



TOWARDS A WORLDWIDE INFLUENCING NETWORK:

CITIZENS' VOICE, NORMS AND ATTITUDES: RIGHT TO
FOOD IN BURUNDI

RESULTS OF THE STRATEGIC PARTNERSHIP OF OXFAM
NOVIB AND SOMO WITH THE MINISTRY OF FOREIGN
AFFAIRS IN THE NETHERLANDS

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Acknowledgements	4
Executive summary	5
Objectives of the report & evaluation questions	5
The Right to Food in Burundi project and its activities	5
Findings	5
Limitations	7
Recommendations	7
1 introduction	8
1.1 Strategic partnership	9
1.2 project Overview of R2F in Burundi	9
1.2.1 Target groups	10
1.2.2 Activities Increasing citizens' voice, and shifting norms and attitudes	10
1.2.3 Country context of Burundi	11
2 Evaluation questions	12
3 Evaluation design	13
3.1 Evaluation design	13
3.2 Sampling approach	13
3.3 Target and comparison groups	15
3.4 Analysis techniques	15
3.5 Reader's note on the results figures and tables	16
4 Findings	18
4.1 Socio-demographic & socio-economic profile of the respondents	18
4.2 Citizens' voice	18
4.2.1 Expressing voice to demand access to agricultural policies and to influence the development and implementation of these policies	18
4.2.2 Preliminary conclusions	21
4.3 Attitudes and norms towards gender and government effectiveness	23
4.3.1 Attitudes and norms towards gender: land tenure and empowerment	23
4.3.2 Attitudes towards the functioning of the local administration	25
4.3.3 Preliminary conclusions	26
4.4 Knowledge and awareness	29
4.4.1 Agricultural practices	29
4.4.2 Key agricultural policies	29
4.4.3 National media campaigns	33
4.4.4 Transfer of knowledge	33
4.4.5 Preliminary Conclusions	34
4.5 Agricultural production	36
4.5.1 Access to and control over land and seeds	36
4.5.2 Agricultural productivity and food security	41
4.5.3 Tentative conclusion	42
5 Conclusion	45
5.1 Citizens' voice	45

5.2 Attitudes and norms	45
5.3 Knowledge and awareness	46
5.4 Agricultural production and food security	46
5.5 Limitations	47
5.6 Conclusion	47
6 Recommendations	48
7 References	49
Annexes	50
Annex 1: SP R2F MEAL Framework	50
Annex 2: Sampling Tables	51
Annex 3: Technical annex	52

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This evaluation was achieved through the extensive contributions and expertise of the entire Right to Food team, the partners Appui au Développement Intégral et à la Solidarité sur les Collines (ADISCO), Confédération des Associations des Producteurs Agricoles pour le Développement (CAPAD) and Forum des Organisations de Producteurs Agricoles du Burundi (FOPABU), and Oxfam staff in Burundi, the Impact Measurement and Knowledge team and of course the interviewers. The interviewers were trained by Oxfam staff during an endline workshop organized in October 2019. In February 2020, Oxfam and partner staff contributed to a reflection session on the preliminary results of the analysis presented in this report.

The endline survey is part of a strategic partnership between the Dutch Ministry of Foreign affairs, Oxfam Novib and the Centre for Research on Multinational Corporations (SOMO).

EXECUTIVE SUMMARY

OBJECTIVES OF THE REPORT & EVALUATION QUESTIONS

This report presents the findings of the impact evaluation on the outcome areas of raising the citizens' voice, and shifted norms and attitudes for the Right to Food (R2F) project in Burundi. The project works on the subtheme of improving access to and governance of systems that support the resilient livelihoods of small-scale food producers, such as land and inputs (especially fertilizer), and adaptation. This evaluation focuses mainly on implementation of Phase 1 of the project, from 2016 to 2018, during which time the project mainly focused on improving access to fertilizer.

This project is implemented as part of the Strategic Partnership – 'Towards a Worldwide Influencing Network' – of Oxfam Novib, the Center for Research on Multinational Enterprises (SOMO) and the Dutch Ministry of Foreign Affairs. This impact evaluation report presents an analysis of data from the baseline survey, fielded in September and October 2016, and the endline survey, fielded in November and December 2019. The objective of this study was to determine to what extent the activities of the project had contributed to increasing the citizens' voice, shifting attitudes and building knowledge for individuals in the targeted communities.

The impact evaluation is part of the larger monitoring, evaluation, accountability and learning (MEAL) framework of the Strategic Partnership and the R2F project. The MEAL framework ensures that relevant, high quality and comparable data are collected for all seven outcome areas. Each outcome area has one or more methodologies for tracking the progress in that outcome area. Impact measurement through research surveys showed changes in the citizens' voice and shifted attitudes and knowledge.

The overall objective of the project is to contribute to improved food security in Burundi by improving farming practices. The project works to ensure Burundian producer organizations ("Organisations producteurs," in French, or OPs) their national forum and civil society organizations (CSOs) gain a strong capacity to develop and advance propositions and influence local and regional public and private sector policies. This will create an enabling environment allowing equitable access to fertilizer inputs, land, and credit for livelihoods in sustainable agriculture that benefit small food-producers.

THE RIGHT TO FOOD IN BURUNDI PROJECT AND ITS ACTIVITIES

The R2F project has been engaged with **building the capacity of agricultural producer organizations** across Burundi to improve their knowledge of agricultural policies and best practices. The project also works with the leaders of these organisations to build their capacity to lobby local officials about access to agricultural inputs like fertiliser and seeds and the development of agricultural policies. Leaders of producer organizations targeted by the project are also encouraged to **cascade learning obtained through the project** to their members as well as to neighbouring producer organizations and other community-based organizations (CBOs). **Media campaigns**, especially on national and regional radio, raise awareness and share knowledge about agricultural support policies in Burundi as well as topics like the effective use of fertilizers, the participation of women and youth in protecting soil against erosion, seed preservation, land tenure and financial literacy. Finally, the project also works with producer organizations to assist them in **influencing local decision-makers** on key agricultural policies.

FINDINGS

The R2F project has identified several evaluation and learning questions that give structure to this report. The core research question is: *To what extent have the activities implemented by the R2F project*

had an attributable effect on changes in citizens' voice, and shifts in norms, attitudes and knowledge? Specific sub-questions, and evidence of the positive impact of the project, are summarized in Table 1.

Table 1 – Overview of findings

(SUB) EVALUATION QUESTION	EVIDENCE OF POSITIVE IMPACT	OF COMMENTS
Does the project help raise the citizen's voice and increase knowledge and change attitudes towards key agricultural policies and practices?	Project participants reported increased awareness of the national fertiliser programme since the baseline.	Participants were, however, no more likely to have access to this programme.
Do targeted producer organizations cascade learning from the project to other producer organizations and community-based organizations?	We found some evidence of positive spill-over effects for the indirect target group when looking at knowledge of getting a certificate to prove land ownership, knowledge of procedures to claim back land, and confidence that farmers have the capacity and control to manage good quality seeds.	
Do media campaigns lead to increased knowledge and shifted attitudes?	Comparison group respondents who heard radio broadcasts were more likely to be aware of the national programme for accessing fertiliser than those who had not heard the broadcasts, although they were not more likely to report having access to the programme.	Media campaigns had limited reach, for example, only 14% of respondents mentioned having heard messages of the R2F project on the regional Radio Izere station.
Have knowledge, practices or attitudes on land rights or seeds changed among members of targeted producer organizations?	Members of the direct target group were more knowledgeable about how to get a certificate of land ownership, more confident that they could recover lands claimed by others and more positive about the capacity of farmers to control and manage good quality seeds.	

This impact study showed that the activities of the R2F project in Burundi have produced some early successes, especially in raising awareness of the existence of a national fertilizer subsidy programme. This marks an important contribution to the primary goal of Phase 1 of the project which was to expand awareness of and access to fertilizer through the subsidy programme. We note however that this project impact on awareness of the programme does not translate into higher use of the programme, improvements in use of fertilisers or knowledge of best practices in fertiliser use among members of the direct target group. Greater efforts and different approaches, such as engaging directly with OP members, not just with leaders, and follow-up to support OPs taking up new practices, may help produce greater impacts.

Phase 2 of the R2F project focuses on themes such as access to land and seeds and land access and registration for women. Data for the present study were collected before implementation of many project activities designed to advance these goals. However, results of this study may be useful for designing the most effective ways to implement Phase 2 activities and for providing a benchmark against which

to measure progress from now to the close of the project at the end of 2020. In particular, findings about high reported ownership to land but low levels of documentation, low levels of knowledge of the PNSSB programme and little change in negative attitudes towards the empowerment of women and girls, among women as well as men, can help guide the R2F programme in creating more positive impact in the remaining months of implementation.

LIMITATIONS

One assumption of both the project and this evaluation is that leaders of producer organization that the project engaged with directly would share the knowledge and awareness gained through their participation with members of the organisation. This evaluation has not specifically addressed whether nor how effectively this transfer may have happened. Several questions included in the endline survey were not included in the baseline survey, limiting both our ability to present trends over time and impact calculations on topics such as access and control over land and seeds. Other development actors may also be working on similar topics in some of the areas targeted by the project. Their efforts may have had some influence on the findings of this study. Lastly, encouraging citizens to raise their voice and take action and to shift attitudes and build knowledge is an inherently difficult and often long process, especially in a context marked by extreme development challenges and growing insecurity.

RECOMMENDATIONS

Based on the findings of this report and the conclusions shared in the previous section, as well as consultation with project staff and partners, we conclude with the following recommendations:

Refocus efforts on capacity building with producer organizations on the effective use of fertilizers – Effective use of fertiliser has changed little since the baseline, despite the considerable efforts of the project. Greater effort and new approaches to working with producer organisations, taking into account the often limited literacy and formal education of members, on the use of fertilizers may be needed to help create a positive impact on fertilizer use.

Build a stronger focus on closing gender disparities in the project results – Some project impacts and outcomes are only observed among men, although a few are observed only for women. The project should explore these different gendered outcomes and impacts to understand better what drives them and how the project can create more positive impacts for women as well as men.

Build on successes raising awareness of Burundian National Fertilizer Subsidy Programme – Raising awareness of this programme is an early positive impact of the R2F programme. The project should build on these successes with its experiences with media campaigns by promoting the programme and doing more to spread awareness of PNSEB and the lesser-known national programme for subsidized seeds.

Build on synergies with other projects addressing similar themes – The project could amplify its impact through stronger alliances with other organizations active on similar topics in similar areas in Burundi.

1 INTRODUCTION

This report presents the findings of the impact evaluation on the outcome areas of raising the 'citizens' voice, and shifted norms and attitudes for the Right to Food (R2F) project in Burundi. The project works on the subtheme of improving access to and governance of systems that support the resilient livelihoods of small-scale food producers, such as land and inputs (especially seeds) and adaptation.

This project is implemented as part of the Strategic Partnership 'Towards a World Wide Influencing Network' of Oxfam Novib, SOMO and the Dutch Ministry of Foreign Affairs. This impact evaluation report presents an analysis of data from the baseline survey fielded in September and October 2016 and the endline survey fielded in November and December 2019 to assess the impact of the R2F project on the outcomes of increased citizens' voice, and shifted norms and attitudes.

The objective of this study was to determine to what extent the activities of the project had contributed to increasing the citizens' voice, shifting attitudes and building knowledge for individuals in agricultural producer organisations targeted by the project. The endline data was analysed in conjunction with the baseline data to identify changes in citizens' attitudes, norms and voice to which the project may have contributed. Helping to encourage and empower citizens to raise their voice, and working to shift norms and attitudes, are very difficult tasks, especially in a challenging context like contemporary Burundi where speaking up and speaking out is difficult, even dangerous, for many. The reader is encouraged to keep these realities in mind while reading these pages, to recognize the inherent difficulty of realising the ambition of the project and the challenge of achieving the desired results.

This report is organized as follows: the remainder of this **Introduction** briefly describes the Strategic Partnership and the Right to Food project in Burundi. Section 2 introduces the **Evaluation Questions** for this study. Section 3 provides an overview of the **Evaluation Design**, with a focus on the structuring of the evaluation, the sampling and analysis approach and important differences between the baseline and endline samples. Section 4 presents the **Findings** grouped by theme. Within these thematic sub-sections, the results are summarized in overview tables under the corresponding evaluation and learning questions. Section 5 presents the **Conclusions** of this study, as well as its limitations, and Section 6 offers a list of **Recommendations** based on the results themselves and reflections on the results by the project staff and partners.

1.1 STRATEGIC PARTNERSHIP

Oxfam Novib and the Centre for Research on Multinational Corporations (SOMO) have a strategic partnership (SP) with the Dutch Ministry of Foreign Affairs, titled 'Towards a worldwide influencing network'. This programme runs from 2016 until the end of 2020 and covers three thematic areas: Right to Food (R2F), Greater Responsibility in Finance for Development (F4D) and Conflict and Fragility (C&F). The thematic programmes are operationalised through 23 projects in 16 countries and three global projects.

All thematic programmes work towards several or all of the following seven outcomes: improved policies of governments and public actors, improved policies of private-sector actors, increased political will, strengthened civil society organizations (CSOs), stronger and wider alliances, increased citizens' voice and shifted norms and attitudes.

This impact evaluation focusses on the outcome areas of increased citizens' voice and shifted norms and attitudes. The R2F project in Burundi has other goals as well, but this study focuses only on these outcome areas. This impact evaluation is part of the larger MEAL approach, which collects data to monitor and evaluate all seven outcome areas. Findings presented here feed into the final evaluation of the SP-programme wherein the results of all outcome areas will be linked and validated.

1.2 PROJECT OVERVIEW OF R2F IN BURUNDI

The overall objective of the project is to contribute to improved food security in Burundi by improving farming practices. The project works to ensure Burundian producer organizations, their national forum (FOPABU) and CSOs gain a strong capacity to develop and advance propositions and influence local and regional public- and private-sector policies. This will create an enabling environment allowing equitable access to fertilizer inputs, land, and credit for sustainable agriculture livelihoods, which benefits small food-producer families. Specifically, related to raising the citizen's voice and shifting norms and attitudes, the project wishes to contribute to:

- A stronger voice on the part of small food-producers to demand access to agricultural inputs that are available.
- Greater participation and influence for small food-producers in the development and implementation of agricultural policies.
- Improved knowledge of agricultural practices, for instance, in using fertilizer and seeds.
- Increased awareness/knowledge of key agricultural policies on fertilizers, seeds and agricultural financing.

The project works on all of the key outcome areas covered by the Strategic Partnership programme, either directly or indirectly, i) improved policies (of governmental as well as private sector actors), ii) strengthened CSOs, iii) increased political will, iv) increased citizens' voice, v) shifted norms and attitudes, and vi) stronger and wider alliances to address the challenges in the local context.

Since 2017, Oxfam in Burundi implemented the R2F project with partners Support and Integral Development and Solidarity with Collines ("*Appui au Développement Intégral et à la Solidarité sur les Collines*" in French, or ADISCO), the Confederation of Agricultural Producer Organizations for Development ("*Confédération des Associations des Producteurs Agricoles pour le Développement*" in French, or CAPAD) and the Forum of Agricultural Producer Organizations of Burundi ("*Forum des Organisations de Producteurs Agricoles du Burundi*" in French, FOPABU). The main targets of project activities, and the entry point into work with farmers and their communities, are agricultural producer organizations ("*Organisations de producteurs*" in French, or OPs) at the level of the *colline*, the smallest administrative division in Burundi. There are on average about 20 OPs per colline, and 30 farmers per OP.

The R2F project has been implemented in two phases. Phase 1, implemented from 2016 to the end of 2018, focused mainly on improving access to fertilizer for smallholder farmers. Phase 2, implemented from January 2019 to December 2020 includes a stronger focus on gender, especially land rights for women, as well as access to land and seeds. This is an evaluation of the impacts of Phase 1, although questions have also been included on land rights and gender, access to land and access to seeds to inform the project's ongoing work on Phase 2.

1.2.1 TARGET GROUPS

The members of OPs targeted by the project and its partners are the primary target group for this project and the current study. We note however that project activities engaged only the leaders of these OPs, with the assumption that they would share the learnings and awareness gained with members of their OPs. Whether and how effectively this sharing has occurred is not the focus of this evaluation. The project also seeks to indirectly target other citizens in Burundi by supporting targeted OPs through cascading the key knowledge, attitudes, practices and messages of the project to non-targeted OPs and local CSOs, and through national and regional media campaigns.

Therefore this study considered three primary groups. The target group consisted of OPs at the colline level as well as OPs that may have been indirectly involved in the project through positive spillover effects from the targeted OPs. The study also included respondents from non-targeted OPs, who had not been directly or indirectly involved in the project, as a comparison group.

1.2.2 ACTIVITIES INCREASING CITIZENS' VOICE, AND SHIFTING NORMS AND ATTITUDES

The R2F project in Burundi engages with targeted OPs across Burundi to advance the goals of increasing the citizens' voice and shifting norms and attitudes through four principal activities:

- **Building the capacity of targeted OPs** – The project works with targeted OPs to help them improve their knowledge of agricultural policies and best practices and to build their capacity to lobby duty-bearers, including the Communal Councils (*Conseils Communaux* in French), and to increase access to and influence of the development and implementation of agricultural policies. Leaders of OPs attended capacity building workshops, with the assumption that they would then cascade learnings acquired in these workshops to their OP members.
- **Cascading learning beyond targeted OPs** – Leaders of OPs targeted by the project are also encouraged to share the learning obtained through the project with the members of non-targeted OPs and members of other CBOs in their collines, and to share the key messages of the project on knowledge, attitudes and practices. The members of non-targeted OPs are considered to be indirectly involved in the project.
- **Media campaigns** – Nationwide media coverage on radio, television and the printed press aims to extend the reach of the project's key messages across Burundi. Radio campaigns, through Radio Izere (regional) and Radio Isanganiro (national), help to raise awareness and share knowledge about Burundi's national programme of subsidized fertilizer, as well as topics like the effective use of fertilizers, the participation of women and youth in protecting soil against erosion, seed preservation, land tenure and financial literacy.
- **Influencing local decision-makers** – Project activities target members of the Communal Councils. Members of each of these Councils (one in each of the 117 communes in Burundi) are targeted by OPs to engage with them strategically to achieve better implementation of key agricultural policies and better access for farmers to agricultural inputs like fertilizers.

