WOMEN'S EMPOWERMENT IN INDONESIA

Evaluation of Papua women's empowerment

Effectiveness Review Series   2013/14

Photo: Oxfam

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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 'Papua Women's Empowerment' (PAWE) project was one of those selected for an Effectiveness Review in the 2013/14 financial year.

The overall objective of the project, subject to evaluation, was to improve women's awareness and participation in the decision-making and implementation of a large-scale national community-driven development (CDD) programme called PNPM Mandiri/RESPEK. This is the National Programme for Community Empowerment (PNPM) Mandiri-Strategic Village Development Plan. This was to be achieved by a combination of a grant programme and the training of 50 local facilitators ('cadre members') whose mandate was to provide gender training to beneficiary women's groups and local government officials. The grant programme provided funding to women's groups to organise women's capacity building activities (e.g. training on business economic planning, proposal writing, financial record keeping, vocational skills, and gender issues, etc.). In addition to this, the project also provided support to women's groups in designing project proposals and running group activities. This project was funded by the Japan Social Development Fund (JSDF), supervised by the World Bank and implemented by Oxfam in six districts in Papua Province and four districts in West Papua Province, between May 2009 and April 2013.

Evaluation design

This Effectiveness Review used a quasi-experimental evaluation design to assess the impact of the project activities approximately four years after the implementation started. It involved carrying out household surveys of a random sample of 175 members in 23 PAWE beneficiary women's groups. These groups were randomly selected from among all the 39 groups supported by Oxfam in Jayapura, Merauke and Biak-Numfor district. In addition, a random sample of 271 women from 23 women's groups in neighbouring villages were interviewed and included in the study to serve as a comparison group.

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

Results

The results from this Effectiveness Review suggest that Papua Women's Empowerment (PAWE), the project under analysis, has had a positive effect on women's awareness of and participation in PNPM Mandiri/RESPEK and women's vocational and entrepreneurial skills. It appears that, after completion of the project, women participating in the project are more aware of the PNPM Mandiri/RESPEK project than similar woman who did not participated into the project. They are also more likely to have applied for PNPM Mandiri/RESPEK funding and have participated into village meetings where activities of PNPM Mandiri/RESPEK were discussed and presented.

Summary of results

Outcome	Impact	Comments
Awareness of and participation in PNPM Mandiri/RESPEK	YES	Women participating into the project are more aware of the PNPM Mandiri/RESPEK project. They are more likely to have applied for PNPM Mandiri/RESPEK funding and participated in village meetings where activities of PNPM Mandiri/RESPEK were discussed.
Vocational and entrepreneurial skills	YES	Women participating into the project are more likely to be participating in group activities and they feel more confident about their group's skills activities.
Ability to make decisions and influence	NO	There is some evidence to suggest that intervention women are *less* likely to be involved in household decision-making on expenditure and management.
Self-perception	To some extent	There is some evidence to suggest that women that participated into the project record higher measures of self-confidence and ability to overcome difficulties. There is no evidence suggesting changes in attitudes toward women's rights.
Personal freedom	NO	Beneficiary women appear to be more accepting of domestic violence than comparison women, and scored lower on the freedom of movement indicator.
Access to and control over resources	NO	There is no evidence to suggest higher independent income or higher ownership of strategic assets.
Support from social networks	To some extent	Women participating into the project display higher group enrolment than women in the comparison group.

The analysis suggests that women participating into the Papua Women's Empowerment (PAWE) project are, on average, more active in group participation and feel more confident about their vocational and entrepreneurial skills compared with similar woman who did not participate in the project. On the other hand, despite the support provided by the project, beneficiary woman do not appear to be more confident in writing successful applications in the future.

Women participating in the project appear to record higher levels in measures for self-confidence and ability to overcome difficulties. However, we find no evidence suggesting that the project had a positive impact on decision making. Women participating in the project do not demonstrate higher levels of group decision-making and community group decision-making. There is also some evidence that women participating in the project are less likely to be involved in household decision-making on expenditure and management.

There is no evidence that the project had any impact on attitudes towards women's rights. Moreover, women involved in the project appear to be more accepting of domestic violence than similar comparison women.

Finally, while there is a positive impact on access to potential credit, we failed to find evidence that women participating in the project have increased independent income or own a greater number of strategic assets than similar women not involved in the project.

Programme learning considerations

While the overall findings of the review are positive and in line with previous evaluations, there are additional lessons emerging from the results that can be applied to other projects of this type in Indonesia and elsewhere. The Indonesian country team and the project team are encouraged in particular to consider the following:

- **Future project design should clearly articulate in advance what a successful outcome should look like, defining the concept of women's empowerment and what indicators to use to measure it.**

This can be achieved by a gender power analysis, defining a theory of change and providing sensible and achievable goals, as well as explicit assumptions, risks and alternative strategies. During the project design the country team is encouraged to agree among all project stakeholders what a successful outcome looks like, and how these indicators are measured. Moreover it should define how change should take place, identifying logistical constraints and geographical limitations. Particularly in context of complex projects with many actors, assumptions and risks should be made explicit in order to inform learning for necessary changes in project activities.

- **Carefully consider the assumptions under which the project is going to be designed.**

Ideally the assumptions under which the project is designed should be grounded in research and evidence from previous projects. This evaluation is suggesting that some assumptions under which the project was designed were not reflected in the project's findings. For example, one of the assumptions suggested that increasing knowledge and awareness alone in gender targeting women is an effective way to promote gender equality. However, while there is evidence suggesting that the project increased awareness of the PNPM Mandiri project, the evaluation did not find evidence suggesting an increase in women's decision making within the household; changes in attitudes toward women's right; freedom of movement; acceptability of domestic violence; access to independent income or ownership of strategic assets. The project team is encouraged to explore the reasons behind the mismatch between assumptions and evidence found with the study.

- **Consider investigating the impact and mechanisms of change in future projects.**

The project employed a variety of interventions, such as training, grant distribution, and awareness-raising interventions. Understanding the relationships between the various project activities is important in being able to target resources in future interventions. To that end, consideration should be given in future similar projects to putting in place evaluation systems that will be able to differentiate the effects of different interventions, to allow the optimal combination of interventions to be established.

Programme and project staff are encouraged to consider how to integrate evidence and findings coming from rigorous impact evaluation with campaigns and advocacy interventions in order to scale up the impact of the project.

1 INTRODUCTION

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) under 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 global outcome indicator for the women's empowerment thematic area is defined as the percentage of women demonstrating greater involvement in household decision-making and influencing affairs at the community level, compared to a 'typical' comparison woman. This indicator is explained in more detail in Section 5.

This Effectiveness Review, which took place in October–November 2013, was intended to evaluate the success of the project 'Papua Women's Empowerment (PAWE)' in promoting empowerment of women among the project participants. This project was funded by the Japan Social Development Fund (JSDF), supervised by the World Bank and implemented by Oxfam in six districts in Papua Province and four districts in West Papua Province, between May 2009 and April 2013. In the light of security concerns and budgetary constraints, the decision was made to focus the review on project activities in three districts in Papua Province, namely Jayapura, Biak-Numfor and Merauke. The project impact results presented in this report are therefore restricted to Oxfam's activities in these three districts and should not be extrapolated to intervention districts outside the study sample.

This report presents the findings of the project Effectiveness Review. Section 2 begins by reviewing the intervention logic of the project, Section 3 describes the evaluation design, and Section 4 details the data collection process, including the descriptive statistics on the population surveyed and the differences in outcome measures between the intervention and comparison groups at baseline. Section 5 presents the results of the data analysis. Section 6 concludes with a summary of the findings and some programme learning considerations.

2 PROJECT DESCRIPTION

To understand the rationale for and the objectives of the Papua Women's Empowerment (PAWE) project, it is important to understand the context in which it was designed and implemented. In August 2006, the President of Indonesia announced the government's commitment to a national programme of community empowerment (PNPM). This programme is based on a modality that transfers un-earmarked block grants directly to communities, which assign them to support proposals developed by villagers through a participatory planning process. The PNPM Mandiri programme in Papua and West-Papua is a sub-national programme within this context. In Papua Province the programme is called PNPM Mandiri/RESPEK (or only RESPEK) and in West Papua it is called PNPM Mandiri Perdesaan.

By 2009, PNPM Mandiri had become the flagship development programme of Indonesian Papua. The programme was being implemented in every village in the two provinces with a total coverage of about 5,000 villages. PNPM Mandiri was seen by the World Bank and other donors as a significant instrument for increasing the investment in poverty reduction in Papuan provinces, which are still among the poorest in Indonesia, and have the largest gender gaps of any province in Indonesia. Maternal mortality is high, female literacy is very low, and domestic violence is prevalent. Women rarely participate in decision-making despite carrying the burden of the work at home and in agriculture.

The typical PNPM Mandiri project cycle starts with intensive socialisation by a team of 900 facilitators and local project staff covering every village in both provinces. A planning process, including separate meetings in which women prioritise their own needs is undertaken and the village then decides on the priority proposals. In addition to earmarking 15 per cent of funds to proposals that directly benefit women, local PNPM Mandiri staff members were instructed to select proposals that prioritise women and/or are prepared by women to compete for the remainder of the funds. However, in 2009, the quality of the women's proposals was low, as was their ability to lobby in a general meeting for their priorities. As a result, the target of having 15 per cent of PNPM Mandiri funds going to women's proposals failed to be reached.

The PAWE project, running from May 2009 until April 2013, was designed by the World Bank, funded by the Japan Social Development Fund (JSDF) and implemented by Oxfam, to support the community-driven development PNPM Mandiri programme.[1] The short-term objective of the project was to empower indigenous Papuan women by increasing their participation in the decision-making and implementation processes in the community-driven development programme PNPM Mandiri/RESPEK so that they are better able to benefit from the programme, and to address their needs and priorities. This was to be achieved through the provision of demand-driven capacity building and training opportunities (e.g. proposal writing, vocational skills, etc.) and the creation of gender awareness among project participants, PNPM Mandiri project staff and other key stakeholders such as village leaders and government officials. The long-term objective of the project goes beyond PNPM Mandiri, however, aiming to improve women's participation in civic activities and decision-making processes more generally. The expectation was that greater involvement of women in community-driven development projects, such as PNPM Mandiri/RESPEK, has a knock-on effect in improving their participation in civic activities outside the projects.

