MACROCONSULT

FINAL REPORT

Intermediate Impact and Baseline Assessment for the "New Private Sector Competitiveness and Poverty Reduction and Alleviation (PRA)" Project

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This document is the final report for the study “New Private Sector Competitiveness and Poverty Reduction and Alleviation (PRA)” Project prepared by the consulting firm Macroconsult. The members of the research team that carried out the study are:

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EXECUTIVE SUMMARY

The Poverty Reduction and Alleviation (PRA) Project is sponsored and financed in Peru by the U.S. Agency for International Development (USAID) and implemented through Chemonics International. The purpose of the PRA Project is to contribute to poverty reduction through the creation of sustainable incomes and jobs. In order to achieve this goal, the PRA seeks to link the poor population outside of Lima with the markets and private investment sources. With an aim to measure the effectiveness of the strategy implemented by the PRA, Chemonics has requested Macroconsult to develop the study "Intermediate Impact and Baseline Assessment for the 'New Private Sector Competitiveness and Poverty Reduction and Alleviation (PRA)' Project".

In line with the general objective established in the Terms of Reference (ToR), Macroconsult generates baseline indicators for the PRA's intervention as of 2012 and quantifies its intermediate impact on the poverty and income levels of small producer households assisted by the program in 2009-2012. The impact results presented here must be understood as preliminary inferences, as they have been developed halfway through the intervention; i.e., considering only the initial information gathered (the baseline), three years after the intervention was initiated. The exercise yields indicative, but inconclusive, inferences about the effects created by the program. It is important to mention that, while the program has been developed over three years, the average participation of PRA beneficiaries has been 1½ years. Upon conclusion of the project (or when its effects come to full maturity), it will be possible to implement more robust impact assessment methodologies to confirm or discard the inferences presented in this study.

Regarding the methodology for calculating the baseline, it was established that it should be functional to the double-differences assessment methodology to be adopted in 2014. It was considered necessary to gather information samples from two groups: objectives (assisted by the program) and controls (not assisted by the program). The objectives were obtained from a representative

sample of the universe of beneficiaries, which were identified from the register provided by the PRA Project. The control sample followed the 1x1.5 rule (1.5 controls per objective). In order to identify the controls, the districts closer to the objective districts were identified geographically. This universe was used to carry out a matching process according to a series of observable characteristics such that the control samples were obtained only from districts not intervened by the PRA, but were the most similar to those that had been intervened. In a second stage, a field strategy was developed to select households complying with three basic characteristics: self-employed small farmers or artisans; production baskets similar to those of the objectives; and urban/rural balance between the samples. This is the information used to obtain the results for the baseline indicators.

For the intermediate impact results, a cross-section model based on a probabilistic matching between the objective and control universes was used to calculate the baseline. The matching process yielded the optimal sub-sample for which the regression models (aimed at controlling for observable characteristics and weighing for the matching probability) were implemented. The objective is to explore in a preliminary way the possible direction of the program's impact three years after its initiation. However, given the characteristics of the evaluation problem, this methodology is deemed incomplete because, while it is effective in controlling for observable factors, it does not eliminate all biases created by unobservable factors. This is because the evaluation exercise is still incomplete; only an exit measurement allowing for calculation of the double differences can yield categorical results. Therefore, a main recommendation is to consider the results for the 2012 baseline incomes and poverty as tentative, pending a definitive estimation in 2014. The following section contains a summary of the study's main findings.

Aggregate results

The poverty rate of PRA beneficiaries is around 46%; i.e., significantly lower than for the controls assessed in this study (51%). This difference is explained by a higher level of household expenditure among the objectives; i.e., a monthly

per capita level of S/. 334, greater than for the controls (S/. 291). This difference of almost 15% cannot be entirely explained by the PRA, as it may result from other observable characteristics (e.g., education). Thus, once the matching process has been completed and the differences have been corrected, it can be established that the impact from the project is an increase in expenditure of almost 9%. However, these impacts cannot be generalized to all corridors. There is evidence that they concentrate in Ancash, Ayacucho, Junín-Pasco, and Puno. Additionally, at the population subgroup level, they are higher in urban areas and in households led by males. The fact that the effects are greater in urban areas suggests that households in these areas take more advantage of articulation effects. This is not surprising, as they are closer to the markets. Neither is it surprising that the effects concentrate in households led by males, as the majority of household heads in the zone of intervention are men (above 80%).

However, despite the impact on expenditure, the results are not yet sufficiently intense to reduce monetary poverty, possibly because of longer maturing times or a certain bias towards the upper wealth distribution segment. In any case, there is a reduction in the number of households that perceive themselves as poor: it is likely that subjective poverty has decreased in approximately 6 percent points, suggesting a change in certain dimensions of the beneficiaries' welfare. In any case, it will be important to carry out deeper qualitative research in the corridors where a greater impact from the program has been identified in order to draw relevant lessons. A possible explanation for the results in these corridors is associated with the kinds of products on which an intervention has been carried out, which probably require shorter maturing times. The following two tables show a summary of these results:

Estimation of the impact on selected variables, by corridor

	Monthly per capita household expenditure (% variation)	Monetary poverty rate (change in percent points)	Subjective poverty rate (change in percent points)
PRA Project	**8.9%**	**-**	**-6.1 pp**
Ancash	20.0%	-	-
Arequipa	-	-	-30.0 pp
Ayacucho	18.1%	-	-
Cusco	-	-	-
Huancavelica	-	-	-14.6 pp
Junín-Pasco	21.3%	-	-
La Libertad	-	9.4 pp	-
Madre de Dios	-36.0%	-	-
Puno	35.6%	-18.0 pp	-13.5 pp
Sierra Norte de Lima	-	-	-

Note: The results that were not significant after application of 1%, 5%, and 10% tests were eliminated.

Estimation of the impact on selected variables, by group of interest

	Monthly per capita household expenditure (% variation)	Monetary poverty rate (change in percent points)	Subjective poverty rate (change in percent points)
PRA Project	**8.9%**	**-**	**-6.2 pp**
Urban	13.7%	-	-6.2 pp
Rural	6.7%	-	-6.1 pp
Male	10.3%	-	-7.8 pp
Female	-	-	-

Note: The results that were not significant after application of 1%, 5%, and 10% tests were eliminated.

Ancash corridor

Monthly per capita household expenditure in the Ancash corridor is S/. 483, almost twice the level for the control sample (S/. 273). This difference defines a poverty rate for the objective group of around 35%, lower that the 62% level estimated for the control group. Regarding intermediate impacts, correction of the differences yields a positive PRA impact, resulting in an increase in household expenditure of almost 20%, concentrated in the urban area and in households led by males. However, no impacts are identified for monetary poverty or households' poverty perception.

Arequipa corridor

Monthly per capita household expenditure in the Arequipa corridor is S/. 459, above the level for the control sample (S/. 427). However, this difference defines a similar poverty rate for both groups (around 25%). The exercise did not identify a positive impact from the PRA on household expenditure or poverty in this corridor. However, it was possible to identify a lower subjective poverty rate, which may suggest that, despite the fact that the objective indicators have not changed, inhabitants may be perceiving some kind of change in their living standards. This creates favorable expectations for the medium-term impacts in this corridor.

Ayacucho corridor

Monthly per capita household expenditure in the Ayacucho corridor is S/. 358, slightly higher than for the control sample (S/. 321). This difference defines a poverty rate for the objective group of around 42%, lower that the 45% level estimated for the control group. Regarding the impacts, correction of these differences yields a positive PRA impact, resulting in an increase in household expenditure of almost 18%, concentrated in the urban area, suggesting not only an increase in the mean, but also a better distribution of the impacts. Additionally, improvements are identified for both groups regarding the poverty rate. No impacts are identified for the perception of poverty among households.

Cusco corridor

Monthly per capita household expenditure in the Cusco corridor is S/. 318, lower than for the control sample (S/. 349). This difference defines a higher poverty rate for the objective (46%) than for the control group (38%). However, even though this difference is significant, once corrected it can be established that the impacts on all variables and almost all subgroups are null in this corridor.

Huancavelica corridor

Monthly per capita household expenditure in the Huancavelica corridor is S/. 156, lower than for the control sample (S/. 183). However, in spite of the difference between the means, the poverty rate is lower for the objectives (78%) than for the controls (80%). This is due to a bias in the controls' distribution towards higher values. The differences in both cases are significant, but are corrected when the impact model is estimated, resulting in a null effect on household expenditure and poverty. However, a lower subjective poverty rate is identified (on average, in urban and rural zones, and in households led by men), suggesting that, despite the fact that the objective indicators have not changed, inhabitants may be perceiving some kind of change in their living standards. This creates favorable expectations for the medium-term impact in this corridor.

Junín – Pasco corridor

Monthly per capita household expenditure in the Junín-Pasco corridor is S/. 429, almost twice the level for the control sample (S/. 257). This difference defines a poverty rate for the objective group of around 38%, lower that 54% estimated for the control group. Regarding the impacts, correction of the differences yields a positive PRA impact, resulting in an increase in household expenditure of almost 20%, concentrated in households led by males. However, no impacts are identified for monetary poverty or the perception of welfare among households.

