.689	0.680
Difference:	-0.041*	-0.025	-0.064**
	(0.022)	(0.028)	(0.028)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

In the overall sample, women in the intervention group reported on average having ownership of 63 per cent of the items owned by the household, compared with women in the comparison group who reported owning on average 67 per cent of the household assets. This difference of four percentage points was found to be borderline statistically significantly different from zero.

When comparing with interviewed women involved in WEE activities, this difference decreases. It is puzzling why there seems to be a negative and statistically significant difference between intervention women involved in VAW activities and comparison women.

Access to savings

The third indicator looks at **access to savings**. Respondents were asked if they had personally saved any money during the previous month using a variety of methods, such as cash at home; giving money to friends or neighbours; depositing with self-help groups; depositing in a Village Saving and Loan Association (VSLA); depositing with bank or microfinance institution; or any other method.

Table 5.20 reports estimates of the proportion of women in the intervention and comparison groups who reported personally saving with at least one channel in the previous month. On average, 61 per cent of the women in the comparison group reported having saved money during the last month, compared with more than 75 per cent of the women in the intervention group in the overall sample.

Table 5.20: Access to savings

	Overall project	WEE activities	VAW activities
	1[Access to savings]	1[Access to savings]	1[Access to savings]
Intervention group mean:	0.759	0.952	0.584
Comparison group mean:	0.616	0.610	0.627
Difference:	0.143***	0.342***	-0.043
	(0.037)	(0.037)	(0.046)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

These estimates are even higher when we restrict our analysis to the WEE approach group only, where almost 95 per cent of the women reported having saved during the previous month, suggesting a strong and positive impact on savings.

Access to credit

The fourth indicator is investigating **access to credit**. The questionnaire investigated whether the respondents had borrowed any money in the previous 12 months, and whether they would have been able to access credit. Respondents were asked if they would be able to borrow 100,000 Ugandan shillings (approximately 21 pounds sterling) to invest in a business opportunity from a list of different sources ranging from formal to informal credit.

Table 5.21: Access to credit

	Overall project	WEE activities	VAW activities
	1[Access to credit]	1[Access to credit]	1[Access to credit]
Intervention group mean:	0.891	0.970	0.815
Comparison group mean:	0.788	0.795	0.804
Difference:	0.103***	0.175***	0.011
	(0.029)	(0.031)	(0.035)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Estimates in Table 5.21 suggests that 97 per cent of the women involved in project activities for WEE would be able to access to credit compared with less than 80 per cent in the comparison group. This suggests that the project also had a positive impact on access to credit.

Decision and influence

This dimension refers to the process of developing the ability to negotiate and influence the nature of a relationship. It is a relational dimension measuring decision-making interactions at household level on expenditure, investment and management; decision making over sexual activity in households; and decision-making interactions and influence at women's group and community levels.

Involvement in decisions at household level

The results regarding women's decision-making power in the household are based on questions in the survey that addressed household decision-making in three different areas, specifically:

- **Decisions on productive activities**: Decisions relating to the conduct of a household's farming activities (e.g. type of crops to grow), to household businesses (e.g. how the business is managed, how many days to work, etc.) and to the sales or purchases of agricultural and non-agricultural produce/assets.
- **Decisions on household's expenditure**: Decisions over how the money earned from various agricultural and non-agricultural activities is spent.
- **Decisions on household management**: Decisions over general household management issues, such as participation in or contribution to community events (e.g. weddings, funerals), decisions about the education of children and how to respond when a household member becomes ill.

For each of these decision-making areas, the respondent was first asked who normally takes the decisions about that area (if it was applicable to the household), and to what extent she thinks she could influence the decision if she reported not to being the one responsible for taking the decision. A woman was considered involved in household decision-making if she reported taking the decision herself or being able to influence the decision to a large extent.

Tables 5.22, 5.23 and 5.24 provide estimates of the proportion of decisions in which women from intervention and comparison groups are able to influence the decision taken. Women in the comparison group appear to be involved, on average, in a larger proportion of decisions concerning productive activities and household expenditure, while there seems to be no statistically significant difference on decisions on household management.

Table 5.22: Involvement in household decision-making – overall

	Overall project		
	Decisions on productive activities (proportion)	Decisions on HH's expenditures (proportion)	Decisions on HH's management (proportion)
Intervention group mean:	0.206	0.433	0.120
Comparison group mean:	0.272	0.596	0.130
Difference:	-0.066*	-0.163***	-0.010
	(0.034)	(0.039)	(0.026)
Observations intervention group:	349	349	349
Observations:	728	728	728

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.23: Involvement in household decision making – WEE

	WEE activities		
	Decisions on productive activities proportion	Decisions on HH's expenditures proportion	Decisions on HH's management proportion
Intervention group mean:	0.235	0.250	0.148
Comparison group mean:	0.314	0.415	0.150
Difference:	-0.079***	-0.165***	-0.002
	(0.028)	(0.040)	(0.027)
Observations intervention group:	168	168	168
Observations:	547	547	547

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.24: Involvement in household decision making – VAW

	VAW activities		
	Decisions on productive activities proportion	Decisions on HH's expenditures proportion	Decisions on HH's management proportion
Intervention group mean:	0.303	0.381	0.135
Comparison group mean:	0.323	0.425	0.178
Difference:	-0.020	-0.044	-0.043
	(0.027)	(0.040)	(0.026)
Observations intervention group:	178	178	178
Observations:	552	552	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Control over sexuality

The same structure was used for investigating who has the decision-making power on decisions about when to have sex. A woman scores positively on this indicator if she is able to influence the decision at least to some extent.

Table 5.25 provides estimates of the proportion of respondents in the intervention and comparison area who reported having control over her sexual behavioural choices. On average, in the overall sample, 29.5 per cent of the woman in the intervention group

reported having decision-making power over when to have sex, compared with 28.9 per cent of the women in the comparison group.

Table 5.25: Control over sexuality

	Overall project	WEE activities	VAW activities
	1[Control over sexuality]	1[Control over sexuality]	1[Control over sexuality]
Intervention group mean:	0.295	0.345	0.236
Comparison group mean:	0.289	0.285	0.282
Difference:	0.006	0.060	-0.046
	(0.036)	(0.048)	(0.042)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

These estimates suggest that there is no difference between intervention and comparison group on control over sexuality.

Influence in group decision-making

The indicator regarding **influence in group decision-making** is based on survey questions about women's degree of involvement in making important decisions in the following groups:

1. Women's associations.
2. Credit or microfinance groups.
3. Self-help groups.
4. Community animal health worker associations.
5. Civic groups.
6. Religious groups.
7. Other groups.

Table 5.26 reports estimates on the number of groups in which women in the intervention and comparison groups reported being involved in important decision-making. On average, women in the intervention group reported taking important decisions in almost 1.11 groups, compared with less than 0.7 in the comparison group. This difference is statistically significantly different from zero, suggesting that the project had a positive impact in improving influence in group decision-making. These results are particularly strong for women's associations, credit or microfinance groups, and self-help groups.

Table 5.26: Group decision making

	Overall project	WEE activities	VAW activities
	Influence in women's group decision-making (number)	Influence in women's group decision-making (number)	Influence in women's group decision-making (number)
Intervention group mean:	1.117	1.500	0.730
Comparison group mean:	0.724	0.759	0.752
Difference:	0.391***	0.741***	-0.022
	(0.097)	(0.139)	(0.113)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

An even bigger impact is found when comparing only women involved in WEE activities. We failed to identify a statistically significant difference when comparing women in the VAW group.

Influence in community decision-making

Indicators on **influence in community decision-making** result from asking each survey respondent for the extent to which she agreed or disagreed with the following two statements:
- If a decision was made in a public forum which might negatively affect your life and the lives of your children, you would not hesitate to stand up and protest, despite the possible negative consequences.
- Women are able to influence the important decisions that are taken in this community.

Table 5.27 records estimates of intervention and comparison means for a variable that scores positively if respondents reported to agree or strongly agrees with both of the statements, zero otherwise. Comparing the overall sample it appears that there are no statistically significant differences between woman in the intervention and comparison groups on the probability of influencing community decision-making. Estimates for women involved in VAW activities appear to be positive and significant, but this might be due to the sampling strategy implemented by the evaluation rather than an effect of the project.[10]

Table 5.27: Community decision-making

	Overall project	WEE activities	VAW activities
	1[Influence in community decision-making]	1[Influence in community decision-making]	1[Influence in community decision-making]
Intervention group mean:	0.576	0.488	0.663
Comparison group mean:	0.527	0.517	0.521
Difference:	0.039	-0.029	0.142***
	(0.041)	(0.051)	(0.048)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * $p<0.1$, ** $p<0.05$, *** $p<0.01$. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Support from social network

Participation in groups

In order to estimate participation in groups, each respondent was asked whether she regularly attended meetings of the following group types:
1. Women associations
2. Credit or microfinance groups
3. Self-help groups
4. Community animal health worker associations
5. Civic groups
6. Religious groups
7. Other groups.

