

MEASURING HOUSEHOLD-LEVEL EFFECTS OF IMPACT INVESTING IN PERU









I-DEV International is a strategy & investment advisory firm dedicated to building socially-impactful, scalable businesses and industries in emerging markets. Through its offices in the United States, Peru, and Kenya, I-DEV has worked with over 250 SMEs, corporations, and cooperatives in industries including agriculture, apparel, water & sanitation, clean energy, and consumer products. I-DEV supports local companies in entering new markets, growing operations, improving and structuring supply chains, and raising capital. I-DEV also works closely with the international development sector to strengthen programs focused on SME ecosystem building and the impact investing sector to identify and assess potential investments in frontier markets, as well as provide post-investment support.

I-DEV International and its founders have worked in Peru since 2009 to support social enterprise development and strengthen the impact investing sector throughout the country. I-DEV has worked across a number of regions in Peru, including Cajamarca, Lima, Puno, Cusco, Arequipa, San Martin, and Loreto; as well as throughout Latin America, in Colombia, Guatemala, Honduras, Ecuador, Brazil, Uruguay, Mexico, and Bolivia.



# The Group for the Analysis of Development (GRADE) is

a private non-profit research center in Lima, Peru that has been working since 1980 to develop applied research to stimulate and enrich the design, discussion, and implementation of public policy. GRADE is dedicated to undertaking economic, educational, environmental, and social studies in areas relevant to the development of Peru and other Latin American countries, with the aim of disseminating the results of its work to policy makers, practitioners, and the general public.

GRADE is recognized throughout Latin America for its academically rigorous research methods based on solid empirical evidence, expertise in the field, and integrity.

# **ACKNOWLEDGMENTS**

I-DEV International would like to thank all those who contributed to making this study possible:

# **Partners**

The study was completed by I-DEV International in close collaboration with the Group for the Analysis of Development (GRADE), and with the support of the Aspen Network of Development Entrepreneurs (ANDE), the Bernard van Leer Foundation, and the Inter-American Development Bank.

# **Interviews**

We are grateful to the management and field teams of AgroAndino, C.A.C. La Prosperidad de Chirinos, C.A.C. Frontera, and Allpa for opening their doors and connecting us to their suppliers. We are particularly thankful to the following people for providing key insights, information, and valuable inputs for the study:

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# Introduction & Executive Summary

# The Bigger Picture of SGB Impact

I-DEV International, in conjunction with the Aspen Network of Development Entrepreneurs (ANDE) and the Peru-based Group for the Analysis of Development (GRADE), set out to evaluate the household-level impacts of Small and Growing Businesses (SGBs) that purchase goods from base of the pyramid (BoP) suppliers and that have received external financing from impact investors. This final report presents the findings from an ambitious multi-year investigation to analyze quantitatively and qualitatively the household impacts of four export-oriented SGBs in Peru.

This study presents the findings of a multi-year analysis on the household-level impacts

of impact investing

In recent years, the international development sector has become increasingly focused on utilizing a market-based approach, including impact investing and SGB strengthening strategies, to solve development challenges ranging from income generation and job creation to sanitation and education. The assumption behind investing in SGBs is that it is an economically sustainable and efficient use of capital to better address the needs, interests, and realities of the poor, and that it will ultimately have significant, positive impacts within BoP communities worldwide. However, while there are many anecdotal stories and isolated data points on the social impact of impact investing and SGBs, these assumptions have yet to be proven via a statistically rigorous and appropriate analysis. This study takes a step further in demonstrating the real impact of these development strategies, evidence that many investors in impact investing are beginning to require.

The 24-month study, which included over 850+ household surveys, 10 focus groups, and numerous in-depth interviews with impact investors and the SGB management teams, aims to show how SGBs can effectively improve livelihoods and quality of life for BoP households, and to provide a replicable household impact assessment framework for practitioners and impact investors.

The analysis examines four SGBs that: (i) source products from BoP suppliers, (ii) have received financing from impact investors, and (iii) operate across three key productive sectors in Peru.

# SGBs in Focus

# **Goldenberry**



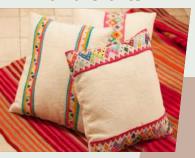
AgroAndino: An organic agroprocessing business that
sources fresh goldenberry from
smallholder farmers in the
northern highlands of Peru

# **Organic Coffee**



C.A.C. Frontera & C.A.C. La Prosperidad de Chirinos: Two organic coffee cooperatives that have combined membership of over 1,000 coffee farmers

# **Handicrafts**



**Allpa:** A privately-owned exporter and retailer of Fair Trade, handmade crafts that works with small artisan workshops in vulnerable communities of Lima and the Peruvian Andes



# The Missing Middle

While SGBs are the vital backbone of developing economies, they are characterized by what is commonly known as the "missing middle"– too big for microfinance loans, yet generally too small to finance themselves in traditional debt capital markets. This lack of access to investment capital is a considerable constraint, both in the short and long term, for SGBs to grow and scale viably.

Impact investors in developing economies directly target this missing middle space to offer capital to high-impact SGBs, providing them with the financing they need to grow at significantly less prohibitive interest rates than local institutions. Impact investors offer different types of financing, including trade and working capital debt to cover operational expenses in the short term (less than 12 months), and long-term (more than one year) growth debt and equity to scale up production and acquire PP&E or expand into new markets.

# What is an SGB?

Small and Growing Businesses (SGBs) are commercially viable businesses, with between five and 250 employees, that have strong potential for growth. The ambition to grow is key to this definition. It is what differentiates SGBs from the broader term micro, small, and medium enterprises (MSMEs). Not only do SGBs create income for families, but they create jobs for the local economy, make connections to regional and global markets, and often increase access to critical goods and services for underserved communities. In contrast to more established, larger enterprises, SGBs often lack access to the financial or knowledge resources they need to grow.

-ANDE, State of the SGB Sector Impact Report (2013)

Impact investors apply an impact lens alongside their expected financial return to ensure that the SGBs in their portfolio comply with specific social and/or environmental criteria. Often, a key criteria is to demonstrate positive impacts generated for vulnerable communities. For example, impact investors such as responsability, one of the largest global asset managers for development investments, and Shared Interest, a Fair Trade focused debt lender, consider Fair Trade practices of SMEs and businesses in developing markets.

# Financing Instruments to Catalyze SGB Growth & Impact

The SGBs in the sample received capital from four global impact investors with presence in Peru:

	SHORT TERM	LONG	TERM
	Trade & Working Capital Debt	Growth Debt	Equity & Quasi-Debt
SHARED INTEREST	×		
OIKO	×	×	×
root capital	×	×	
respons <b>A</b> bility	×	×	×

# **Enables SGBs to:**

- Have access to capital at lower cost than local market rate
- Cover working capital needs and pay BoP suppliers upfront or on time
- Take on significantly larger contracts and continue to expand supplier base
- Make longer-term investments to expand production

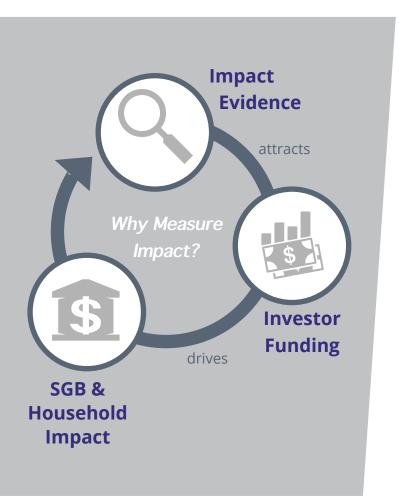
# Introduction & Executive Summary

# Why Is It Important to Measure Impact?

Impact measurement is a crucial step for impact investors to evaluate the performance of their portfolio. The use of tools and methods to track, understand, and report on the impact of their clients is essential for impact investors to assess their own progress and alignment with social

Commonly used impact measurement tools rarely provide evidence of impacts at the household level

objectives. Collecting detailed evidence of this impact is also critical to raise capital and donor funding, which in turn allows investors to continue supporting SGBs. Shareholders and donors expect to see results, and impact investors need to be able to readily show data that validates their mission and communicates their impact back to their counterparts. Moreover, analysis of SGB performance across various investments helps investors redefine selection and reporting criteria in order to better manage risk and develop more effective KPIs. Finally, impact measurement and monitoring is an important learning tool for the SGBs themselves to develop appropriate strategies and identify where and how they can achieve greater impact.