1.2.3 COUNTRY CONTEXT OF BURUNDI

Burundi faces some of the most pressing development challenges of any country. The country ranks 185th out of 189 countries on the 2019 Human Development Index, a composite indicator of development comprising measures of health, education and income. More than 70% of all households in Burundi live below the international extreme income poverty line of \$1.90 per day (UNDP, 2019).

Agriculture accounts for 92% of all employment in the Burundian economy, yet the country struggles with the impacts of food insecurity. To cite one measure, more than half of all children under the age of five suffer from moderate or severe malnutrition (UNDP, 2019). One finding of this study was that, despite some modest improvements since the baseline, about half of all respondents reported having to cope with not having enough food to eat in the week before they responded to the survey. The project's dual program and influencing focus, aiming to engage farmers in improving agricultural practices, while supporting them in advocating for better agricultural policies from policymakers, is still extremely relevant in Burundi. Two national agricultural policies implemented in recent years are the Burundian National Fertilizer Subsidy Programme (*"Programme national de subvention des engrais au Burundi"* in French, or PNSEB), which has been in effect since 2013, and the Burundian National Seed Subsidy Programme (*"Programme National de Subvention des Semences au Burundi"* in French, or PNSSB), which has been in place since March 2017 (IFDC, 2016; FOPABU, 2017).

Insecurity driven by armed conflict has also been a concern during the data collection for this study. In October 2019, at the outset of data collection, the incursion of an armed group based in the Democratic Republic of Congo into Burundi prompted security forces to restrict access to Bubanza Province, in the north-west of the country, rendering the province inaccessible to project staff and enumerators (Jeune Afrique, 2020). This had an impact on the sampling of this study, which is described in more detail in Section 3 below.

2 EVALUATION QUESTIONS

The R2F project has identified several evaluation questions (EQs) and learning questions (LQs) that give structure to this report. The core research question is: *To what extent have the activities implemented by the R2F project had an attributable effect on changes in the citizens' voice, and shifted norms, attitudes and knowledge?*

Specifically, the project seeks evidence applicable to the following evaluation questions (EQs):

- **EQ1** – Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?
- **EQ2** – Do targeted OPs cascade information to other OPs in their collines and does this lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst non-targeted OP or CBO members who are sensitized by targeted OPs?
- **EQ3** – Do the nationwide media campaigns lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst farmers who are not members of OPs directly or indirectly targeted by the project?

In addition, the project would also like information on the following learning questions (LQs):

- **LQ1** – Have the levels of knowledge, practices and attitudes of OP members concerning access to land and land rights changed?
- **LQ2** – Have the levels of knowledge, practices and attitudes of OP members concerning seeds changed?

3 EVALUATION DESIGN

3.1 EVALUATION DESIGN

This was a quasi-experimental impact assessment¹, which means that the impact of the programme was assessed by comparing a group of project participants (target group) with a similar group of people that did not participate in the project (comparison group). This was done at the start of the project (baseline) and the end of the project (endline). This allowed us to see to what extent changes in outcomes were a result of the project itself, meaning that any changes can ideally be attributed to the project's activities. This methodology helps to avoid confusing changes in the context in which the project is implemented, or other non-project related influences, with the actual impact of the project. The people in the comparison group were assumed to provide a reasonable "counterfactual", an approximation of what would have happened in the treatment group if the project had never happened. The current study was designed as a "repeated cross-section." This means that the samples selected for responding to the baseline and endline surveys were representative cross-sections of the targeted population, even if they were not necessarily the same individuals responding.

3.2 SAMPLING APPROACH

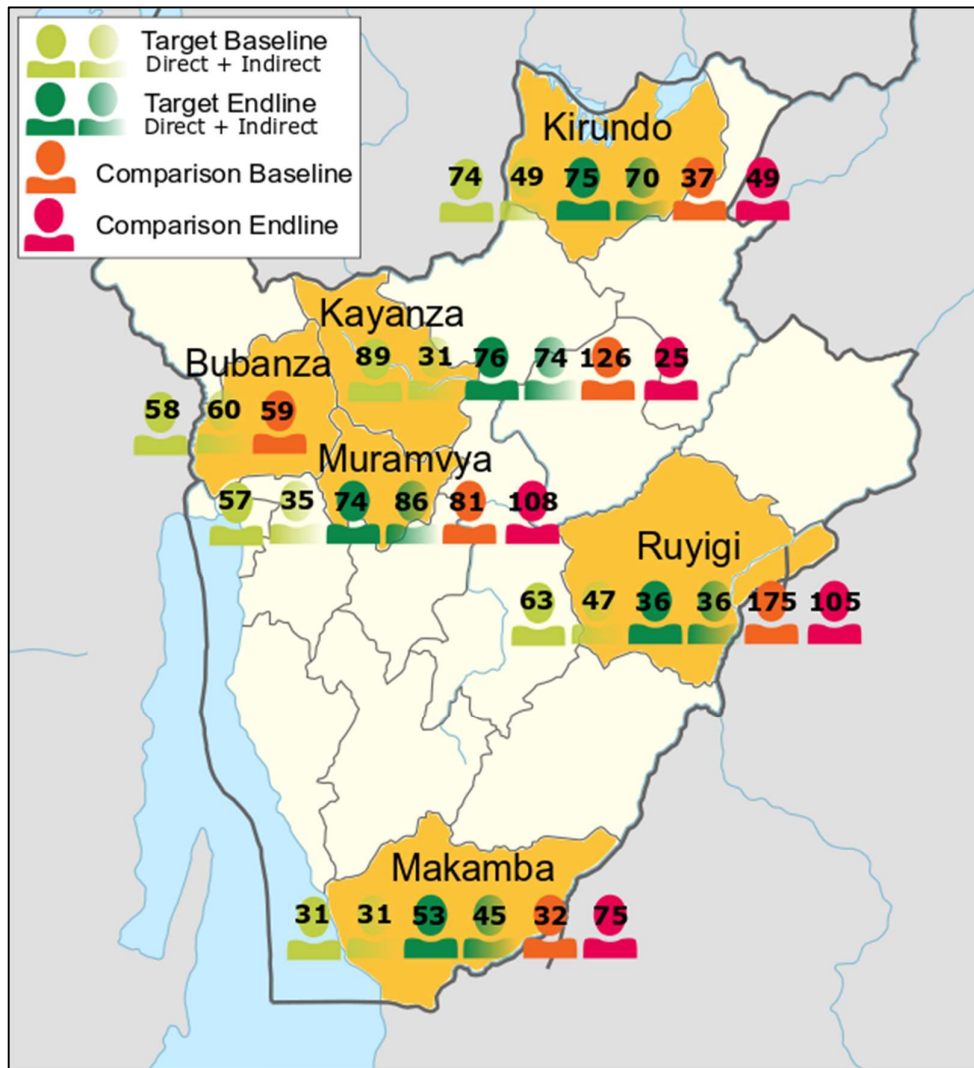
A multi-stage sampling approach was used to construct the samples for the baseline and endline studies. In the baseline sample, two provinces per partner organization were sampled, giving six selected provinces out of the 17 provinces in Burundi. Provinces were chosen to ensure a good representation of the different agro-ecological environments present in Burundi. Within each province, two communes were selected to provide a balance of agro-ecological zones in the country. Within each selected commune, two target collines were identified (where the project would focus its activities) as well as two comparison collines (where the project would not focus its activities). This gave a total of 48 collines (24 target and 24 comparison) for the sample. Finally, within the target collines, two OPs were selected that the project aimed to work with directly, and another two OPs that the project would not work with directly for the indirect treatment group. Two OPs were selected in each comparison colline to comprise the comparison group. Roughly half of the members of each OP selected for the sample were invited to respond to the survey. The final sample size for the baseline study was 1080, 63% male and 37% female (Oxfam Novib Impact Measurement and Knowledge, 2017).

Sampling for the endline was designed to closely follow the baseline sampling, to enable comparability between both sets of results and permit valid comparisons of change over time. In preparation for the study, project activities were mapped against the baseline sampling to determine if project activities had been implemented in target communes and collines as planned and whether any activities had been carried out in any of the comparison communes or collines. Among the 24 collines where OPs directly or indirectly targeted by the project were located and where baseline data were collected, six did not receive any interventions during the project and were therefore dropped from the target group. Among the 21 collines in the baseline comparison group, three were dropped from the endline sample because some project activities had been carried out or could at least have had an influence in these areas. In October 2019, security concerns in the province of Bubanza necessitated removal of this province from the sampling entirely. The sample originally planned for collection in this province was instead distributed across other provinces to maintain the same overall targeted sample size. Despite these changes between the baseline and endline sampling approaches, the available data provide a reasonable overlap in the samples upon which to build the analysis featured in this report.

¹ In a fully experimental research design, participants are selected for the study at random as well as allocated to either the target or comparison group at random.

The geographic distribution of the sample collected in the baseline and endline studies is shown in Figure 1 below.

Figure 1: Map of sampled locations at baseline and endline



3.3 TARGET AND COMPARISON GROUPS

This study had three treatment groups, defined as follows:

- **Direct Target Group** – Farmer members of the targeted OPs in target collines. This group comprised 314 responses or 32% of the total sample. We note that the project engaged only with leaders of these targeted OPs, with the expectation that learnings would be shared with members.
- **Indirect Target Group** – Farmer members of non-targeted OPs or CBOs that may have been sensitized by targeted OPs in target collines. This group comprised 311 responses or 32% of the total sample.
- **Comparison Group** - Farmer members of OPs living in non-targeted collines across Burundi and not exposed to R2F project activities in any way. This group included the 362 remaining responses in the endline sample or 37% of the total.

3.4 ANALYSIS TECHNIQUES

To assess the contribution of a project to any one outcome, the standard approach is to investigate what changed for people in the target group compared with what would have happened in the absence of our project (a so-called counterfactual approach). The measurement from the comparison group, people who are very similar to those in the target group but who did not benefit from any of the programme interventions, provided this “counterfactual” trend against which the progress of the target group could be compared. Statistical analysis of the trends for the target and comparison groups, compared to each other between the baseline and the endline, helped to determine if a change observed in the target group could be attributed to the project itself (these are project “impacts”). Project impacts could be positive (participants had better outcomes than the comparison group) or negative (participants had worse outcomes than the comparison group). Please see **Annex 1** for more information on these methods.

We employed Propensity Score Matching (PSM)² of respondents in the target and comparison groups to ensure that our comparisons between these groups were as accurate as possible. It may be, for example, that some slight differences in the demographic or socio-economic characteristics of these groups make one group more likely to raise their voice on a particular topic or to have more prior knowledge of R2F topics. Using PSM helps correct for any underlying differences between the target and comparison groups³ so that our comparisons between them are more likely to reveal “true” differences in the outcomes of most interest to the project. The findings in this report are based on calculations taking the weightings from this PSM model into account unless indicated otherwise.

² For more information, please see **Annex 1**

³ Covariates included in the analysis are age, gender, household head’s gender, relation to the household head, marital status, education, house-hold head’s education, occupation, household head’s occupation, literacy, Poverty Probability Index (PPI), and province.

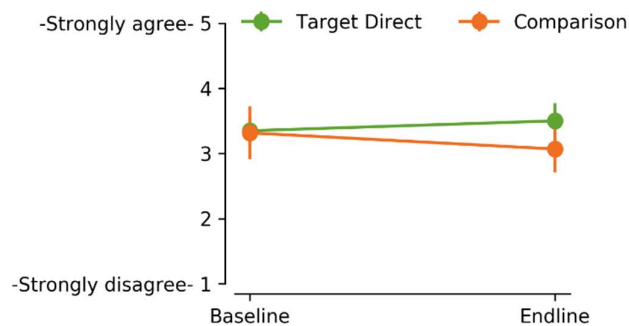
3.5 READER'S NOTE ON THE RESULTS FIGURES AND TABLES

Most figures in this report include confidence intervals to visualize the sampling error⁴ associated with each finding. These confidence intervals represent the range of the estimate at a 95% level of confidence. This means that if the survey were re-run 20 times, the result obtained should fall within the range indicated by the confidence interval 19 of those 20 times. As a general rule of thumb, if the confidence intervals of two estimates overlap, then it is likely that there is no statistically significant difference between the estimates. If the confidence intervals do not overlap, then there is likely a significant difference between the estimates. However, there are exceptions to this general rule and readers are encouraged to rely on the report text and summary tables for definitive results on which comparisons or associations are significant and which not.

“Significant” here means that statistical tests show a contrast or association with a p-value of less than 0,5, a commonly-used threshold for a statistically significant result. Please note that the term significance is solely a statistical appraisal of a difference or relationship observed and does not necessarily mean that a finding or result is meaningful or notable from a programmatic perspective.

The analysis of the project impact was visualized with graphs like that in Figure 2, which shows the trend over time for both the target and comparison groups. Statistical analysis of the difference between these two trendlines was used to determine whether or not there was any statistically significant impact to report. The figure titles and text descriptions indicate whether there was any significant impact and whether it was positive or negative. For example, in Figure 3, although starting with similar opinions, the direct target group respondents became more positive about their capacity to negotiate a fair price for their produce, while the comparison group became somewhat less confident. There is a significant difference between these two trends, so we concluded that being in the direct target group was associated with a positive impact on this outcome.

Figure 2: Example figure “Target group respondents feel more capable of negotiating a fair price for their produce”

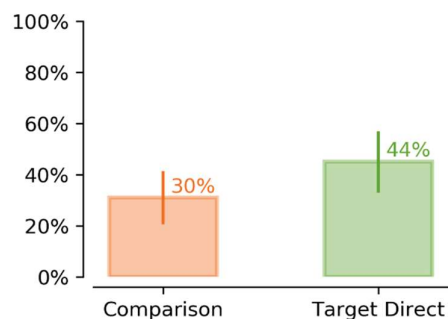


Source: SP BI R2F Baseline & Endline surveys, n=631

Some survey questions were asked at the endline only. In these cases, we applied PSM to balance the sample and then analysed the data to determine if there was a significant difference between the target and comparison groups at the endline. In the report, these results are shown in graphs like Figure 3. In this example, 44% of the direct target group reported trading seeds, compared with 30% among the comparison group. However, the confidence intervals for both estimates overlap, and the difference between them is not statistically significant.

⁴ In public opinion research this is related to what is commonly referred to as the “margin of error” of the poll.

Figure 3: Example figure “A similar percentage of target and comparison respondents trades seeds”



Source: SP BI R2F Endline surveys, n=192

For Burundi, we had three treatment status groups. This report will primarily present trends and endline results for the direct target and comparison groups. However, we also performed a parallel set of calculations grouping the direct and indirect target groups together. The results from this parallel analysis were added to the summary tables at the close of each of the sections describing the findings.

The following chapter on the findings of the evaluation contains summary tables presenting the results of a number of separate analyses. Most of these analyses are described in the text, but the tables provide an overview of all the analysis performed for this report. In these tables, the equal sign (=) means that there was no significant difference or result to report. An upward-facing (↗) arrow means that there was a significant positive relationship. A downward-facing arrow (↘) means that there was a significant negative relationship.

4 FINDINGS

The main findings of this study are described below, beginning with a brief overview of the socio-demographic and socio-economic characteristics of the respondents and then following with sub-sections of findings that help answer each of the evaluation and learning questions. Sub-sections conclude with summary tables for quick reference of the results of this study.

4.1 SOCIO-DEMOGRAPHIC & SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS

The following data provides a snapshot of the key socioeconomic characteristics of target respondents and their households at the endline.⁵ The average age of respondents was 45 years old. Men accounted for 57% of the sample, and women 43%. Most respondents (85%) were married at the time of the survey. Levels of educational attainment were low: on average, 47% of respondents had not completed any education at all, 41% completed primary school, and only 12% completed elementary school or higher. About two-thirds of respondents (67%) were literate, meaning that they reported they could read at least a small text in their native language. There was no gender difference in self-reported literacy.

A large majority (88%) reported farming as their principal occupation, although women were slightly more likely to report this than men (92% vs 85%). The next most common principal occupation was salaried worker, although this was only reported by 2% of the target group respondents. Very few respondents reported being unemployed (1%).