Table 5.28 provides estimates on the number of groups the respondents reported to regularly attend. Women in the intervention group reported attending on average 2.7

groups, compared with 2.1 in the comparison group. These estimates suggest that the project had a positive and statistically significant impact on group participation.

Table 5.28: Participation in groups

	Overall project	WEE activities	VAW activities
	Participation in groups (number)	Participation in groups (number)	Participation in groups (number)
Intervention group mean:	2.777	3.345	2.258
Comparison group mean:	2.159	2.220	2.267
Difference:	0.617***	1.125***	-0.009
	(0.135)	(0.194)	(0.153)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

This difference appears to be even bigger when comparing women involved in the WEE group only, while as expected, there is no difference between women in the VAW group and comparison group.

Figure 5.6 provides a breakdown between intervention and comparison groups for women interviewed in Group 1. Unsurprisingly women involved in WEE activities are significantly more involved in women's group associations and credit and microfinance groups.

Figure 5.6: Group attendance (for Group 1 only)
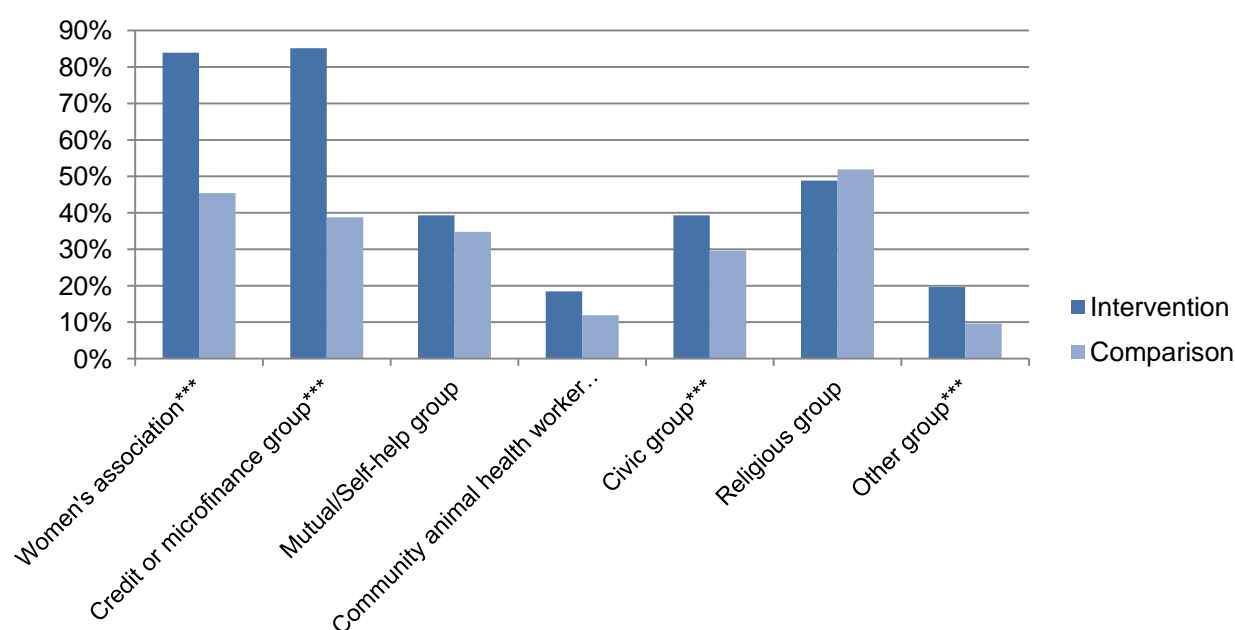
Level of support provided by groups to pursue own initiative

Indicators on the perceived level of **support provided by groups** were captured by asking respondents to what extent they agreed or disagreed with the following statements:

- I feel that I have good relations with people in my social network.
- If I want, I feel comfortable asking my neighbours for assistance.

Table 5.29 provides estimates on a variable taking a value equal to one if the respondent agreed to both sentences, zero otherwise. It appears that there are no differences between intervention and comparison groups regarding this indicator in the group of women involved in the WEE activities and overall sample. But there appears to be a positive and statistically significant difference between intervention and comparison groups when investigating women in VAW activities.

Table 5.29: Support provided by groups

	Overall project	WEE activities	VAW activities
	1[Support provided by groups to pursue own initiative]	1[Support provided by groups to pursue own initiative]	1[Support provided by groups to pursue own initiative]
Intervention group mean:	0.883	0.839	0.933
Comparison group mean:	0.855	0.877	0.846
Difference:	0.028	-0.037	0.087***
	(0.027)	(0.037)	(0.029)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * $p<0.1$, ** $p<0.05$, *** $p<0.01$. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Care and unpaid work

Ability to reduce care responsibilities

The survey collected indicators on **time devoted to care activities** with the previous 24 hours, and information on whether time spent on care activities had increased or decreased since 2010.

The first column in Tables 5.30, 5.31 and 5.32 provides estimates of the number of hours a woman reported having spent on care activities, such as being responsible for the care of children, the elderly, or other household members; fetching water; fetching wood; cooking; cleaning the house; and washing clothes in the last 24 hours. On average, women reported 15 hours of care work, when combining these activities, but there are no statistically significant differences between intervention and comparison groups.

The second column in Tables 5.30, 5.31 and 5.32 provides estimates on the number of hours the respondent reported being responsible for the care of children, the elderly or other household members in the previous 24 hours. Estimates in Table 5.30 suggest that, on average, women in the intervention group reported 5 hours of care work per day, compared with 5.5 hours per day in the comparison group. This difference is not statistically significant in the overall sample, WEE group and VAW group.

Estimating the number of hours devoted to a certain activity can be difficult. In order to triangulate the responses provided in the first and second columns, the questionnaire also investigated the self-reported perception of change in time devoted to care.

The third column in Tables 5.30, 5.31 and 5.32 provides estimates of a variable that takes a value equal to one if the respondent herself reported that the time devoted to care activities had decreased for any reason since 2010, zero otherwise. Estimates in Table 5.30 suggest that 35 per cent of women in the comparison group reported their time devoted to care activities had decreased since 2010, compared with 27.8 per cent in the intervention group. This difference of six percentage points is statistically significant at ten per cent.

Table 5.30: Time devoted to care activities – overall

	Overall project		
	Number of hours devoted to household care activities (multiple activities)	Number of hours responsible for care of children, the elderly or other household members	1[Time devoted to care activities has decreased since 2010]
Intervention group mean:	15.206	5.095	0.278
Comparison group mean:	15.115	5.529	0.352
Difference:	0.101	-0.427	-0.073*
	(0.590)	(0.404)	(0.037)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.31: Time to care activities – WEE

	WEE activities		
	Number of hours devoted to household care activities (multiple activities)	Number of hours responsible for care of children, the elderly or other household members	1[Time devoted to care activities has decreased since 2010]
Intervention group mean:	15.177	4.248	0.298
Comparison group mean:	15.350	5.554	0.335
Difference:	-0.174	-1.304	-0.038
	(0.821)	(0.504)	(0.046)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.32: Time to care activities – VAW

	VAW activities		
	Number of hours devoted to household care activities (multiple activities)	Number of hours responsible for care of children, elderly or other household members	1[Time devoted to care activities has decreased since 2010]
Intervention group mean:	15.209	5.820	0.264
Comparison group mean:	14.805	5.661	0.358
Difference:	0.404	0.157	-0.094**
	(0.699)	(0.478)	(0.044)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Ability to redistribute care responsibilities within the household

Indicators on the **redistribution of care responsibilities** with the men of the household were captured by asking the respondents if the time men in the household spent on care activities had increased or decreased since 2010. Care activities are considered to be: responsibility for the care of children, the elderly, or other household members; fetching water; fetching wood; cooking; cleaning the house; washing clothes.

Table 5.33 provides estimates of variables taking a value equal to one if the woman reported that the amount of time that men in the households devoted to care activities had increased since 2010, zero otherwise.

Table 5.33: Redistribute care activities

	Overall project	WEE activities	VAW activities
	1[Men in the household increased time to care activities since 2010]	1[Men in the household increased time to care activities since 2010]	1[Men in the household increased time to care activities since 2010]
Intervention group mean:	0.244	0.393	0.101
Comparison group mean:	0.312	0.316	0.318
Difference:	-0.068**	0.077	-0.216***
	(0.038)	(0.050)	(0.039)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

In the overall sample, on average, 24 per cent of the women in the intervention group reported men in the household increasing their contribution of time devoted to care activities, compared with 31 per cent of the women in the comparison group. Estimates in the third column provide similar results.

