

A SUSTAINABLE APPROACH TO COMMUNITY-BASED SAVINGS IN RWANDA

THE PRIVATE SERVICE PROVIDER MODEL

MAY 2015

This report presents results from the final evaluation survey of Catholic Relief Services' (CRS) Private Service Provider (PSP) project in Rwanda's Eastern Province, which was implemented from August 2011 to April 2014. The objective of the evaluation survey was to assess the impact of the PSP model on savings and internal lending communities' (SILC) sustainability. The results showed that the PSP model does not only facilitate the creation of SILC groups but also helps the groups to evolve in such a way that they become fully operational and no longer require the regular guidance of a field agent, but instead can call upon a PSP for occasional and specific services.

© Copyright 2015 Catholic Relief Services. All rights reserved. This document, or parts thereof, may not be reproduced in any form without permission. Contact pqpublications@crs.org for permission. Any "fair use" under U.S. copyright law should contain appropriate citation and attribution to Catholic Relief Services.



Table of Contents

Acknowledgements	iii
List of Figures	iv
List of Tables	iv
List of Abbreviations	iv
Executive Summary	v
Introduction	2
OBJECTIVES OF THE STUDY	2
Methodology	3
EVALUATION DESIGN	3
SAMPLE DESIGN	3
AREA OF STUDY	3
STUDY POPULATION	3
SAMPLE SIZE CALCULATIONS AND SAMPLING.....	3
SAMPLING METHODOLOGY	4
Stage one: selection of survey clusters.....	4
Stage two: selection of survey participants within clusters.....	4
Sampling Weights	4
Stratified Sample.....	5
Survey Sample Size Estimation	5
DATA COLLECTION TOOLS	5
TRAINING AND PRE-TEST OF QUESTIONNAIRE	5
QUESTIONNAIRE SAMPLE	6
INTERVIEW SAMPLE	6
FOCUS GROUP DISCUSSIONS SAMPLE	6
DATA MANAGEMENT AND ANALYSIS	6
ANALYSIS	6
OUTCOME MEASURES	6
Key Findings	7
SILC GROUPS’ INCOME INCREASED AND ENSURED PAYMENT FOR PSP SERVICES	8
HOUSEHOLD INCOME	8
Average household expenditures	9
Income Generating Activities.....	10
Household Dietary Diversity	10
Agricultural Inputs.....	11
Household Health	11
SILC Group Savings.....	12
Loans Received.....	13
WEALTH INDEX	13
AWARENESS OF PSP SERVICES AMONG SILC MEMBERS	14

BENEFICIARY SATISFACTION WITH PSP SERVICES.....	15
SILC ENSURES PAYMENT FOR PSP SERVICES.....	15
PSP CAPACITY DEVELOPMENT IMPACT.....	16
PSP OUTCOMES ON SILC GROUP MANAGEMENT AND SUSTAINABILITY	16
CONCLUSIONS AND RECOMMENDATIONS.....	17
CONCLUSIONS	17
RECOMMENDATIONS	17
Bibliography	19
Annex 1. SILC Household Survey Tool.....	20
Annex 2. Questionnaire for Field Agents.....	27
Annex 3. SILC Baseline FGD Questions.....	29
Annex 4: Outcome Measures and Analysis Plan.....	30
SECTION A. BACKGROUND CHARACTERISTICS.....	30
SECTION B. HOUSEHOLD INCOME, SAVINGS AND DEBT	31
SECTION C. CALCULATION OF POVERTY INDEX (BASED ON HH ASSET OWNERSHIP)	31
SECTION D. COPING STRATEGIES	31
SECTION E. HDD TABULATION PLAN	31
SECTION H: LEVEL OF AWARENESS TO PAY FOR PSP SERVICES.....	32
SECTION I: CAPACITY OF SILC GROUP TO SUPPORT PSP PAYMENT	32
SECTION J: CAPACITY OF SILC GROUP TO SUPPORT PSP PAYMENT	32
Annex 5: Sampling	33
Annex 6: SILC Savings.....	34
Annex 7: SILC Loans	35
Annex 8: Household Dietary Diversity	36
Annex 9: Agricultural Inputs.....	38
Annex 10: Household Health.....	39
Annex 11: Services Provided to SILC Members.....	40
Annex 12: Summary Table of the Financial Services – Monthly Averages	41
Annex 13: Wealth Index.....	42

Acknowledgements

Many people contributed to the preparation, editing and finalization of this report. SBCR Limited was engaged to gather and analyze the data, based on CRS' PSP Pilot Project which ran in three districts of Rwanda's Eastern Province for three years, from 2011 to 2014. In Kigali, Anathalie Mukankusi, Muriel Byukusenge, Charles Karake and Jerica Youngken provided technical inputs and reviews. Contributions from partners Ngarambe Vanson, PSP Pilot Project Supervisor, and PSPs are gratefully acknowledged. From Baltimore, CRS' Senior Technical Advisor for Microfinance, Tom Shaw, provided technical advice throughout development of this report.

List of Figures

Figure 1	Place of Saving	15
Figure 2	Place of Borrowing	17
Figure 3	SILC Member Wealth Quintiles	18

List of Tables

Table 1	Household Background Characteristics	9
Table 2	Household Monthly Earnings	11
Table 3	Level of Awareness of PSP Services	19
Table 4	PSP Payment Arrangement	20

List of Abbreviations

ASCA	Accumulating savings and credit associations
CRS	Catholic Relief Services
FA	Field agent
FAO	Food and Agriculture Organization
FGD	Focus group discussion
HIV	Human immunodeficiency virus
HDD	Household dietary diversity
IGA	Income-generating activities
MFI	Microfinance institution
NISR	National Institute of Statistics of Rwanda
PCA	Principal component analysis
PPS	Probability proportional to size
PSP	Private service provider
PSU	Primary sampling unit
ROSCA	Rotating savings and credit association
Rwf	Rwandan franc
SACCO	Saving and credit co-operative
SAS	Statistical analysis system
SILC	Savings and internal lending communities
STATA	Statistical package software
TOT	Training of trainers
VSLA	Village savings and loans association

Executive Summary

This report presents results from the final evaluation survey of Catholic Relief Services' (CRS) Private Service Provider (PSP) project in Rwanda's Eastern Province, which was implemented from August 2011 to April 2014. The objective of the evaluation survey was to assess the impact of the PSP model on savings and internal lending communities (SILC) groups' sustainability within the communities. A baseline survey and evaluation follow-up were conducted to measure the extent to which the project achieved its objectives and led to SILC groups' sustainability.

The evaluation used a cross sectional survey with two-stage sampling approach in which two clusters were considered (formerly known as SILC graduated and new groups). The parishes¹ where the project was implemented served as primary sampling units (PSUs). A simple random technique was used to select respondents from the sample frame. Over 380 SILC members were surveyed from 92 SILC groups located in 11 parishes. The survey covered key topics including household financial status (income, savings and credit, asset holdings), shocks and food security observed through household dietary diversity, non-food expenditure on health and agricultural inputs, and the perceptions of SILC members on PSP services.

At the project's end, SILC groups had achieved a substantial increase in the portfolio of financial services available to members. The monthly average household income of SILC members was reported as 19,895 Rwf (\$30) at baseline to 28,198 Rwf (\$43) at project end. The monthly average household income increased significantly by about 42% compared to baseline. This is due to the introduction of income-generating activities (IGA), SILC members' access to loans from the groups, SILC governance principles and increased financial management skills.

After a full saving cycle (usually 8 to 12 months), average household monthly savings increased from 10,741 Rwf (\$16) at baseline to 12,560 Rwf (\$19) at project end, a 17% increase. SILC members' increased capacity to save on a monthly basis was attributed to the substantial increase in the portfolio of financial services provided by the PSP.

Using records on income and savings of SILC members, it was possible to estimate the average household expenditure. The results revealed a 101% increase in average monthly household expenditure from 7,793 Rwf (\$12) at baseline to 15,678 Rwf (\$24). According to SILC members, the introduction of the PSP program promoted a change in behavior that reflected the increased importance of savings among SILC groups. The increase in household expenditures can be explained by experiences in household income growth and their ability to develop strategies to deal with economic shocks.

Increased access to financial services helped SILC members to invest in businesses and save a portion of the income. Another significant achievement of the PSP program was a 96% increase in the monthly average amount of loans acquired by SILC member from 27,616 Rwf (\$42) at baseline to 54,223 Rwf (\$82) at project end. Loans taken by SILC members were invested mostly in farming activities, followed by small business start-ups, petty trade, and livestock. The loans also helped SILC members mitigate economic shocks such as food security, health care and education costs.

¹ Parishes were defined as the lowest unit or strata of sampling SILC groups.

Household dietary diversity scores (HDDS) were calculated at baseline and project end, with the results showing a surprising decrease in HHDS over the life of the project. The HDDS at baseline was 5.7 against 4.46 at the end. (The higher the HDDS, the better the household dietary diversity.) However, the researchers postulate that the decrease in HDDS can be attributed to a lack of nutrition-focused programming, combined with emphasis on decreasing household consumption. Therefore, future programming should include an intentional focus on nutrition messaging to ensure adequate understanding of the importance of dietary diversity.

The PSPs reported benefiting from certified formal training provided by CRS to implement the PSP model in their respective communities. With new skills, they were able to transfer knowledge on the PSP model to SILC groups. The PSPs were satisfied with the payment arrangements by the SILC groups that received services. The latter is of critical importance to this study, as the research purposely examined both the supplier and the buyer sides. The average amount of money received on a quarterly basis by PSPs who participated in the final evaluation was reported as 76,375 Rwf (\$115). However, it should be noted that the amount paid to the PSP is a function of the effectiveness and efficiency of each SILC group in raising member income.

The main recommendations that resulted from this study focus on enhancing the capacity of PSPs to provide improved services to the SILC groups they support. These improved services include information on nutrition and dietary needs, IGA creation, training on market linkages and links to financial services, and establishing relationships with local authorities and other stakeholders.

In conclusion, this project contributed to a marked increase in average monthly household income, savings, and borrowing, as a direct result of the guidance and support offered by PSPs to SILC groups. While the results were strong and overall satisfaction with the project was high, it would be useful to recreate this study in two years to assess the longer-term effects of the private service provider model on the achievements and welfare of SILC group participants.

Introduction

Catholic Relief Services has integrated the SILC approach across programming in agriculture, health, nutrition, and HIV in both rural and urban settings since 2006. The program has developed a fairly standardized methodology over the past nine years. In Rwanda, the approach was first introduced in the Eastern province in 2012 and at the project's end it was being implemented in fourteen parishes within three districts.

SILC groups consist of 15 to 25 self-selected members who save money by purchasing shares in the group. The savings are pooled into a loan fund from which members can borrow, potentially enabling them to overcome barriers to more lucrative and reliable IGA. Loans are repaid with a monthly interest rate that is set and agreed upon by members (10% of the loan is typical). The interest rate set by SILC groups is typically higher than the formal banks' rate, but as the interest paid in SILC groups is equally shared as dividends at the end of the cycle, all members eventually profit from this higher rate. The members are also given a chance to repay the loan in installments as long as the installment period does not exceed three months. Each group also has a social fund that allows group members to borrow emergency funds without interest.

