
IMPACT REPORT

Results of Impact Study – VisionFund Ghana

This report presents the results of an impact study conducted among the clients of VisionFund Ghana (VFG). The study is based on an approach and (customized IT-based) survey tool developed by Oxfam Novib. This approach involves obtaining impact information directly from clients and includes their perception of changes experienced in key dimensions of poverty, as a result of development interventions, in this case the microfinance products and services of VFG. At the start of the study a Theory of Change was developed, based on the input obtained from VFG. The Theory of Change reveals the expected social and economic impact of microfinance products and services provided by VFG. This expected impact was tested with the help of a survey conducted among a randomly selected sample of clients and non-clients (as a control group). Propensity Score Matching was used to analyze the outcomes of the survey. Evidence was found, that the work of VFG successfully contributed to improved lives of its clients. A positive impact on the quality of life of VFG's clients was observed in the total score of the impact index created for this study, based on the 20 impact indicators. A significant impact has been made by the microfinance work of VFG on livelihoods, education, health, life and security, and women's rights and empowerment. Contrary to expectations, no impact was revealed on social and political participation of the clients.

This report is the result of a joint impact evaluation project initiated by **Oxfam Novib** and **Triple Jump**. This impact report is written to contribute to increased transparency on effectiveness, to support accountability, and to invite feedback on impact measurement. They do not necessarily reflect Oxfam's or Triple Jumps' policy positions. The views expressed are those of the author and not necessarily those of Oxfam and Triple Jump.



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EXECUTIVE SUMMARY

This report presents the results of an impact evaluation conducted among the beneficiaries of VisionFund Ghana (VFG). VisionFund Ghana (previously called APED) was established in 2001 to facilitate poverty reduction and the empowerment of clients through the growth of micro and small-scale enterprises. VFG provides financial support to micro-entrepreneurs who are cut off from formal sources of financial services, which makes it difficult for them to expand their businesses and escape from poverty with their families. VFG offers groups of mainly women, but male clients too, access to credit for working capital, encourages savings, offers training in business development, and provides agricultural extension services. In September 2013, VFG had about 17,733 clients.

Oxfam Novib designed an evaluation to assess the impact of VFG's work on improving household livelihoods. The results are based on an assessment of the differences in outcomes between 246 clients of VFG (the target group) and 250 future clients (the control group). To reduce bias in the results, propensity score matching (PSM) on 20 impact indicators was used in the statistical comparison of the two groups. To guarantee the high quality of data a local consultant was hired to train the interviewers and to do quality checks during the data collection period.

Key findings

IMPACT: *Clients of VFG score higher on the total Impact Index*

- VFG's financial support (a combination of lending, saving, insuring and training) has had a positive impact (4%) on the total Impact Index. This Impact Index is an aggregated figure which includes 20 impact indicators representing our multidimensional poverty approach. A significant positive impact on the total Impact Index indicates that the microfinance supplied by VFG has improved the lives of clients.

IMPACT: *Clients of VFG have more sustainable livelihoods*

- In line with the Theory of Change, significantly more clients from VFG have perceived an increase in their income (impact is 10.8%) and savings (impact is 14.7%) over the last 12 months. This finding confirms the assumption that loans enable clients to buy tools and materials to increase the productivity of their business and as a result generate more money.
- Furthermore, clients of VFG own more assets; they have accumulated 2.2% more assets and microfinance has had a 15% impact on the number of meals consumed.
- On average, the total impact of microfinance on the sustainable livelihood indicators is 5.4%.
- In particular clients who had followed training courses have more often perceived an increase in income (impact is 21.6%) and savings (19.1%) compared to the clients who had not participated in the business training.

IMPACT: *Clients have seen small improvements in health and education*

- There has been no impact on formal school enrolment or school dropout rates. No improvement is observed, because both the target group and the control group have similar school enrolment and school dropout rates. About 95% of the children of school-going age is enrolled in formal education. This outstanding score can be partly explained by Ghana's compulsory primary education system. However, the rate is also high compared to the national enrolment rate (82% in 2012) in Ghana¹. At the same time, the dropout rate is low (7%). Considering both results, we can conclude that children of both current clients and future clients not only start formal education when they are of school-going age; most of them also continue their education at least until grade 3.

¹ <http://data.worldbank.org/indicator/SE.PRM.NENR>

- VFG's clients were significantly more ill than future clients. According to VFG this outcome is difficult to explain and needs further (qualitative) analysis. A possible reason they gave is that problems with repaying loans (including peer pressure) have a negative effect on the physical wellbeing of clients. Another explanation may be that clients use illness as an excuse for not repaying their loan.
- Evidence was found that clients of VFG have fewer children who died before the age of 5. In particular, a high impact was observed among clients living in rural areas (18.2%). According to VFG it is very likely that this is related to the increase in income and savings. Another plausible reason is that clients are better nourished (greater number of meals consumed). In particular, if pregnant women are better nourished it will reduce child mortality. Finally, current clients more often have a health insurance (85%) compared to the control group (51%). Better access to health care may be a reason for the lower number of children dying before turning 5 according to VFG.

IMPACT: *VFG's clients are less vulnerable*

- Clients of VFG are better able to anticipate, handle, resist and recover from the impact of natural or man-made disasters. They suffer fewer damages from disasters and cope better with the aftermath, because they have the resources; they are prepared. Significantly more clients (15.8%) have taken measures to strengthen their coping mechanisms. According to VFG, the mandatory insurance and savings probably have a positive effect on the preparedness of clients.

IMPACT: *Female clients of VFG are more empowered and have more self-esteem*

- Clients of VFG show higher rates of empowerment, but only the empowerment in terms of accessing and using contraceptives is significant. According to VFG, it is likely that this positive impact is the result of the special meetings VFG had organised to explain the importance of family planning.
- When focusing on the outcomes for female clients, we also found evidence that women are more empowered in the decision-making on family planning and contraceptives as a result of microfinance. However, no significant impact was found on the economic empowerment indicator. This means that women do not experience significantly more decision-making power regarding household spending despite their improved access to and ownership of livelihood income and assets.
- Female clients and clients living in rural areas have gained much more self-esteem (impact is 6.5% and 11.5% respectively) through microfinance. This change may reflect their improved position and status, and be reflected in their sense of identity.

NO IMPACT: *Clients do not participate more in social and political organizations*

- Current clients do not show higher participation in social organizations or political parties. This applies to general membership and to the holding of influential and leadership positions. According to VFG, it may be that social and political participation is a more indirect effect of people's empowerment. It may be that the effects on social and political participation take more time to filter through, and it may be that future studies will be in a better position to measure the effect of microfinance on civil engagement.
- When focussing on clients who had followed training courses (impact is 7%) or attended meetings (impact is 6.6%) a positive impact was found in terms of them joining social and political organizations.

Recommendations

- It is recommended that VFG organizes a reflection session on the findings and considers developing specific action in terms of further studies or possible program adjustment to strengthen the positive impact and to analyze the causes of a lack of impact or of a negative impact.
- Future research should use a qualitative approach to assess the quantitative outcomes and create a context to interpret the results found in this study. For example, through in-depth interviews VFG may find an explanation for the negative impact on illness or on the lack of empowerment in household spending.

INTRODUCTION

Oxfam Novib has conducted a study, at the request of Triple Jump, on the impact of microfinance on the lives of VFG's beneficiaries. Triple Jump commissioned this study to support microfinance institutions (MFIs) in becoming more effective agents of positive social and economic change. Measuring impact helps MFIs to tell their story to stakeholders and be accountable. Telling a good narrative needs facts and impact, not just output. An impact assessment makes an organisation's results visible and shows the level in which a MFI delivers benefits to its beneficiaries. This transparency gets external donors more involved and it motivates employees and volunteers, able to see the progress they have contributed to. Likewise, the aim of this study is to enable VFG to report in a powerful way on the level of impact of its work on beneficiaries. If necessary the results can be used as input in strategic adjustments to improve social-economic performance and effectiveness.

Background VFG

This study was carried out among clients of VisionFund Ghana (VFG). VFG is a microfinance institution (MFI) that is formed out of APED which had been working with World Vision Ghana in providing microfinance services to the rural poor entrepreneurs since 2001. VFG's social mission is to give each productive person living in poverty opportunities to provide a better livelihood for themselves and their families, through the development of sustainable micro-enterprises owned primarily by women, and to promote justice and proclaim the Kingdom of God. VFG focuses on three client groups: poor people, people in rural areas, and women in Ghana. VFG also targets entrepreneurs who do not have access to formal credit. In particular those entrepreneurs who work fulltime and have at least six months of experience in doing business in a sector that does no harm to human beings and the environment. VFG offers its clients both financial and non-financial products. The financial products include loans, savings and insurance, while the non-financial products include training courses on business development and agricultural extension. As of September 2013, VFG has 17.733 clients for a total outstanding portfolio of about US\$2.4 million (see Annex 1 for more performance indicators of VFG).

Study Objective

The objective of this study is to measure achieved changes in the lives of people who are clients of VFG, to identify some common strengths and weaknesses in the effects, and to contribute to strengthening VFG's accountability.

This impact evaluation measures the achieved changes in the lives of people. In particular, this report answers the question: *what is the social and economic impact at the client level of the services provided by VFG?* The study was conducted between July 1 and November 30, 2013.

Methodology

The distinctive characteristics of the applied method are:

- **The methodology was developed to give a strong voice to beneficiaries.** For this reason data is collected at the client level. This study goes beyond measuring output. Instead it measures the changes in the lives of beneficiaries.
- **The survey sample was selected randomly.** A sample list was randomly selected from the full list of all of VFG's clients. To get a complete representation of the clientele, dropouts are included in the sample. Dropouts are defined as the people who received a loan from VFG between 2008 and 2010 but not anymore. Including dropouts is important because they may be impacted differently. We wanted to know what the impact was after 3 to 5

years and selected clients who had received a loan between 2008 and 2010. However, some of the questions measured the impact over another time span. For example, the questionnaire refers to the increase in income and savings over the past 12 months. The one-year time span was used to reduce the risk for misjudgement by respondents. Consequently, the impact measured by this type of questions may underestimate the real impact over a period of three to five years.