However, considering only women in involved in WEE activities gives substantially different results. On average, almost 40 per cent of the women involved in WEE activities reported men in the household increasing time they give to care activities since 2010, compared with 32 per cent of the women in the comparison group. However this difference of eight percentage points is not statistically significant.

Attitude towards and awareness of care work

Attitude towards care work was captured by asking the respondents to what extent they agreed or disagreed with the following statements:

- Husbands should help their wives with housework and looking after children and dependent adults.
- Housework and looking after children and dependent adults requires significant skills.

Table 5.34 provides estimates of the proportion of women who reported to agree or strongly agree to both of these statements in the intervention and comparison groups. These estimates suggest that there are no statistically significant differences between intervention and comparison groups regarding attitude towards care work.

Table 5.34: Awareness toward care work

	Overall project	WEE activities	VAW activities
	1[Attitude and awareness of care work]	1[Attitude and awareness of care work]	1[Attitude and awareness of care work]
Intervention group mean:	0.504	0.476	0.522
Comparison group mean:	0.552	0.549	0.553
Difference:	-0.048	-0.073	-0.031
	(0.040)	(0.053)	(0.048)
Observations intervention group:	349	168	178
Observations:	728	547	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Women have more time for leisure and socialising

The indicator on **time devoted on leisure time** was captured by asking respondents how many hours they had spent on leisure activities in the previous 24 hours. The first column in Tables 5.35, 5.36 and 5.37 reports the average number of hours devoted to leisure and socialising in the previous 24 hours. Estimates suggest that, on average, women in the intervention group report 2.9 hours devoted to leisure and socialising, compared with 3.5 hours in the comparison group in overall sample. These estimates are statistically significantly different from zero, suggesting that women in the intervention group are reporting a significantly lower number of hours devoted to leisure activities compared with the comparison group. Estimates for this difference reach almost one hour per day when comparing women involved in project activities under objective 1.[11]

Table 5.35: Time for leisure and socialising

	Overall project	
	Time devoted to leisure and socialising in the past 24 hours	1[Increased time devoted to leisure and socialising since 2010]
Intervention group mean:	2.957	0.232
Comparison group mean:	3.556	0.314
Difference:	-0.599***	-0.082***
	(0.206)	(0.036)
Observations intervention group:	349	349
Observations:	728	728

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.36: Time for leisure and socialising – WEE

	WEE activities	
	Time devoted to leisure and socializing in the past 24 hours	1[Increased time devoted to leisure and socialising since 2010]
Intervention group mean:	2.619	0.268
Comparison group mean:	3.515	0.302
Difference:	-0.896***	-0.034
	(0.263)	(0.045)
Observations intervention group:	168	168
Observations:	547	547

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

Table 5.37: Time for leisure and socialising – VAW

	VAW activities	
	Time devoted to leisure and socialising in the past 24 hours	1[Increased time devoted to leisure and socialising since 2010]
Intervention group mean:	3.258	0.202
Comparison group mean:	3.534	0.327
Difference:	-0.276	-0.125***
	(0.243)	(0.042)
Observations intervention group:	178	178
Observations:	552	552

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01. PSM estimates are bootstrapped with 1,000 repetitions. All means are calculated after matching.

In order to triangulate this information the questionnaire also asked for self-perception of change over time since the beginning of the project. On average, only 23 per cent of women in the intervention group reported that time devoted to leisure had increased since 2010, compared with more than 30 per cent in the comparison group. This difference is statistically significantly different from zero, suggesting that, on average, women involved in project activities increased their spare time at a lower rate than women in the comparison group.

6 CONCLUSIONS

6.1 CONCLUSIONS

This Effectiveness Review has found and overall positive impact in the measure of women's empowerment associated with the '*Piloting Sensitive Livelihoods in Karamoja*' project. The report has investigated the project activities conducted under the two main objectives of the project:

- Objective 1: Improve the livelihoods of poor women through supporting enterprises.
- Objective 2: Reduce violence against women through creating awareness and influencing attitudes and behavioural change.

In order to achieve the first objective the project worked with 10 women's groups using the Gender Action Learning System approach (GALS) promoting economic, social and political transformation to gender justice. Project participants were equipped with a tool kits to promote savings and investment opportunities and received training in order to increase knowledge about running small enterprises and businesses as well as training on gender relations and women's rights in households and communities.

Survey results provide good evidence that women involved in WEE activities are more likely to be involved in business activities, and present higher levels of overall material wealth than women not involved into the project. Project participants involved in WEE activities also presented higher levels of women's empowerment. In particular, project activities seem to be associated with higher levels of self confidence, and holding positive opinions on women's economic role, gender rights, and property rights, reflecting the fact that training on gender relations and women's rights may be effective in changing women's self perception. On the other hand, there is no evidence of changes on self-efficacy, freedom of movement, personal autonomy and likelihood of experiencing violence. Results on attitudes to gender-based violence are inconclusive, and more qualitative work should be conducted.

The evaluation found that project activities conducted using the WEE activities are associated with higher levels of access to savings and credit, group participation, and group decision-making. The evaluation also found some evidence of an increased proportion of contribution to household income; however, there is no evidence of improved control over household assets or improved influence over household decision-making.

Finally, estimates on time use and care activities suggest that women involved in project's WEE activities are associated with less time devoted to leisure activities, than women not involved into project activities. Despite the training on gender relations the evaluation did not find evidence of different attitudes to care activities or improved ability to redistribute care activities within the household associated with project participation.

In order to achieve the second objective, the project undertook a variety of VAW activities, including recruiting change makers in a number of villages with the intention of them learning about gender equality and domestic violence and then changing attitudes and spreading knowledge in the village. The evaluation did not to find evidence of improved women's empowerment linked to the project's VAW activities. As detailed above, it is important to note that the index used for measuring overall women's empowerment in this evaluation includes a predominance of indicators

associated with women's economic empowerment, and it is perhaps not surprising, therefore, to not find evidence of improvements in overall women's empowerment for the group of women involved in project activities to reduce VAW.

The evaluation found evidence of women's improved knowledge on where to go and what support to seek in the case of violence, as well as higher levels of support provided by groups to pursue their own initiative.

The evaluation also identified some puzzling results concerning attitudes on gender-based violence. Estimates showed a higher acceptability of gender-based violence among women involved in project activities to reduce VAW than among women not involved in any project activities. These estimates should be treated with caution, however, as they may reflect greater willingness to discuss the issue rather than higher acceptability. Estimates also suggest a lower prevalence of experiences of violence among the women that participated in VAW activities compared with women who have never been involved in Oxfam's projects. However, this difference is not statistically significant. More research should be conducted in order to investigate these results.

As expected, the evaluation did not find evidence on contribution to personal income, access to credit and savings, household decision-making and group participation as these were not part of the theory of change of the project activities.

Finally, estimates on time use and care activities suggest that women involved in VAW activities are less likely to report that time devoted to care activities has decreased, and less likely to report that time devoted to care activities for men in the household has increased more than in the comparison group. They are also less likely to report that time devoted to leisure and socialising has decreased since the beginning of the project.

6.2 PROGRAMME LEARNING CONSIDERATIONS

Some important lessons have emerged from the evaluation that can be applied to other projects of this type in Uganda and elsewhere. The Uganda country team and the project team in particular are encouraged to consider the following:

- **Consider a scale up of WEE activities**

This Effectiveness Review provides evidence that WEE activities are associated with positive impact on: household wealth, women's participation in business activities and overall women's empowerment. The country team is encouraged to explore whether and how WEE activities could be scaled up in a sustainable way.

- **Consider integrating activities addressing power within the household**

This evaluation has found that activities implemented on WEE had a positive impact on a number of women's empowerment indicators, including higher contribution by women to household income. However the evaluation did not find evidence of improved decision-making power within the household and control over household assets. Future projects are encouraged in working more explicitly around this area, creating space to sensitise both men and women with regard to shared household decision-making, as well as improving influencing skills and generating confidence in women.

- **Explore the reasons behind lack of impact of activities on violence against women**

This evaluation did not find evidence of improved women's empowerment linked to the project's VAW activities. It was found to have a modest impact on knowledge on where women could go in cases of violence and on higher levels of support from the group to pursue their own initiative. On the other hand, estimates from the survey suggest that

women involved in project's VAW activities presenting higher levels of acceptability of violence against women. For future VAW projects, it is advisable to consider also holistic women's empowerment indicators when developing the project's theory of change.

The programme team is encouraged to consider what are the mechanisms and dynamics behind the VAW component. Particular attention should be paid to identifying the characteristics of the change makers that have been selected, and their motivations in the project.

- **Consider evaluation questions during programme design**

This evaluation identified a positive impact for activities conducted on WEE. In future projects, if there is an interest in exploring impact questions, it is advisable to consider including an impact evaluation framework in the project design.