Each member's savings, loans, and repayments are noted in the SILC group ledger. To maximize transparency and accountability, transactions are carried out in front of the group members during weekly meetings. To avoid unauthorized transactions, the cashbox is locked with three different locks, the keys to which are held by different members. At the end of the 12-month SILC cycle, the accumulated savings and interest payments are distributed among the members. Similar community-based savings groups, such as village saving and loans associations (VSLA), typically have an average rate of return on savings of around 36%².

To ensure the sustainability of SILC groups after formal programming has ended, CRS introduced a PSP model. Under this model, field agents are trained to become independent service providers operating on a market driven basis with the aim of ensuring the long-term availability of SILC services and eventually self-reliance.

OBJECTIVES OF THE STUDY

The main purpose of the final evaluation was to assess the impact of the PSP model on the sustainability of the SILC approach within the target communities. Specifically, the evaluation compared the baseline status and the final situation to assess the extent to which the project increased the sustainability of SILC groups within the community.

² <http://www.vsla.net/>

Methodology

The survey used both quantitative and qualitative methods including household survey questionnaires, focus group discussions with SILC members, and key informant interviews with PSPs. The household questionnaire is attached to the report as Annex 1, interview guides for PSP as Annex 2, and focus group discussion questions as Annex 3.

The first step of the survey entailed a comprehensive literature review on PSP methodology which provided contextual analysis and informed the development and alignment of the primary data collection instruments.

EVALUATION DESIGN

The evaluation used a cross sectional survey with a two-stage cluster sampling approach whereby a sample of SILC groups in selected areas/sites were chosen to participate in the survey. Systematic follow-up during and after PSP model implementation allowed for prospective analysis of responses, sub-group analysis, and evaluation of the sustainability of both SILC and outcomes of participation.

A mixed method approach that combines both qualitative and quantitative tools was chosen with the aim of obtaining in-depth information relating to the research questions and allowing triangulation of results. In line with the client theory, research units included a cross-mix of respondents (SILC members, SILC group representative and field agents/PSPs) in order to define who and what really counted in the success of PSP on SILC group management. Quantitative and qualitative data was obtained from evaluation tools and observation in order to validate additional information gathered from literature review..

SAMPLE DESIGN

AREA OF STUDY

The main data collection activities were centred on an in-depth analysis conducted in the selected case study parishes: Bare, Gashiru, Kabarondo, Kirehe, Mukarange, Nyarubuye, Rukira, Rukomo, and Rusumo. All parishes are located in the Eastern Province.

STUDY POPULATION

The study population included three groups, listed below with the methodology used to collect information from each:

- SILC group member (questionnaire)
- Private service provider (interview guide)
- SILC group member (focus group discussions)

SAMPLE SIZE CALCULATIONS AND SAMPLING

The study sites were parishes, and were selected using probability proportional to the size of the population from which SILC groups were identified. Respondents were selected using a random sampling method based on the sampling frame.

SAMPLING METHODOLOGY

The target population groups were based on a concept of stratification of “graduated” and “new” SILC groups. A similar approach to that used in the baseline survey was applied, i.e., the two groups were disaggregated as “graduated” and “new.”

New groups are those which have been established within the previous year. Graduated groups are those which were established more than one year prior to the sampling period and therefore receive less support from PSPs on a regular basis.

Two-stage sampling techniques were used to select survey clusters and individual respondents for the evaluation survey.

STAGE ONE: SELECTION OF SURVEY CLUSTERS

Probability proportion to size sampling technique was used to select sampling units (parishes) proportional to the size of the population of the SILC groups in a parish.

STAGE TWO: SELECTION OF SURVEY PARTICIPANTS WITHIN CLUSTERS

The sampling of participants was undertaken from the two stratified SILC groups (graduates and new) in each sampled cluster. A simple random sampling technique was used to determine the selected participants in each of the target groups based on the sampling frame. The number of participants per group in a cluster was determined proportional to the size of the group. Therefore, these two different groups had a different number of participants.

SAMPLING WEIGHTS

According to the design of this survey, weighting was applied whereby a cluster (target group) sampled with a sampling probability of π represented $1/\pi$ cluster (target group) in the population.³ The value $w=1/\pi$ defined the sampling weight.

For the first stage, weights were chosen to compensate for the effect that clusters (parishes) did not have the same size $W_{1i} = 1/\pi_{1i}$ where π_{1i} was the sampling probability of each cluster (parish), while for stage two, weights were used to compensate for the effect that target groups of participants did not have the same number of individuals, $W_{2ij} = 1/\pi_{2ij}$ where π_{2ij} was the sampling probability of the targeted groups in each cluster. Therefore the design weights were $W_{ij} = 1/\pi_{1i} * 1/\pi_{2ij}$, where $i=1\dots$ representing 9 clusters, and $j=1, 2$ representing 2 different targeted groups (graduates and new SILC group).

³ Williamson et al.

STRATIFIED SAMPLE

The stratification of sample size, given sample size determined (380 SILC group members), was done based on the sample frame. It is known that the total number of graduated SILC members is 8,019 (from 274 groups) while the total number of new SILC members is 3,605 (from 146 groups). Based on the above data, the sample fraction is given:

$$f = \frac{N}{n}$$

Where N=total population and n=sample size

The sample fraction of five was applied to all selected clusters to ascertain the specific strata (SILC groups G/N)

SURVEY SAMPLE SIZE ESTIMATION

This study was designed to produce a representative subset of people in order to meet the stated objectives. To obtain the required sample size for final project evaluation, the following formula was used:

$$n = \left[\frac{Z_{\frac{\alpha}{2}} \sqrt{P(1-P)}}{W} \right]^2$$

Where $Z_{\frac{\alpha}{2}} = 1.96$.

P equals the estimated proportion of SILC members saving in SILC groups was 0.4 derived from the baseline analysis report (page 22). W equals the allowable margin of error (here, w=5%). A 95% confidence interval was applied, allowing for a 5% margin of error. Computation based on these parameters yielded a sample size of 369. An increase of 3% was applied to compensate for non-response, finally yielding to a total of 380 participants. The respondents identified to participate in the survey included 262 (out of the 8,049 graduated SILC members and 118 out of the 3,605 new members).

DATA COLLECTION TOOLS

Information was collected using three survey questionnaires that were structured and pre-coded as used in the baseline, although there were some improvements made based on the study objectives; for example, the household questions were designed to collect information about improved revenues through savings, new IGA engagements and SILC groups' ability to pay PSP services. Refer to the household questionnaire in *Annex 1*; PSP interviews in *Annex 2*, and FGDs in *Annex 3*.

TRAINING AND PRE-TEST OF QUESTIONNAIRE

Orientation and intensive training was conducted for one day for all members of the survey team. The questionnaires were discussed thoroughly and some mock interviews were conducted during the training. The pre-test was conducted in Kayonza district. The main purpose of the pre-test was to assess feasibility of the survey instruments. During the pre-test, each enumerator interviewed at least one member of a SILC group. The tools were administered by the consulting team supported by the CRS technical team.

QUESTIONNAIRE SAMPLE

A household survey questionnaire was administered to individual SILC members to assess outcomes. The survey tool consisted of four sections covering questions on demographic characteristics of SILC group members, their socio-economic status, awareness of PSP services and the level of PSP service satisfaction.

INTERVIEW SAMPLE

To complement findings gathered from the household survey, discussions were held with key informants (PSPs) and their responses were recorded. The interview guide included questions on SILC management procedures and perceptions about the PSP services. Fourteen interviews were conducted.

FOCUS GROUP DISCUSSIONS SAMPLE

The FGD were based on an interview guide prepared prior to the survey. Discussions were conducted with selected SILC group members to seek their understanding of the importance of PSP services and its impact on the development of SILC groups. FGD participants were also asked to provide input on enabling and inhibiting factors related to PSP services in their SILC groups.

In addition, their input was sought on the ideal model to maximize PSP interventions and its impact on SILC groups. In all FGD sessions, respondents were encouraged to be open in expressing their thoughts.

DATA MANAGEMENT AND ANALYSIS

In order to ensure accuracy and precision, and also to save time, the revised survey tools were designed electronically and exported from the iFormBuilder database to iPod devices. Data was collected by experienced and trained enumerators under the supervision of a consultant and the CRS technical team. Preliminary cleaning of the data was done in the field by enumerators and supervisors. The data was later exported to Excel for cleaning and analysis.

ANALYSIS

The analysis procedures followed an impact evaluation framework that was based on comparison of relationships between various independent and dependent variables at baseline and end-line. The analysis also took into account outcome variables, which were defined in the framework and were identified in the analysis plan for the purpose of comparing SILC group incomes against expenditures. This allowed the team to assess the SILC groups' independence and capacity to pay for PSP services, thus comparing proportions (means and standard deviation) for baseline against final evaluation results. Statistical package software (STATA) was used for data analysis. For the formal statistical results, please refer to *Annex 15*.

OUTCOME MEASURES

The survey took into account two program outcomes elaborated in the SILC evaluation framework (see Annex 4):

- The **primary outcome measures** for this evaluation was a trend analysis in the SILC group member's household income as reflected in the acquisition of assets, member utilization and access to health services, education, and other social services.
- The **secondary outcome measures** considered SILC group managerial systems and good governance, which promotes self-reliance and long-term sustainability of the groups.

Key Findings

This section presents the main findings of the final evaluation survey compared with the baseline survey data for PSP project. The results are organized around the objectives of the survey, which considered the extent to which the project achieved its objectives and led to SILC groups' sustainability within the community.

BACKGROUND CHARACTERISTICS OF RESPONDENTS

In the quantitative analysis, comparisons were made on SILC member characteristics across the study periods. The basic characteristics of members are presented in Table 1. The findings show that women participate in or attend SILC group meetings more than men (63.16% vs. 36.84%, respectively). The findings on both comparative periods show an increase of 0.31% in female participation and a decrease of 0.31% in male participation. However, overall participation in SILC groups after an average of two years of program implementation did increase, indicating that the PSP model had a positive impact on SILC group participation.

As observed in the baseline, 40.9% of SILC members were between 30 and 44 years of age, followed by 27.44% between 45 and 59. The third age group was made up of youth between 17 and 29, who accounted for 21.64% of SILC group members. The oldest population, those 60 years and older, represented 10.03% of the total group membership.

Further, the findings revealed that 61.32% of SILC member respondents' source of income is generated from agricultural farming activities. When compared to the baseline survey findings, it appears that there has been a 14% increase in the number of SILC members engaging in farming activities as an IGA. This change was emphasized by respondents during FGD, which underlined the importance of credit funds and the IGA created as a result of access to funds for investment in farming activities and livestock keeping.

The contribution of the PSP is recognized in many aspects including the introduction of IGA among SILC groups and the likelihood of SILC members to take loans for investment and commerce. The results comparatively match national statistics indicating that the agricultural sector constitutes 90% employment opportunities in Rwanda's economy. The other alternative sources of income reported were other sources, such as handicrafts and small services (30.59% vs. 46.44% at baseline), and livestock keeping (1.58%).

