

**Enhancing Access and Control to Sustainable Livelihood Assets of
the Manobo Tribe through Improved and Strengthened Self-
governance of the Ancestral Territory – Effectiveness Review**
Full Technical Report



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Oxfam GB
Women's Empowerment Outcome Indicator

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Executive Summary

Under Oxfam Great Britain's (OGB) Global Performance Framework (GPF), sufficiently mature projects are being randomly selected each year and their effectiveness rigorously assessed. The Philippines' Sustainable Livelihoods Mindanao Project (PHLB40) was randomly selected for an Effectiveness Review under the women's empowerment thematic area. However, this particular project was designed to complement and enhance the work of four other Oxfam projects. Only one of these projects – Enhancing Access and Control to Sustainable Livelihood Assets of the Manobo Tribe through Improved and Strengthened Self-governance of the Ancestral Territory – was considered to be sufficiently mature for an effectiveness review. This project is being implemented by Oxfam's partner, Paglilingkod Batas Pangkapatiran Foundation Incorporated (PBPF). It seeks to strengthen community governance, improve household food security, and empower women among a group of indigenous peoples (comprising of approximately 200 households) that reside in the Manobo-Mamanua Ancestral Domain of Mindonao.

To assess the effectiveness of the project in empowering women and improving household food security a quasi-experimental impact evaluation design was implemented. This involved administering surveys to 316 household in six villages – three targeted by the project and three neighbouring comparison villages. To reduce bias, propensity score matching (PSM) and multivariable regression (MVR) were used in the statistical comparison of the two groups. Progress of the project towards a number of key outcomes was assessed through this process. These outcomes include the extent to which women are involved in household-level decision-making and influencing affairs at the community level; women's self-efficacy; the attitudes of both men and women towards the economic roles of women; and various measures of household food security, agricultural production, and income.

There is evidence that the Enhancing Access and Control to Sustainable Livelihoods Assets of the Manobo Tribe Project successfully affected several of these outcomes but not others. In general, there is more evidence that it has contributed to empowering women than enhancing household food security. In particular, significant differences between respondents in the project and non-project villages were identified for several of the women empowerment measures. These include those related to women's perceived role in influencing community affairs, women's self-efficacy, and the attitudes of men towards the economic roles of women.

There is little evidence that the project was successful in improving household food security. For most of the food security measures, no significant differences were identified between the project and non-project groups. However, there were several exceptions. More households in the project villages, for instance, reported being in a position to meet household needs than in the non-project villages. Moreover and very interestingly, men in the project villages were more likely to report consuming a greater variety of food types during the previous day than men in the comparison villages.

Oxfam in general and the Philippines country team and PBPF in particular are encouraged to consider the following as a follow-up to this effectiveness review:

- Critically review and assess how the project can more effectively increase agricultural production and income
- Verify the extent women are actually involved in decision-making at the household level through qualitative methods
- Explore ways of more effectively promoting positive attitudes about the economic roles of women among both women and men

1.0 Introduction and Purpose

Oxfam GB has put in place a Global Performance Framework (GPF) as part of its effort to better understand and communicate its effectiveness, as well as enhance learning across the organisation. This framework requires project/programme teams to annually report output data across six thematic indicator areas. In addition, modest samples of mature projects (e.g. those closing during a given financial year) associated with each thematic indicator area are being randomly selected each year and rigorously evaluated. One key focus is on the extent they have promoted change in relation to relevant OGB global outcome indicators.

The review focused on assessing the effectiveness of a relatively small project on increasing household food security and empowering women.

The global outcome indicator for the women's empowerment thematic area is based on the extent to which targeted women demonstrate greater involvement in household decision-making and influencing the course of affairs in their communities. This indicator is explained further in Section 4.0 below, and the work that took place in the Philippines in March 2012 was part of an effort to capture data on it. The project randomly selected for the effectiveness review is entitled the Sustainable Livelihoods Mindanao Project (PHLB40). However, this particular project is not a standalone project. Rather, it was designed to complement and enhance the work carried out by four other Oxfam projects. Upon reviewing each of these particular projects, only one was found to be sufficiently mature and conducive for the effectiveness review process. It was consequently chosen as the focus of the review.

This particular project is entitled: Enhancing Access and Control to Sustainable Livelihood Assets of the Manobo Tribe through Improved and Strengthened Self-governance of the Ancestral Territory. It is being implemented by Oxfam's partner organisation, Paglilingkod Batas Pangkapatiran Foundation Incorporated (PBPF). Aside from its community governance strengthening objective, one of its key aims is to improve household food security among the targeted beneficiaries – a group of indigenous peoples (comprising of approximately 200 households) that reside in a mountainous area that make up the Manobo-Mamanua Ancestral Domain. This Ancestral Domain is located in the Municipality of Lanuza in the Province of Surigao del Sur located on the north-eastern side of Mindanao. (See map below.) A secondary aim of the project is to empower the women of these households, particularly in relation to farm-related decision-making and involvement in traditional leadership structures.

This report presents the findings resulting from a process where data were collected and compared from both households that were targeted by the project and households residing in nearby, similar villages that were not. However, before doing so, Section 2.0 presents the intervention logic of the Enhancing Access and Control to Sustainable Livelihood Assets of the Manobo Tribe Project. Section 3.0 and Section 4.0 follow by presenting the impact evaluation design that was used and the methods of data collection and analysis, respectively. Section 5.0 is the longest section of this document. Its subsections present basic descriptive statistics, data on intervention exposure, and finally the overall differences between households in the intervention and comparison villages. Section 6.0 concludes with general conclusions and programme learning considerations.

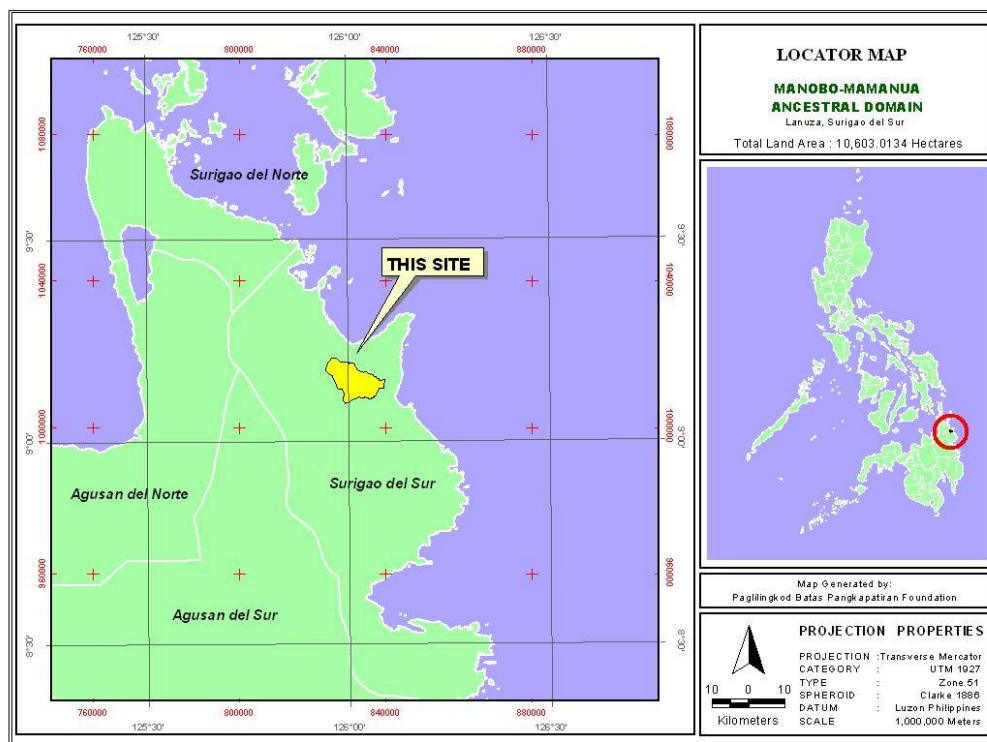
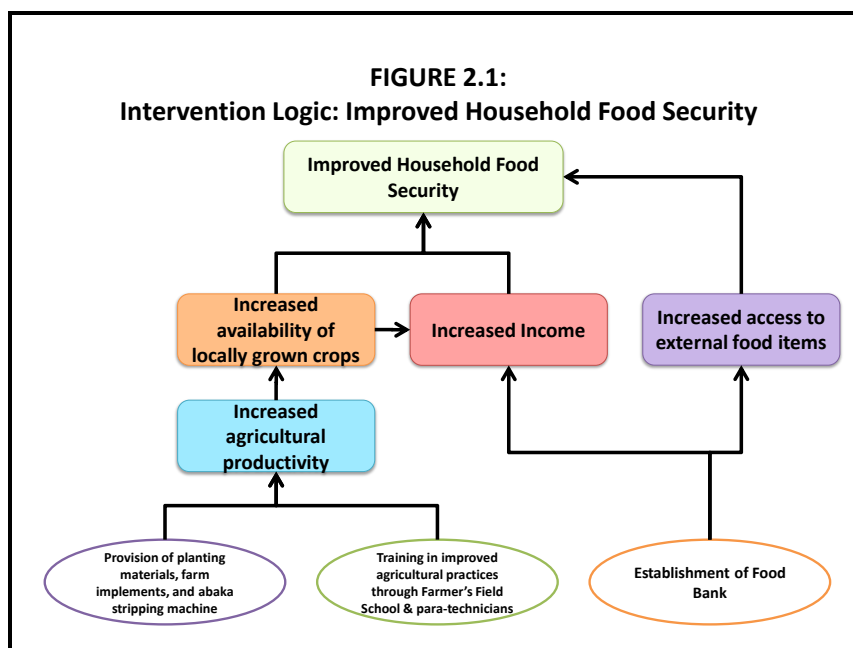


FIGURE 1.1: Location of Project Site

2.0 Intervention Logic of the Enhancing Access and Control to Sustainable Livelihood Assets Project

As mentioned above, one of the primary aims of the project assessed under the Effectiveness Review was to improve household food security among a relatively small group of households residing in the Manobo-Mamanua Ancestral Domain of Mindanao. Figure 2.1 presents the intervention logic of how the activities carried out under the project were to achieve this particular aim.