- **We used a control group to identify impact.** This impact evaluation assessed the difference in outcomes on key impact variables between clients of VFG and a control group. The control group was used as a proxy for what would have occurred had there been no intervention. In total 496 respondents were interviewed; 246 clients (or dropouts) of VFG and 250 new clients (the control group). The new clients are people who applied for a loan, met the selection criteria of the MFI, and will receive a loan in the nearby future. To measure impact it is necessary to compare the outcomes of clients with a control group that has identical characteristics. The control group exists of new clients, because we assume that future clients are very similar to clients in their general characteristics and entrepreneurial attitude.
- **The data was collected with the help of a quantitative survey.** Using a multiple choice questionnaire, respondents were asked to rate and comment on different aspects of their livelihood. Due to the lack of reliable data on income and savings, we measured the perceived change in income and savings.
- **The questions are based on a Theory of Change.** Theory of Change (see below) was discussed and finalised during a workshop with VFG. Based on Theory of Change, the most relevant questions were selected from the right-based poverty survey² developed by Oxfam Novib. A few questions were adjusted to the specific context in which VFG works.
- **A Smartphone application was developed to collect data.** The app facilitates cost-efficient and reliable data collection.
- **Local loan officers were trained to collect reliable data.** Appointing loan officers as interviewers had the advantage that they could verify the answers with reference to the local context. Clients would therefore be more inclined to providing truthful information. However, there is always the risk that clients give socially desirable answers to gain a positive treatment from VFG. To minimize this risk we hired a local consultant to do quality checks during the fieldwork.
- **Propensity Score Matching (PSM) was used to calculate impact.** PSM is a statistical method that matches individuals from a large population of non-participants, who are observationally similar, with participants in terms of general characteristics (e.g. sex, level of education, marital status) not affected by the intervention (i.e. the microfinance products). Each target group member is matched with a similar control group member. The average difference in outcomes between the two groups is then compared to get the impact of microfinance.
- **The data analysis was done by Oxfam Novib.** The data analysis and impact calculations were mainly based on statistical methods. The methodological choices are made in consultation with the Wageningen University in The Netherlands.

A more detailed explanation of the used method, sampling, data collection, statistical data analysis methods, research limitations, and research ethics is provided in Annex 2.

² Oxfam Novib has developed the World Citizens Panel; a poverty survey to support partner organization measuring the impact of their projects and programs.

Theory of Change

This study uses a multidimensional approach to impact, and is based on the assumption that different factors determine poverty beyond income. This multidimensional approach is based on the Universal Declaration of Human Rights. The Universal Declaration assumes that every human being has inalienable rights and that poverty and exclusion are a violation of these universally recognized basic rights, which are:

- (1) the right to a sustainable livelihood
- (2) the right to essential social services (health and education)
- (3) the right to life and security
- (4) the right to be heard
- (5) the right to an identity³

The impact domains used in this study are deduced from these five – interconnected – basic human rights. The impact domains can be classified in an economic and a social dimension. Each domain was translated to indicators, variables and questions (Annex 3 explains the different questions). The questions to measure the impact on these five rights are based on various international standards and indices, such as the social welfare index of Social Watch and the multidimensional poverty index developed by the UNDP. Table 1 provides an overview of the different impact domains used in this study.

Table 1 Impact domains

Impact dimension:	Basic rights:	Impact domains:
Economic	Right to sustainable livelihood	Perceived change in income & savings
		Ownership of assets
		Living standards
		Food security & meals a day
Social	Right to essential services	Education
		Health
	Right to life and security	Vulnerability
		Resilience & coping capacity
	Right to be heard	Social and political participation
Right to an identity	Empowerment	
	Reproductive rights	

To decide which impact indicators are relevant to include in the questionnaire, a Theory of Change was used. A Theory of Change is an approach to navigating the complexity of social change processes⁴. This is done by making our assumptions explicit and by analyzing them critically. This study is based on the following set of assumptions regarding the expected and intended benefits from financial inclusion:

The business loans and savings from VFG open a world of opportunities to its clients; opportunities the formal financial sector denied them. Loans enable them to buy tools and materials to start an income generating business and/or to increase the productivity of an existing business. **Increased income** generated from these businesses allows them to pay school fees to **educate** their children, stabilize **food** sources and pay for other expenses that lead to the improvement of the **health** and wellbeing of their families. In addition, access to financial services helps poor people to manage their day-to-day **assets and resources**: Low-income families can use credit and savings to tap into past or future income, helping them to both take advantage of immediate opportunities and, for example, to survive periods of food insecurity.

³ Oxfam, 2013.

⁴ Eguren, 2011.

Poor people do not only have low incomes but are also vulnerable to disasters and uncertainties. The **lack of preparedness** or **coping capacity** may result in a slower response to a disaster, leading to a greater loss of life or prolonged suffering. They also often lack reserves in times of need or buffers to absorb the shocks of income losses. Savings, credit and insurance provide sustainable and low-cost coping strategies, increasing people's resilience to future disasters. Saving accounts – equally critical financial tools – facilitate the safe **accumulation of assets**, while micro-insurance **reduces people's vulnerability to risk**. Together these services help poor people to improve their lives and begin to work their way out of poverty. If a household loses a source of income, it might not have to **withdraw a child from school**, sell a valuable asset, or fall deeper into poverty.

Microfinance is particularly able to **empower women**: it gives them access to materials and the human and social capital necessary for making strategic choices in their lives: it establishes or strengthens financial independence; transforms power relationships; **strengthens reproductive rights**; improves stability and family prospects by directing more income to families; and, particularly, **engenders self-esteem** and pride. This economic independence often translates into more productive communities. In addition, financial services foster independence. Microfinance can help clients to grow more **self-confident** and, with **economic empowerment**, to step out and **participate in local government and social organizations**, commanding the respect of their communities. The various expected relations between microfinance and the social and economic dimensions of poverty are visualized in Annex 4.

Throughout this study emphasis is put on the expected impact areas mentioned in the Theory of Change (in bold). Based on these expected impact areas the questionnaire was composed and in the following sections we will analyze the results per basic right.

RESULTS

Before the various impact indicators were analyzed, the financial and general characteristics of the target group and the control group to assess to what extent the control group had similar characteristics as the target group. This analysis is important for determining whether the differences in outcomes on the impact indicators can be attributed to the services provided by VFG. Afterwards, the impact of VFG was measured on the five impact dimensions described in the Theory of Change. Finally, the impact of the non-financial services VFG provides was analysed as well as the effects of the clients' sex and location.

Interpretation of results

This report reveals the impact of microfinance on each impact indicator. For each impact indicator, the size and reliability is calculated. The size of the impact is provided in a percentage and the reliability of this percentage is indicated by 1, 2 or 3 asterisks (*). The more asterisks the higher the certainty that the difference between the target group and control groups reflects a real impact on VFG'S clients. In some cases impact was measured, but due to high variation in the outcomes the impact could not be assigned to the microfinance services but is more likely due to chance. In these cases the impact is not marked with an asterisk(s).

Financial Characteristics

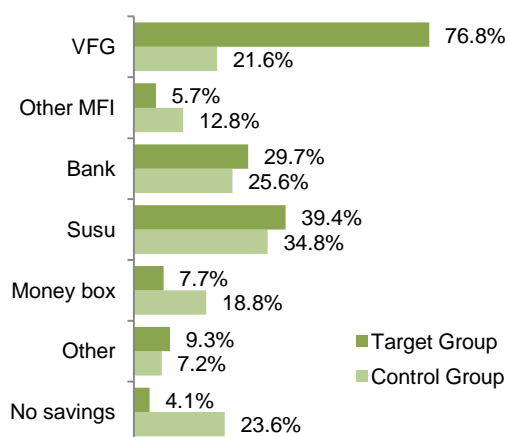
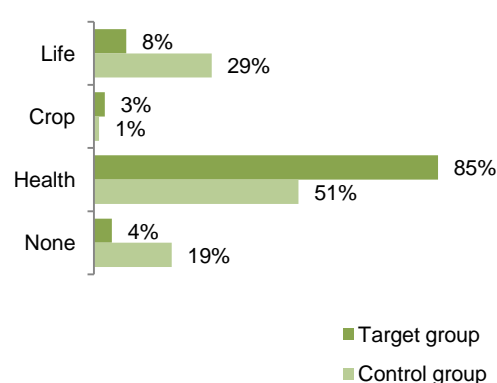
In order to identify the impact of microfinance, it is important to determine that the target group has more financial resources than the control group. The financial characteristics are summarized in Table 2. The characteristics on which both groups differ significantly are indicated with an asterisk (*)⁵.

⁵ We have applied a Chi2 test to see to what extent the financial characteristics of the control group differ significantly from the target group. This is a statistical test that compares the observed and expected frequencies and sees if the difference is due to chance or that they are significant different from each other (Fisher, 1922). More information

Table 2 Financial characteristics

Variable	Target Group (N=246)		Control Group (N=250)		Results ⁶
	Frequency	Per cent	Frequency	Per cent	
% people receiving a loan	234	95.1	38	15.2	79.9***
% people having savings	236	95.9	191	76.4	19.5***
% people having insurance	224	91.1	196	78.4	12.7***
% participation in business trainings	165	67.1	n/a	n/a	n/a
% people frequently ⁷ participating in group meetings	148	60.2	n/a	n/a	n/a

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level⁸

Figure 1 Types of savings**Figure 2** Type of Insurance

Findings

- Based on the data provided in Table 2, 38 respondents were removed from the control group sample because they had already received a loan from an institution other than VFG. Including these respondents would dilute our conclusions about the impact of receiving a loan from VFG.
- Table 2 also shows that significantly more respondents in the target group have savings than in the control group. However, since about 76% of the control group already has savings, it is not possible to eliminate the impact of VFG savings on the various impact domains. **Figure 1** illustrates the various locations where people keep their savings.
- Likewise, based on Table 2 we see that clients from VFG have significantly more insurance than the control group. However, similar to the above, a major part of the control group (78%) already had insurance before they become a client of VFG. For this reason it is not possible to single out the impact of VFG insurances on the various impact domains. **Figure 2** provides an overview of the type of insurance.

about the Chi2 test is provided in Annex 2. The more asterisks the better because this indicates that there is a higher certainty that the target group has more financial resources than the control group.

⁶ We have applied a Chi2 test to see to what extent the financial characteristics of the control group differ significantly from the target group. This is a statistical test that compares the observed and expected frequencies and sees if the difference is due to chance or that they are significant different from each other (Fisher, 1922). The more asterisks the better because this indicates that there is a higher certainty that the target group has more financial resources than the control group.

⁷ "Frequently" refers to people who participate once every two week or more often in the group meetings.

⁸ The asterisk (*) in all tables presented in this report represent the extent to which there is a significant difference or impact. Significant at 10% level means that we can say with 90% certainty that the groups differ from each other.