The following table provides further detail on the household background characteristics, including gender, household size, and source of income:

Table 1. Household Background Characteristics

Background Characteristics	Baseline		Final	
	Total participants		Total participants	
	N	percent	n	percent
Gender				
Female	203	62.85	240	63.16
Male	120	37.15	140	36.84
Total	323	100	380	100
Age group of respondent				
17 to 29 years old	82	25.39	82	21.64
30 to 44 years old	137	42.41	155	40.9
45 to 59 years old	80	24.77	104	27.44
60 years old and above	24	7.43	38	10.03
Total	323	100	379	100
Head of Household				
No	133	41.18	169	44.47
Yes	190	58.82	211	55.53
Total	323	100	380	100
Household size				
1 to 2 members	20	6.19	17	4.47
3 to 4 members	104	32.20	135	35.53
5 and above members	199	61.61	228	60
Total	323	100	380	100
Source of income				
Day laborer	8	2.48	7	1.84
Full time employment from any source	6	1.86	5	1.32
Agricultural	151	46.75	233	61.32
Other sources	150	46.44	116	30.53
Sales of livestock or livestock product	n/a	n/a	6	1.58
Small business	6	1.86	7	1.84
Trading	2	0.62	6	1.58
Total	323	100	380	100

SILC GROUPS' INCOME INCREASED AND ENSURED PAYMENT FOR PSP SERVICES

HOUSEHOLD INCOME

The average monthly household income of a SILC member increased considerably from 19,845 Rwf (\$30) at baseline to 28,198 Rwf (\$43) at the end of the project, an increase of about 42%. (See *Annex 12: Summary Table of the Financial Services – Monthly Averages.*)

In addition, the analysis showed that there was an overall increase in the number of people earning permanent monthly income. An increase of 3% was recorded for SILC members who earned between 5,000 to 50,000 Rwf (\$75), 3.49% for SILC members who earned between 50,001 (\$75) and 100,000 RWF (\$150) and

2.21% for those members who earned more than 100,000 RWFs (>\$150). Table 2 categorizes SILC members into four major monthly earning income categories

Table 1: Household Monthly Earnings

Household Financial status	Baseline		Final	
	Total participants		Total participants	
	N	Percent	N	Percent
Household earnings/month				
Less than 5000	54	16.72	31	8.22
5000 to 50 000	254	78.64	307	81.43
50,001 to 100,000	11	3.41	26	6.9
100,000 and above	4	1.24	13	3.45
Total	323	100	377	100

In conclusion, the increase in average monthly household income at PSP project end-line is attributed to the IGA established from member access to loans from SILC groups, as reported in focus group discussions.

AVERAGE HOUSEHOLD EXPENDITURES

The above section asked questions about household income and saving balances but did not ask expenditures because household expenditures on food consumption and non-food expenditures are small, single items and there was no basis set on which recurrent expenditures would be selected. For that reason the researcher, having records on income and saving, was able to estimate household expenditure using the relationship between the two variables. The following formula was used:

$$\text{Income} = \text{Expenditure} + \text{Saving}^4$$

With this formula, household monthly expenditures generated as estimates increased from 7,793 Rwf (\$11.75) at baseline to 15,678 Rwf (\$23.65) at project end, a 200% increase across the study periods.

⁴ Fischer, 1952

The PSP program interventions contributed to the improvement of a SILC member's monthly household income, accounting for an increase in household expenditures and also improving ability of SILC members to contribute to the PSP service payment in their respective SILC groups.

INCOME GENERATING ACTIVITIES

The results show the role of the PSP project in strengthening the capacity of SILC groups to implement IGA. The primary benefits received by SILC groups included capacity building aimed at increasing basic business skills: financial management, organizations and selection, and planning and management of IGA. These program areas improved the systems under which SILC groups operated and contributed to saving behavior and access to credit.

The participants also reported increased household wellbeing. One of the livelihood indicators is "child education." SILC members reported the correlation between participation in a SILC group and their children's education as they were more easily able to pay for school fees, uniforms, and materials.

SILC members also reported improved health and nutritional status as a result of participating in SILC group savings arrangements. Also, the ability to accumulate savings has led to ownership of land and other assets. In addition to supporting IGA, the PSP also facilitates trainings, coaching and mentorship programs to address challenges encountered on a daily basis.

Women's empowerment was one key area of focus in the final evaluation. The PSP model improved, in particular, women's self-confidence by increasing both the frequency of interaction in SILC groups and their ability to manage their finances independently. Through regular interaction with group members and access to financial services, women in a SILC group improved their influence over household decision-making. Examples provided during FGD included allocation of household resources for children's schools fees, women's clothing and other investments.

Participants also mentioned that women have been participating more in public life including at SILC group and local administration levels. Examples include a direct observation that three of the four SILC groups visited were represented by women, who emphasized the role women played in public programs such as *umuganda* community work, community health workers and administrative work at the cell level⁵.

HOUSEHOLD DIETARY DIVERSITY

In order to measure the impact of saving on dietary diversity and food security, the research asked SILC members what types of foods they had eaten during the last 24 hours (FAO standard metric)⁶.

The survey participants reported eating more carbohydrates (such as lentils, potatoes, yams, cassava, bananas, and beans), condiments and vegetables as compared to protein-rich foods. The HDDS at baseline was 5.7 against 4.46 at the project end. This is contrary to the expected result, as a higher HDDS denotes a greater diversification in the household diet. Therefore, the lower average HDDS at the project end suggests

⁵ Cell is the smallest administrative unit within the Government of Rwanda structure.

⁶ Guidelines for Measuring Household Dietary Diversity, FAO, 2011

that, on average, project participants were eating a less diverse combination of foods on a regular basis than they were before the project. However, because nutrition and diet were not central indicators in this research, there is no data available to provide quantitative reasons for this decrease.

The researchers provide two possible explanations for the decrease in dietary diversity based on their knowledge of the project and the cultural context of the region. The first possible reason for the unexpected decrease in HDDS among project participants is the lack of nutrition-based messaging and training during the project. Due to budget constraints there was no formal training for project participants on the importance of a balanced diet, dietary diversity, or other nutritional information. The second reason is that part of the IGA training provided to participants emphasized the need to decrease household spending and increase household savings. Therefore, it is possible that project participants, in an effort to save more each month, reduced the amount they spent on food supplies, thereby decreasing the variety and diversity of the foods they consumed.. Combined with the lack of focused messaging on nutrition- and dietary-based food decisions, it is possible that households simply did not prioritize a healthy, balanced diet, despite the statistically significant increase in income and savings levels.

For future programming, an intentional focus on nutrition messaging and the importance of a balanced diet should be emphasized during project activities to ensure that increased economic welfare translates to healthier families.

AGRICULTURAL INPUTS

PSP programming has a proven effect on agricultural production and availability of food for the household. The researcher asked about the program's contribution on member acquisition of agricultural inputs. The findings show suggestive evidence that PSP interventions contributed to the increased number of SILC members who took loans to acquire agricultural inputs such as fertilizers and improved seed (bananas, maize, and beans).

In addition, the PSP program provided training and raised SILC members' awareness of savings behavior. The sensitization campaigns on the importance of savings contributed to member loan acquisition. As a result, the number of SILC members who were able to pay for any agricultural inputs increased from 24.46% at baseline to 55.76%. These members stated that they prioritized the ability to purchase agricultural inputs in their savings schemes. For the remaining 43.97% of SILC members who were unable to afford sufficient agricultural inputs, one of the reported challenges was insufficient credit funds available in their SILC groups. This is partly due to the nature of the agricultural seasons; most SILC group members demand funds at the same time. But through focus group discussions it also became clear that due to increased government mandates to purchase fertilizer for any maize crop production, many group members had unanticipated expenses that could not be covered by the funds available in their SILC group (See Annex 9).

HOUSEHOLD HEALTH

Health of households was a primary concern in the final evaluation. At the project's end, about 87.89% of SILC members (n=334) were affiliated to a form of health insurance ("community based health insurance") compared to 57.14% (n=184) at baseline.

The PSP program had a substantial impact on the increase in households' healthcare investments. SILCs allowed members to access funds to pay for health insurance under the national health insurance scheme, which is paid once per year. Of the four SILC groups involved in the focus group discussions, three reported

that a percentage of the share-out is earmarked for members’ annual health insurance payments. They recommended that this practice be adopted by all SILC groups.

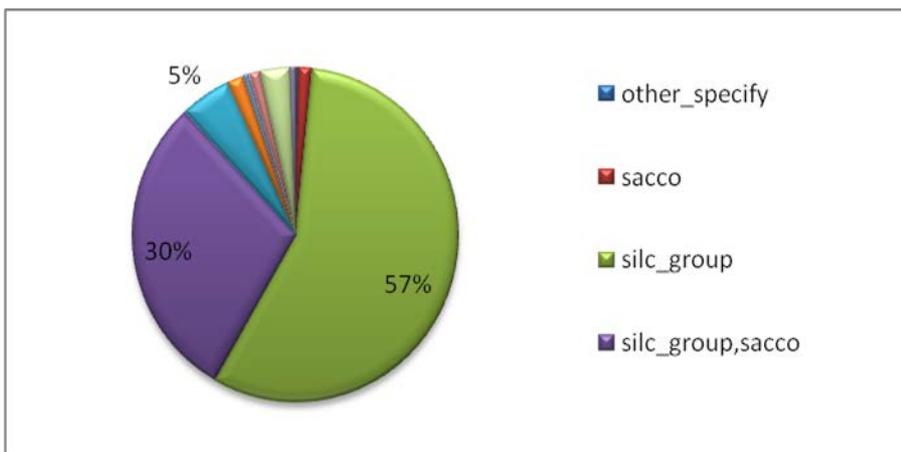
The research also collected information on household medical treatment needs that arose in the previous 30 days, which was the same methodology applied during the baseline survey. The results show significant impact from SILC programs, with use of health care services increasing from 67.18% to 84.47%. During the focus group discussions, it was emphasized that PSP interventions contributed to SILC members’ increased income from profitable investments in agriculture and business, which led to greater access to and use of health services and improvements in health outcomes through investments in preventative care and an improved diet (see *Annex 10*).

SILC GROUP SAVINGS

The evaluation survey revealed that the average household monthly savings of SILC group members increased by about 17% from, 10,741 Rwf (\$16) at baseline to 12,561 Rwf (\$18) at project end. Increased household saving behavior among SILC members was largely determined by their increased average income. In addition, PSP program activities enhanced saving activities among SILC groups. As compared to the project baseline, where SILC group members often delayed in their contributions (every other week versus every week), by the project’s end SILC group members contributed on a weekly basis. This resulted in greater accumulation of savings. It is also important to note the popularity of the program as a result of PSP activities among the community and the eagerness expressed by the community in joining the program (see *Annex 6*).

The research asked SILC members their preference in savings environments, including SILC groups, financial institutions, and other places such as private homes. The results are shown in Figure 4.

Figure 1: Place of Saving



The research found that the number of SILC members who preferred to hold their money in SILC groups rather than any other place increased by 17% against the baseline findings. The supporting arguments raised in the FGD included the ease of use of SILC service as opposed to traveling into the cities to do business at a formal institution. Also, barriers associated with establishing accounts at banks and Savings and Credit Co-operatives (SACCOs) were mentioned as significant deterrents to SILC group members. A small portion of SILC members do still hold some of their money in other community-based micro-finance institutions, represented by the many unlabelled small sections of the above figure.

