



# Capacity Building for Rural Enterprise Development for Small Producers in the Atlantic North Autonomous Region, Nicaragua

## Effectiveness Review – Summary Report



Oxfam GB  
Livelihoods Support Global Outcome Indicator

December 2012

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## Executive Summary

Under Oxfam Great Britain's (OGB) Global Performance Framework (GPF), certain mature projects are being selected at random each year to undergo a rigorous assessment of their effectiveness. In the 2011/12 financial year, a project supporting rural enterprise development in Nicaragua (NICA71/NICB16) was selected for evaluation against OGB's global indicator for livelihoods support:

- **Percentage of households demonstrating greater income, as measured by household expenditure per capita**

The NICA71/NICB16 project (usually known by its Spanish acronym of "PRODER") supports producers in three value chains – dairy products, cocoa, and wooden furniture – in three municipalities in the Atlantic North Autonomous Region of Nicaragua. The support has focused on capacity building with producers to enable them to improve the quality of their production, facilitate their access to markets, and increase their negotiating power. Another important dimension of the project has been the provision of productive infrastructure for producer cooperatives in each value chain. However, these facilities were still under construction at the time of the effectiveness review, so their impact could not be assessed.

In January 2012, with the support of an external consultant, a team of enumerators carried out a household survey with 386 dairy and cocoa producers in the Municipality of Siuna. The enumerators interviewed almost all the households supported by the PRODER project, as well as a larger number of producers from neighbouring communities who have not benefited from PRODER or similar projects. The survey was designed to capture data relevant to Oxfam GB's global indicator for livelihoods, as well as on production of the value-chain products and on other intended outcomes of the project. At the analysis stage, the statistical tools of propensity-score matching and multivariable regression were used to control for measured differences between the supported and comparison producers.

Overall, the results provide some evidence that the PRODER project has led to increased household income among supported households in the dairy-producing areas. These households also experienced greater asset accumulation, suggesting that their higher household incomes have been sustained for some time. However, the mechanism for this apparent positive effect does not appear to be that envisaged in the project's design. In particular, while the project seems to have encouraged more of the supported producers to sell dairy products, there is no evidence that they obtained higher prices for these products.

Among the supported producers in the cocoa-producing areas, the project does not appear to have impacted overall household income or asset wealth. This is despite the fact that these households received more revenue from the sale of cocoa than the comparison households. However, there is some evidence that the project successfully encouraged household investment in planting cocoa, much of which had not fully matured at the time of the effectiveness review was carried out. Consequently, it is possible that this component of the project will translate into improvements in household wellbeing at a later time.

Finally, a surprisingly large proportion of the supported producers reported having received training on gender equity during the lifetime of the PRODER project, and these producers expressed significantly better attitudes to women's economic roles than comparison producers who did not receive such training.

Considerations to enable to programme team to learn from this effectiveness review include:

- Investigate why efforts to realise higher prices for value-chain products have apparently not so far been successful.
- Further assess what impact this project has had on women's position in the household, and learn what can be applied from this approach in other projects.

## Introduction and Purpose

Oxfam GB has put in place a Global Performance Framework (GPF) as part of its effort to better understand and communicate its effectiveness, as well as enhance learning across the organisation. As part of this framework, modest samples of sufficiently mature projects 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. For projects focusing on strengthening livelihoods, the global outcome indicator is the percentage of households demonstrating greater household income, as measured by daily household expenditure per capita.

In the 2011/12 financial year, the project in support of rural enterprise development in Nicaragua (NICA71/NICB16, known by its Spanish acronym of “PRODER”) was one of those randomly selected for an effectiveness review. This project supports producers in three value chains – dairy products, cocoa, and wooden furniture – in three municipalities in the Atlantic North Autonomous Region of Nicaragua. The support focuses on enabling producers to improve the quality of their production, facilitating their access to markets, and increasing their negotiating power. PRODER supports a total of approximately 450 producers across the three municipalities.

One of the key purposes of the project effectiveness review was to assess the extent members of these supported groups are better off in relation to the global livelihood indicator than had they never been supported. At the same time, the effectiveness review also examined other outcomes which the project is intending to bring about, including attitudes to gender roles among beneficiaries.

