

Impact Assessment of the Rural Young Entrepreneurs Program in Ceará, Brazil

AGÊNCIA DO DESENVOLVIMENTO ECONÔMICO LOCAL (ADEL)

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EXECUTIVE SUMMARY

Adel is a non-profit organization located in Ceará, Brazil that promotes entrepreneurship and social engagement as a means to reduce poverty in the rural communities of this region. Adel seeks to achieve its mission by providing opportunities for entrepreneurship and innovation among two groups of the population – farmers and youth. Through its programs, Adel develops the technical and managerial capabilities of participants and helps them find favorable conditions to start business in their communities.

Adel’s flagship program is the Programa do Jovem Empreendedor Rural, translated as the Rural Young Entrepreneurs Program (RYEP). It provides entrepreneurship training to youth in the region. In order to understand the impact of the program on the personal and professional development of the participants, Adel approached Columbia University, and we, a group of five students from the School of International and Public Affairs (SIPA), were tasked with developing an impact assessment of the program.

We traveled to Ceará, Brazil in January 2017 to conduct stakeholder interviews with Adel staff as well as with external stakeholders. During our trip, we refined the scope of the project and developed a mixed methods approach encompassing surveys and focus groups to gauge the impact of the RYEP. We implemented the tools during our March field trip with help from the Adel staff. Upon return, we analyzed the data to draw conclusions about the impact of the program and provide recommendations for future improvement.

Overall, we find that the RYEP has a modest but positive effect on the development of participants across the following dimensions: knowledge of business topics, implementation of business activities, implementation of “best practices” for small businesses, access to credit and networks, usage of communications technologies, and various measures of personal development. Participation in the program is also associated with higher levels of business ownership, higher educational attainment, and higher income.

Based on our quantitative and qualitative results, we recommend that Adel strengthen the financial management aspect of its curriculum, improve and systematize the delivery of technical assistance, adapt the curriculum on socio-environmental technologies to fit the needs of participants, and explore the possibility of establishing partnerships with external organizations. We also recommend that Adel continue using a mobile-based platform for future data collection, and provide suggestions on refining the pilot survey we developed as an instrument for future assessments.

CLIENT AGENCY

The Agência do Desenvolvimento Econômico Local, translated as Local Economic Development Agency (Adel), is a non-profit organization that promotes entrepreneurship and ‘social protagonism,’ as a means to reducing poverty in rural communities of Ceará, Brazil. Adel defines social protagonism as community engagement and leadership through business networks and endeavors. Adel seeks to achieve its mission by providing opportunities for entrepreneurship and innovation among two groups of the population--farmers and youth. Through its programs, it develops the technical and managerial capabilities of its participants and helps them find favorable conditions to start their own businesses in their communities.

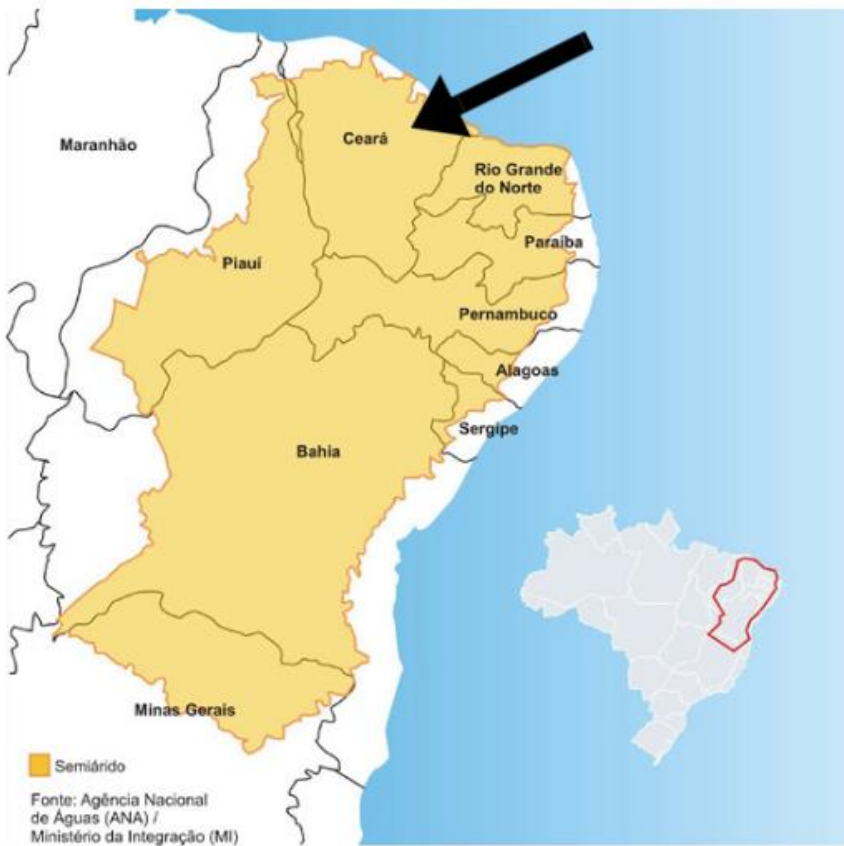
Adel was founded in 2007 by a group of young people who, after having the opportunity to go to college, returned to their communities to use the skills and knowledge they had gained to benefit the region. They understood the value of knowledge sharing and saw the opportunity to transform their communities by promoting local development, with a focus on implementing innovative agricultural techniques.

During its ten years of operation, Adel has developed strong competencies regarding the promotion of local development through training and entrepreneurship support in rural communities. These competencies have been developed through close interaction with young people and farmers, and local entities such as community associations and cooperatives. In addition, Adel continues to experiment with different initiatives and programs, allowing them to gain valuable expertise regarding what really works in their context.

The organization currently has 15 staff members and is headquartered in Pentecoste, a small city located 100 km from Fortaleza. Their training center, which they use for their various programs, is located in the neighboring town of São Gonçalo do Amarante. Adel has attracted a fair amount of attention considering it was founded barely ten years ago. Partners include Danone, Fundação Banco do Brasil and UNDP. Wagner Gomes, the director of Institutional Relations and an original founding member, won Folha de São Paulo’s Social Entrepreneur of the Future award in 2010 and is also an Ashoka Fellow.

Adel approached Columbia University and SIPA to develop an impact assessment of their flagship program, the RYEP. This was of special interest for the organization given that the program has gone through multiple versions since its launch in 2009 and has attracted various donors over the years. Moving forward, Adel hopes that an impact assessment of the program will help better understand the strengths and areas for improvement of the program.

BACKGROUND - REGIONAL AND SECTOR CONTEXT



THE SERTÃO

Adel operates in municipalities located in the Sertão, translated as the backlands, a semi-arid inland region in the Northeast of Brazil that encompasses 900,000km² – the vast majority of the Northeast - and spans the states of Minas Gerais, Bahia, Sergipe, Alagoas, Pernambuco, Paraíba, Rio Grande do Norte, Piauí and Ceará.¹ The most distinct features of the region are its erratic rainfall and persistent droughts. During the drought of 1877-78, over 500,000 people died from hunger, thirst or illness, prompting the country to develop policies, many of

which are still in place today, to mitigate the negative effects on the population. Since the 1970s, there has been a drought every three years,² and 2016 marked the fifth consecutive year of the current drought.

While there has been no death attributed directly to drought since the mid-1800s, the region, and its smallholder farmers especially, still suffer economically as a result. Agriculture, while accounting for a small portion of the region's GDP, is the main source of income for many *sertanejos*, inhabitants of the Sertão. In Ceará in 2014, for example, 24% of workers were employed in agriculture.³ Additionally, many of these agricultural workers cultivate small plots of land. In 2014, 68% of agricultural land holdings in Ceará were small farms.^{4,5} Smallholder farmers in the Sertão are especially vulnerable to climatic conditions; erratic rainfall makes planning difficult and lack of water can result in decreased productivity. Land access issues have

¹ Ponce, 2015

² Finan et al., 2009

³ IPECE, 2015 (Ceará em números)

⁴ Small farms defined as fewer than 5 hectares

⁵ IPECE, 2015 (Anuário estatístico Ceará)

also played a role in the region's poverty. Historically, land use and governance in the Northeast was dictated by *coronelismo*, a form of clientelism, which, in addition to allowing dominant landowners to control municipal politics, prevented small farmers from earning a living wage and owning land. The effects of *coronelismo* can still be felt in modern-day Brazil. In 2010, of the total population in the rural northeast, 40% was considered landless.⁶

All of these factors combined, along with a general neglect of the Northeast since the decline of sugarcane production,⁷ have contributed to the region becoming Brazil's poorest. In 2007, 5.5 million families in the Northeast received benefits from Brazil's cash transfer program *Bolsa Família*, a number just over half the total number of beneficiaries country-wide.⁸ Historically, the Northeast has been a region that experienced significant emigration. This is reflected in Brazilian culture, which views the region as a hard, unforgiving place where *sertanejos* leave their homes in search of livelihoods in larger cities, or other more prosperous regions of Brazil. This is confirmed in the data, as well. In 2009, the Northeast had the lowest net migration balance in all of Brazil.⁹ It is important to note, however, that during Brazil's recent economic boom, the Northeast had one of the highest growth rates and experienced some relocation of industry from the Southeast. This has incentivized many migrants from the Northeast to return home.¹⁰

While the Northeast is still the poorest region in Brazil, Ceará, the state in which Adel operates, has situated itself as one of the more prosperous states among its regional neighbors. Notable government programs focusing on rural preventive health, small business development, public works construction and agricultural extension helped Ceará achieve a relatively high index of development.¹¹ From 1991 to 2010, the state's human development score increased from .405 to .682, and its poverty rate has been cut in half. Despite these improvements, inhabitants of the state still struggle to find economic security. In 2010, 55% of the population was defined as "vulnerable to poverty" and 40% were working in the informal economy.^{12,13} Lack of economic security is even more pronounced for young people in Ceará, where, in 2014 and even after a period of sustained growth, 39% were unemployed.¹⁴

⁶ De Souza, 2010

⁷ Eakin, 1997

⁸ De Souza, 2010

⁹ IBGE, 2011

¹⁰ Lima do Nascimento, 2015

¹¹ Tandler, 1997

¹² UNDP, 2013

¹³ IPECE, 2015 (Trabalho e Rendimento)

¹⁴ Ibid, based on people ages 15 - 29

ENTREPRENEURSHIP IN BRAZIL

Adel's focus on entrepreneurship reflects Brazil's incredible entrepreneurial spirit. As of 2013, one in six adults was trying to launch a business or had launched a new venture in the previous 42 months. Another one in six was the owner of an established business.¹⁵ Brazil has also implemented policies to encourage formalization of micro and small enterprises since the early 2000s, including simplifying tax payments and reducing the administrative burden for over four million medium and small enterprises through the *Simples Nacional* regime. Among other reforms, the *Law on Individual Microentrepreneurs* also significantly increased social protection coverage for workers employed in small businesses.¹⁶ Despite these strides, however, it remains very difficult to start and maintain a business in Brazil. In 2016, Brazil ranked 175th out of 185 countries in ease of starting a business.¹⁷ Tax procedures and requirements also hamper entrepreneurship – Brazil is currently ranked 181 out of 190 countries in ease of filing and paying taxes.¹⁸ As a result, much of the entrepreneurial demand is absorbed by the informal sector, which accounts for 40% of the country's GNP.¹⁹ Lack of education also prevents formal entrepreneurship from taking off in Brazil. In 2016, the average years of education completed for adults was only 7.8, although this number has been increasing since 1990.²⁰ In addition, entrepreneurial training is not readily available – less than 10% of people aged 18 to 64 have received some type of training in entrepreneurship.²¹

Credit, one of the most important aspects in growing a business, is not readily available to small businesses in Brazil. A recent study showed that 30% of small businesses have no connection with commercial banks as legal entities, which hinders their access to credit.²² Additionally, the country's real interest rates are notoriously high. In 2010, Brazil's best performing year in terms of GDP, real interest rates hovered just under 30%. Since then, they have increased to over

¹⁵ Zacharakis, 2013

¹⁶ Other reforms include the Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE); initiatives to encourage micro and small enterprise participation in public procurement, like the National Food Acquisition Program (Programa Nacional de Aquisição de Alimentos, PAA); several credit-related policies like the Programa Nacional de Agricultura Familiar (PRONAF); policies for innovation and technology transfer like the Plan *Brazil Maior*; and the creation of a national network for the simplification of business registration and legalization, known as REDESIM (Rede Nacional para a Simplificação do Registro e da Legalização de Empresas e Negócios). For a more detailed description of policies for the formalization of micro and small enterprises in Brazil, see International Labour Organization, 2014.

¹⁷ The World Bank, 2016

¹⁸ PwC, 2017

¹⁹ Zacharakis, 2013

²⁰ UNDP, 2016

²¹ Zacharakis, 2013

²² O Globo, 2015

33%.²³ The northeast region has, however, introduced various programs aimed at providing access to credit for low income entrepreneurs. Two notable programs are CrediAmigo and AgroAmigo, operated by Banco do Nordeste, a public regional development bank. CrediAmigo is especially helpful for young people, with 40% of its loans going to people ages 18 – 35. Overall, residents of Ceará have received approximately R\$461 million in loans, the largest amount of any state in the region.²⁴ Other programs, such as the government sponsored Programa Nacional de Agricultura Familiar (PRONAF), have focused on access to credit for small-scale family farming. The northeast region is the program’s main beneficiary. Ceará farmers currently receive 140,000 loans from PRONAF, the second largest amount among states in the Northeast.²⁵

Brazil has also expanded technical assistance for entrepreneurs in recent years. The Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE), an autonomous agency responsible for supporting micro and small businesses, offers various services, including assistance with business planning, creating partnerships and innovation. There are multiple SEBRAE offices in Ceará, including in Itapipoca, a neighboring city of Pentecoste, where Adel is headquartered. Endeavor Global, a nonprofit dedicated to supporting entrepreneurship in emerging markets, has established offices in São Paulo and Rio de Janeiro. Various state governments throughout Brazil also have agencies dedicated to supporting entrepreneurship, including in Ceará where the Secretariat of Work and Social Development aids entrepreneurs in developing and formalizing their businesses. In 2016, the new federal government announced a plan to offer over R\$30 billion in credit to small and micro-enterprises as a means to develop the sector and stimulate job creation.²⁶

Adel occupies a niche within Brazil’s entrepreneurship sector. It serves a very specific population of people, many of whom would not have access to entrepreneurial training, otherwise. While there are other services dedicated to assisting entrepreneurs in the rural northeast, Adel is filling a gap by providing accessible, affordable, targeted training and start-up credit for young people from rural Ceará.

CURRENT ECONOMIC AND POLITICAL CONTEXT

While Adel works with a geographically specific population, overarching economic and political trends in Brazil affect the organization’s beneficiaries.

²³ Trading Economics, 2017

²⁴ Banco do Nordeste, 2015

²⁵ Ministério de Desenvolvimento Agrário, 2017

²⁶ Brazil Gov News, 2016

In 2003, Brazil entered a period of economic growth fueled largely by external demand for Brazilian commodities, including iron ore, soybeans and crude petroleum.²⁷ During this golden age, 40 million Brazilians entered the country's almost previously non-existent middle class.²⁸ State-sponsored social programs like Bolsa Família, a conditional cash transfer program, helped slash poverty rates in half, while Brasil Sem Miséria, a sub-program of Bolsa Família, focused specifically on reducing poverty in the Northeast.²⁹

Then, in 2015, Brazil's GDP shrank 3.8%, officially entering the country into its worst recession since the 1930s.³⁰ Reduced demand and lower prices for Brazil's exports were the immediate causes of the recession, but structural issues, such as poor infrastructure, an overly bureaucratic tax system and weak education, emerged as the real reasons behind Brazil's inability to grow sustainably.³¹ Around the same time as the economic crisis, Brazil entered a political crisis brought on by allegations of corruption at the state-owned oil company, Petrobras. Then president, Dilma Rousseff, while not implicated in the Petrobras scandal, was accused of altering federal budgets to mask Brazil's economic issues. After a long, divisive trial, she was impeached in August of 2016. Her successor, former vice-president Michel Temer, is a center-right, "business-friendly" politician who has continued to cut spending and attempt to approve major reforms in social entitlements, labor laws, and other policies to decrease Brazil's budget deficit and promote growth.

While GDP is recovering from negative growth rates in 2015 and 2016, it is doing so at a slower rate than expected, and economic uncertainty continues to affect Brazil as a whole. Unemployment is currently at 13%³² and expected to remain high in 2018, and GDP may not return to 2014 levels until 2020.³³ Additionally, Brazil is still suffering from an ongoing corruption scandal implicating nearly one-third of the cabinet and congress, as well as President Temer himself. As for the crisis' effect on entrepreneurs in the Northeast and Ceará, access to credit has been reduced significantly. In 2017, the value of new CrediAmigo loans compared to 2016 fell by 77%.³⁴ While not as steep a reduction, the total value of PRONAF loans also decreased in all states of the Northeast.³⁵

²⁷ OEC, 2014

²⁸ Mercopress, 2011

²⁹ The World Bank, 2013

³⁰ Wall Street Journal, 2016

³¹ Americas Quarterly, 2016

³² The Economist, 2017

³³ Carta Capital, 2017

³⁴ Banco do Nordeste, 2017

³⁵ Ministério de Desenvolvimento Agrário, 2017

THE RURAL YOUNG ENTREPRENEURS PROGRAM

During Adel’s first two years as an organization, its work focused on expanding the managerial and innovative capacity of farmers with its ongoing Rural Solutions Program. However, through constant interaction with various groups of the population in field, Adel realized that sustainable regional development depended on the entrepreneurial capacity of young people, this giving rise to the RYEP, which was founded in 2009. Adel developed the program’s methodology using a similar program at the Instituto Souza Cruz (ISC) as a guide. The objective of Adel’s program was to provide training for personal development and technical and managerial skills. It originally had cohorts of 30 participants with training over the course of 15 weeks.