La Libertad corridor

Monthly per capita household expenditure in the La Libertad corridor is S/. 306, higher than for the control sample (S/. 237). This difference defines a lower poverty rate for the objective (60%) than for the control group (63%). However, even though this difference is significant, the impact estimation corrects it, resulting in a null effect on all variables and almost all subgroups in this corridor. At the same time, an average increase in poverty of almost 9 percent points is estimated, which is counter-intuitive in the light of the rest of the information

analyzed. For this reason, a certain degree of imprecision in the calculation of the latter indicator cannot be ruled out.

Madre de Dios corridor

Monthly per capita household expenditure in the Madre de Dios corridor is close to S/. 378 for the objective sample, lower than for the control sample (S/. 394). However, this does not define higher poverty rates in the first case. On the contrary, poverty among the corridor's beneficiaries is lower (37%) than for their control peers (44%). This is due to the important presence of extreme values in the control sample, which prevail in spite of the matching procedure carried out. The differences become more notorious even when estimating the impact indicators, which show a fall in expenditures close to 36% (both for men and for women). This strong decline takes place without changes in poverty or subjective poverty. In this regard, it can be suggested that the presence of illegal gold producers deteriorates the impact assessment in this corridor, as their incidence may be affecting directly the population's income. Additionally, the reduced universe of beneficiaries may be affecting the precision of the indicators.

Puno corridor

Monthly per capita household expenditures in the Puno corridor are S/. 298, slightly higher than for the control sample (S/. 213). This difference defines a poverty rate for the objective group of around 49%, lower than 68% estimated for the control group. Regarding the impacts, correction of these differences yields a positive PRA impact, resulting in an increase in household expenditure of almost 36%, concentrated in the urban area (54%, against 27% for the rural area), and in households led by males (36%, against 30% for households led by women). Additionally, it is possible to identify a decrease in poverty of almost 18 percentage points and an improvement in the perception of welfare among households, with a similar pattern at the subgroup level, although perhaps in the latter case the subjective perception of welfare reacts more significantly in rural areas.

Sierra Norte de Lima corridor

Monthly per capita household expenditure in the Sierra Norte de Lima corridor is S/. 395, higher than for the control sample (S/. 323). However, in spite of the difference between the means, the poverty rate is higher for the objectives (38%) than for the controls (36%). This is due to a bias in the objectives' distribution towards higher values. The differences in both cases are significant, but are corrected when the impact model is estimated, resulting in a null effect on household expenditure and poverty (monetary and subjective). However, in spite of this aggregate result, it is possible to confirm a certain increase in expenditure among urban households and an improvement in the perception of welfare among households led by males.

Results for qualified informants in populated centers

Interviews to community leaders of populated centers were carried out to obtain information on access to, and quality of, infrastructure, public services, and social programs in their localities. The sample was made up of 85 observations, divided into 44 objectives and 41 controls.

With the information processed, similarities were found regarding access channels and transportation means in both groups. The informants identify access to roads as poor, with carriage and dirt roads as predominant; and make frequent use of public transportation ("combi" minibuses and inter-provincial buses). Regarding education services, on average there are initial or primary education centers in almost all localities (around 90%), but secondary schools are less frequent (approximately 65%) and upper education centers even less so (9%). Health units or centers seem to be more accessible, covering almost 70% of populated centers; but access to hospitals drops to less than 10%. Regarding farming support, it is noteworthy that the presence of these kinds of institutions is higher in beneficiary populated centers than in control ones (27% and 12%, respectively).

Regarding access to social programs, local leaders informed that more than a third of populated centers have access to food assistance programs; and that the “Vaso de Leche” (“Glass of Milk”) program and other school nourishment programs predominate and are present in almost all objective and control populated centers. Coverage of health programs, such as family planning, child growth, tuberculosis control, and others, is present in more than half of the populated centers. At the same time, social investment projects associated with infrastructure are unevenly distributed between objectives and controls.

This information is consistent with the predominance of rural areas and high poverty rates in the national sample. Given their geographic dispersion, low-quality roads, remoteness from province capitals, low access to secondary and upper education centers, together with a strong presence of social programs, are to be expected.

1. INTRODUCTION

In a context of higher trade openness, the rules of the game have tended to become more homogeneous, creating the need to improve competitiveness to survive in the markets. However, this is particularly difficult for producers facing a situation of low public and private asset endowments, with limited access to information technologies and high transaction costs. In this regard, public investment in general has sought to bridge these gaps by enhancing public infrastructure such as roads, telecommunications, electricity, etc. In contrast, insertion of small producers into the market is still low, showing that investment in infrastructure is a necessary, but not a sufficient condition to ensure economic growth and reduce poverty.

In Peru, projects such as the PRA propose a different model, based on improving local capacities and household incomes in selected economic corridors through the commercial articulation of poor small producers with the market. The objective of the intervention is to create a growth momentum in poor areas, engaging the private sector and promoting a greater integration of small producers with the market.

However, the effectiveness of the PRA strategy must be subject to a rigorous and formal assessment using modern empirical techniques; i.e., it is necessary to explore to what extent the program has achieved the proposed objectives, and how much it has contributed to this purpose. Along these lines, Chemonics International has requested Macroconsult to develop the consultancy study "Intermediate Impact Assessment and Baseline of the New Private Sector Competitiveness and Poverty Reduction and Alleviation Activity" (PRA) Project. This third deliverable contains the aggregate results of the research.

The document is divided into six sections, including the introduction. Section 2 presents the rationale for PRA intervention. Section 3 presents the methodology. The PRA's intervention approach is summarized, and the information gathering process is explained in detail; i.e., the field instruments

used (household survey, community module, production module) and the sample design (where the sample sizes for both the objectives and the controls are explained). Additionally, this section explains the evaluation model used. The objectives, main indicators, economic procedures, and the identification of the objective and control groups are explained. Section 4 presents the results for the baseline and the intermediate assessment for the overall intervention and for each corridor. Section 5 presents the results of the survey for the qualified informants in the intervened and un-intervened populated centers. Finally, Section 6 summarizes the findings and presents the conclusions and main recommendations.

2. PRA INTERVENTION APPROACH

The PRA is implemented in Peru through Chemonics International with financing from USAID. The purpose of the PRA is to contribute to poverty reduction by creating sustainable incomes and jobs, promoting an integration of the inhabitants of poor zones outside of Lima with the markets. In this regard, the project aims at creating an economic growth momentum in poor zones, promoting a greater insertion of small producers into the market by encouraging private investment. Growth in these zones is marked by an economic interconnection between intermediate cities, forming areas called economic corridors.

The basic premise of the project is that poverty is not only the result of limited public investment (absence of public goods: roads, water, energy, communications), but also of a weak articulation of small producers with markets for goods and services; and of the limited presence of private investment and firms with the ability to develop sustainable activities. The departure point of the strategy is the market. Therefore, the approach implemented in the economic corridors may be classified as market-driven.

Policies in the economic corridors are carried out through the Economic Service Centers (ESCs), which channel different kinds of non-financial services to small urban or rural producers, with the purpose of linking them with large or medium

private companies as suppliers. The project subsidizes transactions costs, promotes confidence, and reduces uncertainty among participants in the value chain of a given business.

In contrast with other market-oriented projects, the PRA seeks to connect poor zones by identifying and developing products which can meet an effective and real demand in the market, with firms willing to buy them. Along these lines, business plans have been developed to integrate a specific company's willingness to buy a certain product with the productive capacity of small producers in an economic corridor.

2.1 Phase 2 of the PRA project (2009 – 2014)

Phase 2 of the project, which is the subject of this assessment, was launched at end-2009 and is foreseen to end in 2014. The PRA's main commitments in this period are reaching US$ 90 million in incremental sales, creating 27 thousand new jobs, and achieving US$ 15 million in private and public investments to encourage new undertakings in the corridors.

One of the project's main challenges is to forge alliances with private companies that can contribute to financing operations in the economic corridors targeted by USAID. In this regard, the PRA has leveraged US$ 5.3 million from firms, mostly mining companies like Buenaventura, Barrick, Poderosa, and Antamina, among others. The rationale underlying this contribution is that, in the future, the PRA model may be transferred or continued by a private or public entity to transform the methodology into a program or a new policy aimed at creating incomes and jobs among Peru's poor. In this respect, USAID signed an agreement with the public program SIERRA EXPORTADORA to finance ESC activities in the Sierra until 2014 and to enable the government to replicate the PRA's methodology and impact in the medium and long run.