- Focussing on the target group we found that about 60% of the clients participates every two week or more often in the loan group meetings (see below Figure 7). Furthermore, about 67% of the clients have followed a business training (e.g. agricultural extension training and services) which helped mainly through increasing clients' knowledge on doing business (see below Figure 6). In the section "Impact caused by non-financial services" (below) an in-depth analysis is given on the impact of business trainings and group meetings.

Based on these findings we have decided to mainly focus on the impact of receiving a loan from VFG, taking into account that VFG offers complementary services and products such as savings and insurances. Thus, the found impact should be seen as the result of the total microfinance package offered by VFG.

General Characteristics

The general characteristics of both the target group and the control group are summarized in Table 3. These general characteristics are the so-called independent variables; this means that we assume that they do not depend on microfinance interventions. More details on religion, marital status, occupation, household size and household dependency ratio are presented in Annex 5.

Table 3 General characteristics

Variable	Target Group (N=246)	Control Group (N=212)	Difference ⁹
	<i>Per cent</i>	<i>Per cent</i>	
% women	74.39	85.85	11.46***
% Literate people (able to read)	35.77	29.25	6.52
% Higher educated respondents	45.93	43.87	2.06
% (Married) couples	81.30	79.72	1.58
% respondents with own business	99.19	99.53	0.34
% respondents living in rural areas	46.34	36.79	9.55**

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Figure 3 Age categories (Chi2 = 3.39)

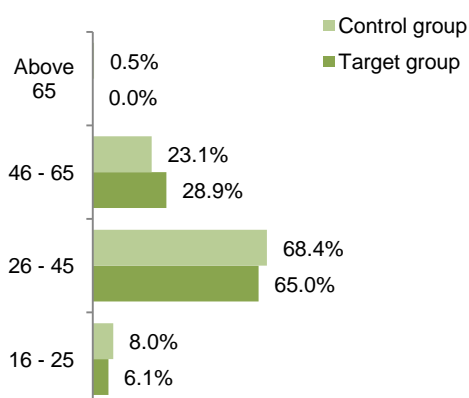
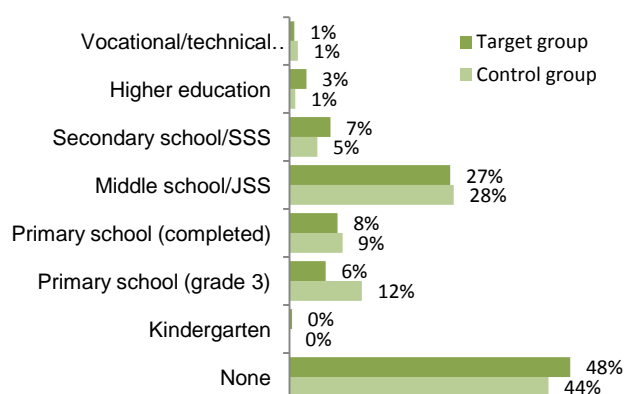


Figure 4 Education categories (Chi2 = 9.55)



* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

⁹ We have applied a Chi2 test to see to what extent the general characteristics of the control group differ significantly from the target group. This is a statistical test that compares the observed and expected frequencies and sees if the difference is due to chance or that they are significant different from each other (Fisher, 1922). The more asterisks the better because this indicates that there is a higher certainty that the target group has more financial resources than the control group.

Findings

- Based on the data in Table 3, we can conclude that the target group and control group do not differ significantly with regard to the level of literacy, education, marital status, age, and owning a business. However, the percentage of **women** is significantly higher in the control group than in the target group. In addition, the percentage of respondents in the target group living in a **rural** area is significantly higher than in the control group.
- 74% of VFG's clients is female. Moreover, about 36% of the clients is literate; meaning that he or she is able to read. Furthermore, 46% of the clients are higher educated meaning that they have completed primary school or higher education; 81% of the clients is a (married) couple; 99% of the clients has an own business (is entrepreneurial); 46% of the clients lives in a rural area; and the majority (65%) is between 26 and 45 years old.

The differences in gender and location between the target group and control group makes it impossible to conclude that observed differences in outcomes on the impact indicators are the results of microfinance; it might be that these differences in outcomes are caused by the differences in gender and/or location.

To overcome this problem we have used the **Propensity Score Matching (PSM)** method to calculate the impact of microfinance. PSM is a statistical method to develop a control group that is as similar to the target group as possible in terms of general characteristics. The idea is to find, from a large group of nonparticipants, individuals who are observationally similar to participants in terms of characteristics not affected by the intervention (that is in this case microfinance services). In this study the following general characteristics are used to match the control group with the target group: sex, level of education, location of household (urban/rural), marital status, and literacy. For example the results of a highly educated, literate, married woman living in a city that is part of the target group are compared with the results of a woman in the control group who has the same characteristics. In the same way, each participant is matched with an observationally similar nonparticipant, and then the average difference in outcomes across the two groups is compared to get the effect of microfinance. (Annex 2 explains the applied PSM method in more detail).

Sustainable Livelihoods

Table 4 summarizes the impact of microfinance VFG provides on the livelihoods of its clients. The impact on sustainable livelihoods is measured by six indicators derived from the Theory of Change: perceived increase in income; perceived increase in savings; food security; food intake; ownership of assets; and living standards. Annex 3 provides more details on the indicators used in this study.

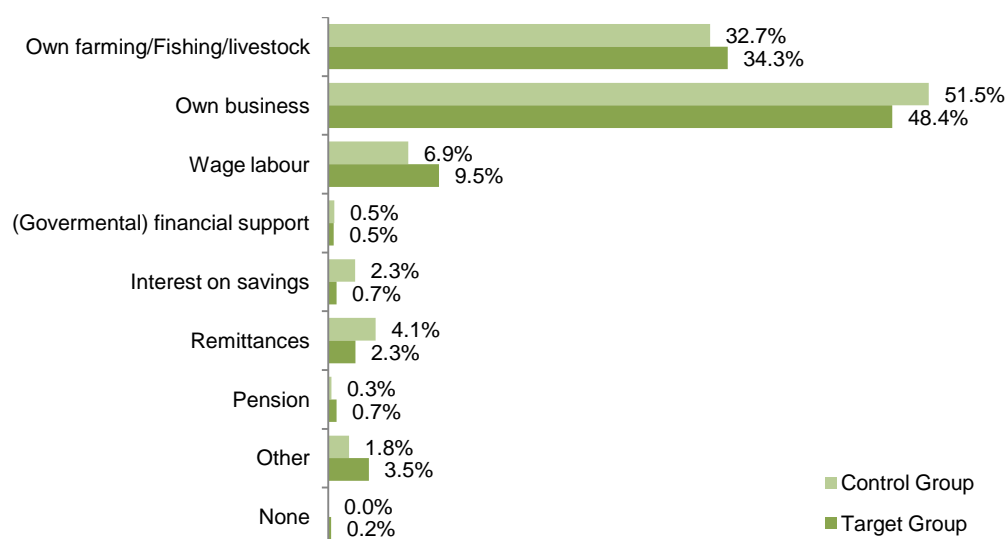
Table 4 Impact on sustainable livelihoods

Variable	Target Group (N=246)	Control Group (N=212)	Results
	<i>Frequency (%)</i>		<i>IMPACT (%)</i>
% people perceived an increase in income	74.8	60.9	10.8**
% people perceived an increase in savings	72.0	51.9	14.7***
% people reducing their food intake in past 3 months	28.5	31.6	0.3
	<i>Mean</i>		<i>IMPACT (%)</i>
no. meals a day	2.833	2.660	15***
Ownership of assets (Assets Index)	0.380	0.340	2.2*
Living standards (Housing Index)	0.587	0.535	2.5
Sustainable Livelihoods Index	0.617	0.534	5.4***

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

In addition to Table 4, Figure 5 provides an overview of the various sources of household income.

Figure 5 Sources of household income



Findings

- + A higher percentage of clients of VFG (about 75%) have **perceived an increase in income** over the past 12 months compared to the control group (60.9%). Respondents were asked to indicate whether they had observed an increase, decrease, or no change in their income. About 24% of VFG's clients has observed a great increase (more than 20%); about 51% of the clients observed a slight increase; 8.5% observed no change; and about 16.5% of the clients has observed a decrease in income over the past 12 months.
- + The calculated **impact** on perceived increase in income is 10.8% at a 5% significance level. This means that on average, clients from VFG have 10.8% more often perceived an increase in income than respondents from the control group. For this impact a 5% significant level is calculated, indicating that this result is 95% reliable (which is a high likelihood). Figure 5 reveals that most households make an income from their own businesses, including the earnings from the production and/or sale of products and/or services, or from farming, fishing or livestock rearing. In addition to this income, some households receive money from remittances, wage labour or other sources.
- + Microfinance provided by VFG has a positive impact on **perceived increase in savings**. Clients of VFG have more often (14.7%) experienced an increase in savings over the past 12 months. Over the past 12 months about 72% of VFG's clients and about 52% of the control group has perceived an increase in savings.
- + In particular, we found a very high impact on income and savings for **female clients** (respectively 9.1% and 18.9%) and **respondents living in rural areas** (respectively 27% and 23.5%).
- + This impact on increase in income and savings also holds for clients who followed **business training** and **participate in group meetings**. The increase in income is more often perceived by clients with business training (21.6%) and clients who participate in group meetings (7.4%). An increase in savings is more often perceived by clients with business training (19.1%) and clients participating in group meetings (17.5%).
- + We found evidence that there is a considerably high impact of 15% of microfinance on food intake. In other words, clients of VFG consume 15% more **meals** per day. Although this is a very positive result, on average clients of VFG still consume less than 3 meals a day (2.8 meals a day). Moreover, about 28.5% of the clients **had to skip a meal or cut the size of a**

meal because of food insufficiency in the last 3 months. Due to the similar results observed in the control group no impact is observed.

- + In line with our Theory of Change, a positive impact is observed on the number of **assets** owned. We have composed an Assets Index¹⁰ as a quantitative indicator for household ownership of assets (consumption and production goods). The total number of assets included in this index is 14. This means that an average index score of 0.38 indicates that households own 5.3 assets (14*0.38) of our asset list. On average, the target group has a similar Asset Index score (0.36). The calculated impact is 2.2%. Although the impact is rather small, it is very likely that this impact is real (it has an asterisk).
- + Table 4 indicates that the impact of microfinance on the living standards is small (2.5%). This is not a significant result due to a high variation in outcomes. The living standard is a proxy for quality of housing which is based on a Housing Index¹¹. The total number of housing indicators included in this index is 6. An index score of 0.59 indicates that on average households own 3.5 housing assets (0.59*6) such as a concrete floor or a flush toilet.