Various interventions under the project were carried out to both increase household food security and empower women.

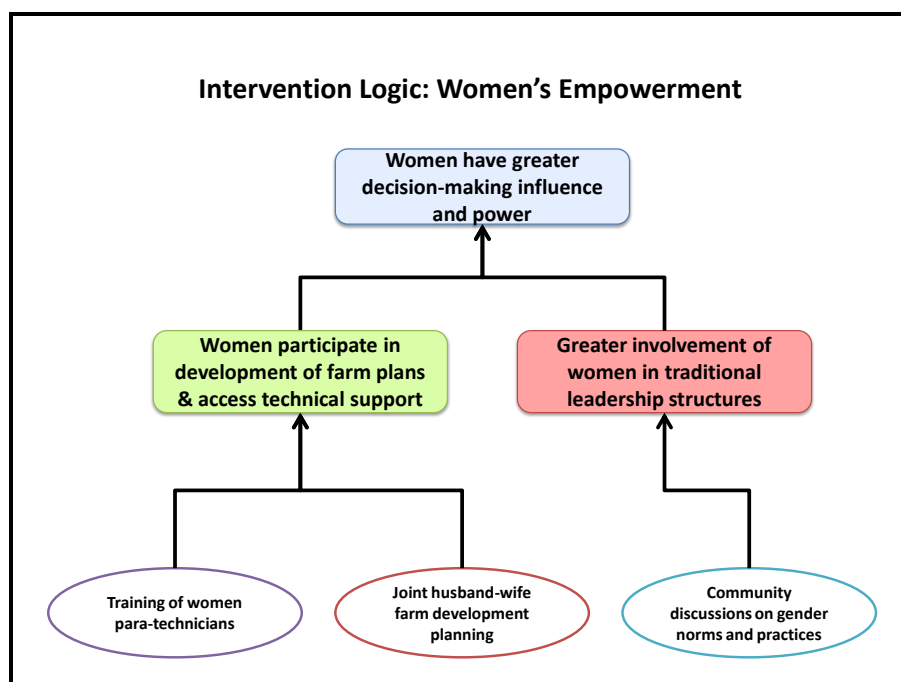


As is evident from the diagram, considerable training has been carried out by the project through farmer's field schools. Female "para-technicians" were also trained to further promote improved agricultural practices, particularly among women farmers. This – coupled with the provision of planting materials, farm implements, and a community owned abaca stripping machine¹ – is intended to increase agricultural productivity. Increased agricultural productivity is then to both increase the availability of locally grown food crops and raise household income, ultimately improving household food security.

The project also established a food bank. Here, households exchange their crops for both cash and food supplies not easily accessible in the area, e.g. rice. This particular component of the project is, therefore, intended to increase both household income and access the non-local food items.

Several interventions have been integrated into the project to explicitly empower women.

A secondary objective of the project is to bolster the decision-making influence and power of women residing in its catchment area. The project seeks to achieve this in three ways: First, it trained female para-technicians who are then to pass on their skills to fellow female farmers. Second, joint household-level farm development planning between husband and wife is a requirement for support. Both of these interventions, then, are intended to empower women, particularly in relation to household-related agricultural decision-making. The third way the project seeks to empower women is by periodically holding community discussions on gender norms and practices in the communities targeted by the project. This is intended to increase the involvement of women in traditional leadership structures, thereby, also increasing their decision-making and influence.



¹ Abaca (*Musa textilis*) popularly known as Manila hemp is a tropical plant native to the Philippines that is used for cordage, fiber crafts, textiles and papermaking.

3.0 Impact Assessment Design

3.1 Limitations in Pursuing the ‘Gold Standard’

A social programme’s net effect is typically defined as the average gain participants realise in outcome (e.g. improved household food security) from their participation. In other words:

Impact = average post-programme outcome of participants – what the average post-programme outcome of these same participants would have been had they never participated

The Effectiveness Review attempted to get at what would have happened to the households in the intervention villages had the project never been implemented.

This formula seems straightforward enough. However, *directly* obtaining data on the latter part of the equation – commonly referred to as the counterfactual – is logically impossible. This is because a person, household, community, etc. cannot *simultaneously* both participate and not participate in a programme. The counterfactual state can therefore never be observed directly; it can only be estimated.

The randomised experiment is regarded by many as the most credible way of estimating the counterfactual, particularly when the number of units (e.g. people, households, or, in some cases, communities) that are being targeted is large. The random assignment of a sufficiently large number of such units to intervention and control groups should ensure that the statistical attributes of the two resulting groups are similar in terms of a) their pre-programmes outcomes (e.g. both groups have the same average incomes); and b) their observed characteristics (e.g. education levels) and unobserved characteristics (e.g. motivation) relevant to the outcome variables of interest. In other words, randomisation works to ensure that the *potential outcomes* of both groups are the same. As a result – provided that threats such differential attrition and intervention spill-over are minimal – any observed outcome differences observed at follow-up between the groups can be attributed to the programme.

However, implementing an ideal impact assessment design like this is only possible if it is integrated into the programme design from the start, since it requires the introduction of some random element that influences participation. To evaluate an ongoing or completed programme – as in this Effectiveness Review – or one where randomisation is judged to be impractical, it is therefore necessary to apply alternative techniques to approximate the counterfactual as closely as possible.

3.2 Alternative Evaluation Design Pursued

There are several evaluation designs when the comparison group is non-equivalent that can – particularly when certain assumptions are made – identify reasonably precise intervention effects. One solution is offered by matching: Find units in an external comparison group that possess the same characteristics, e.g. ethnicity, age, and sex, relevant to the outcome variable as those of the intervention group and match them on the bases of these characteristics. If matching is done properly in this way, the observed characteristics of the matched comparison group will be identical to those of the intervention group.

The problem, however, with conventional matching methods is that, with large numbers of characteristics on which to match, it is difficult to find comparators with similar combinations of characteristics for each of the units in the intervention group. The end result, typically, is that only a few units from the intervention and comparison groups get matched up. This not only significantly reduces the size of the sample but also limits the extent the findings can be generalised to all programme participants. (This is referred to as the “curse of dimensionality” in the literature.)

The evaluation design involved comparing households in villages targeted and not targeted by the project, while using statistical procedures to control for potentially confounding factors.

Fortunately, matching on the basis of the propensity score – the conditional probability of being assigned to the programme group, given particular background variables or observable characteristics – offers a way out. The way propensity score matching (PSM) works is as follows: Units from both the intervention and comparison groups are pooled together. A statistical probability model is estimated, typically through logit or probit regression. This is used to estimate programme participation probabilities for all units in the pooled sample. Intervention and comparison units are then matched within certain ranges of their conditional probability scores. Tests are further carried out to assess whether the distributions of characteristics are similar in both groups after matching. If not, the matching bandwidth or calliper is repeatedly narrowed until the observed characteristics of the groups are statistically similar. Provided that a) the dataset in question is rich and of good quality; b) the groups possess many units with common characteristics (i.e. there is a large area of common support); and c) there are no unobserved differences lurking among the groups, particularly those associated with the outcomes of interest, PSM is capable of identifying unbiased intervention effects.

Multivariable regression is another approach that is also used to control for measured differences between intervention and comparison groups. It operates differently from PSM in that it seeks to isolate the variation in the outcome variable explained by being in the intervention group *net of other explanatory variables* (key factors that explain variability in outcome) included in the model. In this way, multivariable regression controls for measured differences between the intervention and comparison group. The validity of both PSM and multivariable regression are founded heavily on the “selection on observables” assumption, and, therefore, treatment effect estimates can be biased if unmeasured (or improperly measured) but relevant differences exist between the groups.² Both PSM and multivariable regression were used during data analysis, and efforts were made to capture key explanatory variables believed to be relevant in terms of the assessed outcomes, e.g. sex and age of household head, education levels, etc. (see Section 4.0 below).