Table 1: PRA Project Targets

TARGETS 2010-2014

INDICATOR	DESCRIPTION	TARGET
Incremental sales	Incremental (additional) sales are a proxy for progress in business implementation.	US$ 90 million (US$ 3 million must be associated with biodiversity-related products).
Incremental employment	Incremental jobs generated or promoted by the PRA (creation or facilitation of SME business plans).	27,000 equivalent permanent jobs.
Client firms' investment in infrastructure and fixed assets	New investments carried out by SME clients.	US$ 8 million
Number of enterprises receiving support through the project's entrepreneurial development services	SMEs approached by the PRA to implement business plans in priority corridors.	100 SMEs and 15,000 products (micro enterprises)
Public investment in infrastructure and induced entrepreneurial development services	Economic and productive infrastructure carried out by the government (local, regional, and national) and induced by the PRA through business plans or specific ESC initiatives.	US$ 3 million
Investment through resource leverage (partnerships)	Investments carried out through funding by mining companies, foundations, and other institutions to contribute to sustainable provision of development services.	US$ 4 million
Number of local enterprises that improved their provision of production services (entrepreneurial development) with PRA support	Enterprises or organizations providing entrepreneurial development services in corridors (production services); and that have strengthened as a result of the development of business chains promoted by the PRA.	8 enterprises or local organizations
Percentage of subsidized costs shared and assumed by client SMEs		At least 10% of the cost subsidized by the PRA is assumed by client firms during the implementation of the business plan in the first year. Participation is then increased until full graduation around the third year (depending on each plan).
Number of persons that improved their knowledge of gender inclusion in the development of businesses in the economic corridors	Given that there are internal (that can be managed by the PRA) and external variables (structural situation), it is possible to modify the former by improving the working conditions of women and ensuring equal opportunities.	At least 60% of persons attending conferences or training meetings improve their knowledge of the subject.
Percentage of families whose income increased above the poverty line with PRA support	Percentage of beneficiary households (working with SME and C-PRA clients) whose income is now above the poverty level.	30% higher than the control group.
Average increase in household income among PRA beneficiaries	Increase in the income of beneficiary households (working with SME and C-PRA clients) who are now above the poverty level.	30% higher than the control group.

At the same time, the PRA needs to improve small producers' household incomes and diminish their poverty rates[1]. These commitments are reflected in the program indicators, which are part of the monitoring and evaluation plan agreed with USAID[2]. The PRA's targets in Phase 2 are shown in Table 1.

2.2 Scope of operation and results as of September 2012

The PRA has been operating in ten economic corridors managed through sub-contracts with regional operators, mostly NGOs with proven experience in administrative management in these kinds of activities. However, to ensure a single programmatic direction, the ESCs are technically dependent of the PRA's central office, located in Lima. The corridors are: Sierra de La Libertad, Ancash, Sierra Norte de Lima–Huánuco, Pasco–Junín, Huancavelica, Ayacucho–VRAE, Cusco, Arequipa, Puno, and Madre de Dios (Map 1).

The PRA's business portfolio is mostly associated with agriculture, agroindustry, livestock farming, and handicrafts located mainly in Peru's Sierra (Table 2). In Ancash, Lima Norte, and La Libertad some business plans are developed in coastal valleys. Finally, some activities are developed in the jungle, especially in Madre de Dios and in a part of the central Selva extending into the Apurímac river valley (VRAE).

[1] This study aims at assessing this matter.

[2] The PRA uses four groups of indicators: results indicators; process indicators; impact indicators; and leverage indicators associated with partnerships with the private and public sectors. **Results indicators** show progress in the implementation of business plans (incremental sales, incremental employment, and new private and public investments) over 2010-2014. **Process indicators** measure the sustainability of the work implemented by ESCs. **Leverage indicators** measure the resources obtained through partnerships with firms or government entities. **Impact indicators** show the change in poverty and income of small producer households supported and articulated by the project. These indicators are used in this study.

Map 1: PRA Project Corridors

Source: PRA Project

Table 2: Products intervened by the PRA project

Corridor	Products
ANCASH	TARA PODS, ORGANIC AVOCADO, AGUAYMANTO, SCALLOPS, PROCESSED ASPARAGUS, HARD YELLOW CORN, MILLED RICE, VARIED CAPSICUMS, MANGO, ORGANIC SWEET POTATOES, TROUT
AREQUIPA	CHEESE (FRESH MILK), CATEGORIZED ALPACA FIBER, MOZARELLA CHEESE (FRESH MILK), APPAREL, CONVENTIONAL AVOCADO, PAPRIKA, ACCESORIES
AYACUCHO	TEXTILE HANDICRAFTS, CACAO GRAINS, FRESH BROAD BEANS, ORGÁNIC COFFEE, WHITE QUINOA, ORGANIC CACAO, PURPLE CORN, AMARANTH GRAINS, BAKERY
CUSCO	CATEGORIZED ALPACA FIBER, FRESH MILK, TEXTILE HANDICRAFTS, AMARANTH GRAINS, ACCESORIES
HUANCAVELICA	CATEGORIZED ALPACA FIBER, CLASSIFIED ALPACA FIBER, APPAREL, DRIED BROAD BEANS, CUSCO-STYLE CORN, DRIED WHITE CORN GRAINS
JUNÍN-PASCO	ORGANIC CACAO GRAINS AND PRODUCTS, LIVE CATTLE, JALAPEÑO CHILIS, CUT BEEF, FRESH HOT PEPPERS, LITTLE ORANGE, EVISCERATED TROUT, CHESE AND OTHER DAIRY PRODUCTS(FRESH MILK), TABASCO CHILI, FRESH GINGER
LA LIBERTAD	CONVENTIONAL AVOCADO, TARA PODS, CHESE AND OTHER DAIRY PRODUCTS(FRESH MILK), ORGANIC AVOCADO, AMARANTH GRAINS, DRIED BROAD BEANS, BEEF CARCASS, MANGO
MADRE DE DIOS	UNMILLED CHESNUT, STANDING TIMBER, VEGETABLE LEATHER BLANKETS, RUBBER SHEETS, WATERMELON
PUNO	CATEGORIZED ALPACA FIBER, ORGANIC COFFEE, COLOR QUINOA, WHITE QUINOA, TROUT, SHEEP WOOL, CHESE AND OTHER DAIRY PRODUCTS (FRESH MILK)
SIERRA NORTE DE LIMA	PEACH, CATEGORIZED ALPACA FIBER, SHEEP WOOL, LIVE SHEEP, CHESE AND OTHER DAIRY PRODUCTS(FRESH MILK), BLACK-EYED BEANS, TEXTILE HANDICRAFTS, WHOLE AND EVISCERATED TROUT, NATIVE POTATOES, CONVENTIONAL AVOCADO

Source: PRA Project
Preparation: Macroconsult

As of September 2012, net (incremental) sales achieved by the project amount to almost US$ 70 million, mostly in the Ancash corridor (around 25%), followed in order of importance (although far behind) by Junín–Pasco, Arequipa, Puno, Sierra Norte de Lima, and Ayacucho (between 14% and 9%), and La Libertad and Cusco (around 6%). Madre de Dios and Huancavelica are at the end of the distribution (less than 5%). Exports generated in the framework of the program (almost US$ 40 million) show a similar distribution. These results depend

directly on the potential of each corridor; therefore, regional offices have different targets.

The results for employment are different. In total, almost 3 million complete working days (equivalent to around 14,900 permanent jobs) have been generated. While they are also somewhat concentrated in Ancash (almost 20%), the figures for Cusco and Puno come very close (18% and 17%, respectively). Finally, the overall investment figure is approximately US$ 5 million, of which 80% is concentrated in four corridors: Cusco, Junín-Pasco, Sierra Norte de Lima, and Ancash (in that order). These investments in fixed assets, carried out by the buyer firms, enhanced the sustainability of the business plans supported by the PRA.

Table 3: Selected results as of September 2012

Corridor	Net sales (US$)	Employment (working days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Ancash	16 622 091	570 200	531 376	9 517 194	939	17 702
Arequipa	8 456 471	188 055	118 984	1 296 884	786	10 759
Ayacucho	6 148 008	411 730	138 986	4 075 288	1 308	4 700
Cusco	4 081 443	541 473	1 359 777	1 459 910	2 525	1 616
Huancavelica	1 293 354	99 944	248	508 619	1 638	790
Junín-Pasco	9 490 516	251 582	1 488 848	4 662 883	395	24 027
La Libertad	4 199 600	119 109	166 756	2 928 570	795	5 283
Madre de Dios	2 263 158	40 185	318 744	1 028 561	202	11 204
Puno	8 184 356	516 050	125 903	6 584 497	2 408	3 399
Sierra Norte Lima	7 611 324	243 249	648 209	5 710 943	956	7 962
Total	68 350 320	2 981 576	4 897 831	37 773 349	11 952	5 719

Source: PRA Project
Preparation: Macroconsult

The end of the table shows the number of small producers assisted (almost 12 thousand). As may be seen, they tend to concentrate in Puno and Cusco (around 20% in each case), followed by Huancavelica and Ayacucho (14% and 10%, respectively). Sierra Norte de Lima, Ancash, La Libertad, and Arequipa are less important in this regard (between 8% and 6%), with Junín-Pasco and Madre de Dios at the end of the distribution (less than 5%). On average, incremental sales per producer are almost US$ 6 thousand, with five corridors above this level: Junín-Pasco (US$ 24 thousand), followed closely by Ancash (US$ 18 thousand), with Madre de Dios, Arequipa, and Sierra Norte de Lima far behind (between US$ 11 and US$ 8 thousand).