# The Impact Measurement Gap

Investors have a wide a range of different instruments available to them to assess the social impact of SGBs, including due diligence, impact scorecards, and annual reporting. The majority of current tools track isolated, quantitative outputs at the SGB level but rarely provide evidence of tangible social impact at the household level, partially due to the resource-intensive nature of systematically measuring improvements in human lives. Impact investors commonly look exclusively at indicators that reflect the economic performance of SGBs (i.e. number of suppliers, volumes sold, growth rate, etc.) and the direct implications for their suppliers (i.e. income generated for the supplier, creation of permanent jobs, etc.), which are rarely sufficient to draw conclusions on the impacts for households, beyond the supplier. Quantitative and qualitative household-level insights and analysis are needed to verify this connection. This study, therefore, provides impact investors with a methodologically rigorous and relevant framework to fill the gap between SGB outputs and household-level outcomes, and further proves that investments are successfully driving impact and improving lives in BoP communities.



# Impact Measurement: Falling Short of BoP Households



This study provides a methodologically rigorous framework to better link SGB outputs and household-level outcomes



# Introduction & Executive Summary

# **Summary of Key Findings**

Based on this analysis, I-DEV proposes a framework to measure and monitor household-level impacts of impact investments in SGBs. The key findings of this study provide strong evidence that investing to strengthen and scale SGBs:



# Accelerates SGB growth.

Impact investment strengthens the commercial viability of SGBs in the missing middle and scales their operations to include more suppliers and BoP communities in the value chain.



# Generates higher and guaranteed income year-round to the BoP.

SGBs offer viable, year-round income alternatives to households that rely heavily on subsistence activities and seasonal jobs for livelihoods.



# Unlocks critical resources for supplier development.

SGBs provide suppliers with access to inputs to reduce the cash burden of upfront investment in crops, and capacity development to improve cultivation of crops, quality control, and business skills and ultimately further increase annual income.



# Increases supplier retention and loyalty.

By providing suppliers the resources they need to grow and develop production capacity and skills, SGBs secure the loyalty of their suppliers, ensuring a more stable and dependable supply chain with lower risk of default on delivered goods.



# Drives changes in household spending and savings patterns.

Families allocate increased income to nutrition, utilities, healthcare, and education. Advanced purchasing from SGBs eases the financial burden on suppliers and drives near-term improvements in household cashflow. In the medium to long term, suppliers establish bank accounts and accumulate savings.



# Fosters benefits to the most underserved.

Women and children reap the benefits of impact investments, as families prioritize spending on children's needs and women are empowered to engage in income-generating activities and increased responsibilities over family budgeting.



# Unleashes a ripple effect of impacts throughout the value chain.

Household-level impacts drive sustainable effects on the local economy and broader community by incentivizing neighbors to replicate best practices, triggering local business creation, and fostering community-wide behavioral changes.



# ANALYTICAL FRAMEWORK

# DIRECT Supplier Impacts

# **INDIRECT Household Impacts**



Increase in Disposable Income

Access to

Production Inputs



Capacity Development

Access to

Financial

Services



Education



Health



Nutrition



Family Well-Being



Housing & Assets

# An In-Depth Look Into Impact

The underlying hypothesis of this study is that by backing SGBs with capital, impact investors play a role in generating positive social impacts for BoP communities. The study considers three main research inquiries to examine impacts generated both directly (economic) and indirectly (education, health, nutrition, housing, assets, and well-being) on BoP populations in the supply chains of SGBs that have received capital from impact investors. The study does not only look at impacts generated directly on suppliers engaged in a SGB supply chain, but also on their families and within their households. The analysis also pays close attention to the benefits experienced by more vulnerable and underserved populations, in particular women and young children.

# **Research Questions:**

- 1. How do the impacts on BoP populations integrated within the SGB's value chain compare to control groups in areas without significant SGB activity?
- 2. What reach and impact does SGB development have on the poorest of the poor and most vulnerable populations, including women and young children?
- 3. To what extent does access to impact investments account for the observed direct and indirect impacts of the SGB on BoP communities?

# Research Timeline

# Step 1: SGB Long-List & Sample Identification

3 Sectors 4 Selected SGBs

> Step 2: Desk Research on Selected SGBs

Step 3: Interviews with SGB Management

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Baseline Surveys

Step 4:

Round 1 Surveys &
Baseline Data Collection

# RESEARCH METHODOLOGY

# A Scientific Approach in a Two-Part Study

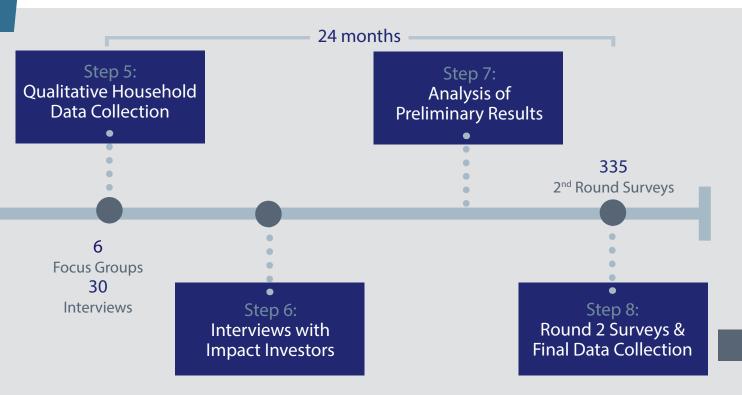
This publication is the final component in a multi-year analysis aiming to assess household-level impacts through a scientifically rigorous qualitative and quantitative approach. The first interim report released September 2015 presented key preliminary insights from baseline surveys and focus groups conducted in 2014-2015, and this revised edition further supports findings with quantitative analysis from a follow up data collection in Q1 of 2016.

# Selecting the Sample Groups

To conduct the research, I-DEV and GRADE, an independent research center in Peru, first identified and analyzed a long-list of SGBs throughout Peru. Selection criteria for the sample postulated that the SGB must:

- Source goods or services from BoP suppliers
- Have a direct relationship with its BoP suppliers
- Sell party or entirely in international markets
- Be driven by generating social impact for underserved populations
- Have between 5 and 250 employees
- Have a minimum of 3 years in existence
- Be oriented towards fast growth
- Have received financing from impact investor(s) in the past 2 years

Four SGBs were selected to represent three key export-oriented productive sectors in Peru: one for goldenberry, one for handicrafts, and two for coffee. Once the SGBs were selected, I-DEV conducted secondary research to gain an understanding of the market dynamics and context in which each SGB operates.