Evaluation is a key tool for learning, to help projects and programmes succeed and generate evidence of success. When designing a project, the programme team is encouraged to consider and define key evaluative questions that they would like addressed; which components and characteristics of the intervention should be evaluated; and what are the reasons for conducting the evaluation (e.g. influencing, accountability, learning), and to plan sufficient budget, time and resources. Different evaluation designs and methodologies provide different types of evidence with different levels of confidence. For large-scale development interventions, a counterfactual evaluation design will allow the team to consider whether or not changes can be attributed to the project intervention.

APPENDIX 1: THRESHOLDS FOR CHARACTERISTICS OF WOMEN'S EMPOWERMENT

Dimension	Characteristic	Threshold: a woman scores positively if she...	Estimate difference
Self-perception & personal change	Self-confidence	'disagrees' or 'strongly disagrees' with the statement • I often do what community group leaders tell me to do even if it is against my interests. OR if she 'agrees' or 'strongly agrees' with the statement. • I often trust community group leaders over decisions concerning my life.	0.020 (0.022)
	Self-efficacy	'true' or 'sometimes true' in at least half of the following statements: • You can always manage to solve difficult problems if you try hard enough. • You are confident that you could deal efficiently with unexpected events. • If you are in trouble, you can usually think of a solution. • It would be possible for you to start up a new business on your own.	0.073* (0.038)
	Opinions on women's economic role	'agrees' or 'strongly agrees' with the statement: • Women are just as capable as men of contributing to household income. OR if she 'disagrees' or 'strongly disagrees' with the statement: • A man's job is to earn money; a woman's job is to look after the home and family.	0.066** (0.028)
	Opinions on women's gender right	'agrees' on 'strongly disagrees' in the statement • A good marriage is more important for a girl than good education AND 'disagree' or 'strongly disagree' on the second statement • Boys and girls should be given equal opportunities to education	0.082** (0.041)
	Opinions on women's power within the house	'agrees' on 'strongly disagrees' with the statement: • If a women does not agree with her husband, she should discuss it openly with the husband. and 'disagrees' or 'strongly disagrees' with the statement:	-0.017 (0.025)

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

54

Dimension	Characteristic	Threshold: a woman scores positively if she...	Estimate difference
		• A wife should never question the decisions made by her husband.	
	Opinions on women's freedom of movement	'disagrees' or 'strongly disagrees' with the statement: • A woman should always seek permission from her husband before participation in community meetings or women group activities.	0.053 (0.040)
	Opinions on women's property rights	if she 'agrees' or 'strongly agrees' with the statement: • Your husband/brother/or other man in your household would allow you to own cattle.	0.042 (0.039)
Personal freedom	Personal autonomy	reports taking the decision solely or jointly with her husband or another household member in both of the following actions: • Whether you personally can participate in community group activities or meetings. • Whether you personally can travel to visit relatives outside the community.	0.046 (0.032)
	Attitude to gender-based violence and domestic violence	reports it being unacceptable for a man to hit his wife in at least five out of nine cases.	-0.085** (0.039)
	Experience of domestic violence	reports not being exposed in the last 12 months to anyone inflicting any of the following forms of violence: • Saying or doing something to humiliate in front of others • Threatening to hurt or harm you or someone you care about • Insulting you or making you feel bad about yourself • Pushing you, shaking you, slapping you or throw something • Twisting your arm or pulling your hair • Punching you with a fist or with something that could hurt you • Kicking you, dragging you, or beating you up • Trying to choke you or burn you on purpose • Threatening or attacking you with a knife, gun, or other weapon • Physically forcing you to have sexual intercourse or to participate in any other sexual acts you did not want to.	-0.042 (0.040)
	Knowledge where to go and what to do in the case of violence	reports to being aware of where to go in the case of violence.	0.025 (0.024)

Access to & control over resources	Contribution to household income	reports contributing at least half of the household income.	0.042 (0.040)
	Control over household assets	reports having decision-making control solely or jointly with her husband or other household member over at least 75% of the assets the household owns.	0.013 (0.039)
	Access to savings	Reports having saved in the last month.	0.143*** (0.037)
	Access to credit	reports being able to borrow 100,000UGX to invest in a business opportunity.	0.103*** (0.029)
Decisions & influence	Control over sexuality	reports taking the decision herself or being able to influence the decision to a large extent regarding when to have sex.	0.006 (0.036)
	Involvement in expenditure decisions of the household	is able to influence decisions in at least half of the activities relating to how the money earned from various agricultural and non-agricultural activities is spent. A woman is considered able to influence the decision if she reports taking it herself or being able to influence the decision to a large extent.	-0.163*** (0.039)
	Involvement in investment decisions of the household	is able to influence decisions in at least half of the activities relating to the conduct of a household's farming activities (e.g. type of crops household plants), to household businesses (e.g. how the business is managed, how many days to work, etc.) and to the sales or purchases of agricultural and non-agricultural produce/assets. A woman is considered able to influence the decision if she reports taking the decision herself or being able to influence the decision to a large extent.	-0.066* (0.034)
	Investment in household-management decisions	is able to influence decisions in at least half of the activities relating decisions over general household management issues, such as decisions over participation in or contributions to community events (e.g. weddings, funerals), decisions about the education of children and how to respond when a household member becomes ill. A woman is considered able to influence the decision if she reports taking the decision herself or being able to influence the decision to a large extent.	-0.010 (0.026)
	Influence in women's group decision-making	reports being involved to a medium extent or to a large extent in making important decisions in the groups she attends.	0.134*** (0.040)
	Influence in community decision-making	'agrees' or 'strongly agrees' with both of the following statements: • If a decision was made in a public forum which might negatively affect your life and the lives of your children, you would not hesitate to stand up and protest despite the possible negative consequences. • Women are able to influence the important decisions which are taken in this community	0.039 (0.041)

Support from Social Network	Participation in groups	reports that she regularly attends meetings of at least two groups.	0.179*** (0.036)
	Level of support provided by groups to pursue own initiative	'agrees' or 'strongly agrees' with both of the following statements: • I feel that I have good relations with people in my social network. • If I want, I feel comfortable asking my neighbours for assistance.	0.028 (0.027)
Care and unpaid work	Ability to redistribute care responsibilities with men in the household	reported that men in the household increased the time they devoted to care activities since 2010.	-0.068* (0.038)
	Ability to reduce care responsibilities	reported care activities had decreased since 2010	-0.073** (0.037)
	Attitude towards and awareness of care work	'agrees' or 'strongly agrees' with both of the statements below: • Husbands should help their wives with housework and looking after children and dependent adults. • Housework and looking after children and dependent adults require significant skills.	-0.048 (0.040)
	Women have more time for leisure and socialising	reports more than the median of the comparison group, or increasing time for leisure since 2010.	-0.036*** (0.036)

APPENDIX 2: BASELINE STATISTICS BEFORE MATCHING

	Overall			Group 1			Group 2		
	Comparison mean	Intervention mean	Difference	Comparison mean	Intervention mean	Difference	Comparison mean	Intervention mean	Difference
1[Head HH has some primary education]	0.034	0.049	-0.014	0.034	0.054	-0.020	0.034	0.043	-0.009
1[Head HH has completed primary education]	0.018	0.011	0.008	0.018	0.011	0.008	0.018	0.011	0.008
1[Head HH has completed vocational education]	0.003	0.011	-0.008						
1[Head HH has some high school education]	0.011	0.013	-0.003	0.011	0.005	0.005	0.011	0.022	-0.011
1[Head HH has completed high school education]	0.016	0.022	-0.006	0.016	0.032	-0.017	0.016	0.011	0.005
1[Respondent has some primary education]	0.011	0.054	-0.043***	0.011	0.059	-0.049***	0.011	0.048	-0.038***
1[Respondent has completed primary education]	0.008	0.008	-0.000	0.011	0.011	-0.000	0.011	0.011	-0.000
1[Respondent has some high school education]	0.011	0.011	-0.000						
Numbers of groups involved in 2010	1.282	1.765	-0.483***	1.282	1.692	-0.410***	1.282	1.839	-0.556***
Age head of HH in 2010	36.077	37.181	-1.104	36.077	36.622	-0.545	36.077	37.737	-1.660*
1[Head household is older than 60]	0.029	0.032	-0.003	0.029	0.038	-0.009	0.029	0.027	0.002
Household size in 2010	6.050	6.003	0.047	6.050	5.503	0.547***	6.050	6.500	-0.450**
1[Head of household is female]	0.098	0.108	-0.010	0.098	0.103	-0.005	0.098	0.113	-0.015
1[Respondent is head of the household]	0.079	0.067	0.012	0.079	0.043	0.036	0.079	0.091	-0.012
Proportion of young people living in the HH in 2010	0.310	0.284	0.026*	0.310	0.296	0.015	0.310	0.272	0.038**
Proportion of adult people living in the HH in 2010	0.397	0.425	-0.029**	0.397	0.457	-0.060***	0.397	0.394	0.003
Proportion of old people living in the household in 2010	0.005	0.005	-0.000	0.005	0.007	-0.002	0.005	0.004	0.002
Proportion of male adults living in the household	0.198	0.215	-0.018**	0.198	0.232	-0.034***	0.198	0.199	-0.001