4.2 CITIZENS' VOICE

4.2.1 EXPRESSING VOICE TO DEMAND ACCESS TO AGRICULTURAL POLICIES AND TO INFLUENCE THE DEVELOPMENT AND IMPLEMENTATION OF THESE POLICIES

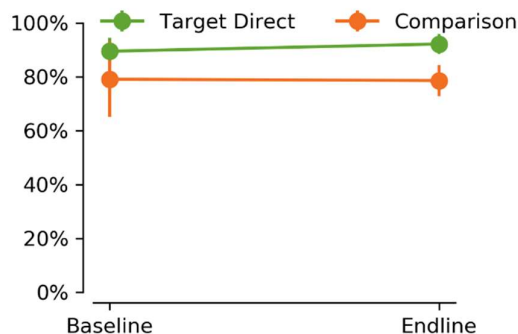
All SP projects engage with citizens through civil society organizations to help them raise their voice and take action so that duty-bearers hear their concerns, they can challenge the power of the state and corporate sector and they can have a say in the future direction of their society. This section addresses the core research question of the project as well as EQ1: *Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?*

Changes in the citizens' voice were measured by asking respondents if they had participated in any voice-raising activities in the year before the survey. On average, participation in voice-raising activities was quite high, with 87% of respondents saying they had raised their voices by participating in at least one of the following activities: joining a demonstration organized by farmers/local OPs, participating in a strike organized by a farmers/local producers organization, signing a petition, participating in debates at the local level;, participating in online activism, contacting a central government representative, contacting a local government official, contacting a member of a CSO, writing to a newspaper or calling a radio show, any other action. On average, respondents had taken between one and two actions in

⁵ Estimates presented here are PSM-weighted, meaning that they reflect our statistical matching of members of the target and comparison groups.

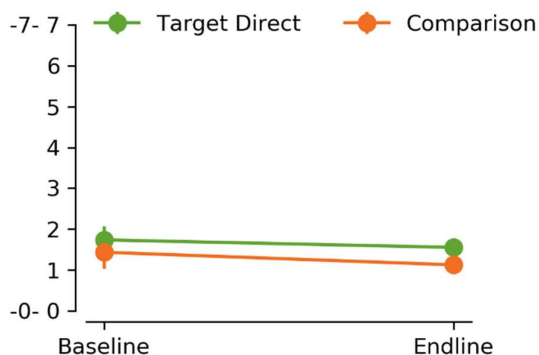
the past year.⁶ However, the results were very similar for the direct target and comparison groups, suggesting no significant link between the project activities and the likelihood of citizens raising their voice (Figure 4) or the number of voice-raising actions taken (Figure 5).

Figure 4: The project makes no significant contribution to the % of respondents voicing their concerns about the right to food



Source: SP BI R2F Baseline & Endline surveys, n=989

Figure 5: The project makes no significant contribution to the number of actions that respondents take

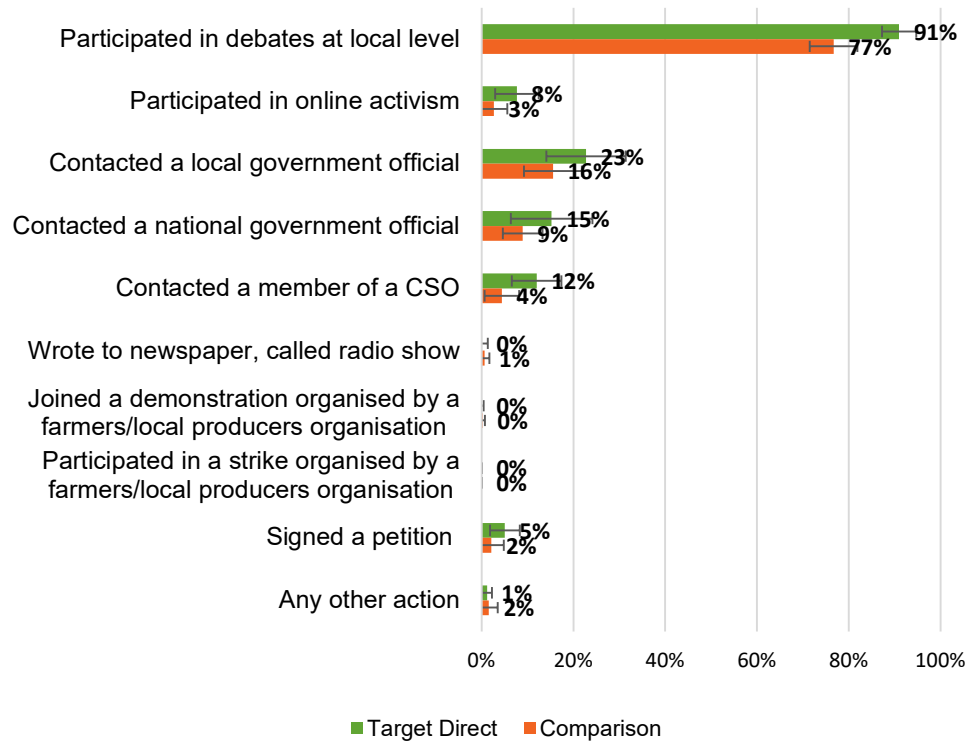


Source: SP BI R2F Baseline & Endline surveys, n=989

The voice-raising activity mentioned most frequently was participating in debates at the local level (see Figure 6). Project staff report that participating in debates in Burundi, even on topics like subsistence agriculture, can involve some risk for participants and that such events can be complicated to organize. This suggests that participating in such debates is an important aspect of raising one's voice. When comparing the frequency with which different types of actions were taken by men and women separately (for the direct target group respondents only), the only significant difference between men and women was petition signing, which men were more likely to do than women.

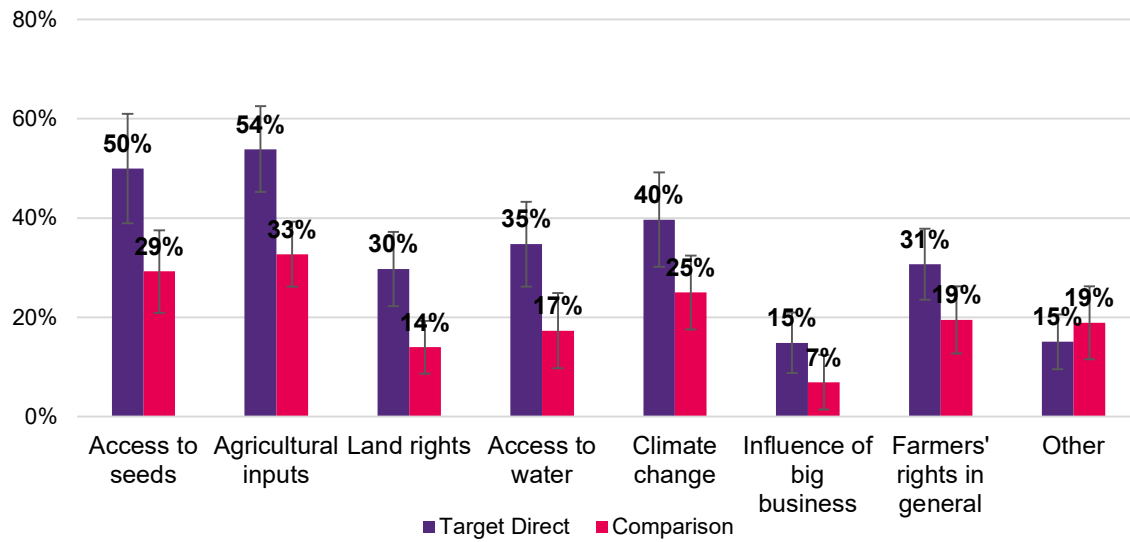
⁶ This included the cases where respondents took no action at all. If we exclude these respondents and look at only those respondents that took action, the average number of actions taken was slightly higher but still between 1 and 2.

Figure 6: In the past year, did you participate in any of the following activities? (NB: data is presented for the endline only)



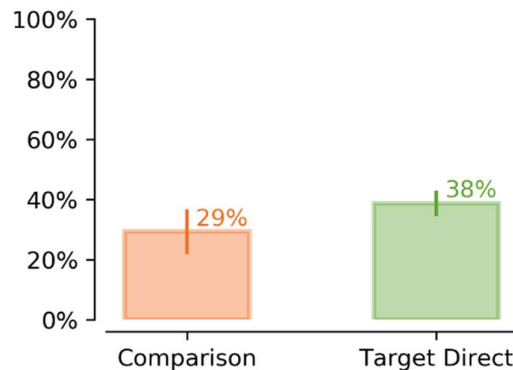
The survey also inquired about the reasons respondents raised their voices. The most frequent response among endline respondents was to guarantee access to agricultural inputs (45%) and to guarantee access to seeds (42%) (Figure 7). Although it was clear that respondents at the endline were more likely to raise their voice about R2F topics than at the baseline, comparisons between the baseline and endline were challenging because, in the baseline, the most frequent motivation for citizens to raise their voice was “other”. This finding suggests that the topics that were most likely to drive citizens to action in 2017 were not those focused on by the R2F project. Or, it may suggest that the project has been able to focus the voices of citizens more on topics like demanding agricultural inputs.

Figure 7: On which of the topics below did you raise your voice? (Data presented for target and comparison groups combined)



The baseline study did not ask about citizens raising their voice on access to seeds, nor was access to seeds a priority of Phase 1 of the project. However, in the endline study, the direct target group respondents were significantly more likely to raise their voice on this issue than the respondents from the comparison group. This finding may be a reflection of the influence of the R2F project's activities with targeted OPs on demanding better access to fertilizers leading to more demands for other agricultural inputs as well, including seeds (Figure 8).

Figure 8: Target group respondents raised their voice on the topic of access to seeds significantly more often than comparison respondents



Source: SP BI R2F Endline surveys, n=514

4.2.2 PRELIMINARY CONCLUSIONS





Large percentages of both the direct target and comparison groups reported that they had raised their voice and taken action, although this did not appear to be an impact of resulting from the project activities. Participating in local debates was by far the most commonly reported form of action taken. Topics related to R2F, like access to agricultural inputs, access to seeds and taking action on climate change were among the most commonly-cited reasons for citizens raising their voice and taking action. This contrasted with the baseline results, in which respondents were more likely to raise their voice on non-R2F topics (the "other" category). The respondents in the direct target group were more likely to have raised their voice to demand access to seeds than those in the comparison group. However, we were not able to analyse any trends for this indicator.

Table 2 summarizes the results for agricultural production and food security, grouped by the corresponding evaluation and learning question. Table 2 can be read as follows. Column #1 indicates whether there was a significant trend in each indicator over time between the baseline and the endline and whether that trend was positive (upwards) or negative (downwards). Column #2 indicates whether being in the direct target group was associated with a better outcome; in other words, if exposure to project activities seemed to have an attributable impact on the outcome. If an impact was observed only when combining the direct and indirect target groups together, this is also noted in column #2. Column #3 summarises the results of the same calculation but only using the men in the sample. Column #4 summarises the results of the same analysis but only using the women in the sample.

Table 2 Results Summary for Citizen's Voice

Theme	Outcome variable	#1.) What is the general trend from baseline to endline?	#2.) Is there a significant effect for the <u>direct target group</u> as a whole?	#3.) DIRECT: Is there a significant effect for the subgroup of <u>men</u> ?	#4.) DIRECT: Is there a significant effect for the subgroup of <u>women</u> ?
EQ1 – Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?					
Voice	In the past 12 months, did you participate in <i>at least one</i> of the following ⁷ activities?	=	=	=	=
	In the past 12 months, <i>how many</i> activities did you participate in?	↘	=	=	=
	In the past 12 months, did you participate in <i>at least one</i> of the following activities? [excl. activity in local debates]	↘	=	=	=
	In the past 12 months, <i>how many</i> activities did you participate in? [excl. activity of local debates]	↘	=	=	=
Voice (topics)	In the past 12 months, did you raise your voice on <i>access to seeds</i> ?[ENDLINE ONLY]	NA	Yes	Yes	=
	In the past 12 months, did you raise your voice on <i>access to agricultural inputs</i> ?	↗	=	=	=
	In the past 12 months, did you raise your voice on <i>land rights</i> ?	↗	=	=	=
	In the past 12 months, did you raise your voice on <i>access to water</i> ?	↗	=	=	Yes (comparison)

⁷ Join a demonstration organized by a farmers/local producers organisation; Participate in a strike organized by a farmers/local producers organisation; Sign a petition; Participate in debates at local level; Participate in online activism (such as social networks, Facebook, Twitter, mobile telephone); Contacted a central government representative; Contacted a local government official; Contacted a member of a CSO; Written to newspaper or called a radio show; Any other action.

In the past 12 months, did you raise your voice on <i>the effects of climate change</i> ?		Yes**	=	Yes
In the past 12 months, did you raise your voice on <i>the influence of big business</i> ?		Yes	Yes	NA*
In the past 12 months, did you raise your voice on <i>the interests of farmers in general</i> ?		=	=	=
In the past 12 months, did you raise your voice on <i>'other' issues</i> ?		=	Yes (comparison)	=
<p>*: We were not able to estimate the effects for the subgroup of female respondents (0 female respondents at baseline; 21 at endline) due to the sample sizes.</p> <p>** : When comparing respondents in the direct and indirect target groups as a whole, with respondents in the comparison group, we found significantly higher percentages for the respondents in the target groups.</p>				

4.3 ATTITUDES AND NORMS TOWARDS GENDER AND GOVERNMENT EFFECTIVENESS

This section presents findings on the attitudes and norms of respondents towards gender and the effectiveness of local government. The common element in these broad themes is that our inquiry is really about the attitudes of respondents towards these topics, and the social norms that shape them. Social norms are the unwritten but widely shared expectations or informal rules that govern behaviour (Oxfam Novib Impact Measurement and Knowledge, 2019). Understanding and influencing social norms is often a necessary step in changing attitudes, behaviours and policies. We analysed attitudes and norms towards gender in relation to land inheritance, education, working outside the home and political leadership. We also analysed attitudes towards the effectiveness of local governments, in general, and in taking action on topics important to farmers and the R2F project. We hypothesized that project activities such as **building the capacity of targeted OPs, cascading learning beyond the targeted OPs**, and direct influencing of local decision-makers should have contributed the impact of the R2F project on these topics.

These results provide part of the answer to the central evaluation question of the R2F project *To what extent have the activities implemented by the R2F project had an attributable effect on changes in the citizens' voice, and shifted norms, attitudes and knowledge?* They also provide learning questions on changes in attitudes towards access to land, and in particular, gender norms for land inheritance.

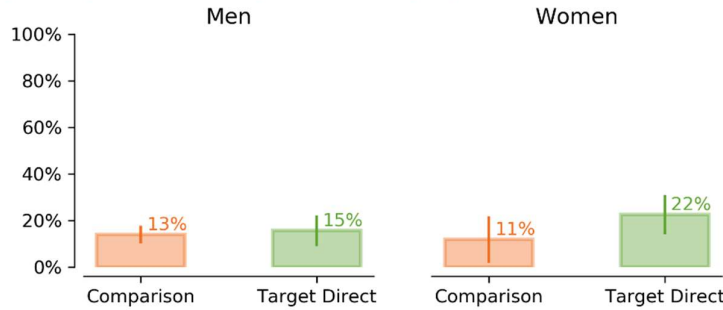
4.3.1 ATTITUDES AND NORMS TOWARDS GENDER: LAND TENURE AND EMPOWERMENT

Women are considerably less likely to have formal land tenure than men. This disparity is perpetuated in part by gendered norms favourable to men's land ownership. Although not a direct focus of Phase 1, in Phase 2 the project aims to change these norms, and encourage new norms around land tenure rights, that are more favourable towards women and the right of women to own land.

To measure one aspect of attitudes around land rights and gender, respondents were asked how they would divide the inheritance of their land between sons and daughters. A large majority of respondents (86%) said they would favour sons in bequeathing the land (86%). Only 14% said they would divide their land equally among sons and daughters, and only 0.5% said they would favour daughters. There were no significant differences between the respondents from the target and comparison groups. This is unsurprising as these are customary practices that the project has not explicitly worked to change. Women in the direct target group reported higher support for equal sharing of land between sons and

daughters, but this was not significantly different from the results for women in the comparison group or for men overall (Figure 9). Women and men shared a strong normative preference that sons should be favoured over daughters for inheriting land. Participants in the reflection session on the preliminary results, in February 2020, confirmed that this was an accurate reflection of current practice in rural Burundi.

Figure 9: A similar percentage of respondents in the target and comparison groups would divide an inheritance of land equally among sons and daughters. The majority would favour inheritance for sons.



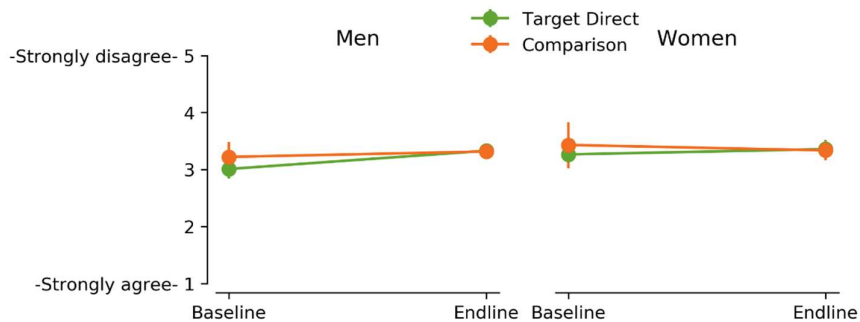
Source: SP BI R2F surveys, n men=325, n women=185

Empowerment is about people having the capacity and opportunity to make their own decisions, a form of agency (Alsop & Heinsohn, 2005). Empowerment has many different interpretations and can be measured in different ways. A person can be empowered in different domains of life, and increasing empowerment in one domain may lead to spillovers into other domains (Ibrahim & Alkire, 2007). We have identified a selection of determinants of empowerment we consider to be key enablers or barriers to citizens shifting their attitudes and norms and voicing their concerns to duty bearers about agricultural policies. Although project activities have not specifically focused on advancing empowerment in these domains, the project may have impacted the project participants indirectly. We measured Through attitudes towards the empowerment of women and girls in three domains: education, work and political leaders:

- A good education is more important for a boy than for a girl.
- When women work outside the home, the whole family suffers.
- On the whole, men make better political leaders than women.