# RESEARCH METHODOLOGY

# **Data Collection**

control group.

For each SGB, GRADE selected a treatment group from the SGB's suppliers, and a control group of households that had similar characteristics (e.g. produced the same crop, lived in the same area, had comparable economic status, etc.), but no involvement with the SGB.

GRADE collected quantitative household data through two rounds of surveys over a two-year time lapse, between January 2014 and

December 2015, to observe patterns and evolutions within each group in a number of characteristics such as dwelling,

In parallel, I-DEV led focus groups with the suppliers of each SGB to uncover qualitative information on challenges faced by households and positive impacts experienced from working with the SGB, entrepreneurial behavior, social dynamics, and future aspirations. I-DEV also conducted in-depth interviews with:

household income, production levels, assets, and spending and saving behavior. This approach allowed us to identify specific impacts on treatment populations as a result of their participation in the SGB's value chain, as compared to the

# treatment group

BoP population engaged directly with

# control group

BoP Suppliers, identified through focus group activities or recommended by SGB field staff; these interview participants included strong community leaders, founding members of the cooperative, longterm suppliers, families with several generations engaged with the SGB, and women producers who manage women-led initiatives

**Key external informants,** such as community leaders, teachers, health care professionals and local NGOs who could provide objective insights on the effects to the SGB's suppliers

Impact investors, that had equity and/or debt in the businesses, to gain a deeper understanding of their investment criteria and the way they were measuring the social return of their investment

# For more information...

GRADE's final report, Effects of impact investing on households participating in small and growing businesses (SGBs): Results from two case studies in Peru, provides a detailed overview of the quantitative methodology and survey results from both rounds.



# **Criteria for Treatment & Control Groups**

# **AgroAndino**

In the goldenberry sector, households were identified in the Cajamarca region of northern Peru through a local technical assistance partner of AgroAndino:

Treatment Group

26 households producing and selling goldenberry to AgroAndino throughout the entire study

Control Groups

(1) 38 households that were part of the supply chain at the beginning of the study but discontinued production before the final survey, and (2) 98 households in the vicinity who did not produce goldenberry at the time of the study The control group of non-producers was designed based on the following variables of the 11 selected population centers to assure they presented similar characteristics to the goldenberry producers:

- Average time to the district capital (hours)
- Average altitude in the population center
- Proportion of land under irrigation (ha)
- Proportion of fallow /uncultivated land (ha)
- Proportion of pasture land (ha)
- Number of UAS¹ in the population center

<sup>1</sup> Unidades Agropecuarias, a unit used by the Agricultural Census to measure the total parcels of landholding of a producer

# C.A.C. Frontera & La Prosperidad

In the coffee sector, we worked with two organic and Fair Trade coffee cooperatives, Chirinos and Frontera in the provinces of Jaen and San Ignacio. Groups for the study were organized in the following way:

Treatment Group

101 (46 and 55 from Chirinos and Frontera respectively) farmers who had been members of the cooperatives for more than 7 years

Control Groups 99 farmers (53 and 46 from Chirinos and Frontera respectively) who had been members of the cooperatives for less than 7 years

Seven years of membership was the cut-off variable to allow for measuring differences. Members of other cooperatives and independent farmers were not eligible for the control group, as:

- The organic coffee sector in Peru is heavily financed by impact investors. Almost all coffee cooperatives in the region have received financing from impact funds, and those that have not do not represent a comparable alternative.
- Due to the competitive landscape, there are almost no coffee producers in the area who are not members of a co-op, making it difficult to select individual farmers.

# Allpa

In the artisan sector, we looked at Allpa's workshops exclusively in Lima. We compared them to individual artisans and workshops that were members of APTEC and CIAP, two local artisan associations:

Treatment Group

29 artisan workshops that are part of Allpa's supplier

network and are located in the city of Lima

Control Groups 102 workshops that have not received any impact investment (48 from the supplier networks of APTEC and CIAP, and 54 independent workshops)

Workshops across the control and treatment groups were similar in a number of characteristics:

- Number of employees
- Size
- Sales
- Years of experience
- Workshop location
- Activity (ceramics, jewelry, painted glass, textiles, carpentry and imagery)

# CASE STUDY 1 GOLDENBERRY

**SGB Snapshot** 



# **Sector Overview**

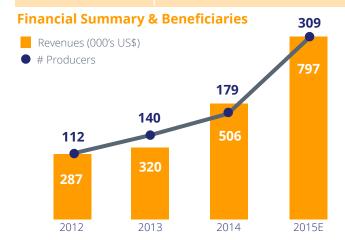
Goldenberry, locally known as *aguaymanto*, is a native Andean berry that has gained international popularity as a "superfood" due to its impressive nutritional profile, including high levels of protein, vitamins A, B12, C, calcium, and anti-oxidants. It grows year-round in regions of high altitude in northern Peru, where economic opportunities are extremely limited and livelihoods traditionally depend on subsistence agriculture (i.e. potatoes, corn, wheat, milk, etc.). The increasing global demand for goldenberry offers a promising market opportunity and source of income for rural communities in the highlands of Peru; however, local farmers lack technical knowledge on cultivation practices and live in remote areas with limited productive infrastructure, making it difficult to achieve volumes and economies of scale. Agro-processing SGBs that source directly from local producers can provide better organization, information, and access to markets.

AgroAndino, a certified organic agri-business in the San Pablo province of Cajamarca, sources goldenberry from local smallholder producers which it then exports as dehydrated raw inputs for companies that produce healthy dried fruit snacks, nutritional bars, and cereal compounds in Japan, the United States, and Europe. In 2011, the SGB received several investments from responsAbility and Root Capital to increase production capacity and secure a reliable supply of fruit from local farmers. This case study investigates the resulting social impacts generated throughout the supply chain.

# An Entrepreneur from Early On 14

old, and he is already an entrepreneur. From early on, Henry enjoyed helping on his family's plot and learning to harvest goldenberry. After seeing the changes in his family's life from selling to AgroAndino, he decided he wanted to participate. His parents let him care for a small piece of their land, and Henry started to produce his own harvest. Today, Henry is proud to have his own production and aspires to study agronomy once he finishes school so that he can expand his crop area and become a goldenberry entrepreneur.

Year founded	2006
Sector	Organic dehydrated fruit
Region	Cajamarca, Peru
Volume sold (2014)	32 tons



# An Economic Opportunity for the Region

Rural families in the San Pablo province depend on a range of limited, low-income, independent activities to support the household. With AgroAndino, farmers can grow and sell certified organic goldenberry for higher profits than traditional agro-livestock production such as potatoes, maize, or milk. Goldenberry has a stable harvest for 52 weeks of the year, providing year-round income and eliminating the need for the head of household to leave home in search of off-season work. Families who have been producing for 3-4 years earn as much as 200-400 PEN (US\$66-133) per month from goldenberry sales. After 24 months, goldenberry producers who had stayed in the supply chain earned nearly 50% more annual income than producers who never sold to the SGB, while producers who left the supply chain experienced a loss in household earnings and increased dependency on salaried income.