## Evaluation Approach

The PRODER project aims to improve the livelihoods of producer households through interventions at the grassroots level. The best way to evaluate such an intervention would have been to restrict its implementation to randomly selected geographical areas, leaving others sites for comparative purposes, i.e. as controls. This impact evaluation design is known as a cluster randomised control trial. Such a randomisation process would ensure that the producers in the intervention and control groups were comparable in every way, so that the impact of the project could be assessed by directly comparing the data on outcomes between the two groups.

In fact, there was no random element to the selection of beneficiaries for the PRODER project: beneficiary communities were deliberately chosen, often (in the case of the Municipality of Siuna) because Oxfam GB already had a relationship with these communities. Consequently, an alternative impact assessment design was pursued, which attempts to “mimic” what a randomised control trial does by statistically controlling for measured differences between intervention and comparison groups.

To implement the design, considerable effort was put into identifying communities comparable to those included in the PRODER project and finding comparable producers in nearby communities who have not benefited from the project. To ensure that it was possible to identify suitable comparison areas, as well as to ensure adequate sample sizes for analysis, the effectiveness review was restricted to the project activities in the Municipality of Siuna. In this Municipality, the project is implemented by the *Unión Nacional de Agricultores y Ganaderos* (National Union of Farmers and Livestock Producers, UNAG), and includes activities to support producers in the dairy and cocoa value chains. A questionnaire was designed and administered to 386 producer households, including all of the beneficiary households which could be located and identified (a total of 127), and approximately twice that number of comparison households. At the analysis stage, propensity score matching (PSM) and multi-variable regression (MVR) were used to control for measured differences between the supported and comparison producers that were interviewed.

## Outcomes Evaluated

The intended outcomes of the Capacity Building for Rural Enterprise Development project that were assessed as part of the effectiveness review included:

**Outcome 1:** Higher prices realised for sales of value-chain products

**Outcome 2:** Increased revenue from sales of value-chain products






**Outcome 3:** Increased overall household income






**Outcome 4:** Accumulation of asset wealth

**Outcome 5:** Improved attitudes to gender roles

## Impact Assessment Summary Table

The following summary table provides a snapshot of the key findings of the effectiveness review. A short narrative description related to each outcome then provides further information on each key finding. A separate technical report is also available, which provides a more detailed description of the evaluation design, process, and results. The table below summarises the extent there is evidence that the project realised its targeted outcomes in the form of a simple five-point 'traffic light' system. The key to the right shows what the traffic lights represent.

	Evidence supporting large impact
	Evidence supporting more modest impact
	Evidence of large impact, but constrained to specific sub-groups
	Evidence of modest impact, but constrained to specific sub-groups
	No evidence of impact

Outcome/Impact	Rating	Short Commentary
<b>Outcome 1</b> – Higher prices realised for sales of value-chain products		No evidence that supported producers in either value chain are selling at prices significantly higher than comparison producers.
<b>Outcome 2</b> – Increased revenue from sales of value-chain products		Higher proportions of the supported households made sales of the value-chain products, and so generated higher revenue on average from these products than the comparison households.
<b>Outcome 3</b> – Increased overall household income		Evidence of increased overall household income among supported producers in the dairy value-chain area, but not in the cocoa value-chain area.
<b>Outcome 4</b> – Accumulation of asset wealth		Clear evidence of significant increases in asset wealth among supported households in the dairy-producing area, but not in the cocoa-producing area.
<b>Outcome 5</b> – Improved attitudes to gender roles		Evidence of more positive attitudes to gender roles among those who report having received gender training during the project's lifetime.

**Applicability:** These results apply to the households supported under the cocoa and dairy value-chain strands of the PRODER project within the Municipality of Siuna, up to January 2012. The infrastructure investments made under this project had not yet been completed at that time. No evaluation was made of the project activities carried out in the municipalities of Bonanza or Rosita.

## Impact Assessment Findings

### Outcome 1 – Higher prices realised for sales of value-chain products

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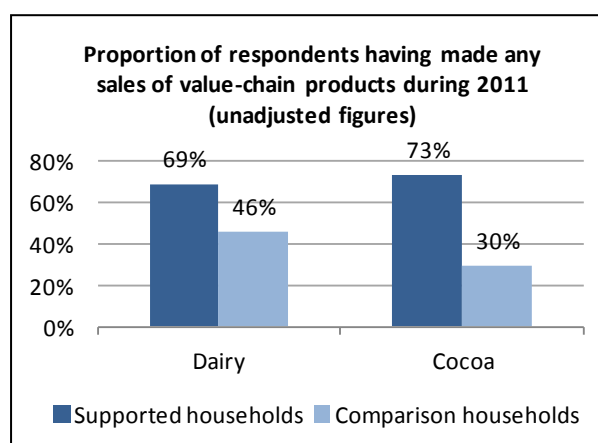
Respondents were asked to specify the quantities of milk, *cuajada* (a local type of cheese), and/or cocoa which they had sold during 2011 and the specific prices they realised the last time they made a sale. The prices realised for sales of milk, *cuajada* and cocoa by the supported households were no higher on average than the prices realised by comparison households.