Analysis of these results showed that, although many respondents retained negative attitudes towards empowerment, over time, overall attitudes among respondents became somewhat more supportive of the empowerment of girls and women on these topics. However, since these trends were similar for both the direct target and comparison groups (Figure 10), this did not appear to have been driven by the project itself.

Figure 10: The project does not lead to improved attitudes on empowerment of women and girls



Source: SP BI R2F surveys, n men=631, n women=369

4.3.2 ATTITUDES TOWARDS THE FUNCTIONING OF THE LOCAL ADMINISTRATION

In this section, we present the respondents' attitudes towards the effectiveness of the local government administration in ensuring access to seeds, fertilizer, and water, in securing land rights, in fighting the effects of climate change, in reducing disaster risks and in preventing soil erosion. In Burundi, the local administration ("*L'administration locale*" in French) is understood to mean all the governing institutions in the lower administrative divisions of the state, including governors of the provinces, Communal Councils and their administrators, and authorities at the levels of zones and *collines*, the smallest administrative units in Burundi.

Survey questions asked respondents to indicate the extent to which they felt that local administration deals well or badly with a list of topics. Overall respondents felt that the local administration was doing reasonably well on these issues: they rated the performance of the local government 2.7 on a 1 to 4 scale where 1 means "very badly" and 4 means "very well". Respondents were most critical of local government on access to water, while they were most positive about action against soil erosion (Figure 11). However, between the baseline and the endline, the trend in overall satisfaction with the functioning of the local administration was negative. These trends were evident among the respondents in both the direct target group and the comparison group. This finding suggested that R2F project activities did not have an impact on the drop in positive attitudes towards the functioning of local government. However, analysis by gender showed that among male respondents members of the direct target group reported a significant increase in positive views of local administration's handling of land rights and climate change relative to men in the comparison group. No significant effect was found for women.

One issue where project participation has had an impact is on attitudes towards the effectiveness of the local administration in tackling soil erosion, although this was not a specific focus of Phase 1 of the project. Respondents from the comparison group became less positive about how the local administration deals with preventing erosion, but respondents from the direct target group became slightly more positive (Figure 12). This distinction appeared to be an impact attributable to project activities, perhaps as an indirect result of OP leaders engaging with local authorities through workshops organized by the R2F project.

Figure 11: Respondents are most positive of their local government's handling of soil erosion and most critical of its handling of access to water

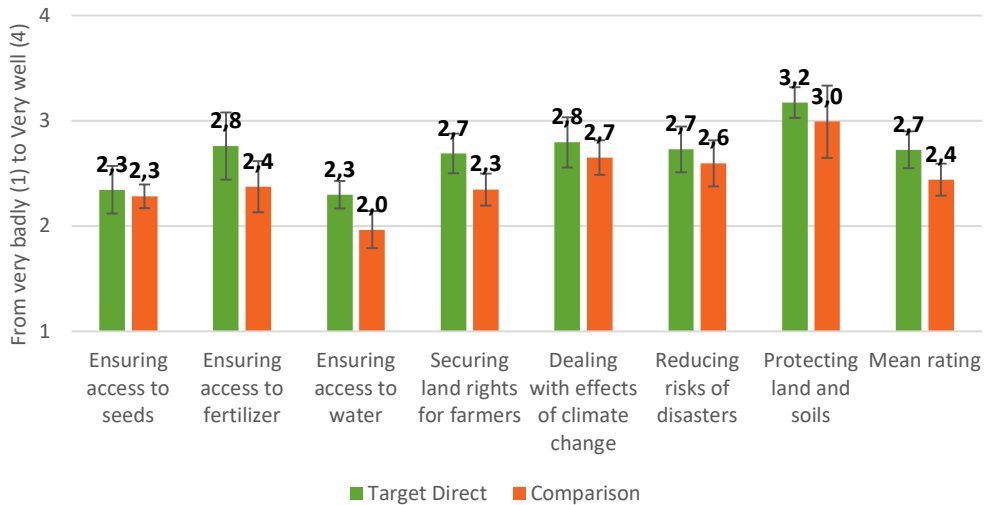
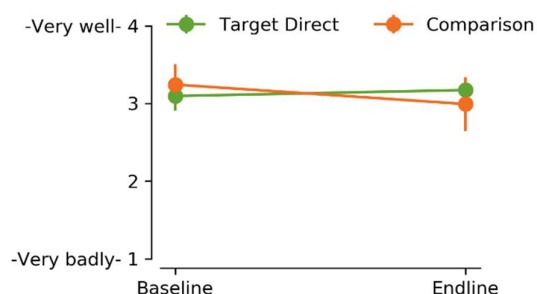


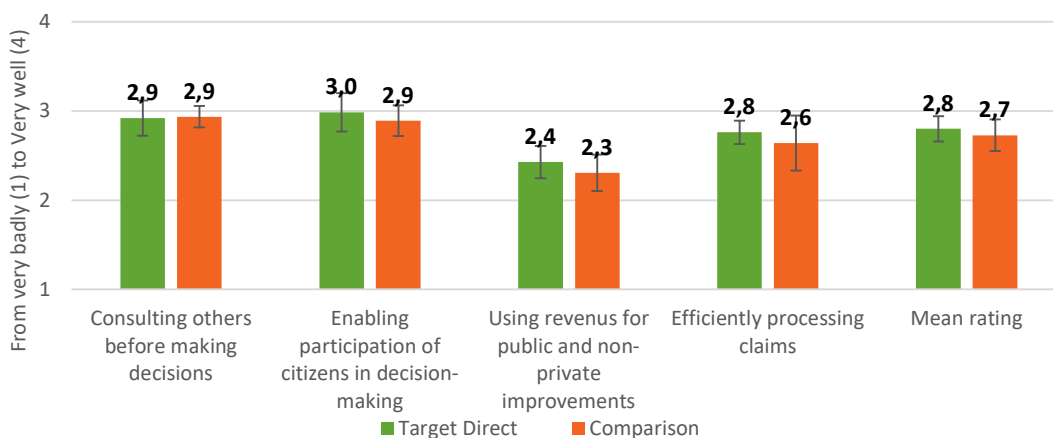
Figure 12: There is a positive and significant contribution by the project to attitudes towards the functioning of local government in preventing erosion



Source: SP BI R2F Baseline & Endline surveys, n=962

Respondents were also asked to rate the local administration on how it consults others before making decisions, enables citizens to participate in decision-making, uses revenues for public improvements and how efficiently it processes complaints. Overall the attitudes of respondents were more positive than negative on these issues. Respondents were most critical of how the local administration used revenues, while they were most positive about consultation. In general, attitudes of respondents on how the local administration functions became more critical from the baseline to the endline (Figure 13).

Figure 13: Respondents are most positive about their local administration’s consultation of others before making decisions, and most critical of its use of revenues for public and non-private improvements



4.3.3 PRELIMINARY CONCLUSIONS

The results in this section suggest that project activities did not produce discernible shifts in norms and attitudes on most questions of gender or on attitudes towards the functioning of the local administration. Changing norms and attitudes is inherently challenging, and results can take far longer to materialize than the short time-frame of the R2F project.

On gender, respondents reported a clear gendered norm that prioritized sons over daughters on questions of land inheritance. Attitudes towards the empowerment of girls and women in education, work and political leadership seemed to be very slowly becoming more positive, but these changes were not the result of project activities.












Respondents became somewhat more critical of the functioning of the local administration, both in terms of the services it delivered and the ways in which it worked. One exception was the local administration’s handling of soil erosion. Respondents in the direct target group became more positive about how this issue was handled, while respondents in the comparison group became more negative. This may be

the result of a positive impact from the R2F project activities. Men in the direct target group also became more positive about the role of the local administration in securing land rights and coping with the effects of climate change than men in the comparison group. However, these impacts were not evident among women.

Table 3 summarizes the results for attitudes and norms, grouped by the corresponding evaluation and learning question. Table 3 can be understood as follows. Column #1 indicates whether there was a significant trend in each indicator over time between the baseline and the endline and whether that trend was positive (upwards) or negative (downwards). Column #2 indicates whether being in the direct target group was associated with a better outcome; in other words, if exposure to project activities seemed to have an attributable impact on the outcome. If an impact was observed only when combining the direct and indirect target groups together, this is also noted in column #2. Column #3 summarises the results of the same calculation but only using the men in the sample. Column #4 summarises the results of the same analysis but only using the women in the sample.

Table 3 Results Summary for Attitudes and Norms

Theme	Outcome variable	#1.) What is the general trend from baseline to endline?	#2.) Is there a significant effect for the <u>direct target group</u> as a whole?	#3.) DIRECT: Is there a significant effect for the subgroup of <u>men</u> ?	#4.) DIRECT: Is there a significant effect for the subgroup of <u>women</u> ?
Core Research Question: To what extent have the activities implemented by the R2F project had an attributable effect on changes in the citizens' voice, and shifted norms, attitudes and knowledge?					
Land inheritance	% of respondents who would equally divide inheritance of land among sons and daughters	NA	=	=	=
	% of respondents who would favour sons when it comes to land inheritance	NA	=	=	=
Women's empowerment	Attitudes on women's empowerment (mean value of three statements below).	↗	=	=	=
	<i>Disagree with:</i> A good education is more important for a boy than for a girl.	=	=	=	=
	<i>Disagree with:</i> When women work outside the home, the whole family suffers.	↗	=	Yes	=
	<i>Disagree with:</i> On the whole, men make better political leaders than women do.	↗	=	=	=
Functioning of Local	How well/badly is the local government ensuring access to seeds?	NA	=	=	=

governme nt	How well/badly is the local government ensuring access to fertilizer?		=	=	=
	How well/badly is the local government ensuring sufficient access to water for farmers?		=	=	=
	How well/badly is the local government securing the land rights of farmers?		Yes**	Yes	=
	How well/badly is the local government dealing with the effects of climate change?		=	Yes	=
	How well/badly is the local government reducing the risk of disasters?		=	=	=
	How well/badly is the local government ensuring the protection of land and soils?		Yes	Yes	=
	How well/badly is the local government performing? [mean of above]?		=	Yes	=
Functioni ng of the Local administra tion	How well/badly is the local administration consulting others before making decisions?		=	=	=
	How well/badly is the local administration enabling citizens to participate in decision-making?	=	=	=	=
	How well/badly is the local administration making use of revenues for public and non-private improvements?		=	=	=
	How well/badly is the local administration performing in processing claims efficiently?		=	=	=
	How well/badly is the local administration performing? [mean of above]?		=	=	=
**: When comparing respondents from the direct and indirect target groups together, with respondents from the comparison group, we did find significantly higher percentages for target respondents.					

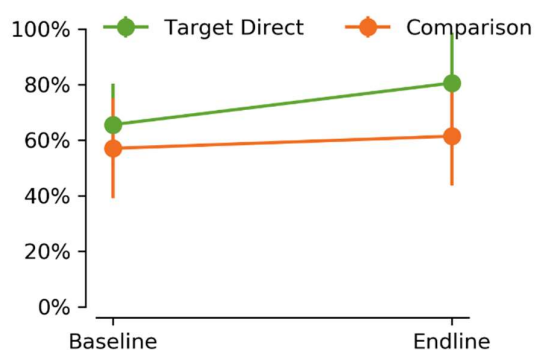
4.4 KNOWLEDGE AND AWARENESS

This section presents the findings on the knowledge and application of key agricultural practices, awareness and appreciation of agricultural policies and evidence of the transfer and cascade of knowledge beyond the targeted OPs. These findings help to answer EQ1 *Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?* EQ2 *Do targeted OPs cascade information to other OPs in their collines and does this lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst non-targeted OP or CBO members who are sensitized by targeted OPs?* as well as EQ3 *Do the nationwide media campaigns lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst farmers who are not members of OPs in the direct target or indirect target groups?*

4.4.1 AGRICULTURAL PRACTICES

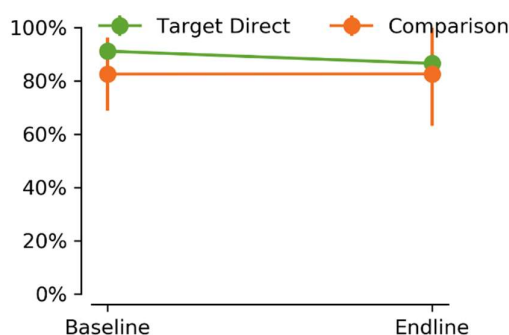
The R2F project in Burundi has sought to encourage good practice in the use of fertilizer, among other techniques. At the endline, a strong majority of respondents (69%) indicated that they used both chemical and organic fertilizer. Of the remainder, 7% reported using only chemical fertilizer, 17% only organic fertilizer and 6% no fertilizer at all. Changes in the percentage of respondents from the direct target group using chemical or organic fertilizers did not appear to have been driven by the project activities, as a similar trend was observed in the comparison group (Figures 14 and 15 below).

Figure 14: The project makes no significant contribution to the usage of chemical fertilizer



Source: SP BI R2F Baseline & Endline surveys, n=987

Figure 15: The project makes no significant contribution to the usage of organic fertilizer



Source: SP BI R2F Baseline & Endline surveys, n=987

Respondents were also asked what they saw as the best practice in fertilizer usage. The largest proportion of respondents indicated that calculation of the right amount is the best practice (40%), followed by using specific types of fertilizer for each crop (25%). However, over time, the proportion of respondents mentioning both practices as best practice decreased. When direct and indirect target groups were combined, we saw a possible impact from being in the wider target group for citing 'following the agricultural calendar' as a best practice in fertilizer use. However, the percentage of respondents who said they did not know what a best practice in using fertilizer would be was higher at the endline than at the baseline.

4.4.2 KEY AGRICULTURAL POLICIES

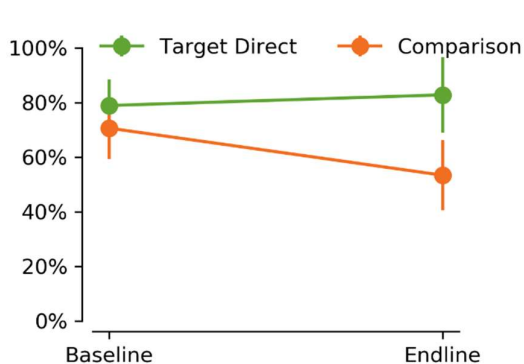
Two important national agricultural programmes of the Government of Burundi are PNSEB and PNSSB, described briefly in section 1.2.3 **Country Context of Burundi**. The R2F project has worked to increase the awareness and knowledge of these agricultural policies.

PNSEB

The majority of respondents (71%) reported being aware of a government programme that provides access to fertilizer. Respondents in the direct target group had a greater awareness of the programme than at the baseline. In contrast, the awareness among respondents in the comparison group fell, suggesting a positive contribution by the project and its activities to increasing knowledge of this fertilizer access programme (Figure 16). However, respondents were far less likely to know what this programme was called as, on average, only 24% of respondents could identify the programme by name (Figure 17)

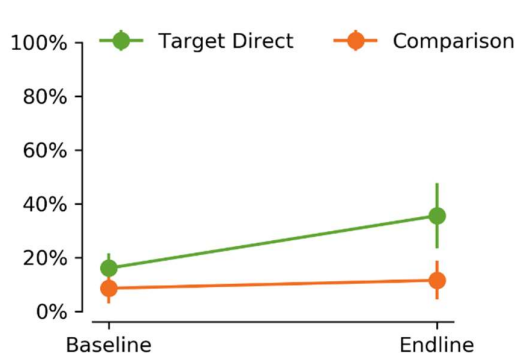
Furthermore, although the knowledge of the PNSEB programme appears to increase over time among the respondents in the target group (Figure 17), ability to identify the PNSEB programme by name was actually not a significant impact of the project.

Figure 16: The project makes a positive and significant contribution to knowledge of programmes providing fertilizer



Source: SP BI R2F Baseline & Endline surveys, n=989

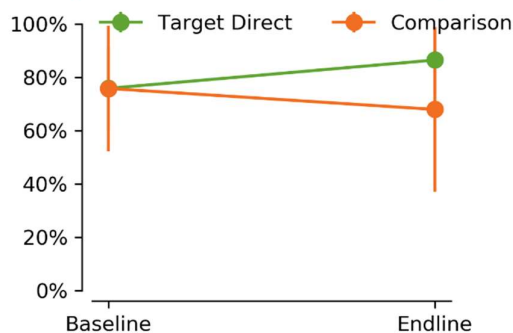
Figure 17: The project makes no significant contribution to knowledge of the PNSEB programme



Source: SP BI R2F Baseline & Endline surveys, n=989

We asked the subset of respondents who could name the PNSEB programme if they also had access to it. Among this subset, 87% said 'yes'. Despite an increase in self-reported access for respondents in the direct target group between the baseline and the endline, this was not a significant impact that could be attributed to the R2F project activities since there was no statistically significant difference between the trends for the direct target and comparison groups (Figure 18).