The main target group of PAWE were indigenous Papuan women, as individuals or collectively as groups. The groups consist of women's groups established by the PAWE project and the women's savings groups called Revolving Funds Program for Women (SPP), established by the National Program of PNPM Mandiri/RESPEK in

Papua and West Papua. The individual women consist of *cadre* members, identified by PAWE as women who played an active role in the community in terms of women capacity building activities. In total, the programme reached 114 women's groups (consisting of 1710 members) and 53 individual women.
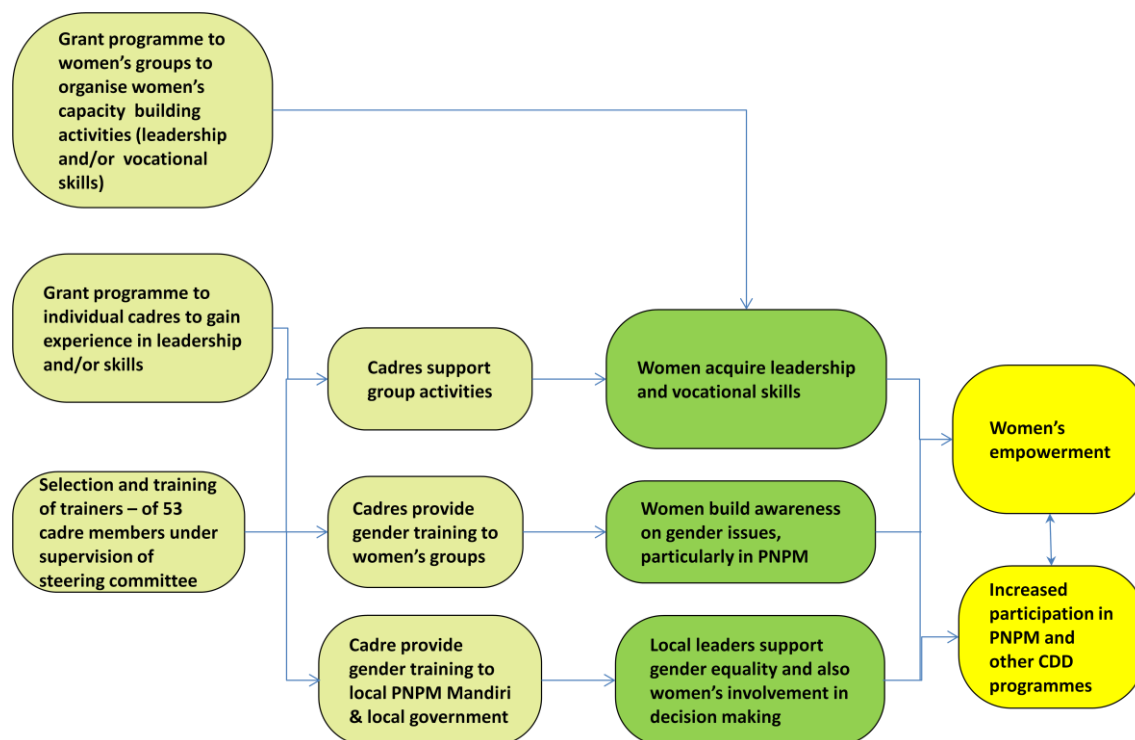
Figure 2.1. Logic model of the project

Figure 2.1 summarises the theory of change of the PAWE project. First, Oxfam selected 53 individual cadre members under supervision of the PAWE Steering Committee and trained them in areas such as gender issues, financial management and group facilitation skills.[2] The role of the cadre members in turn was envisaged to be two-fold: 1) to build capacity of local women and women's organisations in their communities directly by providing hands-on support and organising training in group activities (e.g. proposal writing, budgeting, etc.) and to create gender awareness; and 2) to improve the enabling environment for their participation by providing training and awareness-raising to the broader local community, including local male leaders and PNPM Mandiri project officials. Cadre members were selected through nominations from women's groups and individuals from around the Papua provinces.

To support the cadre members in their women's capacity-building activities, the PAWE project ran a grant programme that consisted of two components: 1) Individual cadre members could apply for individual grants to gain experience in leadership and skills (e.g. by attending training in Jakarta), which they could, in turn, employ to train and support women's groups in their local communities; 2) Women's groups could apply for funding to organise – under close supervision and mentorship of cadre members – women's capacity building activities related to:
- gender training
- leadership training (e.g. financial management, business management, budgeting, proposal writing, progress report writing, book keeping)
- vocational training (e.g. sewing, cooking, tailoring, etc.)
- purchase of productive equipment (e.g. sewing machine)
- construction of infrastructure for group activities (e.g. building).

Through its grant programme and the support provided by the trained cadre members, the PAWE project aimed to enhance the capacity of indigenous Papuan women and to increase their awareness of and participation in PNPM Mandiri and other community-driven development programmes. Qualitative discussions with project staff and project participants suggest, however, that the women's empowerment objective of the project was multi-dimensional. In this review we will consider various project outcomes related to women's empowerment (influence in the community, self-confidence, control over resources, etc.).

The PAWE project was implemented in six districts (*kabupaten*) in Papua Province (Jayapura, Keerom, Biak-Numfor, Jayawijaya, Merauke and Boven-Digoel) and four districts in West Papua Province (Manokwari, Teluk Wondama, Teluk Bintuni and Sorong Selatan). Because of security concerns at the time of the Effectiveness Review, however, it was deemed impossible to visit the project areas in West Papua Province and those in Keerom in Papua Province. Furthermore, due to the dispersion of the intervention communities in Papua Province, it was logistically and financially infeasible to visit Boven-Digoel and Jayawijaya. In light of these constraints the decision was made to focus the review on three districts: Jayapura, Merauke and Biak-Numfor.

Figure 2.1 indicates the intervention areas which were subject to Effectiveness Review.

Figure 2.1 Indonesia with the project areas that were reviewed marked in red
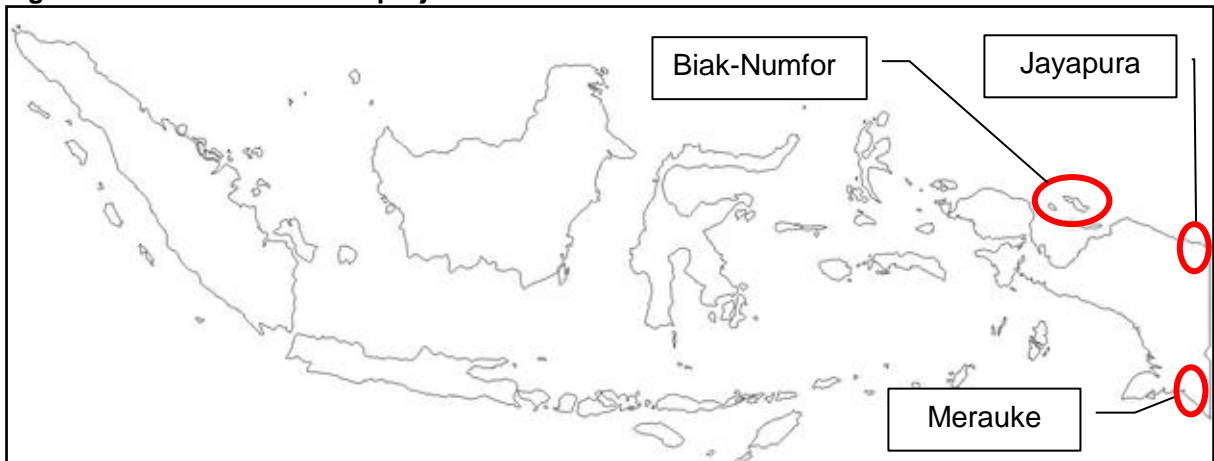
3 DESIGN

3.1 EVALUATION APPROACH

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 participating in the project was examined through a household questionnaire – but clearly it was not possible to observe what their situation would have been if they not had the opportunity to participate in this project. In any evaluation, that '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. Units where the programme was not implemented can, indeed, provide a good estimate of the counterfactual as long as these – at the outset of the project – can be assumed to be similar to the beneficiary group in all respects except for the implementation of the specific programme.

The 'gold standard' approach to an impact evaluation 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 ex-ante, and so maximises the confidence that any differences in outcomes ex-post are due to the effects of the programme.

In the case of the project examined in this Effectiveness Review, the unit at which the programme was implemented was the women's group. The selection of beneficiary groups was not made at random. In fact, beneficiary women's groups were chosen by cadres, possibly based on them being particularly interested in undertaking income-generating activities and/or them being somehow linked to the cadre members. See section 3.2 for more information about the selection process. However, discussions with the implementation staff and cadre members revealed that not all women's groups within the intervention area were covered by the project and that there were in fact many more groups that were considered similarly suitable for implementation than could, in actuality, have been covered by the project. Therefore, a 'quasi-experimental' evaluation approach was adopted, in which the situation of women in non-implementation women's groups in neighbouring villages was assumed to provide a reasonable counterfactual for the situation of women in the implementation groups. Section 3.2 provides more information on the selection of the comparison group.

To improve the confidence in making this comparison, women in the project groups were 'matched' with women with similar characteristics in the non-project (or 'comparison') groups. Matching was performed on the basis of a variety of characteristics – including household size, 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 was performed on the basis of these indicators *before* the implementation of the project. Although baseline data were not available in this case, survey respondents were asked to recall some basic information about their household's situation from before the project was implemented. While this recall data is unlikely to be completely accurate, this should not lead to significant bias in the estimates as long as measurement errors

due to the recall data are not significantly different for the treatment and comparison group.

The survey data provided a number of baseline household characteristics on which matching could be carried out. These characteristics were used to calculate a 'propensity score', which is the conditional probability of a woman being in an intervention group, given particular background variables or observable characteristics. Women in the project and comparison groups were then matched based on their having propensity scores within certain ranges. See Appendix 1 for a more extensive explanation of the matching procedure and a discussion of the tests carried out to assess whether the baseline distributions of each characteristic is similar between the two groups after matching.

It should be noted that propensity-score matching models 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 groups to survey for this Effectiveness Review was made principally to minimise the potential for any such unobservable differences to bias the results. Details on the intervention and comparison groups are provided in the next section.

3.2 SELECTION OF INTERVENTION AND COMPARISON GROUPS

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 evaluation designs. A comparison group that differs in relevant baseline characteristics and/or is subjected to different external events and influences, will likely result in misleading conclusions about project impact. Identifying a plausible comparison group is therefore critically important and is not, generally speaking, an easy task in non-experimental work. This section explains the selection process followed for this review.

The first stage in identifying an appropriate comparison group is to understand the process by which project participants were selected. In the case of this particular project, there were effectively three levels of selection. First, Oxfam's PAWE team, supported by the PAWE Steering Committee, identified PNPM Mandiri-supported villages in the intervention districts which were inhabited by indigenous people and in which it was deemed feasible to identify 'gender champions' as suitable cadre members. Next, cadre members were selected through nominations from women's groups and individuals from these eligible areas. Successful candidates had to demonstrate affiliation to a women's group or organisation committed to preparing proposals for sub-grants to implement local activities to promote gender equality. In selecting the cadre members, attention was paid to ensuring representation from across the provinces, from different ethnic groups, and from different religious or political organisations. In turn, elected cadre members selected women's groups in their communities that they would be able and willing to support. In total, across the three intervention districts evaluated, 39 women's groups were supported by the project, comprising 343 women in total.

In order to identify suitable comparison groups, the evaluation team contacted the cadre members who had been responsible for the selection of PAWE supported women's groups. In collaboration with these cadre members, women's groups in neighbouring villages were then identified, which – according to those cadre members – had been fairly similar to supported groups at baseline, but which could not be supported by the project because of capacity constraints. In particular, efforts were made to identify indigenous women's groups in nearby villages, with similar baseline characteristics in terms of their approximate size, ethnic and demographic composition, livelihoods activities, access to facilities and distance from major roads. Importantly, comparison groups had to be located in neighbouring villages that were covered by PNPM Mandiri but which, just like the PAWE supported groups, had not received any support from PNPM Mandiri in 2009.