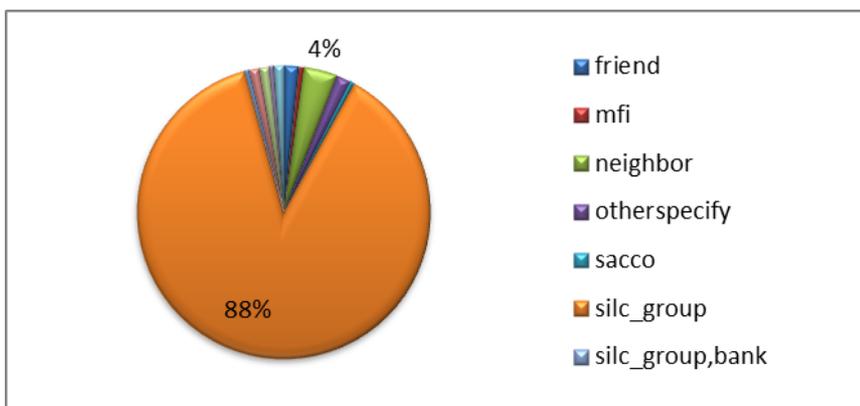
A 10% monthly interest rate is typical in SILC groups. This is higher than the rate charged by formal banks, but the interest paid in SILC groups is equally shared as dividends at the end of the cycle. Therefore, SILC group members do not view this higher interest rate as a deterrent. Additionally, the ease with which SILC group members can request and obtain loans during the weekly SILC meetings was cited as the largest determinant in where SILC members choose to save their money.

LOANS RECEIVED

SILC groups improved members' use of credit. Among all members interviewed, at baseline 35.71% had obtained a loan versus 77.37% at project end. Average monthly household borrowing rose from 27,616 Rwf (\$42) to 54,223 Rwf (\$82), an increase of 96% between the two study periods. PSP program activities contributed to this increase by expanding financial services by offering technical assistance and convenient mechanisms for accumulating savings and by providing easy and convenient access to credit (see *Annex 7*).

About 88% of members reported a SILC group as the favorable place to borrow compared to other financial institutions such as banks and micro-finance institutions. The results also indicated that households tend to rely more heavily on borrowing than they did before joining SILC groups. FGD participants stated that they have realized the benefits of taking a loan in order to take advantage of bulk purchase cost savings. Loans from other sources including family, friends, neighbors, money lenders and financial institutions is another source of money, but it is practiced at a smaller percentage.

Figure 2. Place of Borrowing



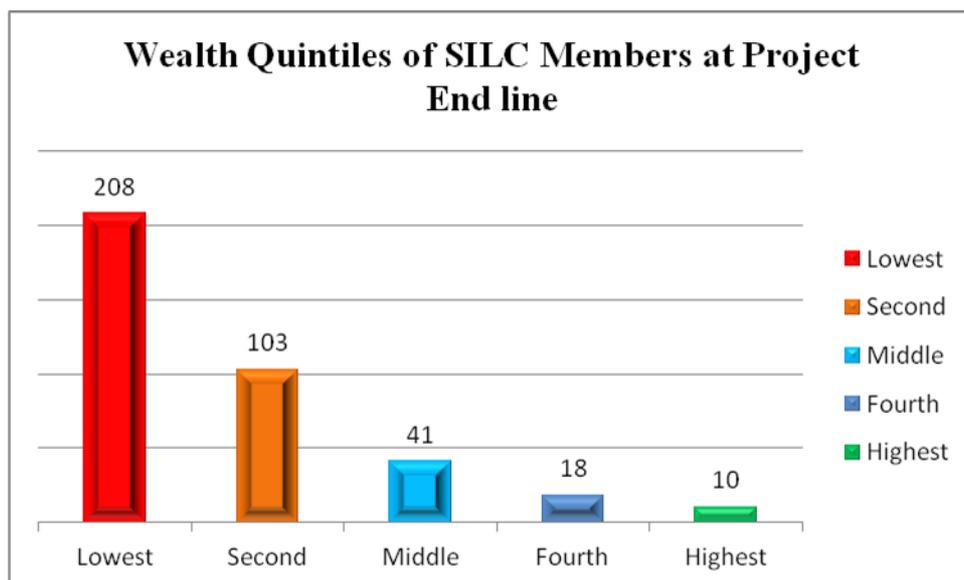
PSP program activities contributed to the increased reliance on SILC groups rather than other savings channels. This was mainly in the view of addressing transaction costs or other barriers related to money transfers. The reasons explain the improvements made by SILC groups on access to credit and a net increase in overall borrowing from SILC groups.

WEALTH INDEX

The construction of an asset index was grounded on the Principal Component Analysis (PCA) method to aggregate asset ownership variables into a single dimension. This was done by assigning scores to different types of assets by component reported by each SILC member. Thereafter, poverty predictions were calculated and weighting was applied through a standardization approach to ensure more accurate weights of reported data.

The average score of each SILC member's reported assets was identified and used to generate quintiles which were weighted and summed for categorization. Five levels of wealth quintiles were used to classify SILC members' wealth, ranging from the lowest to the highest. The lowest category represents the poorest members and the highest category represents the wealthiest. The reported data, however, only depicts wealth status of SILC member respondents in particular. The categories have no point of reference at the baseline or any national data for comparison. However, the data presents arguments that support the major findings of the final evaluation reflecting the characteristics of SILC members.

Figure 3: SILC Member Wealth Quintiles



The Unit Value method was later used in calculating the asset index. This was done by summing the number of assets owned and then assigning equal weights to ownership of each asset. Figure 3 shows that 208 of 380 SILC members who participated in the evaluation survey fall into the lowest wealth index category and only 10 respondents fall into the highest category. This suggests that while the SILC methodology is appealing to households at all income levels, it is most appealing to the most vulnerable because of the low barriers to entry and minimal initial contributions required. (See Annex 13.)

AWARENESS OF PSP SERVICES AMONG SILC MEMBERS

At the end of the project, 94.5% of SILC members reported being aware of PSP services. The study found that 92.9% of women were aware of the PSP services against 97.1% of men. SILC members reported specific types of training sessions and cross-visits provided by PSPs which aimed at providing knowledge and experience that SILC groups need to be well-organized, to maintain proper loan and saving operations and to successfully engage in IGA. The reported lessons include SILC approach, elaborate by law, conflict management in SILC groups, and selection, planning and management of IGAs.

Table 2: Level of Awareness of PSP Services

Awareness of PSP Services				
Gender	No	%	Yes	%
Female	17	81.0	223	62.1
Male	4	19.0	136	37.9

Total	21	100.0	359	100.0
--------------	----	-------	-----	-------

BENEFICIARY SATISFACTION WITH PSP SERVICES

PSPs provide support to SILC groups through coaching and training that ensures effective functionality and sustainability of the groups, such as formation of new groups, communication, bookkeeping and cash book analysis (quality management), developing group bylaws, facilitation skills, conflict resolution, and market linkages.

During interviews and focus group discussions, members said they were satisfied with PSP services and that the current member contribution for PSP payment is small compared to the time and effort spent by the PSP in providing services. The survey findings show that 94% of SILC members reported that they still need the PSP services for better performance.

The evaluation purposely looked at both the supplier and buyer (demand) side. On the supply side, 70% of PSPs reported being satisfied with the payment arrangement through which they provide services. The 30% who were not satisfied cited the lack of incentives (set amount provided to field agents on a monthly basis) as the main reason. On the demand side, the SILC groups recognize the importance of PSPs in the proper management of SILC groups through capacity building and advisory support. This approach is demand-driven, where PSPs respond to groups' needs.

SILC ENSURES PAYMENT FOR PSP SERVICES

The final evaluation showed that 99% of SILC members expressed their willingness to contribute to the PSP payment and 91% of those had already contributed to PSP payment in their respective SILC groups. Members resolved to pay their contributions on a quarterly basis and groups agreed with PSPs on payment amounts. This ensured that SILC members were not expected to contribute differently based on their gender or role in the group.

As far as payment is concerned, about 96.1% of SILC members reported contributing to the PSP service payment in monetary form, followed by 1.17% of members who pay in motivational sources (i.e., being recognized in the community) and lastly, 0.88% in kind (i.e., time spent cultivating land owned by the PSP). The average amount of money received each quarter by the eight PSP survey respondents who reported their income was 76,375 Rwf (\$115), which is approximately 25,458 Rwf (\$38) per month. However, the estimated reported amounts are affected by the efficiency of the group and also the number of group members. The bigger the group, the more money the PSP earns.

Table 3: PSP Payment Arrangement

Payment arrangement	N	%
Flat fee per month/quarter regardless of the number of visits the PSP makes to the group	323	91.24
Fee based on specific services or trainings provided by the PSP	23	6.5
Others	8	2.26
Total	354	100

For good collaboration, the PSPs mentioned that they work closely with community service providers such as Caritas, basic Christian communities known as “Imiryangoremezo,” local administrative levels and microfinance institutions.

In conclusion, the results show the integral role that PSPs have played in furthering the sustainability of SILC groups. SILC members also stated that they understand the importance of PSP services and the potential to contribute to the PSP service fees.

PSP CAPACITY DEVELOPMENT IMPACT

All PSPs were certified to provide technical assistance to SILC groups in their respective communities. Selected field agents underwent a structured training of trainers course on the SILC-PSP methodology and small business development skills. They were also given tools to transform individuals into effective SILC group members. The modules provided to the PSPs included screening individuals for SILC groups, SILC group formation and management, member responsibilities, SILC general election procedures, SILC constitution and saving policies, loans and social fund policies, written record keeping and meeting procedures, and advocacy. After the training was completed, the field agents underwent an examination process to assess the quality of their work and their readiness to work independently as certified PSPs.

The PSPs were able to build awareness and confidence among SILC members, which facilitated adoption and ownership of the SILC approach. The PSPs also were equipped with knowledge which was transferred by training SILC representatives/board members on important topics such as cash/book keeping and analysis, management procedures, and decision-making.

In addition, the PSPs monitor SILC activities and provide advisory support in case of non-compliance issues in the group and work closely with the local government and parishes to facilitate easy communication in case of any services needed from those levels.

However, focus group discussions revealed that there is a need to promote the expansion of alternative IGA by promoting individually-owned small business initiatives and ensuring that adequate financial inputs are available and dispersed to individual group members. It was suggested that training on these topics (marketing of small businesses, linkages to microfinance institutions and other financial resources, etc.) could be added to the PSP model so that they can support and guide SILC groups in these activities.

PSP OUTCOMES ON SILC GROUP MANAGEMENT AND SUSTAINABILITY

By the end of the project, SILC groups had received training and technical assistance from the PSP. The program successfully established and built the capacities of groups to sustain the SILC model. This findings of the assessment shows that, SILC groups are able to pay for PSP services, which has made the approach sustainable.