While no baseline data were available, efforts were made, as explained above, to reconstruct it through respondent recall. This method does have limitations, e.g. memory failure, confusion between time periods, etc. However, for data that can be sensibly recalled, e.g. ownership of particular

² One of the MVR procedures that was used attempted to control for possible unobserved differences between the groups. This is the Heckman Selection Model or 2-step Estimator. Here, efforts are made to directly control for the part of the error term associated with the participation equation that is correlated with both participation and non-participation. The effectiveness of this method, however, depends, in part, how well the drivers of participation are modelled.

household assets, it can serve to enhance the validity of a cross-sectional impact evaluation design. The reconstructed baseline data were used in two ways. First, several of the variables included in the PSM and regression procedures were baseline variables constructed from recalled baseline data. One set of variables, for example, was related to the respondents wealth status at baseline, e.g. whether they were asset rich, asset poor, or somewhere in between. This was done in an attempt to control for baseline wealth differences between the intervention and comparison groups.

The second way the reconstructed baseline data were used was to derive pseudo difference-in-difference (double difference) intervention effect estimates. With longitudinal or panel data, this is implemented by subtracting each unit's baseline measure of outcome from its endline measure of outcome (i.e. endline outcome status minus baseline outcome status). The intention here is to control for time invariant differences between the groups. Bearing in mind the limitations associated recalled baseline data, using PSM and/or regression and the double difference approaches together is considered a strong impact evaluation design.

3.3 Intervention and Comparison Villages Surveyed

A key factor in ensuring the validity of any non-randomised impact evaluation design is to use an appropriate comparison group. This is particularly true for ex-post, cross-sectional designs. Comparators who differ in relevant baseline characteristics and/or who are subjected to different external events and influences will likely result in misleading conclusions about programme impact. Identifying a plausible comparison group is therefore critically important and is, generally speaking, not an easy task in non-experimental work.

Household surveys were administered in three intervention and three comparison villages.

The challenge we confronted, then, was how to identify households that could be comparable with those the project targeted. As mentioned above, approximately 200 households were targeted by the project in a relatively small number of villages. Moreover, some of these villages comprised of both indigenous and non-indigenous peoples, thereby, complicating the comparison village selection process. A decision was initially taken to focus on two villages targeted by the project – Himatagan and Ibuan – that were fully indigenous and use a larger neighbouring village, Pakwan, for comparison purposes, given that it was assumed to be the most comparable.

However, during the actual data collection exercise only 108 and 115 households were accessible for interviewing in the two intervention villages and the comparison village, respectively. While more households reside in the comparison village, these are in locations that are remote and inaccessible for security reasons and, consequently, incomparable anyway. To increase the sample sizes of the both the project and non-project households, efforts were made to administer the survey in one additional project village and two additional comparison villages. The intervention and comparison villages and number of households interviewed in each are presented in Table 3.3.1 below.

TABLE 3.3.1
Intervention and Comparison Villages and Sample Sizes

Intervention Communities		Comparison Communities	
<i>Village Name</i>	<i>Number HHs</i>	<i>Village Name</i>	<i>Number of HHs</i>
Himatagan	40	Pakwan	115
Ibuan	68	Libas	32
Himat-e	49	Lambunao	12
Totals	157		159

4.0 Methods of Data Collection and Analysis

4.1 Data Collection

A household questionnaire was developed by Oxfam staff and translated by the Consultant to capture data on both the characteristics and other outcome measures of interest presented in Section 2.0 above. Data for other key characteristics of the interviewed households were also obtained to implement the evaluation design described in Section 3.0. The questionnaire was pre-tested first by the Consultant and then by the enumerators during a practice exercise and revised accordingly.

The 16 enumerators that administered the questionnaires were primary university students or university graduates, many of whom came from the nearby municipality of Lanuza. Seventeen prospective enumerators completed the two-day training course, which was led by the Consultant but also supported by OGB staff. The second day involved a practice run at administering the questionnaires, followed by critically reviewing the performance of the trainees. One trainee was subsequently disengaged.

All available households in the intervention and comparison communities were interviewed.

Given the relatively small number of households supported by the project, representatives of all the households in both the intervention and comparison villages were interviewed if available. Random sampling of the households was therefore not undertaken. The work of the enumerators was closely monitored and scrutinised by the Consultant, and, on the first day of the survey, OGB staff also reviewed the completed questionnaires. The households were interviewed by enumerator pairs, each comprising of one male and one female. Both the husband and wife of the household, if available, were to be interviewed together at first. Towards the end of the interview, several modules related to gender issues were administered separately to the male and female respondents, with the male enumerator interviewing the former and the female enumerator interviewing the latter.

4.2 Data Analysis

OGB developed data entry tools in Adobe Acrobat Pro, and the Consultant recruited and supervised data entry clerks to enter the data. After identifying and rectifying some minor errors in MS Excel, the data were then imported into Stata for analysis, the results of which are presented in the following sections. Most of the analyses involved group mean comparisons using *t*-tests, as well as PSM with the *psmatch2* module and various regression approaches.

Kernel and nearest neighbour matching without replacement were the main

methods used in implementing PSM. Variables used in the matching process were identified by using backwards stepwise regression to identify those variables that are correlated with being in an intervention village at p -values of 0.20 or less. Covariate balance was checked following the implementation of each matching procedure. As described below, very few statistically significant observable differences were founded between the two groups. Given this, achieving covariate balance was easily achieved, with each covariate balanced across groups at p -values greater than 0.20. Bootstrapped standard errors enabled the generation of confidence intervals to assess whether the results would have been statistically significant if the data were derived through random sampling.

All the covariates, as presented in Table 5.1.1 below, were included in the various regression approaches undertaken, i.e. regression with robust standard errors (to address issues of heteroskedasticity), robust regression (to reduce the influence of outliers), and regression with control functions (to attempt to control for relevant unobserved differences between the intervention and comparison groups).

4.3 Main Problems and Constraints Encountered

Overall, despite the usual hardships encountered when undertaking such intensive work, the data collection process went well. However, two particular challenges are worthy of mention:

- *Difficulties identifying sufficient numbers of households to interview*

As explained above, fewer households than originally planned were available for interviewing purposes. This necessitated the identification of additional project and non-project villages to increase the sample size.

- *Problems with Oxfam staff visiting the project villages for security reasons*

Aside from one of the comparison villages (Libas), Oxfam staff were not able to visit any of the villages that were surveyed. The area in which the villages reside is insecure due to the periodic presence of Maoist rebels. The Oxfam adviser, for instance, had to meet with the enumerators upon their return to Lanuza to review their work.

Only a few significant observable differences were identified between the intervention and comparison households.

5.0 Results

5.1 General Characteristics

Table 6.1.1 presents statistics for various household characteristics obtained through the administration of the questionnaires to the respondents from both the project and non-project villages. Given that the data comprise of the total population, it was not necessary to test how statistically significant the differences are. Nevertheless, t -tests were still carried out to aid in ascertaining the magnitude of these differences. The stars beside the number, in particular, indicate differences between the two groups that would be statistically significant at a 90 percent confidence level or greater if sampling data were being used.

As is evident, the two groups are generally the same, on average, in relation to most of the measured characteristics. This is very positive from an impact evaluation perspective, given that it gives us greater confidence that the two populations are very similar. The households in the project and non-project sites only significantly differ, on average, in two key respects: a) slightly more adults in the comparison households have secondary education qualifications or higher and b) the intervention households are more likely to be engaged in household labour.

TABLE 5.1.1:
Descriptive Statistics: Intervention and Comparison Respondents Interviewed

	Sample mean	Intervention mean	Comparison mean	Difference	t-statistic
Baseline household asset index	-0.00	-0.21	0.20	-0.41	-1.35
Respondent is wife of head	0.90	0.90	0.90	0.0039	0.11
Age of female respondent	38.13	37.67	38.59	-0.92	-0.58
Education level of female respondent	2.43	2.46	2.41	0.051	0.25
Female respondent married	0.89	0.90	0.89	0.010	0.29
Female respondent widowed	0.07	0.07	0.08	-0.011	-0.38
Female respondent in good health	0.98	0.99	0.97	0.013	0.79
Elderly headed household	0.03	0.03	0.04	-0.0059	-0.28
Male headed household	0.92	0.92	0.92	0.0053	0.17
# of productive adults in household	2.37	2.30	2.45	-0.15	-1.43
Number of children in household	2.86	2.77	2.96	-0.19	-0.82
Number of adults in household	2.43	2.36	2.50	-0.13	-1.31
Household size	5.31	5.13	5.48	-0.35	-1.39
Traditional religion	0.11	0.13	0.08	0.052	1.49
Age of head	41.52	41.35	41.69	-0.34	-0.22
# adults with secondary	0.56	0.43	0.69	-0.26**	-2.54
Head has secondary	0.14	0.11	0.16	-0.049	-1.25
Household farms	0.97	0.99	0.96	0.025	1.41
Household keeps livestock	0.53	0.55	0.51	0.038	0.68
Household hunts	0.66	0.68	0.63	0.053	0.98
Household operates off-farm IGA	0.33	0.37	0.29	0.080	1.52
HH does casual labour	0.83	0.87	0.79	0.074*	1.75
Household does unskilled labour	0.09	0.07	0.11	-0.037	-1.15
Household does skilled labour	0.03	0.02	0.04	-0.025	-1.26
Observations	316	157	159	316	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2 Receipt of External Support

The interviewed households were also asked whether they had received particular types of external support since the baseline period in 2008. These relate particularly to the types of support provided by the project but were not communicated as such to the respondents. The particular types of support are presented in Table 5.2.1. This table also presents the results of a comparison between the intervention and comparison households in relation to the receipt of this support. Again, implementing the t-tests was not necessary but was undertaken to aid in assessing significance.