Since the first version of the program in 2009, the RYEP has continually evolved to adapt to Adel’s available resources and the needs of the beneficiaries.³⁶ Between 2015 and 2016, Adel implemented the fifth version of the RYEP, which is the version under assessment. We decided to focus on this version since it had the most comprehensive curriculum and was the most recent version of the program.³⁷ This version of the RYEP consisted of five cohorts, four trained in 2015 and a fifth one in 2016 (see figure 1). Each cohort consisted of 30 enrolled participants, for a total of 150. For the selection of the participants, Adel organized events in the various communities to encourage youngsters to apply for the program. Then, the staff visited applicants in their homes and conducted interviews. Applicants were given a score based on criteria such as family support, their business idea, completion of high school, and demonstration of motivation and ambition, among others. Thirty applicants were selected to participate in the program and another ten were put on a wait list. All participants were between 17 and 32 years of age.

Figure 1: Timeline of RYEP Cohorts

Year	Cohort	Start	End
2015	1 st	March 30, 2015	July 17, 2015
	2 nd	April 13, 2015	July 31, 2015
	3 rd	August 17, 2015	November 27, 2015
	4 th	August 24, 2015	December 4, 2015
2016	1 st	March 14, 2016	July 1, 2016

For the training, Adel used an ‘alternating methodology,’ meaning that participants spent one week living and taking classes at the training center in São Gonçalo do Amarante and then returned to their communities for two weeks to apply the knowledge learned. This process was repeated until participants finished six weeks of training in the center. The weekly modules addressed the following topics: financial mathematics, accounting, cost management, budgeting,

³⁶ See Appendix I for details concerning the different versions of the RYEP

³⁷ Adel implemented a new pilot version of the RYEP at the end of 2016 but we decided not to assess it given the short time passed between its implementation and the start of our impact assessment.

product development, sales and marketing strategies, rules and regulations for businesses, innovative (environmentally sustainable) farming techniques, leadership, cooperation and interpersonal skills, and socio-environmental technologies, among others. Some of the activities of the training phase included interactive workshops between participants designed to increase the capacity to communicate ideas and thoughts, training sessions with subject area experts, motivational videos, and field trips to nearby municipalities to study product development by observing local businesses.

The main output of the program was a business plan, which participants were encouraged to implement in their communities. The participants chose to work in different activities, such as commerce (e.g. opening a small food or clothing store), services (e.g. nail or beauty services) and agriculture. Participants proposed their business plans to Adel in order to receive a small loan to start their business. The money for the loans came from Fundo Veredas, a fund operated by Adel specifically for RYEP participants. Loans average R\$2,000 (approximately US\$625) per business project and participants were expected to start paying off the loan after a 6-month grace period with a maximum of 24 monthly installments. The initial monthly rate of interest is 1.5%, but given the flexible nature of the fund, it is dependent on the repayment option exercised for each recipient and therefore, subject to change. Based on the estimates dated January 2017, the average monthly interest rate is 1.2%. In addition, participants who were developing or starting a business received six months of technical assistance, which consisted of practitioners, including staff members from Adel, visiting the business to help participants implement what they learned in the course and resolve any issues they might be facing. Participants received technical assistance in an *ad hoc* manner, depending on their needs and availability.

METHODOLOGY

This section provides a description of the framework used to conduct the impact assessment of the RYEP. The section aims to explain the research motivation and describe the study design, the data collection tools and the quantitative analysis methods.

RESEARCH PROCESS

The initial Terms of Reference (TOR) provided by Adel defined the outline of the study. As specified in the TOR, the objective of the project was to conduct an impact assessment of the RYEP to support future strategic planning and decision-making. The data gathering and analysis phases included:

- Desk review: We conducted a comprehensive desk review to understand the regional context and entrepreneurship in Brazil. We also reviewed relevant impact evaluations of similar projects and organizations to refine the implementation techniques and practices of our study design.
- Consultations with experts and stakeholders: We had consultations with experts and stakeholders to understand the context and limitations associated with the study design.³⁸ These consultations were useful in designing the survey and identifying the techniques to conduct data analysis.
- January field trip: The January trip was instrumental in defining the scope of the project and the expected outcomes and indicators related to the RYEP. As a result, we developed a Theory of Action (TOA),³⁹ which conceptualizes the structure of the program, from activities to long-term impacts. This was primarily developed through interviews and discussions with internal and external stakeholders of Adel.
- Designing assessment instruments: Surveys and focus groups were designed based on the program documents shared by Adel and following best practices of survey design.
- Recruitment: The recruitment process for the survey and focus groups was carried out by Adel staff members during a 15-day period prior to administering the survey. Adel recruited respondents by gathering community leaders and using social media tools such as WhatsApp and Facebook. To incentivize participation in the survey, Adel raffled off two laptops and provided reimbursement for travel expenses.

³⁸ See Appendix II for further details.

³⁹ See Appendix III for the complete TOA.

- March field trip: During the March field trip, we executed the survey and conducted the focus groups. We held two survey events and three of the focus groups in the local school in Pentecoste and then went to various communities where Adel operates to gather more responses.
- Data analysis: Upon our return to New York, we focused on analyzing the data collected in the field and framing recommendations. We formally presented the study at SIPA in a public event, including a question and answer sessions, and drafted this final report based on feedback and comments from our advisor and Adel staff.

RESEARCH DESIGN

Based on our findings in the field, our ongoing discussions with Adel staff members and the TOA, we framed our research question as: What are the effects of the RYEP on the personal and professional development of participants?

We conducted the impact assessment using a mixed methods approach. We used surveys to gather quantitative data and focus groups for the qualitative data. For the survey, we identified a treatment group (defined as those who were selected into the RYEP and received the full course of training) and a comparison group (defined as those who applied to the program, but were not selected to participate in the RYEP and those who started the program but did not complete it). We refer to the treatment group as ‘participants’ and the comparison group as ‘non-participants.’

For the survey, based on our total population of 295 applicants, we had an overall valid response rate of 40%.⁴⁰ Together the treatment and comparison groups comprise our sample of 119 individuals who completed the survey. Of the 119 respondents, 74 responded to the participants’ survey and 45 responded to the non-participants’ survey. The two surveys were very similar, save for a few program-specific questions. Figure 2 explains in further detail the research methods.

While we initially considered random sampling, Adel has not systematically collected population data on the participant pool (as opposed to the overall applicant pool), resulting in a lack of clear parameters on which to sample. It would also have been logistically difficult because tracking specific applicants to answer the surveys could not be guaranteed. Instead, it was easier for Adel

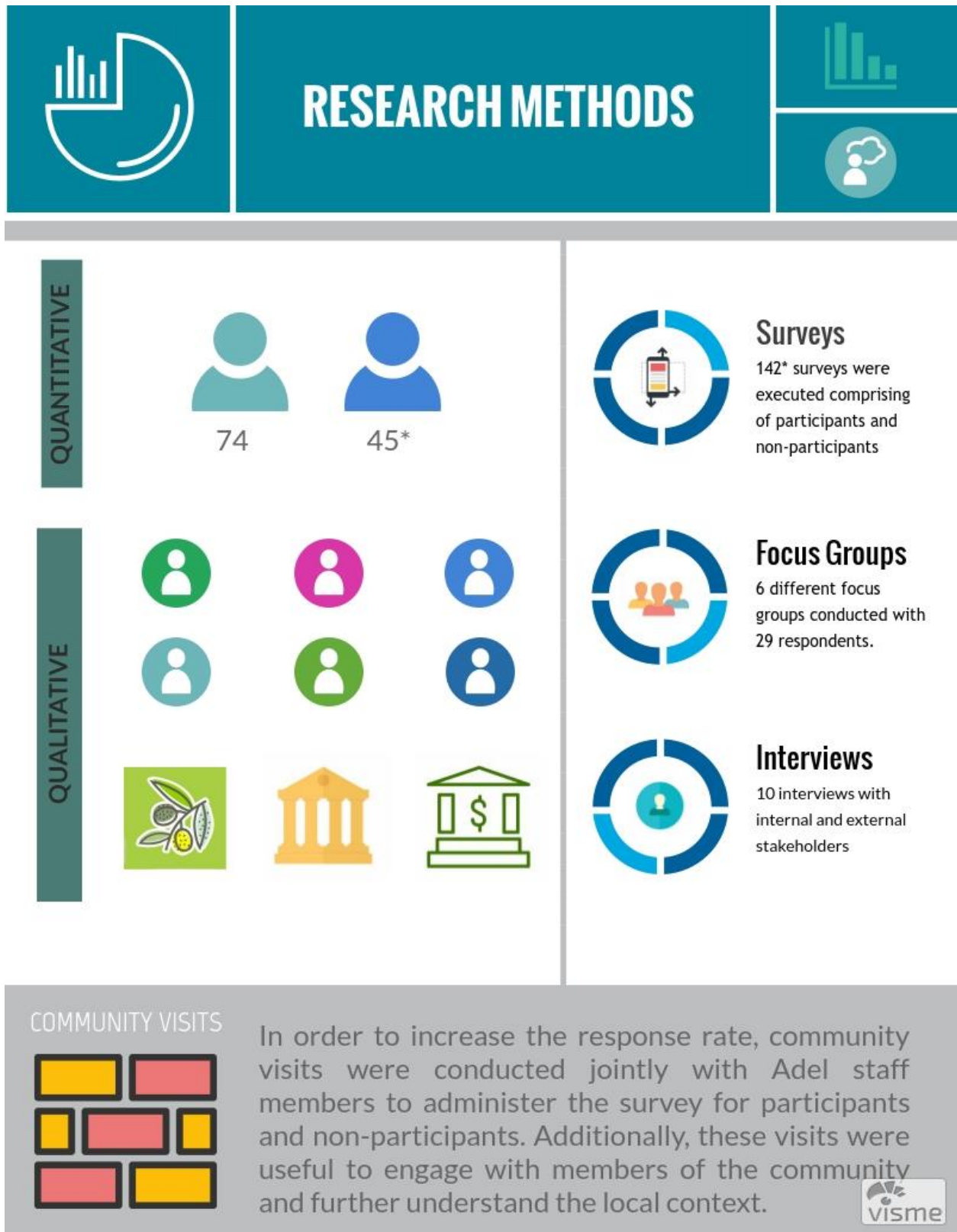
⁴⁰ A total of 142 individuals responded to the closed-ended surveys: 90 responded to the participants’ survey and 52 responded to the non-participants’ survey. However, of these 142 respondents, we were only able to identify 119 program applicants. Comparing Adel’s records to our responses, we were unable to identify the remaining 23 respondents (these could be non-participants who did not apply or non-participants who applied but whose records were lost).

to use its resources to gather as many individuals as possible, both participants and non-participants. This sampling strategy resulted in a non-representative sample of the overall applicant population for the five specified cohorts of the RYEP, so our findings should be interpreted with caution.

However, we did run comparisons of available pre-treatment characteristics across survey and original applicant data, the latter of which was provided by Adel. Based on the available information in the applicant data, we were able to compare variables such as gender, age, municipality where applicants live, and RYEP application score. Results show that participants in our sample are comparable to the participants in the original applicant dataset across most of these pre-treatment characteristics. On the other hand, non-participants in our sample, appear to be different from the non-participants in the original applicant dataset in terms of age, municipality where they live and RYEP application score. This means non-participants in our sample were older and had higher application scores than the average non-participant in the overall applicant population.⁴¹

⁴¹ See Appendix IV for comparative table between sample and overall applicant population data.

Figure 2: Research Methods



DATA COLLECTION TOOLS

Quantitative Tools

Surveys: We created two separate surveys for the participants and the non-participants. The surveys included approximately 80 questions on demographics, business ownership, business practices and knowledge, credit, networks and personal development. The questions were based on the TOA, the RYEP curriculum and the entrepreneurship literature on best practices for small and medium enterprises.⁴² We used KoBoCollect, a free and open source software, to conduct the survey.

Qualitative Tools

Interviews: We conducted semi-structured interviews with internal and external stakeholders. These interviews contributed to understanding the context, the evolution of the organization and the nature of the program.

Focus Groups: We decided to conduct six different focus groups to understand specific aspects of the program, organized according to the following categories: Fundo Veredas recipients, non-Fundo Veredas recipients, female participants, male participants, agricultural business participants and non-participants. Each focus group had between four and eight individuals.

QUANTITATIVE ANALYSIS METHODS

We based our quantitative analysis on descriptive comparisons of variable means and on regression models. Outcome variables for which we recovered baseline information were analyzed descriptively across time. When enough observations were available, we also implemented regression analysis.⁴³ Outcome variables for which we only collected current information were either analyzed solely for participants or analyzed across groups (descriptively and with regression models), depending on the availability of observations for non-participants.

The regression models were based on a Difference-in-Difference (DID) methodology, which allowed us to get closer to the actual effect of the program on selected outcomes. By controlling

⁴² McKenzie and Woodruff, 2015

⁴³ Regression models were applied to *knowledge of business topics, implementation of business activities, and personal development*. For personal development, multi-variate OLS regressions show non-significant results for most variables so they are not reported in the findings. Regressions were not applied to *implementation of smart business practices, credit, use of information and communication technology, young rural entrepreneurs network, business ownership and education and income*.

for any fixed, unobserved factors over time that could affect participation in the program and outcomes, DID allows for the reduction of bias in the estimate of the impact of the program.

The validity of DID is based on the assumption that the change we observe in the comparison group (non-participants) represents what would have happened to the participants had they not participated in the RYEP. This means that any omitted time varying factors are expected to affect participants and non-participants equally (for instance recent political developments in Brazil are expected to affect participants and non-participants in the same way). We control for additional time-variant covariates (including income, municipality, prior business ownership, cohort, marital status, occupation, religious affiliation and application score), in order to come closer to satisfying this assumption. However, we note that it is likely that we are not able to control for enough time-varying factors that could affect participants and non-participants in different ways, and in this sense our DID estimates should not be interpreted as robust indicators of causality.

QUALITATIVE ANALYSIS METHODS

Our focus groups were led by one team member who was a non-native Portuguese speaker. With the help of a translator, we took notes during each focus group and also recorded the sessions. After the team returned to New York, we identified common trends in the notes and recordings, using the results from our quantitative analysis as a guide.

FINDINGS

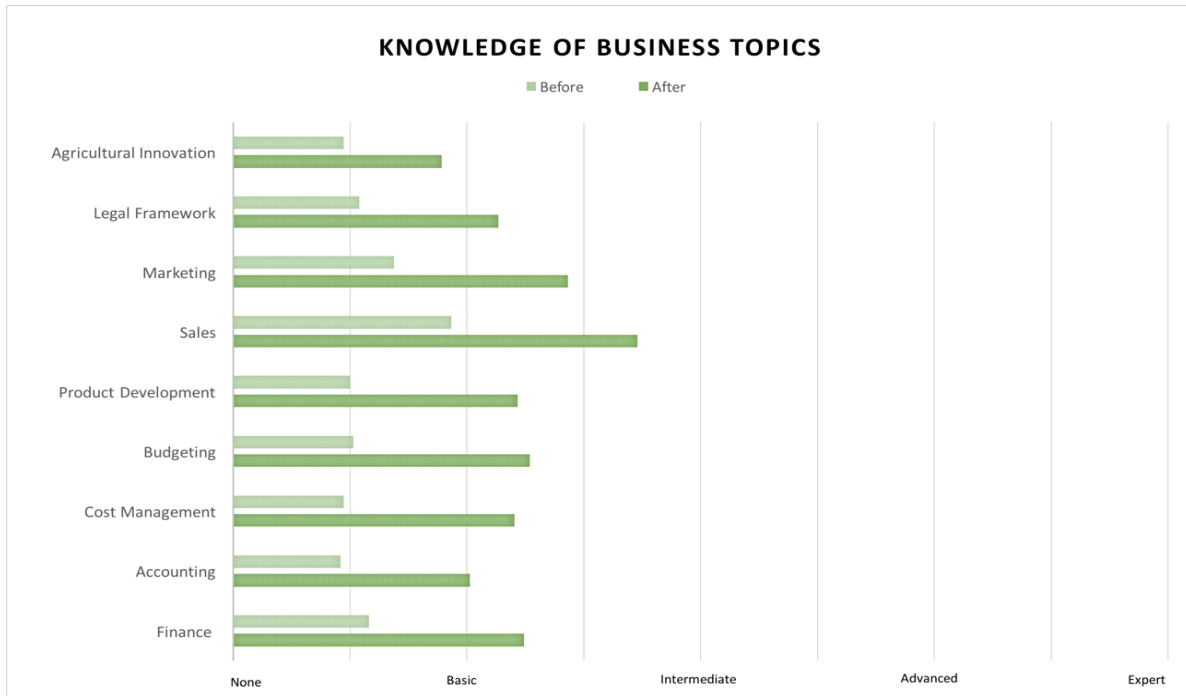
The following section describes the main quantitative and qualitative findings of our study. The results are presented according to topic area: knowledge of business topics, implementation of business activities and best practices, credit, personal development, technology, networks, business ownership, education, and income. Overall, our results show modest but positive effects of the program across these dimensions of professional and personal development.

KNOWLEDGE OF BUSINESS TOPICS

To understand whether the RYEP successfully transferred knowledge of the core business topics taught in its curriculum, we asked survey respondents to report their knowledge level across nine topics both at the time they applied to the program and at the time the survey was administered in March 2017. Knowledge of each topic was self-assessed on a Likert scale ranging from none to expert. Both participants and non-participants provided responses for both time periods, which allowed us to compare the change in knowledge of participants and non-participants over time.

Participants of the program reported an improvement across all knowledge-related dimensions of the study. On average, at the time they applied to the program, participants reported *no* knowledge of agricultural innovation, legal regulation, marketing, sales, product development, budgeting, cost management, accounting, and finance. After completing the program, the average participant reported *basic* knowledge of the same business-related topics. While these improvements are not large, the results suggest that the program was successful in transferring the knowledge embedded in in the RYEP curriculum to a majority of participants. Given the short time frame of academic study (6 weeks of training in total), the broad gains in knowledge reported by participants reflect the wide scope and generally effective instruction of the program.