AgroAndino also provides plants and technical assistance to strengthen organic farming methods and help farmers achieve higher productivity and enhanced fruit quality. With a higher quality and reliable supply, AgroAndino has expanded capacity and diversified product lines with additional value-added derivatives from goldenberry and other local fruit, ultimately allowing the SGB to source greater volumes from a higher number of farmers.

# Close to Home

# **Key Impacts for the Household**

Additional disposable income allows families producing goldenberry to make important improvements to their daily lifestyle. Households are more easily able to cover day-today necessities like food and school expenses, and can more often pay their bills on time and avoid having utilities cut off. Families incorporate animal protein in two more meals per week on average, and also purchase baby formula and other nutritionally-rich foods, like fruit and green vegetables. The addition of goldenberry itself into their daily diet also offers tremendous nutritional benefits, especially for young children. As a result, children demonstrate increased energy and mental clarity, both at home and at school, and have improved immunity against the flu and other common illnesses in high-altitude communities.

Goldenberry is not a labor intensive crop and is easy to harvest, making it accessible for all household members to participate in production. For women, direct involvement in generating income gives them a stronger role in managing household cash and spending. Families indicated that men rely less on work outside of the farm, and fathers spend more quality time with the family as a result.



PP&E investment in new processing plant and better performing stoves

Average 42% increase in new suppliers each year

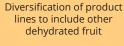


Export to international health food

AgroAndino %

Fixed asset

Pre-harvest financing and purchase of goldenberry





markets

Higher net income for 50% those who continued to harvest after 2 years

More profit margin from

like milk and wheat

**KEY HIGHLIGHTS** 

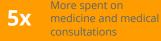
from Treatment Group

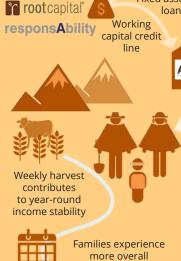
400% goldenberry than crops

Greater sufficiency in 5% providing food for selfconsumption



children of goldenberry





Farmers receive

plants and technical

assistance for

organic farming

# **KEY IMPACTS**



Stable year-round income allows farmers to better cover basic living expenses



Opportunities to derive additional income via sale of transformed goldenberry products (jams, liquors, sauces, sweets, etc.)



Enhanced nutrition through a more diverse daily diet and goldenberry consumption



cost of school supplies and spend more on their children's education

Parents can afford the



Children of producers are healthier, more focused, and less often absent from school



Parents no longer need to leave to find off-season work and spend more time at home



Women empowered to play an active role in harvest and management of household income



Higher volumes and quality leads to increased disposable income

economic security

# CASE STUDY 1 GOLDENBERRY

# **Summary of Key Survey Results**

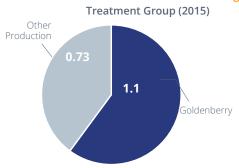
# Characteristics of Surveyed Households for Treatment & Control Groups



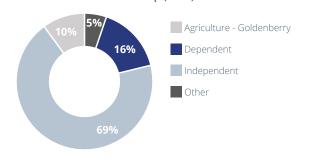
- 4.0 Average number of members per household
- **6.9** Average years of study of head of household
- 91% Families with access to water
- 23% Families with access to sewage treatment
- **28%** Families with access to electricity

# Average Production & Annual Household Income

# Productive Division of Landholding (Ha)

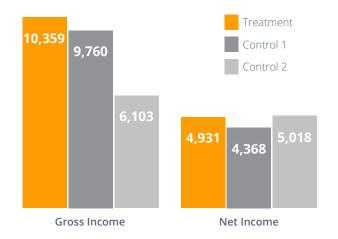


# Sources of Household Income (Average) Treatment Group (2015)



<sup>\*</sup> Independent sources include micro-business activities of the household such as handicrafts, sales of agro and livestock derived products (e.g. cheese, fruit jams, etc.), services.

Gross Income	2013	2015	Difference
Treatment	\$ 3,533	\$ 10,359	<i>\$ 6,827</i>
Control 1	\$ 4,687	\$ 9,670	\$ 4,982
Control 2	\$ 3,667	\$ 6,103	\$ 2,436
Net Income	2013	2015	Difference
Net Income  Treatment	<b>2013</b> \$ 2,544	<b>2015</b> \$ 4,931	Difference \$ 2,544
Treatment	\$ 2,544	\$ 4,931	<i>\$ 2,544</i>





# Dependence on Dependent Activities

	2013	2015	Difference
Treatment	\$ 1,556	\$ 1,653	6%
Control 1	\$ 910	\$ 3,001	230%
Diff. of Differences			-\$ 1,994
Control 2	\$ 1,291	\$ 1,501	16%
Diff. of Differences			\$ 113

# Households with One or More Child Below Grade Level

	2013	2015	Difference
Treatment	47%	42%	-5%
Control 1	62%	51%	-11%
Diff. of Differences			6%
Control 2	48%	61%	13%
Diff. of Differences			-18%

# Household Value of Self-Supplied Food in Last Two Weeks

	2013	2015	Difference
Treatment	14%	31%	17%
Control 1	9%	26%	16%
Diff. of Differences			1%
Control 2	31%	22%	-9%
Diff. of Differences			25%

# Households Receiving Loans in the Last Three Years

	2013	2015	Difference
Treatment	7%	31%	24%
Control 1	6%	29%	24%
Diff. of Differences			0%
Control 2	21%	9%	-11%
Diff. of Differences			35%

# CASE STUDY 2 ORGANIC COFFEE

# **Sector Overview**

Peru is the single largest exporter of organic and Fair Trade coffee. Accounting for 855,000 jobs, Peru's coffee sector is a strong driver of livelihoods in otherwise remote and impoverished areas of the country. Strong farmer associations have emerged in coffee-producing regions like Cajamarca and San Martin, organizing individual producers to better meet the standards of international specialty markets.

C.A.C. La Frontera (Frontera) and C.A.C. La Prosperidad de Chirinos (Chirinos) are two coffee cooperatives in the Cajamarca region that have been purchasing specialty-grade coffee from smallholders for 40 years. Through their strong ties to impact investors, such as Oiko Credit and Root Capital, and international organic roasters and importers, like Sustainable Harvest, both cooperatives provide a range of comprehensive services to help producers reach high quality standards, improve productivity, and scale up production, thus playing a strong role in improving livelihoods and protecting natural resources. Cooperative members have seen long lasting improvements in income and household living conditions, compared to other independent farmers in the area.

<sup>1</sup> Global Agriculture Information Network, Peru Coffee Annual Report (2013)

# **Scaling to Score**

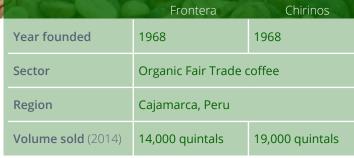


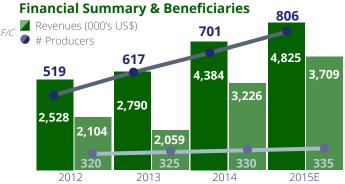
in a coffee-producing community all his life, and has been a member of C.A.C. Frontera for the last 20 years. Over the course of that time, his family has considerably scaled production, from 20-30 annual quintals when they first started to more than 200 quintals today. This is more than ten times the production volume of the average farm in the region. In part, this increase in yield has been a result of land expansion, but Señor Fernin and his family have also

managed to increase their per hectare productivity and bean quality thanks to the new technologies introduced by the cooperative. With the new Catimor plants acquired thanks to a 5-year loan from Frontera, his harvest also now receives a higher cup score

of between 83-84 points. With the premium his family will receive for higher quality, they expect to save up to further expand their production area and install a roof

# **SGB Snapshots**





# **Economic Security for Producers**

Access to a guaranteed minimum price safeguards farmers against price volatility. Both co-ops have a price distribution policy ("liquidación") in which farmers receive 80% of the value for what they turn in during harvest season, and 20% as redistributed proceeds during the remaining six months of the year, ensuring year-round income and lower dependence on salaried work. Funded by impact investments, the ability to pay in advance also builds greater farmer loyalty and reduces the risk of side-selling.