In addition, the PSP model promoted spontaneous replication of SILC groups in the community. The PSPs have formed and trained new groups, which promotes sustainability through community empowerment and raises the motivation of the PSP. As a result, the model will remain after CRS support phases out. The PSPs also adopted an approach that supports groups to manage themselves and thus ensures that the program is making transformative changes to the members.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The findings of the evaluation show that the PSP program had a significant impact on SILC members. In this section, we discuss a few of the findings and then focus on the options foreseen for the PSP model based on this research.

PSP interventions contributed to the increased financial status of the SILC members. Most notably:

- SILC members' monthly average household income increased by 42% from 19,895 Rwf (\$30) at baseline to 28,198 Rwf (\$43) at the project's end.
- SILC members; monthly average household savings increased by about 17%, from 10,741 Rwf (\$16) at baseline to 12,561 Rwf (\$18).
- Monthly average household borrowing by SILC members increased from 27,616 Rwf (\$41.65) at baseline to 54,223 Rwf (\$81.78), an increase of 96%.

The increased access to financial services helped SILC members invest in productive activities which contributed to the growth of their incomes. The results showed that the PSP model does not only facilitate the creation of SILC groups but also helps the groups to evolve in such a way that they become fully operational and no longer require the regular guidance of a field agent, but instead can call upon a PSP for occasional and specific services.

The level of satisfaction among SILC members was reported to be high; 91% of SILC members are already contributing to the PSP service payments. The program also increased the knowledge and skills of the former field agents through the PSP training and certification process. The PSPs gained the capacity to form new SILC groups and support the existing groups, contributing to the overall performance improvement of the groups both economically and socially.

In conclusion, tremendous achievements were reported between the two study periods and the role of PSP stood as a critical factor in determining the success of SILC groups in promoting self-reliance and the long-term sustainability of the SILC approach. The study cannot exclude the fact that more time is needed for the short-term changes we observed to lead to longer term changes in agricultural incomes, non-financial asset holdings, health, education and consumption.

RECOMMENDATIONS

It is important to recognize that the PSPs play an important role in servicing and supporting SILC groups. The technical support that the SILC groups receive from their dedicated PSP is highly appreciated.

Based on the evaluation, the following recommendations have been made for future activities:

- There is a need to more clearly define the roles and responsibilities of the PSP. There should be well developed terms of reference that are agreed upon between the PSP and the SILC groups they support. A contract with a specific workplan defining the amount of time and support required by the SILC group should be signed before PSP services begin.

- There is a need to improve the existing framework of support that documents the inputs the PSP provides to the groups over time. It is also suggested that a monitoring and evaluation framework with defined indicators is developed (by CRS) to assist in monitoring and documenting PSP program outcomes.
- Basic trainings and/or sensitization on nutrition and balanced diets should be provided to ensure that project participants are able to increase and sustain a healthy, balanced diet and nutritional status.
- SILC groups with PSP support should ensure well planned and well organized group activities with new and innovative ideas. Engaging in IGA as a key function of group savings and loans operations should help in responding to member needs.
- There is a need to provide a plan for how PSPs can provide training to SILC groups on market linkages and links to additional financial services.
- It is important to promote SILC methodology as an appropriate approach at the policy level, emphasizing the necessity of an enabling environment by involving intermediary institutions that manage cooperatives/associations as a means of advocacy and influence.
- Provide additional training/support for PSPs and local authorities/stakeholders in regard to creating new groups. This will help to ensure the sustainability of the PSP model and achieve full saturation in project implementation areas.

Bibliography

Bavois, Marc and Vanmeenen, Guy. *SILC Field Agent Guide*, Version 4.1. Baltimore: Catholic Relief Services, 2011.

Fisher, J.A. "Income, Spending, and Saving Patterns of Consumer Units in Different Age Groups." In *Studies in Income and Wealth* (Vol. 15), edited by the Conference on Research in Income and Wealth, 75-102. Cambridge, MA: National Bureau of Economic Research, 1952.

Food and Agriculture Organization. *Guidelines for Measuring Household and Individual Dietary Diversity*. Rome: FAO, 2011.

National Institute of Statistics of Rwanda. *Statistical Year Book 2012*. Kigali: National Institute of Statistics of Rwanda.

Rutstein, Shea O. and Kiersten Johnson. "The DHS Wealth Index." DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro, 2004.

Rwirahira, J. *Rwandan Agriculture Sector Situational Analysis: An IPAR sector review*. Kigali: Institute of Policy Analysis and Research, 2009

Annex 1. SILC Household Survey Tool

Q1. District name: _____

Q2. Parish Name: _____

Q3. SILC Group name: _____

Q4. HH Number |__| |__| |__|

Q5. Name of Supervisor _____

Q6. Name of Interviewer _____

Q7. Date ____/____/____

Q8. Checked by Supervisor |__|

Guidance for introducing yourself and the purpose of the interview:

My name is _____ and I am currently working for _____ (name of the partner organization).

You have been randomly selected for this interview. The purpose of this interview is to obtain information about your household's general situation. The survey is voluntary and you can choose not to take part. The information that you give will be confidential. The information will be used to prepare reports, but will not include any specific names. There will be no way to identify that you gave this information.

I would like to ask you some questions and this will take about 30 minutes for the interview.

B8	Did you borrow money last month?	1 = yes 2 = no → skip to B11 3 = don't know → skip to B11
B9	How much did you borrow?	_ . . _ _ _ _ . _ _ _ _ (in local currency) Enter '9.999.999' if the answer is don't know
B10	Where did you borrow money from?	1 = SILC group 2 = Bank 3 = SACCO 4 = MFI 5 = neighbour/friend 6 = other (specify)
B11	Does your household have any debt currently?	1 = yes 2 = no → skip to C1 3 = don't know → skip to C1
B12	What is the total amount of your household debt, either in cash or non-cash?	_ . . _ _ _ _ . _ _ _ _ (in local currency) Enter '9.999.999' if the answer is don't know

C. HH Asset Ownership

C1	In the past 6 months, have you had to sell any household assets to purchase food or meet any other basic household needs?	1 = yes 2 = no 3 = don't know
C2	In the past 6 months, have you purchased any new productive assets that have or will improve your livelihood activities or household income?	1 = yes 2 = no 3 = don't know

C3	Currently, how many of the following assets are owned by your household?				
No.	Items	Quantity	No.	Item	Quantity
1	Bicycle		16	Hoe	
2	Radio		17	Axe	
3	Television		18	Bed	
4	Mobile phone		19	Mattress	
5	Sawing machine		20	Plates	
6	Electricity		21	Cooking pot	
7	Paraffin lamp		22	Spoons	
8	Own a house		23	Forks	
9	Hectares of land		24	Blankets	
10	Cow		25	Set of clothes	
11	Pig		26	Table	
12	Goats		27	Chair	
13	Sheep		28	Other :	
14	Poultry				
15	Panga				

D. HH Coping Strategies						
	In the past 30 days, were there times when you did not have enough money to buy food in your household?	1 = yes 2 = no => Skip to E				
		<i>0.Never: 0 times in the last month</i>	<i>1.Hardly at all: <1 time/week</i>	<i>2.Once in a while: 1-2 times/week</i>	<i>3.Pretty often: 3-6 times/week</i>	<i>4.All the time: everyday</i>
D1	Rely on less preferred and less expensive food?					
D2	Borrow food or rely on help from a relative or friend?					
D3	Purchase food on credit?					
D4	Gather wild food, hunt or harvest immature crops?					
D5	Consume seed stock held for next season?					
D6	Send household members to eat elsewhere?					
D7	Send household members to beg?					
D8	Limit portion size at mealtimes?					
D9	Restrict consumption by adults at the expense of non-working members?					
D10	Ration the money you have and buy prepared food?					
D11	Reduce the number of meals eaten in a day?					
D12	Guca Inshura					
E. HH Dietary Diversity						
<p>➔ If possible during this survey visit, ask these dietary diversity questions to a female adult household member (or female member over 18 years). If this is not possible, ask these questions to the current respondent. Please note whether the respondent was male or female.</p>						
E0	Respondent for dietary diversity questions:	1 = male 2= female				
<p>Now I would like to ask you about the types of food that you or anyone else in your household ate yesterday during the day and night.</p>					<p><i>Enter '1' if 'yes'. Enter '0' if 'no'.</i></p>	

E1	Any (<i>enter local foods</i>), bread, rice, noodles, biscuits, or other foods made from millet, sorghum, maize, rice, wheat or (<i>other locally available grains</i>).	<input type="checkbox"/>
E2	Any Bananas, potatoes, yams, manioc, cassava or other foods made from roots or tubers	<input type="checkbox"/>
E3	Any vegetables?	<input type="checkbox"/>
E4	Any fruits?	<input type="checkbox"/>
E5	Any beef, pork, lamb, goat, rabbit, wild game, chicken, duck or other birds or organ meats?	<input type="checkbox"/>
E6	Any eggs?	<input type="checkbox"/>
E7	Any fresh or dried fish or shellfish?	<input type="checkbox"/>
E8	Any foods made from beans, peas, lentils or nuts?	<input type="checkbox"/>
E9	Any cheese, yogurt, milk or other milk products?	<input type="checkbox"/>
E10	Any foods made from oil, fat or butter?	<input type="checkbox"/>
E11	Any sugar or honey?	<input type="checkbox"/>
E12	Any other foods, such as condiments, coffee, tea?	<input type="checkbox"/>

F. Purchase of Ag Inputs (If the respondent is not a farmer, please skip section F)

F1	Were you able to purchase all of the inputs you needed for this current/most recent agricultural season?	1 = yes → skip to Section G. 2 = no 3 = don't know → skip to Section G. 4 = N/A
F2	What were you not able to purchase or purchase enough of for this season? <i>Circle all that apply</i>	1 = preferred seed 2 = fertilizer 3 = other (specify): _____ 4 = N/A
F3	What were the reasons that you were not able to purchase all of the agricultural inputs you needed? <i>Circle all that apply</i>	1 = did not have enough money 2 = had other household expenses that were a priority 3 = the inputs weren't available on the market 4 = the inputs available on the market were poor quality 5 = other (specify): _____ 6 = N/A

G. Health

G1	Are you covered by health insurance or other forms of health care plan?	1 = Yes 2 = No
G2	If yes, what kind of health insurance do you have?	1 = Community based health insurance 2 = RAMA 3 = MMI 4 = Private health insurance 5 = Others specify:.....
G3	In the last month, did any of your household members have any problems that required treatment or medication?	1 = yes 2 = no → skip to G6 3 = don't know → skip to G6

G4	Were you able to seek the care and treatment that they required? If so, did you seek the treatment on time?	1 = yes, sought the treatment on time → skip to G6 2 = sought treatment but it was late 3 = no did not seek treatment → Go to G5 4 = don't know → skip to G6
G5	If not, why not? <i>Circle all that apply</i>	1 = no doctors or medicine available 2 = did not have transportation to reach health facility 3 = did not have enough money to purchase medicine or treatment 4 = other (specify) _____
G6	Did you have enough funds to meet the health needs of all household members last month?	1 = yes 2 = no 3 = don't know