While the project villages have received more external support, the non-project villages have also been significantly supported.

As indicated in the table, greater proportions of households in the project sites reported receiving five out of the seven support items. They were not, however, more likely to report having received training in improved agricultural practices or agricultural implements. It is further interesting to

note that, while lower than the project households, high numbers of households in the comparison villages also reported receiving support in relation to agricultural inputs and farm extension. The two largest differences between the two groups are in relation to access to community owned farm equipment (i.e. the abaca stripper set up by the project) and the selling of crops to the food bank set up by the project.

TABLE 5.2.1:
Comparison of Intervention and Comparison Households in Relation to Receipt of External Support

	Sample mean	Intervention mean	Comparison mean	Difference	t-statistic
1. Agricultural inputs or planting materials	0.62	0.71	0.52	0.19***	3.56
2. Training in improved agricultural practices	0.62	0.61	0.64	-0.030	-0.55
3. Support to develop farm development plan	0.51	0.58	0.43	0.15***	2.61
4. Receipt of farm implements	0.51	0.55	0.47	0.082	1.47
5. Access to community owned farm equipment	0.25	0.42	0.08	0.34***	7.73
6. Agricultural technical support from para-technicians	0.42	0.52	0.32	0.20***	3.58
7. Selling of crops to food banks set up by the project	0.28	0.57	0	0.57***	14.38
Observations	316	157	159	316	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.3 Differences Between the Intervention and Comparison Households on the Outcome Measures

This subsection presents the results of analyses that compared the respondents from the intervention and comparison villages in relation to outcome measures relevant to the theories of change presented in Section 2.0.

5.3.1 Measures Related to Women's Empowerment

• Oxfam GB's Global Indicator for Women's Empowerment

As per the theory of change presented in Section 2.0, the project was to empower women by making joint husband-wife farm development planning a requirement for support, as well as through the training of female para-technicians and holding community discussions on gender issues. If such efforts were successful in actually empowering women, the women residing in the villages targeted by the project should score better on measures of women's empowerment than those residing in the comparison areas.

Oxfam GB's global indicator focuses on two dimensions of women's empowerment: the extent women a) are involved in various aspects of household decision-making and b) perceive that they are able to influence the course of affairs in their communities. To measure the first dimension, the respondent is asked the extent she is involved in 24 areas of household decision-making, ranging from things such as deciding on the types of food that are prepared in the home to decisions about the procurement of agricultural inputs. For each decision-making area, the respondent is given six options for their level of involvement: 1) exclusive involvement; 2) very strong involvement; 3) joint involvement; 4) some involvement; 5) no involvement; and 6) not relevant. The last option is included because every particular decision-making area may not be relevant to every household, e.g. decisions about children when none reside in the household. A diagram of the various options was developed and presented to the respondents, with the intention of making the exercise more straightforward. (See Annex 1.)

One dimension of the indicator looks at the breadth and depth of women's involvement in household decision-making.

For each decision-making area, the respondent was initially given a score out of five, ranging from one point for no involvement to five points for exclusive involvement. However, when the respondent reported either some involvement or no involvement in the decision-making area in question, the following follow-up question was asked: *To what extent do you feel you could be more involved in making decisions in this area if you really wanted to?* The options available to the respondent included: 1) To a high extent; 2) To a medium extent; 3) To a small extent; and 4) Not at all. When the respondent selected option 1, her score out of 5 was adjusted from 1 or 2 points to 4 points, and when she chose option 2, her score was adjusted to 3 points. When option 3 or option 4 was selected, the score out of 5 for the decision-making area was left as it was. The asking of this follow-up question and the subsequent adjustment to the respondent's score for the decision-making area were undertaken to reflect the fact that some women may *choose* not to be involved in particular household-level decisions but could be more involved if they actually wanted to be. As such, their household decision-making empowerment score should take this into account.

Another adjustment was made to account for the fact that some of the decision-making areas are not relevant to some of the respondents, as explained above. In particular, only the scores obtained for the various decision-making areas each respondent answered were added together. This total score was then divided into the total possible score the respondent could have obtained based on the questions she answered, thereby, computing her overall percentage score.

This percentage score can be analysed as a continuous variable. However, the way it is used to inform Oxfam GB's global women's empowerment indicator is as follows: If the respondent is above the typical person in the comparison group (as defined by the median value of this group), she is coded with 1 and 0 if otherwise. When the intervention and comparison women are subsequently compared, this approach offers a way of both a) assessing the extent to which the intervention women are more involved in household decision-making, on average, than the comparison group and b) enabling the relative comparisons of the intervention and comparison groups to be aggregated with the results from other effectiveness reviews.

The second dimension of the global indicator looks at the extent women believe they can influence how their communities are governed.

The second dimension of Oxfam GB's global indicator for women's empowerment solicits women's perceptions on the extent they are able to influence the course of affairs in their communities. The female respondents, in particular, are asked the extent they agree or disagree with these statements:

1. You would be in a position to change things in your community if you really wanted to.
2. It would be extremely difficult for you to obtain an important leadership position in your community even if you really wanted one.
3. Despite trying really hard, it would be very difficult for you to influence how leaders are chosen in your community.
4. It would be quite easy for you to influence many of the decisions made by most of the leaders in your community if you felt it important to do so.
5. Community-level decisions you feel are important would very difficult for you to influence.

A 10 item six-point Likert scale was used to measure women's perceptions about their community influencing capability.

6. There are real opportunities open to you to participate meaningfully in important decision-making bodies in your community.
7. Women in your position could never be influential people in your community – the barriers are just too big.
8. If local leaders were doing things you did not agree with, you would just have to adapt and could not do much to stop them.
9. Things have really changed in your community; there are now many opportunities for women in your position to become influential actors in how your community is governed.
10. There are many initiatives happening in your community where your voice could never be heard in any meaningful way.

For each statement, the respondent is given a score out of six points, with more points being given the more and less she agrees with positive and negative statements, respectively. The score can be left as a continuous measure or principal factor analysis can be used to narrow in on the shared variation in the data to cut out statistical noise. As is the case for the household decision-making measure, a binary variable is created to inform Oxfam's global indicator for women's empowerment. Here, respondents are coded with 1 if they are above the median of the comparison group and 0 otherwise.

TABLE 5.3.1.1:
Comparison of Intervention and Comparison Sites: Oxfam GB's Global Indicator for Women's Empowerment

	Global Indicator (binary)	HH Decision-making (binary)	HH Decision-making (%)	Community Influencing (binary)	Community Influencing (%)	Community Influencing (factor score)
<i>Unadjusted:</i>						
Sample mean	0.26	0.46	0.70	0.52	0.67	0.00
Intervention mean:	0.29	0.44	0.70	0.58	0.68	0.05
Comparison mean:	0.23	0.49	0.70	0.45	0.67	-0.05
Unadjusted difference :	0.0633 (1.26)	-0.120 (-0.83)	-0.00311 (-0.35)	0.1255* (2.19)	0.0123 (1.52)	0.101 (0.98)
Observations:	302	302	302	304	304	304
<i>PSM (ATT)</i>						
Post-matching difference: (kernel)	0.0997* (2.01)	-0.0244 (-0.41)	0.00112 (0.12)	0.163* (2.57)	0.0192* (2.29)	0.142 (1.25)
Observations:	302	302	302	302	302	302
Post-matching difference: (no replacement)	0.119* (2.18)	0 (0.00)	0.00349 (0.36)	0.170** (2.70)	0.0183* (2.02)	0.163 (1.47)
Observations:	289	289	289	289	289	289
<i>Multivariable Regression:</i>						
MVR coefficient (fe; robust):	0.1097* (2.07)	-0.0364 (-0.23)	0.00177 (0.22)	0.1806** (2.90)	0.0165* (2.08)	0.140 (1.41)
Observations:	302	302	302	304	304	304
MVR coefficient (fe; rreg):	n/a	n/a	-0.000817 (-0.10)	n/a	0.0136 (1.63)	0.147 (1.35)
Observations:			302		304	304
MVR coefficient (fe; robust): with control functions	0.1233* (2.33)	-0.0231 (-0.15)	0.00324 (0.40)	0.1923** (3.06)	0.0175* (2.20)	0.146 (1.46)
Observations:	302	302	302	304	304	304

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

PSM estimates bootstrapped 1000 repetitions

Coefficients for covariates used not presented

Both binary variations of the household decision-making and community influencing measures are then brought together to construct Oxfam's global outcome indicator for women's empowerment. Here, a respondent is coded

The intervention communities scored better, on average, on Oxfam's global indicator for women's empowerment.

with 1 if she scores 1 on *both* the household decision-making and community influencing measures. The results of the comparisons of the intervention and comparison women on these measures are presented in Table 5.3.1.1.