Farmers benefit from cost savings via discounts on inputs and compost, as well as from value-added services provided by the co-op, i.e. hulling and roasting. Members receive low-interest microloans for productive investments, in addition to a pre-harvest purchase advance. These benefits enable members to cover working capital needs, generate savings, and invest in technologies that are critical for growth and productivity, e.g. machinery for pulping– a process traditionally done manually. On average, co-op members with 7+ years hold 27% more in agro-production assets. Surveys also verified that longer-time members had more land, greater yields, and higher sales via the cooperative.

Both co-ops provide continuous technical assistance to ensure compliance with organic farming standards, introduce new skills, technologies, and plant varieties, and address production issues, helping farmers to reduce losses and increase quality and income. Co-ops also build a strong support network for farmers. Members weigh in on strategic decision-making in general assemblies, which strengthens their sense of leadership.



# A Woman's Perspective

# Key Impacts for the Household

With greater economic security, families are able to increase spending beyond basic needs. Families note being able to pay for private medical services and higher quality medication, and increase spending on protein and vegetables- two important food groups commonly lacking from the diet of low-income families in Peru. With accumulated savings and access to finance via the cooperative, producers have also been able to afford university education for their children, who often pursue studies in agronomy aspiring to bring technical skills to the family. Long-time members also report making significant home improvements, including roof renovations, room partitioning, and indoor bathroom installation.

The annual Fair Trade premium also allows the cooperatives to fund social benefit programs for coffee producers and their families. For example, Frontera's *Viviendas Saludables* program finances the installation of latrines, clean cookstoves, and water tanks for better health and household sanitation. Other programs train families in home garden cultivation and guinea pig or fish farming in an effort to diversify household diet and income-generating activities. Special training focused on sewing and crafts, cooking, and beekeeping aims to enhance economic opportunities for women. Through both the premium and the cooperative's own resources, families also have access to zerointerest small funds to meet various needs, such as education scholarships and medical emergencies.

María Paz is a member of "Aroma Café Mujer," one of Frontera's first women's committees. Created in 2009 with and financial literacy for its eight members today. The committee has also capitalized a small fund that women can access in the form of low-interest loans of up to \$175 family's harvest has suffered from coffee rust and they have not had enough incoming earnings to cover basic household expenses. María Paz and the other women of the committee have also received handicraft and sewing training from Frontera. With the skills she has gained, handmade fabrics that she sells to neighbors and in the local market, helping to bring in more income for her family.



# **KEY HIGHLIGHTS** from Treatment Group

48%

Higher increase in 29% annual net income

More likely to have 15% adequate sanitation

Greater reduction in 3% households under the poverty line





Accumulation of assets and home improvements





university and some get formal training in agronomy





& organic markets

Premium reinvested in social

projects for producers

builds management and and fosters personal growth

Home sanitation and

safety (latrines, clean

cookstoves, etc.)

Social funds (mortuary,

health, education, scholarships)

Income diversification

(guinea pig farming,

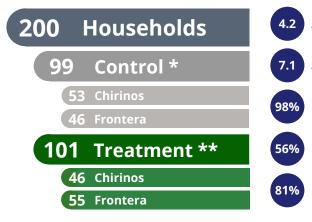
home gardens,

handicrafts)

# CASE STUDY 2 ORGANIC COFFEE

# **Summary of Key Survey Results**

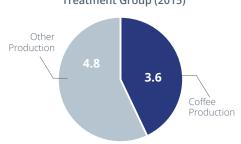
# Characteristics of Surveyed Households for Treatment & Control Groups



- Average number of members per household
- Average years of study of head of household
- Families with access to water
- Families with access to sewage treatment
- Families with access to electricity

# Average Production & Annual Household Income

# Productive Division of Landholding (Ha) Treatment Group (2015)



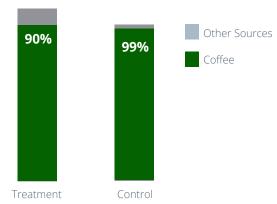
# Average Sales Volume by Type of Coffee Treatment Group (2013) Organic, Non Fair Trade Organic, Fair Trade 88% Conventional

#### Average Annual Net Household Income & Sources 2012

2015

Difference

Treatment	\$ 2,484	\$ 6,990	181%
from coffee	\$ 2,098	\$ 6,316	201%
Control	\$ 2,830	\$ 6,316	123%
from coffee	\$ 2,192	\$ 6,274	186%
Diff. of Differences			\$ 1,020



<sup>\*</sup> The control group was comprised of farmers who have been members of the cooperative for less than 7 years.

<sup>\*\*</sup> The treatment group was comprised of farmers who have been members of the cooperative for more than 7 years.



# Dependence on Dependent Activities

	2013	2015	Difference
Treatment	\$ 891	\$1,055	18%
Control	\$ 1,648	\$441	-73%
Diff. of Differences			\$1,371

<sup>\*</sup> Newer members must spend more time on the conversion from conventional to organic, which leaves less time for other salaried activities.

# Percentage of Sales to the Cooperative

	2013	2015	Difference
Treatment	84.3%	92.5%	8.1%
Control	82.4%	84%	1.6%
Diff. of Differences			6.5%

# Spending on Household Improvements in Last Two Years

	2013	2015	Difference
Treatment	\$ 6	\$ 86	\$ 80
Control	\$ 1	\$ 29	\$ 28
Diff. of Differences			<i>\$ 52</i>

# Households Where Child Had an Illness in the Last Year

	2013	2015	Difference
Treatment	8.2%	5.8%	-2.4%
Control	14.2%	11.1%	-3.1%
Diff. of Differences			0.7%

# Access to Credit in the Last Three Years Value of Assets

	Amount (2013)	% Household (2015)
Treatment	\$ 2,012	30%
Control	\$ 1,356	21%
Difference	48%	11%

	Home (2015)	Production (2013)
Treatment	\$ 818	\$ 715
Control	\$ 774	\$ 563
Difference	6%	27%

# CASE STUDY 3 HANDICRAFTS

# **SGB Snapshot**





# Sector Overview

Peru's world famous handicrafts, ceramics, and artisan-made textiles are rooted in well-preserved ancestral traditions that date back more than 5,000 years. With exports from Peru that have increased by more than 650% in the last 20 years, the fast-growing handicrafts sector generates strong economic opportunities for the poor, while preserving the cultural heritage of local communities. Craftsmanship is traditionally passed along from parents to their children, and most artisans work independently.<sup>2</sup> However, with increasing global demand, artisans need better organization and external support in order to participate in the international market.

Allpa is a privately-owned Fair Trade business that sources and exports traditional Peruvian handicrafts, such as woven alpaca shawls, jewelry, ceramic tableware, and other decorative objects, from small artisan workshops in the Peruvian Highlands and peri-urban areas of Lima. Established in 1986, Allpa has played a key role in connecting low-income artisans to international markets while guaranteeing a fair redistribution of value. Allpa works closely with its suppliers to provide them with technical assistance, business skills training, and creative design support, with the objective of converting artisans into entrepreneurs that can grow and compete viably in the global market.