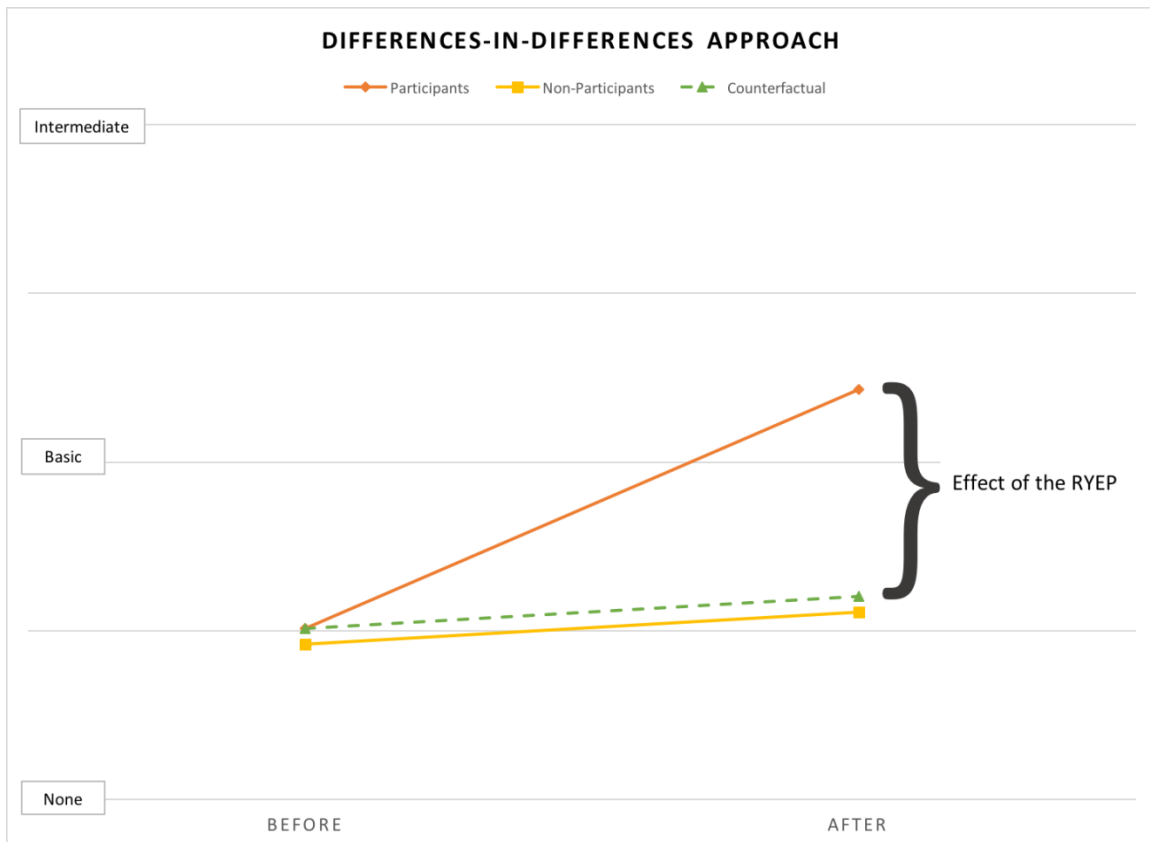
Figure 3: Knowledge of Business Topics



Using a differences-in-differences (DID) methodology, we were also able to compare changes in knowledge among participants to changes in knowledge among non-participants across these same indicators, by eliminating the effect of fixed variables over time and controlling for a set of time-variant demographic characteristics including income, municipality, prior business ownership, cohort, marital status, occupation, religious affiliation and application score. We also included cohort dummy variables to account for any unobserved factors that equally affect participants and non-participants over time (e.g. larger macroeconomic trends). This allowed us to further isolate the effect of the program.

Figure 4 provides a visual illustration of the DID approach, using the “Product Development” indicator as an example. The yellow and orange lines represent the *observed* trajectory in outcomes for non-participants and participants, respectively. The green dashed line represented the *hypothetical* trajectory of outcomes for participants, under the critical assumption that in absence of the treatment, participants would have experienced the same increase in knowledge as non-participants. Therefore, the distance between the *observed* outcome and this *hypothetical* outcome for participants provides a more accurate measure of the effect of the RYEP on participants’ knowledge.

Figure 4: Differences-in-Differences Approach



The estimated effect of the RYEP on knowledge using the DID approach is small but significant across a majority of the business-related topics.⁴⁴ Compared to non-participants, RYEP participants reported a larger improvement in their knowledge of financial mathematics, cost management, budgeting, product development, and business law, from the time they applied to the program to the time they completed the survey. In contrast, we found no significant difference across participants and non-participants in the reported change in skill level of accounting, sales, marketing, and innovation.

To explain these outcomes, we hypothesize that general business knowledge, such as sales and marketing, may be more easily acquired from other channels and resources than more technical knowledge, such as cost management and financial accounting that may have required specialized training like the RYEP. Additionally, there may be more layperson understanding of what sales and marketing entails, compared to the more specific concepts of cost management and financial accounting. It is possible that non-participants lacked a basic understanding of these technical concepts and were therefore unable to meaningfully report their knowledge across these dimensions. If this is the case, then our DID findings would be overestimated.

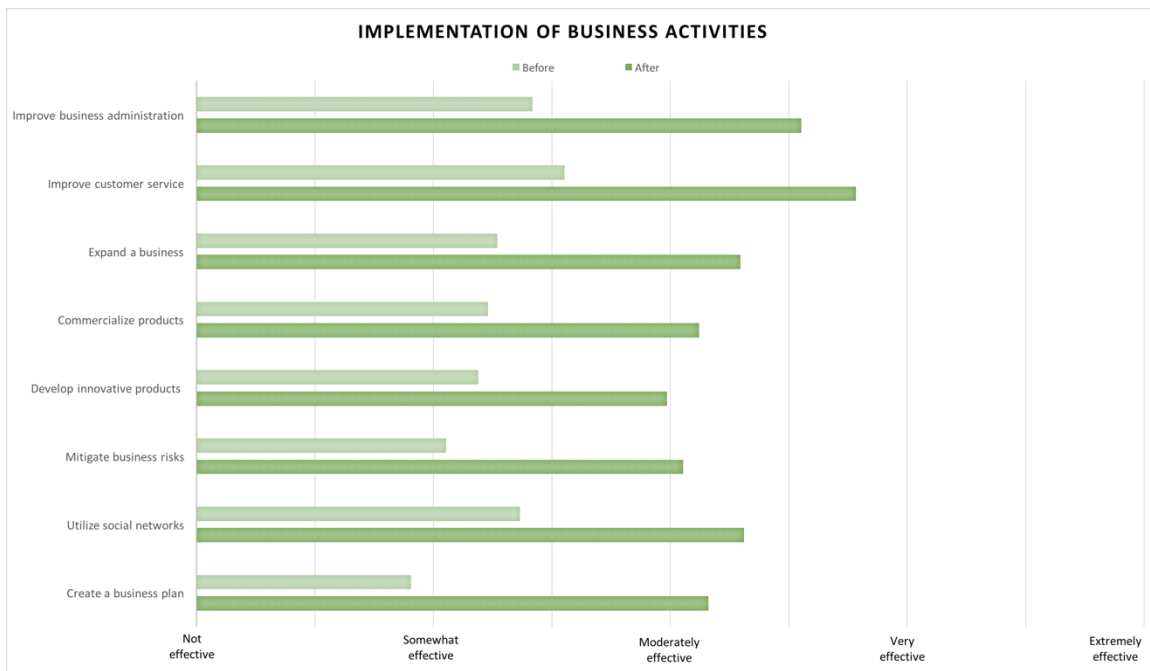
⁴⁴ See Appendix V for comprehensive DID analysis.

IMPLEMENTATION OF BUSINESS ACTIVITIES

The objective of the RYEP is for participants to not only acquire business knowledge, but to apply this knowledge to develop their own entrepreneurial ventures. As such, we sought to measure the effectiveness of participants and non-participants in implementing eight specific business practices. Survey respondents rated their ability to carry out each business practice on a Likert scale ranging from *not effective* to *extremely effective*. Both participants and non-participants provided data for both time periods, which allowed us to use the DID methodology to compare the change over time across participants and non-participants of the program.

Participants reported improvements in their ability to implement a wide range of business activities (see Figure 5). At the time of applying to the program, on average, they reported being *somewhat effective* in creating a business plan, taking advantage of social networks, reducing business risks, developing innovative products, marketing business products, expanding a business, offering quality customer service, and improving business administration. After the completion of the program, the average participant reported being *moderately effective* in implementing these same business activities.

Figure 5: Implementation of Business Activities



Using the DID approach and again controlling for the same set of demographic characteristics, we find that RYEP participants report a greater improvement in their ability to create a business plan, mitigate business risks, and improve customer service, compared to non-participants. These estimates were modest but statistically significant at the 10% level.⁴⁵ In contrast, we found no significant differences between participants and non-participants in the self-assessed change in ability to utilize social networks, develop innovative products, commercialize products, expand their business, or improve business administration. Similar to our findings on knowledge, it is possible that participants report higher levels of effectiveness in implementing these business practices because they have a clearer understanding of the categories and what they entail as a result of having been trained in these very topics. If the business activities on our survey are not self-evident to non-participants, non-participants may have underestimated their ability to implement them, which would then lead to an overestimation of our results.

IMPLEMENTATION OF SMART BUSINESS PRACTICES

In addition to asking respondents to self-assess their skill proficiency and effectiveness in managing a business, we also asked current business owners to report on specific business practices drawn from the entrepreneurship training literature.⁴⁶ These measures, which were designed to cover marketing, buying and stock control, costing and record-keeping, and financial planning, are seen as “best practices” for micro and small businesses across different sectors and countries. From the original set of 26 questions, we chose 10 that we felt were the most applicable to the specific context and RYEP training.

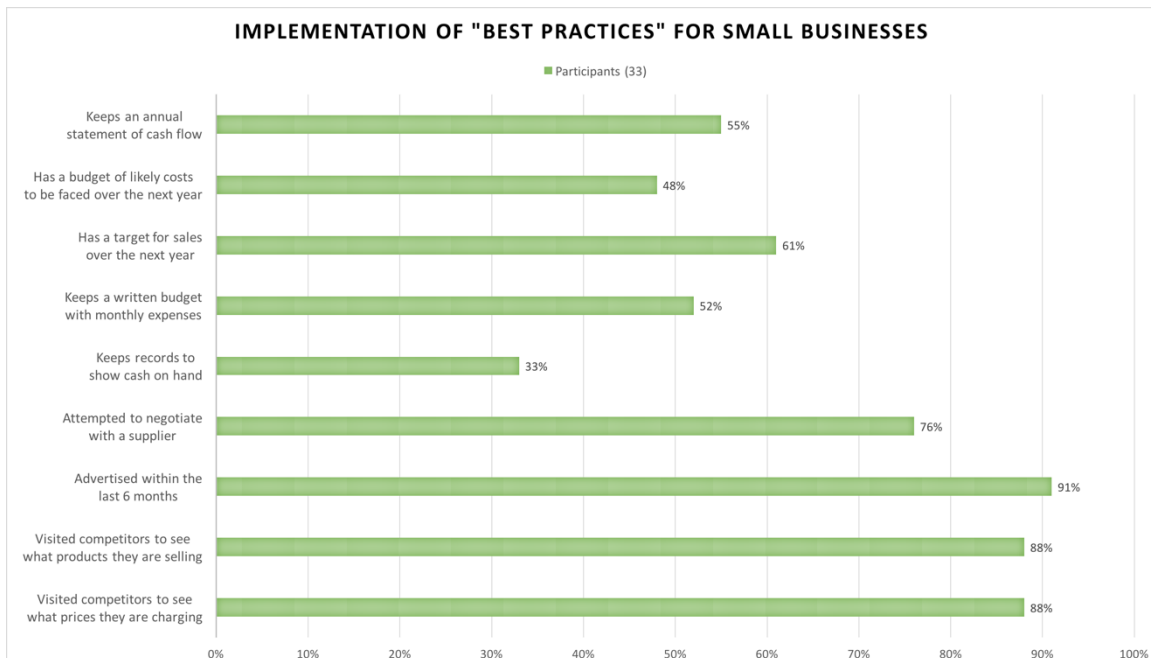
This set of questions was limited to current business owners, who answered yes or no to whether they implemented the specific business practice. Due to the low number of observations for non-participants, we restrict our analysis in this section to RYEP participants who self-identified as owning their own business.

While our convenience sample is non-representative of the overall applicant population, the descriptive statistics shown in Figure 6 provide useful insights into the actual business practices of participants after completing the program. Most participants report implementing “best practices” involving marketing and competitive analysis, with 88% having visited at least one competitor to determine the products and prices they are providing and 91% having advertised in the last six months. However, the proportion of RYEP participants who reported implementing best practices related to record-keeping and financial planning was relatively low. Only 55% had an annual balance sheet, 48% had an annual budget, 52% had a monthly expense sheet, and 33% knew how much cash their business had on hand at any given time.

⁴⁵ See Appendix VI for comprehensive DID analysis.

⁴⁶ McKenzie and Woodruff, 2015

Figure 6: Implementation of “Best Practices” for Small Businesses



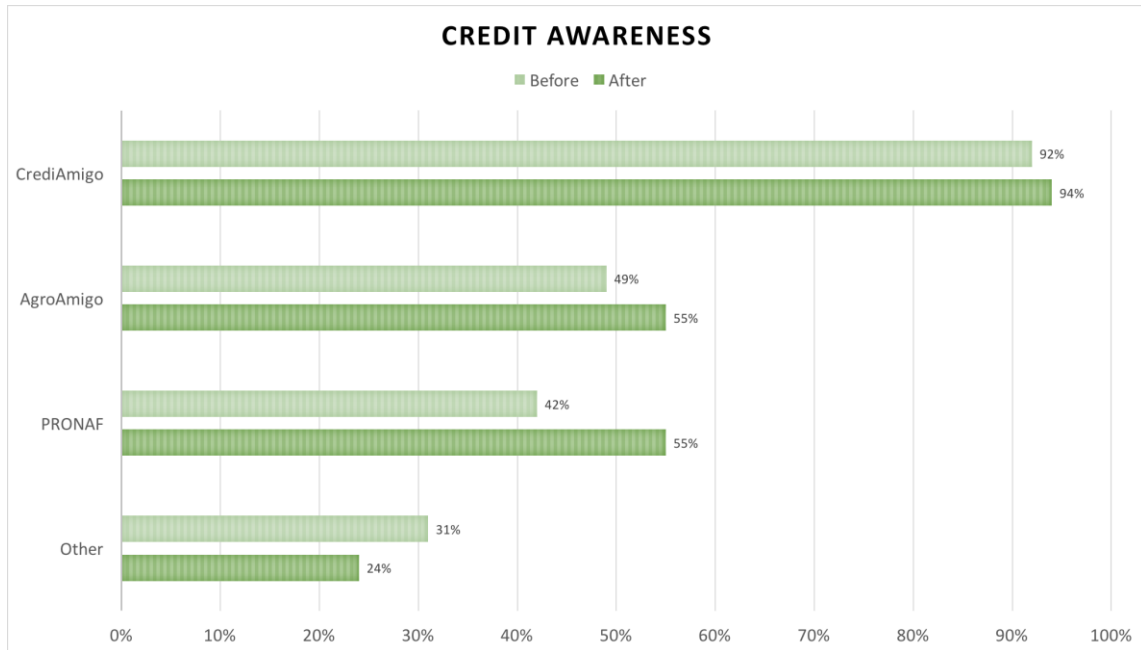
The strong emphasis on marketing and competitive analysis in the RYEP training was a topic that was reinforced by the data collected during our focus groups. Participants frequently expressed that through various activities during the RYEP, they learned how to deal more effectively with their clients and market products effectively in their communities. As Marciano, a livestock farmer, expressed, *“the marketing aspect of the program was very important for me because this is something that I saw in my everyday life but didn’t understand or know how to apply. After the program, I saw everything with new eyes.”* Additionally, many of the participants in our focus groups told us that one of the most important assignments they received during the RYEP was to go out into their communities and visit existing businesses in the field. They believed that this market research was a crucial aspect to their development as entrepreneurs. The low level of implementation of financial best practices was also supported by our focus group finances. Many participants spoke about the difficulties of controlling cash flow and understanding their business’s findings. One participant, Rubia, explained that she had difficulty *“managing the money [of her business], we spend the money we get...Adel has helped...but the problem still persists.”*

CREDIT

Access to credit is an essential component of entrepreneurship in the local context. Our focus group data confirms the importance of credit in enabling young entrepreneurs to invest in the start-up and operating costs of their ventures. Increasing access to both internal and external sources of credit is therefore an important outcome of the RYEP.

In the section, we again restrict our analysis to participants due to the low number of observations for non-participants who own businesses. As shown in Figure 7, RYEP participants reported an increase in awareness of various credit sources (CrediAmigo, AgroAmigo, PRONAF) after completion of the program. The data suggests that the program was able to help participants better understand the resources and opportunities for credit available to them.