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

58

	Overall			Group 1			Group 2		
	Comparison mean	Intervention mean	Difference	Comparison mean	Intervention mean	Difference	Comparison mean	Intervention mean	Difference
in 2010									
1[HH involved in income generating activities in 2010]	0.731	0.801	-0.070**	0.731	0.870	-0.139***	0.731	0.731	-0.000
1[HH involved in casual labour in 2010]	0.662	0.674	-0.012	0.662	0.681	-0.019	0.662	0.667	-0.004
1[HH receiving a salary in 2010]	0.021	0.016	0.005	0.021	0.011	0.010	0.021	0.022	-0.000
1[HH receiving a rent from property in 2010]	0.016	0.035	-0.019*	0.016	0.054	-0.038**	0.016	0.016	-0.000
1[Respondent involved in income generating activities in 2010]	0.712	0.768	-0.056*	0.712	0.822	-0.109***	0.712	0.715	-0.003
1[Respondent involved in casual labour in 2010]	0.639	0.625	0.013	0.639	0.605	0.033	0.639	0.645	-0.007
1[Respondent receiving a rent from property in 2010]	0.013	0.013	-0.000	0.013	0.027	-0.014	0.013	0.000	0.013
1[HH is in the second wealth quintile]	0.219	0.173	0.046	0.219	0.173	0.046	0.219	0.172	0.047
1[HH is in the third wealth quintile]	0.208	0.189	0.020	0.208	0.130	0.079**	0.208	0.247	-0.039
1[HH is in the fourth wealth quintile]	0.169	0.229	-0.060**	0.169	0.232	-0.064*	0.169	0.226	-0.057
1[HH is in the fifth wealth quintile]	0.153	0.248	-0.095***	0.153	0.281	-0.128***	0.153	0.215	-0.062*
Number of observations			750			564			565

APPENDIX 3: METHODOLOGY USED FOR PROPENSITY-SCORE MATCHING

The analysis of outcome variables presented in Section 5 of this report, involved group mean comparisons using propensity-score matching (PSM). The basic principle of PSM is to match each participant with a non-participant that was observationally similar at baseline and to obtain the treatment effect by averaging the differences in outcomes across the two groups after project completion. Unsurprisingly, there are different approaches to matching, i.e. to determining whether or not a household is observationally 'similar' to another household. For an overview, we refer to Caliendo and Kopeinig (2008).[12] This appendix describes and tests the specific matching procedure followed in this Effectiveness Review.

Estimating propensity scores

Given that it is extremely hard to find two individuals with exactly the same characteristics, Rosenbaum and Rubin (1983) demonstrate that it is possible to match individuals using a prior probability for an individual to be in the intervention group, naming it *propensity score*. More specifically, propensity scores are obtained by pooling the units from both the intervention and comparison groups and using a statistical probability model (e.g. a probit regression) to estimate the probability of participating in the project, conditional on a set of observed characteristics.

Table A3.1 presents the probit regression results used to estimate the propensity scores in our context. To guarantee that none of the matching variables were affected by the intervention, we only considered variables related to baseline, and only those variables that were unlikely to have been influenced by anticipation of project participation (Caliendo and Kopeinig, 2008).

Table A3.1: Estimating the propensity score

	Overall	Group 1	Group 2
	1[Intervention]	1[Intervention]	1[Intervention]
1[Head HH has some primary education]	-0.032	0.053	-0.111
	(0.258)	(0.309)	(0.316)
1[Head HH has completed primary education]	-0.505	-0.687	-0.267
	(0.418)	(0.534)	(0.490)
1[Head HH has completed vocational education]	1.097		
	(0.846)		
1[Head HH has some high school education]	-0.042	-0.535	-0.064
	(0.485)	(0.690)	(0.560)
1[Head HH has completed high school education]	0.011	0.255	-0.418
	(0.435)	(0.500)	(0.565)
1[Respondent has some primary education]	1.109***	1.250***	1.285***
	(0.387)	(0.444)	(0.494)
1[Respondent has completed primary education]	-0.274		
	(0.645)		

	Overall	Group 1	Group 2
	1[Intervention]	1[Intervention]	1[Intervention]
1[Respondent has some high school education]	0.132	-0.227	0.702
	(0.561)	(0.709)	(0.696)
Numbers of groups involved in 2010	0.076**	0.047	0.106***
	(0.032)	(0.040)	(0.040)
Age head of HH in 2010	0.007	0.010	0.009
	(0.007)	(0.008)	(0.008)
1[Head household is older than 60]	-0.004	0.242	0.109
	(0.538)	(0.612)	(0.813)
Household size in 2010	-0.012	-0.100**	0.041
	(0.034)	(0.045)	(0.041)
1[Head of household is female]	0.418	0.633*	0.031
	(0.283)	(0.326)	(0.386)
1[Respondent is head of the household]	-0.393	-0.874**	0.133
	(0.325)	(0.389)	(0.433)
Proportion of young people living in the HH in 2010	-0.020	0.297	-0.318
	(0.305)	(0.384)	(0.367)
Proportion of adult people living in the HH in 2010	0.541	0.342	0.528
	(0.624)	(0.807)	(0.769)
Proportion of old people living in the household in 2010	-0.897	-0.252	-3.702
	(2.781)	(2.865)	(5.275)
Proportion of male adult living in the household in 2010	-0.003	0.469	-0.576
	(0.812)	(1.005)	(1.051)
1[HH involved in income generating activities in 2010]	0.307	0.718*	-0.357
	(0.323)	(0.373)	(0.455)
1[HH involved in casual labour in 2010]	0.461	1.038***	-0.272
	(0.281)	(0.321)	(0.409)
1[HH receiving a salary in 2010]	-1.269***	-1.508***	-1.064**
	(0.450)	(0.544)	(0.530)
1[HH receiving a rent from property in 2010]	1.320*	1.657**	1.540*
	(0.690)	(0.839)	(0.818)
1[Respondent involved in income generating activities in 2010]	-0.103	-0.228	0.399
	(0.312)	(0.355)	(0.445)
1[Respondent involved in casual labour in 2010]	-0.453*	-0.944***	0.267
	(0.273)	(0.307)	(0.403)
1[Respondent receiving a rent from property in 2010]	-1.391*	-1.131	
	(0.793)	(0.922)	
1[HH is in the second wealth quintile]	0.115	0.060	0.232
	(0.151)	(0.185)	(0.187)
1[HH is in the third wealth quintile]	0.223	-0.114	0.521***
	(0.151)	(0.198)	(0.180)

	Overall	Group 1	Group 2
	1[Intervention]	1[Intervention]	1[Intervention]
1[HH is in the fourth wealth quintile]	0.442***	0.373**	0.528***
	(0.154)	(0.188)	(0.188)
1[HH is in the fifth wealth quintile]	0.479***	0.576***	0.366*
	(0.167)	(0.197)	(0.216)
_cons	-0.998**	-1.357***	-1.533***
	(0.419)	(0.526)	(0.510)
N	750	564	560

[a] Variable dropped because of estimability or collinearity with other variables.
Notes: Probit regression. Variables dated 2009 are estimates, based on recall data or reconstructed from the composition of the household at the time of the survey. Explanatory variables expressed as $x = 1$ represent binary variables taking values of either 0 or 1. The dependent variable is 1 if the household is in one of the project villages, and 0 otherwise. The coefficients represent the contribution of each explanatory variable/characteristic to the probability that a household participates in the project.

Defining the region of common support

After estimating the propensity scores, the presence of a good *common support area* needs to be checked. The area of common support is the region where the propensity-score distributions of the treatment and comparison groups overlap. The common support assumption ensures that 'treatment observation have a comparison observation "nearby" in the propensity score distribution' (Heckman, LaLonde and Smith, 1999). Since some significant differences were found between the intervention and comparison groups in terms of their baseline characteristics (as detailed in Section 4.2), some of the women in the intervention group are too different from the comparison group to allow for meaningful comparison. We used a minima and maxima comparison, deleting all observations whose propensity score was smaller than the minimum and larger than the maximum in the opposite group (Caliendo and Kopeinig, 2008). Twenty-two of the 371 households interviewed in the project communities were dropped because they lay outside the area of common support. The consequence of dropping project participant households is that the estimates of differences in outcome characteristics between the various treatment groups only apply to those intervention households that were not dropped; that is, they do not represent the surveyed population as a whole.