The **Sustainable Livelihoods Index**¹² shows a significant positive impact of 5.4%. In other words, on average obtaining a loan from VFG improves the sustainability of clients' livelihoods with 5.4%. This is in line with the finding that all individual livelihood variables show a positive impact, however not all of them are significant.

Essential Services: Education and Health

Right to essential services is defined by two domains: education and health. The included indicators are (1) formal school enrolment; (2) school dropouts; (3) deliveries attended by skilled health personnel; (4) ill health of respondents; and (5) mortality among children under five years old.

Table 5 Impact on education and health

Variable	Target Group (N=250)	Control Group (N=212)	Result
	<i>Frequency (%)</i>		<i>IMPACT (%)</i>
% Children of school-going age enrolled at formal school	95.0	93.3	2.4
% Households with no school dropouts	7.37	7.81	-0.7
% Deliveries attended by skilled health personnel	97.0	93.8	-1.3
% People ill in last 3 months	30.1	20.7	- 8.5*
% Children who died before the age of 5	2.61	7.63	8.2***
Essential Services Index	0.88	0.90	3.0**

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

¹⁰ The composed Assets Index is a non-weighted index in which all household assets are included (that is; radio; bicycle; bed frame with mattress; refrigerator; television; computer/laptop; mobile phone; fishing net; tri-cycle; motorcycle; donkey/bullock; tractor; car/pick-up truck; other items with value of more than 4000 Dirham). This means that we simply sum up the number of assets owned, which is equivalent to setting asset = 1 for each asset and divide this total number by the total number of assets included (=14).

¹¹ The quality of housing is measured with a Housing Index indicator that includes (1) access to safe drinking water; (2) electricity; (3) concrete floor; (4) flush toilet; (5) cooking fuel; and (6) solar lightning. Likewise the Assets Index, the Housing Index is a non-weighted index whereby we simply add up the number of housing indicators with a maximum score of 6

¹² In this index all 6 sustainable livelihood indicators are included and equally weighted, so that each of them receives 1/6 weight. The maximum score on the index is 1.

Findings

- The significant impact of microfinance on **illness** of minus 8.5% is remarkable. Compared to the control group, the target group scores higher on ill health: about 30.1% of the target group was ill to the extent that he or she was unable to participate in daily activities while only 20.7 % of the control group has been considerably ill in the last 3 months. In particular, clients located in rural areas are often ill; the impact on those clients is minus 13%.
- + Based on the data in Table 5, having a loan from VFG is positively associated with a lower percentage of **children who died before they turned 5 years old** (impact is 8.2%). In particular, female clients and clients living in rural areas have had a positive impact on this indicator, 3.5% and 18.2% respectively.
- + The **Essential Services Index**¹³ shows a small positive impact. However, we found mixed impact outcomes on the indicators included in this index. For example, there is hardly any or even negative impact on the number of school dropouts, on the percentage deliveries attended by skilled health personnel, or on formal school enrolment. This means that the total Essential Services Index is mainly determined by the realized impact on the variable children (< 5 years) died and illness. For this reason, it is difficult to conclude that there is impact found on the total index or right to essential services.

Life and Security

Based on the Theory of Change we expect that obtaining a loan and additional microfinance services makes clients less vulnerable to disasters. Less vulnerable people are likely to have increased capacities to develop social and economic empowerment and they will feel more confident towards the future. Three indicators were defined to measure the impact on vulnerability. The first indicator measures whether respondents experienced physical damage from a disaster to themselves or their belongings. The second indicator describes if people feel confident to cope with future disasters. The third indicator refers to the extent in which respondents have taken measures to cope with future disasters.

Table 6 Life and security

Variable	Target Group (N=250)	Control Group (N=212)	Results
	<i>Frequency (%)</i>		<i>IMPACT (%)</i>
% people feeling confident to cope with future disasters	44.3	36.9	5.5
% people taken measures to cope with future disasters	54.5	35.9	15.8***
Life and Security Index ¹⁴	0.494	0.364	10.7***

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Findings

- + The capability to cope with future disasters is measured by the level of **confidence** that people have with respect to coping with potential threats (banditry, state action, civil unrest or armed conflict, natural disaster, discrimination) in the future. About 44% of VFG's clients feel confident in coping with future disasters. A lower percentage (37%) of the control group feels confident about their coping capacities in the future. The impact of microfinance is about 5.5%, although this impact is not significant.

¹³ In this index all 5 education and health indicators are included and equally weighted, so that each of them receives 1/5 weight. The maximum score on the index is 1.

¹⁴ In this index all 2 life and security indicators are included and equally weighted, so that each of them receives 1/2 weight. The maximum score on the index is 1.

- + Compared to the control group, VFG's clients are better prepared for future disasters. About 55% of the clients have taken **measures** in order to cope with potential disasters. This is an indicator of resilience and capacity to prevent social and economic deterioration because of external shocks. The impact is 15.8%, which means that clients from VFG have taken significantly more measures than the control group. **Female clients** and **clients living in rural areas** have significant more often measures taken to cope with future disasters. The impact is 15.2% for female clients and 18% for clients in rural areas.
- + In general, microfinance has a positive impact on life and security measured in the total **Life and Security Index** (10.7%). This means that VFG's clients are less vulnerable to disasters and uncertainties. Moreover, microfinance has improved their perceived resilience, as they feel confident to cope or recover from a shock in the future.

Social and Political Participation

The indicators of participation measure the self-confidence and empowerment of respondents to participate in local government and social organizations. In our analysis we have taking into account different types of organizations such as political parties, community organizations and sports clubs. People can hold different positions in these organizations, or have different tasks and responsibilities. Therefore, we have distinguished three types of participation: general membership, influential position, and leadership position. Those different positions presuppose and improve self-confidence and empowerment at different levels; the Social and Political Participation index is therefore a weighted index. That index is constructed as follows: membership weighs for 1/6, influential position for 2/6, and leadership position for 3/6.

Table 7 Social and political participation

Variable	Target Group (N=250)	Control Group (N=212)	Results
	<i>Mean</i>		<i>IMPACT (%)</i>
No. membership positions per person (index)	0.29	0.28	1.3
No. influential positions per person (index)	0.17	0.11	0.2
No. leadership positions per person (index)	0.60	0.49	-0.5
Social and Political Participation Index¹⁵	0.085	0.076	0.1

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Findings

- + **Group membership** is measured with the help of an index¹⁶. 9 Different types of social and political organisation are included in this index. An index score of 0.29 means that on average, clients are member of 2.6 (0.29*9) different organization types such as a sport club or a political party. The survey data shows that on average, the control group is member of more different types of organisations (2.5 types of organisations). No impact is observed regarding this outcome.
- The negative impact observed regarding **leadership positions** suggests that clients from VFG are holding less leadership positions than the control group.
- o The survey data does not indicate any **significant impact of** microfinance on the 3 indicators of social and political participation. The impact we found is small (around 0%) on

¹⁵ In this index all 2 social and political participation indicators are included and equally weighted, so that each of them receives 1/2 weight. The maximum score on the index is 1.

¹⁶ The various social and political participation indices include 9 different types of organisation: religious organisation; community organisation; sport club; school organisation; women's organisation; political party; trade union; farmer organisation; other. The 3 indices measure for each respondent within how many different types of organisation he or she holds a member position, influential position or leadership position respectively.

all the indicators. Accordingly, the **Social and Political Participation Index** does not show impact. Clients of VFG are not politically or socially more active than respondents in the control group. Consequently, we did not find a significant impact.

- + **Based on more detailed calculations on the differences among** clients of VFG we found that microfinance has had a positive impact on holding a membership position **and on holding an influential position** in social and political organizations for female clients (see Table 10).
- + Microfinance has had only a positive effect on clients who often **participate in group meetings** or followed a **business training** regarding their social and political participation. Both client groups have experienced a positive impact on general membership positions and on the social and political participation index (see Table 11).
- o Based on the data provided in Table 10, no significant impact is proven on the effect of microfinance on the social and political participation for **female clients** or for **clients living in rural areas**.

Identity

In our Theory of Change we assume that microfinance is able to empower women. The included empowerment variables describe the involvement of women in the decision-making process with regard to household expenditures, family planning, and the use of contraceptives. Furthermore, empowerment transforms power relations and consequently increases the self-esteem of women. Women's empowerment is an element of our identity impact domain and is an important objective of VFG. VFG focuses its programs and services on women. Table 8 summarizes the main findings related to gender justice.

Table 8 Identity

Variable	Target Group (N=250)	Control Group (N=212)	Results
	<i>Frequency (%)</i>		<i>IMPACT (%)</i>
% economic empowerment	73.6	75.0	2.1
% empowerment family planning	95.9	93.9	1.8
% empowerment contraceptives	98.4	93.9	4.9***
% increase in self-esteem	78.6	71.9	4.0
Identity Index¹⁷	0.866	0.836	3.2*

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Findings

- + Women's ability to obtain **contraceptives** is improved for VFG's clients when they have a loan. Compared to the control group, clients of VFG are 4.9% more empowered in decision-making on contraceptives.
- + There is also a positive impact (4%) of microfinance on people's **self-esteem**. About 79% of VFG's clients is more **confident** than 3 years ago, although this impact is not significant.
- + Microfinance has a significant positive impact on all 4 indicators measuring empowerment and reproductive rights. Microfinance has a positive impact of 3.2% on the total **Identity Index**.

¹⁷ In this index all 4 identity indicators are included and equally weighted, so that each of them receives 1/4 weight. The maximum score on the index is 1.

- + **Female clients** are more empowered, and are more confident than females in the control group.
- + Clients in **rural areas** show higher increase in confidence (11.5%) than future clients living in rural areas.

Total Impact Index

To provide a general overview that reflects all different indicators, we have composed an Impact Index. All indicators of the five rights described above are included in this (non-weighted) index.

Table 9 Total Impact Index

Variable	Target Group (N=250)	Control Group (N=212)	Results
	<i>Frequency (%)</i>		<i>IMPACT (%)</i>
Sustainable Livelihoods Index	0.617	0.534	5.4***
Essential Services Index	0.88	0.90	3.0**
Life and Security Index	0.494	0.364	10.7***
Social and Political Participation Index	0.085	0.076	0.1
Identity Index	0.866	0.836	3.2*
Total Impact Index on 5 dimensions of poverty	0.535	0.482	4.0***

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Finding

- + The total impact of microfinance provided by VFG on all five dimensions of poverty is 4.0%. This means that the clients of VFG score 4% better on the total of all impact indicators.