Figure 7: Credit Awareness

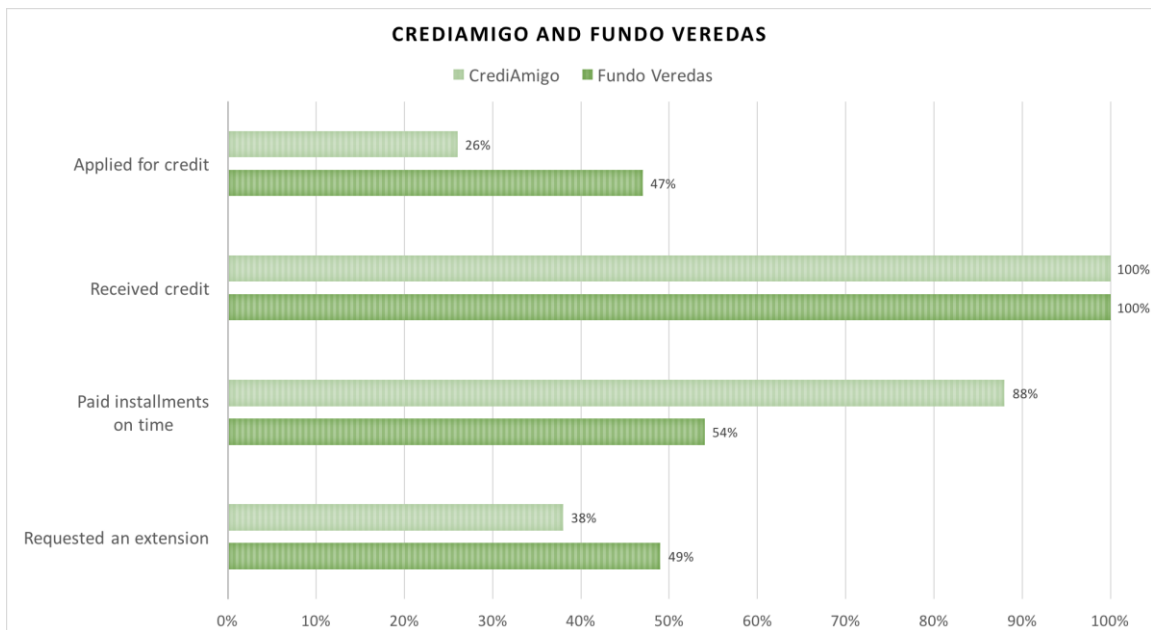


Besides government programs such as CrediAmigo and AgroAmigo, participants of the program also had the opportunity to apply for a loan from Fundo Veredas. These loans are provided as seed capital with a gestation period of six months before paying the first installment. Participants apply for the loans to invest in their businesses and are approved by Adel. These loans are flexible in nature to the tune of R\$2000 (approximately US\$625) according to the needs of individual business projects. According to information shared by Adel, the average installment amount is R\$225 (US\$70) per month, and borrowers pay 14 monthly installments on average. The loans are provided at a monthly interest rate of 1.5%, but given the flexible nature of the

fund, the interest rate is dependent on the repayment option exercised by the recipient and therefore subject to change. Based on estimates from January 2017, the average monthly interest rate was 1.2%.

As shown in Figure 8, nearly half of the participants surveyed applied for a Fundo Veredas loan, while 26% of participants surveyed applied for a CrediAmigo loan. Of those who applied for loans from one or both of these two sources, 100% reported receiving the loan. Among those who received a loan from CrediAmigo, 88% reported repaying their monthly installments on time and 38% reported requesting an extension on the term of the loan. In contrast, among those who received a loan from Fundo Veredas, just 54% reported repaying their monthly installments on time, and 49% reported requesting a loan extension. These findings suggest that while both CrediAmigo and Fundo Veredas are popular and accessible credit sources for RYEP participants, Fundo Veredas is seen as a more lenient creditor compared to CrediAmigo. Since Banco do Nordeste and CrediAmigo are formally regulated financial institutions, as opposed to Adel and Fundo Veredas, the latter might be more attractive to RYEP participants as late payments would not affect their individual credit histories. Moreover, accessing loans from Fundo Veredas does not require any form of collateral, as opposed to the stricter requirements of CrediAmigo.⁴⁷ In this context, new business owners could be acting rationally in terms of deciding when to borrow from which institution and choosing how to manage repayment.

Figure 8: CrediAmigo and Fundo Veredas



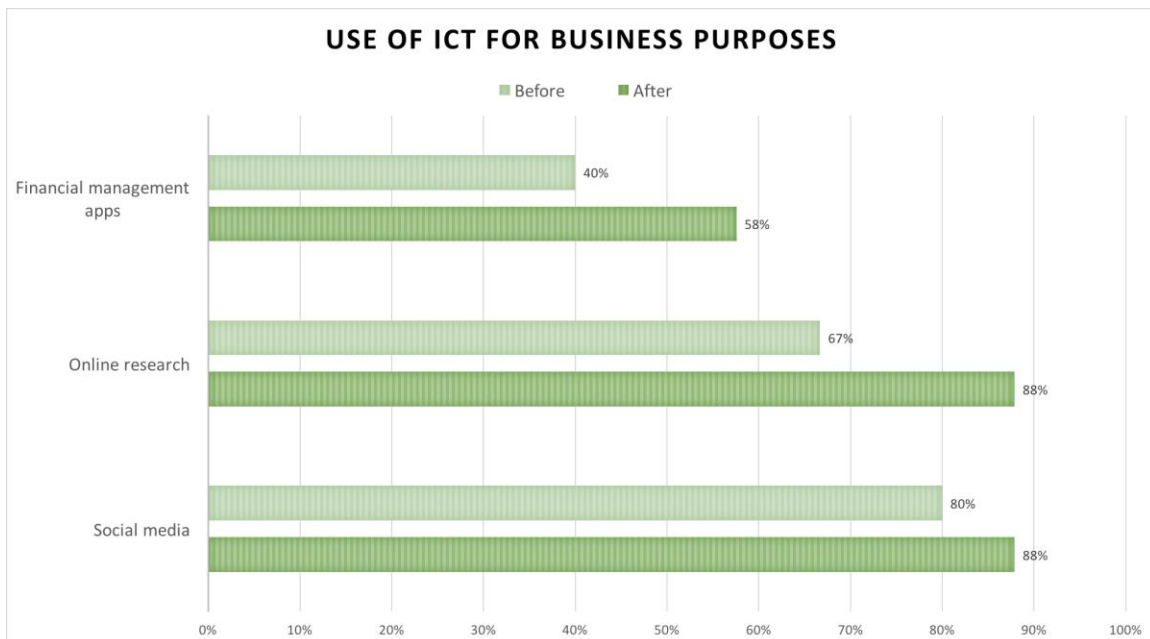
⁴⁷ Banco do Nordeste, 2017

USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

This section is again restricted to participants of the program who own businesses. On average, participants were much more likely to use information and communication technology to help their business after participating in the program (see Figure 9). The proportion of business owners who reported using applications for financial management increased from 40% to nearly 60% after completion of the program; the proportion who reported using online resources to help their business increased from 66% to 88%; and the proportion who reported leveraging social media for business purposes increased from 80% to 88% after completing the program.

These results may reflect the strong ICT emphasis of the RYEP curriculum, but they also may reflect the fast-changing technological environment business owners face. Because the number of non-participants who owned business at the time they applied to the program is low, we are unable to compare the change in ICT usage among participants to the change in ICT usage among non-participants. Nonetheless, the high rates of reported ICT usage among participants suggests that participants recognize the importance of leveraging technology to run their business and are generally quite tech-savvy, an observation that was also reflected in our focus group conversations. When we asked one of the focus groups what they would be doing had they not attended the focus groups, one participant said, *“I would be at home reaching out to people on Whatsapp to sell my cosmetics.”*

Figure 9: Use of ICT for Business Purposes



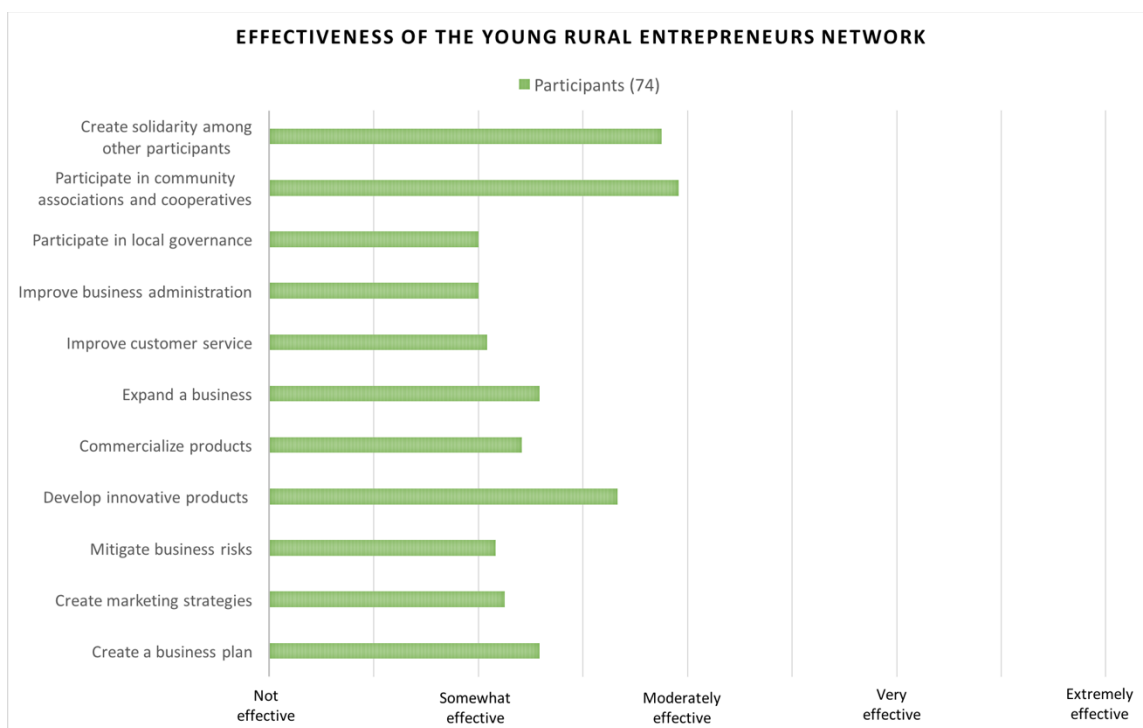
YOUNG RURAL ENTREPRENEURS NETWORK

The Young Rural Entrepreneurs Network was created by Adel specifically for graduates of the RYEP. We therefore ask this set of questions to participants only. Participants reported high levels of awareness of the network (above 90%) and membership in the network (nearly 80%). Respondents were then asked to rate the effectiveness of the network across a variety of business, leadership, and social functions on a Likert scale ranging from *not effective* to *extremely effective*.

As shown below in Figure 10, RYEP participants find the network most effective in fostering a sense of solidarity with other members and helping them to engage in their local communities. However, they do not find the network particularly effective in helping them to improve or expand their businesses or to participate in local governance. On the other hand, participants do report that the network is moderately effective in helping them participate in community associations and cooperatives and developing innovative products, which may have economic implications in the medium-term. Overall, these results indicate that participants see the Young Rural Entrepreneurs Network as more of a social network than a business association. The presence of a strong social network may help to foster personal development after the completion of the program, as well as incentive program participants to stay in their communities.

Additionally, the network provides valuable inspiration for some participants of the program. During our focus groups, Ricardo explained, “*The Young Rural Entrepreneurs Network allows us to see who is succeeding, and this creates additional motivation. We have meetings and WhatsApp groups, where we post and exchange information. [...] I have this. I am selling this. We send pictures and share our experiences.*” Many focus group participants also cited the network as an important way to continue the relationships they built during the program.

Figure 10: Effectiveness of the Young Rural Entrepreneurs Network



BUSINESS OWNERSHIP, EDUCATION, AND INCOME

Consistent with the literature on other entrepreneurship training programs, participation in the RYEP is associated with higher levels of business ownership. Whereas at the time of applying to the program, 19% of participants reported they owned a business and 21% reported their family owned a business, after completion of the program, 45% of participants reported they owned a business and 30% reported their family owned a business, as shown in Figure 11.

Participants also reported higher levels of education after completing the program (see Figure 12). Most notably, the proportion of participants who reported having some college education increased from 7% at the time of applying to the program to 19% after completing the program. This evidence suggests that those who graduate from the RYEP are motivated to continue their education beyond high school. Members of our focus groups also told us that participation in the RYEP inspired them to continue seeking out opportunities for both in-person and online education.

As shown in Figure 13, monthly income of participants also increased after completing the program. Monthly income includes both personal income and income from government

programs. The share of participants who reported income levels below poverty (less than 155 BRL) decreased from 35% at the time of applying to the program to 20% after completing the program. Similarly, the share of participants who reported income levels that are considered middle class (291-1019 BRL) increased from 26.8% to 54%. Finally, the share of participants who reported a monthly income of R\$1019 or higher increased from 6.5% to 14.9%.

Regression analysis of these variables in the current period shows positive but insignificant differences between participants and non-participants across income level, likelihood of owning a business, and likelihood of pursuing education after high school. The DID approach provides similar results to the basic regression estimates. Therefore, we cannot interpret the overall increase among participants in income, education, and business ownership as a causal effect of the RYEP. It is plausible that the positive changes we observe across these indicators are partially the result of participants getting older, graduating from high school, and entering the work force (some of them as entrepreneurs) or pursuing additional education. Nonetheless, business ownership, income, and education are also more medium-term and long-term outcomes, and the short time frame between the participants' completion of the program and the time we implemented our study may have limited our ability to capture these effects.