<sup>2</sup> Prom Peru, Apparel & Textiles Industry Bulletin (2014)



Vargas started and was knitting as a side job to help bring in his first order from following months, he set

allowing him to build a four-floor facility. He now employs a full-time

Juan has also been able to invest more in household purchases (including buying a vehicle) and spend more time at home with his family.

1986 Year founded Textiles and handicrafts Sector Lima, Peru Region

# **Financial Summary & Beneficiaries**



# Scaling Fair Opportunities for Artists

An affiliated member of the World Fair Trade Organization (WFTO), Allpa works with its suppliers to enforce the principles of Fair Trade across the value chain, i.e. ensuring fair and legal wages for all workshop employees, prohibiting child labor and discrimination of any kind, and compensating artisans with fair prices that accurately reflect the true cost of production. Access to Fair Trade markets has allowed artisans to consistently increase the volume and value of sales, earning seven times greater sales and 20 times more net income. On average, Allpa suppliers also employ nearly twice as many workers as workshops selling to other buyers, and offer employees more than double the salary.

In addition, Allpa provides product design support and technical training to help artisans better meet quality standards. Via this support, artisans are able to improve production quality and develop product lines of their own, in turn allowing them to generate further business. Allpa also emphasizes building the entrepreneurial skills of its suppliers, offering artisans support in business planning, financial literacy, and general administration to more accurately forecast cost and revenue streams, ensure efficiency throughout different stages of production, and increase profitability.

Allpa also provides soft capital loans and co-investments to support long-time suppliers in acquiring machinery and developing infrastructure. This allows suppliers to increase capacity and take on larger orders: a "win-win" situation for both the SGB and the artisan, according to CEO Luis Heller.

# Key Impacts for the Household

In line with the principles of Fair Trade, Allpa provides artisans with fair income and continuous capacity building to develop their enterprises and better support their families. Allpa suppliers enforce safe and legal working conditions in their workshops (e.g. prohibiting the use of chemicals that are detrimental to human health), and are more likely than other independent workshops to provide health insurance to employees. Suppliers have high loyalty to the SGB due to Allpa's dependability in increasing order volumes and earnings, and transferring skills in technique, quality, and management. With the support of the SGB and the development of new client relationships, entrepreneurs develop self-esteem and long-term aspirations. Many artisans that start as employees of an Allpa supplier later have the opportunity to start their own workshop.

Artisan families in Lima have also been able to make household improvements and material acquisitions, such as household appliances and digital technologies, all of which improve their living conditions and feeling of social inclusion. Living in proximity to public services in the city, some families also resort more often to higher quality medical services, and can afford university education for their children. Allpa also represents an important source of opportunities for women and single mothers, who as contracted suppliers are able to earn income while staying close to their children, producing and selling handicrafts from home.

# Preserving a Family Art for Profit

Ceramics have been an important part of Abdon's life for as long as he can remember. Born in Cuzco where his father worked as a potter, Abdon was always intrigued by the never make a decent enough living to support himself as an after landing a temporary job at a ceramic workshop that sold to Allpa, he decided to pursue a career in ceramics and launch his own independent workshop. Allpa provided him with technical training and offered him low-interest loans to adjust his production to the large orders they gave him. With Allpa's support, Abdon was able to add a floor with modern pottery kilns. Having produced several thousands of highquality ceramic artifacts, he has been able to gain new clients to sell his own creations and product lines. Abdon also has two daughters, and with the savings he has built, he is able pursue their passion like he did.



# **KEY HIGHLIGHTS** from Treatment Group

As many sales

20x than control group

As many permanent

Higher salaries for workshop employees





Capital to expand production capacity







Fair Trade







new client

relationships

# The 10 Principles of Fair Trade (WFTO)

- **1.** Creating Opportunities for Economically Disadvantaged Producers
- 2. Transparency and Accountability
- 3. Fair Trading Practices
- 4. Payment of a Fair Price
- 5. Ensuring No Child Labor and Forced Labor
- 6. Commitment to Non-Discrimination, Gender Equity and Women's Economic Empowerment, and Freedom of Association
- 7. Ensuring Good Working Conditions
- 8. Providing Capacity Building
- 9. Promoting Fair Trade
- 10. Respect for the Environment

# **KEY IMPACTS**

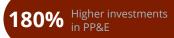








living conditions and



# CASE STUDY 3 HANDICRAFTS

# **Summary of Key Survey Results**

All data on Allpa was collected in the initial survey round (2013)

# Characteristics of Surveyed Workshops for Treatment & Control Groups

2013

131 Workshops

29 Treatment

102 Control

48 APTEC/CIAP Workshops\*

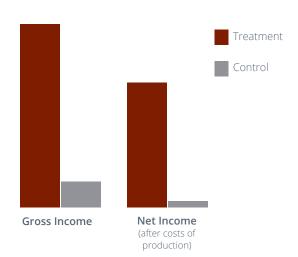
54 Independent Workshops

# Average Revenues and Sales Channels

**Gross Income** 

# Gross and Net Income of Workshops

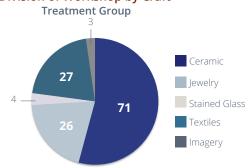
Treatment	\$ 86,449
Control	\$ 12,020
Net Income	
Treatment	\$ 59,328
Control	\$ 2,956



# **5.1** Average number of employees **74.5** Average size of workshop (m²)

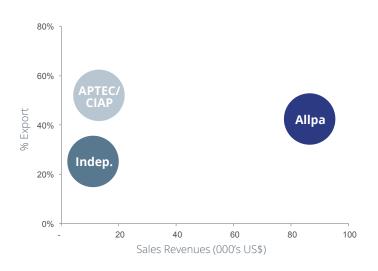


# Division of Workshop by Craft



# Sales Channels of Workshops

	Export Markets	Domestic - Regional	Domestic Lima
Allpa	42.4%	7.8%	46.4%
APTEC/CIAP*	52%	19.3%	29%
Independent	25.2%	15.2%	59.6%



<sup>\*</sup> Non Fair Trade Artisan Associations in Peru



# Average Number of Employees and Wages

	Employees	Monthly Salary
Treatment	7.6	\$ 823
Control	4.4	\$ 391
Difference	75%	111%

# Average Value of Workshop Assets

	Value
Treatment	\$ 34,600
Control	\$ 26,810
Difference	29%

# Access to Credit in the Last Year and Average Amount

	% of Workshops	Amount
Treatment	27.6%	\$ 4,556
Control	27.8%	\$ 2,369
Difference	-1%	92%

# Investments Made

New Equipment & Machinery	% of Workshops	Amount
Treatment	38%	\$ 3,401
Control	24%	\$ 1,216
Difference	55%	180%
Workshop Improvements & Upgrades		
Treatment	45%	\$ 2,364
Control	38%	\$ 973
Difference	17%	143%



# The Chain of Impact: From Investor to Household

The findings presented in this report show strong evidence that impact investing in SGBs goes beyond direct economic benefits to the portfolio company and its suppliers, and translates into long-term impacts for household members and the broader community reached by the supply chain. Furthermore, the case studies highlight key common household-level indicators that can be used to track short, medium, and long-term impacts of investors on the BoP.