Impact on clients disaggregated by sex and location

In previous sections, we analysed the differences in outcomes between current clients of VFG and future clients. In the following section we make another distinction. We focus only on female clients and rural clients. This selection is in line with VFG's mission and client focus: the majority of the clients is made up of women, lives in rural areas and has an own business.

In order to measure the impact on female clients we dropped the answers of all male clients and male future clients from consideration. Next, we calculated the impact between the target group and the control group through Propensity Score Matching. The same approach was applied to measure the impact on rural clients. In this case, we dropped the answers of all respondents living in (semi)urban areas (both in the target group and control group) from consideration. Afterwards, we calculated the impact between the target group and the control group.

Table 10 summarises the results. A positive impact figure for women means that the female clients score significantly better on that impact indicator compared to females in the control group as an effect of microfinance. This argument also holds for the factor rural: a positive impact figure for rural clients indicates that microfinance has a positive effect on clients living in rural areas compared to future clients living in rural areas.

Table 10 Impact on women and clients living in rural areas

Variable	Impact (%) - women	Impact (%) - Rural
Sustainable livelihood	Target Group n=183 Control Group n=182	Target Group n=132 Control Group n=134
% People perceived an increase in income	9.1*	27.0***
No. meals per day	12.7**	16.0**
% people reducing their food intake in past 3 months	0.8	2.5
Ownership of assets (Assets Index)	3.9**	2.0
Living standards (Housing Index)	5.4**	2.7
% People perceived an increase in savings	18.9***	23.5***
Sustainable Livelihood Index	6.7***	8.2***
Essential Services		
% Children of school-going age enrolled at formal school	0.0	1.7
% Households with no school dropouts	-0.4	0.9
% Deliveries attended by skilled health personnel	3.3	1.1
% People ill in last 3 months	-6.4	-13.0**
% Children who died before the age of 5	3.5	18.2***
Essential Services Index	-2.1	-1.0
Life and Security		
% People taken measures to cope with future disasters	15.2***	18.0***
% People feeling confident to cope with future disasters	7.8*	3.3
Life and Security Index	7.9***	7.2**
Social and Political Participation		
No. membership positions (index)	-0.9	2.1
No. influential positions (index)	0.1	0.0
No. leadership positions (index)	0.3	-0.8
Social and Political Participation Index	0.0	-0.1
Identity		
% economic empowerment	6.8	-5.4
% empowerment family planning	5.6**	-0.8
% empowerment contraceptives	5.9***	1.1
% increase in self-esteem	6.5**	11.5***
Identity Index ¹⁸	6.2***	1.6
Total Index	3.7***	3.2**

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

¹⁸ In this index all 4 identity indicators are included and equally weighted, so that each of them receives 1/4 weight. The maximum score on the index is 1.

Findings – female clients and clients in rural areas

- Microfinance has a significantly positive impact on the **livelihoods** of female clients. Apart from the food sufficiency indicator, all sustainable livelihood indicators have a positive impact as an effect of microfinance (total impact on the sustainable livelihood index is 6.7%).
- Microfinance has the highest impact on **savings** of females. Female clients were better able to **increase** their **savings** and **income** over the past 12 months compared to the women in the control group; the impact on perceived increase in income and saving was 9.1% and 18.9% respectively. Another important positive effect of microfinance is the increase in **number of meals** consumed for both female clients and clients living in rural areas.
- Obtaining a loan from VFG has also a positive impact on the ability of female clients to take **measures** to cope with future disasters (15.2%).
- A notable positive effect of microfinance is on women **empowerment**. We found a positive impact on women power in decision-making on family planning and contraceptives. No significant positive impact is found on the economic empowerment indicator.
- In addition, female clients have much more **self-esteem** (impact is 6.5%) through microfinance.
- A final, highly considerable result is the decrease in number of **children that died** before they turned 5 years old in **rural areas** (impact is 18.2%).
- Like female clients, microfinance has a significantly positive impact on the **livelihoods** of rural clients. In particular, microfinance has a high impact on **income** and **savings**. Rural clients were better able to increase their income and savings over the past 12 months compared to the women in the control group; the impact on perceived increase in income and saving was 27% and 23.5% respectively.
- Obtaining a loan from VFG has also a positive impact on the ability of clients in rural areas to take **measures** to cope with future disasters (18%).
- Contrary to the Theory of Change, no significant impact of microfinance on women **empowerment** in rural areas is observed. However, there is a significant impact on **self-esteem** (impact is 11.5%), meaning that clients in rural area are more self-confident because of microfinance.

Impact caused by non-financial services

In this section we examine the impact of the non-financial services of VFG, like the business training and group meetings. In order to measure the impact of business training and group meetings (table 11) we dropped the answers from the control group since they could not make use of the training cycle and group meetings. So we measured the impact between clients who followed business training with clients without business training through Propensity Score Matching. A similar approach has been used to measure the impact of group meetings. Regarding group meetings we made a distinction between clients who participated at least once every two weeks in a group meeting and clients that participated less frequently in group meetings or did not participate in group meetings at all. If the impact demonstrated is positive, this means that clients who followed a business training score a higher impact than clients that did not follow a business training. This also holds for participating in group meetings; a positive outcome means that clients who participated in group meetings show higher impact on that factor.

Besides financial services (loans, savings, and insurance), VFG offers non-financial services like business training courses and meetings of self-selected groups.

Before and after they receive a loan, VFG offers business training to its clients. These courses consist of product marketing, how to manage a business and product diversification. Furthermore, VFG provides services to farmer clients on new farm practices and in the introduction of new crops.

The other service VFG offers is group meetings. These meetings are organized to provide room for discussion about their business. General business issues as well as social issues can be discussed during these meetings.

Figure 6 Leanings from business training

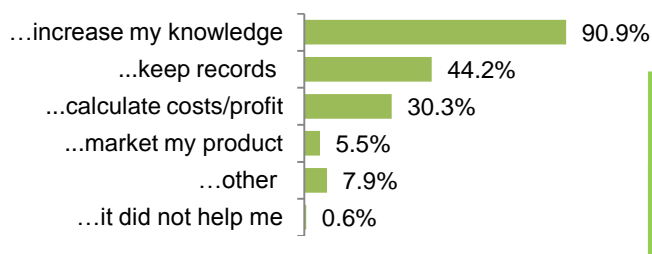
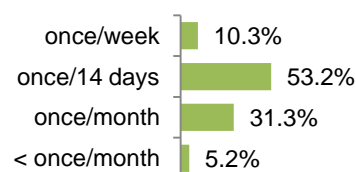


Figure 7 Frequency participation in meetings



Findings – business training

- + The **business training** has a positive impact on the **livelihoods of clients**. Clients who followed the business training show higher impact **on increase in income** (21.6%) and **increase in savings** (19.1%).
- + However, the business training show negative impact (minus 10.3%) on the **number of days clients are ill**, although this impact is not significant.
- + Clients that followed business training have taken more often **measures** (12.8%) **to cope with future disasters**.
- + Clients with business training participate more often in **social and political organizations**. This may be the case because business training empowers clients and make them feel them more confident.

Findings – group meeting participation

- + We found modest evidence that participation in group meetings has a positive impact on the **livelihoods of clients**. Microfinance has a higher impact **on increase in income** (7.4%) and **increase in savings** (17.5%) for clients who frequently participate in group meetings.
- + Microfinance has also a higher impact on the number of **births attended by skilled health personnel** (8.3%) for people who participate in group meetings.
- + Clients who followed business training feel more **confident** towards the future while clients who often participate in group meetings have taken more **measures** to cope with future disasters.
- + The clients who participate in group meetings are more often **member** of a social and political participation. In addition, more often these clients hold an **influential position** within a social organization as an (indirect) effect of microfinance.
- However, the **economic empowerment** of clients participating in group meetings is not improved through microfinance; we observed a negative impact (-12.8%). This means that women have more decision-making power in households that participate less frequently in loan group meetings.

Table 11 Impact of business training courses and group meetings

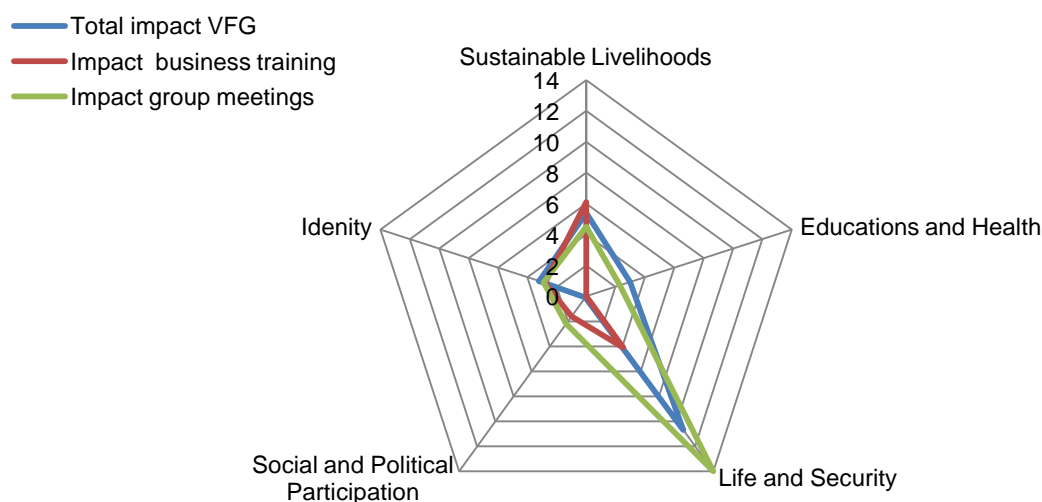
Variable	Impact (%)	Impact (%)
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	- Trainings	- Group meetings
Sustainable livelihood	(N=165)	(N=233)
% People perceived an increase in income	21.6***	7.4
No. meals per day	9.8	9.5
% people reducing their food intake in past 3 months	6.1	1.9
Ownership of assets (Assets Index)	0.5	2.3
Living standards (Housing Index)	0.0	-1.0
% People perceived an increase in savings	19.1***	17.5***
Sustainable Livelihood Index	6.1***	4.5**
Essential Services		
% Children of school-going age enrolled at formal school	0.1	2.7
% Households with no school dropouts	0.0	2.3
% Deliveries attended by skilled health personnel	-0.5	8.3*
% People ill in last 3 months	-10.3	2.8
% Children who died before the age of 5	-0.7	-3.6
Essential Services Index	0.0	2.3
Life and Security		
% People taken measures to cope with future disasters	12.8*	14.1
% People feeling confident to cope with future disasters	-4.6	13.9**
Life and Security Index	4.1	14.0**
Social and Political Participation		
No. membership positions (index)	7.0***	6.6**
No. influential positions (index)	1.5**	0.3
No. leadership positions (index)	-0.2	2.1
Social and Political Participation Index	1.6*	2.2**
Identity		
% economic empowerment	1.5	-12.8*
% empowerment family planning	-1.5	-4.1
% empowerment contraceptives	1.6	1.1
% increase in self-esteem	-1.6	1.7
Identity Index	0.0	-3.5
Total Index	2.8*	2.9