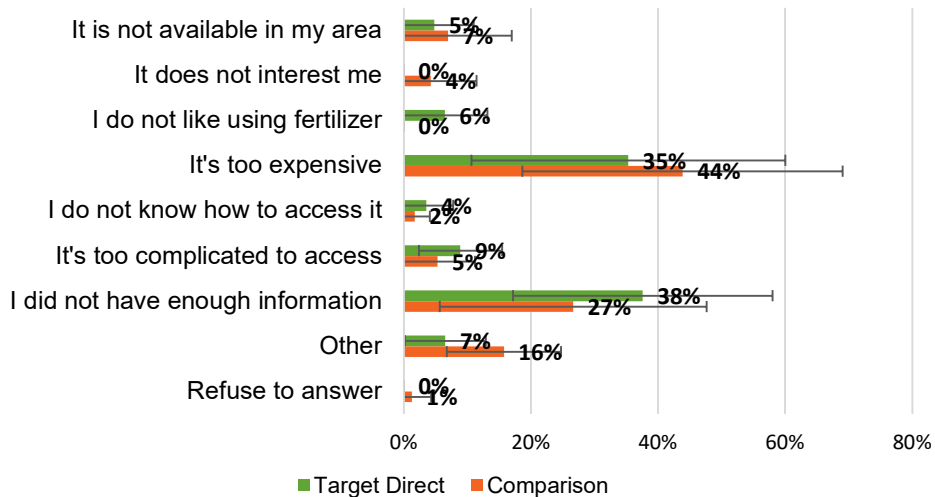
Figure 18: The project makes no significant contribution to accessing PNSEB



Source: SP BI R2F Baseline & Endline surveys, n=223

Respondents who said they did not have access to PNSEB were asked to elaborate on the reasons why they could not access it. The most frequently mentioned reasons were that fertilizer was still too expensive, even with the subsidy, and that they did not have enough information about the programme (on average 34% and 33%, respectively, see Figure 19).

Figure 19: Why do you not have access to the PSNEB program? (NB: data presented at endline only)



Respondents who indicated that they did have access to the PNSEB programme were generally satisfied with it, reporting an average satisfaction score of 3.1 on a scale from 1 (“not at all satisfied”) to 4 (“very satisfied”). However, the average satisfaction level with PNSEB decreased significantly between the baseline and the endline; the average satisfaction score decreased from 3.5 to 3.1. Figure 20 shows the factors on which respondents rated the PNSEB programme. None of these factors stands out in the rating; overall respondents in both the direct target and comparison groups were generally satisfied with most aspects of the programme. Satisfaction with PNSEB was also reflected in the finding that 98% of respondents with access to PNSEB said they intended to buy fertilizer through the PNSEB programme again next year.

Figure 20: Respondents in both the direct target and comparison groups were generally satisfied with most aspects of the PNSEB program



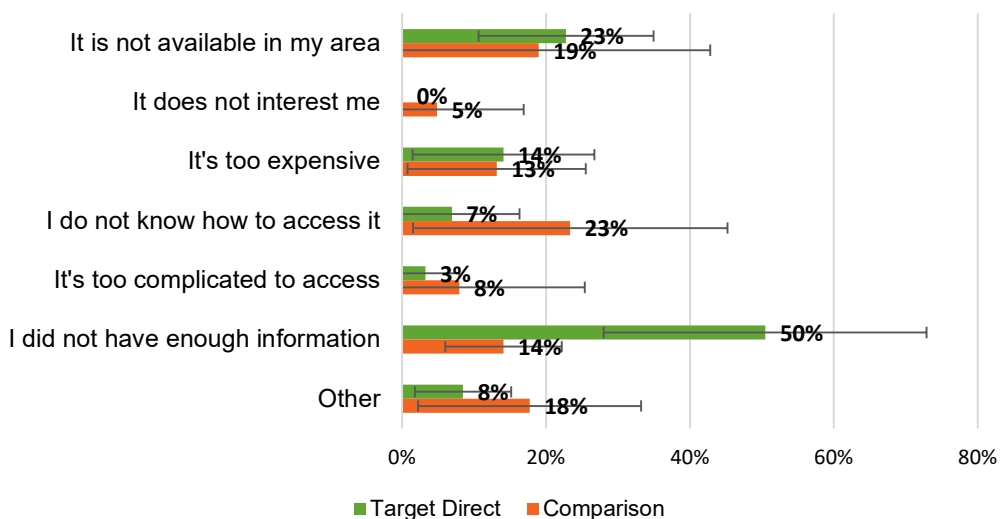
PNSSB

The PNSSB programme focuses on improving access to seeds. On average, about a quarter of respondents (28%) indicated that they were aware of a programme providing access to seeds, but only 6% recognized the programme by name. The level of awareness of the PNSSB programme was very similar in the direct target and comparison groups, although men in the direct target group were more

likely than men in the comparison group to be aware of the programme. Among respondents who knew the PNSSB programme, nearly three-quarters (74%) said they had access to the programme.⁸

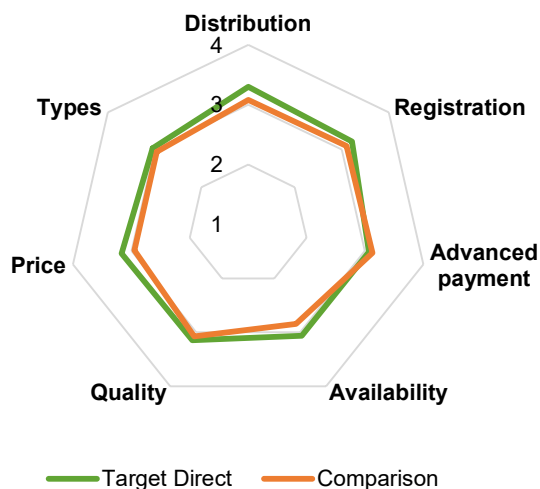
Respondents who reported not having access to the PNSSB programme were asked why. The most frequently mentioned reasons were not having enough information about the programme and the programme not being available in the respondent's area (on average 43% and 28%, respectively, see Figure 21).

Figure 21: Why do you not have access to the PNSSB program? (NB: data presented at endline only)



Much like with the PNSEB, respondents with access to the PNSSB programme were generally satisfied with the programme overall and with its components (Figure 22). Fully 99% of respondents who used the programme said they intended to buy seed through the PNSSB programme again the following year.

Figure 22: Target and comparison group respondents have a similar satisfaction level with different aspects of the PNSSB program



⁸ Please be reminded that due to skip-logic the sample size of this question is very small (N= 38).

4.4.3 NATIONAL MEDIA CAMPAIGNS

One of the intervention strategies of the R2F programme is awareness-raising and knowledge-sharing through radio campaigns. Radio Izere, a regional radio station, broadcasted messages about PNSEB, the effective use of mineral fertilizer, the participation of women and youth in environmental protection, the conservation of seeds, land tenure and ownership, or financial alerts and education in three provinces: Rumonge, Makamba, and Rutana. In our sample we have respondents from one of these three provinces: Makamba. When restricting the sample to only those respondents living in Makamba (N= 174 at endline), 18% of respondents indicate to have heard messages on Radio Izere station on any of the topics mentioned above. Thus, the majority of respondents (82%) had not heard any of these messages. For those respondents that had heard these messages on Radio Izere, the most frequently heard messages were on average about PNSEB (55%), seed conservation (52%), and mineral fertilizer (48%).

Respondents were also asked whether, in the past two years, they had heard a radio programme about the PNSEB programme on Radio Isanganiro, a nationwide radio station in Burundi. On average, 16% of respondents said they had, although this was significantly higher among the respondents in the direct target group (24%) than those in the comparison group (7%).

Does hearing a radio message about a programme like the PNSEB have any influence on the awareness or use of this programme by respondents not targeted by the R2F project? We explored this question by estimating the effect of having heard a broadcast about the PNSEB (on either Radio Izere or Radio Isanganiro) on the awareness of fertilizer programmes in general, and about the PNSEB programme specifically, only among respondents *not* targeted by the R2F project.

We found that the small group of respondents from the comparison group who had heard a radio broadcast about the PNSEB on at least one of the two radio stations (N= 28) were significantly more aware of the existence of fertilizer programmes in general than respondents who did not hear these radio messages (N= 334): averages of 81% vs 59%. This was also the case when looking at knowledge of the existence of the PNSEB programme specifically: 32% among those who heard the broadcasts vs 16% among those who did not.

However, hearing about the PNSEB programme on the radio had a negative association with programme access: 54% of comparison group respondents who had heard about PNSEB on the radio said they had access to PNSEB, while 79% of the comparison group respondents who had not heard the radio broadcasts said they had access to the programme. However, we note that the estimation sample for this calculation was quite small (N = 35), and we recommend interpreting this finding with caution.

4.4.4 TRANSFER OF KNOWLEDGE

The R2F project envisions that its reach extends beyond the direct target group because farmers in targeted OPs will share knowledge and messages with neighbours in other nearby OPs and collines. These neighbours are the indirect target group described earlier in this report. To test this assumption, findings on knowledge of agricultural policies and practices were compared between the indirect target group and the comparison group. It should be noted that when comparing *direct* target respondents to *comparison* respondents (that is, the effect of the project), relatively few significant results were found regarding knowledge of fertilizer usage and practices, and knowledge of agricultural policies. Few spill-over effects were found, with few significant results. This was expected as the effect of the project on the direct target group should be stronger than the spill-over effect on the indirect target group. Interestingly, we found examples of both positive and negative spill-over effects for the indirect target group.

Regarding control over land and seeds, there were positive spill-over effects when looking at knowledge of getting a certificate to prove land ownership, knowledge of procedures to claim back land, and confidence that farmers had the capacity and control to manage good quality seeds.

However, we did find what may be a negative spill-over effect for the usage of organic fertilizer. Use of organic fertilizer had declined for the indirect target group since the baseline, while it remained constant for the comparison group.

4.4.5 PRELIMINARY CONCLUSIONS

This section has shown that relatively few elements of agricultural practices around the use of fertilizer have changed since the baseline. However, more respondents indicated that they did not know what best practices with fertilizers were in the endline survey than at the baseline. Use of both organic and chemical fertilizers was by far the most common practice, used by 69% of respondents.

The agricultural programmes PNSEB and PNSSB were well-appreciated by respondents who are aware of them, but there were large gaps in awareness. A majority of respondents (71%) were aware that the government sponsors a subsidized fertilizer programme (PNSEB), although only 28% were aware of a programme offering subsidized seeds (PNSSB). In both cases, far fewer respondents were able to identify these programmes by name. However, the project appears to have had a positive and significant impact on the knowledge of the PNSEB programme. Respondents cited a lack of information about the PNSEB and PNSSB programmes as a primary reason why they lacked access to these programmes.

National and regional radio campaigns did not have extensive reach but were associated with better awareness of the PNSEB programme among respondents in the comparison group. Comparison group respondents who had heard radio broadcasts were more likely to be aware of the programme than those who had not heard the broadcasts, although they were not more likely to report having access to the programme.











Finally, we found some evidence of positive spill-over effects for the indirect target group when looking at knowledge of getting a certificate to prove land ownership, knowledge of procedures to claim back land, and the confidence of farmers in having the capacity and control to manage good quality seeds. However, we found evidence of a negative trend in the use of organic fertilizers among the indirect target group.





Table 4 summarizes the results for knowledge and awareness, grouped by the corresponding evaluation and learning question. The table below can be read as follows. Column #1 indicates whether there was a significant trend in each indicator over time between the baseline and the endline and whether that trend was positive (upwards) or negative (downwards). Column #2 indicates whether being in the direct target group was associated with a better outcome; in other words, if exposure to project activities seemed to have an attributable impact on the outcome. If an impact was observed only when combining the direct and indirect target groups together, this is also noted in column #2. Column #3 summarises the results of the same calculation but only using the men in the sample. Column #4 summarises the results of the same analysis but only using the women in the sample.

Table 4 Results Summary for Knowledge and Awareness

Theme	Outcome variable	#1.) What is the general <u>trend</u> from baseline to endline?	#2.) Is there a significant effect for the <u>direct target group</u> as a whole?	#3.) DIRECT: Is there a significant effect for the subgroup of <u>men</u> ?	#4.) DIRECT: Is there a significant effect for the subgroup of <u>women</u> ?
EQ1 Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?					
EQ2 Do targeted OPs cascade information to other OPs in their collines and does this lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst non-targeted OP or CBO members who are sensitized by targeted OPs?					

EQ3 Do the nationwide media campaigns lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst farmers who are not members of OPs in the direct target or indirect target groups?

Fertilizer usage	% of respondents using chemical fertilizer		=	=	=
	% of respondents using organic fertilizer	=	=	=	=
	% of respondents using both organic & chemical fertilizer	=	=	=	=
Fertilizer practices	% of respondents saying that the best practice in using fertilizer is calculating the right amount		=	=	=
	% of respondents saying that the best practice in using fertilizer is following the agricultural calendar		Yes **	=	=
	% of respondents saying that the best practice in using fertilizer is using specific fertilizer for each crop		=	=	=
	% of respondents who don't know what the best practice in using fertilizer is		=	=	=
Knowledge of agricultural policies	To your knowledge, is there any government programme or programmes that provide access to fertilizer?		Yes	Yes	Yes
	To your knowledge, is there any government programme or programmes that provide access to seeds?	NA	=	Yes	=
	% of respondents knowing about PNSEB	=	=	=	=
	% of respondents knowing about PNSSB	NA	=	=	=
Access to PNSEB/ PNSSB	% of respondents having access to PNSEB	=	=	=	=
	% of respondents having access to PNSSB	NA	=	NA*	=
Satisfaction with PNSEB	How satisfied are you with the quality of the distribution (distance, cheating)?		=	=	=
	How satisfied are you with the record and registration?		=	=	=
	How satisfied are you with the payment of advances and balances?		=	=	=
	How satisfied are you with the availability of fertilizer on time?		=	=	=

	How satisfied are you with the quality of the fertilizer provided?		=	=	=
	How satisfied are you with the cost of the fertilizer provided?		=	=	=
	How satisfied are you with the type (kind) of fertilizer available?		=	=	=
	How satisfied are you with [mean value of above]?		=	=	=
Satisfaction with PNSSB	How satisfied are you with the quality of the distribution (distance, cheating)?	NA	=	=	=
	How satisfied are you with the record and registration?	NA	=	Yes (comparison)	=
	How satisfied are you with the payment of advances and balances?	NA	Yes (comparison)	=	=
	How satisfied are you with the availability of seeds on time?	NA	=	=	=
	How satisfied are you with the quality of the seeds provided?	NA	=	=	=
	How satisfied are you with the cost of the seeds provided?	NA	=	=	=
	How satisfied are you with the type (kind) of seeds available?	NA	=	=	=
	How satisfied are you with [mean value of above]?	NA	=	=	=
* Due to sample size restraints, we were not able to estimate the effects for the subgroup of male respondents (N=20).					
**: When comparing direct and indirect target group respondents together with comparison group respondents, we did find significantly higher percentages for the target group respondents.					

4.5 AGRICULTURAL PRODUCTION

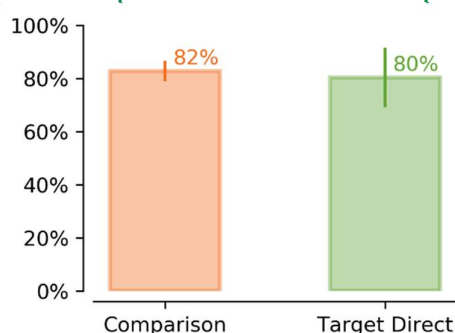
Agriculture is central to the R2F project and the economy of Burundi. This first section of results presents findings from the current study on access to land and seeds, as well as agricultural production and food security. The report begins here as this is an important context for the remainder of the findings about citizen voice and participation, attitudes and norms, and knowledge and awareness of agricultural policies and practices in Burundi. By addressing these topics, this section also helps respond to R2F project Learning Question 1: *Have the levels of knowledge, practices and attitudes of OP members concerning access to land and land rights changed?* and Learning Question 2: *Have the levels of knowledge, practices and attitudes of OP members concerning seeds changed?* Although Phase 1 project activities have not focused on land access, land rights and seeds, these are all important themes of Phase 2 of the project.

4.5.1 ACCESS TO AND CONTROL OVER LAND AND SEEDS

Phase 2 of the R2F project in Burundi focuses on access to land and seed, although these have not been priorities of the project during Phase 1. At the endline, a large majority of respondents indicated that they had access to land, with no significant difference between the direct target and comparison groups (73% and 75%, respectively). Nearly all respondents said they used their land for agricultural purposes (96%).

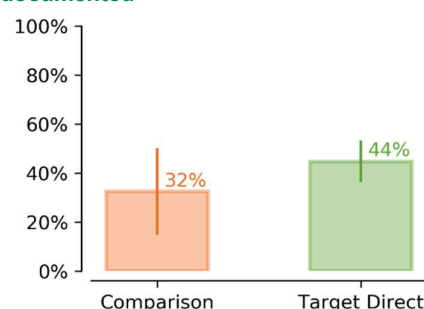
Among the respondents who reported having access to land, a majority of both the direct target and comparison group respondents together indicated that they were the owner of the land (82%), but only around one-third (35%) reported that this ownership was documented (Figures 23 & 24). Respondents in the direct target group were significantly more likely to say that they know how to get a certificate to prove the land is theirs (Figure 25). Questions about documentation of land ownership were not asked at the baseline, so no trend was available; however, it is possible that project activities such as capacity building, with the members of targeted OPs, contributed to this outcome.