This result does not take account of the sales of locally-produced chocolates in the cocoa value-chain area. There were not sufficient numbers of producers who reported being engaged in production of these chocolates for statistical analysis. However, the contribution which they make to household income is included in the analysis for outcomes 2 and 3, below.

### Outcome 2 – Increased revenue from sales of value-chain products

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While there appears to be no impact on prices realised by producers, one clear difference is that a much larger proportion of the supported producers sold the particular value-chain products being promoted under the project than did the producers in the comparison group. This difference persists even after controlling for whether the household was making sales of the corresponding value-chain product at baseline in 2007.



Furthermore, among those dairy-producing households which made some sales in 2011, the reported volume of sales was between 20 and 35 per cent greater than among the supported households than among the comparison households. (Supported cocoa-producing households on average sold a smaller quantity of cocoa than comparison cocoa-producing households – but the small number of comparison households which made any sales of cocoa mean that the practical significance of this result is limited.)

On average, then, the supported producers in both value chains were found to have generated considerably higher revenue from sales of the value-chain products during 2011 than did the comparison producers. This difference is mostly explained by the higher proportion of supported producers who brought their produce to market – and, in the case of dairy, by the larger volumes sold. However, it should be noted that, even among the supported producers, significant minorities in each value-chain area (31 per cent in the dairy value-chain area and 27 per cent in the cocoa value-chain area) did not make any sales of the corresponding value-chain product during 2011.

### Outcome 3 – Increased household income

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It is important to note that the fact that households have generated higher revenue from sales of value-chain products does not necessarily imply an increase in overall household income. It is possible, for example, that costs of production may also have increased or that household members are spending less time on other productive activities. To investigate whether the project had had an effect on households' overall economic situations, respondents were asked for details of their recent expenditure, including:

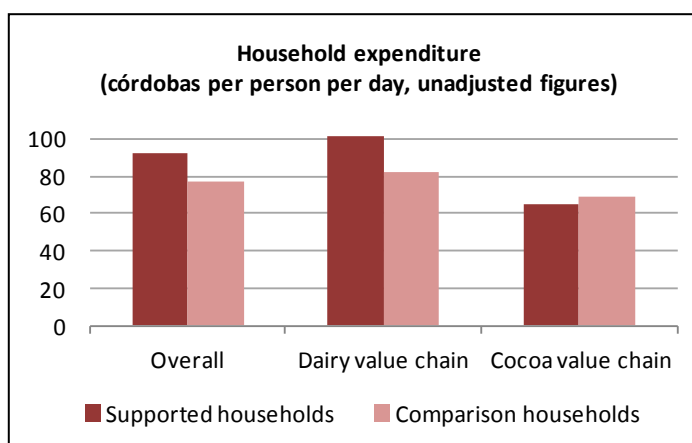
- The value of all food which had been consumed in the household in the previous seven days.
- The amount spent on most common types of regular expenditure (including transport, communications and cosmetics) in the month previous to the survey.
- The amount spent on less-common expenditure types, such as health costs, school costs, and investments.

This information was aggregated and divided by the number of household members (with adjustments made for children and some allowance for economies of scale) in order to calculate per-person per-day expenditure for the household.

The household expenditure figures for the supported producers were then compared to the comparison producers. Household expenditure was found to be between 12 and 16 per cent higher on average among the supported dairy producers than among the comparison dairy producers.

However, there is no clear evidence of a difference in household expenditure between the supported and comparison households in the cocoa-producing area.

This may be surprising, since the difference in revenue generated from sales of the value-chain products between supported and comparison producers was greater in the cocoa value-chain area than in the dairy value-chain area. A possible explanation is that cocoa production under this project is less mature, and that producers are re-investing the revenue they have generated. In particular, three-quarters of the supported households interviewed in the cocoa-producing areas had planted some land with cocoa during 2011. Dairy production is a more traditional livelihood activity in this area, and there was no indication of current investment on the part of the supported producers.