Figure 11: Business Ownership

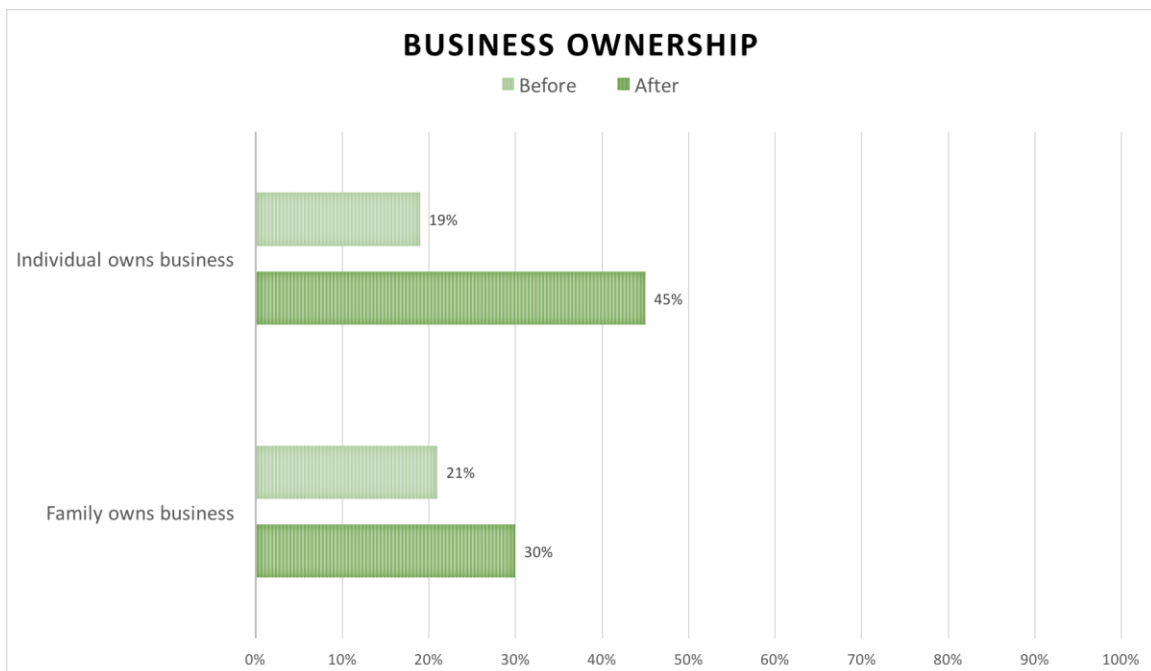


Figure 12: Types of Businesses Owned by RYEP Participants

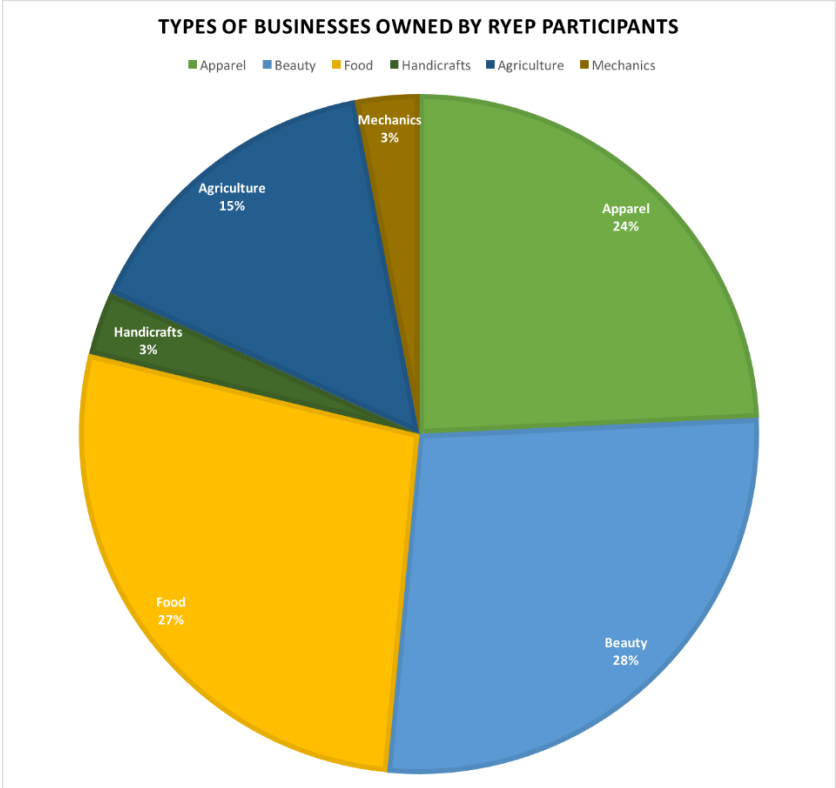


Figure 13: Highest Level of Education

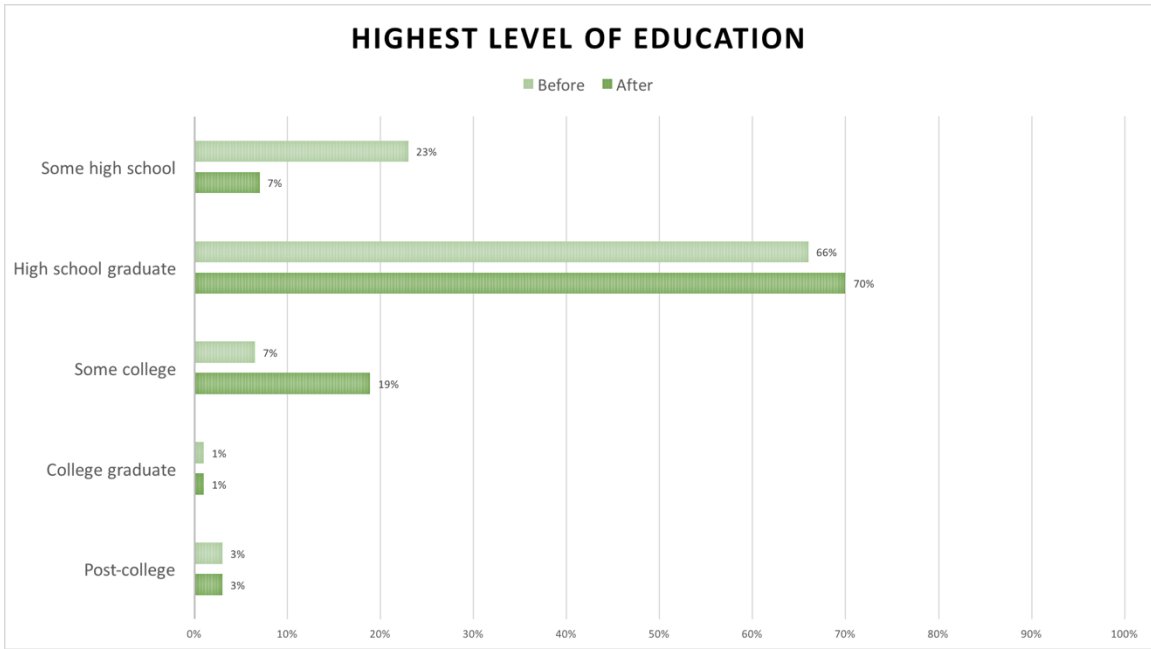
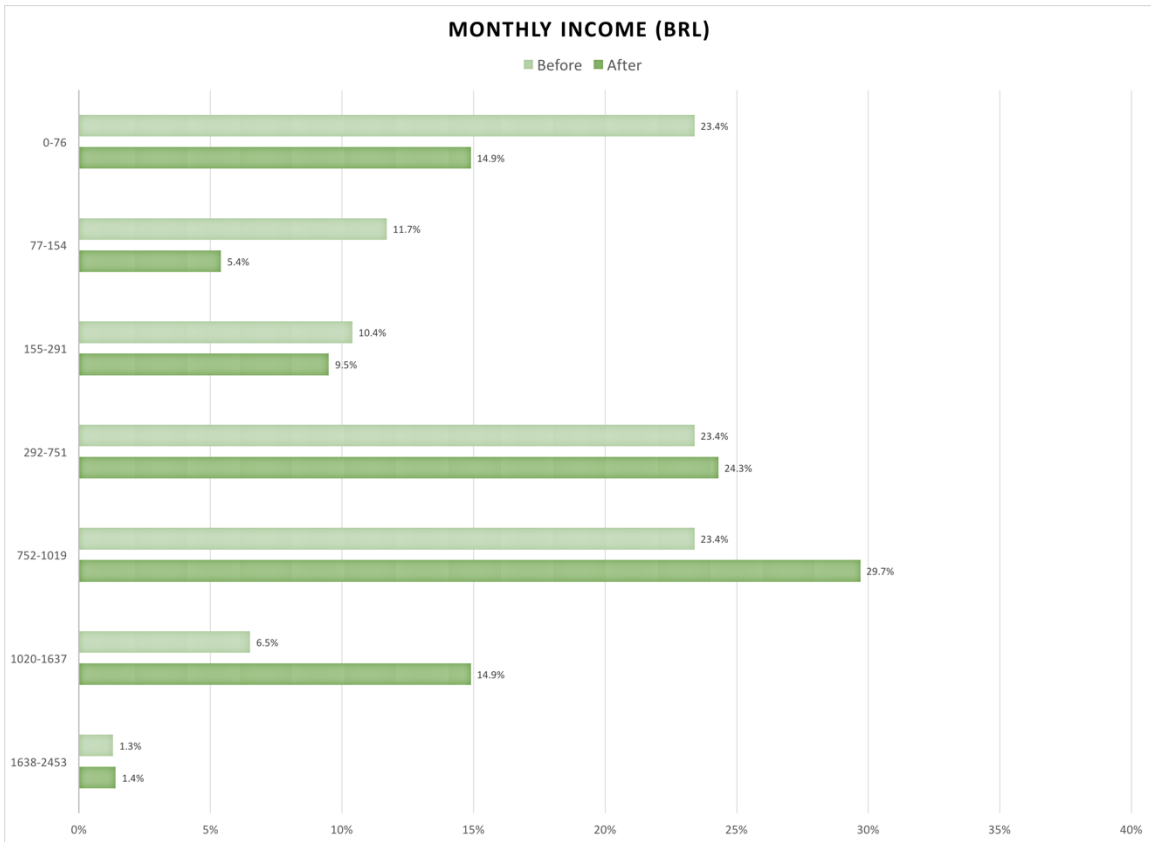


Figure 14: Monthly Income (R\$)

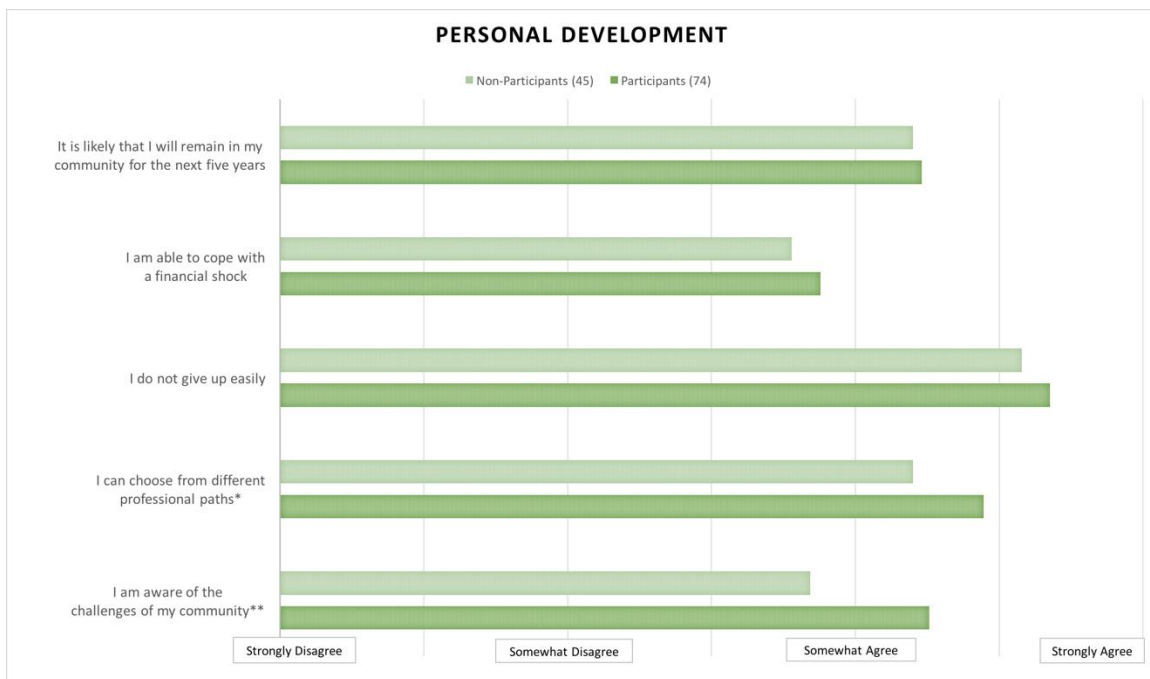


PERSONAL DEVELOPMENT

We measured five broad categories of personal development: community engagement, personal and professional opportunities, personal attitudes, financial independence, and propensity to migrate. Respondents were asked to rate their agreement with 18 separate statements falling under these five general categories according to a Likert scale ranging from *strongly disagree* to *strongly agree*. Due to the difficulty of recalling subjective information about former attitudes and beliefs, we ask respondents to report only their current views. Data was collected from all 74 participants and 45 non-participants in our sample.

Figure 14 represents data collected on five of these statements, each corresponding to one of the above categories. As there was little variation in responses across statements, the figure can be generalized to the rest of our findings on personal development. Overall, we found small and positive, but statistically insignificant differences between participants and non-participants across these personal development indicators. Because we only have current data, we cannot attribute the differences between the two groups to the RYEP training alone. However, with the support of insights gathered during our focus groups, the data provides a picture of the dominant views of those in our sample toward their communities and their futures.

Figure 15: Personal Development



Community Engagement:

On average, respondents report that they engage with other members of their community, contribute to the development of their community, and are aware of the needs of their community. However, most do not consider themselves leaders within their communities. When we posed the question of leadership during our focus groups, many participants responded that they did not have enough experience to be considered leaders in the community as a whole, and that leadership is something that is developed over time. Due to the short window between completion of the program and the time of our assessment (less than two years, on average), it is likely that we were unable to capture the RYEP's more long-term desired outcome of developing community leaders.

Personal and Professional Opportunities:

In regards to professional and personal aspirations, most respondents agreed that they had well-defined goals and multiple professional paths, but on average, they did not believe that there were professional opportunities *within their communities*. We heard echoes of this sentiment during our focus group sessions, in which some participants and non-participants cited entrepreneurship as one of the only viable professional options in their community. In this sense, starting a business may be less of a choice and more of a last resort for young people with few other avenues to make a living. Nonetheless, our focus groups revealed a change in the perspective of participants who had completed the program. As Jacqueline explained, *"In my community, people think that in order to have a better life and stable job they have to move to the city, but I think that having a business can improve the lives of people here. [The RYEP] helped change my mindset."*

Personal Attitudes:

Overall, both participants and non-participants strongly identified with statements regarding cooperation, resilience, and persistence. These results suggest that both participants and non-participants demonstrate personal qualities that are necessary to running a successful business. In general, respondents are willing to listen to other people's ideas, unafraid of change, open to taking risks, and do not give up easily. This is reinforced with data gathered from our focus groups, where participants acknowledged the difficulties of starting up and operating a business. When asked to identify the most important attributes of a successful entrepreneur, many of them highlighted the importance of perseverance and bravery. Fabio, an RYEP participant, explained, *"I started my business and it was difficult, but I did it anyways."* Undeterred by the failure of his first business, Fabio is now saving up money to open a tapioca stand in the future.

Financial Independence:

On average, both participants and non-participants report that they are capable of coping with a financial shock, providing financial support for their family, and deciding how to spend their own money – proxy measures for financial independence and autonomy. Many focus group participants spoke about how their business helped them improve their financial situation. One participant, Ana Maria, explained, *“it is because of my shop that my family has an income...in my house before the course, we would just have beans and manioc. But now we can have more, like fruits and vegetables.”*

FOCUS GROUP FINDINGS

Besides the focus group findings presented in the results section, there are several other themes that were discussed in the six focus groups that provide meaningful information regarding the participant's reflections about the program, their businesses, and their outlooks for the future.

RYEP AS A UNIQUE OPPORTUNITY

One of the most consistent themes throughout the focus groups was that the program was the only one of its kind in the area. It offered participants an opportunity entirely different from what they were used to and what they had access to in their communities. For most, participating in the program was the first time they left home and were exposed to living with other individuals from various communities. Some had just finished high school, others had jobs or small businesses, and others were unemployed; however, they all describe this experience as an opportunity to grow both in their personal and professional lives. As Francini explained, *“When I entered the program, I was one person, when it was done, I was someone else. Adel has really expanded my horizons, and I will be taking the things I learned in the program with me for the rest of my life.”* The RYEP not only taught these youngsters important concepts for their future, but also kept them motivated throughout the process and taught them how to be resilient and confident.

CREATION OF BUSINESS PLAN

Across all focus groups, youngsters described the process of creating a business plan as one of the most important and helpful aspects of the program. This makes sense given that the business plan was the main output of the program in terms of professional development. In developing the business plans, the youngsters had to go to their communities, understand the market, their potential clients, their competitors, etc. They described this process as an eye-opening experience, as they began to see new opportunities to make a living by being entrepreneurs in their communities. These young people went from feeling that they had limited job options to creating their own opportunities within their communities.

However, the challenges of starting a business and/or actually making a profit were frequently mentioned. Taking the concepts learned in the RYEP and turning them into reality was a challenge for many of the youngsters, especially those with no previous experience and/or support-system. In fact, many started with a business and then changed it or had to close it because they were not making profit. As Ricardo, one participant, explained:

When you finish the program and go into the real world, you realize it's not the rainbow you imagined it to be while doing the program. For people who didn't have a business before the program, it's not easy. If you have never done something, people will look at you and ask, 'Why are you doing this?'

In order to deal better with all the obstacles encountered, the youngsters mentioned that it is essential for Adel to improve its delivery of the technical assistance. Many said that they never received the promised assistance, while others had only one or two visits from the technical expert. Participants emphasized the need for further technical assistance in the areas of financial management.

COMMUNICATION SKILLS

In terms of personal development, improvement in their communication skills was the most mentioned benefit from the program. The youngsters explained how the RYEP taught them how to deal and interact with different people, how to express themselves, and how to be understanding of others – skills that are extremely important to their client-oriented businesses: As Val, a participant with a manicure business, said, *“The program helped us to be more human. We now have a more open mind, we know how to deal with people better, we know the importance of good customer service.”*

IMPORTANCE OF ACCESS TO CREDIT

Access to credit was another key topic discussed during the focus groups. Many of the focus group participants received a loan from Fundo Veredas after they finished the RYEP, which they described as indispensable for starting their businesses. One participant, Mika, explained, *“It's the only source of credit I know that provides seed funding to start your business. If it weren't for Fundo Veredas, I don't think I would have started my business.”* Most invested the money in products to sell or use as investments such as cosmetics, candy, chickens, etc. Although the focus group participants mentioned that Adel teaches them how to manage their money, they had difficulty implementing these practices in a real-world business context. There was a strong emphasis on the need for increased assistance and instruction on how to manage the loan and successfully repay it on time.

Those participants who did not receive credit from Fundo Veredas mentioned that they already had some savings to start their business or they had some type of outside support. Others mentioned that they did not apply for the loan because they were afraid they would not be able to repay it, especially given the economic conditions in Brazil. With regards to other sources of credit, CrediAmigo was often mentioned. One participant referred to it as the *“darling of the credit programs because the payment schedule is feasible.”* Not many had actually gotten a loan

from CrediAmigo but they were aware of its existence and/or have family members who had gotten loans from CrediAmigo.

THE OBSTACLES FACING AGRICULTURAL BUSINESSES

The agriculture focus group discussed three themes that underline some of the challenges that these types of businesses face. First, many cited the complicated and expensive legal framework as an obstacle to formalizing their businesses. Along the same lines, they mentioned that applying the socio-environmental technologies learned during the course was beyond their financial means. Benedito M, a participant who had a business raising and selling chickens, said, *“We use the resources to which we have access, and a lot of them are expensive.”* The agricultural focus group also spoke about external challenges that make it difficult to operate and grow their businesses, such as bad roads, erratic corn prices, and lack of access to water. Speaking about how these overarching challenges would limit more advanced technology’s effect on increasing yield, Marciano explained, *“We sort of improvise and end up getting a result that is similar to what we would have gotten had we used the more expensive technology.”*

A second point of discussion was the role that community associations played in the development of their businesses. There was interesting conversation between the focus group participants given that on one side an older participant was the president of his association and highlighted the important role that community associations can play in assisting farmers and their businesses. While on the other hand, the younger participants recognized the importance of networks in a successful business. Benedito M. explained that for *“participants who didn’t have a business before the program, it was much more difficult to deal with the challenges - you need to have a network of people to help you not give up.”* They also said that local associations do not help them since they are run by older people who do not support new ideas. The third significant discussion topic was the need for better and more consistent technical assistance, which, as mentioned before, was a topic also brought up in the other focus groups. Agricultural businesses could use stronger assistance in areas of sanitation and irrigation. Additionally, the participants spoke about how Adel *“only has one technician for multiple communities”* and suggested that *“every community should have a technician.”*

OUTLOOK ON THE FUTURE

When asked about their plans and goals for the future, most focus group participants of the RYEP commented on their desire to continue their education and, for those that were studying, their short-term goal was to finish with schooling. In the long term, most focused on having a successful business and possibly expanding to other communities. As Daniele said,

In five years, I want to go to college to study business administration. In 10 years, I want to have my own store, not sell door to door. Eventually, I want to expand my business to other cities and states. I want to earn my own money to help my family and my mother.

To conclude, comparing the focus groups of RYEP participants with the focus group of non-participants provides an interesting perspective on the differences in the two groups and the possible impact that the RYEP has on the lives of these youngsters. While the participants talked extensively about their businesses and the opportunities for growth in their communities, the non-participants focused on the lack of job and development opportunities in their communities and the desire to look for better opportunities elsewhere. Both groups showed strong desire to continue with their education.

LIMITATIONS

Due to the time and resource constraints of Adel and the SIPA team, our study naturally encountered some obstacles that limit the validity of our findings. In this section, we present these limitations and consider their potential impact on our results. Toward the end of the report, we recommend ways to resolve some of these issues for Adel's future evaluation efforts.

RESPONSE BIAS

It is important to acknowledge that our quantitative and qualitative data were collected from a non-representative convenience sample of participants and non-participants. Compared to the overall applicant population of 295 individuals, our sample is biased toward those individuals who applied to the most recent cohorts in our study, presumably because they have had more recent contact with the organization. Because less time has transpired since the most recent cohorts have graduated from the RYEP, our results have likely underestimated the program's effects. Additionally, due to ethical considerations, we were not able to collect data from anyone under the age of 18. As a result, our non-participant sample is older, on average, than the overall applicant population of non-participants. Finally, due to the limited resources devoted to recruitment for the study, our sample of both participants and non-participants is biased toward those individuals who live in communities closest to Adel's headquarters in Pentecoste. However, across multiple other dimensions, including gender, we find that our sample is comparable to the overall applicant population. The full table of comparisons across observable characteristics can be found in the appendix.