3. METHODOLOGICAL ASPECTS

In line with the ToR, Macroconsult's technical proposal and later discussions between the consultant team and Chemonics Alliances' specialists, the general objective of this study is to generate baseline indicators for the intervention carried out by the PRA as of 2012; and to quantify preliminarily the intermediate impact that can be attributed to the activities implemented by the PRA on the poverty level and the income of small producer households assisted by the program in 2009-2012. This study is part of the final assessment that will be developed in 2014 with the baseline as departure point. In particular, the study has the following specific objectives:

- Gather information on the living conditions of the populations assisted (objectives) and not assisted (controls) by the PRA; and estimate their income and poverty levels.

- Assess the differences in observable socio-demographic characteristics between individuals assisted and not assisted by the PRA, in the form of an intervention baseline.

- Develop and estimate a cross-section model to measure the impact on the income and poverty level of beneficiary households that can be attributed to the PRA's intervention halfway through its implementation (2012); and disaggregate previous impacts per corridor and gender of the household head.

3.1 Main indicators baseline and assessment indicators

This section describes the indicators that will be used to assess the impact from the PRA's intervention based on the information discussed in the ToR and later meetings held with Chemonics's monitoring team. In this regard, this section details the indicators that will be used in the evaluation of the impact and the indicators that will be reported in the baseline (Table 4), that are not implemented in the model but are used to characterize the beneficiaries and

describe the systematic differences between the latter and the controls. Other indicators that will be used to model the matching process are not mentioned.

- Impact Indicators: Impact indicators measure the changes in poverty and the household income of small producers that have participated in the PRA's business plans. Household income will be estimated considering the per capita household expenditure, which may be considered as a measure of permanent income. Later, as the definition used for poverty is monetary, the latest relevant poverty lines published by the National Institute of Statistics and Informatics (INEI, 2012) will be used for each corridor analyzed.

- Baseline indicators: Indicators of context, which attempt to approximate the channels through which the impacts materialize or explain the systematic differences between both groups. These indicators also consider the dimensions on which the program has a direct influence, as they approximate the dynamics for production, employment, and the performance of small producer households.

Table 4: Indicators used in the Study

	Indicador	Definition
Intermediate impact	Poverty level	Percentage of households whose per capita expenditure is below the poverty line
	Income per household	Approximated using households' monthly per capita expenditure in nuevos soles
	Subjective welfare perception	Aproximated using the percentage of households who perceive themselves as not living well with their current income
Línea de Base	Poverty level	Percentage of households whose per capita expenditure is below the poverty line
	Income per household	Approximated using households' monthly per capita expenditure in nuevos soles. A measure of household income is also available.
	Subjective welfare perception	Approximated using two indicators: - % of households who perceive themselves as poor - % of households who perceive themselves as not living well with their current income The study further explores the main conditions that households consider key to improving their welfare.
	Production of PRA-benefited producers	Measured using the following indicators: - Total gross production value measured in annual soles per household - Total sales in annual soles per household - Total self-consumption in annual soles per product - % of production dedicated to sales, measured as the ratio of sales to gross production value
	Level of entrepreneurship or connection with the market of PRA-benefited producers	Measured using the following indicators: - % of beneficiaries owning a savings account - % of beneficiaries owning a business A survey of households' risk behavior has also been included.
	Housing conditions	Measured using the following dimensions: floor, roof, and wall material; access to lighting, water, sewage, and telecommunications; cooking fuel; ownership of assets
	Demographic characteristics of households	Measured using the following dimensions: age of household head; gender of household head; migratory condition of household head; civil status of household head; age and gender composition of households
	Education	Education level of household head
	Employment	Employment status of household members
	Social programs	Access to food, education, and farming social programs
	Characteristics of populated centers	A survey of qualified leaders and informants was conducted to assess the differences between samples of populated centers where the PRA did and did not operate, regarding available infrastructure, access to social services, and access to social programs.

Preparation: Macroconsult

Of all these indicators, the ones that are more complex and are more important for the research are household expenditure and the poverty level. The estimation methodologies used replicate those developed by INEI. This methodology is presented in detail in Appendix 1. In this section it is sufficient to mention that the format of the questionnaire used to explore household expenditure is very similar to the National Household Survey (see below); and that the 2011 poverty lines used were published by INEI (2012) and have been updated as of August 2012 using consumer price indices for the cities in the departments where PRA influence is greater.

3.2 Identification of objective and control groups

For developing the baseline and the intermediate assessment, it is necessary to obtain a sample of beneficiaries (objective group) and non-beneficiaries (control group) that can be compared (in the first case) and matched (in the second case). The sample of beneficiaries is built based on the PRA's register: a representative sample for each corridor is is selected, and a 1x1.5 rule is established to define the control sample; i.e., 1.5 controls are selected per beneficiary household (the following paragraph explains the sample design). However, where do the samples come from? That is, which are the localities from which the observations are obtained? In the case of the objective group, the answer is simple: since the register contains sufficient geographic information, it is possible to identify the districts and populated centers from which the information will be obtained. However, for the control group, it is important to discuss some practical decisions that need to been taken.

The identification of control localities has been made at the district level,[3] but for districts that are outside the corridors benefited by the PRA. It was decided to search for controls in localities outside the economic corridors for three reasons. First, localities adjacent to the economic corridors are likely to have certain similarities regarding geographic and economic characteristics, and population size, among others, that may have an influence in the result variables. Second,

[3] The district is used as geographical identification unit, as populated centers may increase the contamination risk due to their small size; and provinces' larger size may affect comparability in minimal geographical conditions.

it is important not to take as controls small producer households within the corridors, but which are not PRA beneficiaries, as there must be some notable differences between both groups that may have prevented the latter from being contacted by the PRA and transformed into suppliers of the articulated firms. Such differences may be associated with differing scale sizes, productivity levels, and capacities. Third, as the project seeks to develop the economic corridors, and these are spaces where the economic interactions set in motion affect all participants within them, chosing controls located within the same space would not take into consideration the externalities operated on them. Therefore, comparing an assisted household with another that has not been assisted would probably underestimate the true impact of the program.

That is, choosing the controls from a different district controls for possible contamination. However, the cost is losing some comparability between the objective and control samples, as the differences between production baskets may be expected to be higher between districts that within them. Therefore, in addition to this pre-classification at the district level, it is necessary to take other precautions. The study used frontiers, probabilistic matching, and field search criteria. The three steps followed to identify the controls are explained below:

First step: frontier criterion

The objective districts were identified; i.e., those for some of the strata under study (Ancash, Arequipa–Buenaventura, Arequipa–rest; Ayacucho, Cusco, Huancavelica–Buenaventura, Huancavelica–rest, Junín–Pasco, La Libertad–Barrick, La Libertad–Poderosa, La Libertad–rest, Madre de Dios, Puno, Sierra Norte de Lima–Buenaventura, Sierra Norte de Lima–rest). The controls were then identified as the frontiers of the objective districts. The frontiers were defined in two types[4]: first ring (those adjacent to the objective district) and second ring (those adjacent to the first ring). The idea of defining the objectives in this way is to optimize the comparability and contamination criteria: while the first ring is more comparable to the objective group than the second ring, it also

[4] Identification and processing were carried out using the Terra View freeware and the geographic locations provided by the Ministry of the Environment.

runs the risk of being more contaminated. Additionally, it made it possible to increase the number of district observations to estimate the matchings (second step) at this level. Table 5 presents the information on the number of objective and control districts (of each type), and map 2 presents the location of the population under consideration.

Table 5: Objective and control districts before matching

Corridors	Beneficiary Districts	Control Districts		Total
		First Ring	Second Ring	
01- Ancash	45	69	52	**166**
02- Arequipa-Buenaventura	11	13	17	**41**
03- Arequipa-the rest	13	29	17	**59**
04- Ayacucho	22	36	40	**98**
05- Cusco	30	59	55	**144**
06- Huancavelica-Buenaventura	5	15	18	**38**
07- Huancavelica-rest	17	37	36	**90**
08- Junín-Pasco	18	42	44	**104**
09- La Libertad-Barrick	1	4	14	**19**
10- La Libertad-Poderosa	4	10	27	**41**
11- La Libertad-rest	16	48	51	**115**
12- Madre de Dios	3	8	7	**18**
13- Puno	29	67	32	**128**
14- Sierra Norte de Lima-Buenaventura	2	8	17	**27**
15- Sierra Norte de Lima-rest	24	37	39	**100**