As indicated in the second column of this table, positive differences were identified between the intervention and comparison women for Oxfam GB's global indicator for women's empowerment, and these differences would be statistically significant across the various statistical adjustment procedures if the data were based on a random sample. There is about a 10 to 12 percentage point difference in favour of the women residing in the communities targeted by the project.

The following columns of the table present the results relating to the two dimensions that make up the indicator. For the household decision-making dimension, no significant differences were identified between the intervention and comparison women. There is, therefore, no evidence that the project increased women's decision-making power in their respective households. The results for the community influencing dimension, however, are more positive: The differences between the intervention and comparison women are significant following most of the statistical adjustment procedures for the binary and percentage versions of the measure. Positive differences were identified for the corresponding factor score, but these differences would not be statistically significant if data obtained through random sampling had been used. There is therefore modest evidence that the project has worked to increase women's involvement in influencing affairs in their communities but not household decision-making.

However, the data pertaining to household decision-making measure were interrogated further, particularly because it was observed that significant numbers of the women from both the project and non-project communities reported being at least jointly involved in most of the 24 decision making areas. Specifically, the responses of the women to their involvement in these areas were analysed in a different way. The intention was to narrow in on those women who reported both a) little or no involvement in the decision-making areas and b) little or no opportunity for being more involved in such decisions even if they wanted to be. For each decision-making area, the respondent was given 2 points for no involvement and 1 point for little involvement. Thus, the higher respondent's score, the less involvement she has or could potentially have in household decision-making.

This particular score is dubbed the household decision-making deprivation score, given that it reflects the extent the interviewed women are not involved, or do not have the potential of being involved, in various areas of household decision-making. Figure 5.3.1.1 presents a histogram for the scores for both the intervention and comparison women. What it reveals is that very few women in both groups obtained high household decision-making deprivation scores. In fact, 78 percent scored 0, indicating that they reported not being barred from *any* of the 24 areas of household decision-making. There are, therefore, two possibilities here:

- 1) the women in both the intervention and comparison communities were – in actual fact – already significantly involved in household decision-making even before the project and, consequently, there was little

- room for it (or any other intervention for that matter) to positively influence such involvement; or
- 2) the respondents were reluctant to open up to the enumerators for cultural reasons, e.g. norms against speaking negatively about familial relationships to outsiders.

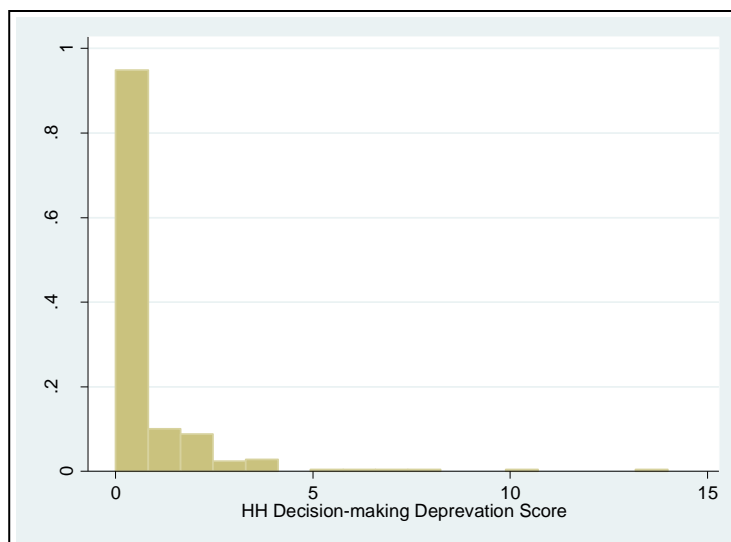


FIGURE 5.3.1.1: Histogram of Women's Household Decision-making Deprivation Scores

Sufficient variation in the data only exists for the community influencing dimension to enable proper comparative analysis.

Anecdotally, the national Consultant that lead the data collection and entry exercise believes that women are actually significantly barred from certain areas of household decision-making in Filipino culture in general and, therefore, that the second possibility is the reason for the low variation in the data of the household decision-making measure. However, this cannot be confirmed or rejected by the data collected under this effectiveness review. Nevertheless, what can be said with confidence is that there is insufficient variability in the data to draw any firm conclusions about the project's impact (or lack thereof) on women's involvement in household decision-making. Unfortunately, then, the results are inconclusive.

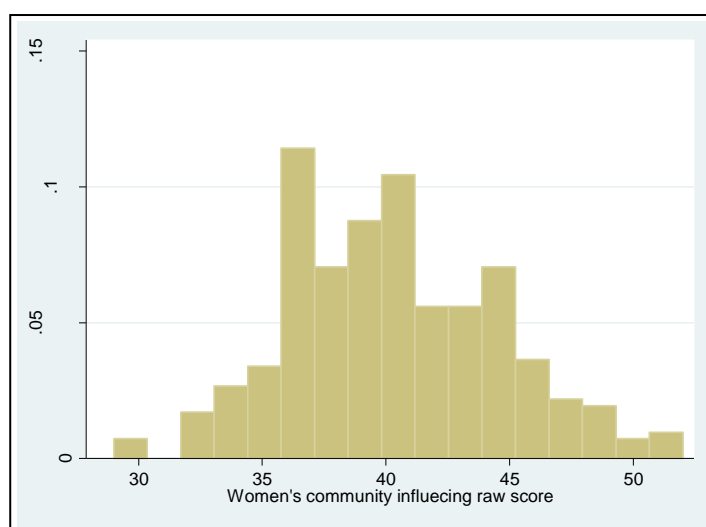


FIGURE 5.3.1.2: Histogram of Women's Raw Community Influencing Scores

Fortunately, much more variation exists for the perceived ability to influence community affairs measure, so more firm conclusions can be made about the project's effectiveness in this area. The histogram presented in Figure 5.3.1.2 above reinforces this.

• Other Measures Relevant to Women's Empowerment

Another important concept relevant to women's empowerment is self-efficacy – a person's belief in their own competence. Is there any evidence that the project has elevated women's self-efficacy? To investigate this, an adapted version of the General Self-Efficacy Scale (GSE) was incorporated into the questionnaire administered to the interviewed women in both the project and non-project areas. This is a four-point Likert scale that asks respondents the extent to which each of the following statements is true for them:

1. You can always manage to solve difficult problems if you try hard enough.
2. If someone opposes you, you can find the means and ways to get what you want.
3. It is easy for you to stick to your aims and accomplish your goals.
4. You are confident that you could deal efficiently with unexpected events.
5. Thanks to your resourcefulness, you know how to handle unforeseen situations.
6. You can solve most problems if you invest the necessary effort.
7. You can remain calm when facing difficulties because you can rely on your coping abilities.
8. When you are confronted with a problem, you can usually find several solutions.

Data were collected on other measures of women's empowerment, including self-efficacy and attitudes about the economic roles of women.

A score for each respondent's self-efficacy was constructed using principal factor analysis.

Another area that was investigated was the attitudes of both women and men to the economic roles of women. In particular, the male and female respondents were asked the extent they agree or disagree with the statements below. Principal factor analysis was again used to construct attitudinal scores pertaining to the economic roles of women.

1. Women are as important as men in ensuring that the basic material needs of families are met.
2. It is better for everyone concerned if the man is the achiever outside the home and the woman takes care of the home and the family.
3. Men should share the work around the house with women such as doing dishes, cleaning, looking after children, and so forth.
4. If a woman gets too involved in livelihood activities, her family will likely suffer.
5. Women's livelihood work is equally as important as their domestic work.
6. Both the man and woman should contribute to household income.
7. A man's job is to earn money; a woman's job is to look after the home and family.
8. Men should take on more responsibility for childcare than they currently do.
9. Households in our community would be much poorer if women stopped doing livelihood work.
10. If a child falls ill, it is the mother's duty rather than the father's to take time away from productive activities to look after the child.
11. It is important for a husband to help out with domestic work so his wife can have more time to earn income for the family.