H. Level of awareness to pay for services

H1	Do you think that your SILC group still needs the FA/PSP's services?	1 = yes 2 = no
H2	What type of services did your SILC group receive from the FA/PSP?	1 = Training on SILC approach 2 = Elaborate bylaws 3 = Training on Selection planning and management 4 = Training on basic business skills 5 = Training on conflict management 6 = Training in book keeping 7 = Process of successful graduation 8 = Other (specify): _____
H3	Are you ready to contribute to the payment for FA/PSP services needed by your SILC group?	1 = yes 2 = no
H4	What kind of motivation arrangement does your SILC group pay to the FA/PSP for his services?	1 = Money 2 = In kind 3 = Recognizing services 4 = other (specify): _____

I . Capacity of the SILC group to support FA/PSP payment

I1	What is the minimum individual contribution per meeting:	<i>Weekly</i>	<i>Bi- monthly</i>	<i>Monthly</i>
I2	For saving?	I _ _ _ _ . I _ _ _ _ _ (in local currency)	I _ _ _ _ . I _ _ _ _ _ (in local currency)	I _ _ _ _ . I _ _ _ _ (in local currency)
I3	For social fund?	I _ _ _ _ . I _ _ _ _ _ (in local currency)	I _ _ _ _ . I _ _ _ _ _ (in local currency)	I _ _ _ _ . I _ _ _ _ (in local currency)
I4	What is the level of increased trust and interdependence among members in your group?	1 = High 2 = Medium 3 = Low		

J. Initiatives made to support PSP payment

J1	Is there any kind of payment that your SILC group provided to the FA for his services?	1 = yes → If 1 go to J2 2 = no		
J2	If yes, specify the mode of payment	1 = Money 2 = In kind → If 2. Go J5 3 = Recognizing services → If 2. Go J5 4 = other (specify): _____		
J3	What is the payment arrangement that your group has with the PSP?	1= Flat fee per week, month, regardless of the number of visits the PSP makes to the group. 2 = Fee based on specific services or trainings provided by the PSP. 3 = other (specify): _____		
J4	How much does your SILC group provide to FA/PSP as payment?	<i>Weekly</i>	<i>Bi- monthly</i>	<i>Monthly</i>
		_ _ _ . _ _ _ _ _ (in local currency)	_ _ _ _ _ _ _ _ _ _ (in local currency)	_ _ _ _ _ _ _ _ _ (in local currency)
J5	How did your SILC group determine the payment on PSP services?	1 = Percent of minimum savings requirement 2 = Amount PSP requested 3 = Formula of factors defined by the PSP. If 3, note the elements within the formula.		
J6	Does each group member contribute the same amount to the PSP payment?	1 = Yes 2 = No		

Annex 2. Questionnaire for Field Agents

This questionnaire will be administered to all Field Agents/PSPs to assess their capability to sustain SILC groups		
A. Identification of respondents		
A1	Name of Field Agent: _____	
A2	Name of Parish: _____	
B. Knowledge of FA/PSP		
B1	Do you have any knowledge in basic business skills?	1 = yes 2 = no → skip to B3
B2	In which topics have you been trained?	1 = SPM (selection of IGAs, planning, management of IGAs) 2 = Macro project development 3 = Market opportunities 4 = other (specify): _____
B3	Do you have any knowledge in conflict management?	1 = yes 2 = no → skip to C1
B4	In which topics have you been trained?	1 = Conflict management 2 = Mediation 3 = other (specify): _____
B5	Have you previously provided trainings for SILC or other savings group services as a Field Agent or PSP?	1 = yes 2 = no
B6	How many groups have you trained?	FA __ __ PSP __ __
B7	What was the average payment amount from each group you trained as a PSP?	Average Amount :.....
C. Marketing of PSP services		
C1	Have you ever been contacted for SILC services delivery?	1 = yes 2 = no → skip to C3
C2	Who did contacted you for SILC services delivery?	1 = SILC group 2 = Community members 3 = Local authority 4 = other (specify): _____

C3	Have you ever made any contact to offer your services to provide SILC training?	1 = yes 2 = no → skip to D1	
C3	Who did you contact to offer your services to provide SILC training?	1 = SILC group 2 = Community members 3 = Local authority 4 = other (specify): _____	
D. Capacity of PSP to provide services			
D1	Do you have relationship with community services providers?	1 = yes 2 = no → skip to D3	
D2	Which Service Provider do you have a relationship with?	1 = Caritas 2 = Local authorities 3 = Church structures 4 = MFIs 5 = Local NGOs 6 = other (specify): _____	
D3	-Have you ever conducted community mobilization/sensitization sessions?	1 = yes 2 = no	
D4	Do you have any groups currently paying you for your services as a PSP?	1 = Yes 2 = No	
D5	Please indicate the number of SILC group you have provided technical assistance		
D6	What is the highest amount you are being paid?	Amount	Per week, bi-weekly, month
		_ _ _ _ _ _ _ _ _	
D7	What is the smallest amount you are being paid?	Amount	Per week, bi-weekly, month
		_ _ _ _ _ _ _ _ _	
D8	Do you receive any payment in-kind?	1= Yes 2= No	
D9	Are you satisfied with the payment arrangement provided by SILC groups for the PSPs services?	1= Yes 2= No	

Annex 3. SILC Baseline FGD Questions

Introduction: CRS is interested to learn about PSP service recognition among SILC group members and their perceptions on the services they receive from the PSP with the aim of measuring impact the programme has contributed to performance improvement of the SILC groups. The responses would also give a picture on the extent to which SILC groups are sustainable.

SILC GROUP MEMBERS

1. How SILC group works

- a. What are SILC group membership recruitment criteria?
- b. What is the major goal of SILC groups?
- c. What is the frequency of meeting as a group?
- d. What are the type of savings, conditions of borrowing from SILC groups, interest rate charged on loans and repayment procedures under SILC groups and how do members share dividends?
- e. How does the group ensure safety of the money collected as savings?

2. Governance and Management of SILC group

- a. Does your SILC group have clear rules and regulations and are they respected by the members?
- b. Tell us about your election procedures of leaders and whether you have a succession plan that determines working terms of the leaders
- c. How do you address gender equality in the management structure of your SILC groups?
- d. What are the roles and responsibilities of the management committee and the general assembly?
- e. How do members participate in decision- making of SILC groups?
- f. How do you hold leaders accountable in case of poor management of the group?

3. PSP services

- a. Are you aware of the services provided by PSP?
- b. What is the contribution of PSPs in improvement of SILC group management and how this could contribute to the sustainability of the SILC within the community?
- c. Are SILC groups able to pay for PSP services?
- d. What are some of the IGAs established by SILC group members during the life of the project?
- e. What are some of the benefits from IGAs on household level?
- f. What are some of the side effects among SILC group members and the community?

4. Recommendations

- a. What do you think the project should improve in the future?

Annex 4: Outcome Measures and Analysis Plan

Dependent Variable	Independent Variable
1. SILC groups' income and capacity to pay PSP services	Socio demographic characteristics: <ul style="list-style-type: none"> ✓ Age ✓ Gender ✓ Education ✓ Occupation ✓ Position in Household ✓ Size of the family
	Socio-economic characteristics; <ul style="list-style-type: none"> ✓ Improved Acquisition of Assets ✓ Source of Household income ✓ Improved Household total income ✓ Allocation of income accrued from SILC on (Health services, education, food security, Household dietary diversity and Agricultural inputs (Affordability)) ✓ Shares ✓ Improved Savings ✓ Place of savings (Bank, SACCO, SILC Boxes vs management) ✓ Interest rate ✓ HH debt (outstanding/ due date) Repayment procedures
2. SILC group management and its sustainability within the community	Awareness on PSP Services <ul style="list-style-type: none"> ✓ Perceptions of PSP services ✓ Level of satisfaction with the PSP services ✓ Affordability of PSP services
	PSP Knowledge on Skills Approach <ul style="list-style-type: none"> ✓ Expertise of the PSP (Modules attended) ✓ Type of trainings provided to SILC groups ✓ Monitoring reports produced on the performance of PSP ✓ Effectiveness of PSP training for SILC groups (Expansion, diversification and quality management)

SECTION A. BACKGROUND CHARACTERISTICS

Code	Variables	N	percent
A1	Name of respondent		
A2	Age		
A3	Gender		
A4	Head of household		
A5	Household size		

SECTION B. HOUSEHOLD INCOME, SAVINGS AND DEBT

Dimension	Dependent Variables		Independent Variables
	Codes	Labels	
Household Financial Status	B1	Source of Income	A2, A3, A4 and A5, and disaggregate by New and SILC groups
	B2	Household total income per month	
	B3	Saving behaviour of SILC members	
	B4	Amount saved	
	B5	Place of saving	
	B6	Amount contributed to savings by anyone else in the HH last month	
	B8	Did you borrow last month?	
	B9	Amount borrowed	
	B10	Place of borrowing	
	B11	Does your household have any debt currently?	
	B12	Amount for the debt	

SECTION C. CALCULATION OF POVERTY INDEX (BASED ON HH ASSET OWNERSHIP)

The poverty index will be calculated based on composite poverty indicator or asset index from a selection of variables from the section C on question C3, from the household questionnaire. The following equation will be used to calculate a composite asset index score for each household:

$$MCA P_i = R_{i1}W_1 + R_{i2}W_2 + \dots + R_{ij}W_j + \dots + R_{iJ}W_J$$

Where $MCA P_i$ is the i th household's composite poverty indicator score, R_{ij} is the response of household i to category j , and W_j is the MCA weight for dimension one applied to category j . MCA will be employed to calculate these weights, using the MCA command in Stata.

Indicator	Baseline assessment	Final evaluation	Impact
Poverty index			

SECTION D. COPING STRATEGIES

Indicator	Baseline assessment	Final evaluation	Impact
Coping strategies score			

SECTION E. HDD TABULATION PLAN

HDDS (0-12)	Total number of food groups consumed by members of the household. Values for A through L will be either "0" or "1". Sum (A + B + C + D + E + F + G + H + I + J + K + L)
-------------	---

Second, the average HDDS indicator is calculated for the sample population.

Average HDDS	$\frac{\sum \text{HDDS}}{H_n}$
--------------	--------------------------------

Sum (HDDS)

H_n = Total Number of Households

Note: In case we are interested in Calculating HH consuming any vitamin, it is possible basing on above data.

SECTION H: LEVEL OF AWARENESS TO PAY FOR PSP SERVICES

Dimension	Dependent Variables	
	Codes	Labels
Awareness of PSP services	H1	Need for PSP services
	H2	Type of services received by SILC group from PSP
	H3	Member contribution to the PSP payment
	H4	Motivation arrangement for PSP services

SECTION I: CAPACITY OF SILC GROUP TO SUPPORT PSP PAYMENT

Dimension	Dependent Variables	
	Codes	Labels
Capacity to pay for PSP services	I1	Individual contribution per meeting
	I2	For savings
	I3	Social funds
	I4	Level of trust and interdependence

SECTION J: CAPACITY OF SILC GROUP TO SUPPORT PSP PAYMENT

Dimension	Dependent Variables	
	Codes	Labels
Initiatives made to support PSP payment	J1	Motivation provided to PSP
	J2	Mode of payment
	J3	Payment Arrangement
	J4	Amount paid to PSP
	J5	How do you determine the mode of payment?