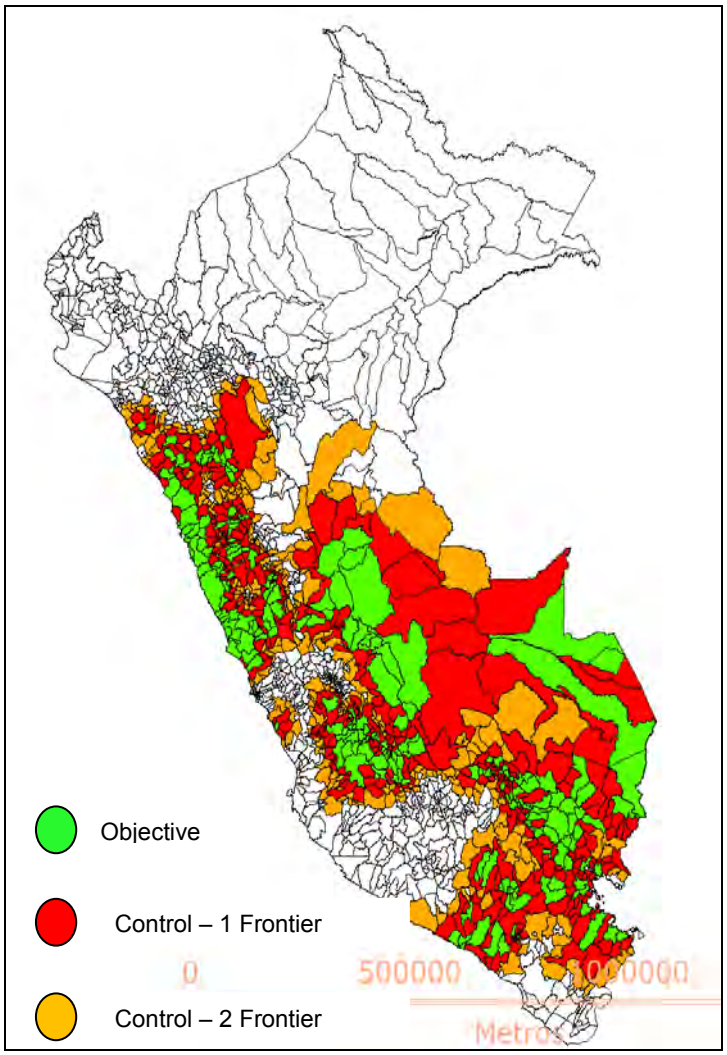
Preparation: Macroconsult

As can be seen, there are cases where the control districts exceed the provincial and departmental frontiers; therefore, it is natural to expect controls shared by more than one corridor. This is not considered problematic, as they were simply considered as independent observations when the matching process was carried out. This is different from the case in which an objective district in one corridor is the control for another; here its condition of objective prevails and it is eliminated from the list of possible controls.

Second step: probabilistic matching

Beyond the characteristics of geographical vicinity, nothing ensures the comparability of the districts selected as objectives and controls. Therefore, probabilistic matching models were estimated to help discriminate the more comparable districts. The rule established was simple: estimate Propensity Score Matching (PSM) models based on a set of pre-treatment variables (obtained from the 2007 Population and Housing Census) and select only the controls located within the common support.

Map 2: Location of Objective and Control Districts before matching



Preparation: Macroconsult

The results for the matching models are shown in Appendix 2, although it is worthwhile mentioning some of the details of the modeling process. First, the use of this strategy is purely practical; even though it is deemed convenient, it does not rely on solid theoretical criteria. Specifically, the objective was to build a statistical tool to help discriminate between previously selected control districts. Second, given the sample sizes, in some cases the models at the stratum level were difficult to estimate, and therefore the general procedure was to estimate models by stratum; and, when the latter did not work, by strata groups. The grouped strata were La Libertad and Sierra Norte de Lima; while for Madre de Dios it was not possible to estimate a model, and only the geographic identification prevailed[5]. Third, as a result of the matching process, there were objective districts that were left out of the common support.[6] However, as the strategy defined was the selection of controls and not of objectives, these districts were not eliminated.

Table 6 presents the information for the districts selected as controls after matching. As can be seen, and was to be expected, the balance is biased towards those in the first ring, confirming the hypothesis that these are the most comparable with the objectives. Map 3 shows the final geographic distribution of the districts.

Finally, Appendix 3 presents the list of control districts that entered the final selection. As detailed later, the representative samples for the controls will be obtained from these universes.

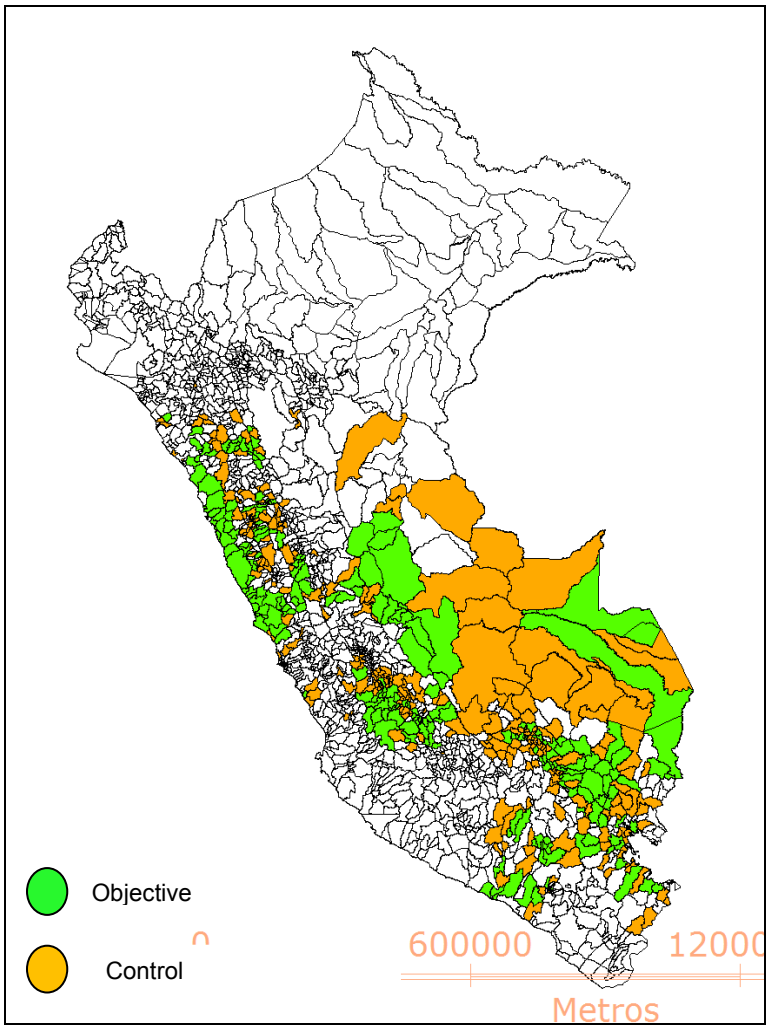
[5] Both the individual and group models were used for Arequipa y Huancavelica, and were therefore considered in the final control sample selected using both methods.
[6] This is the case of Ancash (1 district), Arequipa-other (1 district), Huancavelica-other (1 district), Junín–Pasco (1 district), La libertad-other (1 district), Ayacucho (2 districts), and Puno (2 districts).

Table 6: Objective and Control Districts after matching

Corridors	Beneficiary Districts	Control districts		Total
		First Ring	Second Ring	
01- Ancash	45	35	15	**95**
02- Arequipa-Buenaventura	11	6	3	**20**
03- Arequipa-rest	13	6	1	**20**
04- Ayacucho	22	8	5	**35**
05- Cusco	30	40	26	**96**
06- Huancavelica-Buenaventura	5	4	2	**11**
07- Huancavelica-rest	17	24	14	**55**
08- Junín-Pasco	18	9	5	**32**
09- La Libertad- Barrick	1	4	1	**6**
10- La Libertad- Poderosa	4	3	1	**8**
11- La Libertad-rest	16	11	7	**34**
12- Madre de Dios	3	8	7	**18**
13- Puno	29	32	7	**68**
14- Sierra Norte de Lima-Buenaventura	2	2	2	**6**
15- Sierra Norte de Lima-rest	24	6	6	**36**

Preparation: Macroconsult

Map 3: Location of Objective and Control Districts after matching



Preparation: Macroconsult

Third step: field search

Finally, two criteria were used for identifying the sample observations within the control universe. First, self-employed small farmers and artisans were identified, as this is the distinctive characteristic of PRA beneficiaries. Second, while in the matching process the balance property was verified, on average the latter holds for all the variables considered. This may not be satisfactory if there is a key variable for which a perfect matching is required.

Table 7: Share of rural households to be considered in the control sample

	Share of rural households
01 ANCASH	58,9
02 AREQUIPA-BUENAVENTURA	50,6
03 AREQUIPA-REST	74,7
04 AYACUCHO	66,2
05 CUSCO	79,5
06 HUANCAVELICA-BUENAVENTURA	74,8
07 HUANCAVELICA-REST	88,0
08 JUNÍN-PASCO	78,9
09 LA LIBERTAD-BARRICK	100,0
10 LA LIBERTAD-PODEROSA	81,7
11 LA LIBERTAD-REST	89,6
12 MADRE DE DIOS	0,0
13 PUNO	48,6
14 SIERRA NORTE DE LIMA-BUENAVENTURA	98,9
15 SIERRA NORTE DE LIMA-REST	44,7

Preparation: Macroconsult

After consultation with Chemonics's specialists, the share of the rural population was considered as a key variable. For this reason, independently of the urban/rural distribution of the universe of control districts, it was established as a sampling principle that the proportion of urban and rural information should respect the shares in the beneficiary register. The latter are shown in Table 7.