Figure 23: A similar percentage of target and comparison respondents has land ownership



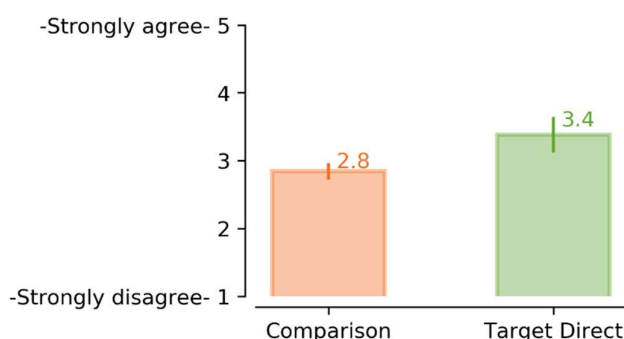
Source: SP BI R2F Endline surveys, n=368

Figure 24: A similar percentage of target and comparison respondents has their land ownership documented



Source: SP BI R2F Endline surveys, n=296

Figure 25: Target respondents have more knowledge about how to get a certificate to prove the land is theirs than comparison respondents

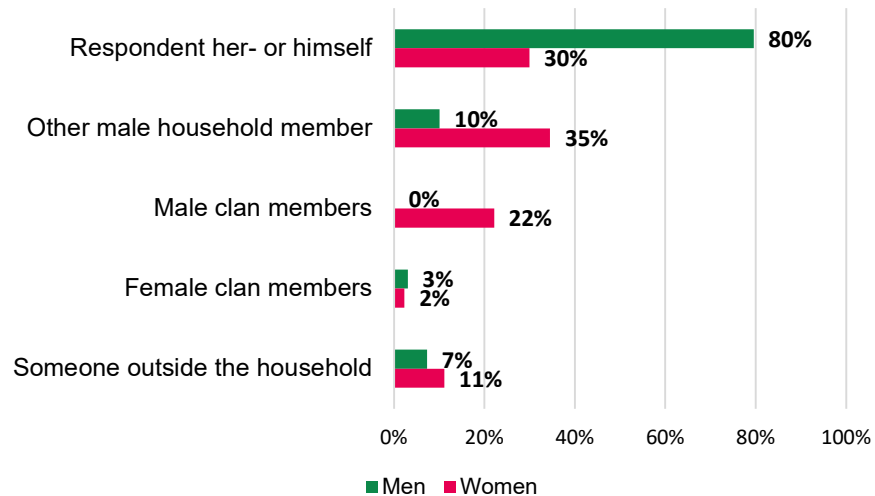


Source: SP BI R2F Endline surveys, n=370

Among those reporting documented ownership at the endline, 80% of male respondents indicated that the land was registered in their own name, compared to only 30% of female respondents. (Figure 26). Among women, more than one-third (35%) said that the land was in the name of a male household member, and 22% said the land was in the name of a male clan member. These results suggest that women are at a sharp disadvantage in terms of formal land ownership.⁹

⁹ The baseline survey included a question about land ownership which differed from the question included in the endline survey. Respondents in the baseline survey were asked whether at least one of the household members had ownership of land, from which the percentage of household households that own land could be estimated. At the endline we combined the questions of

Figure 26: If your land is documented, who is listed on this document as the owner? (NB: Data presented for the entire endline sample)



Ownership of land may not always be the same as having control over land and being able to make decisions on the transfer, sale and use of land. To get a sense of the control over land, respondents were asked a set of questions, each tackling a different level of decision-making:

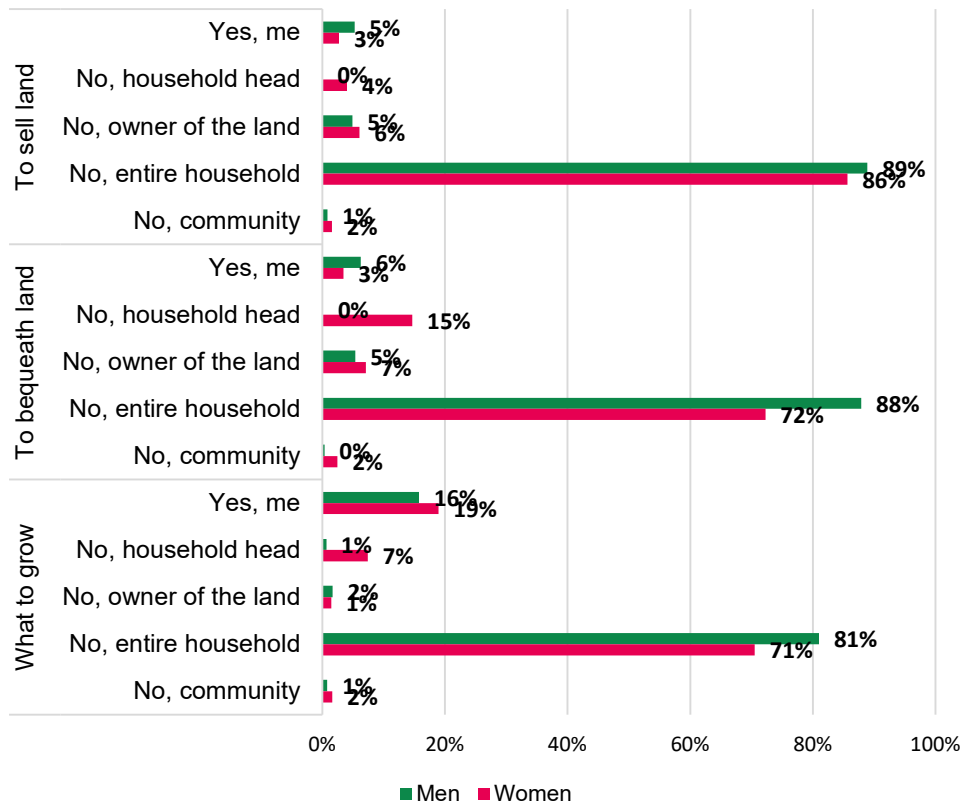
- Can you decide to sell this land, either alone or jointly with someone else?
- Can you decide to bequeath this land, either alone or jointly with someone else?
- Can you make decisions on what to grow on the land?

For all three topics, target and comparison respondents provided similar results: large majorities of respondents, male as well as female, indicated that decisions were made by the entire household (Figure 27). Moreover, men were more likely than women to indicate that the entire household made decisions about land inheritance and planting. However, female respondents were more likely than men to say that they decided what to grow themselves. Also, women more said often than men that the household head made all three types of decisions.¹⁰

access to land and ownership of land to estimate the percentage of individuals who were landowners. At the baseline and again at the endline, land ownership did not differ significantly between the target and comparison groupgroups. However, because of the change in measurement, we cannot directly compare change over time for this indicator.

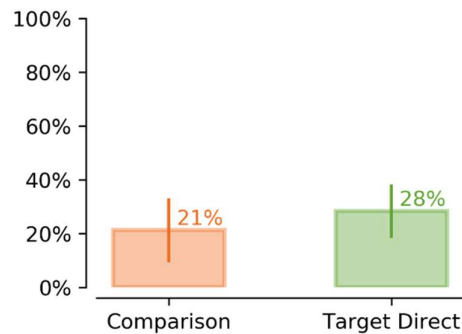
¹⁰ Note that of all household heads in the sample, 94% are male.

Figure 27: Can you decide? (NB: Data presented for the entire endline sample)



Despite high levels of land access and ownership, and perhaps in part because of more limited documentation of land title, some respondents reported experiencing contestation of their lands or land seizure. On average, 28% of respondents who said they had access to land reported that they had experienced others making a claim on their land in the past four years. There were no significant differences between the target and comparison respondents, or between men and women (Figure 28).

Figure 28: A similar percentage of target and comparison respondents experienced their (or their family's) land being claimed



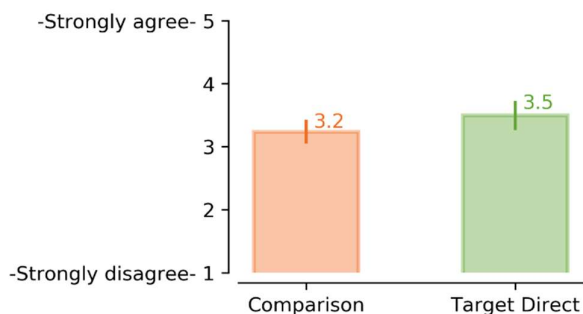
Source: SP BI R2F Endline surveys, n=368

If land was claimed this was most frequently done by relatives within the same community (23%), or by other members of the respondent's community or village (22%). Nearly a quarter (24%) of respondents who had experienced rival land claims declined to provide an answer to the question about who claimed land owned or worked by themselves or their families, suggesting that this may be a sensitive topic to talk about openly in the *collines* where the survey was administered.

In cases where respondents said that their lands were seized, follow-up questions were asked about whether respondents knew what procedures to follow to claim their lands back, and how confident they were that they could reclaim their land. On both questions, the average respondent was more positive

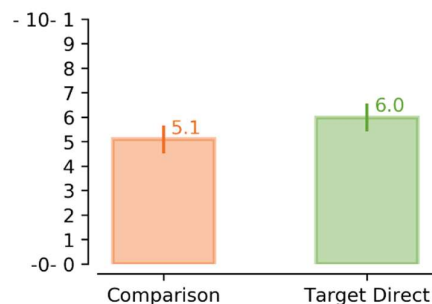
than negative that they knew what steps to follow and that they would be able to successfully recovered seized land. The level of knowledge of procedural steps to reclaim land was similar for the direct target and comparison groups (Figure 29), although the score for the direct and indirect target groups combined was significantly higher than that of the comparison group. Target group respondents were more confident in their ability to have seized land returned to them than comparison group respondents (Figure 30).

Figure 29: Target and comparison respondents have similar levels of knowledge of the procedural steps to follow when claiming back land



Source: SP BI R2F Endline surveys, n=368

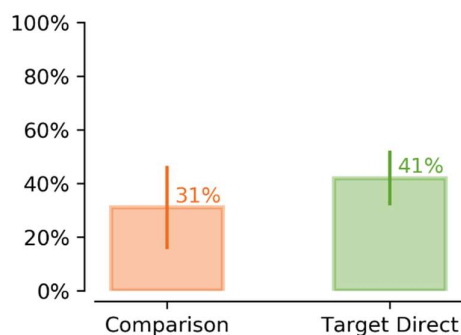
Figure 30: Target respondents are more confident that they will be able to claim back their land if it gets taken than comparison respondents



Source: SP BI R2F Endline surveys, n=509

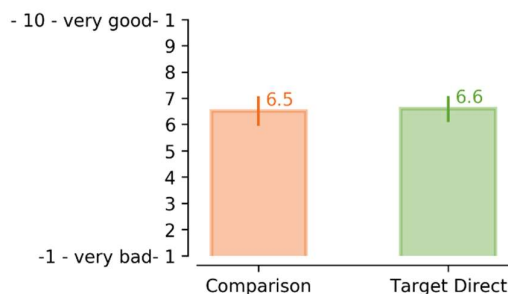
After access and control over land, access and control over seed is another critical factor for productive farming. The results suggested that access to good quality seeds was a challenge for the endline respondents. Only about one in three (37%) said they had access to good quality seeds (Figure 31). These respondents were asked how they would rate their access to quality seeds on a scale from 1, representing “very bad”, to 10, representing “very good” access. The average grade was 6.4 and did not differ significantly between the direct target and comparison groups (Figure 32).

Figure 31: Target and comparison respondents have similar levels of access to seeds



Source: SP BI R2F Endline surveys, n=511

Figure 32: Target and comparison respondents with access to seeds rate their access to seeds similarly



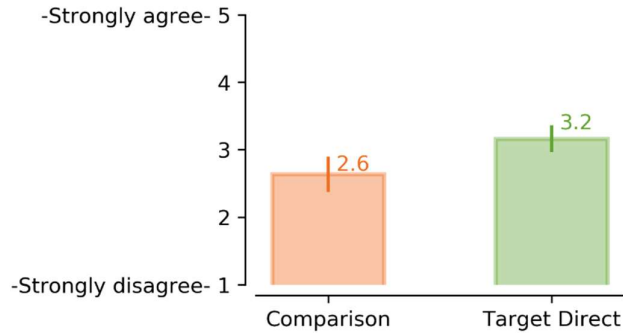
Source: SP BI R2F Endline surveys, n=192

To understand the challenges and opportunities for seed access more fully, respondents who indicated good to very good seed access (6 or above on the 10-point scale) were also asked how they got their quality seeds and how timely this access was, relative to their farming needs. The most frequently mentioned sources of seeds were cooperatives (44%), previous harvests (20%) and buying them at the market (15%). In terms of timeliness, although 39% of respondents said they always received these seeds on time, 30% said they only rarely or sometimes had timely access. Among respondents with bad to very bad seed access (5 or below on the 10-point scale), the survey asked what constraints they faced in accessing good quality seeds. The most frequently mentioned constraints were a high price (36%), lack of availability (29%) and the complexity of getting access (21%).

On average, 40% of respondents with access to seeds reported that they also traded seeds. Among these respondents, 31% said that they share seeds, 14% sold seeds and 18% both shared and sold seeds. However, 37% neither shared nor sold seeds.

Lastly, respondents were asked whether farmers, in general, had the capacity to control and manage good quality seeds. Target group respondents were more positive about the farmers' capacity than comparison group respondents (Figure 33).

Figure 33: Target respondents are more positive about farmers having the capacity to control and manage good quality seeds than comparison respondents

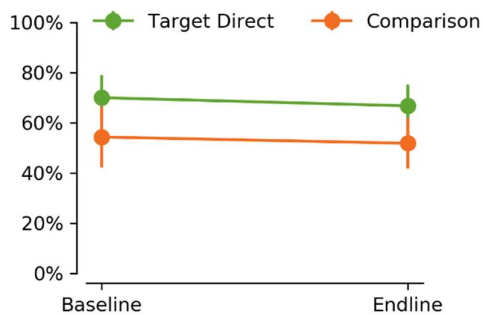


Source: SP BI R2F Endline surveys, n=491

4.5.2 AGRICULTURAL PRODUCTIVITY AND FOOD SECURITY

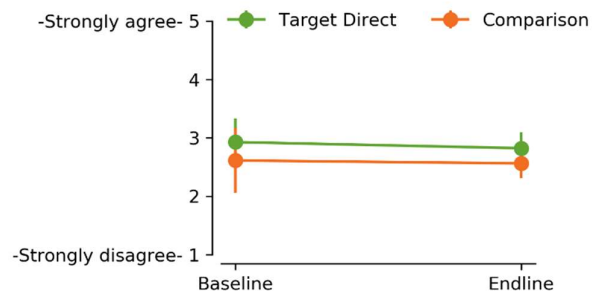
Most respondents (64%) reported selling at least part of their harvest. However, respondents were divided on whether they received a fair price for their produce: 55% felt they did not receive a fair price whereas 37% felt they did. Comparison of the baseline and endline data suggested that the likelihood of selling produce has remained quite constant since 2017, as has the perception of receiving a fair price for produce sold at market (Figures 34 & 35).

Figure 34: There is no significant contribution by the project to selling produce



Source: SP BI R2F Baseline & Endline surveys, n=987

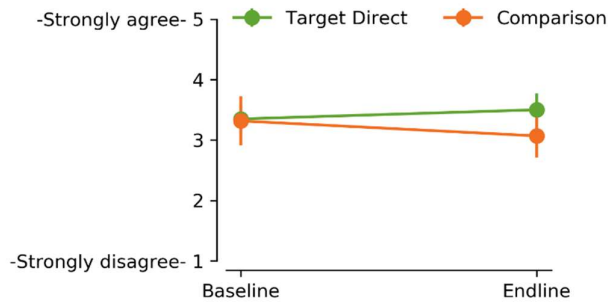
Figure 35: There is no significant contribution by the project to receiving a fair price for the produce



Source: SP BI R2F Baseline & Endline surveys, n=625

However, respondents in the direct target group became more positive about their ability to negotiate a fair price, whereas members of the comparison group became less positive. An early impact of the project activities appears to be an increased feeling of capability in negotiating a fair price for produce (Figure 36).

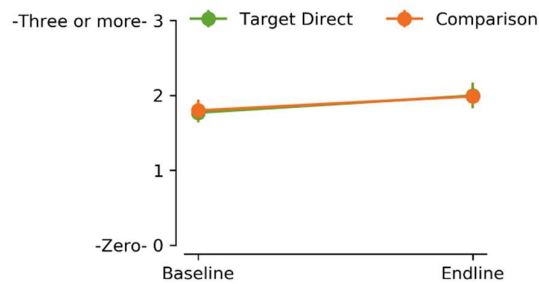
Figure 36: The project positively contributed to feeling capable of negotiating a fair price for the produce



Source: SP BI R2F Baseline & Endline surveys, n=631

The survey included measures of food insecurity, including the average number of meals consumed per day and the use of common coping strategies to deal with shortages of food within the household. On average, 73% of respondents reported that they usually eat two meals per day, while 17% said they usually ate only one. Respondents who were farmers consumed significantly more meals per day than respondents with a non-farming occupation (1.88 vs 1.95). One positive development since the baseline in 2017 was that the number of meals consumed per day significantly increased from the baseline to the endline (Figure 37). However, the trend is very similar for the direct target and comparison groups, suggesting that project activities have not contributed to driving this change.

Figure 37: There is no significant contribution by the project to the average number of meals consumed per day



Source: SP BI R2F Baseline & Endline surveys, n=983

The most frequently mentioned coping mechanisms among respondents coping with food insecurity were buying cheaper and less popular foods (46%), and limiting the portion sizes consumed (41%). Other coping strategies mentioned less frequently included borrowing foods, eating fewer meals per day, and reducing adult consumption so that children could eat.

4.5.3 PRELIMINARY CONCLUSIONS

R2F learning questions included whether the project had helped contribute to better knowledge, practice and attitudes on access to land and seeds, and towards better food security outcomes. Activities in Phase 1 of the project have not focused on these topics, so we do not necessarily expect to see impacts of the project on access to land, seeds and related topics. However, these are among the focus areas of Phase 2 of the project and these data may help inform how the project is implemented up to the end of 2020. On questions of land and seeds, most questions on these topics were only introduced in the endline survey, meaning that trends over time could not be measured. In general, the direct target and comparison groups had very similar outcomes on access to land, access to seeds and the exchange of seeds. This analysis also showed that women were considerably less likely than men to be registered as owners of land. Project activities did appear to have had an impact on the level of confidence in negotiating a fair price for produce sold at market. Respondents in the direct target group became more confident, while those in the comparison group became less confident, between the baseline and the endline.