12. A woman can be a good wife and mother even if she is involved in demanding livelihood activities.
13. A wife should not expect her husband to help around the house after he comes home from doing work.
14. In general, women are equally capable of earning income for the home than are men.
15. A man and woman should share responsibility for both earning money and caring for the home and family.

The results comparing the women and men interviewed in the project and non-project villages are presented in Table 5.3.1.2. For the self-efficacy measure, significant differences in favour of the women residing in the project villages were identified across all the five estimation procedures implemented. There is therefore evidence that the women in the project villages are more confident in their capacities than the women in the non-project villages. For the attitude towards the economic roles of women measure, differences were not identified between women in the two areas. However, men in the project villages were found to be slightly more likely to have more positive attitudes than those residing in the non-project villages. There is evidence then that the project has modestly improved the attitudes of men but not women.

There is evidence that the project positively affected women's self-efficacy and men's attitudes towards the economic roles of women.

TABLE 5.3.1.2:
Comparison of Intervention and Comparison Sites: Oxfam GB's Global Indicator for Women's Empowerment

	Women Self-efficacy factor score	Gender Attitude factor score (Women)	Gender Attitude factor score (Men)
<i>Unadjusted:</i>			
Sample mean	-0.00	0.00	-0.00
Intervention mean:	0.14	-0.03	0.11
Comparison mean:	-0.14	0.03	-0.11
Unadjusted difference :	0.281** (2.71)	-0.0584 (-0.62)	0.215* (2.23)
Observations:	302	300	296
<i>PSM (ATT)</i>			
Post-matching difference: (kernel)	0.252* (2.25)	-0.0897 (-0.91)	0.198 (1.92)
Observations:	300	298	279
Post-matching difference: (no replacement)	0.293** (2.75)	-0.0829 (-0.83)	0.252* (2.43)
Observations:	287	285	275
<i>Multivariable Regression:</i>			
MVR coefficient (fe; robust):	0.249* (2.27)	-0.107 (-1.11)	0.176 (1.81)
Observations:	302	300	296
MVR coefficient (fe; rreg):	0.273* (2.40)	-0.0672 (-0.70)	0.225* (2.24)
Observations:	302	300	296
MVR coefficient (fe; robust): with control functions	0.260* (2.38)	-0.103 (-1.06)	0.166 (1.67)
Observations:	302	300	285

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

PSM estimates bootstrapped 1000 repetitions

Coefficients for covariates used not presented

5.3.2 Household Food Security:

While the Enhancing Access and Control to Sustainable Livelihood Assets project was selected for an effectiveness review under the women's empowerment thematic area given that it is seeking to empower women, one of its key aims is to improve household food security. Given this, significant data were captured through the questionnaire on various measures of household food security. One measure is based on the Household Food Insecurity Access Scale (HFIAS) developed by USAID's Food and Nutrition Technical Assistance (FANTA) Programme.³ This module involves asking the respondents the following questions using a four week recall period:

1. Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?
2. Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?
3. Did you or any household member have to eat fewer meals in a day because there was not enough food?
4. Was there ever no food to eat of any kind in your house because of lack of resources to get food?
5. Did you or any household member go to sleep at night hungry because there was not enough food?
6. Did you or any household member go a whole day and night without eating anything because there was not enough food?

If the question was answered in the affirmative, the respondent was then asked how frequently the situation occurred during the previous four weeks. Scores were given based on their particular responses, with a score of 1 for once or twice, 2 for three to 10 times, and 3 for over 10 times. Consequently, the higher the household's score, the more food insecure it is considered to be. Figure 5.3.2.1 presents a histogram of the resulting raw scores, revealing considerable variability in reported household food security.

Some households reported having more food security problems than others.

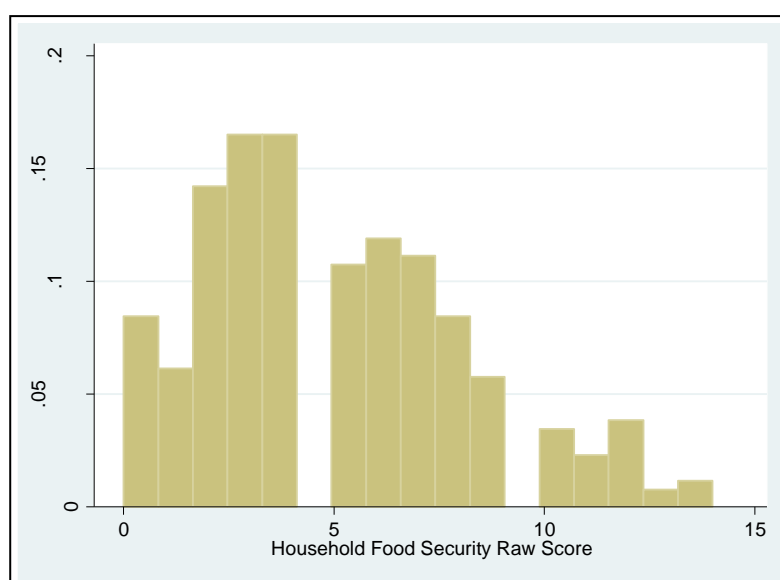


FIGURE 5.3.2.1: Histogram Raw Household Food Insecurity Scores

³ http://www.fantaproject.org/publications/hfias_intro.shtml

Principal component analysis (PCA) was run on the scores for each of the six items to narrow in on the variation in the data to cut out statistical noise. This resulted in the construction of a household food insecurity index. A binary variable was also constructed from the data accessed through HFIAS, with 1 coded for households with 5 food insecurity points or more and 0 otherwise. This binary variable therefore indicates those respondents that reported significant food insecurity problems in their homes.

Another measure of household food security that was used is the monetary value of food consumed by the household in the past seven days. To capture data on this measure, the household respondents were asked to recall the particular types and quantities of foods they consumed during this period. The particular quantity of each food item was then transformed into a monetary value, i.e. either how much they paid for the food item in question or, if the food item was from their own production, how much they would have paid if it was bought from the local market. These data were then added together and put on a logarithmic scale to normalise the distribution and minimise the influence of outliers.

Data were additionally collected on household asset possession and other relevant wealth indicators to measure household wealth status. The particular basket of assets and indicators include those listed in Table 5.3.2.1.

TABLE 5.3.2.1:
List of Assets/Attributes Used to Construct Household Asset Index

1. Electricity	20. Hand pump well	39. Watering can
2. Lamps (electric, paraffin)	21. Sewing machine	40. Guna
3. Televisions	22. Electric fan	41. Spade
4. Radio	23. Air conditioner	42. Plastic/mental bucket
5. Cassette/CD player	24. Refrigerators/freezer	43. Washing basin
6. DVD/video player	25. Plough (plow)	44. Jerry can/water container
7. Table	26. Ox cart	45. Curtains for house
8. Chair	27. Buffalo/bull	46. Machete
9. Iron	28. Cow	47. Pick
10. Bed	29. Goat/sheep	48. Axe
11. Mattress	30. Milling machine	49. Source of cooking fuel
12. Sala set (sofa)	31. Gas stove	50. Toilet facility type
13. Mobile phone	32. Seed bank	51. Material for floors of home
14. Spoon/Fork	33. Gold jewellery	52. Material for walls of home
15. Glasses/cups	34. Donkey/horse	53. Material for roof of home
16. Pots and pans	35. Chickens/Ducks	54. Number of rooms in home
17. Bicycle	36. Pigs	55. Hectares of land used for farming
18. Motorcycle/motor scooter	37. Small row boat	
19. Store, shop	38. Sprayer	

Household wealth was measured by accessing data on asset ownership and other wealth indicators.

For each item, the respondent was first asked whether their household had/owned it. For non-binary items, a follow-up question was asked on the precise number possessed/owned. The respondent was then asked whether their household possessed/owned the item in question in the baseline period and then the precise number, if relevant. This was done to ascertain household wealth status at baseline. The number of non-binary items owned/possessed for each household was then divided into three quantiles for each time period. Principal component analysis (PCA) was then run on these quantiled variables, as well as the binary items, to construct asset indices for each time period, as well as the difference in asset ownership between the time periods.

There is no strong evidence that the project made a significant impact on either household food security or income.

The respondents were further asked about their ability to meet household needs. They were specifically presented with the following four descriptions and asked which reflected their own situation most closely over the past 12 months. These include the following:

- **Doing well:** able to meet household needs by your own efforts, and making some extra for stores, savings, and investment.
- **Breaking even:** Able to meet household needs but with nothing extra to save or invest.
- **Struggling:** Managing to meet household needs, but depleting productive assets and/or sometimes receiving support.
- **Unable to meet household needs** by your own efforts: dependent on support from relatives living outside of your household or the community, government and/or some other organisation – could not survive without this outside support.

Households were subsequently coded with 1 if they reported themselves to be breaking even or doing well and 0 otherwise. The resulting binary variable is therefore a measure of households who perceive that they are at least able to meet household needs.