The next section describes the sampling strategy used to sample survey respondents from the intervention and comparison populations.

4 DATA COLLECTION

4.1 SAMPLING STRATEGY

As discussed in Section 2, it was decided to restrict the Effectiveness Review to the districts of Jayapura, Merauke and Biak-Numfor. Within these three districts, 39 women's groups consisting of 343 women received support from PAWE through the assistance of cadre members and the grant programme. It was not feasible to interview each of these project participants and, therefore, women were randomly sampled to participate in this study. In villages with more than two supported groups, we randomly sampled two women's groups for surveying.[3] To avoid contamination of the study, we dropped one village with two beneficiary women's groups that were selected for piloting of the survey instruments during training of the enumerators. Finally, two women's groups located in Yembeba and Yembepon had to be dropped from the sample given their exceptional remoteness, which was deemed infeasible for visiting given the budget available for this review. As a result, we had 24 women's groups in the treatment sample, but one group turned out to be unavailable for interview. Out of the 23 available women's groups, we randomly sampled three group leaders and five rank and file members, to ensure the representativeness of the group's composition. In the event, it was only possible to visit 175 out of the 184 sampled beneficiary women during the survey period.

In the previous section we discussed the strategy that was used to identify comparison women's groups in neighbouring villages. Out of each of the 23 selected comparison groups, we randomly sampled three group leaders and ten rank and file members. Out of these 299 sampled comparison respondents, we managed to visit 271 during the survey period.

In total, we obtain a sample of 446 female respondents. Table 4.1 summarises the composition of the sample used in this review.

Table 4.1: Intervention and comparison group sample sizes

District	Total number of supported women's groups	Total number of supported women	Number of supported women's groups in sample	Number of supported women in sample	Number of comparison women's groups in sample	Number of comparison women in sample	Total sample size
Jayapura	10	101	6	37	6	54	91
Biak-Numfor	9	94	6	49	6	76	125
Merauke	20	148	11	89	11	141	230
TOTAL	**39**	**343**	**23**	**175**	**23**	**271**	**446**

It should be noted that the sample size by district is too small in order to do statistically meaningful disaggregation. This review will therefore focus on the analysis of the average impact of the project across the three districts.

A household questionnaire was developed by Oxfam staff to capture data on various outcome and intervention exposure measures associated with the project's activities. Demographic data and recalled baseline data were also collected, to statistically control for differences between the supported and comparison respondents that could not plausibly be affected by the project. The questionnaire was pre-tested first by Oxfam local staff and then by the enumerators during a practice exercise and revised accordingly.

4.2 DATA DESCRIPTION

Table 4.2 presents summary statistics on the demographic and recalled baseline characteristics captured by the survey. It compares the averages between the women in the beneficiary group (the 'intervention' group) and those in the comparison group, prior to matching. The asterisks indicate differences in averages between the groups that are statistically significant at the 10 per cent significance level or lower.

The table demonstrates that there are some important differences between the women in the project communities and those in the comparison communities. In particular it appears that:

- Households participating in the project are on average larger than comparison households.
- Households participating in the project have on average a greater number of children younger than 6 years old compared with comparison groups.
- On average, the household head and the survey respondents are significantly younger in intervention households compared with households in the comparison groups.
- Households involved in the PAWE project present higher proportions of household members with primary, junior high and senior high school education compared with non-participants.
- On average, the main activity for the head of the household in the intervention group appears to be less likely to be farming compared with comparison group. On the other hand, intervention households are more likely to be involved in other agricultural activities and off-farm business compared with comparison households.
- Households involved in the project appear to live closer to the centre of town. The average distance from their houses to the main district road was significantly shorter than that of the comparison group. Similarly, the average distance to the district centre was also shorter than that of the comparison group.

It is particularly important to control for these demographic and baseline differences when making estimates of the project's impact. All the variables listed in Table 4.2 have been controlled for in the PSM models used to derive the results presented in Section 5.

Table 4.2: Descriptive statistics: comparison between intervention and comparison households (before matching) on recall data from 2009

	Overall		
	Intervention mean	Comparison mean	Difference
Average HH Size	5.411	4.790	0.622***
% HHs with female head	18.9	24.0	-0.051
Average % of people < 6 years old in HH	16.2	11.0	0.052***
Average % of people > 60 years old in HH	2.2	3.8	-0.016
Average age of household head	40.634	43.956	-3.321***
% HHs with head who completed primary education	90.9	85.6	0.052
% HHs with head who completed junior high school	57.7	51.7	0.061
% HHs with head who completed senior high school	41.7	34.7	0.070
% HHs with head who has some higher education (e.g. diploma, university, etc)	8.6	6.6	0.019
Average age of respondent at baseline	35.400	39.775	-4.375***
% HHs with respondent who completed primary education	90.9	84.1	0.067**
% HHs with respondent who completed junior high school	57.7	45.8	0.120**
% HHs with respondent who completed senior high school	36.6	25.5	0.111**
% HHs with respondent who has some higher education (e.g. diploma, university, etc)	6.9	4.1	0.028
% HHs with head's main occupation = farming	36.0	50.9	-0.149***
% HHs with head's main occupation = other agricultural activities	10.3	5.2	0.051**
% HHs with head's main occupation = off-farm business	5.1	2.2	0.029*
% HHs with head's main occupation = casual labour	8.6	7.7	0.008
% HHs with head's main occupation = salary job	8.0	7.0	0.010
% HHs with head's main occupation = civil servant	12.0	10.7	0.013
% HHs with respondent's main occupation = farming	44.0	53.9	-0.099**
% HHs with respondent's main occupation = other agricultural activities	9.1	4.1	0.051**
% HHs with respondent's main occupation = off-farm business	10.9	9.6	0.013
% HHs with respondent's main occupation = casual labour	5.7	3.0	0.028
% HHs with respondent's main occupation = salary job	0.6	1.8	-0.013
% HHs with respondent's main occupation = civil servant	2.9	3.7	-0.008
% HHs with respondent engaged in farming (e.g. growing rice)	61.7	69.7	-0.080*
% HHs with respondent engaged in processing agricultural products	19.4	14.0	0.054
% HHs with respondent engaged in rearing livestock	24.0	18.1	0.059
% HHs with respondent engaged in dairy production	4.6	0.7	0.038***
% HHs with respondent engaged in off-farm business	22.3	17.7	0.046
% HHs with respondent engaged in casual labour (daily hire)	9.7	8.1	0.016
% HHs with respondent engaged in unskilled formal job	5.1	2.6	0.026
% HHs with respondent engaged in skilled formal job	2.9	2.6	0.003
Average distance to the district road on foot (minutes)	90.114	105.114	-15.000**
Average distance to the village centre on foot (minutes)	29.663	30.085	-0.422
Average distance to the district centre on vehicle (minutes)	63.349	78.587	-15.238**
% HHs in poorest quintile	0.17	0.22	-0.050
% HHs in 2nd poorest quintile	18.3	21.0	-0.027
% HHs in middle income quintile	23.4	17.7	0.057
% HHs in 2nd richest quintile	20.0	19.9	0.001
% HHs in richest quintile	21.1	19.2	0.020
Number of observations	175	271	-

1. $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
2. HHs = households
3. These variables are estimates, based on recall data or reconstructed from the composition of the household at the time of the survey

5 RESULTS

5.1 INTRODUCTION

Most of the analyses presented in this section are based on a non-parametric propensity score matching (PSM) procedures using kernel as the matching algorithm. This report attempts to be jargon-free and therefore detailed technical discussions are moved to Appendix 1. However there are few statistical concepts that are useful to introduce here before reviewing the results. An overview of these concepts is provided in Box 5.1.

Box 5.1. Introduction to some statistical concepts

Impact or effect size

Simply put, impact refers to the size of the difference between groups when evaluating outcomes. In this report, impact will often be stated as the average difference between people who received Oxfam support (intervention) and matched people who did not (matched comparison).

Statistical significance

When we talk about 'significant impact' in this report, we mean impact that is 'statistically significant'. For example, imagine that we measure that the average sampled Oxfam beneficiary household earned £100 more than the average sampled comparison household. Although this difference seems quite large, we remember that this estimated average impact is derived from data on a *sample* of intervention and comparison individuals, rather than data on the *true* population of beneficiaries and their respective counterfactual values (see discussion in Section 3.1). Given that we only have one sample available, there is always the off-chance that we have been unfortunate with our sample and that we happen to have drawn beneficiaries with relatively high values from a population pool with a true average impact of zero. Therefore, it is necessary to take into consideration the statistical probability of measuring impacts of £100 if there were truly no differences in earnings between the intervention and comparison groups, i.e. if in reality there was zero impact. This probability is usually referred to as the *p-value*. P-values help to evaluate study hypotheses. The default hypothesis is always that there are no differences between the intervention and comparison groups. When a difference is detected, the p-value is used to evaluate whether the default hypothesis should be rejected – i.e. that there are no differences between the groups – and conclude that the project had an impact. If the p-value is small, for instance one per cent, this means that the probability of obtaining an estimate of £100 if the true impact was zero is very small and we can reject the hypothesis that the project had no impact on earnings at the one per cent significance level. We would then say that the result is 'significant'. This is different from saying that the magnitude of the result is large, because magnitude refers to effect size or impact, as explained above. Taken together, significance and magnitude help us to interpret the results.

In the results tables, statistical significance is indicated by asterisks. One asterisk (*) indicates a p-value of less than 10 per cent, two asterisks (**) indicates a p-value of less than 5 per cent and three asterisks (***) indicates a p-value of less than 1 per cent (* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$). The higher the p-value, the less confident we are that the measured estimate reflects the true impact. Values with a p-value of more than ten per cent are considered statistically insignificant in this report. Note that the smaller the sample size and the greater the variation in the outcomes (i.e. *standard errors*) among the sampled households, the less confident we are in the accuracy of the estimated impact, the larger the p-value, and, hence, the less likely we are to conclude that a result is statistically significant.

5.2 EXPOSURE TO PROJECT ACTIVITIES

Before considering outcome-level changes, it is interesting to consider the proportion of respondents who report exposure to project-related interventions as described in Section 2. This is an important consideration, firstly as it represents the analysis of the first step of the project's theory of change – i.e. are project participants being exposed to the intended women's empowerment-support interventions? Secondly, it is important to assess whether respondents in comparison areas also report receiving such support in their communities, as this may have an effect on the differences that may be detected between the intervention and comparison groups in the outcome measures reported subsequently.

5.2.1 Awareness of PAWE project

Across the entire sample of people interviewed, 48 per cent of the respondents reported of being aware of the development programme called PAWE project. For the project to be effective, it is expected that the intervention group should be relatively more informed about PAWE. From the results of the survey it appears that women involved in PAWE project are more likely to have heard about the project itself than their counterparts in the comparison group. Specifically, 91 per cent of beneficiary women reported to know about PAWE, compared to 20 per cent of the comparison women at 2013.