It is also possible that our sample was not representative of the overall applicant population across multiple unobservable characteristics. Because the survey and focus groups were voluntary, it is possible that those who chose to participate in the study were either more engaged with the organization or held stronger beliefs about their experiences, positive or negative, that they hoped to express. Additionally, the survey events took place on a weekday and involved a half-day time commitment, so those with inflexible work schedules or those who could not afford to make the journey were less likely to attend the event. To the extent that these variables changed the composition of our sample relative to the overall applicant population, our findings will be biased.

MEASUREMENT ERROR

As this was a pilot study, we inevitably encountered many potential sources of measurement error. First, the presence of Adel staff members during the field visits calls into question the accuracy of the responses. We recognize that participants may have felt implicit pressure to

report favorable outcomes of the program. If this is the case, our positive findings may be overestimated. Second, our mobile-based survey was only accessible through an Android phone. Those respondents without an Android phone took the survey either on a laptop or on paper. Because the ease of completing the survey differed across formats, and because those who do not own an Android are likely to be different from those who do, the multiple methods of completing the survey may have introduced some measurement error. Finally, self-reported assessments of knowledge, business practices, and personal attitudes and beliefs can often be biased and subjective. We also recognize that respondents may not be able to accurately recall aspects of their knowledge or demographic characteristics like income at the time they applied to the program. If this is the case, then some of our estimates may not reflect accurate changes over time across various outcomes.

DROPOUTS OF RYEP

Our non-participant sample of 45 individuals includes 9 dropouts – that is, individuals who were accepted to the RYEP but did not complete the training. Because 20% of our comparison group received some amount of treatment, our results are likely to underestimate the true effect of the program. However, because the average time spent in the program before dropping out is only one week, we do not expect the bias to be large enough to significantly distort our findings.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Our findings show that Adel's Rural Young Entrepreneurs Program (RYEP) has modest but statistically significant positive effects on multiple aspects of the personal and professional development of program participants:

- After completion of the program, participants reported an increase in knowledge across a series of business topics, including agricultural innovation, legal frameworks, marketing, sales, product development, budgeting, cost management, accounting and finance. Using a DID regression, we find the effect of the RYEP to be small but significant across a majority of these topics, particularly those that are more technical and specialized in nature (such as legal frameworks and financial mathematics).
- Participants also reported improvements in their ability to implement a wide range of business activities, including creating a business plan, utilizing social networks, mitigating business risks, developing innovative products, marketing products, expanding their business, improving customer service, and improving the administration of their business. Using a DID regression, we find that RYEP has a small but significant effect across the following dimensions: creating a business plan, mitigating business risks, and improving customer service.
- Overall, RYEP participants report high levels of implementation of marketing and competitive analysis best practices (e.g. visiting competitors to determine the prices and products they offer), but report low levels of implementation of record-keeping and financial planning best practices (e.g. keeping written business records and keeping an annual balance sheet).
- Both CrediAmigo and Fundo Veredas are popular and accessible choices for credit among RYEP participants. Results suggest that Fundo Veredas is a more lenient creditor compared to CrediAmigo, and that new business owners who borrow could be acting rationally in terms of judging when to borrow from which institution and how to manage repayment. Participants report higher awareness of all credit sources after the program.
- After participating in the program, participants were much more likely to use information and communication technology – including applications for financial management, online resources, and social media – to improve their business.

- Participants see the Young Rural Entrepreneurs Network as more of a social network than a business association. However, many find the network to be useful in fostering a sense of solidarity and providing personal motivation for success.
- Participation in the RYEP is associated with higher levels of business ownership, higher educational attainment, and higher monthly income, though these effects are not statistically significant. The short time frame between participants' completion of the program and the time we implemented our survey may have limited our ability to capture these effects.
- In terms of personal development, participants report higher community engagement, more personal and professional opportunities, and a higher degree of financial independence compared to non-participants. Participants and non-participants also report strong positive attitudes in regards to cooperation, resilience, and persistence – qualities that are seen as essential to becoming a successful entrepreneur.
- Participants perceive RYEP as a unique opportunity to explore different professional and personal development avenues, including entrepreneurship. They cite the creation of a business plan, the emphasis on developing communications skills, and access to credit in from Fundo Veredas as the most valuable aspects of the program.
- Agricultural business owners face challenges related to the legal framework surrounding the operation of agricultural businesses and the implementation of expensive socio-environmental technologies. They also mentioned external challenges that make it difficult to operate and grow their businesses, such as bad roads, erratic corn prices, and the lack of access to water.
- Many participants of the program expressed the desire to continue with their education. Long-term aspirations were generally related to owning a successful business and possibly expanding to other communities.

RYEP PROGRAM RECOMMENDATIONS

In order to improve the impact of the RYEP on participants' personal and professional outcomes, we have outlined a series of program recommendations for Adel to consider. These include:

- **Strengthen the financial planning and management curriculum.** Both from the qualitative and quantitative findings, we observed that participants wanted more support with regards to managing their finances and keeping financial records. Many mentioned that learning these in a classroom setting is very different from applying the concepts in a

real-world setting, and they would have liked more assistance in this area. Adel might consider offering business advisory services to fill this gap.

- **Improve and systematize the delivery of technical assistance.** Based on the focus group findings, participants felt that the program did not fully deliver the technical assistance that was promised. Adel should be more explicit in setting expectations for the frequency and type of technical assistance that are in line with the availability of its resources.
- **Adapt the curriculum on socio-environmental technologies to fit the needs and resources of participants.** Most agricultural business owners expressed that they could not apply these expensive technologies to their businesses given their resource constraints. Adel can use further M&E efforts to gather more granular information about the needs of these agricultural businesses and adapt the technological recommendations accordingly.
- **Explore the possibility of establishing partnerships that strengthen the RYEP.** For example, technical assistance could potentially be strengthened by partnering with agencies that support micro and small businesses in the region (e.g. SEBRAE). By establishing such partnerships, Adel could also reduce costs and place greater emphasis on its strengths, namely the training phase of the program.

FUTURE ASSESSMENT RECOMMENDATIONS

If Adel wants to continue measuring the impacts of the RYEP and continue fostering a helpful feedback loop, we have several recommendations that they should contemplate:

- **Continue using the free KoBoCollect mobile platform to collect data.** During the implementation of the pilot survey, this tool proved to have several advantages in the field for three primary reasons: (i) most youngsters had Android phones and were able to download the app and take the survey, (ii) digital responses allowed for easy data analysis and eliminated errors in data entry, and (iii) respondents found the mobile-based survey easier and faster to complete than the paper-based survey.
- **Use the pilot survey as an instrument for future impact assessments.** We recommend dividing the survey into separate baseline and endline surveys, thus making it easier for future implementation. This division will allow for more accurate responses by eliminating the need for recall questions. Adel should implement the baseline survey before participants begin the program and the endline survey immediately after participants complete the program. Depending on the resources of Adel, the endline

survey should also be implemented periodically to evaluate the sustainability of the businesses and the trajectory of participants according to the theory of action.

- **Add questions about employment status and business formalization to the future professional development survey.** In the current pilot version of the survey, the questions did not accurately capture the employment status of participants. While the pilot survey does capture business ownership, employment outside self-owned businesses and the formalization status of businesses are important labor market outcomes that need to be assessed in the future.
- **Assess the knowledge component of the program according to an objective assessment of business topics rather than self-reported assessments.** For future assessments, we recommend evaluating participants' knowledge of business topics according to a standardized test of each topic (e.g. financial mathematics). This would allow for more objective and accurate measures of knowledge, as opposed to self-reported measures that are subject to individual bias.

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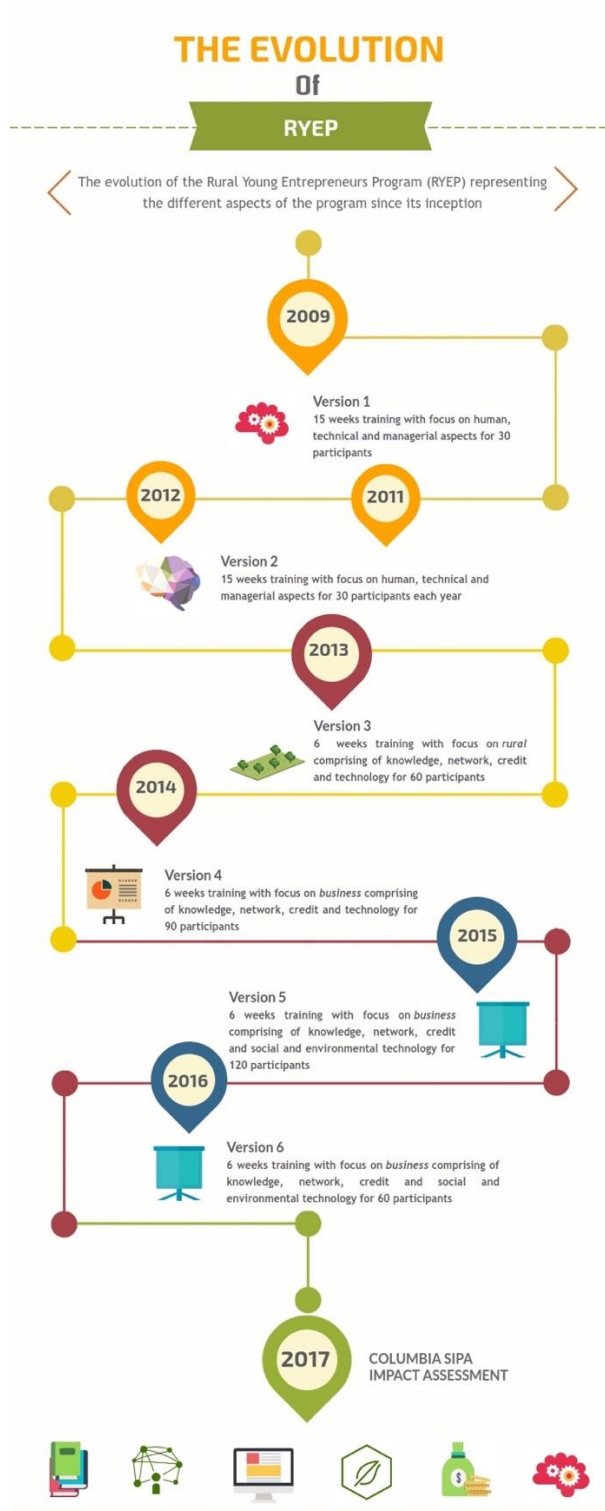
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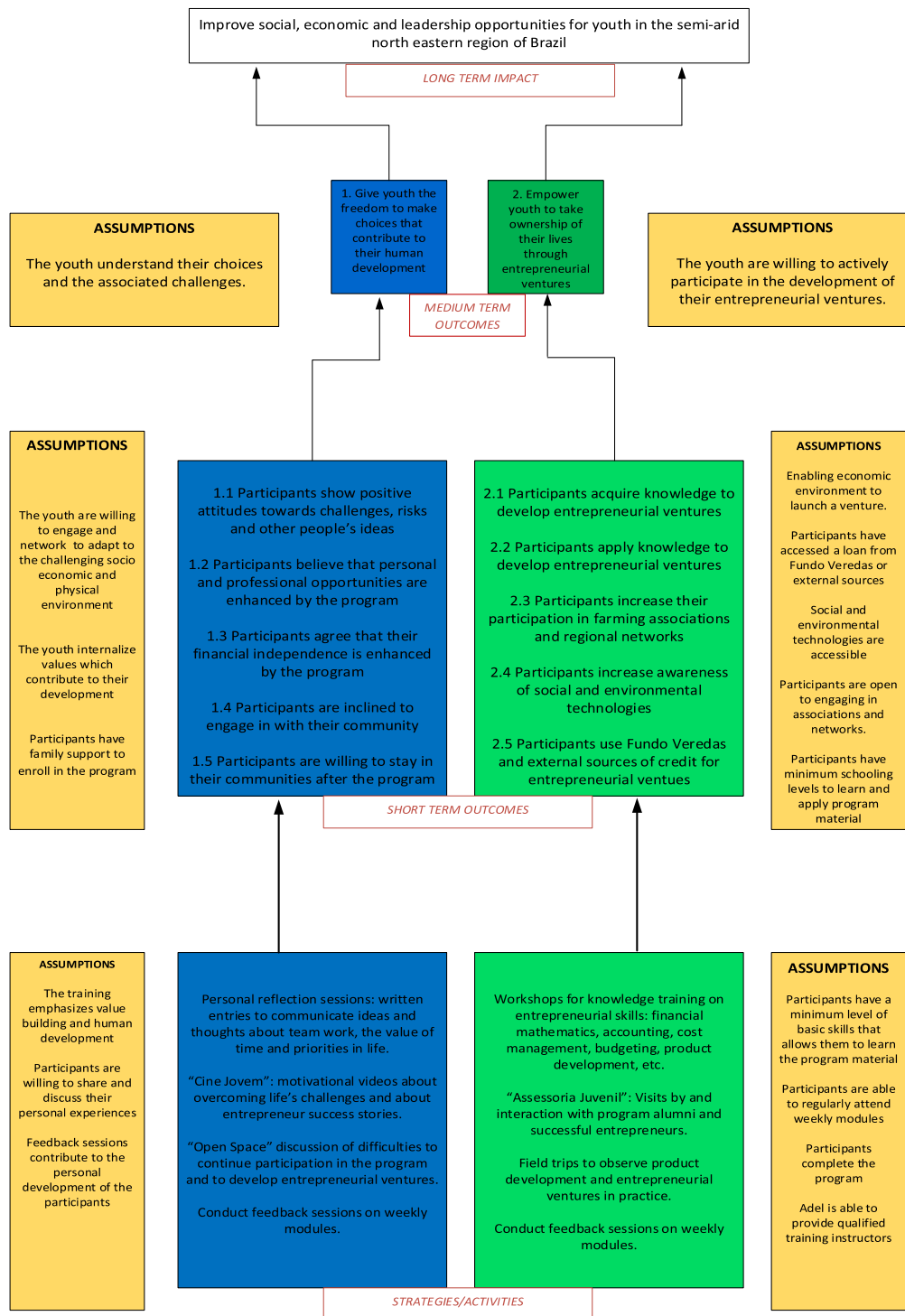
Appendix I: Evolution of the RYEP



Appendix II: Consultations with Experts and Stakeholders

Date	Name	Title
12/17/2016	Lauren Kelly	Senior Evaluation Officer, Sustainable Development Unit, World Bank
01/10/2017	Paolo Silveri	Country Program Manager (Country Director), IFAD
01/10/2017	Adriano Batista	Executive Director, Adel
01/11/2017	Aurigele Alves	Director of Programs, Adel
01/11/2017	Evilene Abreu	Director of Communication, Adel
01/11/2017	Wagner Gomes	Director of Institutional Relations
01/17/2017	Sandra Valeria Araujo Macedo	CSR, Petrobras (as of the date of the interview)
01/13/2017	Alberto Teixeira	Secretary of Entrepreneurship and Innovation, Municipal De São Gonçalo Do Amarante, Estado Do Ceará
01/30/2017	Patricia Lobaccaro	President and CEO, Brazil Foundation
Spring 2017	Rodrigo Soares	Lemann Professor of Brazilian Public Policy and International and Public Affairs, Columbia SIPA
Spring 2017	Diego Ubfal	Visiting Associate Research Scholar in the Faculty of International and Public Affairs, Columbia SIPA
Spring 2017	Doru C. Cojoc	Lecturer in the Discipline of International and Public Affairs, Columbia SIPA
Spring 2017	Alan Yang	Lecturer in Discipline of International and Public Affairs, Columbia SIPA
Spring 2017	Miguel Urquiola	Professor of Economics and International Affairs, Columbia SIPA

Appendix III: Theory of Action



Appendix IV: Group Comparison Across Sample and Overall Applicant Population Data

Panel A. Participants comparison across survey and project applicant data			
Variable	Participants in surveys	Participants in applicant data	p-value
Female	0.629 (0.485)	0.532 (0.501)	0.107
Age	20.527 (3.782)	19.932 (3.581)	0.288
Municipality- Apuiaries	0.046 (0.211)	0.000 (0.000)	0.007***
Municipality- Caucaia	0.159 (0.367)	0.177 (0.384)	0.685
Municipality- Paracuru	0.093 (0.291)	0.081 (0.273)	0.724
Municipality- Pentecoste	0.000 (0.000)	0.048 (0.215)	0.013**
Municipality- SGA	0.576 (0.496)	0.613 (0.489)	0.538
Municipality- Umirim	0.007 (0.081)	0.016 (0.126)	0.470
Municipality- SLC	0.119 (0.325)	0.065 (0.247)	0.114
Application score- RYEP	117.265 (18.958)	119.903 (13.527)	0.180
Panel B. Non- participants comparison across survey and project applicant data			
Variable	Non-participants in surveys	Non-participants in applicant data	p-value
Female	0.560 (0.499)	0.636 (0.482)	0.218
Age	20.549 (4.679)	19.009 (4.413)	0.018**
Municipality- Apuiaries	- -	- -	-
Municipality- Caucaia	0.044 (0.206)	0.182 (0.387)	0.000***
Municipality- Paracuru	0.363 (0.483)	0.045 (0.209)	0.000***
Municipality- Pentecoste	0.022 (0.147)	0.000 (0.000)	0.155
Municipality- SGA	0.495 (0.503)	0.636 (0.482)	0.022***
Municipality- Umirim	0.000 (0.000)	0.009 (0.095)	0.158
Municipality- SLC	0.077 (0.268)	0.127 (0.334)	0.163
Application score- RYEP	72.725 (39.719)	59.732 (31.194)	0.006***

Note: There are 75 observations for participants in the surveys and 62 observations for participants in the applicant data, for a total of 137 observations in the comparison of participants. There are 45 observations for non-participants in the surveys and 110 observations for non-participants in the applicant data, for a total of 155 observations in the comparison of non-participants. Robust standard errors in parentheses. ***p < 0.01; **p < 0.05; *p < 0.1.