3.3 Sampling design

The necessary information to implement the baseline and the intermediate assessment require the application of a systematized survey with open and closed questions for the assessment, context, and matching indicators. This sample will be applied to a series of observations gathered from the objective and control districts defined in the previous section. These samples will be determined by random sampling. The main aspects of the sampling design used are described below:

- Basic architecture of the sample. The sample to be implemented in each sphere of interest will be probabilistic and stratified. It will be probabilistic because it respects the statistical random dictates, which ensures that it will be possible to extrapolate the results to the universe. It is specified that it is stratified at the level of each economic corridor because the

distribution of the sample will keep correspondence with that for the beneficiary population. In compliance with these principles, it is proposed to use the register of PRA beneficiaries. Then, the control distribution between economic corridors will be adjusted according to the shares in the treated sample using a 1x1.5 ratio; i.e., 1.5 controls will be gathered for each beneficiary household.

- Unit of analysis and informant. For the design used here, the unit of analysis is the household. It is important to clarify that the units of identification of the individuals that are part of this unit of analysis are associated with it. The informant is the head if the beneficiary household (father or mother). The informants for the controls are the household heads (father or mother).

- Inference levels and sampling units. Inference has been determined at the level of the selected corridors and strata, which are the following: Ancash, Arequipa, Arequipa–Buenaventura, Ayacucho, Cusco, Huancavelica, Huancavelica–Buenaventura, Junín–Pasco, La Libertad, La Libertad–Barrick, La Libertad–Poderosa, Madre de Dios, Puno, Sierra Norte de Lima, and Sierra Norte de Lima–Buenaventura. Each of these spheres has its associated control geographical space. Within each one of these corridors, two-stage selections will be made, where the primary sampling units are the populated centers, and the secondary units are the households within them.

- Sample size. For establishing the sample size, the following formula, which incorporates a correction for finite samples, has been used for estimating the shares:

$$n = \frac{N * Z_{\alpha}^{2} * p * q}{d^{2} * (N - 1) + Z_{\alpha}^{2} * p * q}$$

where:

N: total population

Z_{α}^{2}: 1.96, corresponding to a confidence level of 95%

P: variability or expected share (0.5 in this case)

q: 1-p (0.5)

d: precision or error margin (5%)

This formula has been applied to each of the strata according to the total of households in each one of them. The number of controls is then established according to the 1x1.5 rule. Table 8 shows the results. Thus, the total size of the planned sample is 7,171 observations (2,868 and 4,303 households for the objective group and control groups respectively).

Table 8: Sample size

	Population	Sample		
		Beneficiaries	Controls	Total
Ancash	627	267	401	668
Arequipa-Buenaventura	257	166	248	414
Arequipa-Rest	174	127	190	317
Ayacucho	1 091	326	489	815
Cusco	2 290	387	580	966
Huancavelica-Buenaventura	218	148	223	371
Huancavelica-Rest	551	252	378	630
Junín-Pasco	180	130	195	324
La Libertad-Barrick	68	59	89	148
La Libertad-Poderosa	82	70	105	174
La Libertad-Rest	240	158	237	396
Madre de Dios	85	72	108	180
Puno	1 682	364	546	911
Sierra Norte de Lima-Buenaventura	90	75	113	189
Sierra Norte de Lima-Rest	629	267	401	668
Total	**8 264**	**2 868**	**4 303**	**7 171**

Prepration: Macroconsult

- Expansion factors. In simple terms, the expansion factor can be interpreted as the number of persons in the population representing a person in the sample. First, the estimation of a given total for a variable is obtained by weighing the value of the variable for each person by its expansion factor; and then summing all the persons in the sample.

According with the sample design, this expansion factor is applied to each household selected to calculate the sample averages. The expansion factor will be constructed later, when the information is gathered, as only then the real distribution of the sample and the non-response rate will be known. It is important to mention that, for the purposes of this study, the expansion factors will be used only when needed to calculate aggregate estimations at the level of each economic corridor or a total estimation. They will not be used during the matching exercises.

Table 9: Number and distribution of qualified informants for the qualitative study

Corridor	Objectives	Controls
Ancash	3	1
Arequipa	6	4
Ayacucho	3	3
Cusco	2	10
Huancavelica	6	4
Junín - Pasco	4	1
La Libertad	9	10
Madre de Dios	3	2
Puno	3	2
Sierra Norte	5	4
Total	44	41

Preparation: Macroconsult

- Qualitative information. Parallel to the quantitative work, 44 objective populated centers and 41 control districts were selected randomly, and community leaders were subject to a questionnaire (a total of 85 interviews). The distribution of this sample is presented in Table 9 below. It should be noted that, even though the sample has been dispersed along the corridors under study to make it representative, inference levels are not possible at this point. Strictly speaking, given the sample size, it is better to use this information referentially and, at best, to characterize the PRA influence zone as a whole.

3.4 Field instruments

The basic field instruments for the quantitative strategy are the questionnaires. The instruments proposed in the ToR will be used, modified by the consultant team, managed appropriately in the field, and approved by the Chemonics team. Appendix 4 presents the pilot test and Appendix 5 presents the questionnaires in their final form. Generally speaking, the questionnaires to be used in this study are the following:

- Module for housing and household characteristics. It will aim at gathering information on the living conditions and households' access to services. The informants will be the household heads or their spouses.

- Module for the characteristics of household members. It will gather information about household members' age, gender, civil status, place of birth, education, etc. The informants will be all household members.

- Module for employment and economic activity. It will gather information about primary and secondary sources of income of household members, and will be intended for all informants 14 years of age or older.

- Module for household expenditure. It will gather information about how much households spend on the goods and services that make up the basic basket according to INEI's definition. Expenditure in food, non-food items (apparel, footwear, personal care, household maintenance, education, health, etc.), and household furnishing will be considered. The informants will be the household heads or their spouses.

- Module for subjective perceptions and complementary questions. It will aim at gathering information associated with the welfare perception of households and other questions that may be considered key for the research. The informants will the household heads.

- Module for entrepreneurship. It will seek to generate information to identify the entrepreneurship profile of PRA beneficiaries. The informants will be the household heads.

- Module for the producer's income. It will gather information about the households whose members carry out primary or secondary independent activities (both farming and non-farming activities). The informants will be the household heads.

- Module for leaders or qualified informants. It is applied to informants or community leaders at the populated center level. It aims at gathering information on the supply of infrastructure, public services, and social programs in the localities. The informants are the community leaders. The objective is to provide a purely qualitative characterization.

3.5 Field work

The field work starts with the process of logistical planning, where the main activity is hiring and training personnel: supervisors and survey takers. The survey was carried out by 18 brigades, each made up of 1 supervisor and 3-6 survey takers (total number of survey takers: 98), who received full time training during 7 days in Lima. The lectures were about methods for filling out questionnaires and surveying techniques. After the training, the best supervisors and survey takers were selected to carry out the survey. They were distributed according to the field routes defined to gather the information. This distribution was carried out by draw.

Each of the 18 brigades was assigned a field route. The latter were covered in parallel over 27 days on average (maximum: 34 days; minimum: 12 days), including times used for traveling within a locality. Appendix 6 presents the field routes planned, together with on-field operations; and Appendix 7 shows a report of on-field incidences.

Finally, after the information has been gathered, activities associated with the preparation of the database were carried out. The general objective of the latter is to convert the data obtained through the field operation into clean data appropriate for carrying out specific assessments. This part of the process is divided into the following activities: inventory control; review-coding; typing; consistency of the statistical information; and design and generation of statistical tables. Appendix 8 presents the protocols for preparing the database.

3.6 Final balance of the sample

Once the field work has been carried out and the database has been prepared, it is necessary to assess the balance between what was planned and what was available for the statistical work. With this aim, this section replicates the sampling assumptions, and a comparison is made with the actual number of observations registered in the database. It is important to clarify that there may be differences between the number of surveys planned, carried out on-field, and registered in the database, as loss of information may occur at each stage. For example, the difference between the surveys planned and implemented is known as the non-response rate; and the consistency verification protocols may suggest the elimination of certain observations from the database.

During the field work a net total of 65 objective observations were lost (total loss 92; increase in sample 27); and the depuration of the database suggested the elimination of 35 more households. Therefore, the total loss in this group was 100 observations (3.5% of the original sample). In the case of the control group, the net gain occurred during the field work was one observation; and the consistency analysis suggested the elimination of 58 observations in this group; i.e., in the case of the untreated group, the loss of information was 57 observations (1.3% of the original sample). Thus, the final size of the samples was 2,768 observations of treated households and 4,275 observations of untreated households; i.e., a total of 7,043 observations. Table 10 presents the final distribution by stratum.

Table 10: Number of observations in the database

Stratum	Treated	Controls	Total
Ancash	271	404	675
Arequipa-Buenaventura	176	248	424
Arequipa–rest	116	192	308
Ayacucho	318	504	822
Cusco	373	579	952
Huancavelica-Buenaventura	89	224	313
Huancavelica–rest	248	368	616
Junín-Paso	128	196	324
La Libertad-Barrick	60	92	152
La Libertad-Poderosa	68	108	176
La Libertad–rest	142	240	382
Madre de Dios	73	108	181
Puno	364	548	912
Sierra norte de Lima-Buenaventura	74	118	192
Sierra norte de Lima–rest	268	346	614
Total	**2,768**	**4,275**	**7,043**

Preparation: Macroconsult

With an aim to verify the final result of the survey and the implicit sample errors, this size and distribution are used. Table 11 calculates the size of the optimal sample for the treated group by stratum, but adjusting for the actual size; i.e., the calculations are carried out based on the final beneficiary population verified by the PRA team, and for the strata for which an inference is desired. This optimal sample is different from that registered in section (d), as the over-sampling recommended for the calculation, and aimed at resolving the loss of information that actually occurred, is not considered. Thus, the optimal sample is compared with the actual sample (registered in the database); and the effective non-response rate and the final estimation error are estimated. The latter is calculated based on the sample determination formula presented, but resolving for the sample error.