5.2.2 Grants from PAWE

As explained in the Section 2, the grant programme formed a crucial component for the project implementation. According to the project's theory of change, women's groups could apply for funding to organise various capacity building activities. Without the possibility to obtaining grants, it would be difficult to organise the training and the project would be less successful. Therefore, it is important to look at whether the women's groups did indeed receive any grants from PAWE. Among those women who have heard about PAWE, on average 79 per cent of them in the intervention group have also received a grant supporting their group's activities, compared with 45 per cent of the respondents in the comparison group.

The qualitative work conducted for this analysis revealed that the programme payment suffered delays in its implementation. On average, 65 per cent of those women who reported to have received a grant from PAWE reported to have received it for the first time in 2012. That means that grants were disbursed on average two years after the programme was launched. As a result of these delays many groups may have not been able to complete their activities. It is therefore possible that we might not be able to observe the full impact of the project. It is also important to note that according to the in-depth interviews conducted by the evaluation team, it appears that these delays were also the cause of mistrust by group members of the project.

5.2.3 Activities supported by PAWE grants

On average, among those women who reported to know about the project, 78 per cent in the intervention group applied to PAWE for a grant, compared with only nine per cent in the comparison group.

Women's groups could apply for financial support on a variety of activities related to women's empowerment. Some 71 per cent of the respondents in the intervention group applied for leadership training (i.e. financial management, budgeting, proposal writing

and financial report writing), followed by gender training (69 per cent), vocational skills training (61 per cent), and purchase of production equipment such as sewing machines (49 per cent). The least popular activity was 'construction of infrastructure' with only 22 per cent of the respondents applying for a training grant on this subject.

On the other hand, 33 per cent and 29 per cent of the women in the comparison group who knew about PAWE applied for vocational skills training and gender training. Leadership training, purchase of production equipment and construction of infrastructure for group activities had almost same popularity ranging from 20 to 22 per cent.

Figure 5.1: Proportion of women that applied for grants – by activities
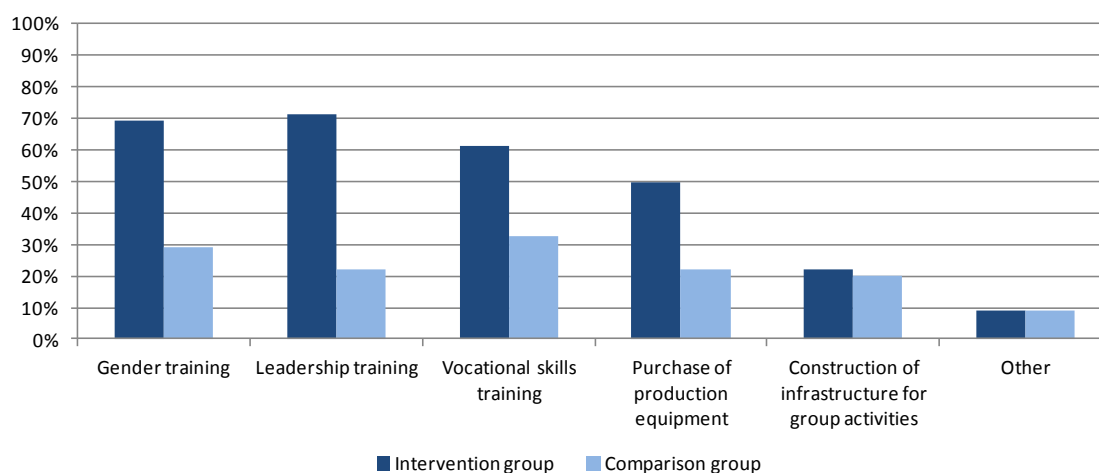
5.2.4 Request approved, grant distributed and used

In order to be regarded as successful the project required women not only to apply, but also to receive the grants and using them. Among those women in the intervention group who reported having made at least one application for a grant from PAWE, 73 per cent said that their women's group's proposal was accepted compared with only 8 per cent of the women in the comparison group. Overall, among those women in the intervention group who reported at least one successful grant application, 98 per cent of women in the intervention group have disbursed grants for at least one of their activities compared to 95 per cent of the comparison women. Moreover, for those who reported to have received grants from PAWE, 96 per cent of women in the intervention group and 100 per cent of women in the comparison group reported that their women's group activities have been completed[4].

5.2.5 Activities that addressed needs and priorities

The survey asked those who had ever received PAWE financial support for their women's group the extent to which they think that these activities addressed their needs and priorities. Some 83 per cent of women in the intervention group reported that at least one of the activities addressed their needs and priorities, compared to 95 per cent of respondents in the comparison group.

The result by activities is presented in Figure 5.2. It appears that leadership training, purchase of production equipment, and vocational skills training represents women's priorities.

Figure 5.2: Proportion of women for whom activities addressed their needs and priorities
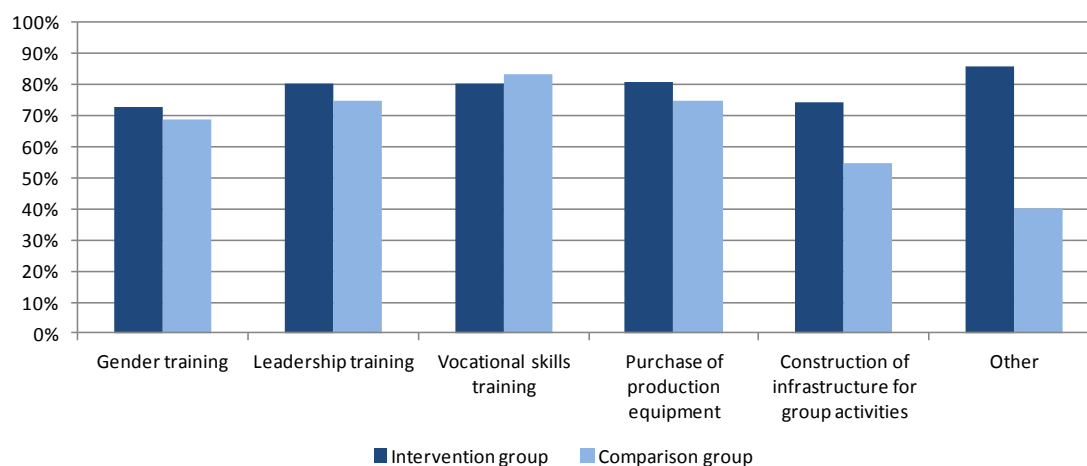
The questionnaire also asked if there were still some PAWE grants outstanding in the response group's accounts. In the intervention group 28 per cent of respondents reported that their group still had some grant on their account, compared to 16 per cent of women in comparison group.

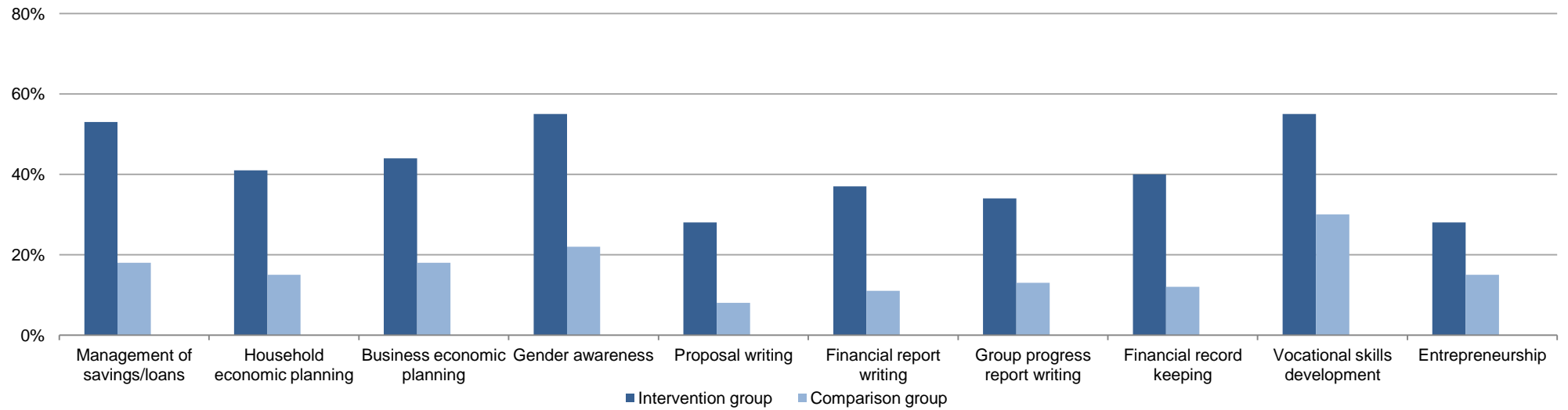## 5.2.6 Support provided to PAWE groups

As explained in Section 2, the project worked with cadre members who played an active role in: 1) building the capacity of local women and women's organisations in their communities providing support and organising training in group activities (e.g. proposal writing, budgeting, etc.) and to create gender awareness; 2) improving the enabling environment providing training and awareness-raising to the broader local community, including local male leaders and PNPM Mandiri project officials.

Given the crucial role played by cadre member in the success of the project, it is relevant to see to what extent group members know their cadre members. On average 90 per cent of the women in the intervention group reported knowing the cadre member in their group, compared with 17 per cent of the women in the comparison group.

The questionnaire also investigated respondents' level of satisfaction and the frequency at which respondents were meeting the cadre members in their group. Some 48 per cent of women in the intervention group interacted with their cadre members less than once a month, 44 per cent interacted with cadre members once a month, and 3 per cent interacted more than four times in a month. In the intervention group 46 per cent of women reported a positive feedback (very good or rather good) on the services provided by the cadre members, while 20 per cent provided negative feedback (very bad or rather bad).

Figure 5.3 presents the proportion of respondents in the intervention and comparison communities who reported having received various trainings since 2009. As discussed in Section 2, the PAWE project aimed to empower Papuan women by increasing their participation in the implementation and decision-making processes in the community-driven development programme PNPM Mandiri/RESPEK so that they are better able to benefit from the programme, and to address their needs and priorities. This was to be achieved by women's participation in the training. Beneficiary respondents were significantly more likely to report to have received training on each of the topics covered by PAWE funding programme (management and savings/loans, household economic planning, business economic planning, awareness of women's rights and gender issues, proposal writing, etc.).

Figure 5.3: Proportion of women that have received training since 2009

Chart axis labels (x-axis): Management of savings/loans, Household economic planning, Business economic planning, Gender awareness, Proposal writing, Financial report writing, Group progress report writing, Financial record keeping, Vocational skills development, Entrepreneurship

Legend: ■ Intervention group ■ Comparison group

5.3 ANALYSIS OF OUTCOMES

This section will examine the differences between the women in the intervention and 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:

- Women's awareness of and participation in PNPM Mandiri/RESPEK
- Women's vocational and entrepreneurial skills
- Women's ability to make decisions and influence (household, women's group, community groups)
- Women's self-perception (self-efficacy, attitude to women's roles and rights)
- Women's personal freedom (freedom of movement, attitude to domestic violence)
- Women's access to and control over resources (independent income, ownership over strategic assets, access to credit)
- Women's support from social networks (social connectivity, group membership)

5.3.1 Overall degree of women's empowerment

The project under review was specifically aimed at increasing women's empowerment. Oxfam GB has adopted and adapted an approach that assesses several dimensions of women's empowerment. This approach builds on the 'Women's Empowerment in Agriculture Index'[5] (WEAI) developed by the Oxford Poverty and Human Development Initiative with support from the United States Agency for International Development (USAID) and the International Food Policy Research Institute (IFPRI).