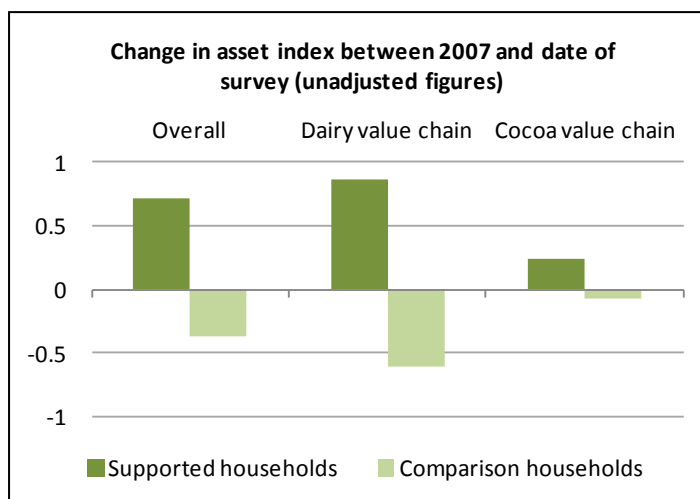
It should be recalled that an important aspect of the project was the provision of productive infrastructure to the supported cooperatives, including collection centres for both milk and cocoa. These facilities were under construction at the time of the survey work, so their impact on productive efficiency and household income could not be assessed.



## Outcome 4 – Accumulation of asset wealth

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While differences in household income and expenditure are likely to show short-term effects from project activities, examining the material assets owned by the household is recognised as a better indicator of sustained long-term change. To this end, survey respondents were also asked about the characteristics of their homes and other material assets they possess, such as land, productive equipment, livestock, vehicles, furniture, and household goods. Details on possession of these assets were collected both for 2007 and for the date of the survey, enabling a comparison of the relative changes in household wealth since 2007. A statistical technique known as principle component analysis was used to generate an indexed score for the change in wealth indicators of each household since 2007. In the graph to the right, zero represents the change in wealth indicators for the average respondent between 2007 and the date of the survey: positive figures represent an above-average change and negative figures a below-average change.



The resulting data show a strong increase in the wealth indicators of the supported households in the dairy-producing areas, compared to the comparison households. It does appear, then, that the improvement in household income noted above has led to lasting improvements for the supported households.

On the other hand, no significant difference was found between the supported and comparison households in the cocoa-producing areas in terms of the change in their asset ownership. Again, this may simply reflect the fact that the project activities are less mature and that supported producers are still at the stage of investing in production, rather than reaping the benefits.

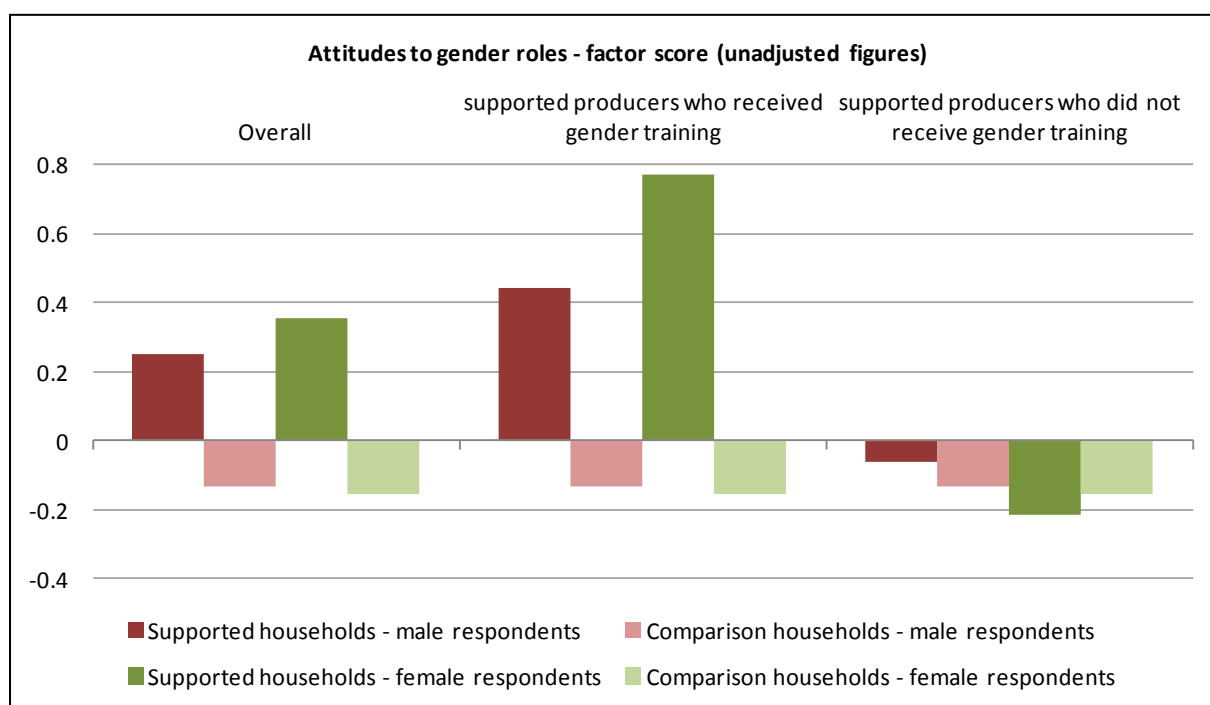
## Outcome 5 – Improved attitudes towards gender roles