Figure A3.1 illustrates the propensity scores and show the proportion of women lying on and off the areas of common support, by treatment group.

Figure A3.1: Propensity score on and off area of common support
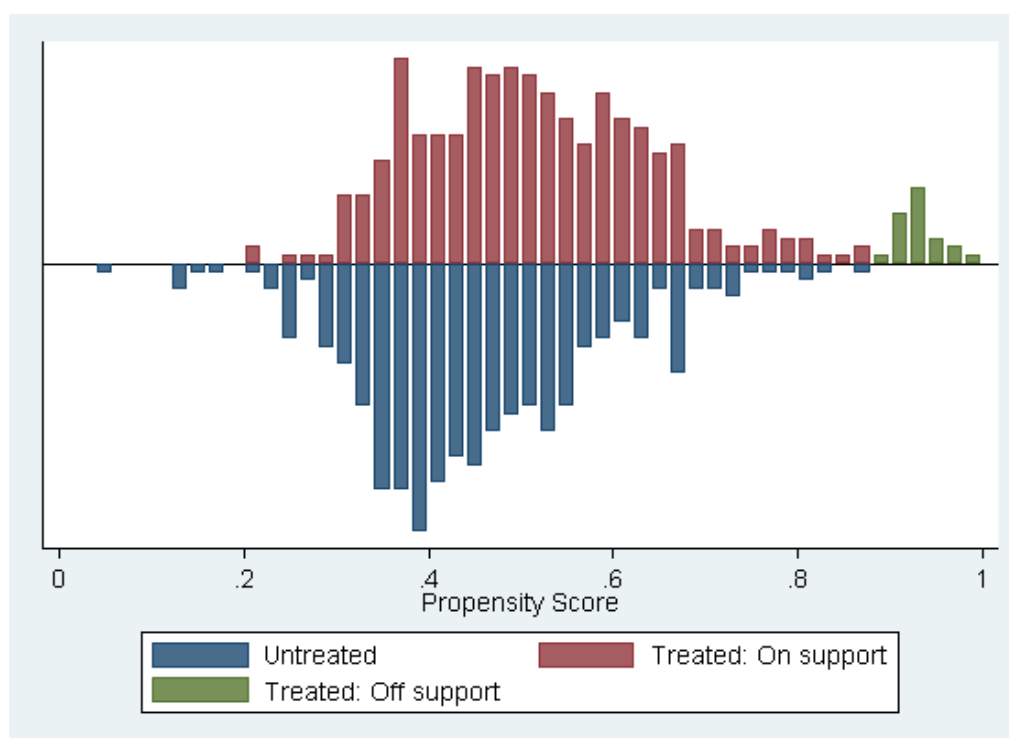
Matching intervention and comparison households

Following Rosenbaum and Rubin (1983), after estimating the propensity scores and defining the area of common support, individuals were matched on the basis of their propensity score. The literature has developed a variety of matching procedures. For the main results presented in this Effectiveness Review we chose to employ the method of kernel matching. This weights the contribution of each comparison group member, attaching greater weight to those comparison observations that provide a better match with the treatment observations. One common approach is to use the normal distribution with mean zero as a kernel, and weights given by the distribution of the differences in propensity score. Thus 'good' matches are given greater weight than 'poor' matches.

The *psmatch2* module in Stata was used with a bandwidth of 0.04 and with the analysis restricted to the area of common support.

When using PSM, standard errors of the estimates were bootstrapped using 1,000 repetitions, to account for the additional variation caused by the estimation of the propensity scores and the determination of the common support.[13]

Check balancing

For PSM to be valid, the intervention group and the matched comparison group need to be balanced, in that they need to be similar in terms of their observed baseline characteristics. This should be checked. The most straightforward method to do this is to test whether there are any statistically significant differences in baseline covariates between the intervention and comparison groups in the matched sample. None of the variables implemented for the matching are statistically significant in the matched sample.

Table A3.2: Balancing test

Variables	Unmatched Matched	Mean		t-test	
		Treated	Control	t	p>|t|
1[Head HH has some primary education]	U	0.04852	0.0343	0.98	0.329
	M	0.03725	0.0338	0.25	0.806
1[Head HH has completed primary education]	U	0.01078	0.01847	-0.87	0.382
	M	0.01146	0.00868	0.37	0.713
1[Head HH has completed vocational education]	U	0.01078	0.00264	1.37	0.171
	M	0.00573	0.00827	-0.4	0.688
1[Head HH has some high school education]	U	0.01348	0.01055	0.37	0.714
	M	0.01146	0.01304	-0.19	0.85
1[Head HH has completed high school education]	U	0.02156	0.01583	0.58	0.563
	M	0.01719	0.01851	-0.13	0.895
1[Respondent has some primary education]	U	0.05391	0.01055	3.39	0.001
	M	0.01719	0.01777	-0.06	0.954
1[Respondent has completed primary education]	U	0.00809	0.00792	0.03	0.979
	M	0.0086	0.01003	-0.2	0.844
1[Respondent has some high school education]	U	0.01078	0.01055	0.03	0.976
	M	0.01146	0.0114	0.01	0.994
Numbers of groups involved in 2010	U	1.7655	1.2823	4.05	0
	M	1.6963	1.6474	0.38	0.706
Age head of HH in 2010	U	37.181	36.077	1.43	0.152
	M	37.063	36.527	0.66	0.512
1[Head household is older than 60]	U	0.03235	0.02902	0.26	0.792
	M	0.03438	0.03117	0.24	0.812
Household size in 2010	U	6.0027	6.0501	-0.29	0.771
	M	5.9828	5.899	0.49	0.627
1[Head of household is female]	U	0.10782	0.09763	0.46	0.646
	M	0.10888	0.09654	0.54	0.592
1[Respondent is head of the household]	U	0.06739	0.07916	-0.62	0.537
	M	0.06877	0.06908	-0.02	0.987
Proportion of young people living in the HH in 2010	U	0.28397	0.31042	-1.89	0.059
	M	0.28306	0.29059	-0.52	0.604

Proportion of adult people living in the HH in 2010	U	0.42528	0.39678	2.01	0.044
	M	0.4259	0.42681	-0.06	0.953
Proportion of old people living in the household in 2010	U	0.00533	0.00526	0.03	0.977
	M	0.00566	0.00556	0.04	0.968
Proportion of male adult living in the household in 2010	U	0.21549	0.19788	2.05	0.04
	M	0.21519	0.21495	0.03	0.979
1[HH involved in income generating activities in 2010]	U	0.80054	0.73087	2.26	0.024
	M	0.7937	0.79291	0.03	0.98
1[HH involved in casual labour in 2010]	U	0.67385	0.66227	0.34	0.737
	M	0.67908	0.66618	0.36	0.717
1[HH receiving a salary in 2010]	U	0.01617	0.02111	-0.5	0.618
	M	0.01433	0.01556	-0.13	0.893
1[HH receiving a rent from property in 2010]	U	0.03504	0.01583	1.67	0.094
	M	0.01433	0.02151	-0.71	0.475
1[Respondent involved in income generating activities in 2010]	U	0.76819	0.7124	1.74	0.082
	M	0.76218	0.76794	-0.18	0.858
1[Respondent involved in casual labour in 2010]	U	0.62534	0.63852	-0.37	0.709
	M	0.63324	0.6295	0.1	0.919
1[Respondent receiving a rent from property in 2010]	U	0.01348	0.01319	0.03	0.973
	M	0.01433	0.01623	-0.2	0.838
1[HH is in the second wealth quintile]	U	0.17251	0.219	-1.6	0.109
	M	0.18052	0.16811	0.43	0.666
1[HH is in the third wealth quintile]	U	0.18868	0.20844	-0.68	0.498
	M	0.19198	0.20892	-0.56	0.577
1[HH is in the fourth wealth quintile]	U	0.22911	0.16887	2.07	0.039
	M	0.2235	0.23919	-0.49	0.624
1[HH is in the fifth wealth quintile]	U	0.24798	0.15303	3.27	0.001
	M	0.23496	0.22612	0.28	0.782

* if 'of concern', i.e. variance ratio in [0.5, 0.8) or (1.25, 2]
** if 'bad', i.e. variance ratio <0.5 or >2

Sample	Ps R2	LR chi2	p>chi2	MeanBias	MedBias	B	R	%concern	%bad
Unmatched	0.067	69.87	0	8.9	6.4	60.3*	1.9	38	7
Matched	0.006	5.96	1	2.1	1.7	14.5	0.07*	7	0

* if B>25%, R outside [0.5; 2]