TABLE 5.3.2.2:
Comparison of Intervention and Comparison Sites: Household Food Security & HH Asset Wealth

	Household Food Insecurity Index	Food Insecure (binary)	Value of Food Consumed (log)	Household asset index	Differenced asset index	Ability to meet HH needs
Unadjusted:						
Sample mean	-0.00	0.49	5.98	-0.00	-0.00	0.54
Intervention mean:	0.01	0.53	6.04	-0.14	0.04	0.59
Comparison mean:	-0.01	0.45	5.92	0.14	-0.04	0.50
Unadjusted difference :	0.0263 (0.14)	0.0758 (1.35)	0.119 (1.96)	-0.288 (-0.93)	0.0803 (0.35)	0.0860 (1.53)
Observations:	316	316	315	316	316	315
PSM (ATT)						
Post-matching difference:	-0.106	0.0384	0.0700	-0.0949	-0.0614	0.0824
(kernel)	(-0.52)	(0.62)	(1.09)	(-0.28)	(-0.30)	(1.34)
Observations:	298	298	298	298	298	298
Post-matching difference:	-0.0256	0.0643	0.0755	-0.220	-0.0784	0.0929
(no replacement)	(-0.13)	(1.03)	(1.18)	(-0.63)	(-0.33)	(1.56)
Observations:	294	294	294	294	294	294
Multivariable Regression:						
MVR coefficient (fe; robust):	-0.186 (-1.06)	0.0302 (0.49)	0.0855 (1.52)	0.0520 (0.32)	0.100 (0.45)	0.1236 [*] (2.07)
Observations:	316	316	315	316	316	315
MVR coefficient (fe; rreg):	-0.109 (-0.61)	n/a	0.124 [*] (2.10)	-0.0457 (-0.46)	-0.0301 (-0.31)	n/a
Observations:	316		315	316	316	
MVR coefficient (fe; robust):	-0.151	0.0459	0.0861	0.0138	-0.0182	0.1215 [*]
with control functions	(-0.83)	(0.72)	(1.48)	(0.08)	(-0.08)	(1.97)
Observations:	304	304	315	304	304	304

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

PSM estimates bootstrapped 1000 repetitions

Coefficients for covariates used not presented

A comparison of the intervention and comparison households on the above measures of household food security, household asset ownership, and perceived ability to meet household needs is presented in Table 5.3.2.2. For all the various measures, no significant difference between the intervention

and comparison groups was consistently identified, save for the ability to meet household needs measure where about an eight to 12 percentage point difference in favour of the project households was identified.

The male and female respondents were also asked separately both the number of times they ate during the previous day, as well as the number of varieties of food items consumed. The results are presented in Table 5.3.2.3. As is evident from the table, both the women and men of the comparison groups reported eating, on average, about four times during the previous 24 hours and consumed over four different varieties of food. While there are no significant differences between the intervention and comparison women, there are significant differences in favour of the men residing in the project villages. In particular, they were found to have consumed more varieties of food, on average, than the men of the comparison villages. There is evidence, then, that the project impacted food consumption for men but not for women.

Interestingly, there is some evidence that the project improved the diets of men but not women.

TABLE 5.3.2.3:
Comparison of Intervention and Comparison Sites: Household Food Security and Household Asset Wealth

	Women # of feedings	Women # of food items	Men # of feedings	Men # of food items
<i>Unadjusted:</i>				
Sample mean	4.01	4.40	4.01	4.11
Intervention mean:	4.05	4.46	4.13	4.28
Comparison mean:	3.97	4.35	3.89	3.95
Unadjusted difference :	0.0789 (0.66)	0.112 (0.63)	0.245* (2.13)	0.328* (2.26)
Observations:	305	305	294	292
<i>PSM (ATT)</i>				
Post-matching difference: (kernel)	0.0868 (0.68)	0.148 (0.82)	0.152 (1.25)	0.314* (2.15)
Observations:	302	302	276	274
Post-matching difference: (no replacement)	0.0370 (0.30)	0.0815 (0.44)	0.183 (1.53)	0.352* (2.37)
Observations:	289	289	272	270
<i>Multivariable Regression:</i>				
MVR coefficient (fe; robust):	0.0704 (0.60)	0.149 (0.87)	0.178 (1.63)	0.319* (2.20)
Observations:	304	304	294	292
MVR coefficient (fe; rreg):	0.115 (1.02)	0.181 (0.99)	0.233* (2.05)	0.304* (2.10)
Observations:	304	304	293	291
MVR coefficient (fe; robust): with control functions	0.0731 (0.61)	0.133 (0.79)	0.161 (1.41)	0.326* (2.12)
Observations:	304	304	282	280

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
PSM estimates bootstrapped 1000 repetitions

As per the results presented above, there is therefore minimal evidence that the project was successful in significantly bolstering household food security. Why is this the case? Is it because the project failed to bolster agricultural production as per the theory of change? To answer this, data related to measures of crop production, sales, and income were analysed. These measures include the following:

Data were collected on both “hard” and “soft” measures of agricultural production and income.

- **Change in area cultivated since baseline**

One of the ways the partner organisation, PBPF, attempted to bolster agricultural production was simply by encouraging households to open up more land for cultivation. Is there evidence that these efforts were successful? To answer this question, the respondents were asked how many hectares of land their households cultivated in the previous 12 months as compared with 2008, i.e. the baseline period. The difference was then computed to estimate the change in area of land cultivated over the life of the project. If PBPF’s efforts were successful, greater change should have taken place on this measure for the project households, as compared with the non-project households.

- **Cash value of harvested crops**

Obtaining data on this measure involved first asking the respondents to recall all the varieties of crops their households grew in the last 12 months. They were then asked to recall the quantity of each crop grown, as well as how much they would have had to pay for what they harvested if it were purchased from the local market. This is therefore a way of quantifying the value of what was harvested in monetary terms. The cash values obtained for each crop were then added together to obtain an estimate of the cash value of all the crops harvested by the household. As was the case with the food consumption measure, the data were then transformed onto a logarithmic scale.

- **Cash received through crop sales**

For each crop harvest, the respondent was then asked the quantity that was sold, if any, as well as how much they received in cash from their sale. Various amounts received from the sale of the various crops were then added together and transformed onto a logarithmic scale.

- **Reported change in agricultural production**

The respondent was first asked whether their household’s agricultural productivity had changed since the baseline period. If they reported that there had been a change, they were then asked to use stones to estimate the percentage of increase or decrease, with each stone representing 10 percentage points.

- **Reported change in agricultural income**

A similar process used to solicit the respondent’s perceptions on changes in agricultural production was used. In particular, s/he was first asked whether their agricultural income had changed since 2008. If so, they were then asked to use stones to estimate the extent of the increase or decrease.

Households in the project and non-project villages were then compared in relation to each of these measures, and the results are presented in Table 5.3.2.4. From the second column, it is clear that households in the project villages did not increase the area of land under cultivation any more than those of the non-project villages. In fact, the increase is low for both groups. For the cash value of harvested crops measure, no significant differences between the two groups were identified. However, for the cash received from crop sales measure the households in the project villages did less well, overall, than those residing in the non-project villages.

The picture is quite different for the two perception based measures on

changes in agricultural production and income: Households in the project villages were found more likely to report increases in both. This is for both the continuous and binary variations of these measures. This is illustrated most strongly in the case of the binary measures: about 40 percent of the project households reported at least some increases in both agricultural production and income against 16 percent among non-project households.

So the question remains: Did the project successfully boost agricultural production and, in turn, income from the sale of agricultural produce? Unfortunately, the evidence is mixed. No evidence favouring impact exists for the “harder” measures relating to changes in hectares cultivated, the cash value of harvested crops, and the cash received through the sale of crops. The results for the “softer” perception-based measures, on the other hand, are positive.