Appendix V: DID Regressions for Knowledge of Business Topics

Variables	(1) Financial mathematics	(2) Accounting	(3) Cost management	(4) Budgeting	(5) Product development	(6) Legislation	(7) Sales	(8) Marketing	(9) Innovation in agriculture
Treatment (1=Participant, 0=Non-participant)	0.297* (0.160)	0.152 (0.207)	0.307 (0.210)	0.379* (0.192)	0.526** (0.257)	0.372* (0.196)	0.258 (0.261)	0.306 (0.190)	0.395** (0.178)
Cohort 2	0.570*** (0.206)	0.304 (0.274)	0.040 (0.262)	-0.022 (0.239)	-0.013 (0.307)	-0.364 (0.304)	0.403 (0.339)	0.574** (0.288)	0.203 (0.305)
Cohort 3	0.618** (0.281)	0.637* (0.329)	-0.106 (0.286)	0.034 (0.299)	-0.024 (0.369)	-0.383 (0.310)	-0.253 (0.414)	-0.148 (0.298)	0.372 (0.258)
Cohort 4	0.673*** (0.243)	0.493 (0.338)	0.190 (0.338)	0.042 (0.315)	0.404 (0.406)	-0.392 (0.342)	0.371 (0.333)	0.071 (0.291)	0.581** (0.278)
Cohort 5	0.721*** (0.183)	0.616** (0.266)	0.285 (0.219)	0.344* (0.204)	0.339 (0.317)	-0.063 (0.277)	0.575* (0.295)	0.393 (0.241)	0.515*** (0.190)
Incomplete highschool (1=yes, 0=No)	0.772* (0.389)	0.045 (0.794)	0.514 (0.503)	-0.753 (0.641)	-1.639*** (0.539)	-1.708*** (0.490)	1.053 (0.652)	-0.436 (0.523)	0.944* (0.539)
Complete highschool (1=yes, 0=No)	0.847** (0.368)	0.188 (0.803)	0.662 (0.529)	-0.596 (0.676)	-1.774*** (0.564)	-1.682*** (0.523)	0.748 (0.631)	-0.356 (0.521)	0.830 (0.546)
Incomplete college (1=yes, 0=No)	-0.398 (0.283)	-0.955** (0.435)	-0.411 (0.301)	-1.200*** (0.346)	-1.586*** (0.394)	-1.502*** (0.272)	-0.113 (0.416)	-0.732* (0.384)	0.841** (0.332)
Complete graduate (1=yes, 0=No)	1.438** (0.594)	0.077 (0.797)	1.657** (0.791)	0.690 (0.663)	0.736 (0.708)	-0.784 (0.591)	1.136 (0.802)	0.487 (0.753)	2.031*** (0.684)
Finished technical program (1=yes, 0=No)	0.124 (0.205)	-0.235 (0.256)	-0.112 (0.231)	-0.093 (0.246)	-0.188 (0.292)	-0.002 (0.212)	-0.361 (0.227)	0.167 (0.202)	0.025 (0.183)
Occupation- Agriculture (1=yes, 0=No)	-0.099 (0.468)	-0.279 (0.315)	0.574 (0.568)	0.105 (0.413)	0.241 (0.420)	0.484 (0.386)	0.420 (0.479)	0.733 (0.587)	0.473 (0.326)
Occupation Student highschool/technical (1=yes, 0=No)	-0.228 (0.467)	-0.379 (0.274)	0.481 (0.542)	0.216 (0.401)	0.321 (0.395)	0.468 (0.353)	0.180 (0.437)	0.511 (0.568)	0.341 (0.273)
Occupation Student graduate (1=yes, 0=No)	1.065* (0.549)	0.569 (0.766)	1.706** (0.717)	0.898 (0.688)	-0.217 (0.614)	0.164 (0.539)	1.091 (0.728)	0.475 (0.663)	0.769 (0.497)
Occupation- works in commerce (1=yes, 0=No)	-0.353 (0.474)	-0.302 (0.286)	0.355 (0.554)	-0.056 (0.375)	0.191 (0.433)	0.034 (0.343)	0.101 (0.460)	0.299 (0.550)	0.438 (0.288)
Married (1=yes, 0=No)	0.720** (0.294)	0.383 (0.653)	-0.848** (0.426)	-1.165** (0.497)	-0.586 (0.414)	0.367 (0.436)	-0.288 (0.563)	-0.832** (0.397)	0.520 (0.400)
Single (1=Yes, 0=No)	-0.524** (0.247)	-0.280 (0.308)	-1.616*** (0.266)	-1.618*** (0.321)	-0.693** (0.342)	0.252 (0.243)	-1.344*** (0.385)	-1.237*** (0.310)	0.137 (0.229)
Stable union (1=Yes, 0=No)	-0.569** (0.267)	-0.695** (0.294)	-1.352*** (0.348)	-1.369*** (0.368)	-0.735** (0.349)	0.368 (0.292)	-0.847** (0.402)	-1.197*** (0.402)	0.510 (0.333)
Catholic (1=Yes, 0=No)	-0.060 (0.292)	-1.052*** (0.390)	0.130 (0.398)	-0.887** (0.394)	0.537 (0.474)	0.941** (0.393)	0.216 (0.425)	0.395 (0.360)	0.033 (0.347)
Evangelical (1=Yes, 0=No)	-0.032 (0.288)	-0.965** (0.399)	-0.096 (0.385)	-0.935** (0.385)	0.254 (0.476)	0.843** (0.388)	-0.025 (0.500)	0.198 (0.362)	-0.031 (0.374)
Other religion (1=Yes, 0=No)	0.168 (0.257)	-0.750* (0.406)	0.569 (0.410)	-0.395 (0.446)	0.763 (0.514)	1.003** (0.474)	0.591 (0.532)	0.911** (0.451)	0.136 (0.363)
Afrobrazilian religions (1=Yes, 0=No)	0.855** (0.381)	-0.515 (0.603)	1.337* (0.744)	0.284 (0.734)	2.556*** (0.797)	1.613*** (0.605)	2.403*** (0.755)	2.396*** (0.597)	1.797*** (0.621)
RYEP application score (0-150)	0.003 (0.003)	0.004 (0.002)	0.003 (0.003)	0.002 (0.003)	0.000 (0.003)	0.004 (0.002)	0.008** (0.004)	0.008*** (0.003)	-0.002 (0.003)
Monthly income BRLS 0-76 (1=Yes, 0=No)	0.677 (0.529)	0.929** (0.379)	-0.130 (0.585)	0.433 (0.508)	-0.011 (0.469)	-0.243 (0.445)	-0.198 (0.491)	-0.660 (0.661)	-0.103 (0.379)
Monthly income BRLS 77-154 (1=Yes, 0=No)	0.204 (0.543)	0.406 (0.354)	-0.590 (0.601)	0.138 (0.480)	-0.511 (0.459)	-0.423 (0.425)	-0.689 (0.488)	-0.687 (0.640)	-0.313 (0.364)
Monthly income BRLS 155-291 (1=Yes, 0=No)	0.577 (0.542)	0.487 (0.405)	-0.135 (0.601)	0.066 (0.492)	-0.267 (0.491)	-0.688 (0.478)	-0.209 (0.529)	-0.913 (0.651)	-0.231 (0.401)
Monthly income BRLS 292-751 (1=Yes, 0=No)	0.183 (0.504)	0.283 (0.383)	-0.432 (0.578)	0.160 (0.486)	-0.208 (0.496)	-0.400 (0.458)	-0.235 (0.531)	-0.623 (0.680)	-0.196 (0.380)
Monthly income BRLS 752-1,019 (1=Yes, 0=No)	0.368 (0.491)	0.541* (0.295)	-0.430 (0.554)	0.131 (0.408)	-0.342 (0.427)	-0.312 (0.382)	0.001 (0.443)	-0.377 (0.580)	-0.389 (0.309)
Monthly income BRLS 1,020-1,637 (1=Yes, 0=No)	0.260 (0.525)	0.547 (0.379)	-0.126 (0.688)	0.324 (0.703)	-0.415 (0.583)	-0.396 (0.561)	-0.382 (0.563)	-0.653 (0.716)	-0.579 (0.476)
Monthly income BRLS 1,638-2,453 (1=Yes, 0=No)	0.117 (0.489)	0.394 (0.350)	-0.636 (0.599)	-0.514 (0.513)	-0.634 (0.509)	-0.245 (0.463)	-0.721 (0.642)	-0.536 (0.599)	-0.616 (0.394)
Municipality- Apuiaries (1=Yes, 0=No)	0.187 (0.272)	0.161 (0.333)	-0.086 (0.354)	-0.172 (0.386)	-0.398 (0.588)	-0.336 (0.479)	-0.023 (0.414)	0.510 (0.314)	0.457 (0.302)
Municipality- Caucaia (1=Yes, 0=No)	-0.029 (0.272)	0.051 (0.353)	-0.451 (0.366)	-0.405 (0.395)	-0.197 (0.452)	-0.255 (0.368)	-0.947** (0.424)	-0.362 (0.330)	0.162 (0.357)
Municipality- Paracuru (1=Yes, 0=No)	0.037 (0.253)	-0.074 (0.317)	-0.509 (0.333)	-0.286 (0.346)	-0.306 (0.427)	-0.369 (0.311)	-0.176 (0.368)	-0.120 (0.324)	-0.112 (0.281)
Municipality- Sao Goncalo do Amarante (1=Yes, 0=No)	-0.071 (0.143)	-0.047 (0.253)	-0.127 (0.272)	-0.062 (0.308)	-0.138 (0.379)	-0.168 (0.251)	0.096 (0.306)	0.253 (0.210)	-0.081 (0.235)
Municipality- Umirim (1=Yes, 0=No)	0.251 (0.311)	-0.085 (0.403)	0.575 (0.413)	0.559 (0.432)	0.334 (0.441)	0.433 (0.387)	0.577 (0.478)	2.096*** (0.437)	0.399 (0.373)
Individual owns business (1=Yes, 0=No)	0.194 (0.172)	0.258 (0.206)	0.162 (0.220)	0.057 (0.205)	0.504* (0.256)	0.270 (0.225)	0.163 (0.264)	-0.351 (0.226)	0.432* (0.220)
Family owns business (1=Yes, 0=No)	-0.172 (0.177)	0.043 (0.209)	-0.058 (0.238)	0.077 (0.247)	-0.219 (0.243)	-0.167 (0.216)	0.017 (0.269)	0.190 (0.239)	-0.394* (0.230)
Constant	-1.024 (0.632)	0.377 (0.994)	0.802 (0.724)	2.813*** (0.856)	2.009* (1.086)	0.709 (0.745)	-0.304 (1.198)	0.498 (0.813)	-1.305* (0.731)
Observations	119	119	119	119	119	119	119	119	119
R-squared	0.450	0.355	0.422	0.403	0.419	0.375	0.427	0.514	0.349

Note. All dependent variables are measured as first differences and all independent variables are measured at the pre-treatment period. All dependent variable units consist of a Likert scale for which 0=None, 1=Basic, 2=Intermediate, 3=Advanced and 4=Expert. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix VI: DID Regressions for Implementation of Business Activities

Variables	(1) Create a business plan	(2) Use of social networks for business	(3) Reduce risk in business	(4) Develop innovative products	(5) Market business products	(6) Business expansion	(7) Improve customer service	(8) Improve business management
Treatment (1=Participant, 0=Non-participant)	0.589** (0.293)	0.017 (0.322)	0.648** (0.309)	0.143 (0.363)	0.239 (0.416)	0.458 (0.371)	0.632* (0.341)	0.140 (0.387)
Cohort 2	0.363 (0.459)	0.522 (0.537)	-0.887* (0.468)	-0.291 (0.614)	-0.151 (0.546)	0.204 (0.539)	0.823** (0.414)	0.794 (0.597)
Cohort 3	-0.059 (0.467)	-0.506 (0.497)	-1.207** (0.460)	-0.960 (0.594)	-0.910* (0.501)	-0.757 (0.576)	-0.067 (0.437)	-0.104 (0.575)
Cohort 4	1.148** (0.500)	0.743 (0.482)	0.334 (0.507)	0.566 (0.612)	0.404 (0.602)	0.535 (0.588)	0.914* (0.478)	0.724 (0.513)
Cohort 5	0.919** (0.394)	0.536 (0.398)	0.092 (0.419)	0.206 (0.488)	0.309 (0.432)	0.404 (0.438)	0.684** (0.311)	0.730 (0.450)
Incomplete highschool (%)	-2.852*** (0.955)	-1.757* (1.004)	-5.202*** (1.031)	-2.789** (1.062)	-1.157 (1.125)	-1.157 (1.116)	0.498 (0.762)	0.735 (0.978)
Complete highschool (%)	-2.879*** (0.960)	-1.487 (0.987)	-4.472*** (1.002)	-2.589** (1.023)	-0.834 (1.119)	0.857 (1.040)	0.846 (0.720)	0.768 (0.925)
Incomplete college (%)	-1.882*** (0.567)	-1.252** (0.619)	-2.122*** (0.550)	0.059 (0.688)	-0.421 (0.718)	1.261* (0.754)	0.732 (0.666)	-0.128 (0.704)
Complete graduate (%)	-0.712 (1.307)	0.476 (1.421)	-2.799** (1.191)	0.441 (1.707)	1.983 (1.519)	2.794* (1.592)	0.731 (0.864)	2.563 (1.588)
Finished technical program (%)	-0.517 (0.386)	-0.245 (0.343)	-0.525 (0.349)	-0.574 (0.348)	-0.439 (0.462)	-0.439 (0.339)	-0.267 (0.350)	-0.625* (0.364)
Occupation- Agriculture (%)	2.931*** (0.743)	2.390*** (0.762)	2.431*** (0.850)	3.614** (1.561)	3.311*** (1.201)	2.919*** (1.093)	1.420*** (0.531)	2.960** (1.199)
Occupation Student highschool/technical (%)	2.646*** (0.689)	2.229*** (0.669)	2.424*** (0.767)	3.253** (1.476)	3.025** (1.611)	2.709** (1.611)	1.417*** (0.519)	3.030** (1.156)
Occupation Student graduate (%)	1.768* (1.028)	1.672 (1.044)	-0.045 (1.186)	0.662 (1.756)	2.635* (1.536)	2.979* (1.520)	2.193*** (0.726)	4.167*** (1.460)
Occupation- works in commerce (%)	2.422*** (0.660)	1.915*** (0.677)	1.810** (0.731)	3.031** (1.473)	2.558** (1.163)	2.438** (1.061)	1.087** (0.471)	2.435** (1.158)
Married (1=yes, 0=No)	-2.072** (0.954)	-2.692** (1.065)	-1.959* (1.042)	-2.545** (1.025)	-0.420 (0.896)	-2.056** (0.896)	-0.837 (0.601)	-0.775 (0.766)
Single (1=Yes, 0=No)	-1.617*** (0.374)	-2.799*** (0.467)	-1.275*** (0.380)	-1.899*** (0.411)	-0.844** (0.421)	-1.936*** (0.490)	-1.450*** (0.403)	-1.327*** (0.493)
Stable union (1=Yes, 0=No)	-1.187** (0.549)	-3.357*** (0.583)	-0.777 (0.739)	-1.875** (0.846)	-0.505 (0.552)	-1.107 (0.694)	-1.105** (0.499)	-1.018* (0.606)
Catholic (1=Yes, 0=No)	-0.691 (0.686)	-0.795 (0.656)	0.094 (0.694)	-0.388 (0.688)	-0.370 (0.656)	-3.116*** (0.613)	-2.254*** (0.564)	-0.294 (0.656)
Evangelical (1=Yes, 0=No)	-0.310 (0.759)	-1.135 (0.696)	0.377 (0.787)	-0.420 (0.750)	-0.359 (0.664)	-2.921*** (0.678)	-1.958*** (0.651)	0.763 (0.766)
Other religion (1=Yes, 0=No)	0.592 (0.780)	-0.712 (0.665)	1.170 (0.870)	0.240 (0.849)	0.070 (0.678)	-2.816*** (0.675)	-1.768*** (0.601)	1.044 (0.730)
Afrobrazilian religions (1=Yes, 0=No)	0.943 (1.127)	-0.502 (0.933)	0.893 (1.131)	-1.323 (1.103)	-1.631 (1.161)	-2.984*** (1.072)	-2.072** (0.858)	-1.396 (1.194)
RYEP application score (0-150)	0.009* (0.005)	0.009** (0.004)	0.004 (0.005)	0.005 (0.005)	0.006 (0.006)	0.004 (0.006)	0.007 (0.005)	0.013** (0.005)
Monthly income BRLS 0-76 (1=Yes, 0=No)	-1.543* (0.817)	-1.275 (0.821)	-1.185 (0.895)	-2.182 (1.516)	-1.593 (1.254)	-1.269 (1.129)	-0.376 (0.609)	-1.643 (1.196)
Monthly income BRLS 77-154 (1=Yes, 0=No)	-2.386*** (0.810)	-2.381*** (0.752)	-1.802** (0.861)	-3.001* (1.547)	-2.741** (1.269)	-2.542** (1.158)	-1.355** (0.647)	-2.414* (1.227)
Monthly income BRLS 155-291 (1=Yes, 0=No)	-2.605*** (0.864)	-2.154*** (0.771)	-2.206** (0.869)	-2.927* (1.512)	-2.746** (1.273)	-2.192* (1.112)	-1.192* (0.653)	-2.049* (1.217)
Monthly income BRLS 292-751 (1=Yes, 0=No)	-2.540*** (0.790)	-1.806** (0.846)	-1.929** (0.900)	-2.990* (1.552)	-2.401* (1.260)	-1.889 (1.147)	-0.880 (0.579)	-2.331* (1.197)
Monthly income BRLS 752-1,019 (1=Yes, 0=No)	-2.174*** (0.750)	-2.004*** (0.705)	-1.559* (0.784)	-2.497* (1.486)	-1.998* (1.181)	-1.903* (1.104)	-0.835* (0.494)	-1.883 (1.153)
Monthly income BRLS 1,020-1,637 (1=Yes, 0=No)	-2.294** (0.960)	-2.298*** (0.854)	-2.205** (1.075)	-3.325** (1.608)	-2.613* (1.454)	-1.691 (1.270)	-1.083 (0.660)	-1.756 (1.306)
Monthly income BRLS 1,638-2,453 (1=Yes, 0=No)	-2.853 (2.031)	-2.792 (2.304)	-2.793 (2.216)	-4.661* (2.565)	-4.186* (2.207)	-2.882 (2.184)	-0.998 (0.703)	-3.473** (1.671)
Municipality- Apuiaras (1=Yes, 0=No)	-0.299 (0.989)	1.179 (1.071)	-0.194 (1.154)	0.327 (1.045)	1.207 (0.865)	1.326 (1.011)	0.349 (1.039)	1.792* (0.996)
Municipality- Caucaia (1=Yes, 0=No)	-0.411 (0.745)	-0.077 (0.659)	-0.630 (0.673)	-0.396 (0.692)	-0.098 (0.732)	-0.516 (0.633)	-0.801 (0.654)	-0.046 (0.738)
Municipality- Paracuru (1=Yes, 0=No)	-0.056 (0.514)	-0.012 (0.459)	-0.096 (0.455)	-0.801 (0.586)	-0.279 (0.618)	-0.502 (0.560)	-0.195 (0.560)	0.302 (0.563)
Municipality- Sao Goncalo do Amarante (1=Yes, 0=No)	-0.061 (0.448)	0.431 (0.391)	0.077 (0.390)	0.054 (0.520)	0.459 (0.529)	0.316 (0.495)	0.145 (0.478)	0.995* (0.530)
Municipality- Umirim (1=Yes, 0=No)	0.367 (0.569)	1.708*** (0.598)	0.637 (0.538)	-0.321 (0.649)	0.318 (0.720)	0.303 (0.799)	1.112 (0.719)	1.504* (0.796)
Individual owns business (1=Yes, 0=No)	0.868** (0.344)	0.926** (0.408)	1.459*** (0.364)	1.342*** (0.440)	1.013** (0.417)	0.783** (0.393)	0.235 (0.383)	0.391 (0.383)
Family owns business (1=Yes, 0=No)	-0.381 (0.340)	-0.400 (0.420)	-0.085 (0.341)	-0.504 (0.358)	-0.643 (0.427)	-0.320 (0.408)	0.169 (0.392)	-0.255 (0.422)
Constant	3.690** (1.557)	4.175*** (1.493)	5.085*** (1.410)	4.488*** (1.625)	1.102 (1.584)	3.157** (1.549)	1.530 (1.107)	-2.309 (1.507)
Observations	119	119	119	119	119	119	119	119
R-squared	0.461	0.379	0.497	0.392	0.360	0.413	0.437	0.411