Figure A3.2: Wealth index distribution for matched and unmatched sample
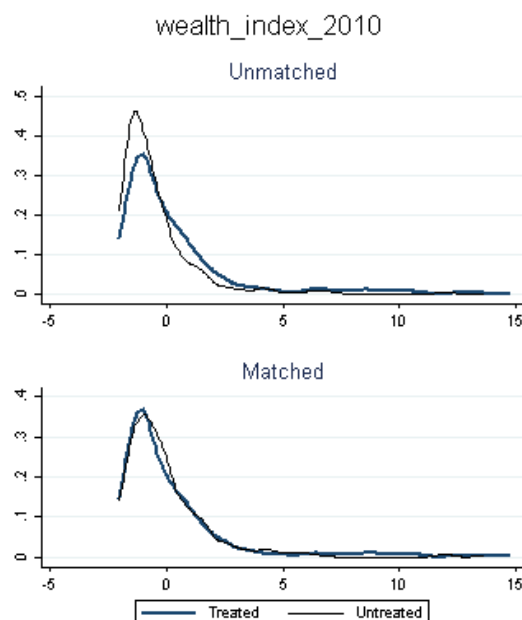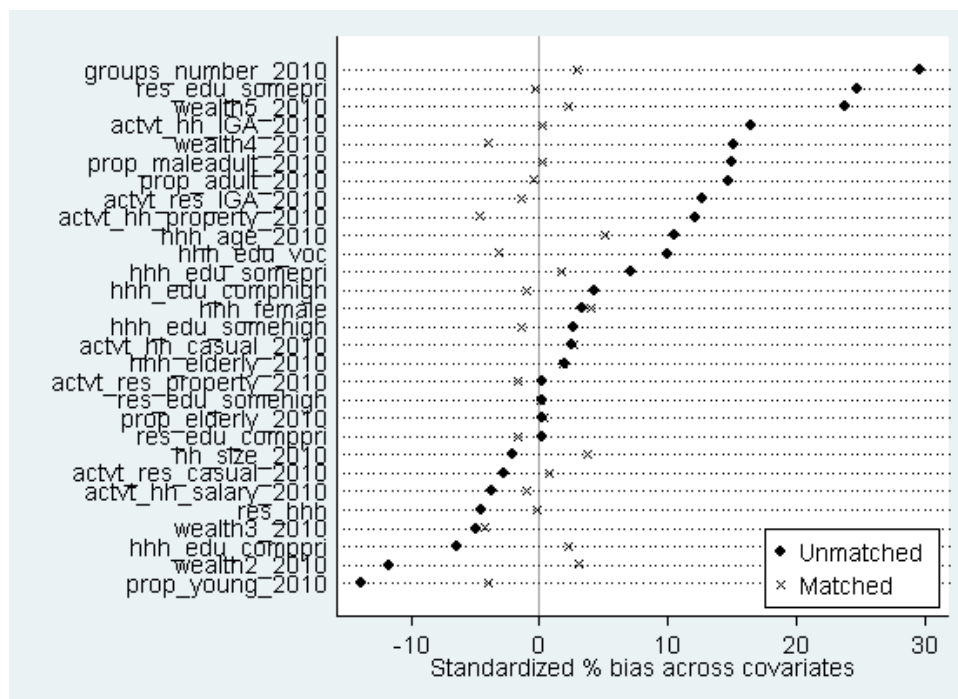

Figure A3.3: Standardized % of bias across matching variables for matched and unmatched sample

APPENDIX 4: ROBUSTNESS CHECKS

In order to address the validity of the results presented in Section 5, a series of robustness checks were carried out to check if the preferred matching algorithm was the one that best performed the matching between intervention and comparison groups. This section presents a number of alternative matching algorithms used to test the robustness of the estimates presented in Section 5.

1 Multivariate regression

The first basic specification for estimating the impact of project participation is an OLS model (when the dependent is continuous) or probit model when the dependent is binary.

$$Y_i = \alpha + \beta_1 Project\ participation_i + \delta' X_i + \varepsilon_i$$

Where Y_i is the dependent variable; X_i is a vector of household covariates used in the model in table A2.1; finally the variable of interest is the dummy variable *Project Participation* that assumes value equal to one when the household is enrolled in the project, zero otherwise. When the dependent variable Y_i is a binary variable, a probit model replaces the OLS specification. It is important to note that in the absence of randomized allocation of the project among the population in our sample, OLS and probit models fail to identify the causal effect of the programme, and can only be used as additional qualitative checks for the non-parametric estimates. Only the estimate of β_1 will be reported.

2 Propensity Score Matching – Nearest Neighbour

The nearest neighbour (NN) matching algorithm finds an observation from the comparison group to be matched with an observation from a treated individual that is closest in terms of their propensity score. Several variants of NN matching are possible, e.g. NN matching 'with replacement' and 'without replacement'. In the former case, an untreated individual can be used more than once as a match, whereas in the latter case it is considered only once. Matching with replacement involves a trade-off between bias and variance. If we allow replacement, the average quality of matching will increase and the bias will decrease. This is of particular interest with data where the propensity score distribution is very different in the treatment group and the control group (Caliendo and Kopeinig, 2008).

3 Propensity Score Matching – Caliper

NN matching faces the risk of bad matches if the closest neighbour is far away. This can be avoided by imposing a tolerance level on the maximum propensity score distance (caliper). Imposing a caliper works in the same direction as allowing for replacement. Bad matches are avoided and hence the matching quality rises. However, if fewer matches can be performed, the variance of the estimates increases. Applying caliper matching means that an individual from the comparison group is chosen as a matching partner for a treated individual that lies within the caliper ('propensity range') and is closest in terms of propensity score. Estimates in this analysis will impose a caliper of 0.05.

4 Propensity Score Weighting

Following the example of Hirano and Imbens (2001)[14] we implemented a regression adjustment with weights based on the propensity score. The average treatment effect can be estimated in a parametric framework as follows:

$$Y_i = \alpha + \beta_1 Project\ participation_i + \delta'_2 Z_i + \delta'_1 X_i + \varepsilon_i$$

Where Y_i represents the outcome of interest; $Project\ participation_i$ is a dummy binary variable equal to one if an individual/household is enrolled into the programme and zero otherwise; X_i is a vector of matching covariates used to estimate the propensity score match; and Z_i is a vector of control variables which cannot be used for the matching as they are not supposed to influence project participation. The regression is estimated with weights equal to one for the treated units and $\hat{e}(x)/(1 - \hat{e}(x))$ for control units.

This parametric regression analysis framework has the advantage of allowing us to explore heterogeneity in the treatment effect. Moreover it allows us to control for variables that cannot be included in the propensity score equation. The robustness check tables will only report β_1.

Table A4.1: Empowerment, wealth and economic status

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Women's empowerment	0.016**	0.020**	0.018*	0.012
	(0.008)	(0.009)	(0.010)	(0.008)
N	750	728	728	750
Wealth index	0.305**	0.615***	0.391*	0.320**
	(0.135)	(0.192)	(0.200)	(0.151)
N	750	728	728	750
1[Women participating in business activities]	0.341***	0.092***	0.060	0.300**
	(0.120)	(0.035)	(0.038)	(0.121)
N	729	728	728	729

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Table A4.2: Self-perception and personal change

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Self-confidence (number)	0.072**	0.077**	0.050	0.083**
	(0.032)	(0.032)	(0.037)	(0.033)
N	750	728	728	750
Self-efficacy (number)	0.220**	0.184*	0.211*	0.219**
	(0.103)	(0.106)	(0.117)	(0.103)
N	746	728	728	746
Economic role (number)	0.055	0.066	0.078	0.058
	(0.048)	(0.050)	(0.052)	(0.050)
N	750	728	728	750
Gender rights (number)	0.123***	0.117***	0.167***	0.111**
	(0.045)	(0.045)	(0.053)	(0.044)
N	750	728	728	750
Women's power within the house (number)	0.007	0.017	0.060	0.013
	(0.049)	(0.049)	(0.056)	(0.051)
N	750	728	728	750
1[Women's freedom of movement]	0.045	0.074*	0.018	0.038
	(0.037)	(0.039)	(0.044)	(0.038)
N	750	728	728	750
Women's property right (number)	0.138**	0.160**	0.184**	0.093
	(0.066)	(0.067)	(0.074)	(0.069)
N	750	728	728	750

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Table A4.3: Personal freedom

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Personal autonomy (proportion)	0.005	-0.003	0.007	0.007
	(0.018)	(0.018)	(0.020)	(0.018)
N	747	728	728	747
Violence NOT acceptable (number)	-0.411**	-0.149	-0.365	-0.467**
	(0.196)	(0.205)	(0.223)	(0.194)
N	747	728	728	747
1[Experience of violence in the last 12 months]	-0.095	-0.020	-0.050	-0.108
	(0.098)	(0.038)	(0.043)	(0.101)
N	750	728	728	750
1[Knowledge where to go and what to do in the case of violence]	0.223	0.034	0.043	0.148
	(0.136)	(0.024)	(0.027)	(0.137)
N	715	728	728	715