CONCLUSIONS

This study investigated the impact of both financial and non-financial products supplied by VFG. The data was collected through a quantitative survey. Subsequently, the impact was determined by means of a statistical assessment of the differences in outcomes on key impact indicators of VFG's clients set against the outcomes on those same indicators that would have occurred had these people not received products and/or services from VFG. A control group was composed as a proxy for what would have happened to the clients if they had not received a loan (or other services) from VFG. The total sample size included 496 randomly selected respondents: 246 were clients (including dropouts) of VFG between August 2008 and August 2010 and 250 respondents made up the control group of future clients. The study was focused on the impact of receiving microfinance over 3 to 5 years on the quality of life of VFG's clients. A number of questions were explicitly asked for quantifying any change over the last 12 months. The outcomes on these questions should be seen as the impact over 12 months in the context of obtaining a loan over 3 to 5 years.

Figure 8 Overview of measured impact (%) on the five impact domains



Based on the statistical analyses, we can conclude that microfinance products and services provided by VFG have had a positive **total impact** (4%) on the lives of its clients. This impact was measured through the Total Impact Index, which is an aggregated figure of all impact indicators included in this study. Looking at the 5 impact domains included in this study (see figure 8) we can conclude that most of the impact of the financial support VFG provided (blue line in Figure 8) was created on **life and security** (10.7%). In other words, VFG's clients take more **measures** (impact is 15.8%) to cope with future disasters and also feel more **confident** (impact is 5.5%) about facing potential threats in the future. This might be an indirect effect of the improved livelihood situation (by 5.4%). In particular, female clients have taken more measures (15.23%) to cope with future disasters. We found that about 74.8% of VFG's clients had perceived an **income increase** (impact is 10.8%) and 72% had **more savings** (impact is 14.7%), which people may have used to invest in measures to become more resilient to threats. We also see a significantly higher impact (12.8%) of microfinance on measures taken by those VFG clients who had participated in business training courses, compared to clients who had not followed training courses.

As well, a positive impact is observed on the indicators related to the right to an identity (3.2%). Especially, we see a positive impact of microfinance on **reproductive rights**; the empowerment of women regarding the decision to use **contraceptives** is in the households of VFG's clients 4.9% higher, compared to households in the control group. While zooming in on the impact of microfinance on women, a remarkable high positive impact of 29.5% is identified on economic

empowerment. This means that VFG's female clients are 29.5% more often included in the decision-making on **economic expenditures**.

The impact of VFG's work is also relatively high on the development of **sustainable livelihoods** (5.4%). Apart from a positive impact on perceived income and savings, we found that microfinance had a positive impact on the **accumulation of assets** (2.2%). In addition, microfinance had a higher impact on asset accumulation for female clients compared to women in the control group. A high impact is calculated for the **food consumption**. On average, clients of VFG consume 2.8 meals a day; access to microfinance has increased this number by 15%. When focusing on those clients who participated in training, we see a much higher impact (21.6% higher) of microfinance on the perceived income increase compared to non-participants.

There is a small impact found on the **essential services**; an index that consists of education and health variables. There is a negative impact of microfinance on **illness**. However, the impact on the number of **children who died aged under 5 years** is positive. Therefore, we have found only a small positive impact on essential services. Nevertheless, a big impact (8.3%) is observed on the number of **deliveries attended by skilled health personnel for clients who attended group meetings** (8.3%).

Finally, no clear impact of microfinance on **social participation** was observed. Though, clients who attended business training (7%) or group meetings (6.6%) have a significantly higher rate of membership of **social and political parties**.

Recommendations

- It is recommended that VFG organizes a reflection session on the findings and consider developing specific actions in terms of further studies or possible program adjustment to strengthen the positive impact and to analyze causes of lack of impact or negative impact.
- Future research could use a qualitative approach to assess the quantitative outcomes and create a context to interpret the results found in this study. For example, through in-depth interviews VFG might find an explanation for the negative impact on illness or the lack of empowerment regarding expenditures.
- To assess the impact of microfinance this study compared a target group with a control group. This control group was used as a proxy for what would have happened had there been no intervention. It consisted of future clients of VFG. In 3 to 5 years the respondents in the control group should be interviewed again, and the data collected in this research can then be used as baseline data.
- Finally, it might be interesting to link the outcomes of this study with outcomes of earlier social performance studies and customer satisfaction surveys.

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ANNEX 1 VISIONFUND GHANA

Table 12 Performance indicators of VFG

Indicator	VISIONFUND GHANA PERFORMANCE INDICATORS FY06-FY13							
	Sep-06	Sep-07	Sep-08	Sep-09	Sep-10	Sep-11	Sep-12	Sep-13
Clients	11,086	15,569	18,796	9,038	8,258	11,050	13,495	17,733
% Women	75	76	79	80	79	81	77	78
% Clients in ADPs/Rural	93	93	96	98	98	98	90	90
Loan Portfolio (\$) '000	1,100	1,900	1,600	1,000	1,000	1,600	2,070	2,400
Loan Loss Rate (%)	1.9	2.6	24.5	18	8.7	1.0	1.0	1.7
Total Revenue '000	524,	944,	1,215,	787,	754,	964,	1,407	1,683

Financial products

VFG's main product is credit for the productive poor, in the form of Working Capital Loans through groups known as community banks. The loans are generally not collateralized, but a system of collateral provided by peers is developed to ensure that loans are guaranteed by group members collectively. The credit is meant to help expand the business of the small entrepreneur who does not have access to credit from commercial banks. The loan size increases progressively in the so-called product cycle, depending on the repayment rate and the business's capital needs. Credit is only given to existing businesses, and interest is paid over the loans. Furthermore, clients are charged an interest rate of 3 to 4% per month, and pay a processing fee of 3% of the loan amount. The interest rate that is charged depends on the client's loan cycle, the nature and location of the business, and the interest rates charged by competitors. Loan sizes vary from \$20 to \$3,000 and are given for a period of 4 to 12 months. The loan amount issued and repayment period defined by VFG depends on the borrower's loan cycle and business activity. It is given to existing businesses and not to start-ups, and repaid with interest over periods called cycles. Agricultural loans are also given to clients who engage in all forms of agriculture like crop cultivation, animal husbandry, poultry rearing and fisheries.

Although loans are VFG's main product, savings are recognized as an important by-product. Savings make clients more independent. As with loans, VFG wants to give its clients access to a formal way of saving. Moreover, it is also mandated that a percentage of the loan should be held as savings by clients. Clients have the option also to save voluntarily, in addition to the mandatory savings.

Furthermore, VFG provides micro-insurance to clients in co-operation with MicroEnsure¹⁹. The insurance protects a client in case of a natural disaster or fire, or in case in the unfortunately event of the death of a client.

¹⁹ MicroEnsure is an organization that exclusively focuses on mitigating risk for the mass-market. They provide insurances for poor people mostly in Africa.

ANNEX 2 METHODOLOGY

Impact evaluation

This report presents the results of an impact evaluation. An impact evaluation is a method to understand whether an intervention actually worked. An impact evaluation assesses the difference in the values of key variables between the outcomes of “agents” (individuals, enterprises, households, populations, policy-makers, etc.) who have taken part in an intervention, against the values of those variables that would have occurred had there been no intervention²⁰. Assessed are the intended and unintended effects, the negative and positive effects, and the long-term and short-term effects²¹. An impact evaluation is needed to help policy-makers decide if interventions are generating the intended effects for the beneficiaries; to promote accountability in the allocation of resources across programs, projects and activities; and to fill gaps in understanding how measured changes in wellbeing can be attributed to a particular intervention.

Problem of the counterfactual

Impact evaluation studies can be conducted using quantitative methods (i.e. data collection) or qualitative methods (examples: in-depth interviews and focus group discussions) before (*ex ante*) or after (*ex post*) an intervention. The main challenge in different types of impact evaluations is to find a good counterfactual – i.e. the situation a particular subject would be in had he or she not been exposed to the intervention²². You must therefore determine what would have happened to the beneficiaries had the intervention not existed. Without information on the counterfactual, the next best alternative is to compare the outcomes of participating respondents with those of a comparison group that did not participate. In doing so, it is important to select a control group that is very similar to the beneficiary group; such that the beneficiaries would have had outcomes similar to those in the control group in absence of inclusion in the intervention. To prevent a bias in the outcomes, the selected control group should be (1) identical to the beneficiary group, (2) responding to the intervention in a manner similar to the way the beneficiary group responded to the intervention, and (3) be exposed to the same set of external interventions as the beneficiary group²³. The sampling procedure applied in this study is described below in the section “Sampling”.

Quantitative approach

This study uses a quantitative *ex post* impact evaluation method. Quantitative research tries to find causal relations between different variables in the research environment²⁴. Qualitative methods on their own cannot assess outcomes against relevant alternatives or counterfactual outcomes. That means it cannot really indicate what might have happened in the absence of the intervention. The used method is *ex post*, measuring actual impact on the beneficiaries that can be attributed to the intervention. An important advantage of quantitative evaluations is that they have immediate benefits and reflect reality. However, these evaluations sometimes miss the mechanism underlying the interventions’ impact, which can be very useful in understanding the effectiveness of interventions²⁵. For this reason, a mixture of qualitative and quantitative methods will result in the most reliable analysis.

Sampling

²⁰ We have used the definition of Hulme, 2000:8.

²¹ Wainwright, 2002.

²² Hulme, 2000; Karlan, 2001; Khandker *et al.*, 2010.

²³ Karlan, 2001; Lensink, forthcoming.

²⁴ Scrimshaw, 1990; Ellis, 2000.

²⁵ Khandker *et al.*, 2010.