Table 11: Calculation of the sample error (treated group)

	Population	Optimal Sample	Actual Sample	Error
Ancash	627	238	271	4.5%
Arequipa-Buenaventura	257	154	176	4.2%
Arequipa-Total	431	203	292	3.3%
Ayacucho	1,091	284	318	4.6%
Cusco	2,290	329	373	4.6%
Huancavelica-Buenaventura	122	93	89	5.4%
Huancavelica-Total	572	230	337	3.4%
Junín-Pasco	180	123	128	4.7%
La Libertad-Barrick	68	58	60	4.4%
La Libertad-Poderosa	82	68	68	4.9%
La Libertad-Total	390	194	270	3.3%
Madre de Dios	85	70	73	4.3%
Puno	1,682	313	364	4.5%
Sierra Norte de Lima-Buenaventura	90	73	74	4.8%
Sierra Norte de Lima-Total	719	251	342	3.8%
TOTAL	8,067	2,235	2,768	1.5%

Preparation: Macroconsult

It can be verified that in all strata the estimation error is below 5%, except for Huancavelica-Buenaventura, where the error is slightly higher: 5.4%, explained by the non-response rate registered in this stratum (4.1% or, equivalently, 4 surveys less than the optimal level) and by the small size of the universe in this stratum. However, in spite of the higher error, the fact that the sample is 73% of the universe (almost a census) provides for comfortable statistical work without serious implications for the calculation of the indicators.

Finally, in the case of the controls, Table 12 compares the actual treated and untreated samples, and the implicit ratio is estimated. Thus, it can be seen that in all cases, in line with the plans, the ratio is 1.5 or more, except in Arequipa-Buenaventura (1.4) and Sierra Norte de Lima–Total (1.4). However, two characteristics of the study provide a basis for arguing that this is not a serious problem. First, as no inference is sought at the control level, the sample sizes are relevant only to provide a reasonable information buffer, which in practical terms implies that the 1.4 and 1.5 ratios are equivalent. Second, the lower ratio does not respond to the smaller size of the sample, but to the fact that the beneficiary sample is above the optimal size.

Table 12: Calculation of the untreated/treated ratio

	Beneficiaries	Controls	Ratio
Ancash	271	404	1.5
Arequipa-Buenaventura	176	248	1.4
Arequipa-Total	292	440	1.5
Ayacucho	318	504	1.6
Cusco	373	579	1.6
Huancavelica-Buenaventura	89	224	2.5
Huancavelica-Total	337	592	1.8
Junín-Pasco	128	196	1.5
La Libertad-Barrick	60	92	1.5
La Libertad-Poderosa	68	108	1.6
La Libertad-Total	270	440	1.6
Madre de Dios	73	108	1.5
Puno	364	548	1.5
Sierra Norte de Lima-Buenaventura	74	118	1.6
Sierra Norte de Lima-Total	342	464	1.4
TOTAL	2,768	4,275	1.5

Preparation: Macroconsult

In conclusion, it is possible to argue that there are no important deviations from the initial assumption in establishing the sample sizes: a 5% error in each stratum and a 1.5 untreated/treated ratio. However, for the assessment stage it is recommendable to explicitly calculate the standard deviations and the significance of the estimators to establish the precision of the indicators. Additionally, during the econometric work it will be necessary to use robust variance-covariance matrices to control for possible deviations from the distribution assumptions.

Table 13: Sample balance of the interviews

Corridor	Objectives		Controls		Total	
	Planned	Effective	Planned	Effective	Planned	Effective
Ancash	3	3	2	1	5	4
Arequipa	9	6	6	4	15	10
Ayacucho	3	3	2	3	5	6
Cusco	3	2	2	10	5	12
Huancavelica	9	6	6	4	15	10
Junín-Pasco	3	4	2	1	5	5
La Libertad	15	9	10	10	25	19
Madre de Dios	3	3	2	2	5	5
Puno	3	3	2	2	5	5
Sierra Norte	5	5	4	4	9	9
Total	56	44	38	41	94	85

Preparation: Macroconsult

Finally, Table 13 shows the information for the qualified informants. Because of the the qualitative nature of this information and the small difference between planned and actual results, the loss of information is not problematic in the case of the interviews to the leaders. In the case of the objective populated centers, over a total of 56 planned interviews, 44 were carried out (a loss of 12 observations); and in the case of the controls, the 38 planned interviews were exceeded: 41 interviews were carried out (a gain of 3 observations). At the aggregate level, 85 interviews were carried out, compared with 94 originally planned. The deviations at the stratum level are higher in some specific cases; however, taking into consideration that the intention of the interview is to provide information only at the aggregate level, the fact that at least one was carried out in each case provides for a comfortable database.

3.7 Econometric procedure for the intermediate assessment

In addition to estimating the results for the baseline, the other objective of this study is to obtain results for the impact on PRA beneficiary households' target variables (poverty and income), as well as on the subjective welfare perception. Additionally, the study seeks to calculate the heterogeneity in the impact of the program per corridor, by area (urban and rural), and according to the gender of

the heads of the beneficiary households. With an aim to keep the sample sizes and the degrees of freedom as large as possible when calculating the impact indicators, these disaggregations will be considered as interactive in the aggregate assessment model. The assessment period considered is 2009-2012, defined as the time during which the beneficiaries in the sample concluded the treatment. Additionally, the intermediate assessment does not have a pre-treatment baseline, and therefore the methodologies developed use only the variability across the information. Certainly, the causality of the impacts is limited by a cross-section approach like the one used in this study, as certain sources of endogeneity are not resolved satisfactorily. However, this limitation will be resolved in the final assessment (2014), when the information presented here will be used as baseline in the context of a double-differences estimation.

The estimation involves resolving formal impact assessment models, which seek to establish if a program or project has yielded the desired effects on the targeted individuals, households, and institutions. However, in order to find these effects it is not sufficient to compare the situation of the beneficiaries before and after their participation in the program, as the observed differences may be explained by causes different from the implementation of the project. For this reason, a robust methodological approach seeks to recreate the state of the individuals who participated in the program in a no-participation scenario, using a control group that is “similar” to the beneficiary group. This method prevents the existence of systematic differences between groups that can bias the results.

There are diverse impact assessment techniques. It is possible to distinguish two main approaches: experimental and quasi-experimental. Experimental designs are useful when the assignment of the treatment is perfectly random. In this way, it is possible to construct beneficiary and control groups that differ only in their participation status and that are similar in all other aspects. Thus, the impact of the program is obtained simply by comparing the average results between beneficiaries and controls. This is certainly the most reliable and robust methodology in existence. The problem is that its implementation is possible under certain contexts. In contrast, when the assignment of the

program is non-random (as in the case of the PRA project), it is necessary to adopt a quasi-experimental approach. In this case, the sole comparison of the average results for beneficiaries and controls would yield biased estimates, and therefore it is necessary to use econometric techniques to control for the influence of the differences in observable and non-observable characteristics.

In order to control for observable factors, it is possible to use standard matching techniques (Rosenbaum & Rubin, 2002) and control functions (Wooldridge, 2002). Additionally, as discussed in Hirano & Imbens (2001), it is possible to combine both procedures using weighing systems to enhance the strength of the results. This study follows the suggestions of the latter researchers because (as shown in Appendix 9), even though the matching model complies with the statistical quality tests, the models are considerably austere, and therefore over-saturating the control functions may be considered appropriate for controlling for the remaining observed heterogeneity. The results for these regressions are also shown in Appendix 9.

For the following discussion let us consider the generic variable w as the impact that needs to be estimated. The analysis is developed in two stages. The first one, as suggested by the ToR, is based on the matching model or Propensity Score Matching (PSM) (Rosenbaum & Rubin, 1983). Thus w_i^o is defined as the relevant indicator for the objective group and w_i^c is the one relevant for the control group. As mentioned above, the simple calculation of $\Delta w = w_i^o - w_i^c$ as impact estimator may present biases, as there is not full certainty that the beneficiaries and controls are comparable. In this light, it is proposed to estimate $\Delta w_{psm} = E[w_i^o \mid \Phi(x_i\hat{\beta})] - E[w_i^c \mid \Phi(x_i\hat{\beta})]$, which implies a probabilistic matching process where the equation $P(D_i = 1) = \Phi(x_i\beta + e_i)$ is estimated. The latter is a probit model for the dichotomic variable D_i (equal to 1 if the observation is for a beneficiary, and zero if it is for a control[7]) on a set of

[7] The generic definition of D_i used in this discussion represents participation in the program. However, in order to identify the impact from differential treatments by gender, the variable changes to recognize these particular kinds of beneficiaries.

regressors x_i defined as the characteristics of individuals, households, and populated centers.