Using the WEAI approach, the index used in this Effectiveness Review assesses **seven dimensions of women's empowerment.**[6] Several indicators have been specified for each of these seven 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 particular area where the survey was carried out, through key informant interviews and focus group discussions with a wide range of project stakeholders. The seven dimensions and the 20 characteristics identified are listed in Figure 5.4. 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 a women's empowerment in this particular context.

Figure 5.4: Specific characteristics of women empowerment examined in this Effectiveness Review

Dimension	Characteristic
Women's awareness of and Participation in PNPM Mandiri/RESPEK	Awareness of PNPM Mandiri
	Participation in village meetings about PNPM Mandiri/RESPEK
	Applications to funds from PNPM Mandiri/RESPEK
	Confidence in the success of women's groups' PNPM Mandiri/RESPEK applications in the future
Women's vocational and entrepreneurial skills	Degree of active participation in women's group activities
	Confidence in skills related to women's group activities
Women's ability to make decisions and influence	Involvement in productive decisions of the household
	Involvement in expenditure decisions of the household
	Involvement in household-management decisions
	Influence in women's group decision-making
	Influence in community decision-making
Women's self-perception	Self-efficacy
	Attitude to women's roles and rights
Women's personal freedom	Freedom of movement
	Attitude to domestic violence
Women's access to and control over resources	Independent income
	Ownership of strategic assets
	Potential access to credit
Women's support from social networks	Social connectivity in the community
	Group membership

The questionnaire used in the Effectiveness Review included questions relating to each of the characteristics listed in Figure 5.4. For each characteristic, a benchmark was defined, based on what it means for a woman to be faring reasonably well in relation to the characteristic in question. The particular benchmarks used for each characteristic are described in the sections that follow, and are presented in summary form in Appendix 2. There is inevitably a degree of arbitrariness in defining such cut-offs.

In the pages that follow, we will consider how project participants differ from comparison women in each of the women's empowerment characteristics listed in Figure 5.4. 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 used to derive the results detailed below is the proportion of characteristics in which the women scored positively, which we define as the *base empowerment index*. Further, a woman was defined as having positive empowerment *overall* if she met the cut-off for positive women's empowerment in at least two thirds of these characteristics. A second women's empowerment index was then created, which takes a value of 1 if the woman reaches that benchmark for overall women's empowerment and otherwise is equal to the proportion of characteristics in which the woman scored positively. This modified index is known as the *Alkire-Foster empowerment index*.[7]

Finally, the Oxfam GB global indicator for women's empowerment is 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 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.

Table 5.1 presents the differences between the women surveyed in the project and comparison communities in terms of each of these three measures of overall women's empowerment.

Table 5.1: Overall indices of women's empowerment

	1	2	3	4
	Base empowerment index	AF empowerment index	Women meeting global indicator for women's empowerment (unadjusted)	Women meeting global indicator for women's empowerment (adjusted)
Intervention group mean:	0.51	0.75	0.60	0.60
Comparison group mean:	0.47	0.70	0.47	0.47
Difference:	0.033** (0.015)	0.051** (0.021)	0.14** (0.056)	0.14** (0.058)
Observations (intervention	161	161	161	161
Observations (total):	428	428	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

Figure 5.5: Results for characteristics of women's empowerment

Legend: ■ Intervention households ■ Comparison households

Overall *
(women's empowerment…)

Women's awareness of and participation in PNPM Mandiri/RESPEK
- Awareness of the programme***
- Participation in meetings***
- Apply for funding**
- Confidence in application

Women's vocational and entrepreneurial skills
- Active participation in group activities***
- Confidence about skills related to group activities***

Women's ability to make decisions & influence
- Involvement in productive decisions in the household
- Involvement in expenditure decisions in the household**
- Involvement in household-management decisions **
- Influence in women group decision-making
- Influence in community group decision-making

Women's self-perception and personal freedom
- Self-efficacy***
- Attitude to women's roles & rights
- Freedom of movement***
- Attitude to domestic violence **

Women's access to and control over resources and social connectivity
- Independent income
- Ownership strategic assets
- Potential access to credit*
- Social connectivity in the community
- Group membership**

5.3.2 Dimension 1: Women's awareness of and participation in PNPM

The fist dimension of women's empowerment in this effectiveness review is women's awareness of and participation in PNPM Mandiri/RESPEK. As explained in Section 2, the short-term objective of PAWE is to empower indigenous Papuan women by increasing their participation in the implementation and decision-making processes in the community-driven development programme PNPM Mandiri/RESPEK. Therefore higher awareness and participation in PNPM Mandiri/RESPEK are crucial points to achieve positive changes among women in the intervention group.

The results regarding women's awareness of and participation in PNPM Mandiri/RESPEK are based on four different indicators:

- **Awareness of the programme**, asking respondents 'Have you ever heard about a development programme called PNPM Mandiri/RESPEK?'
- **Participation in meetings**, investigating the attendance in village meetings where the activities of PNPM Mandiri/RESPEK were discussed. Asking respondents 'Have you ever attended a village meeting in which the activities of PNPM Mandiri/RESPEK were discussed?'
- **Apply for funding**, investigating if the respondent applied for a loan from the PNPM Mandiri/RESPEK programme. Asking respondents 'Has your women's group ever applied for a loan from the PNPM Mandiri/RESPEK programme?'
- **Confidence in application**, investigating confidence that the application would be accepted in the future. Asking respondents 'How confident do you feel that if your group was to write a proposal today, it would get accepted by PNPM Mandiri RESPEK in the future?'

The results for these four measures are shown Table 5.2. The first column suggests that 95 per cent of the women in the intervention group are aware of PNPM Mandiri/RESPEK. This figure is statistically significantly higher than the comparison group, where on average 88 per cent in women are aware of the project.

Second column in Table 5.2 is suggesting the on average 57 per cent of the women in the intervention group reported to have attended a village meeting in which the activities of PNPM Mandiri/RESPEK were discussed, compared with only 35 per cent of the women in the comparison group. Also this difference is statistically significant at 1 per cent level.

In addition the respondents were asked whether the types of projects that have been supported in the communities by RESPEK are indeed the ones that the communities needed the most. Some 47 per cent of women in intervention group reported positively on this question, compared to 40 per cent on women in comparison group.

The third column in table 5.2 shows that on average 19 per cent of the respondents in the intervention group belongs to a women's group that applied for funding using PNPM Mandiri/RESPEK, compared with only 9.3 per cent of the women's in the matched comparison group. This difference is also statistically significant, and it is consistent with the idea that women's groups in the intervention group are more likely to get proposals together and apply.[8]

Column four presents results regarding women's confidence in writing applications. It was expected that project intervention would have boosted confidence. However, there seems to be no statistically significant difference between intervention and comparison groups.

Table 5.2: Women's awareness of and participation in PNPM Mandiri/RESPEK

	1	2	3	4
	Awareness of the programme	Participation in meetings	Apply for funding	Confidence in application
Intervention group mean:	0.95	0.57	0.19	0.48
Comparison group mean:	0.88	0.35	0.093	0.45
Difference:	0.074*** (0.028)	0.22*** (0.057)	0.09** (0.040)	0.027 (0.063)
Observations (intervention):	161	161	161	161
Observations (total):	428	428	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

5.3.3 Dimension 2: Women's vocational and entrepreneurial skills

The second dimension of women's empowerment considered in this Effectiveness Review focused on women's vocational and entrepreneurial skills. The first of these is **active participation in group activities** – a measure of women's active participation in groups. A woman scored positively on this indicator if she reported having taken a active part in at least one of the nine activities listed below.

- Managing savings/loans
- Household economic planning
- Business economic planning
- Writing a proposal
- Writing a financial report
- Writing a group progress report
- Financial record keeping
- Income generating activities that your group is engaged in (e.g. sewing, baking, tailoring, etc.)
- Entrepreneurship.

The second indicator is **confidence about skills related to group activities** which measures how confident respondents feel about their skills. A woman scores positively on this indicator if she reports to be 'very confident – I can do this on my own' in at least one out of the nine activities listed above.

The first column on Table 5.3 shows that on average 75 per cent of women in the intervention group scored positively on the indicator of active participation in group activities. This is compared with only 51 per cent of the women in the comparison group. This difference is statistically significant suggesting that the project was successful in enhancing participation in group activities.

The second column in Table 5.3 presents results on confidence on skills. On average 46 per cent of the women in the intervention group scored positively, compared with only 31 per cent of the women in the comparison group. Also this indicator is statistically significant different, suggesting that women in the intervention group feel more confident in a variety of skills. Data suggest that 'business economic planning' and 'income generating activities' are the most popular skills.

Table 5.3: Women's vocational and entrepreneurial skills

	1	2
	Active participation in group activities	Confidence about skills related to group activities
Intervention group mean:	0.75	0.46
Comparison group mean:	0.51	0.31
Difference:	0.24*** (0.054)	0.15*** (0.053)
Observations (intervention group):	161	161
Observations (total):	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

5.3.4 Dimension 3: Women's ability to make decisions and influence

The third dimension of women's empowerment considered in the Effectiveness Review focused on women's influence in decision-making processes in their household, their women's group, and in their community. We will look at the results for each of these three levels separately.

The results regarding women's decision-making power in the household are based on questions in the survey which 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 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.
- **Decisions on household's expenditures**: Decisions regarding how the money earned from various agricultural and non-agricultural activities is spent.
- **Decisions on household management**: Decisions regarding 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.

For each of these decision-making areas, the respondent was first asked who normally takes the decisions regarding that area (if applicable to the household) and then, if the woman reported not to be the one responsible or not to be the only one responsible, to what extent she thinks she could influence the decision, on a scale from 'not at all' to 'a large extent'. A woman scored positively on the measure of involvement in productive decisions if she reported being involved to at least a medium extent in at least half of the productive decision-making areas in which the household was active. The same applies to the indicators for involvement in expenditure decisions and household-management decisions.

The results for these three measures of involvement in household decision-making are shown in Table 5.4.

The first column of Table 5.4 suggests that on average 65 per cent of the women in the intervention group score positively in the indicator on household decision making in

productive decisions, compared with 59 per cent of the women in the comparison group. There seem to be no statistically significant differences between these two groups.

The estimates in the second column in Table 5.4 suggest that on average women in intervention group are less likely to be involved in household decisions concerning expenditure compared with women in the comparison group. The difference of 12 probability points is statistically significant.

Finally, the third column in Table 5.4 suggests that 46 per cent of the women in the intervention group score positively in the indicator of decisions making on household management, compared with 60 per cent of the women in the comparison group. Also this difference is statistically significant different from zero.