In order to obtain meaningful results, it is important to implement the sampling process properly. The sample should be adequate to warrant generalization of the findings to the target population (representativeness of the clientele) and minimize this risk of outcome biases. It is therefore crucial to ensure that answers to the questions are given by a sufficient number of subjects (beneficiaries) and that there is no bias in the selection of respondents.

To assess the impact of microfinance over 3 to 5 years, we have defined “people who become a client of VGF between August 2008 and August 2010” as our target population. The sampling procedure included four measures for composing a valid sample and minimizing biases in the sample selection:

(1) A control group has been selected to overcome the problem of the counterfactual; **(2)** The characteristics of the people in the target group and the control group are identical. The control group consists of people who are registered at VGF as future clients, who had recently passed the selection procedure for receiving a loan in the near future. By composing the control group in this way we prevent any selection bias towards more entrepreneurial people who want to make use of microfinance services. “Those (people) who participate in microfinance programs are more entrepreneurial in spirit, more resourceful in business, and hence more likely to overcome life’s problems one way or another²⁶”; **(3)** Respondents are selected using multistage and simple random sampling. In multistage sampling method the population is divided in different groups, in this case regions. Twelve regions (Agourai, Timahdit, Meknes, Boufakrane, Azrou, Ain Taoujdate, El Hajeb, Fes, Kenitra, Rabat, Sale, and Temara Hay Nahda) are selected. Within these regions, simple random sampling is used to select the respondents for the target and control group, using a random number generator so that each person in the selected regions had the same probability of being selected for the sample. The multistage sampling method was used to reduce costs of the survey and to shorten the time needed to collect the data. The sample of the target group was selected from a list of all clients receiving a loan between August 2008 and August 2010. The sample of the control group was selected from a list of all future clients who probably will receive a loan in the future. A simple random sample minimizes outcome biases and simplifies an analysis of results; **(4)** Dropouts are included in the target group sample. The target group consists of all people who became a client of VGF between August 2008 and August 2010. The target group therefore also includes all dropouts. Dropouts are the people who became client between August 2008 and August 2010 but are no longer clients. By including dropouts, we control for the incomplete sample bias, since dropouts presumably were effected differently, and potentially worse, from those who are still clients²⁷. Moreover, including dropouts controls for the likelihood that there will be also dropouts among the future clients.

Sample size

This study is based on a sample size of 503 respondents (N=503). In order to create maximum statistical power we have selected the same number of respondents in the target group and control group: of the 502 respondents 251 participants were from the target group and 252 participants were from the control group. Power calculations are carried out on the most important indicators to verify the reliability of our outcomes. These calculations have confirmed that our sample size was big enough to conclude that our impact results are reliable. Meaning that the outcomes of the used sample represent the outcomes of the real population (= all clients of VGF).

Data collection

In order to assure the high quality and reliability of data we have developed a questionnaire with primarily multiple choice questions. Multiple choice questions are objective, so variations in

²⁶ Cited from Karlan , 2001:5.

²⁷ Karlan, 2001.

marking due to subjective factors are eliminated. An app is used to collect the data on a Smartphone or tablet. The use of an app is a cost-efficient way of processing data and contributes to more reliable information. In the app a few quality checks are built to lower the risk of making mistakes.

The interviews have been conducted by 10 loan officers of VFG. Appointing loan officers as interviewers has the advantage that they can verify the answers according to the local context. Therefore, clients will be more inclined to provide truthful information. As far as possible, loan officers have interviewed clients from other regions than the region in which they regularly work. A disadvantage of working with loan officers is the risk of subjectivity regarding answer interpretations. In addition, there is the risk that clients give socially desirable answers to gain a positive treatment of VFG. To minimise this risk we have hired a local consultant to do quality checks during the fieldwork. For example, the consultant checked whether the questions were asked in a consistent way and if the answers were interpreted correctly.

The local consultant trained the interviewers how to do a good interview. During the extensive training all interviewers received a tailor-made guideline with explanatory notes for each question; regarding the interpretation of the response categories, tone of voice, and instructions on how to deal with potential sensitivities. The training and guideline contributed to a homogeneous and reliable process of data collection.

Data analysis

Data cleaning

Before we started analyzing the data we did some quality checks by crosschecking different answers to verify if values were realistic when compared to other questions. In case of an unrealistic answer (e.g. the number of children who left school is higher than the total number of children in a household) we have not included the answer in our analyses. In addition, we have aggregated some data to create more meaningful variables. We have composed various indices as a quantitative indicator for a number of impact indicators. The composed indices are non-weighted indices. We then simply sum up the scores on different indicators. This method has the virtue of simplicity, but also has the limitation of assigning equal weight to all indicators. We choose for this method as it creates room for VFG to weight the differences in impact between the various indicators and indices. The statistical program STATA was used to make the calculations²⁸.

To assess the impact of microfinance, the control group should be absent in the microfinance intervention. We have therefore used future clients of VGF as the control group (see section Sampling). However, after the first data analysis on financial characteristics we found that a few members of the control group made use of the financial services of MFIs other than VGF. To make sure that this study measures the impact of microfinance, we have excluded these respondents from our impact analyses. This reduced the size of the control group by 38 respondents.

Pearson's chi-square test and the t-test

The first step in our data analysis was to test to what extent the target group and control group were similar with regard to their general characteristics. We used the *chi-square test* and the *t-test* to see if they differed significantly.

The chi-square test (X^2) is shorthand for Pearson's chi-square test. The Chi2 test was used to compare the observed and expected results on nominal variables (frequencies) and sees if a

²⁸ All significance tests provide results within a predefined confidence interval. Confidence levels commonly used are 90%, 95% and 99%, with most usual (at least in the field of economics) the 95%.

difference is due to chance, or more significant²⁹. Alongside the chi-square test, we also used the t-test to compare the outcomes on interval and ratio variables. The t-test can be used to test different hypotheses. In our research we used the t-test to test whether two independent variables differ significantly from each other³⁰.

Propensity Score Matching

Based on the *chi-square test* and the *t-test* we concluded that the control group differs from the target group in terms of gender and location (see Table 2). To overcome this problem, we also used the Propensity Score Matching (PSM) method. With PSM, we try to develop a counterfactual or control group that is as similar as possible to the target group in terms of *general (or observable)* characteristics. The idea is to find individuals in a large group of nonparticipants who are *observationally similar* to participants in terms of characteristics not affected by the program (they can include pre-program characteristics, because those clearly are not affected by subsequent program participation). Each participant is matched with an observationally similar nonparticipant. The average effect of the program is then calculated as the mean difference in outcomes across these two groups³¹. There are several matching methods, including: Nearest Neighbour matching, Stratification method, Radius matching and Kernel matching. In our research we used Nearest Neighbour (NN) matching³². NN matching matches each of the respondents in the target group to a respondent in the control group (with replacement) whose general characteristics (propensity score) match best with the respondent in the target group.

Limitations of this study

Although quantitative methods have several clear advantages, the method also has some limitations. Quantitative studies do not take into account the underlying motives of people. Furthermore, they can only deliver the outcomes formulated in the questionnaire. This limits the explanations and nuances participants want to make. Mixed methods are therefore a popular method in research. Qualitative methods can then be used to give meaning to the quantitative outcomes. Qualitative methods give the participant and the interviewer the opportunity to arrive at a better understanding of the reality they observe. Moreover, qualitative methods can be used to assess social relations and sensitive information.

Ethics

For Oxfam Novib research ethics are of the utmost importance. We emphasized that participation in the study was completely voluntary. Before each interview started, room was created to turn down participation. In order to allow people to turn down participation, a reserve sample list was composed for each region. Furthermore, all interviewers guaranteed anonymity and confidentiality. At the beginning of the interview it was explained that the research is for scientific purposes only. Finally, working with a control group raises ethical issues. As a solution, in this study the control group existed of future clients who were already selected to receive a loan in the future.

²⁹ Fisher, 1922.

³⁰ Field and Hole, 2003.

³¹ PSM is a quite popular method among researchers since it is the next best thing to do is to try to mimic randomisation—that is, try to have an observational analogue of a randomized experiment.

³² This study is based on Nearest Neighbour (NN) matching. NN matching is used for two reasons: i) the target group is bigger than the control group, so some propensity scores from the control group should be used twice to match all the respondents of the target group, ii) NN matching finds the propensity score that is the most closely related to the target group and therefore gives the most reliable outcomes (Khandker *et al.*, 2010).

ANNEX 3 IMPACT INDICATORS

Right 1: Sustainable Livelihoods

This study does not use income data to measure the livelihood of households. Income data has limitations in both accuracy and measurement. For instance, for people living in informal labour markets incomes are often highly variable. Income can be seasonable, such as when earned from farming or tourism, or just variable and lumpy for small-business owners³³. Taking a snapshot of income at one point in time may therefore produce a less reliable picture of those types of workers than those who receive regular salaries. Furthermore, they may be engaged in barter and other non-monetary forms of trade. In all these cases there is a high potential for error in data based on the recollection and value of all sources of income. Instead of using income data, this study measures the impact on livelihoods according to a range of indicators: perceived change in income; perceived change in savings; food security and food intake; asset ownership; and living standards.

The **perceived change in income** is used as a proxy for income, defined as the monetary income received in a particular period from various sources (work, interest, remittances, gifts, etc.). This is measured by asking the respondents if they had observed an increase, decrease or no change in their income over the past 12 months.

We composed an **Assets Index** as a quantitative indicator of households' assets ownership as a proxy for wellbeing, as we did not have complete income or consumption data. The composed Assets Index is a non-weighted index in which the following household assets are included: radio; bicycle; bed frame with mattress; refrigerator; television; computer/laptop; mobile phone; fishing net; tri-cycle; motorcycle; donkey/bullock; tractor; car/pick-up truck; or other items with value of more than 1000 GHS. This means that we simply sum up the number of assets owned, which is equivalent to setting asset = 1 for each asset. This method has the virtue of simplicity, but also has the limitation of assigning equal weight to ownership of each asset. For example, this method would assign equivalent values to owning a radio and a computer, although in reality their contributions to the capital variable are surely different.

The **living standards** or quality of housing is also included to measure wellbeing. The quality of housing is measured with a Housing Index indicator that includes (1) access to safe drinking water; (2) electricity; (3) concrete floor; (4) flush toilet; (5) cooking fuel; and (6) solar lighting. Likewise the Assets Index, the Housing Index is a non-weighted index whereby we simply add up the number of assets owned with a maximum score of 6³⁴.