In this section, we also saw that members of the direct target group were more knowledgeable about how to get a certificate of land ownership, more confident that they could recover lands claimed by others and more positive about the capacity of farmers to control and manage good quality seeds. While impact analysis on these questions was not possible because they were not included in the baseline survey, it is possible that the project activities contributed to these better outcomes among targeted OP members.

In general, respondents had greater food security at the endline than at the baseline. While the average number of meals consumed increased, and the use of coping mechanisms for dealing with food insecurity had fallen since the baseline survey, these trends were found in both the comparison and direct target groups, suggesting that improving food security was a welcome trend across the communities where the endline survey was conducted. However, these improvements in food security were not an impact of the project activities themselves.

Table 5 summarizes the results for agricultural production and food security, grouped by the corresponding evaluation and learning question. Table 1 can be understood as follows. Column #1 indicates whether there was a significant trend in each indicator over time between the baseline and the endline and whether that trend was positive (upwards) or negative (downwards). Column #2 indicates whether being in the direct target group was associated with a better outcome; in other words, if exposure to project activities seemed to have an attributable impact on the outcome. If an impact was observed only when combining the direct and indirect target groups together, this is also noted in column #2. Column #3 summarises the results of the same calculation but only using the men in the sample. Column #4 summarises the results of the same analysis but only using the women in the sample.

Table 5 Results Summary for Agricultural Production and Food Security

Theme	Outcome variable	#1.) What is the general <u>trend</u> from baseline to endline?	#2.) Is there a significant effect for the <u>direct target group</u> as a whole?	#3.) DIRECT: Is there a significant effect for the subgroup of <u>men</u> ?	#4.) DIRECT: Is there a significant effect for the subgroup of <u>women</u> ?
LQ1 – Have the levels of knowledge, practices and attitudes of OP members concerning access to land and land rights changed?					
LQ2 – Have the levels of knowledge, practices and attitudes of OP members concerning seeds changed?					
Access to and control over land and seeds	Are you a landowner? [ENDLINE ONLY]	NA	=	=	=
	Do you have access to land for production? [ENDLINE ONLY]	NA	=	=	Yes
	Have you already acquired ownership of your land? [ENDLINE ONLY]	NA	=	=	=
	Is the ownership of the land documented? [ENDLINE ONLY]	NA	=	=	=
	Do you know of a situation in the past four years when somebody (inside or outside your family) claimed the land of yourself, your neighbour or other members of your family, which you/they are	NA	=	=	=

	working on or living on? [ENDLINE ONLY]				
	I am well aware of how to get a certificate to prove this is my land	NA	Target	Target	=
	I know the procedural steps to follow when claiming back my land	NA	Target**	=	=
	In case somebody would say you are not allowed anymore to access your land, how confident are you that you will be able to do something to claim back your land?	NA	Target	Target	=
	Farmers have the capacity to control and manage good quality seed	NA	Target	Target	=
	Do you have access to seeds? [ENDLINE ONLY]	NA	=	=	=
	How would you rate your access to good quality seeds? [ENDLINE ONLY]	NA	=	=	=
	Do you have access to seeds in a timely manner? [ENDLINE ONLY]	NA	=	=	=
Trading seeds	During the past 12 months, did you trade any planting seeds? [ENDLINE ONLY]	NA	=	=	=
	% of respondents selling seeds [ENDLINE ONLY]	NA	=	=	=
	% of respondents sharing seeds [ENDLINE ONLY]	NA	=	=	=
	% of respondents selling and sharing seeds [ENDLINE ONLY]	NA	=	=	=
Selling of produce	Do you usually sell your produce?	=	=	=	=
	I usually receive a fair price/compensation for the produce that I sell	=	=	=	=
	I regard myself as a person who is capable of negotiating a fair price for my produce		Yes	=	=
**: When comparing direct and indirect target group respondents together with comparison group respondents, we did find significantly higher percentages for the target group respondents.					

5 CONCLUSION

This study aimed to provide answers to the main evaluation and learning question of the R2F project in Burundi – to what extent have the activities implemented by the project helped to improve agricultural production and food security, increase the citizens' voice, shift attitudes and norms and improve knowledge and awareness of R2F topics like agricultural policies and best practices? Although overall we saw relatively few examples of significant impacts from the project activities on the outcomes described in this report, we wish to highlight the following findings from this research in the areas of increased citizens' voice and citizens' attitudes and knowledge.

5.1 CITIZENS' VOICE

This section addressed part of EQ1 *Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?*

Overall, the project activities do not appear to have had an impact on the likelihood of citizens raising their voice and taking action, although large percentages of both the direct target and comparison groups did report doing so. This raises the question of how much further the project could realistically stimulate raising the citizen's voice. Participating in local debates was by far the most commonly reported form of action taken. Topics related to R2F, like access to agricultural inputs, access to seeds and taking action on climate change were among the most commonly-cited reasons for a respondent raising their voice and taking action. This contrasted with the baseline results, in which respondents were more likely to raise their voice on non-R2F topics. Although trends for this indicator were not available, the direct target group respondents were more likely to have raised their voice to demand access to seeds than the respondents in the comparison group.

5.2 ATTITUDES AND NORMS

Findings on the attitudes and norms of respondents provided part of the answer to the central evaluation question of the R2F project *To what extent have the activities implemented by the R2F project had an attributable effect on changes in the citizens' voice, and shifted norms, attitudes and knowledge?* and the learning questions about changes in attitudes towards access to land, particularly gender norms on land inheritance.

The findings on the norms and attitudes towards gender show some subtle shifts underway towards greater support for the inclusion and participation of women and girls in education, work and politics. However, social norms seemed to strongly favour men and boys over women and girls on land inheritance.

Attitudes towards the services and functioning of local government showed a general trend of falling appreciation for local administration between the baseline and the endline. One exception was the local administration's handling of soil erosion, which respondents in the direct target group became more positive about, while respondents in the comparison group became more negative. Male respondents in the direct target group also became more positive about the role of the local administration in securing land rights and coping with the effects of climate change than men in the comparison group.

5.3 KNOWLEDGE AND AWARENESS

Results on knowledge and awareness provided evidence relevant to EQ1 *Does the project help raise the citizen's voice and increase knowledge of and improve attitudes towards key agricultural policies and practices amongst targeted OP members?* It also presented evidence for EQ2 *Do targeted OPs cascade information to other OPs in their collines and does this lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst non-targeted OP or CBO members who are sensitized by targeted OPs?* as well as EQ3 *Do the nationwide media campaigns lead to increased knowledge of and improved attitudes towards key agricultural policies and practices amongst farmers who are not members of OPs in the direct target or indirect target groups?*

The analysis showed that relatively few elements of agricultural practices around the use of fertilizer changed between the baseline and the endline. However, more respondents indicated that they did not know what best practices with fertilizers were at the endline than at the baseline. Use of both organic and chemical fertilizers was by far the most common practice (69% of respondents).

The agricultural programmes PNSEB and PNSSB were well-appreciated by respondents who are aware of them, but there were large gaps in awareness. The majority of respondents (71%) were aware that the government sponsored a subsidized fertilizer programme (PNSEB), but only 28% were aware of a programme offering subsidized seeds (PNSSB). In both cases, far fewer respondents were able to identify these programmes by name. However, the project appears to have had a positive and significant impact by increasing knowledge of the fertilizer subsidy programme. Respondents cited lack of information about the PNSEB and PNSSB programmes as a primary reason why they lacked access to these programmes.

On the transfer of knowledge beyond the direct target group, we found some evidence of positive spill-over effects for the indirect target group, when looking at knowledge about getting a certificate to prove land ownership, knowledge about procedures to claim back land, and confidence that farmers had the capacity and control to manage good quality seeds. However, we found evidence of a negative trend in the use of organic fertilizers among the indirect target group.

Lastly, national and regional radio campaigns did not have an extensive reach, but they were associated with better awareness of the PNSEB programme among respondents in the comparison group. Comparison groups respondents who had heard radio broadcasts were more likely to be aware of the PNSEB programme than those who had not heard the broadcasts, although they were not more likely to report having access to the programme.

5.4 AGRICULTURAL PRODUCTION AND FOOD SECURITY

Results from this section corresponded with R2F project LQ 1: *Have the levels of knowledge, practices and attitudes of OP members concerning access to land and land rights changed?* and LQ 2: *Have the levels of knowledge, practices and attitudes of OP members concerning seeds changed?*

The analysis showed that, at endline, women were much less likely than men to be registered as owners of land. We also found that project activities appeared to have had an impact on confidence in negotiating a fair price for produce sold at market. Respondents in the direct target group became more confident, while those in the comparison group became less confident than at the baseline. Members of the direct target group were also more knowledgeable about how to get a certificate of land ownership, more confident that they could recover lands claimed by others and more positive about the capacity of farmers to control and manage good quality seeds.

The data also suggested an across-the-board improvement in food security from baseline to endline. While the average number of meals consumed had increased and the use of coping mechanisms for dealing with food insecurity had fallen since the baseline, these trends were found in both the

comparison and direct target groups, suggesting that improving food security was a welcome trend across the communities where the endline survey was conducted.

5.5 LIMITATIONS

One assumption of both the project and this evaluation is that leaders of producer organization that the project engaged with directly would share the knowledge and awareness gained through their participation with members of the organisation. This evaluation has not specifically addressed whether nor how effectively this transfer may have happened. A number of questions included in the endline survey were not included in the baseline survey, limiting our ability to identify trends over time and to determine the impact of the project on topics such as access and control over land and seeds.

Participants in the reflection session on the preliminary results, held in February 2020, also noted that other development actors were working on similar topics in some of the collines targeted by the project. Their efforts may have influenced the findings of this study and may help to explain some changes in the direct target group on topics not explicitly addressed by the R2F project, like taking action on the effects of climate change.

Finally, we note that encouraging citizens to raise their voice and take action and to shift attitudes and build knowledge is an inherently difficult and often long process, especially in a context marked by extreme development challenges and growing insecurity.

5.6 CONCLUSION

This impact study showed that the activities of the R2F project in Burundi have produced some early successes, especially in raising awareness of the PNSEB programme. This marks an important contribution to the primary goal of Phase 1 of the project which was to expand awareness of and access to fertilizer through the PNSEB programme. We note however that this project impact on awareness of the programme does not translate into higher use of the programme, improvements in use of fertilisers or knowledge of best practices in fertiliser use among members of the direct target group. Greater efforts and different approaches, such as engaging directly with OP members, not just with leaders, and follow-up to support OPs taking up new practices, may help produce greater impacts.

Phase 2 of the R2F project focuses on themes such as access to land and seeds and land access and registration for women. Data for the present study were collected before implementation of many project activities designed to advance these goals. However, results of this study may be useful for designing the most effective ways to implement Phase 2 activities and for providing a benchmark against which to measure progress from now to the close of the project at the end of 2020. In particular, findings about high reported ownership to land but low levels of documentation, low levels of knowledge of the PNSSB programme and little change in negative attitudes towards the empowerment of women and girls, among women as well as men, can help guide the R2F programme in creating more positive impact in the remaining months of implementation.

6 RECOMMENDATIONS

Based on the findings of this report and consultation with project staff and partners, we conclude with the following recommendations:

Refocus efforts on capacity building with OPs on the effective use of fertilizers – The R2F project has invested considerable efforts in capacity building on the use of fertilizers through engagement with the leaders of OPs targeted by the project, but it has been difficult to determine the impact of these activities. Our findings suggests that Moremore effort and new approaches to working with OPs on the use of fertilizers may be needed to help create a positive impact on fertilizer use, especially engaging directly with OP members instead of only with OP leaders More follow-up and support to OPs to implement and sustain best-practices may be needed. Future evaluations should also specifically explore what knowledge and awareness OP leaders gain from project activities, and whether and how they share these learnings with other members of their OPs.

Build a stronger focus on closing gender disparities – Some project impacts and outcomes are only observed among men, although a few are observed only for women. The project should explore these different gendered outcomes and impacts to understand better what drives them and how the project can create more positive impacts for women as well as men, especially in light of persistent negative attitudes towards the empowerment of women and girls held by women as well as men.

Build on successes raising awareness of PNSEB – Raising awareness of the PNSEB programme is an early positive impact of the R2F programme, but there is also room for improvement. Lack of information about both the PNSEB and PNSSB programmes was cited as a major barrier to accessing them. The project should build on successes with promoting the PNSEB and experiences with media campaigns to do more to spread awareness of both programmes, especially the lesser-known PNSSB.

Build on synergies with other projects addressing similar themes – The project could amplify its impact by building stronger alliances with other organizations active on similar topics in similar areas in Burundi, building for example on the current collaboration between the R2F project and the Project to Support Agricultural Productivity in Burundi ("*Projet d'Appui à la Productivité Agricole au Burundi*" in French, or PABAP).

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ANNEXES

ANNEX 1: SP R2F MEAL FRAMEWORK

Table 8 below shows an overview of the SP MEAL framework for all R2F projects. Out of seven outcome areas, this impact study focused on just two: increasing the citizen’s voice and shifting norms and attitudes. The other five outcome areas are measured using other methodologies, including outcome harvesting and process tracing for measuring improved policies and increased political will, and the Oxfam Novib Capacity Assessment Tool (CAT) and outcome harvesting to measuring strengthened CSOs and stronger and wider alliances.

Table 6: MEL methodology used per outcome area of the Finance for Development project

Outcome area	Methodology
Improved policies of governments and global actors	Outcome Harvesting & Process Tracing
Improved policies of private sector actors	
Increased political will	
Strengthened CSOs	Oxfam Novib Capacity Assessment Tool & Outcome Harvesting
Stronger and wider alliances	
Increased citizens’ voice	Surveys and Stories of Change
Shifted norms and attitudes	

ANNEX 2: SAMPLING TABLES

Table 7: Sample overview for target group

Province	Commune	Agro-ecological zone	Colline	Baseline		Endline	
				Target Direct	Target Indirect	Target Direct	Target Indirect
Ruyigi	Ruyigi	Buyogoma	Gisoro	15	15	19	18
			Migege	16	16	17	18
Makamba	Makamba	Buragane	Gisenyi	18	14	18	17
			Kanzege	14	16	19	19
	Other	Other	16	0	0	0	
	Nyanza-Lac	Imbo-Sud et Buragane	Bukeye	15	17	16	9
Muramvya	Muramvya	Mugamba	Masango	15	13	18	17
			Busanga	12	1	21	29
	Rutegama	Kirimiro	Nkonyovu	18	14	18	18
			Musave	12	7	17	21
Kirundo	Vumbi	Bweru	Kabuye-Shororo	14	14	19	17
			Gikomero	8	6	19	16
	Kirundo	Bugesera	Runyonza	29	15	17	19
			Kireka	26	17	20	18
Kyanza	Gatara	Buyenzi	Kibenga	31	16	18	18
			Gisyo	13	12	18	18
			Mbirizi	34	0	22	21
			Kigume	8	0	18	17
Bubanza	Rugazi	Mirwa	Rugazi	16	14	0	0
			Kibuye	14	15	0	0
	Gihanga	Imbo-Nord	Village 4	13	16	0	0
			Buramata 1	15	15	0	0
Total				372	253	314	310

Table 8: Sample overview for comparison group

Province	Commune	Agro-ecological zone	Colline	Baseline	Endline
				Comparison	Comparison
Ruyigi	Ruyigi	Buyogoma	Kirambi	16	27
			Nyagutoha	16	28
	Gisuru	Moso	Butarangira	15	24
			Kavumwe	16	26
			Other	64	0
Makamba	Makamba	Buragane	Rabiro	16	25
	Nyanza-Lac	Imbo-Sud et Buragane	Kabondo	15	25
			Nyabigina	16	25
			Other	33	0
Muramvya	Muramvya	Mugamba	Bumba	19	32
			Gihanga	22	25
	Rutegama	Kirimiro	Bupfunda	15	25
			Nyamitwenzi	25	26
Kirundo	Vumbi	Bweru	Mbasi	29	24
	Kirundo	Bugesera	Murama	6	25
Kayanza	Kabarore	Mugamba	Munege	21	25
			Other	100	0
Bubanza	Rugazi	Mirwa	Nyenkarange	15	0
			Rutake	15	0
	Gihanga	Imbo-Nord	Buramata 2	15	0
			Gihungwe	14	0
Total				503	362

ANNEX 3: TECHNICAL ANNEX

To assess the project's effects an outcome we investigate to what extent that outcome indicator of interest has changed over time. We compare the values on the outcomes at the baseline, the start of the project, with those at the endline (close to) the end of the project.

Solely assessing change in an outcome indicator over time for those who participated in the project does not lead to an accurate measure of the impact of a certain project, as we are only looking at those who actually participated. A lot of things that that were not in the project's or programme's sphere of influence might have had some influence on the project as well. Therefore, a more reasonable and accurate method would be to ask ourselves the question "what would have happened in the absence of the project" in addition to describing what has happened to the project participants. In order to arrive at a reasonable estimate of the effects of the project on an outcome indicator, one would thus need to compare the change over time among a group of people that actually participated in our interventions with the change over time in a situation where the project was not implemented. Both groups operate in the same context but the only difference between them is whether they participated in the projects activities. This is a so-called counterfactual approach, a comparison in the change over time in project areas with change over time in areas where the project is not implemented.