Table 5.4: Characteristics of women's involvement in household decision-making

	1	2	3
	Involvement in productive decisions in the household	Involvement in expenditure decisions in the household	Involvement in household-management decisions
Intervention group mean:	0.59	0.61	0.46
Comparison group mean:	0.65	0.73	0.60
Difference:	-0.07 (0.060)	-0.12** (0.058)	-0.15** (0.060)
Observations (intervention group):	161	161	161
Observations (total):	428	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

The results regarding women's decision-making power in their women's groups are based on questions in the survey regarding the following group decision-making areas:

1. Which activities the group engages in.
2. How the funds of the group are allocated.
3. The appointment of new group leadership.
4. Acceptance of new group members.
5. What gets written in the financial reports.
6. What gets written in the project progress reports.
7. What gets written in funding proposals.

The indicator measuring a woman's influence in her women's group is constructed in exactly the same way as the indicator related to intra-household influence: Each respondent was scored positively on this measure if she reported being involved to at least a medium extent in the decision-making process of at least half of the activities that her group is engaged in (of the seven listed above). Column 1 in Table 5.5 presents the findings, suggesting that there are no statistically significant differences between intervention and comparison group on women's groups decision-making. The community influence dimension of women's empowerment is concerned with how much women are able to influence community life. The indicator considered here assesses the extent to which the respondents perceive they are able to **influence decision-making in their communities**. To investigate this, respondents were asked to state the extent to which they agree or disagree with the following seven statements:[9]

1. Nowadays, women's opinions are valued in your community and are used to create policies that are more just.
2. Compared to a few years back, there are now more opportunities for women in your position to become influential actors in how your community is governed.
3. If you wanted to voice your opinion in public meetings, community leaders would encourage you to do so.
4. If a decision was made in a public form that might negatively affect your life and those of your children, you would not hesitate to stand up and protest.
5. You don't mind speaking in front of many people, even if the traditional leader is around.
6. In meetings about development opportunities in your community, you generally feel comfortable to lobby for your personal priorities.
7. Things have really changed in your community over the last few years. Women now feel much more comfortable to speak openly and truthfully in public forums.

Responses for each statement were scored on a scale from one to four, with higher scores representing more positive sentiments about the ability to participate in and influence community affairs. A binary indicator of community influencing was then constructed, which takes a positive value for women who responded positively (i.e. 'strongly agreed', giving them a score of 4) to at least four of the seven statements.

Column 2 in Table 5.5 suggests that there are no statistically significance differences on the indicator of influence in community group decision-making.

Table 5.5: Women's influence in women's group and in community

	1	2
	Influence in women's group decision-making	Influence in community group decision-making
Intervention group mean:	0.19	0.43
Comparison group mean:	0.28	0.47
Difference:	-0.084 (0.054)	-0.024 (0.058)
Observations (intervention group):	161	161
Observations (total):	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

5.3.5 Dimension 4: Women's self-perception

The fourth dimension of women's empowerment considered in this report includes two different elements of women's self-perception. The first of these 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':[10]

1. You can always manage to solve difficult problems if you try hard enough.
2. It is easy for you to stick to your aims and accomplish your goals.
3. You are confident that you could deal efficiently with unexpected events.
4. If you are in trouble, you can usually think of a solution.
5. You can usually handle whatever comes your way.

The respondent was scored positively on this measure if she agreed with at least three out of these five statements. The results of the comparison between the intervention and comparison women are presented in column 1 of Table 5.6.

On average, 81 per cent of the women in the intervention group scored positively in the indicator of self-efficacy, compared with 72 per cent of women in the comparison group. There seems to be a significant difference between the two groups suggesting that the project was successful in enhancing self-efficacy in beneficiary's women's group.

Table 5.6: Characteristics of women's self-perception

	1	2
	Self-efficacy	Attitude to women's roles & rights
Intervention group mean:	0.81	0.30
Comparison group mean:	0.72	0.24
Difference:	0.093** (0.045)	0.061 (0.050)
Observations (intervention group):	161	161
Observations (total):	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

The second indicator under this dimension examines women's **attitudes towards women's and men's roles and rights**, both in the home and outside the home. This indicator is informed by female respondents' reactions to a subset of statements that were presented to them during the questionnaire. Again, women were asked to state the extent of their agreement or disagreement with each of the statements on a four-point scale.

The indicator looks at the extent women agree or disagree with the following eight statements:[11]

1. A man's job is to earn money; a woman's job is to look after the home and family.
2. Women are just as capable as men of contributing to household income.
3. A man and women should share responsibility for both earning money and caring for the home and family.
4. Men are more important than women in ensuring that the food and income needs of the family are met.
5. 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, for instance: go to office for work, gardening, etc.
6. A wife should obey her husband, even if she disagrees with him.
7. Once a husband has paid his dowry, the woman should oblige and take care of all the household chores.
8. A wife should never question the decisions made by her husband.

Again, responses for each statement were scored on a scale from one to four, with higher scores representing more positive sentiments about the productive role and the rights of women. For statements expressed in a positive sense the respondent scored positively if she strongly *agreed* with the statement. For statements expressed in a negative sense the respondent scored positively if she *disagreed* with the statement. Respondents scored positively on this outcome if they scored positively on at least four of these eight statements.

Column 2 of Table 5.6 suggests that there are no statistically significant differences between intervention and comparison women in the indicator looking at attitudes towards women's and men's roles and rights.

5.3.6 Dimension 5: Women's personal freedom

The survey included questions relating to two characteristics of personal freedom. Table 5.7 shows the results of the comparison of women in project and comparison communities in terms of each of the individual characteristics.

The first characteristic considered under this dimension is **the degree of autonomy that the respondent has in her movements**. The indicator was constructed by presenting the respondent with the following statement, and asking to what extent she agreed with it: 'If you wanted to participate in a group in the community, you would not have to seek permission from anyone'. The respondent was scored positively on this characteristic if she strongly agreed with this statement.[12] The first column of Table 5.7 suggests that on average 4 per cent of the women in the intervention group scored positively in the indicator of freedom of movement, compared with 23 per cent of the women in the comparison group. This difference is also statistically significant different from zero.

Respondents were also asked for their opinion on **the acceptability of violence against women**. Specifically, women were asked whether they believe it is acceptable for a man to hit his wife if:[13]
1. she spends money on things he does not approve of
2. she goes outside of the home without his permission
3. she talks back to him
4. she disobeys him
5. she refuses to have sex with him
6. he suspects that she has been unfaithful
7. she does not serve him as he expects to be served
8. for any reason at all, if he wants to
9. he has paid the dowry.

Women scored positively in terms of their attitude towards domestic violence if they deemed it unacceptable for a husband to hit his wife in *each* of these nine situations. Column 2 of Table 5.7 presents estimates on the indicator of attitude towards domestic violence. It appears that women in the intervention group are more likely to find it acceptable for a man to beat his wife. In the comparison group 48 per cent of the respondents deemed it unacceptable for a husband to hit his wife, compared with 38 per cent of the women in the intervention group.

Table 5.7: Characteristics of women's personal freedom

	1	2
	Freedom of movement	Attitude to domestic violence
Intervention group mean:	0.047	0.34
Comparison group mean:	0.286	0.48
Difference:	-0.238*** (0.044)	-0.14** (0.054)
Observations (intervention group):	168	161
Observations (total):	439	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

5.3.7 Dimension 6: Women's access to and control over resources

Three different indicators were examined in the survey to assess women's access to and control over resources. The results of this analysis are shown in Table 5.8.

The first indicator under this dimension considered was whether a woman has **access to some independent income**, independently from her spouse. To assess this, respondents were asked to estimate the proportion of income that she personally contributes to household income and resources, and was considered to score positively on this basis if she reported that she personally contributes at least half.

Column 1 in Table 5.8 suggests that there are no significant differences between intervention and comparison groups on the indicator investigating independent income.

Table 5.8: Characteristics of women's access to resources

	1	2	3
	Independent income	Ownership strategic assets	Potential access to credit
Intervention group mean:	0.70	0.66	0.61
Comparison group mean:	0.69	0.70	0.51
Difference:	0.079 (0.055)	-0.038 (0.052)	0.11* (0.058)
Observations (intervention group):	161	161	161
Observations (total):	428	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

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 assets. 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 need be. This information was used to examine which types of assets women themselves have access to. Asset types included in this measure are:

- Livestock (cows, goats, etc.)
- Sewing machine
- Bicycle
- Motorcycle
- Car/truck
- Wheelbarrow
- Mobile phone
- Grinding machine
- Fishing net
- Speed boat/canoe
- Agricultural land.

Women scored positively in terms of their ownership of strategic assets if they reported to have control over at least half of the strategic assets owned by the household. The second column in Table 5.8 shows that 66 per cent and 70 per cent of the women in the intervention and comparison groups respectively scored positively on this indicator. The estimates suggest that there are no significant differences between women in the intervention and comparison groups.

The remaining indicator considered under this dimension of women's empowerment relates to **women's access to credit**. First, the interviewer went through a list of different credit sources (relatives/neighbours, family members outside the community, informal money lender, village savings and loans group, microfinance institution, bank, government programme, church), and for each credit source the respondents were asked to indicate whether they would personally be able to borrow IDR 500,000 from the credit source if they needed it to invest in an income-generating activity. For a woman to score positively on the measure of *potential* access to credit, she had to have access to at least one source of credit. Column 3 in Table 5.8 suggests that there are statistically significant differences between the respondents in the intervention and comparison groups; on average 61 per cent of the respondents in the intervention group scored positively in the indicator of access to credit, compared with 51 per cent of the comparison group.

It appears that respondents in the intervention group reported 'neighbours and relatives in the community' as a main source of credit – 29 per cent of the cases, followed by 18 per cent who reported village savings and loans groups. Conversely, 25 per cent of the comparison group reported neighbours in the community, followed by 18 per cent who reported family members outside the community.

5.3.8 Dimension 7: Women's social connectivity

The final two characteristics included in the Effectiveness Review attempted to evaluate the strength of **respondents' social networks**. The results of the comparison for women in project and comparison communities in terms of these characteristics are shown in Table 5.9. The first characteristic attempted to evaluate each woman's degree of social connectivity by presenting two further statements, and asking respondents the extent to which they agree with them:

1. You would be able to rely on others in the community for advice or support if you needed it.
2. Other people in the community often ask you for advice or support when they need it.

A respondent was scored positively on this indicator if she strongly agreed with at least one of these two statements. Column 1 in Table 5.9 suggests that there are no statistically significant differences in the indicator measuring at social connectivity. Respondents were also asked in which **community groups they participate**, such as agricultural groups, credit or microfinance groups, parent/teachers associations, charitable groups, religious groups, or political groups. Respondents were considered to have scored positively if they reported participating in at least two community groups. Column 2 in Table 5.9 shows that 65 per cent of the women in the intervention group reported participating is at least two community groups, compared with only 53 per cent of the women in the comparison group. This difference is statistically significant at the five per cent level.

Table 5.9: Characteristics of women's social connectivity

	1	2
	Social connectivity in the community	Group membership
Intervention group mean:	0.39	0.65
Comparison group mean:	0.40	0.53
Difference:	-0.014 (0.05.4)	0.12** (0.05.8)
Observations (intervention group):	161	161
Observations (total):	428	428

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; PSM estimates are bootstrapped with 1,000 repetitions.