Food security refers to “a situation when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”³⁵. Food security is measured using an “insufficient food intake”, which means that the respondent or his or her household members cut the size of their meals or skip meals once or more often because there was not enough in the last 3 months. A second variable related to food security is the **number of meals** consumed per day. Although this variable does not show whether the quality of the food and the diet have changed, it is assumed that it is still a meaningful indicator of food security³⁶.

³³ Moser and Felton, 2007.

³⁴ These indicators are based on the multidimensional poverty index developed by Oxford Poverty & Human Development Initiative and the United Nations Development Programme Santos and Alkire, 2011.

³⁵ FAO, 1996, Rome Declaration on World Food Security and World Food Summit Plan of Action.

³⁶ www.fanta.org.

The perceived change in savings is also used to measure the impact of microfinance on the livelihoods of clients. The indicator is measured by asking respondents with savings if they had observed an increase, decrease, or no change in the income over the past 12 months. This indicator is included as it provides information on the extent to which people have had experienced a surplus or shortage on their financial resources.

Right 2: Essential Services: education and health

Essential services are defined by two indicators; **education** and **health**. Based on the Basic Capabilities Index developed by Social Watch³⁷, Oxfam Novib used two sub-indicators to measure education; percentage of school-age children (girls and boys) **enrolled at school** and percentage of school-age children who started school and **dropped out** before reaching grade 3. The indicators used for health were the same as those used by Social Watch, i.e. percentage of **deliveries attended by skilled personnel**, and **mortality rate of children under 5 years of age**. This study also included the number of days that people were so ill they were unable to work over the last three months.

Right 3: Life and Security

The degree to which people fall victim to serious physical damage and perceive a threat to their physical integrity and/or personal belongings is a good indicator of their **vulnerability**. In this study we have defined 5 threats that may have caused a negative impact or physical damage to the respondent or household members: banditry, state action, civil unrest or armed conflict, natural disaster, discrimination.

Being prepared for emergencies (taking any measures to cope with potential disasters in the future) is an indicator of **resilience** and the capacity to prevent external shocks from causing social and economic deterioration.

Coping capacity is measured as the level of confidence people have in their ability to cope with potential threats (banditry, state action, civil unrest or armed conflict, natural disaster, discrimination) in the future.

Right 4: Social and Political Participation

Social organizations are a key player in the field of government-private sector-civil society, especially in ensuring respect of people's rights. Civil society organizations are important in ensuring that the rights of marginalized people are respected. Furthermore, an important indicator of empowerment is participation in organizations and decision-making power. Another important indicator for measuring decision-making power is leadership positions held by project respondents. The empowerment and participation dimension thus intends to measure the degree of social and political empowerment.

We used several types of organizations that are common in the societies. We weighed all the different organizations equally, because we think that membership in itself is the most important indicator of participation.

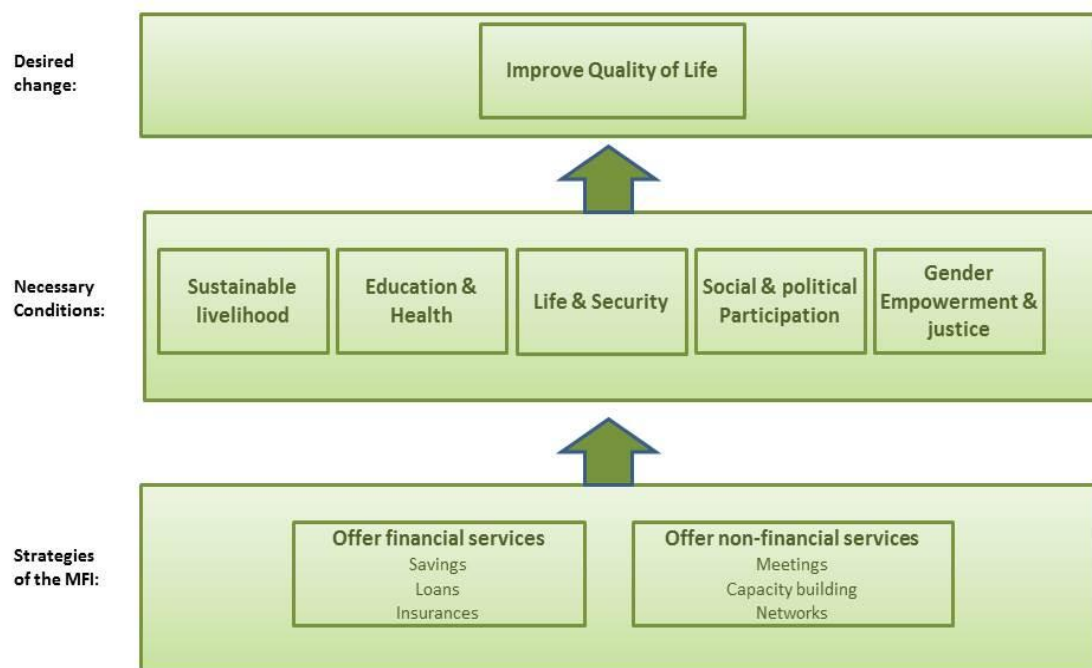
Right 5: Identity

The identity indicators measure to what extent women were involved in the decision-making process. In more traditional communities, where men often head the household, the decision-making process is carried out by the men only. We believe that decision-making should not be the exclusive preserve of men, but that women should also be involved. We therefore give high scores to households where women are involved in the decision-making process, and give low scores to households where exclusively men have decision-making power.

³⁷ For more details about social watch and the construction of the BCI see <http://www.socialwatch.org/>

We examined these outcomes on three different topics: household spending, family planning, and contraceptives. **Household expenditure** is about how the household's income is spent on different products and services. Men and women have different views on household spending, so the design of the decision-making process influences the kind of products and services that are bought. The second indicator is empowerment in family planning. **Family planning** depends on cultural values and personal ideas. The extent to which women are involved in the decision-making process determines how their personal ideas are included in the decision made. In more traditional societies decisions are made by men, the head of the household. We consider it important that women are also involved in the decision making process. The third indicator is about the use of **contraceptives**. This indicator also depends on cultural values and personal ideas. Contraceptives can even be more culturally charged than family planning and therefore this indicator shows the degree of empowerment.

ANNEX 4 THEORY OF CHANGE



ANNEX 5 GENERAL CHARACTERISTICS

Figure 7.1 Marital status (Chi2(4) = 11.43**)

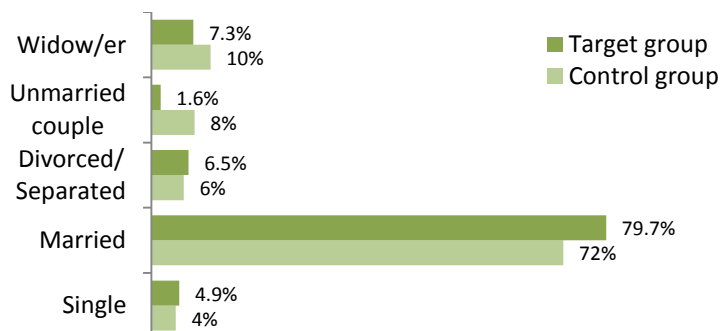


Figure 7.2 Religion (Chi2(5) = 16.48***)

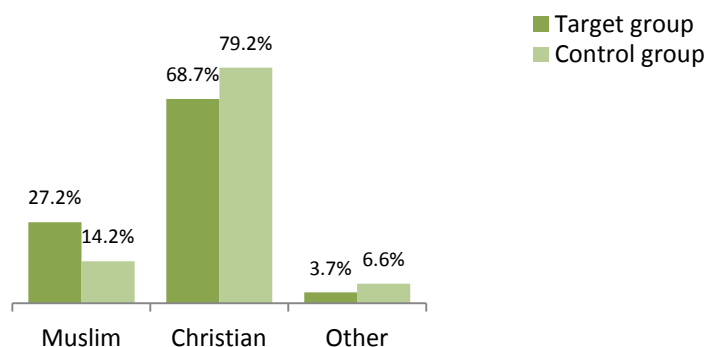


Figure 7.3 Occupation

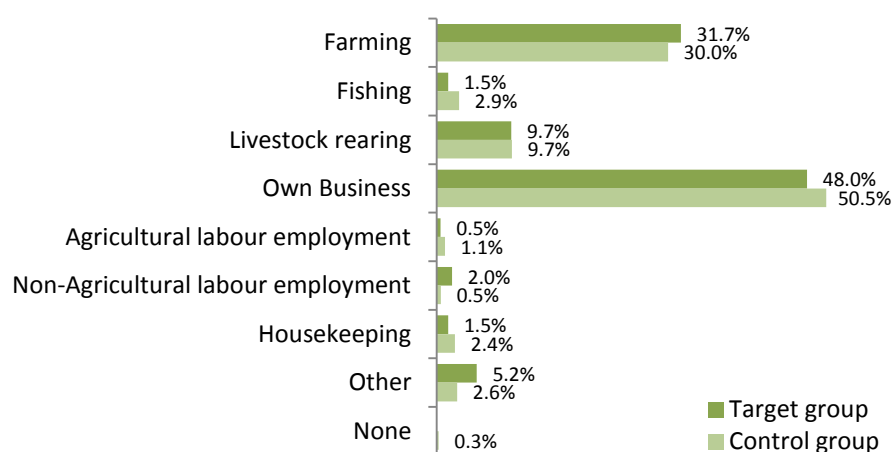


Table 13.1 Household size

	mean	SD ³⁸	min	max
Target group	7.1	4.57	0	35
Control group	6.7	3.58	2	25

The average household size of the target group is about 7 members.

Table 13.2 Household dependency ratio

	mean	SD	min	max
Target group	0.606	0.226	0	1
Control group	0.608	0.222	0	1

The target group and the control group have almost the same dependency ratios. The dependency ratio of the target group is 0.61. This means that on average 61% of all household members has no source of income and depends on the income generated by the other 40% of members. The target group and control group do not differ regarding this indicator.

³⁸ SD is the standard deviation which measures how much variation or dispersion from the average exists. A low SD indicates that the data tend to be very close to the mean; a high SD indicates that the data are spread out over a large range of values.

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ABOUT THE REPORT

This report is the result of a joint impact evaluation project initiated by **Oxfam Novib** and **Triple Jump**. This impact report is written to contribute to increased transparency on effectiveness, to support accountability, and to invite feedback on impact measurement. They do not necessarily reflect Oxfam's or Triple Jumps' policy positions. The views expressed are those of the author and not necessarily those of Oxfam and Triple Jump.

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