Annex 5: Sampling

Graduate SILC Groups

Parish	SILC group	Sum of # of members	sample in parish	SILC GROUP SELECTED
KABARONDO	20	607	20	5
KIBUNGO	4	117	4	1
KIREHE	12	304	10	5
RUKARA	21	562	18	5
RUKIRA	16	445	15	4
RUKOMA	16	507	17	5
RUSUMO	25	726	24	6
ZAZA	160	4751	155	39
Grand Total	274	8019	261	69

New SILC Groups

Parish	New SILC group in parish	Sum of # of members	Sample members in parishes	SILC GROUP SELECTED
BARE	9	200	7	3
GASHIRU	4	67	2	1
KABARONDO	19	580	19	9
KIBUNGO	6	156	5	3
KIREHE	16	368	12	6
MUKARANGE	4	82	3	1
NYARUBUYE	6	126	4	2
RUKARA	15	352	11	6
RUKIRA	11	250	8	4
RUKOMA	16	416	14	7
RUSUMO	11	274	9	4
RWAMAGANA	2	52	2	1
ZAZA	27	682	22	11
Grand Total	146	3605	118	59

Annex 6: SILC Savings

HH Financial status	PSP Baseline		PSP Current	
	Total participants		Total participants	
	n	%	n	%
HH saving				
no	1	0.31	10	2.64
yes	322	99.69	369	97.36
Total	323	100	379	100
Place of saving				
SLIC Group	116	39.59	209	56.64
SLIC Group & Bank	11	3.75	19	5.15
Several Places	63	21.50	11	2.98
SLIC Group & SACCO	51	17.41	115	31.17
SLIC Group & MF	3	1.02	4	1.08
SLIC & In Household	49	16.72	11	2.98
Total	293	100	369	100
Saving Amount				
Less than 100,000 RWFs	269	91.81	365	98.65
100,000 to 200,000 RWFs	16	5.46	2	0.54
200,001 to 300,000	5	1.71	0	0
Above 300,000 RWFs	3	1.02	3	0.81
Total	293	100	370	100
HH member saving/ last month				
Less than 20,000 RWFs	198	74.44	175	91.62
20,000 to 40,000 RWFs	51	19.17	9	4.71
above 40,000 RWFs	16	6.02	7	3.66
Total	266	100	191	100

Annex 7: SILC Loans

HH Financial status	PSP Baseline		PSP Current	
	Total participants		Total participants	
	n	%	n	%
HH Members borrow				
no	41	15.53	81	29.89
yes	223	84.47	190	70.11
Total	264	100	271	100
Favourable borrowing places				
Neighbours or friends	n/a	n/a	13	6.95
MFI	n/a	n/a	1	0.53
SILC, Bank & SACCO	1	0.44	n/a	n/a
SILC & MFI	1	0.44	n/a	n/a
SILC, MFI & Neighbours	1	0.44	n/a	n/a
Sacco	0	0.00	1	0.53
SILC group	211	93.78	164	87.7
SILC group, bank	0	0.00	1	0.53
SILC group, neighbours	8	3.56	5	2.67
SILC group, SACCO	3	1.33	2	1.07
Total	225	100	187	100
Current debt of HH				
do not know	*		1	0.26
no	144	64.29	85	22.37
yes	80	35.71	294	77.37
Total	224	100	380	100
Amount borrowed by HH member				
50,000 & less RWFs	204	91.07	175	88.83
50,0001 to 100,000 RWFs	15	6.70	16	8.12
Above 100,000 RWFs	5	2.23	6	3.05
Total	224	100	197	100
Total Amount of HH Outstanding debt				
50,000 & less RWFs	66	82.50	252	88.11
50,0001 to 100,000 RWFs	10	12.50	18	6.29
Above 100,000 RWFs	4	5.00	16	5.59
Total	80	100	286 ⁷	100

⁷ Missing variable :Month savings/In last 3 months

Annex 8: Household Dietary Diversity

Household Dietary Diversity	Sex of the respondent					
	<i>Male</i>		<i>Female</i>		<i>General</i>	
	<i>n</i>	<i>percent</i>	<i>n</i>	<i>percent</i>	<i>n</i>	<i>percent</i>
Banana						
No	48	35.3	85	40.7	133	38.6
Yes	88	64.7	124	59.3	212	61.4
Total	136	100	209	100	345	100
Condiment						
no	113	82.5	172	76.8	285	78.9
yes	24	17.5	52	23.2	76	21.1
Total	137	100	224	100	361	100
Sugar/ honey						
no	78	57.4	118	53.4	196	54.9
yes	58	42.6	103	46.6	161	45.1
Total	136	100	221	100	357	100
Oil/Fat						
no	61	44.2	107	47.6	168	46.3
yes	77	55.8	118	52.4	195	53.7
Total	138	100	225	100	363	100
Milk products						
no	101	74.8	167	81.5	268	78.8
yes	34	25.2	38	18.5	72	21.2
Total	135	100	205	100	340	100
Beans products						
no	33	24.1	50	22.3	83	23
yes	104	75.9	174	77.7	278	77
Total	137	100	224	100	361	100
Dried fish or shell						
no	123	91.1	201	90.1	324	90.5
yes	12	8.9	22	9.9	34	9.5
Total	135	100	223	100	358	100
Eggs						
no	134	97.1	213	96.4	347	96.7
yes	4	2.9	8	3.6	12	3.3
Total	138	100	221	100	359	100
Beef/ poultry or lamb						
no	128	92.8	211	94.6	339	93.9
yes	10	7.2	12	5.4	22	6.1
Total	138	100	223	100	361	100

Household Dietary Diversity	Sex of the respondent					
	<i>Male</i>		<i>Female</i>		<i>General</i>	
	<i>N</i>	<i>percent</i>	<i>n</i>	<i>percent</i>	<i>n</i>	<i>percent</i>
Vegetables						
no	23	16.5	39	17.1	62	16.9
yes	116	83.5	189	82.9	305	83.1
Total	139	100	228	100	367	100
Fruits						
no	107	79.9	166	74.1	273	76.3
yes	27	20.1	58	25.9	85	23.7
Total	134	100	224	100	358	100
Potatoes/ Yams or manioc cassava						
no	37	26.6	79	34.1	116	31.3
yes	102	73.4	153	65.9	255	68.7
Total	139	100	232	100	371	100
Bread/ rice or Biscuits						
no	63	46	112	48.9	175	47.8
yes	74	54	117	51.1	191	52.2
Total	137	100	229	100	366	100

Annex 9: Agricultural Inputs

Purchase of Agriculture Inputs	PSP Baseline		PSP Current	
	Total participants		Total participants	
	n	percent	n	percent
Affordability of Ag Needs/last season				
Do not know	n/a	n/a	1	0.27
No	244	75.54	164	43.97
Yes	79	24.46	208	55.76
Total	323	100	373	100
Insufficient Agricultural inputs				
Fertilizer	14	25.00	60	35.09
Other	27	48.21	16	9.36
Preferred seed	14	25.00	20	11.7
Not preferred seed, fertilizer	1	1.79	75	43.86
Total	56	26.78	171	100
Challenges				
Other/ Nothing	33	46.48	16	9.47
Insufficient money	13	18.31	96	56.8
Insufficient money & not priority	n/a	n/a	53	31.36
No fertilizer available on the market	n/a	n/a	4	2.37
Modern fertilizer	13	18.31	n/a	n/a
Not priority	5	7.04	n/a	n/a
Preferred seeds	7	9.86	n/a	n/a
Total	71	100	169	100

Annex 10: Household Health

Household Health Status	PSP Baseline		PSP Current	
	Total participants		Total participants	
	N	Percent	N	percent
HH members treatment needs/last month				
no	106	32.82	59	15.53
yes	217	67.18	321	84.47
Total	323	100	380	100
Health insurance				
no	138	42.86	46	12.11
yes	184	57.14	334	87.89
Total	322	100	380	100
HH members treated/last month				
Did_not_seek_treatment	3	1.38	53	16.88
Sought_treatment_but_it_was_late	6	2.76	19	6.05
Sought_the_treatment_on_time	208	95.86	242	77.07
Total	217	100	314	100
Reason for late treatment				
lack of financial means	1	33.33	5	20.83
Lack of Doctors/medicine & Financial me	2	66.67	2	8.33
Other	n/a	n/a	17	70.83
Total	3	100	24	100

Annex 11: Services Provided to SILC Members

Level of awareness	PSP Baseline		PSP Current	
	n	Percent	n	Percent
Services intended from PSP				
Trained on more than one subject	n/a	n/a	309	82.84
Training in book keeping	n/a	n/a	7	1.88
training on conflict management	n/a	n/a	3	0.8
training on SILC approach	6	100	53	14.21
Other	n/a	n/a	1	0.27
Total	6	100	373	100
kind of motivation for Services				
in kind	n/a	n/a	3	0.88
money	6	100	328	96.19
recognizing services	n/a	n/a	6	1.76
other specify	n/a	n/a	4	1.17
Total	6	100	341	100

Annex 12: Summary Table of the Financial Services – Monthly Averages

Indicator/monthly based	Baseline	End project	Increase Change	%
HH Income	19895	28198		42%
HH Expenditure	7793	15678		101%
HH Savings	10741	12560		17%
HH Borrow	27616	54223		96%

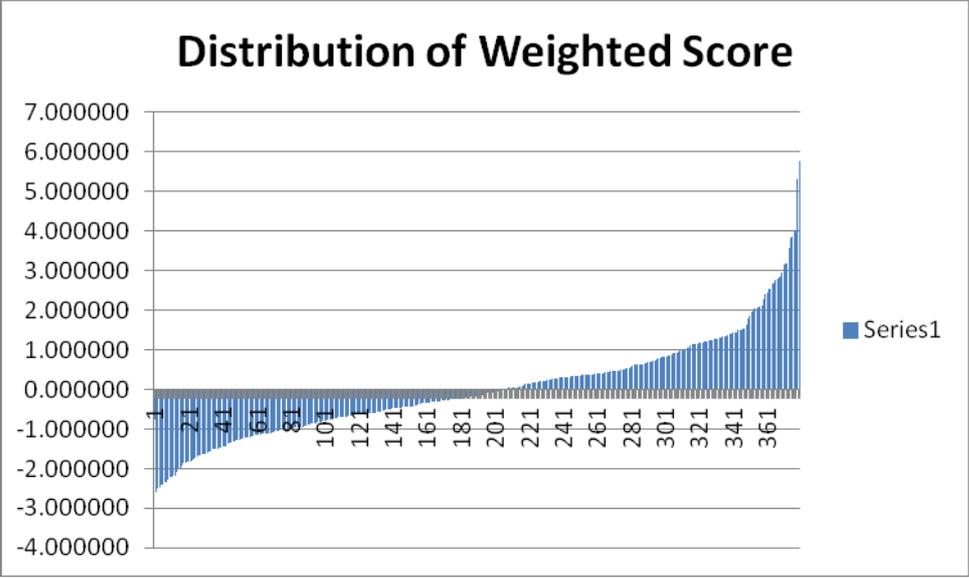
Annex 13: Wealth Index

Assets Weight	
Assets	5
Television	0.33
Mobile phone	0.33
sewing Machine	0.33
Paraffin lamps	0.33
Bed owned	0.33
Mattress	0.33
Tables owned	0.33
chairs owned	0.33
Farming	2
Cows	0.13
Pig owned	0.13
Goats owned	0.13
Poultry owned	0.13
sheep owned	0.13
axe owned	0.13
hoe owned	0.13
Panga	0.13
Services	3
Electricity	0.2
Basic	1
set of clothes	0.07
Blankets	0.07
Forks	0.07
cooking pots	0.07
Spoons owned	0.07
Plates	0.07
Dwelling	4
Hectors of land	0.266667
House	0.266667