# **Trade Financing:**

- Higher working capital buffer
- Ability to sustainably purchase from smallholder suppliers
- Ability to purchase from more suppliers
- Ability to provide input advances to smallholders to ensure quality and volume needed

# **Growth Capital:**

- Increase SGB capacity for processing products purchased from smallholder suppliers
- Improve operations to ensure SGB sustainability
- New market entry to increase sales and sourcing volumes

# Other Impact Capital:

(e.g. Venture Grants and Zero-Interest or High Risk Funding)

- Build stronger supplier loyalty programs
- Provide advances and financial benefits to cashconstrained suppliers
- Improve skills and business savvy of suppliers
- Take higher risks to build stronger programs, i.e. social/environmental initiatives for communities

# **Unlocking SGB Growth & Impact**

In all the case studies, impact investors play a central role in driving household-level impacts by catalyzing SGB growth. Impact investors provide the SGBs with access to finance and capacity development— both of which would otherwise be unavailable or restricted. Enhanced capacity strengthens SGB commercial viability and profitability at a critical stage in development, unlocking new sales channels, customers, and growth potential. This ultimately increases the SGB's ability to sustainably source from a greater network of low-income producers that have limited income-generating opportunities.

Without the opportunity to sell to SGBs, suppliers would be selling their products— goldenberry, coffee, and handicrafts— to local market traders at lower (and often unfair) prices, thus capturing less value along an overcrowded value chain; living off subsistence farming; and/or relying on sporadic and seasonal jobs far from home to provide for their family. Access to premium capacity building that would otherwise not be affordable or available also helps suppliers cater their products toward demand trends and market expectations in terms of quality, volume, and consistency, opening doors to premium markets and pricing and ultimately returning greater income back to families at the household-level.

# **Ensuring Income Stability**

The most direct impact for BoP communities in SGB supply chains is a notable increase in disposable household income. Findings across all cases show that the net income of treatment groups is systematically higher than that of control groups, in some cases up to 20 times. Furthermore, SGB suppliers consistently experience higher financial stability, are more able to cover daily household expenses such as food and utilities, and also feel they receive a fairer price for their product as opposed to when selling to local market intermediaries. With a more stable and consistent source of income, SGB suppliers do not need to resort as much to seasonal jobs in the city which take them away from their

families for extended periods of time, and can shift toward becoming more entrepreneurial and independent in productive activities.

Treatment groups had up to

20x

higher income than control groups



# **Increased Financial Security**

**AgroAndino:** Goldenberry can be harvested continuously for 2 years once the plant enters in production, ensuring that families have a stable weekly source of income throughout the year.

# C.A.C. Frontera & C.A.C. La Prosperidad de Chirinos:

Cooperatives retain 20% of the price during the months of harvest and pay it out to the producer during the six remaining months of the year when there is no coffee harvest.

**Allpa:** High volume orders allow artisans to save up money for periods of the year when they face lower orders.

# Generating Shared Value for SGB and Supplier

SGBs drive supplier growth through capacity development in addition to financial support. In all examined cases, the SGBs provide continuous, in-field technical assistance to improve supplier capabilities. Producers are trained in production norms and international quality standards and can thus increase productivity, quality, and ultimately their income. According to the 2012 national census, approximately 90% of farmers in Peru do not have access to technical assistance services.<sup>3</sup> SGBs and impact investors are in a critical position to fill this gap.

Because access to banking and finance is also very limited for BoP populations, SGBs solve important value chain bottlenecks and drive economic development by providing growth capital to their suppliers. For example, with a dedicated credit line from Root Capital, Chirinos provides low-interest microloans to its farmers for the renewal and expansion of their coffee plantations. Chirinos does not make any earnings on these loans, and only charges an interest rate to cover the cost of capital and administration. Without access to finance, most coffee farmers would likely be too cash-strapped to renew their plantations or invest in higher quality plant varieties.

Similarly, AgroAndino incentivizes farmers by sharing the upfront investment in goldenberry plants and their renewal every two years, and also provides inputs such as organic fertilizers and compost to reduce the working capital burden for farmers.

In line with the principles of Fair Trade, Allpa fronts a minimum of 50% of any purchase order to its artisans so they can cover their working capital costs without financial constraint. The SGB also provides soft capital loans to some of its artisans to invest in technologies and equipment that allow them to weave higher quality fabrics or expand their production, at times covering up to 20% of the investment.

Unlocking resources for supplier development is extremely effective in strengthening supplier loyalty and ensuring the stability of the supply chain as a whole, resulting in a highly win-win scenario for the business and the supplier.



Capacity Development



Access to Financial Services



Access to Production Inputs



# **Triggering Long-Lasting Changes in Household Spending & Savings**

Additional income impacts all household members and is primarily used, in the immediate and short term, to cover daily expenses and basic household needs, such as food and improved nutrition, energy and utilities, hygiene products like shampoo, soap, and detergent, and occasional spending on clothes, shoes, or cosmetics for women. Families also prioritize extra spending on children's education.



# **Nutrition**

Families are able to purchase more food beyond what they grow for home consumption, and diversify their daily diet with the addition of more nutritious food groups, including animal protein, fresh fruit and vegetables, and dairy. Parents with young children dedicate extra income to purchase nutritionally enriched milk and flours, and children receive the essential nutrition and calories they need for physical and mental development.



# **Housing & Assets**

Families that previously feared regular energy and water cuts are now able to pay their bills on time and cover utilities consumption for the entire month. This includes daily needs for electricity, running water, and gas or firewood for cooking. With the accumulation of savings over time, families make housing improvements that dramatically improve living conditions, such as renovating the roof, building a latrine, or building a separate bedroom for their children.



# **Education**

Public education is free in Peru; however, for children to be admitted into a classroom parents must be able to afford school supplies and uniforms, as well as a mid-day snack and transportation fare. For many families, sending children to school rather than having them help on the farm is also still an opportunity cost. SGB suppliers, however, make it a priority to spend on their children's education. Children of SGB suppliers exhibit lower rates of absenteeism and grade retention and demonstrate better mental clarity in class, likely due to higher quality nutrition.



# Health

Lack of access to quality medical services remains an issue for remote communities in Peru; however, SGB families spend more on medicine than in the past, especially for their children during flu season. While the majority of low-income families often rely on homemade remedies and self-care solutions to handle illness, members of the coffee cooperatives have access to special emergency funds, which they can solicit for larger expenses such as urgent medical procedures or transfer to a healthcare facility in the capital.



# **Family Well-Being**

SGBs not only boost household income, but also improve year-round financial security for BoP suppliers. Families are thus less vulnerable to the seasonality of other crops and activities, which ultimately allows them to reduce dependence on seasonal income-generating activities and other precarious work that would otherwise require parents to leave home for periods at a time. Consistent presence of both parents year-round offers better stability in the home.