To create this counterfactual for the target group we have incorporated a comparison group in our design. By comparing the changes over time in an outcome indicator of the target group with the change over time on the same outcome indicator in the comparison group we can assess the project's impact. In case the difference between the baseline and endline in the target group is greater than the difference between the baseline and endline in the counterfactual (the comparison group), the project has had an impact on the respective indicator. Thus, if for example the increase in citizens voice in the target group is larger than the increase in citizens voice in the comparison group, one can say that the project has had an impact or effect on the indicator citizens voice. It is the project that is responsible for this change, as the comparison group has been experiencing the same context but did not join in the project. The changes we find are thus attributable to the project. This is called a difference-in-difference approach (Atthey & Imbens, 2017; Snow, 1855). Note that these effects can positive or negative.

By incorporating a comparison group in our design we are not quite there, yet. We know that it is very likely that the target and comparison groups are not directly comparable, they likely differ systematically on a range of characteristics at the baseline. For instance, when a project's aim is to increase the extent to which people voice their concerns towards duty bearers, citizens with a higher socio-economic status might be more likely to voice their concerns towards duty bearers or might be more likely to join in the project's activities (or are more likely to be targeted by the project). In econometric terms, the probability of being targeted by the project's activities is unknown¹¹ and affected by people's characteristics before they join a project's activities (baseline). This probability - the probability of being treated or targeted by the project- is called the propensity score. The statistical technique we use, propensity score matching, makes sure that the target and comparison group are balanced or comparable based on their age, gender, marital status, education, literacy, occupation, relation to the household head, gender of the household head, education of the household head, occupation of the household head, commune, and an index of the economic profile of the household (Poverty Probability Index, PPI).

We use this propensity score to solve the problem of incomparability between the target and comparison group in two stages. In the first stage, we use to calculate the propensity score in order to select or match a comparison group where the distribution of the covariates age, gender, marital status, education, literacy, occupation, relation to the household head, gender of the household head, education of the household head, occupation of the household head, commune, and PPI is similar to

¹¹Compare this to a situation where participation in the project would be determined by a coin toss (a randomized experiment). In this case, participation in the project would be solely determined by chance, not by any pre-existing characteristics of the people that intend to participate in the project. The propensity score (the probability of being the in the target group) would be known and equal to 0.5

the distribution of these same covariates in the target group. Finding these matches is done based on the propensity scores calculated. Each person in the comparison group receives a weight, based on their propensity score¹². This weight can colloquially be interpreted as a measure of similarity between that particular person in the comparison group and its match in the target group. Second, we calculate the values on the relevant outcome indicator for the comparison group using a weight for each observation in the comparison group. By doing so, bad matches, or in other words, people that are not very comparable to those in the target group, receive a lower weight in the calculation of the outcome for the counterfactual (comparison group). Better matches, or people in the comparison group who are more comparable to the people in the target group, receive a higher weight. By doing so we make sure that the target and comparison group are comparable and balanced while still employing a large share of the sample that we have collected.

The extent to which these groups are balanced before and after matching on the relevant characteristics used is shown below in Table 9.

¹² We have implemented propensity score matching using a normal (Gaussian) kernel estimator, where each person in the comparison is given a weight based on the characteristics used in the matching model. his weight is a kernel-weighted average of the distance between a given person in the target group to all people in the comparison group, where the weight is expressed in proportion of closeness between a subject in the comparison group and the target group. Subsequently, when calculating the average values on the outcome indicator for people in the comparison group, each person in the comparison group is given a weight, so that closer and better matches, thus more comparable people, have a greater influence on this average compared to worse matches.

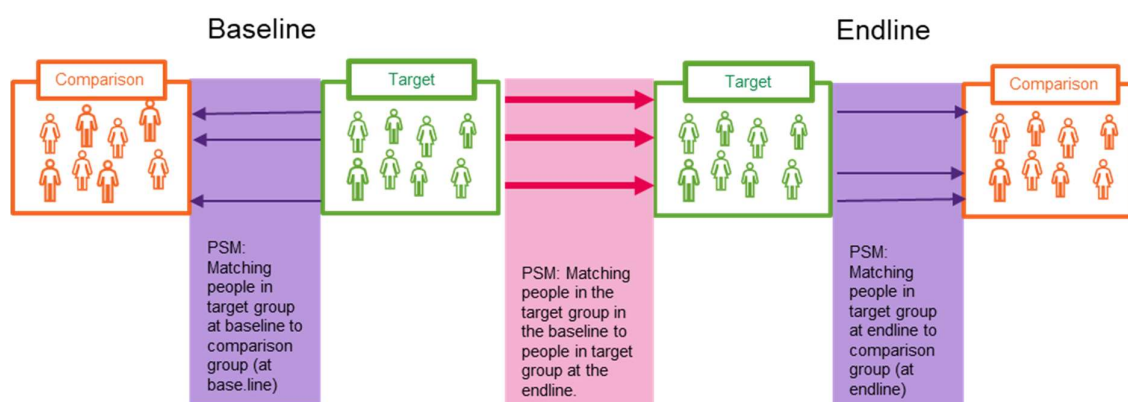
Table 9: Balance tables before and after matching for Target Direct vs Comparison

		Pre						Post							
		Baseline		Endline		Difference 1-2	Difference 1-3	Difference 1-4	Baseline		Endline		Difference 1-2	Difference 1-3	Difference 1-4
		(1)T	(2)C	(3)T	(4)C				(1)T	(2)C	(3)T	(4)C			
		Mean[SE]		Mean[SE]		Mean[SE]		Mean[SE]							
Age	Age (mean)	43.299 [0.655]	42.593 [0.618]	45.665 [0.657]	42.596 [0.628]	0.705	-2.366**	3.069**	46.222 [0.863]	46.230 [1.744]	45.000 [0.887]	46.146 [1.008]	-0.007	1.222	-1.146
Probability to Poverty Index	PPI (mean)	0.350 [0.012]	0.352 [0.010]	0.223 [0.010]	0.336 [0.012]	-0.002	0.127***	0.113**	0.360 [0.016]	0.374 [0.027]	0.328 [0.016]	0.385 [0.018]	-0.014	0.032	-0.057**
Gender	Female (%)	0.392 [0.026]	0.364 [0.022]	0.367 [0.027]	0.360 [0.025]	0.028	0.024	0.007	0.417 [0.037]	0.394 [0.055]	0.433 [0.040]	0.456 [0.042]	0.023	-0.017	-0.022
Gender household	Female (%)	0.130 [0.018]	0.134 [0.015]	0.128 [0.019]	0.144 [0.019]	-0.005	0.002	-0.016	0.139 [0.026]	0.125 [0.033]	0.125 [0.024]	0.140 [0.029]	0.014	0.013	-0.014
Marital status	Married (%)	0.828 [0.020]	0.817 [0.017]	0.891 [0.018]	0.884 [0.017]	0.011	-0.063**	0.008	0.861 [0.026]	0.869 [0.034]	0.849 [0.031]	0.842 [0.033]	-0.007	0.012	0.007
Literacy	Literacy rate (%)	0.696 [0.024]	0.667 [0.021]	0.748 [0.025]	0.612 [0.026]	0.029	-0.052	0.135**	0.606 [0.037]	0.619 [0.055]	0.669 [0.039]	0.587 [0.041]	-0.013	-0.063	0.082
Education	No education (%)	0.431 [0.026]	0.449 [0.022]	0.304 [0.026]	0.438 [0.026]	-0.018	0.127***	0.134**	0.539 [0.037]	0.498 [0.059]	0.467 [0.040]	0.566 [0.040]	0.041	0.071	-0.099*
	Primary education (%)	0.383 [0.026]	0.427 [0.022]	0.565 [0.028]	0.488 [0.026]	-0.044	-0.182***	0.078**	0.378 [0.036]	0.372 [0.059]	0.408 [0.038]	0.373 [0.038]	0.006	-0.030	0.035
	Elementary education (%)	0.096 [0.016]	0.087 [0.013]	0.077 [0.015]	0.036 [0.010]	0.008	0.019	0.041**	0.050 [0.016]	0.052 [0.030]	0.078 [0.019]	0.030 [0.012]	-0.002	-0.028	0.049**
	Professional training/Secondary level or higher (%)	0.090 [0.015]	0.037 [0.008]	0.054 [0.013]	0.039 [0.010]	0.054***	0.036*	0.016	0.033 [0.013]	0.078 [0.043]	0.046 [0.015]	0.031 [0.011]	-0.045	-0.013	0.015
Education household head	No education (%)	0.411 [0.026]	0.439 [0.022]	0.300 [0.026]	0.421 [0.026]	-0.028	0.111***	0.121**	0.522 [0.037]	0.482 [0.058]	0.444 [0.040]	0.532 [0.041]	0.040	0.079	-0.088
	Primary education (%)	0.408 [0.026]	0.441 [0.022]	0.572 [0.028]	0.504 [0.026]	-0.033	-0.163***	0.068*	0.406 [0.037]	0.395 [0.059]	0.431 [0.039]	0.417 [0.040]	0.010	-0.026	0.015
	Elementary education (%)	0.096 [0.016]	0.083 [0.012]	0.064 [0.014]	0.039 [0.010]	0.012	0.032	0.025	0.044 [0.015]	0.045 [0.029]	0.074 [0.018]	0.026 [0.011]	-0.001	-0.030	0.048**
	Professional training/Secondary level or higher (%)	0.085 [0.015]	0.037 [0.008]	0.064 [0.014]	0.036 [0.010]	0.048***	0.021	0.028*	0.028 [0.012]	0.078 [0.043]	0.050 [0.015]	0.025 [0.010]	-0.050	-0.023	0.025
Occupation	Farmer/Agricultural labourer (%)	0.851 [0.019]	0.878 [0.015]	0.907 [0.016]	0.922 [0.014]	-0.027	-0.057**	-0.015	0.917 [0.021]	0.905 [0.038]	0.903 [0.021]	0.939 [0.017]	0.011	0.013	-0.036
	Salaried worker (%)	0.025 [0.008]	0.024 [0.007]	0.035 [0.010]	0.019 [0.007]	0.001	-0.010	0.016	0.028 [0.012]	0.038 [0.029]	0.026 [0.009]	0.017 [0.008]	-0.010	0.002	0.009
	Unemployed (%)	0.028 [0.009]	0.004 [0.003]	0.006 [0.005]	0.003 [0.003]	0.024***	0.022**	0.004	0.006 [0.006]	0.030 [0.026]	0.015 [0.012]	0.006 [0.006]	-0.024	-0.009	0.009
	Other (%)	0.096 [0.016]	0.093 [0.013]	0.051 [0.012]	0.055 [0.012]	0.002	0.045**	-0.004	0.050 [0.016]	0.027 [0.008]	0.056 [0.015]	0.039 [0.015]	0.023	-0.006	0.017
Occupation household head	Farmer/Agricultural labourer (%)	0.834 [0.020]	0.860 [0.016]	0.869 [0.019]	0.909 [0.015]	-0.026	-0.035	-0.040	0.906 [0.022]	0.896 [0.039]	0.869 [0.024]	0.930 [0.019]	0.009	0.036	-0.061**
	Salaried worker (%)	0.048 [0.011]	0.030 [0.008]	0.051 [0.012]	0.025 [0.008]	0.017	-0.003	0.026*	0.033 [0.013]	0.041 [0.029]	0.052 [0.016]	0.018 [0.008]	-0.008	-0.019	0.034*
	Unemployed (%)	0.023 [0.008]	0.004 [0.003]	0.003 [0.003]	0.000 [0.000]	0.018**	0.019**	0.003	0.000 [0.000]	0.030 [0.026]	0.011 [0.011]	0.000 [0.000]	-0.030	-0.011	0.011
	Other (%)	0.096 [0.016]	0.106 [0.014]	0.077 [0.015]	0.066 [0.013]	-0.010	0.019	0.010	0.061 [0.018]	0.032 [0.011]	0.068 [0.016]	0.052 [0.017]	0.029	-0.007	0.016
Relation to the household head	Household head (%)	0.662 [0.025]	0.683 [0.021]	0.738 [0.025]	0.753 [0.023]	-0.021	-0.076**	-0.015	0.672 [0.035]	0.686 [0.049]	0.658 [0.040]	0.640 [0.043]	-0.014	0.014	0.018
	Spouse (%)	0.276 [0.024]	0.256 [0.020]	0.246 [0.024]	0.219 [0.022]	0.020	0.030	0.027	0.294 [0.034]	0.284 [0.048]	0.304 [0.039]	0.326 [0.042]	0.010	-0.009	-0.022
	Other (%)	0.062 [0.013]	0.061 [0.011]	0.016 [0.007]	0.028 [0.009]	0.001	0.046***	-0.012	0.033 [0.013]	0.030 [0.011]	0.039 [0.020]	0.034 [0.014]	0.003	-0.005	0.004
Commune	Ruyigi	0.085 [0.015]	0.065 [0.011]	0.115 [0.018]	0.152 [0.019]	0.019	-0.031	-0.037	0.161 [0.027]	0.191 [0.037]	0.098 [0.022]	0.187 [0.031]	-0.030	0.063*	-0.090**
	Makamba	0.132 [0.018]	0.033 [0.008]	0.118 [0.018]	0.069 [0.013]	0.100***	0.014	0.049**	0.206 [0.030]	0.166 [0.045]	0.147 [0.028]	0.218 [0.042]	0.040	0.059	-0.072
	Nyanza-Lac	0.042 [0.011]	0.130 [0.015]	0.051 [0.012]	0.139 [0.018]	0.088***	-0.009	0.087**	0.067 [0.019]	0.063 [0.013]	0.051 [0.015]	0.057 [0.010]	0.004	0.015	-0.006
	Muramvya	0.070 [0.014]	0.073 [0.012]	0.125 [0.019]	0.158 [0.019]	-0.003	-0.054**	-0.033	0.117 [0.024]	0.120 [0.027]	0.067 [0.014]	0.111 [0.019]	-0.003	0.050*	-0.044*
	Rutegama	0.082 [0.015]	0.067 [0.011]	0.112 [0.018]	0.141 [0.018]	0.015	-0.030	-0.029	0.139 [0.026]	0.165 [0.042]	0.083 [0.020]	0.151 [0.028]	-0.026	0.056*	-0.068**
	Rugazi	0.082 [0.015]	0.057 [0.010]	0.000 [0.000]	0.000 [0.000]	0.025	0.082***	N/A	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	N/A	N/A	N/A
	Gihanga	0.070 [0.014]	0.051 [0.010]	0.000 [0.000]	0.000 [0.000]	0.020	0.070***	N/A	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	N/A	N/A	N/A
	Vumbi	0.059 [0.013]	0.063 [0.011]	0.121 [0.018]	0.066 [0.013]	-0.004	-0.062***	0.055**	0.117 [0.024]	0.110 [0.024]	0.074 [0.018]	0.120 [0.028]	0.007	0.042	-0.045
	Kirundo	0.141 [0.018]	0.012 [0.005]	0.118 [0.018]	0.069 [0.013]	0.129***	0.023	0.049**	0.194 [0.030]	0.186 [0.069]	0.199 [0.036]	0.155 [0.031]	0.009	-0.005	0.044
	Gatara	0.228 [0.022]	0.000 [0.000]	0.240 [0.024]	0.000 [0.000]	0.228***	-0.011	0.240***	0.000 [0.000]	0.000 [0.000]	0.280 [0.037]	0.000 [0.000]	N/A	-0.280***	0.280***
	Gisuru	0.000 [0.000]	0.193 [0.018]	0.000 [0.000]	0.136 [0.018]	0.193***	N/A	0.136**	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	N/A	N/A	N/A
	Kabarore	0.008 [0.005]	0.256 [0.020]	0.000 [0.000]	0.069 [0.013]	0.248***	0.008	0.069**	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	N/A	N/A	N/A
	N		355	492	313	361				180	212	312	287		

T means 'target direct'; C means 'comparison'

To assess changes over time in any outcome indicator one would ideally want to interview the same people at least twice to accurately assess changes over time (i.e. collect panel data). This was however not possible, instead of surveying the same people twice, we surveyed a mirror image of the target (and comparison) groups at both baseline and endline. In order to make sure that we are making a valid comparison over time we are not only matching the target and comparison groups at a single point in time (target and comparison groups at baseline and target and comparison groups at endline) but also match the target group at the baseline to the target group at the endline. By doing so, we ensure that we assess the changes in outcomes for a comparable set of people throughout time. In other words, by first matching the target groups over time, and subsequently matching observations of the target groups to comparison groups we end up with a so-called 'pseudo-panel' upon which we can calculate the difference-in-difference measures used to assess the impact of the project on a given outcome indicator (see: Binci *et al.*, 2008). Figure 38 below illustrates this matching approach.

Figure 38 Schematic overview of building a pseudo-panel using repeated cross-sections



For some outcome indicators, we have only collected information at the endline data, as the interest in these indicators only became clear in the process of setting up the endline research. For these indicators, we cannot compare the target and comparison group over time, as we don't have baseline data on these indicators. Thus, the analysis is only done at a single point in time and will, therefore, show results of the target and comparison group at endline.

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This report has been produced by the Impact Measurement and Knowledge team. Patrick Guyer and Marieke Meeske were the lead authors.

For more information, or to comment on this publication, please email
Patrick.guyer@oxfamnovib.nl

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Patrick.guyer@oxfamnovib.nl

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Oxfam Novib
P.O. Box 30919
2500 GX The Hague
The Netherlands

T +31 (0) 70 3421621
info@oxfamnovib.nl
www.oxfamnovib.nl