Note. All dependent variables are measured as first differences and all independent variables are measured at the pre-treatment period. All dependent variable units consist of a Likert scale for which 0=None, 1=Basic, 2=Intermediate, 3=Advanced and 4=Expert. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix VII: Survey Instrument

Impact Assessment of Adel’s RYEP Initiative in Ceará, Brazil
SIPA Workshop in Development Practice 2016-17
Columbia University
Survey Questionnaire – RYEP Participants

I. Personal Information

Name: _____
 How do you like being called? _____
 Gender: _____ Ethnicity: _____ DOB (DD/MM/YY): _____
 Age: _____ Marital Status: _____
 Email: _____
 Address: _____
 Point of reference: _____ Community: _____
 Municipality: _____
 Telephone Number: _____

1. **Currently**, what is the highest level of education you have completed?
 (Please choose one option only)

Some High school		High school		Some-Graduate		Graduate		Post-Graduate	
------------------	--	-------------	--	---------------	--	----------	--	---------------	--

2. **Currently**, have you completed technical school?
 () Yes () No

3. **Currently**, what is your occupation? (Please choose one option only)

High school/Technical school student		Graduate university student		Post-graduate university student		Other (please specify) _____	
Farmer		Commerce		Public office job			

4. **Currently**, what is your monthly income (Reais)? (Please choose one option only)

0-76		77-154		155-291		292-751		752-1012	
1020-1637		1638-2453		2453-3271		3272-4087		4087 and above	

5. What is your religious affiliation? *(Please choose one option only)*

Catholic		Espiritista		Pentecostal		Evangelical	
Afro-Brazilian religions		Atheist		Agnostic		Other <i>(please specify)</i> _____	

6. Please provide your address **at the time you applied to the program**:

Address: _____

Point of reference: _____

Community: _____

Municipality: _____

7. **At the time you applied to the program**, what was your marital status?

(Please choose one option only)

Single		Married		Divorced		Living together	
Widowed		Separated		Domestic Partnership			

8. **At the time you applied to the program**, what was the highest level of education you had completed? *(Please choose one option only)*

Some High school		High school		Some-Graduate		Graduate		Post-Graduate	
------------------	--	-------------	--	---------------	--	----------	--	---------------	--

9. **At the time you applied to the program**, had you completed technical school?

() Yes () No

10. **At the time you applied to the program**, what was your occupation?

(Please choose one option only)

High school/technical school student		Graduate university student		Post-graduate university student		Other <i>(please specify)</i> _____	
Farmer		Commerce		Public office job			

11. **At the time you applied to the program**, what was your monthly income (Reais)?

(Please choose one option only)

0-76		77-154		155-291		292-751		752-1012	
1020-1637		1638-2453		2453-3271		3272-4087		4087 and above	

II. Household Characteristics

12. Who is the head of your household? *(Please choose one option only)*

You		Father		Mother		Sibling	
Grandfather		Grandmother		Partner		Other	

13. How many members of your family eat from the same kitchen?
(Please write the number in the box below)

14. _____ What are the main sources of income for your family?
(Please choose all that apply)

Agriculture		Public Office		Entrepreneurship		Other <i>(please specify below)</i>	
Private Sector		Retirement Pension		Government Aid		_____	

15. Who in your family has completed the highest level of education?
(Please choose one option only)

You		Father		Mother		Sibling	
Grandfather		Grandmother		Partner		Other	

16. What is the highest level of education this person has completed?
(Please choose one option only)

Some high school		High school		Some graduate		Graduate		Post-Graduate		Technical school	
------------------	--	-------------	--	---------------	--	----------	--	---------------	--	------------------	--

17. Which of the following assets does your family own?
(Please choose all that apply)

Land		Livestock		Motor Cycle		Cable Television	
Cash Deposits		Car with sound system		Laptop		Washing Machine	

18. Please answer the following questions:

		Yes	No
a.	Do you have a signed work-card?		
b.	Does your household currently receive Bolsa Família?		
c.	If no, has your household received Bolsa Família in the past?		

19. **At the time you applied to the program**, did you own a business?

Yes No

a. If yes, what type of business?

- Food
- Clothing
- Cosmetics/beauty
- Mechanic repair shop
- Artisan
- Agriculture/agro-industry

b. If yes, how many employees worked for the business (including yourself)?

c. If yes, was the business formally registered?

Yes No

20. **At the time you applied to the program**, did your family own a business?

Yes No

a. If yes, what type of business?

- Food
- Clothing
- Cosmetics/beauty
- Mechanic repair shop
- Artisan
- Agriculture/agro-industry

b. If yes, how many employees worked for the business (including yourself)?

c. If yes, was the business formally registered?

Yes No

21. **Currently**, do you own a business?

Yes No

a. If yes, what type of business?

- Food
- Clothing
- Cosmetics/beauty
- Mechanic repair shop
- Artisan
- Agriculture/agro-industry

b. If yes, how many employees worked for the business (including yourself)?

c. If yes, was the business formally registered?

Yes No

22. **Currently**, does your family currently own a business?

Yes No

a. If yes, what type of business?

Food

Clothing

Cosmetics/beauty

Mechanic repair shop

Artisan

Agriculture/agro-industry

b. If yes, how many employees worked for the business (including yourself)?

c. If yes, was the business formally registered?

Yes No

23. Have you ever used SEBRAE resources (courses, online resources)?

Yes No

III. Knowledge and Practices

24. If you currently have a venture, please answer the following questions:

		Yes	No	N/A
a.	I have visited at least one of my competitors' businesses to see what prices my competitors are charging			
b.	I have visited at least one of my competitor's businesses to see what products my competitors have available for sale			
c.	I have advertised in some form within the last 6 months			
d.	I have attempted to negotiate with a supplier for a lower price on a good			
e.	I have records that show how much cash my business has on hand at any point in time			
f.	I have worked out the cost of each of the main products I sell			
g.	I have a written budget that states how much is owed each month for rent, electricity, equipment maintenance, transport, advertising, and other indirect costs to the business			
h.	I have a target for sales over the next year			
i.	I have a budget of the likely costs my business will face over the next year			
j.	I have an annual statement of cash flow			

25. Currently, how would you rate your skill level in each of the following topics?

	None	Basic	Intermediate	Advanced	Expert
a. Financial Mathematics					
b. Accounting					
c. Cost Management					
d. Budgeting					
e. Product Development					
f. Sales					
g. Marketing					
h. Rules and regulations for ventures					
i. Innovative farming techniques					

26. Currently, how effective are you in implementing the following business-related activities?

	Not at all effective	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
a. Create a business plan					
b. Use social media for business purposes					
c. Mitigate business risks					
d. Develop innovative products					
e. Commercialize business products					
f. Expand your business					
g. Improve customer service					
h. Improve business management					

27. At the time you applied for the program, how would you rate your skill level in each of the following topics?

	None	Basic	Intermediate	Advanced	Expert
a. Financial Mathematics					
b. Accounting					
c. Cost Management					
d. Budgeting					
e. Product Development					
f. Sales					
g. Marketing					
h. Rules and regulations for ventures					
i. Innovative farming techniques					

28. At the time you applied for the program, how effective were you in implementing the following business-related activities?

	Not at all effective	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
a. Create a business plan					
b. Use social media for business purposes					
c. Mitigate business risks					
d. Develop innovative products					
e. Commercialize business products					
f. Expand your business					
g. Improve customer service					
h. Improve business management					

IV. Credit

29. If you had your own venture at the time you applied to the program, please answer the following question about credit:

	Yes	No
At the time you applied to the program, did you need credit to support your venture?		

30. If you had your own venture at the time you applied to the program, please answer the following questions about CrediAmigo:

	Yes	No
a. At the time you applied to the program, were you aware of CrediAmigo?		
b. If yes, had you ever applied for credit from CrediAmigo?		
c. If yes, had you ever received credit from CrediAmigo?		
d. If yes, were you able to repay your monthly loan installment from CrediAmigo on time?		
e. If you received a loan from CrediAmigo, did you ask for an extension for the loan?		

31. If you had your own venture at the time you applied to the program, please answer the following questions about AgroAmigo:

	Yes	No
a. At the time you applied to the program, were you aware of AgroAmigo?		
b. If yes, had you ever applied for credit from AgroAmigo?		
c. If yes, had you ever received credit from AgroAmigo?		
d. If yes, were you able to repay your monthly loan installment from AgroAmigo on time?		
e. If you received a loan from AgroAmigo, did you ask for an extension for the loan?		

32. If you had your own venture at the time you applied to the program, please answer the following questions about PRONAF:

	Yes	No
a. At the time you applied to the program, were you aware of PRONAF?		
b. If yes, had you ever applied for credit from PRONAF?		
c. If yes, had you ever received credit from PRONAF?		
d. If yes, were you able to repay your monthly loan installment from PRONAF on time?		
e. If you received a loan from PRONAF, did you ask for an extension for the loan?		

33. If you had your own venture at the time you applied for the program, were you aware of any other sources of credit besides CrediAmigo, AgroAmigo, and PRONAF?

() Yes () No

34. If you answered yes to the previous question:

a. What was the source of credit? _____

		Yes	No
b.	Had you ever applied for credit from this source?		
c.	If yes, had you ever received credit from this source?		
d.	If yes, were you able to repay your monthly loan installments on time?		
e.	If you received a loan, did you ask for an extension for the loan?		

35. If you currently have your own venture, please answer the following question about credit:

		Yes	No
	Currently , do you need credit to support your venture?		

36. If you currently have your own venture, please answer the following questions about CrediAmigo:

		Yes	No
a.	Are you aware of CrediAmigo?		
b.	If yes, have you applied for credit from CrediAmigo since completing the program?		
c.	If yes, have you received credit from CrediAmigo since completing the program?		
d.	If yes, were you/will you be able to repay your monthly loan installment from CrediAmigo on time?		
e.	If you received a loan from CrediAmigo, did you/will you have to ask for an extension for the loan?		

37. If you currently have your own venture, please answer the following questions about AgroAmigo:

		Yes	No
a.	Are you aware of AgroAmigo?		
b.	If yes, have you applied for credit from AgroAmigo since completing the program?		
c.	If yes, have you received credit from AgroAmigo since completing the program?		
d.	If yes, were you/will you be able to repay your monthly loan installment from AgroAmigo on time?		
e.	If you received a loan from AgroAmigo, did you/will you have to ask for an extension for the loan?		

38. If you currently have your own venture, please answer the following questions about PRONAF:

		Yes	No
a.	Are you aware of PRONAF?		
b.	If yes, have you applied for credit from PRONAF since completing the program?		
c.	If yes, have you received credit from PRONAF since completing the program?		
d.	If yes, were you/will you be able to repay your monthly loan installment from PRONAF on time?		
e.	If you received a loan from PRONAF, did you/will you have to ask for an extension for the loan?		

39. If you currently have your own venture, are you aware of any other sources of credit besides CrediAmigo, AgroAmigo, and PRONAF?

() Yes () No

40. If you answered yes to the previous question:

a. What is the source of credit? _____

		Yes	No
b.	Have you applied for credit from this source since completing the program?		
c.	If yes, have you received credit from this source since completing the program?		
d.	If yes, were you/will you be able to repay your monthly loan installments on time?		
e.	If you received a loan, did you/will you have to ask for an extension for the loan?		

41. Please answer the following questions about Fundo Veredas:

		Yes	No
a.	Did you apply for a loan from Fundo Veredas?		
b.	If yes, did you receive credit from Fundo Veredas?		
c.	If yes, are you able to repay your installments on time?		
d.	If yes, do you need a loan extension for repayment?		

V. Technology

42. If you had a venture at the time you applied to the program, please answer the following questions:

		Yes	No
a.	At the time you applied to the program, did you use social media tools (Facebook, Twitter, blog/website, WhatsApp) for your venture?		
b.	At the time you applied to the program, did you use online research to help make informed management decisions about your business?		
c.	At the time you applied to the program, did you use any apps (applications) to help with financial management and benchmarking?		

43. If you currently have a venture, please answer the following questions:

		Yes	No
a.	Currently, do you use social media tools (Facebook, Twitter, blog/website, WhatsApp) for your venture?		
b.	Currently, do you use online research to help make informed management decisions about your business?		
c.	Currently, do you use any apps (applications) to help with financial management and benchmarking?		

44. If you currently have an agricultural or agro-industrial venture, do you use the following socio-environmental technologies in your business?

		Yes	No	N/A
a.	Mandala			
b.	PAIS (Produção Agroecológica Integrada Sustentável)			
c.	Horta Econômica			
d.	Quintal Produtivo			
e.	Cisterna de placa			
f.	Cisterna Calçada			
g.	Cisterna de Enxurrada			
h.	Barragem subterrânea			
i.	Biodigestor			
j.	Compostagem			
k.	Agrofloresta			

VI. Networks

45. Please answer the following questions about farming associations:

		Yes	No	N/A
a.	At the time you applied to the program , did your community have a farming association?			
b.	At the time you applied to the program , were you a member of the farming association?			

		Yes	No	N/A
c.	Currently , does your community have a farming association?			
d.	Currently , are you a member of the farming association?			

46. If you owned a farming-related venture at the time you applied to the program, how effective was the farming association in helping you with the following?

		Not at all effective	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
a.	Providing access to larger markets					
b.	Developing innovative farming practices					
c.	Creating a sense of solidarity with other farmers					

47. If you currently own a farming-related venture, how effective is the farming association in helping you with the following?

		Not at all effective	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
a.	Providing access to larger markets					
b.	Developing innovative farming practices					
c.	Creating a sense of solidarity with other farmers					

48. Please answer the following questions about the Young Rural Entrepreneurs Network:

		Yes	No
a.	Are you aware of the Young Rural Entrepreneurs Network?		
b.	Are you a member of the Young Rural Entrepreneurs Network?		

49. If you currently own a business and are a member of the Rural Network of Young Entrepreneurs, how effective is the Young Rural Entrepreneurs Network in helping you with the following activities?

		Not at all effective	Slightly Effective	Moderately Effective	Very Effective	Extremely Effective
a.	Creating a business plan					
b.	Marketing strategies					
c.	Mitigating business risks					
d.	Developing innovative products					
e.	Commercializing business products					
f.	Expanding your business					
g.	Improving customer service					
h.	Improving business management					
i.	Participating in local governance					
j.	Participating in local community associations and cooperatives					
k.	Creating a sense of solidarity with other members of the network					

VII. Personal Development

50. To what extent do you agree with the following statements on community engagement?

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I am a leader in my community				
b.	I participate in community activities				
c.	I engage with other members of my community				
d.	I contribute to the development of my community				
e.	I am aware of the needs of my community				

51. To what extent do you agree with the following statements on personal and professional opportunities?

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I can choose from multiple professional paths				
b.	I have well-defined goals				
c.	I have professional opportunities within my community				
d.	I feel the program has created opportunities for me that did not exist before				

52. To what extent do you agree with the following statements on personal attitudes?

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I do not give up easily				
b.	I am willing to take risks				
c.	I am not afraid of change				
d.	I am willing to listen to other people's ideas even if they are different from my own				

53. To what extent do you agree with the following statements on financial independence?

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I can choose how to spend my money				
b.	I am able to provide some financial support for my family				
c.	I am able to cope with a financial shock (i.e. a health emergency)				

54. To what extent do you agree with the following statements about migration?

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	It is likely that I will remain in my community for the next five years.				
b.	It is likely that I will migrate to a larger city or another state within the next five years.				

Note: Questions 41, 48-49, and 51(d) were not included on the survey administered to non-participants, as they are only applicable to RYEP participants.