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At the end of the survey, all respondents were asked about the extent to which they agreed or disagreed with 15 statements about the roles and contribution of women in household economic activities. These results were aggregated using factor analysis (a technique which reduces the statistical “noise”) to produce an aggregate score for each respondent’s attitudes to gender roles. In the chart below, zero represents the attitudes to gender roles expressed by the average or typical respondent in each area.

The results show an overall positive difference in the attitudes to women’s roles expressed by both male and female respondents among the supported producers. This effect is confined to those supported producers who reported having received some form of training on gender equity during the past three years; there is no effect on the gender attitudes of those who reported not having received gender training. Surprisingly, 61 per cent of supported producers reported having received such training in the past three years, which greatly exceeds the number who are known to have participated in the specific workshops on women’s economic leadership carried out under this project. It is likely that these

respondents were referring to more informal training, which had been communicated by the cooperatives members who did receive the training or through other contacts with UNAG or Oxfam staff. (Eighteen percent of comparison producers also reported having received gender training during the past three years.) It does appear that this training, in whatever form, has been successful in promoting positive attitudes towards women’s economic roles.



## Programme Learning Considerations

- **Analyse why efforts to realise higher prices for value-chain products have apparently not been successful so far.**

Many of the activities carried out under the PRODER project have been aimed at improving the quality of value-chain products or facilitating producers’ access to markets or improving their negotiating power. However, this effectiveness review has found that the prices which supported producers are realising in the market for their production are not systematically higher than the prices received by similar producers who have not benefited from the project. Instead, the impact of this project appears to have come about through encouraging more of the supported producers to engage in these value chains than they otherwise would have done.

It is not clear to what extent this represents a threat to the project’s design. If a central objective is to increase the product quality and market power of the supported producers, then this will be a disappointing conclusion and may require new strategies to be adopted. Even without this, however, the project can be seen as successful for having enabled a portion of the supported producers to actively participate in these value chains, which apparently (at least in the case of the dairy value-chain) are bringing them net benefits.

Of course, it is also clear that one of the major project activities is the investment in infrastructure to support storage and processing of value-chain products. These infrastructure facilities were not yet in use at the time of the field work, and so their impact could not be assessed. It is possible that supported producers will see further boosts to their net income from the value-chain activities once these infrastructure facilities come into use.



As such, it will be of interest to conduct a follow-up survey when the project closes in 2014, to further examine impact at that date.

- **Further investigate what impact this project has had on women’s position in the household, and learn what can be applied from this approach to gender in other projects.**

The effectiveness review did not attempt to analyse effects on women’s empowerment in detail, since the implementation team did not see this as a major emphasis of the project. However, it is interesting that the small section on attitudes to women’s economic roles included in the survey does provide some evidence that the project has had an impact in this area. Even though the formalised gender training was carried out with only a small number of representatives from the producers’ cooperatives, more than 60 per cent of the supported producers believe themselves to have received some form of gender training during the lifetime of the project, and expressed more positive attitudes towards women’s economic roles. It would be of interest to conduct further research to investigate whether these apparent changes in attitudes have resulted in appreciable improvements in women’s position in their households and in their communities. If so, there may well be potential for other projects to learn from the approach adopted in this project.