6 CONCLUSIONS

6.1 CONCLUSIONS

This Effectiveness Review has evaluated the success of the project 'Papua Women's Empowerment (PAWE)' in Papua and West Papua provinces in Indonesia. The project aimed increasing women's awareness and participation in the decision-making and implementation of a large-scale national community-driven development (CDD) programme called PNPM Mandiri/RESPEK. This was to be achieved by a combination of a grant programmes to organise women's capacity-building activities, and a training of 50 local facilitators ('cadre members') whose mandate was to provide gender training to beneficiary women's groups and local government officials, in addition to providing the women's groups with any support required in the design of their project proposals and the running of their group activities.

This Effectiveness Review found evidence of a positive impact on women's awareness and increased participation in the PNPM Mandiri/RESPEK project. There is also evidence of positive change in other women's empowerment indicator related to the project intervention, such as: women's group participation and group enrolment, self-confidence and ability to overcome difficulties, and finally vocational and entrepreneurial skills. Table 6.1 presents a summary of the results for the different women's empowerment indicators.

Table 6.1: Summary of results

Outcome	Impact	Comments
Awareness of and participation in PNPM Mandiri/RESPEK	YES	Women participating into the project are more aware of the PNPM Mandiri/RESPEK project. They are more likely to have applied to PNPM Mandiri/RESPEK funding and participated in village meetings where activities of PNPM Mandiri/RESPEK were discussed.
Vocational and entrepreneurial skills	YES	Women participating into the project are more likely to be participating in group activities and they feel more confidence about their group's skills activities.
Ability to make decisions and influence	NO	There is some evidence suggesting that intervention women are less likely to be involved in household decision-making on expenditure and management.
Self-perception	To some extent	There is some evidence suggesting that women that participated in the project present a higher measure of self-confidence and ability to overcome difficulties. There is no evidence suggesting changes in attitudes toward women's rights.
Personal Freedom	NO	Beneficiary women appear to be more accepting towards domestic violence than comparison women.
Access to and control over resources	NO	There is no evidence suggesting higher independent income or higher ownership of strategic assets in intervention households.
Support from social networks	To some extent	Women participating into the project present higher group enrolment than women in the comparison group.

However, we find no evidence suggesting an improvement in other women's empowerment indicators such as: community and household decision-making; access to and control over resources and independent income; or on changes in attitudes toward women's rights.

Overall results for the women's empowerment's global indicator suggest a positive and statistically significant effect attributed to the project.

6.2 PROGRAMME LEARNING CONSIDERATIONS

Programme learning considerations

While the overall findings of the review are positive and in line with previous evaluations, there are additional lessons emerging from the results that can be applied to other projects of this type in Indonesia and elsewhere. The Indonesian country team and the project team in particular are encouraged to consider the following:

- **Future project design should clearly articulate in advance what a successful outcome should look like, defining the concept of women's empowerment and what indicators to use to measure it.**

This can be achieved by a gender power analysis, defining a theory of change and providing sensible and achievable goals, as well as explicit assumptions, risks and alternative strategies. During the project design the country team is encouraged to agree among all project stakeholders what a successful outcome looks like, and how these indicators are measured. Moreover it should define how change should take place, identifying logistical constraints and geographical limitations. Particularly in context of complex projects with many actors, assumptions and risks should be made explicit in order to inform learning for necessary changes in project activities.

- **Carefully consider the assumptions under which the project is going to be designed.**

Ideally the assumptions under which the project is designed should be grounded in research and evidence from previous projects. This evaluation is suggesting that some assumptions under which the project was designed were not reflected in the project's findings. For example, one of the assumptions suggested that increasing knowledge and awareness alone in gender targeting women is an effective way to promote gender equality. However, while there is evidence suggesting that the project increased awareness of the PNPM Mandiri project, the evaluation did not find evidence suggesting an increase in women's decision making within the household; changes in attitudes toward women's right; freedom of movement; acceptability of domestic violence; access to independent income or ownership of strategic assets. The project team is encouraged to explore the reasons behind the mismatch between assumptions and evidence found with the study.

- **Consider investigating the impact and mechanisms of change in future projects.**

The project employed a variety of interventions, such as training, grant distribution, and awareness-raising interventions. Understanding the relationships between the various project activities is important in being able to target resources in future interventions. To that end, consideration should be given in future similar projects to putting in place evaluation systems that will be able to differentiate the effects of different interventions, to allow the optimal combination of interventions to be established.

Programme and project staff are encouraged to consider how to integrate evidence and findings coming from rigorous impact evaluation with campaigns and advocacy interventions in order to scale up the impact of the project.

APPENDIX 1: 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 is observationally similar at baseline and to obtain the programme 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 woman is observationally 'similar' to another woman. For an overview, we refer to Caliendo and Kopeinig (2008).[14]

The following sections describe and test 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 its *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.

Tables A1.1 and A1.2 present the probit regression results used to estimate the propensity scores in our context. Table A1.1 shows the probit results for the non-parsimonious model entering the full set of matching variables considered in this study. To guarantee that none of the matching variables were affected by the intervention, we only considered variables that relate to baseline, and only those variables that were unlikely to have been influenced by anticipation of project participation (Caliendo and Kopeinig, 2008).

Table A1.1. Estimating the propensity score – non-parsimonious model

Dependent variable: Project participation = 1			
Explanatory variables/characteristics		Coefficient	p-value
hh_size_2009 .1050783	0.036113	2.91	0.034299
hhh_female	0.038735	0.192098	0.84
prop_young_2009	1.134936	0.489483	0.02
prop_elderly_2009	-0.18377	0.90734	0.839
hhh_age_2009	0.008899	0.009999	0.373
hhh_educ_primary	0.181349	0.271551	0.504
hhh_educ_juniorhigh	-0.10709	0.223708	0.632
hhh_educ_seniorhigh	-0.0131	0.226101	0.954
hhh_educ_somehigher	-0.04419	0.296824	0.882
resp_age_2009	-0.0244	0.010459	0.02
resp_educ_primary	0.205404	0.258883	0.428
resp_educ_juniorhigh	0.232614	0.204261	0.255

resp_educ_seniorhigh	0.182493	0.215877	0.398
resp_educ_somehigher	0.121322	0.357607	0.734
mainwork_hhh_farming_2009	-0.54308	0.249542	0.03
mainwork_hhh_otheragri_2009	0.057802	0.336906	0.864
mainwork_hhh_IGA_2009	0.301351	0.442017	0.495
mainwork_hhh_casual_2009	-0.49335	0.317305	0.12
mainwork_hhh_salary_2009	-0.35114	0.318676	0.271
mainwork_hhh_civil_2009	-0.4249	0.308348	0.168
mainwork_resp_farming_2009	0.317781	0.220883	0.15
mainwork_resp_otheragri_2009	0.533507	0.35556	0.133
mainwork_resp_IGA_2009	0.16258	0.304183	0.593
mainwork_resp_casual_2009	0.9828	0.37343	0.008
mainwork_resp_salary_2009	0.395678	0.571972	0.489
mainwork_resp_civil_2009	0.014533	0.473857	0.976
work_resp_1_2009	-0.09956	0.165768	0.548
work_resp_2_2009	0.118848	0.212032	0.575
work_resp_3_2009	0.220143	0.184485	0.233
work_resp_4_2009	1.060992	0.526485	0.044
work_resp_5_2009	0.041664	0.201766	0.836
work_resp_6_2009	-0.10689	0.247868	0.666
work_resp_7_2009	0.489834	0.373068	0.189
work_resp_8_2009	-0.09968	0.414705	0.81
distance_districtroad_2009	-0.00284	0.001561	0.069
distance_village_2009	0.000482	0.002223	0.828
distance_district_2009	-0.0023	0.001628	0.157
wealth2_2009_all	0.099558	0.221112	0.653
wealth3_2009_all	0.326162	0.234084	0.164
wealth4_2009_all	0.080432	0.280202	0.774
wealth5_2009_all	0.109924	0.317576	0.729
BIAK	-0.62388	0.252046	0.013
JAYAPURA	-0.56598	0.29043	0.051
_cons	-0.23745	0.521029	0.649
Number of observations	446		

Notes: Probit regression. All characteristics refer to the baseline in 2009. These variables are estimates based on recall data or reconstructed from the composition of the household at the time of the survey. Standard errors are shown in parentheses. The dependent variable is 1 if the woman participated in the project, 0 otherwise. The coefficients represent the contribution of each explanatory variable/characteristic to the probability that a woman participates in the project.

The final set of variables used in the matching process was identified using a backwards stepwise regression to identify those variables correlated with being in an intervention group at *p*-values of 0.20 or less. Table A1.2 shows the results of the probit model restricted to this final (restricted) set of matching variables.

Table A1.2. Estimating the propensity score – restricted model

| Dependent variable: Project participation = 1			
Explanatory variables/characteristics	Coefficient		p-value
hh_size_2009	0.102423	0.032461	0.002
mainwork_hhh_farming_2009	-0.33472	0.155521	0.031
mainwork_hhh_civil_2009	-0.34862	0.237123	0.142
mainwork_hhh_casual_2009	-0.3697	0.269366	0.17
mainwork_hhh_IGA_2009	0.476602	0.358014	0.183
prop_young_2009	1.046547	0.462396	0.024
distance_districtroad_2009	-0.00268	0.001459	0.066
mainwork_resp_casual_2009	0.788667	0.324472	0.015
work_resp_3_2009	0.218173	0.167717	0.193
JAYAPURA	-0.47532	0.229472	0.038
BIAK	-0.46888	0.201055	0.02
work_resp_4_2009	1.041697	0.507495	0.04
resp_age_2009	-0.0187	0.006187	0.003
resp_educ_primary	0.36417	0.209042	0.081
mainwork_resp_otheragri_2009	0.446026	0.284731	0.117
resp_educ_seniorhigh	0.233318	0.158542	0.141
distance_district_2009	-0.00223	0.001561	0.154
_cons	0.098149	0.411523	0.811
Number of observations	446		

Notes: Probit regression. All characteristics refer to the baseline in 2009. These variables are estimates, based on recall data or reconstructed from the composition of the household at the time of the survey. Standard errors are shown in parentheses. The dependent variable is 1 if the woman participated in the project, 0 otherwise. The coefficients represent the contribution of each explanatory variable/characteristic to the probability that a woman 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 4.3), some of the women in the intervention group are too different from the comparison group to allow for meaningful comparison. We developed a minima and maxima comparison, deleting all observations whose propensity score is smaller than the minimum and larger than the maximum in the opposite group (Caliendo and Kopeinig, 2008). In this particular case, 4 of the 271 women surveyed in the comparison villages and 14 of the 161 women surveyed in the intervention villages were dropped because of them lying outside the common support area. This means 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 A1.1 illustrates the area of common support and indicates the proportion of women lying on and off the common support area, by treatment group.