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Table A4.4: Access to and control over resources

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
1[Respondent's contribution to income increased since 2010]	0.099	-0.003	0.035	0.095
	(0.101)	(0.037)	(0.040)	(0.105)
N	750	728	728	750
Contribution to the household's income	0.226	0.160	0.199	0.213
	(0.141)	(0.150)	(0.166)	(0.146)
N	750	728	728	750
Control over household assets (proportion)	-0.033	-0.048**	-0.031	-0.045**
	(0.020)	(0.021)	(0.024)	(0.020)
N	750	728	728	750
1[Access to savings]	0.430***	0.166***	0.138***	0.452***
	(0.103)	(0.036)	(0.040)	(0.106)
N	744	728	728	744
1[Access to credit]	0.388***	0.100***	0.064**	0.474***
	(0.127)	(0.028)	(0.032)	(0.125)
N	744	728	728	744

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

69

Table A4.5: Decisions and influence

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Decisions on productive activities (proportion)	-0.039**	-0.046**	-0.030	-0.051***
	(0.018)	(0.021)	(0.022)	(0.019)
N	744	728	728	744
Decisions on HH's expenditures (proportion)	-0.083***	-0.099***	-0.077**	-0.100***
	(0.029)	(0.030)	(0.034)	(0.029)
N	746	728	728	746
Decisions on HH's management (proportion)	-0.019	-0.020	-0.012	-0.024
	(0.017)	(0.021)	(0.022)	(0.018)
N	750	728	728	750
1[Control over sexuality]	-0.004	-0.006	0.004	0.048
	(0.101)	(0.034)	(0.039)	(0.103)
N	750	728	728	750
Influence in women's group decision-making (number)	0.412***	0.510***	0.450***	0.405***
	(0.085)	(0.091)	(0.098)	(0.091)
N	750	728	728	750
1[Influence in community decision-making]	0.135	0.046	0.032	0.131
	(0.097)	(0.040)	(0.044)	(0.100)
N	750	728	728	750

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Table A4.6: Support from social network

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Participation in groups (number)	0.643***	0.891***	0.617***	0.587***
	(0.102)	(0.145)	(0.143)	(0.096)
N	750	728	728	750
1[Support provided by groups to pursue own initiative]	0.129	0.023	0.035	0.100
	(0.127)	(0.027)	(0.030)	(0.130)
N	720	728	728	720

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

70

Table A4.7: Care and unpaid work

	(1) OLS/probit	(2) PSM NN	(3) PSM Caliper	(4) Propensity Score Weighting
Number of hours devoted to household care activities (multiple activities)	0.273	0.355	0.223	0.483
	(0.534)	(0.587)	(0.634)	(0.559)
N	735	735	735	735
Number of hours responsible for care of children, elderly or other household members	-0.449	-0.431	-0.402	-0.313
	(0.350)	(0.378)	(0.405)	(0.378)
N	740	740	740	740
1[Time devoted to care activities has decreased since 2010]	-0.214**	-0.052	-0.060	-0.243**
	(0.103)	(0.035)	(0.039)	(0.107)
N	750	728	728	750
1[Men in the household increased time to care activities since 2010]	-0.198*	-0.060*	-0.078**	-0.195*
	(0.103)	(0.036)	(0.038)	(0.106)
N	750	728	728	750
1[Attitude and awareness of care work]	-0.108	-0.037	-0.043	-0.104
	(0.099)	(0.038)	(0.043)	(0.101)
N	750	728	728	750
Time devoted to leisure and socialising in the past 24 hours	-0.514***	-0.401**	-0.479**	-0.587***
	(0.183)	(0.187)	(0.216)	(0.194)
N	750	728	728	750
1[Increased time devoted to leisure and socializing since 2010]	-0.373***	-0.135***	-0.124***	-0.403***
	(0.099)	(0.038)	(0.042)	(0.101)
N	750	728	728	750

Robust standard errors in parentheses. PSM estimates bootstrapped 1,000 repetitions.
* p<0.1, ** p<0.05, *** p<0.01

Women's Empowerment in Uganda: Impact evaluation of piloting gender sensitive livelihoods in Karamoja. Effectiveness Review Series 2014–15

71

NOTES

1 During the survey fieldwork two of the four villages selected in Nakwakwa and four selected villages in Lopuyo were not reachable due to heavy rains in Rengen sub-county. These villages were replaced with another six villages located in the same sub-county.

2 When items are used in a scale or index, they should all measure the same underlying latent construct (e.g. household wealth status). The items, then, must be significantly correlated with one another. Cronbach's alpha is a measure of this inter-item correlation. The more the variables are correlated, the greater is the sum of the common variation they share. If all items are perfectly correlated, alpha would be 1 and 0 if they all were independent from one another. For comparing groups, an alpha of 0.7 or 0.8 is considered satisfactory. See: Bland, M. J. & Altman, D. G. 1997. Statistics notes: Cronbach's alpha. *BMJ*, 314, 572.

3 http://www.ifpri.org/publication/womens-empowerment-agriculture-index

4 In previous years, Oxfam GB's global indicator for women's empowerment was based on whether women are doing better in terms of overall women's empowerment than a 'typical' woman in the area. This is defined by comparing each woman's women's empowerment index with the median of the comparison group. In particular, the global indicator takes the value of 1 if the base empowerment index is greater than the median of the comparison group and zero otherwise. This measure is no longer reported, but results are consistent with the current empowerment index.

5 Adapted from the official Spanish version of the General Self-Efficacy Scale, http://userpage.fu-berlin.de/~health/spanscal.htm. Responses to one other statement, which was found to be misunderstood by respondents and hence unreliable, was excluded from the analysis. The correlation between the different statements was tested using Cronbach's alpha: the alpha of 0.81 demonstrates that the responses to the statements used to assess self-efficacy are reasonably consistent.

6 The two statements appear to be positively correlated, which is not what we would have expected.

7 As expected, these two statements are negatively correlated one to another. While the second statement does not present much variability, only 60 per cent of those women who agreed on the second statement also disagreed on the first statement.

8 Strangely, the two sentences are negatively correlated to each other.

9 These questions proved to be particularly challenging to formulate. After intense discussions with the programme team it was decided that there was no need to investigate the change in awareness on property rights among women, but rather look at changes in men's perception. The interpretation on this indicator needs to consider the limitations imposed by asking women respondents about changes in men's attitude. As expected the two statements are positively correlated.

10 Group 2 purposely included the 17 change makers that are usually chosen among influential figures in the community.

11 These figures are consistent with estimates for the median number of hours devoted to leisure. Median has the advantage of being less sensitive to outliers than the average (mean).

12 Caliendo, M. and Kopeinig, S. 2008. Some Practical Guidance for the Implementation of Propensity Score Matching, *Journal of Economic Surveys*, Wiley Blackwell, vol. 22(1), pages 31–72.

13 Bootstrapping is a statistical procedure where repeated samples are drawn from the original sample with replacement. This results in a statistical distribution of parameter estimates (the sampling distribution). The bootstrapped standard error is the standard deviation of this sampling distribution and it can be shown that as the number of repeated samples becomes large, provided certain technical conditions are met this is a good estimate for the standard error of the estimate.

14 Hirano, K. & Imbens G.W. (2001), Estimation of Causal Effects using Propensity Score Weighting: An Application to Data on Right Heart Catheterization. *Health Services & Outcomes Research Methodology*, vol. 2, pp. 259–278.

OXFAM

Oxfam is an international confederation of 18 organisations networked together in more than 90 countries, as part of a global movement for change, to build a future free from the injustice of poverty:

Oxfam America (www.oxfamamerica.org)
Oxfam Australia (www.oxfam.org.au)
Oxfam-in-Belgium (www.oxfamsol.be)
Oxfam Brasil (www.oxfam.org.br)
Oxfam Canada (www.oxfam.ca)
Oxfam France (www.oxfamfrance.org)
Oxfam Germany (www.oxfam.de)
Oxfam GB (www.oxfam.org.uk)
Oxfam Hong Kong (www.oxfam.org.hk)
Oxfam India (www.oxfamindia.org)
Intermón Oxfam (www.intermonoxfam.org)
Oxfam Ireland (www.oxfamireland.org)
Oxfam Italy (www.oxfamitalia.org)
Oxfam Japan (www.oxfam.jp)
Oxfam Mexico (www.oxfammexico.org)
Oxfam New Zealand (www.oxfam.org.nz)
Oxfam Novib (www.oxfamnovib.nl)
Oxfam Québec (www.oxfam.qc.ca)

Please write to any of the agencies for further information, or visit www.oxfam.org.

www.oxfam.org.uk/effectiveness