Index	Ranking	Index	Ranking	Index	Ranking	Index	Ranking
-0.75635	1	0.704392	2	-0.84663	1	-0.16981	1
-2.61365	1	0.73098	2	-0.84438	1	-0.16333	1
-2.51934	1	0.732112	2	-0.83407	1	-0.16244	1
-2.46498	1	0.765469	2	-0.82526	1	-0.1475	1
-2.41715	1	0.791852	2	-0.81123	1	-0.14709	1
-2.40766	1	0.795048	2	-0.80884	1	-0.1452	1
-2.35514	1	0.808017	2	-0.80464	1	-0.12547	1
-2.32848	1	0.822152	2	-0.7904	1	-0.11533	1
-2.2766	1	0.827929	2	-0.77521	1	-0.08958	1
-2.20479	1	0.83436	2	-0.77356	1	-0.0894	1

-2.20219	1	0.838956	2	-0.76057	1	-0.08365	1
-2.18552	1	0.853314	2	-0.7602	1	-0.08064	1
-2.16678	1	0.898906	2	-0.71968	1	-0.0628	1
-2.09198	1	0.90324	2	-0.71258	1	-0.04728	1
-1.99768	1	0.906921	2	-0.71043	1	-0.04532	1
-1.97866	1	0.90877	2	-0.71004	1	-0.03306	1
-1.92308	1	0.948768	2	-0.70877	1	-0.0282	1
-1.87268	1	0.96774	2	-0.70689	1	-0.01628	1
-1.86226	1	0.987344	2	-0.69702	1	-0.01355	1
-1.83702	1	1.017663	3	-0.69383	1	-0.01243	1
-1.83002	1	1.022254	3	-0.67901	1	0.002369	2
-1.82561	1	1.033642	3	-0.66634	1	0.008452	2
-1.78473	1	1.05911	3	-0.66563	1	0.018864	2
-1.75377	1	1.123024	3	-0.65286	1	0.033652	2
-1.72738	1	1.131235	3	-0.64681	1	0.035157	2
-1.68269	1	1.131509	3	-0.6466	1	0.03976	2
-1.67085	1	1.152388	3	-0.63998	1	0.052272	2
-1.65002	1	1.15522	3	-0.63395	1	0.063608	2
-1.64645	1	1.181147	3	-0.62885	1	0.083429	2
-1.63306	1	1.190028	3	-0.62148	1	0.115668	2
-1.62684	1	1.190906	3	-0.61876	1	0.129558	2
-1.59918	1	1.212864	3	-0.61032	1	0.132047	2
-1.57758	1	1.217346	3	-0.60833	1	0.134056	2
-1.56478	1	1.224159	3	-0.60805	1	0.152504	2
-1.51613	1	1.231368	3	-0.60684	1	0.16117	2
-1.51031	1	1.250859	3	-0.60302	1	0.166066	2
-1.50265	1	1.252694	3	-0.59438	1	0.175817	2
-1.49107	1	1.279748	3	-0.57762	1	0.190047	2
-1.47393	1	1.287436	3	-0.5718	1	0.195343	2
-1.4554	1	1.289884	3	-0.56493	1	0.196308	2
-1.4395	1	1.291746	3	-0.54685	1	0.209149	2
-1.42865	1	1.299514	3	-0.52284	1	0.219215	2
-1.42304	1	1.326338	3	-0.51286	1	0.223693	2
-1.36549	1	1.331841	3	-0.49247	1	0.230956	2
-1.35452	1	1.345665	3	-0.49034	1	0.251912	2
-1.34655	1	1.364104	3	-0.48805	1	0.255759	2
-1.29418	1	1.395325	3	-0.47892	1	0.257439	2
-1.29386	1	1.408697	3	-0.47319	1	0.266793	2
-1.29066	1	1.438872	3	-0.46988	1	0.280758	2
-1.2724	1	1.443476	3	-0.46703	1	0.282563	2
-1.27199	1	1.449034	3	-0.46188	1	0.295175	2
-1.23454	1	1.505262	3	-0.45464	1	0.300118	2
-1.22969	1	1.510198	3	-0.44845	1	0.301701	2
-1.22818	1	1.511359	3	-0.44005	1	0.314255	2
-1.22029	1	1.520184	3	-0.4315	1	0.316457	2
-1.21316	1	1.542008	3	-0.42942	1	0.317909	2
-1.20104	1	1.625158	3	-0.42848	1	0.319768	2
-1.18275	1	1.795229	3	-0.42787	1	0.323309	2
-1.17156	1	1.866972	3	-0.42218	1	0.336704	2
-1.16343	1	1.964552	3	-0.40235	1	0.337077	2
-1.14633	1	2.00047	4	-0.39748	1	0.339987	2

-1.13755	1	2.047973	4	-0.37439	1	0.344586	2
-1.13476	1	2.058706	4	-0.36432	1	0.346932	2
-1.12555	1	2.065034	4	-0.35564	1	0.355543	2
-1.12289	1	2.094321	4	-0.34881	1	0.357125	2
-1.11903	1	2.101085	4	-0.34188	1	0.358827	2
-1.11703	1	2.283397	4	-0.34121	1	0.363013	2
-1.11366	1	2.413647	4	-0.3361	1	0.367392	2
-1.10051	1	2.451144	4	-0.32623	1	0.371293	2
-1.09326	1	2.519414	4	-0.32327	1	0.372226	2
-1.07714	1	2.545782	4	-0.30211	1	0.378594	2
-1.06402	1	2.653346	4	-0.30158	1	0.389694	2
-1.05469	1	2.679053	4	-0.29928	1	0.393898	2
-1.0502	1	2.754898	4	-0.29821	1	0.399547	2
-1.03322	1	2.789875	4	-0.29479	1	0.399965	2
-1.01691	1	2.824011	4	-0.29099	1	0.400428	2
-1.00557	1	2.8706	4	-0.28329	1	0.401985	2
-1.0052	1	2.939399	4	-0.28254	1	0.418574	2
-1.00295	1	3.140292	5	-0.26525	1	0.443147	2
-0.98868	1	3.191331	5	-0.26438	1	0.448232	2
-0.97949	1	3.193208	5	-0.25813	1	0.451277	2
-0.9734	1	3.573947	5	-0.25733	1	0.460701	2
-0.95793	1	3.836834	5	-0.25337	1	0.460996	2
-0.9553	1	3.85299	5	-0.24295	1	0.469711	2
-0.955	1	3.980298	5	-0.2429	1	0.476855	2
-0.95269	1	4.03195	5	-0.23927	1	0.478638	2
-0.9512	1	5.308778	5	-0.23029	1	0.485497	2
-0.9448	1	5.749302	5	-0.2141	1	0.499596	2
-0.92281	1	0.614534	2	-0.20725	1	0.508642	2
-0.9061	1	0.619607	2	-0.20039	1	0.523576	2
-0.90282	1	0.629961	2	-0.19592	1	0.525548	2
-0.8801	1	0.630136	2	-0.18622	1	0.53602	2
-0.85307	1	0.633264	2	-0.18512	1	0.562276	2
-0.84896	1	0.654629	2	-0.17018	1	0.596409	2
		0.659069	2	0.687116	2	0.613612	2
				0.682388	2		



Annex 14: List of Focus Group Discussion Participants

Number	Group 1: Twizhirane
1	Nyairangoboka Solina
2	Uwimana Velena
3	Mukamazimpa Beatrice
4	Mukanoheli Florence
5	Mukankuranga Immaculee
6	Mushimiyimana Esperance
7	Uwimbabazi Luone
8	Uwimana Dolosera
9	Murazimana Claude
10	Mukarurangwa Florance
	Group 2 Twegerane B
1	Ngiruwonsanga Jean Pierre
2	Ndagijimana Emmanuel
3	Sekarije Jean Bosco
4	Brivugira Augustin
5	Uzamukunda Peteronila
6	Mukangarambe Jessica
7	Mukandayambaje Perasi
8	Mukasibonyange Josiane
9	Uwineza Janviere
	Group 3 Twubahane
1	Mukarugambwa Yuliyana
2	Nyiransabimana Philomen
3	Uzamugora Consolata
4	Hakizamungu Elize
5	Mukantakirutimana Adelle
6	Uwimana Consesa
7	Niyomugabo Elisa
8	Manirafasha Alphonse
9	Dusenge Josephe
10	Serushagari Daniel
11	Mbonabirama Christian
12	Ndayamabaje Jean Bosco

Annex 15: Formal Statistical Results

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
mhinco~e	380	27975.26	4093.757	79802.01	19925.94	36024.58
monthl..	333	19894.56	1927.832	35179.63	16102.26	23686.87
combined	713	24201.25	2363.604	63113.09	19560.78	28841.72
diff		8080.699	4524.973		-808.1379	16969.54

diff = mean(mhincome_endline) - mean(monthlyhhincom~e) t = 1.7858
 Ho: diff = 0 Welch's degrees of freedom = 536.512

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.9627 Pr(|T| > |t|) = 0.0747 Pr(T > t) = 0.0373

Two-sample t test with unequal variances

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
mhsavi~e	380	12230	2560.304	49909.51	7195.821	17264.18
monthl..	275	14936.76	1239.411	20553.3	12496.78	17376.73
combined	655	13366.42	1573.788	40277.9	10276.14	16456.71
diff		-2706.756	2844.52		-8294.494	2880.981

diff = mean(mhsaving_endline) - mean(monthlyhhsavin~e) t = -0.9516
 Ho: diff = 0 Welch's degrees of freedom = 537.586

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.1709 Pr(|T| > |t|) = 0.3417 Pr(T > t) = 0.8291

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
mo~dline	380	42796.53	16466.84	320997.8	10418.71	75174.34
hhdebt~e	83	38350.6	6235.695	56809.89	25945.82	50755.39
combined	463	41999.52	13557.64	291725.7	15357.23	68641.82
diff		4445.924	17607.97		-30157.4	39049.25

diff = mean(monthlydebt_en~e) - mean(hhdebts_baseline) t = 0.2525
 Ho: diff = 0 Welch's degrees of freedom = 453.611

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.5996 Pr(|T| > |t|) = 0.8008 Pr(T > t) = 0.4004

Two-sample t test with unequal variances

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
hh~dline	380	26398.16	11024.39	214905	4721.523	48074.79
hhloan..	231	26659.31	2351.338	35737.25	22026.39	31292.22
combined	611	26496.89	6910.263	170810.7	12926.1	40067.68
diff		-261.1495	11272.36		-22419.49	21897.19

diff = mean(hhloans_endline) - mean(hhloans_baseline) t = -0.0232
 Ho: diff = 0 Welch's degrees of freedom = 413.042

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.4908 Pr(|T| > |t|) = 0.9815 Pr(T > t) = 0.5092