Figure A1.1: Propensity score on and off common support
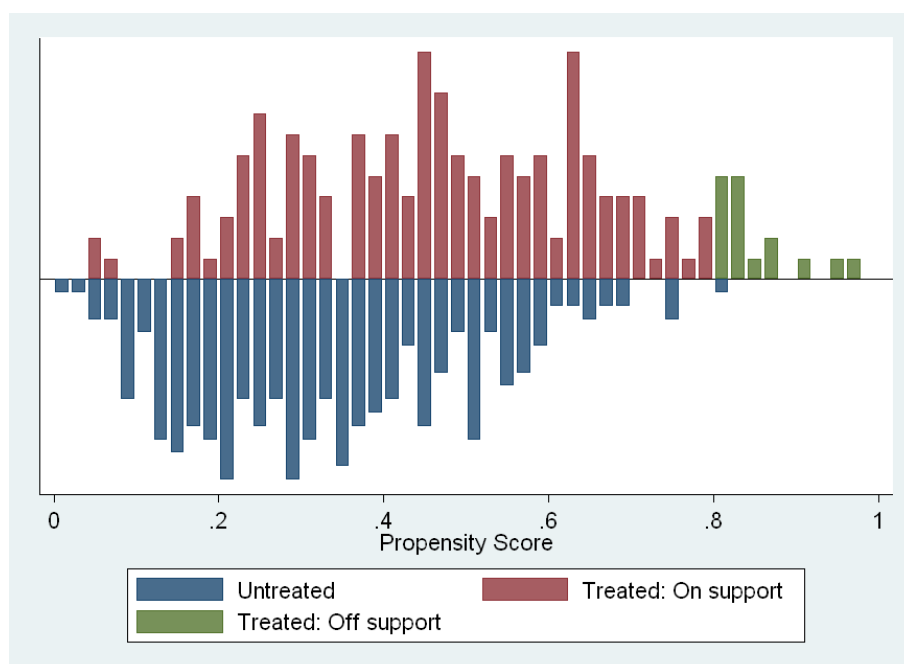
Matching intervention women to comparison women

Following Rosenbaum and Rubin (1983), after estimating the propensity scores and defining the area of common support, individuals are 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. The kernel-matching method 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 get a larger weight than 'poor' matches.

We used the *psmatch2* module in STATA using the default of 0.06 as a bandwidth and restricted the analysis 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.[15]

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. Efforts were made to ensure that the covariates were balanced across groups at *p*-values greater than 0.20. The balance of each of the matching variables after kernel matching is shown in Table A1.3. None of the variables implemented for the matching are statistically significant once the matched sample

is used. Moreover, the matching variables are jointly statistically insignificant in the matched sample, whereas they were jointly statistically significant in the unmatched model.

Table A1.3. Balancing test on the restricted set of matching variables

Baseline characteristic		Mean		p-value
		Treated	Control	
hh_size_2009	Unmatched	5.2848	4.8104	0.03
	Matched	5.2848	5.1651	0.643
mainwork_hhh_farming_2009	Unmatched	0.36709	0.50558	0.005
	Matched	0.36709	0.38001	0.813
mainwork_hhh_civil_2009	Unmatched	0.12658	0.10781	0.558
	Matched	0.12658	0.08543	0.235
mainwork_hhh_casual_2009	Unmatched	0.07595	0.07807	0.937
	Matched	0.07595	0.08601	0.744
mainwork_hhh_IGA_2009	Unmatched	0.0443	0.0223	0.202
	Matched	0.0443	0.05406	0.689
prop_young_2009	Unmatched	0.15626	0.11051	0.002
	Matched	0.15626	0.15106	0.769
distance_districtroad_2009	Unmatched	93.196	104.78	0.077
	Matched	93.196	92.927	0.97
mainwork_resp_casual_2009	Unmatched	0.05696	0.02974	0.166
	Matched	0.05696	0.05465	0.929
work_resp_3_2009	Unmatched	0.20253	0.18216	0.605
	Matched	0.20253	0.21458	0.793
JAYAPURA	Unmatched	0.22152	0.19703	0.547
	Matched	0.22152	0.20408	0.706
BIAK	Unmatched	0.26582	0.28253	0.71
	Matched	0.26582	0.27297	0.887
work_resp_4_2009	Unmatched	0.00633	0.00743	0.895
	Matched	0.00633	0.02173	0.246
resp_age_2009	Unmatched	35.665	39.628	0.001
	Matched	35.665	36.135	0.724
resp_educ_primary	Unmatched	0.90506	0.84758	0.09
	Matched	0.90506	0.88798	0.619
mainwork_resp_otheragri_2009	Unmatched	0.08228	0.04089	0.073
	Matched	0.08228	0.06956	0.67
resp_educ_seniorhigh	Unmatched	0.36709	0.25651	0.016
	Matched	0.36709	0.31632	0.342
distance_district_2009	Unmatched	65.525	78.39	0.053
	Matched	65.525	64.466	0.88

These baseline variables are estimates, based on recall data or reconstructed from the composition of the household at the time of the survey.

APPENDIX 2: THRESHOLDS FOR CHARACTERISTICS OF WOMEN EMPOWERMENT

Dimension	Characteristic	Threshold: a household scores positively if the...
Women's awareness of and participation in PNPM Mandiri/RESPEK	Awareness of PNPM Mandiri	woman reports to have heard about the development programme called PNPM Mandiri/RESPEK
	Participation in village meetings about PNPM Mandiri/RESPEK	woman reports to have ever attended a village meeting in which the activities of PNPM Mandiri/RESPEK were discussed
	Applications to funds from PNPM Mandiri/RESPEK	woman reports that her woman group has applied for a loan from the PNPM Mandiri/RESPEK programme
	Confidence in the success of women's group's PNPM Mandiri/RESPEK applications in the future	woman feels confident that if her group was to write a proposal today, it would get accepted by PNPM Mandiri/RESPEK in the future
Women's vocational and entrepreneurial skills	Degree of active participation in women's group activities	woman has taken an active part in at least one out of the nine women's group activities listed in the questionnaire
	Confidence in skills related to women's group activities	woman reports to feel very confident (i.e. she claims to be able to do this on her own) about the skills she possesses to carry out at least one of the nine women's group activities listed in the questionnaire
Women's ability to make decisions & influence	Involvement in productive decisions of the household	woman reports to have influence in at least half of the number of productive decisions that were listed in the questionnaire and that the household engages in (maximum four in total)
	Involvement in expenditure decisions of the household	woman reports to have influence in at least half of the number of expenditure decisions that were listed in the questionnaire and that the household engages in (maximum three in total)
	Involvement in household-management decisions	woman reports to have influence in at least half of the number of household-management decisions that were listed in the questionnaire and that the household engages in (maximum eight in total)
	Influence in community decision-making	woman strongly agrees with at least four out of seven statements related to her influence in the community
	Influence in community group decision-making	woman reports to have influence in the decision making process of at least half of the decision making areas that her women's group is engaged in and which are listed in the questionnaire (maximum seven in

Dimension	Characteristic	Threshold: a household scores positively if the...
		total)
Women's self-perception	Self-efficacy	woman agrees with at least three out of five statements related to her level of self-efficacy
	Attitude to women's roles and rights	woman strongly agrees with at least four out of eight statements related to her productive role in the household and her general women's rights
Women's personal freedom	Freedom of movement	woman strongly agrees with one statement related to her freedom of movement in the community
	Attitude to domestic violence	woman thinks that a husband has no right to hit his wife under none of the 9 hypothetical scenarios described to her
Women's access to and control over resources	Independent income	woman reports that her contribution to household's income forms at least 50%
	Ownership of strategic assets	woman has some decision-making power (whether to sell, to trade or to give away) over at least half of the strategic assets owned by the household (maximum 16 in total)
	Potential access to credit	woman reports to be able to access idr 500,000 from at least one type of credit source (formal or informal) if she needed to invest in a business opportunity
Women's support from social networks	Social connectivity in the community	woman strongly agrees with at least one out of two statements related to her social connectivity in the village
	Group membership	woman reports to be a member of at least two community groups

NOTES

1 Originally, project completion was scheduled for 2012 but the programme was extended due to delays.

2 The Steering Committee is representative of provincial and national women's organisations and oversees the project implementation and the selection of cadre members. Note that at the outset of the project, it was envisaged to select 50 cadre members. Some cadre members dropped out, however, and had to be replaced by other village champions. Although the replacements were not officially considered to be cadre members, their facilitation roles were similar to those of the original cadre members. In the end, 53 individual women in total were trained to facilitate women's groups.

3 There were two villages with three supported groups, three villages with four supported groups and one village with five supported groups.

4 It should be noted that these estimates are relative to those who women who actually applied, not in absolute terms.

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

6 Note that for this particular Effectiveness Review we decided to add two more dimensions in addition to the standard five that we typically include for women's empowerment Effectiveness Reviews. This decision was made after detailed discussions with the project team and beneficiaries regarding the key objectives of the project. It was considered that improving awareness of and participation of women in PNPM Mandiri/RESPEK, and their vocational and entrepreneurial skills, formed crucial outcomes of this project that were not covered by the traditional five dimensions. Hence, it was decided to add these outcomes as two separate women empowerment dimensions for this Effectiveness Review.

7 It will be noted that in calculating these overall measures of women's empowerment, each of the individual characteristics presented in Figure 5.2 was weighted equally. This means that the index is weighted more towards characteristics of dimensions 'Women's ability to make decisions and influence' and 'Women's awareness of and participation in PNPM Mandiri/RESPEK', and less so towards the other five dimensions. Alternative weights could be given to the various characteristics and dimensions, which would necessarily result in changes in the overall indices and potentially in the magnitude of differences between the intervention and comparison groups.

8 For those who did apply for funding, 21 per cent of women in the intervention group reported that their women's group application was approved compared to 77 per cent of women in the comparison group. For those whose group's application was approved, 48 per cent of women in the intervention groups reported that all members of their group always managed to pay the monthly instalments in time compared to 71 per cent of women in the comparison group. According to the results of in-depth interviews for stakeholders of PAWE, it was reported that paying loans back was not easy for them. Some 43 per cent of respondents in intervention group found it personally difficult to pay the monthly instalments, compared to 71 per cent in comparison group. For those whose groups did not apply for funding, the main reasons for not applying funding are: respondents did not know that the PNPM Mandiri/RESPEK programme lends money (23 per cent), they believed their application would be refused (22 per cent). For women in an intervention group; they thought it more trouble than it was worth (30 per cent); they did not know PNPM Mandiri/RESPEK lends money (17 per cent). Although women in the intervention group were better informed about PNPM Mandiri than women in the comparison group, it appears that women in intervention group did not know much detailed information about PNPM Mandiri.

9 Responses to four other statements, which were found to be misunderstood by respondents and hence unreliable, were excluded from the analysis. Cronbach's alpha, the measure of consistency for the responses to the remaining seven statements, was 0.82.

10 Adapted from the official Spanish version of the General Self-Efficacy Scale, http://userpage.fu-berlin.de/~health/spanscal.htm. Responses to 1 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.

11 Cronbach's alpha, the measure of consistency for the responses to the 8 statements, was 0.69.

12 Note that performing the analysis where the respondent scored positively is she agreed or strongly agreed with the statement the difference is less acute.

13 Cronbach's alpha, the measure of consistency for the responses to the 12 statements, was 0.82.

14 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.

15 Bootstrapping is a statistical procedure where repeated samples are drawn from the original sample and parameters, such as standard errors, are re-estimated for each draw. The bootstrapped parameter is calculated as the average estimate over the total number of repeated draws.

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