TABLE 5.3.2.4:
Comparison of Intervention and Comparison Sites: Crop Production, Sales, and Income

	Change in area planted since baseline (hectares)	Cash Value of Harvested Crops (log)	Cash Received from Crop Sales (log)	Reported change in production (%)	Reported positive change in production (binary)	Reported change in agri. income (%)	Reported positive change in agri. income (binary)
<i>Unadjusted:</i>							
Sample mean	0.06	8.86	7.20	-0.01	0.29	-0.03	0.27
Intervention mean:	0.07	9.02	6.83	0.04	0.42	0.02	0.38
Comparison mean:	0.05	8.70	7.57	-0.05	0.16	-0.08	0.16
Unadjusted difference :	0.0274 (0.39)	0.320 (1.25)	-0.743 (-1.90)	0.0898** (2.63)	0.2632*** (5.14)	0.100** (3.22)	0.2249*** (4.49)
Observations:	315	316	316	316	316	316	316
<i>PSM (ATT)</i>							
Post-matching difference: (kernel)	0.0343 (0.54)	0.210 (0.80)	-0.824* (-1.98)	0.0803* (2.35)	0.281*** (5.03)	0.0918** (2.90)	0.251*** (4.78)
Observations:	298	298	298	298	298	298	298
Post-matching difference: (no replacement)	-0.0125 (-0.17)	0.158 (0.60)	-0.847* (-2.09)	0.0771* (2.06)	0.271*** (5.12)	0.0964** (2.87)	0.236*** (4.45)
Observations:	294	294	294	294	294	294	294
<i>Multivariable Regression:</i>							
MVR coefficient (fe; robust):	0.0475 (0.70)	0.271 (1.17)	-0.717 (-1.90)	0.0940** (2.81)	0.2835*** (5.03)	0.0990** (3.24)	0.2384*** (4.58)
Observations:	315	316	316	316	308	316	316
MVR coefficient (fe; rreg):	n/a	-0.151 (-1.07)	-0.607*** (-3.53)	0.116*** (3.34)	n/a	0.0896** (2.92)	n/a
Observations:		316	316	316		316	
MVR coefficient (fe; robust): with control functions	0.0216 (0.29)	0.351 (1.45)	-0.663 (-1.69)	0.0854* (2.51)	0.2828*** (4.99)	0.0965** (3.07)	0.2443*** (4.57)
Observations:	304	304	304	304	297	304	304

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

PSM estimates bootstrapped 1000 repetitions

Through the agricultural training and work the women para-technicians, the project also attempted to promote improved farming practices. To investigate the extent these practices were adopted by the households in the project villages, the respondents were first asked whether they undertook the practice during the previous 12 months and also whether they did so back in 2008, i.e. the baseline period. A household was subsequently coded with 1 if the respondent reported undertaking the practice in question during the last 12 months but not in 2008, thereby, indicating the adoption of the practice during the lifespan of the project. Another variable was also created, with 1 coded for

While more households in the project villages have adopted improved agricultural practices, the numbers are very low.

the household if it reported adoption of *any one of the six practices* and 0 if otherwise.

Table 5.3.2.5 presents the results comparing households of the project and non-project villages in relation to their adoption of various agricultural practices. As is clear, very low proportions of households in both groups of villages reported that they took up the various agricultural practices. However, 11 percent of the households in the project villages reported taking up at least one of these practices, against four percent in the non-project villages. And, if the data had been collected through random sampling, the statistical significance of this difference would have held across all the statistical adjustment procedures. However, it still must be acknowledge that very few households in the project villages adopted the agricultural practices promoted under the project.

TABLE 5.3.2.5:
Comparison of Intervention and Comparison Sites: Improvements in Agricultural Practice

	Uptake of any agricultural practice	Leaving land fallow	Planting perennial crops on fallow land	Agro-forestry	Crop rotation	Inter-cropping	Soil erosion control measures
<i>Unadjusted:</i>							
Sample mean	0.07	0.01	0.03	0.03	0.01	0.03	0.01
Intervention mean:	0.11	0.01	0.06	0.04	0.01	0.04	0.01
Comparison mean:	0.04	0.01	0.01	0.03	0.00	0.01	0.01
Unadjusted difference :	0.542* (2.39)	0.0064 (0.59)	0.0447* (2.18)	0.0131 (0.66)	0.0127 (1.43)	0.0320 (1.71)	0.0000801 (0.01)
Observations:	316	316	316	316	316	316	316
<i>PSM (ATT)</i>							
Post-matching difference:	0.0882** (2.99)	0.00541 (0.41)	0.0465* (2.29)	0.0212 (1.24)	0.0139 (1.40)	0.0305 (1.60)	-0.00154 (-0.15)
Observations:	298	298	298	298	298	298	298
Post-matching difference:	0.0714* (2.33)	0 (0.00)	0.0357 (1.65)	0.00714 (0.37)	0.00714 (1.01)	0.0286 (1.40)	0 (0.00)
Observations:	294	294	294	294	294	294	294
<i>Multivariable Regression:</i>							
MVR coefficient (fe; robust):	0.0565*** (3.47)	0.00465 (0.48)	0.0386 (1.97)	0.0152 (0.94)	0.0117 (1.33)	0.0362 (1.92)	-0.000270 (-0.03)
Observations:	300	316	316	316	316	316	316
MVR coefficient (fe; robust):	0.0504** (3.09)	0.00925 (0.95)	0.0305 (1.51)	0.00719 (0.44)	0.0120 (1.35)	0.0323 (1.86)	0.00301 (0.43)
Observations:	289	304	304	304	304	304	304

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
PSM estimates bootstrapped 1000 repetitions

6.0 Conclusions and Learning Considerations

6.1 Conclusions

There is evidence that the Enhancing Access and Control to Sustainable Livelihoods Assets of the Manobo Tribe successfully affected several of the key outcomes assessed under this effectiveness review but not others. In particular, there is more evidence that it has contributed to empowering women than enhancing household food security. Significant differences between respondents in the project and non-project villages were identified on several of the women empowerment measures. These include those related to: women's perceived role in influencing community affairs and self-efficacy and the attitudes of men towards the economic roles of women.

The project has been more successful in empowering women than in improving household food security.

Unfortunately, it is unclear whether the project enhanced women's household decision-making power, given that almost all the women reported either being significantly involved in or, at the very least, could potentially be involved in the vast majority of the 24 decision-making areas assessed.

A key aim of the project was to bolster household food security. However, there is little evidence that it was successful in this regard. For most of the food security measures, no significant differences were identified between the project and non-project groups. There were several exceptions, however. More households in the project villages, for instance, reported being in a position to meet household needs than in the non-project villages. Moreover and very interestingly, men in the project villages were more likely to report consuming a greater variety of food types during the previous day than men in the comparison villages.

The data were also analysed to explore possible reasons why the project did not significantly improve household food security. One likely explanation is that it has not *significantly* increased agricultural production. There is no evidence, for instance, that households in the project sites have increased the land area they cultivate any more than those of the non-project sites. The project households are also no better off in relation to the cash value of the crops they have harvested and money received through their sale in the last 12 months. Finally, while more of the project households reported adoption of at least one improved agricultural practice, the percentage is very low at 11 percent.

However, it should also be acknowledged that the project households were found more likely to report having experienced increases in both agricultural production and income since the baseline period as compared with their non-project counterparts. However, how can the different results associated with the above “harder” with these “softer” measures be reconciled? One way of interpreting these seemingly contradictory results is this: If the project actually did *significantly* increase agricultural production, would this then not be better reflected in the household food security and income measures? In other words, if the project actually has made a substantive impact on agricultural production, there should be significant differences between the intervention and comparison households on the food security and income measures as well.

A key follow-up action is to explore why the project has not significantly increased agricultural production.

6.2 Programme Learning Considerations

While the results of this Effectiveness Review are not overwhelmingly positive, the project is currently in its second phase, so there is scope for strengthening it. Moreover, there are additional lessons that can be learned from this project that can be applied to other projects in the Philippines and elsewhere. Oxfam in general and the Philippines country team and PBPF in particular are encouraged to consider the following:

- **Critically review and assess how the project can more effectively increase agricultural production and income**

While more intervention households than comparison households reported increases in agricultural production from the baseline period, on all the other

agricultural measures, there is no evidence that the project has positively affected agricultural production. However, there is a strong correlation between the various measures of agricultural production and household food security (p -value < 0.01), so it is likely that the former is an important determinant of the latter. Why have most households in the project site, for example, not increased the area of land they cultivate? (Incidentally, not even those directly supported to develop farm development plans were found more likely to have expanded their farms since the project's baseline period.) Are there particular barriers preventing farm expansion and, if so, how can these be overcome?

Following the undertaking of a statistical interaction test, those that reported receiving agricultural inputs appear to have been more positively affected than those that did not (p -value < 0.1). However, it is difficult to draw firm conclusions from this, given that those who received agricultural inputs in the project villages were actually richer, on average, at baseline. However, what is clear is that the agricultural training seems to have made little difference, given that no significant interaction effects were identified. This is corroborated by the fact that very few households reported adopting the improved agricultural practices promoted by the project. It is, therefore, recommended that the agricultural support dimension of this project be reviewed.

- **Verify the extent women are actually involved in decision-making at the household level through qualitative methods**

Almost all the women in both the project and non-project villages reported being significantly involved in household level decision-making. To what extent is this really true? It may very well be true that women in other parts of the Philippines are not significantly involved in certain dimensions of household decision-making, but this may not necessarily apply to the particular ethnic group targeted by the project. If the women of the project site are actually found to be significantly empowered at the household level, it may be better for the project to continue to concentrate its efforts on empowering women at the community level.

- **Explore ways of more effectively promoting positive attitudes about the economic roles of women among both women and men**

The effectiveness review found the attitudes of women about the economic roles of women to be about the same in both the project and non-project areas. This indicates that the project has not positively affected such attitudes among women. While there is evidence that it has positively affected the attitudes of men, their attitudes about the economic roles of women are still, nevertheless, worse than those of women in both the project and non-project sites, so there is still room for improvement. It is, therefore, recommended that more effective ways of promoting more positive attitudes about the economic roles of women be developed and implemented among both men and women in the project's sites.