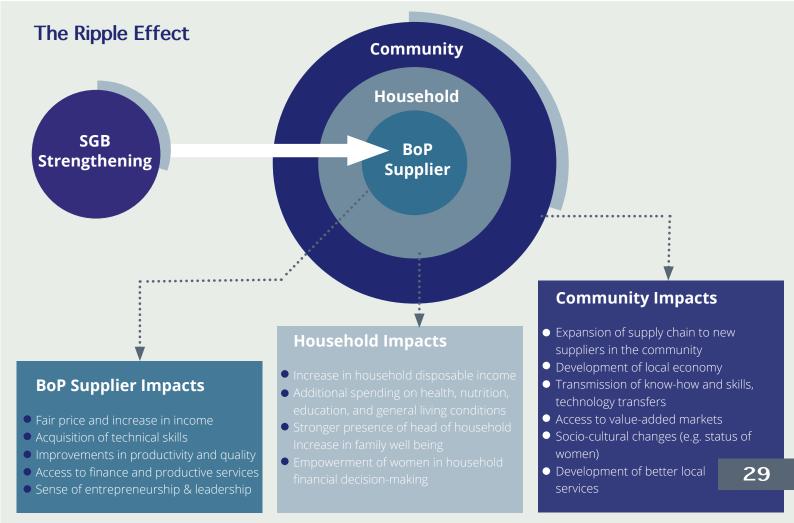


# **Unleashing a Ripple Effect of Community-Wide Impacts**

Impact investing magnifies positive social impacts via a "ripple effect," whereby impacts at the individual level generate impacts at the household level, which in turn lead to positive long-term impacts at the community level, as shown below.

The direct impacts of SGBs on the BoP (namely, higher income and capabilities) lead to indirect impacts at the household level as additional income contributes to increased spending on nutrition, health, education, and improved living conditions, generating family well-being, a sense of security in the home, and a sense of greater social status over time. At the same time, community-wide behavioral changes amplify positive impacts, with outside farmers replicating improved farming practices or imitating new spending patterns of SGB suppliers. Over the long term, positive economic and social impacts contribute to the development of the local economy and socio-cultural changes at the community level. For example, communities with high SGB intervention have seen socio-cultural changes in the role and status of women.

As producers increase their income and social standing, they also engage in stronger leadership on community development issues, such as environmental conservation, farmer organization, construction of health and education centers, or implementation of improved irrigation systems to address lack of water. Increased entrepreneurial initiatives of SGB suppliers also lead to a number of new businesses in the community that provide better services.





# What's Next? Outlining a Framework for Measuring Beyond SGB Impact

While it is still too early to pull widespread evidence on noneconomic indicators, the observations from this study suggest a direct link between impact investing and household impact, especially in long-term income growth, housing improvements, and allocation of reources to children's health and education.

This report outlines a robust initial framework to evaluate BoP household impacts beyond solely quantitative, performance metrics at the SGB supply chain and supplier level. By monitoring SGB and supply chain-centric indicators provide an incomplete picture of social impacts;

Investors and businesses need further indicators to evaluate the full depth of impacts on BoP households.

Family Well-Being

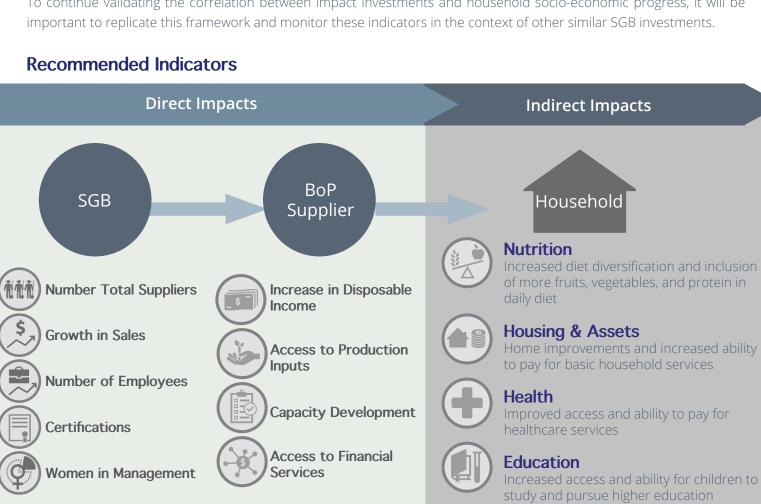
children's life

Stronger parental presence at home and in



specific, incremental household impacts and improvements in nutrition, housing, health, education, and family well-being, investors can start to build a baseline to observe how households in the supply chain are positively affected by their portfolio companies and progressing out of poverty over time.

To continue validating the correlation between impact investments and household socio-economic progress, it will be important to replicate this framework and monitor these indicators in the context of other similar SGB investments.





# Summary of Key Household-Level Indicators of Effective Impact Investment:

The following indicators offer a baseline from which to measure quantitative and qualitative household evolutions over time. Selected indicators should be measured consistently on an annual basis to monitor the effects from the initial year a supplier joins the SGB supply chain and throughout maturity of the impact investment.

# QUANTITATIVE QUALITATIVE

# 1. Income

- Total annual income
- Annual income originating from business with SGB
- Annual income dependent on off-season employment
- Difference between received price and average market price
- Number of months out of the year with positive cashflows
- Average net monthly cashflows (total inflows outflows)

# 2. Supplier Development

- Percent of production sold to middlemen
- Production costs covered by supplier out-of-pocket
- Productivity/ha
- Average price premiums obtained
- Number of employees (full time, seasonal, part-time labor, etc.)
- Number of machines/equipment acquired for production in the year
- Value of improvements made to workshop/farm in the year
- Value and interest rate of loan obtained
- Insurance/micro-insurance coverage against risks

#### Y/N?

- Ownership of individual bank account
- Formalized legal status
- Ability to access loans outside of usurers (commercial bank, microfinance, buyer, etc.)
- Children report desire to pursue same line of business as parents
- Increased entrepreneurial vision and long-term planning (focus on business and prospects over the next 6 months, 1 year, and beyond)

#### 3. Nutrition

- Number of meals per day
- Number of meals that include animal protein per week
- Number of times children drink milk per week
- Average monthly spending on food
- Percent of food consumption that originates outside of homestead
- Volume of fruit and vegetables consumed per household member

# Y/N?

- Children have a mid-day snack for school
- New nutritionally-dense foods integrated in family diet

# 4. Housing & Assets

- Number of days per month without utilities (electricity, gas, water, etc.)
- Value of home improvements (maintenance, new assets/appliances, etc.)
- Number of phones or electronic devices in the household
- Monthly spending on firewood or other cooking fuels
- Number of rooms in the house
- Time/distance to reach the closest urban area

#### Y/N?

- Family cooks on open fire
- Separation of children and parents' bedrooms in the house

### On a scale of 1 (low) to 10 (high):

• Sense of comfort, security, and dignity of living conditions

#### 5. Health

- Average distance between household and emergency medical services
- Number of times that children are ill per year

# Y/N?

- Family purchases medication to treat common illnesses
- Family seeks specialized medical attention (dentistry, gynecology, etc.)
- Use of family planning

## On a scale of 1 (low) to 10 (high):

• Perceived stress or concerns over health access

## 6. Education

- Average monthly spending on education per child
- Number of school days missed per year
- Number of children in schooling gap
- Average time child spends on homework per day
- University rate of attendance

#### Y/N?

• Parents believe their children will attend university

# On a scale of 1 (low) to 10 (high):

• Improved activity and mental clarity of children

# 7. Family Well-Being

- Number of days per year that head of household works away from home
- Daily quality time parents spend with their children (play, homework, etc.)

#### Y/N?

- Women have increased decision-making over household budget
- Women contribute to family budget through self-generated income
- Women experience changes in their standing in the community
- Women participate in organizations

# On a scale of 1 (low) to 10 (high):

- Sense of well-being and self-esteem
- Sense of confidence for the future