In this equation, Φ is the normal cumulative function; β are the parameters to be estimated; and e_i are estimation errors with standard properties for these kinds of applications. Additionally, in a general fashion, the characteristics x_i are households' demographic conditions (age, gender, migratory condition, and civil status), housing characteristics (physical characteristics, access to basic services and telecommunications, cooking habits, overcrowding), employment conditions, beneficiaries' education level, access to social programs, entrepreneurship characteristics. The matching process excludes the conditions of the locality, as they were captured in the matching process for the identification of districts. Later they are revisited in the control function.[8]

The model aims at providing a score for the probability that an individual will be selected for the program. Such variable is defined generically as $\Phi(x_i\hat{\beta}) \in [1,0]$ and the objective and control groups will have each a score distribution. The intersection between both distributions over a reasonable range will allow the construction of a sub-sample for the common support, or a selection of participants with a similar average score. This sub-sample of observations is considered significantly comparable and appropriate for the econometric procedure that follows. However, in the case of this application it is preferable to restrict the sample even more and select only those objectives and controls whose scores are similar; i.e., those selected as the closest neighbors under the 1x1 criterion (one control per objective). This group defines the final sample size on which the assessment exercise will be performed.

In the second stage, once the sub-sample is defined, regression models are proposed to calculate the impacts. The proposed specification is similar to that

[8] It is important to mention that, before the matching process, aberrant values were eliminated from the database. Such values were identified based on the upper and lower limits established by the 2011 ENAHO for the district sub-sample making up each corridor.

discussed in Wooldridge (2002), but is modified slightly for this study. The following equation is proposed as regression model:

$$E(w_i) = \alpha + \sum_j \tau_{Dj} D_{ji} + \rho_1 x_i + \rho_2 z_i + \rho_3 [x_i - E(x)] D_i + \sum_j \rho_{4j} [q_i - E(q)] D_{ji} + u_i ,$$

Where D_{ij} are dichotomic variables that identify the impacts for the j corridors; z_i are the characteristics at the district level; q_i are special characteristics at the household level, for which impacts (gender and area of residence) need to be disaggregated; $E(.)$ are averages for the treated universe; $\alpha, \tau_{Dj}, \rho_1, \rho_2, \rho_3, \rho_{4j}$ are parameters to be estimated; and u_i is an error with all the desirable properties.

The model is estimated using Generalized and Weighted Least Squares, where the weights are suggested by Hirano & Imbens (2001) and Khandker and others (2010)[9]. Taking into consideration that the estimation is carried out to calculate an average effect on the treated (ATET), the weight takes the value 1 for the objective group and $\Phi / 1 - \Phi$ for the control group. Therefore, the average impact will be $\Delta w = \sum_j \tau_{Dj} a_j$, where a_j are the relative weights for each stratum; and the disaggregation for particular characteristics is carried out using the control function[10] $\Delta w = \sum_j \tau_{Dj} a_j + \sum_j \rho_{4j} a_j [w_i - E(w)]$. A similar procedure is followed for each specific corridor.

However, even though this model controls adequately for the observable factors affecting the treatment, the influence of unobservable factors is eliminated using the evaluation procedure described here. In this application it is suspected that unobservable factors originate in the very definition of beneficiary: those who managed to become integrated; i.e., individuals who stand out from the rest, probably for their higher motivation and entrepreneurship, and for being "closer"

[9] Even though many impact variables are dichotomical, in our view the correct way to model them with an aim to assess impacts is using linear regression models following the arguments proposed by Angrist and Pischke (2008). These authors suggest that linear regression allows a better approach to the impacts, as it depends less on distributional assumptions (which may not be adequate for small samples); and provides a more transparent calculation of impacts when the latter are constructed based on interactive functions. Both properties are desirable in the context of this study.

[10] It was not possible to disaggregate in the cases of Madre de Dios, La Libertad–Barrick, and Sierra Norte de Lima, given the sample composition. Therefore, such indicators were not included in the regression.

to the market than the rest. If this is true, then there are reasons to think that the estimated impacts will have a certain upward bias. In these conditions, the observable characteristics may reduce, but not eliminate completely, the systematic differences between objectives and controls.

Additionally, a second limitation of the study is that it is possible that the effects measured here may have not arrived at full maturity. Specifically, while the measurement has been made three years after the initiation of the program (2009), according with the information in the registers, the average participation time for beneficiaries is 1½ years, which may be too short to achieve a considerable impact on commercial articulation.

For this reason, it is preferable to take the results presented here as preliminary indications, until confirmed by the double-differences assessment in 2014. In that year, the program effects would be expected to have arrived at full maturity; and, at the same time, having a baseline and an exit line will make it possible to implement a double-differences measurement strategy to eliminate the unobserved heterogeneity biases described here.

4. RESULTS FOR THE BASELINE AND INTERMEDIATE ASSESSMENT[11]

This section presents the results for the aggregate indicators estimated; i.e., for the entire PRA influence area, and individually for each corridor of interest. Each sub-section is organized in two identifiable parts. The first one analyzes the baseline indicators, showing specific results and the significance of the differences between both. This puts in evidence the dispersion and precision of the specific data estimated. The objective of this first part is to show the persistent differences that exist between the beneficiary (objective) and non-beneficiary (control) groups. The second one presents the results of the intermediate assessment once the evaluation model described above has been resolved, and a first approach to PRA impact has been established. The difference between both parts is that the baseline analyzes a greater number of indicators, but without resolving the evaluation model. On the other hand, the second one resolves the evaluation model, but for a more limited number of indicators: per capita household expenditure, monetary poverty, and subjective poverty.

4.1 Aggregate results

In order to initiate the discussion, it is useful to present first the sample balances. As shown in Table 14 and anticipated in the previous sections, the total sample size used in the calculation of the indicators is 7,043 observations, of which 2,768 are for the beneficiary (objective) group and 4,275 for the non-beneficiary (control) group. The balance between urban and rural areas is similar in both samples (the rural population is 66% for the objectives and 69% for the controls).

Table 14: Urban/rural distribution, aggregate PRA intervention

	Objectives	Controls
# observations	2,768	4,275
% Urban area	34%	31%
% Rural area	66%	69%

Source: PRA Project Survey
Preparation: Macroconsult

[11] The databases and programs that replicate these results are attached to this report. Appendix 10 provides a data dictionary for the database.

Table 15 presents the characteristics of household members. It may be verified that, in terms of the number of members, households in the beneficiary group are slightly larger, although no significant differences are identified regarding the members within each household. Likewise, the differences in the demographic composition of the households are small, with a slightly larger base and top in the controls' pyramid compared with the objectives. For the latter, the mean of the distribution widens for age groups 10-20 years old and 40-50 years old.

Table 15: Household socio-demographic characteristics, aggregate PRA intervention

	Objectives [A]	Controls[B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.20	4.08	0.12	(0.053)**
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.82	0.81	0.01	(0.032)
Are there any children?	0.78	0.79	-0.13	(0.126)
Any other household members?	0.15	0.18	0.02	(0.079)
Demographic structure				
% under 5 years	6%	7%	-1%	(0.003)***
% over 5 and under 10 years	9%	10%	0%	(0.004)
% over 10 and under 20 years	21%	19%	2%	(0.006)***
% over 20 and under 30 years	13%	13%	0%	(0.006)
% over 30 and under 40 years	12%	12%	0%	(0.005)
% over 40 and under 50 years	13%	11%	2%	(0.005)***
% over 50 and under 60 years	11%	11%	0%	(0.006)
% over 60 and under 65 years	11%	11%	0%	(0.006)
% over 65 years	9%	12%	-2%	(0.007)***
Characteristics of household head				
Average age	47	49	-1	(0.388)***
% males	87%	86%	2%	(0.009)
% migrants	10%	10%	0%	(0.008)
Civil status or partner	84%	82%	2%	(0.010)**
Education level				
No level a/	7%	8%	-1%	(0.008)
Primary education	50%	51%	-1%	(0.014)
Secondary education	35%	35%	-1%	(0.013)
Higher education	8%	6%	2%	(0.007)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the characteristics of household heads, in general they are younger (by around one year) in the beneficiary group and live with a spouse (married or not). In both cases the majority of household heads are male. Almost 90% of household heads in the sample, irrespective of whether they belong to the objective or control group, are male, a common characteristic in rural areas. Additionally, no significant differences are identified regarding migratory conditions, the latter being low in absolute terms: 10% of household heads (in both cases) declare having been born in a province different from the one where they reside currently. In terms of education level, no differences are identified regarding regular education (up to secondary school), even though there are differences regarding higher education: a larger proportion of household heads in the objective group has achieved higher education (8% vs. 6%). Even though this difference, while significant, is low, it would be expected to influence the income level achieved, taking into consideration the relevance of the accumulation of human capital for the creation of household incomes.

Table 16 shows the general housing characteristics. In both the objective and control groups, the percentage of households living in appropriate homes is just 7%, understood as homes with brick walls and floor material different from dirt. This result may be associated with the strong rural component in both samples and, as will be seen later, with the poverty incidence in these areas. Regarding the size of the dwelling, both objectives and controls own homes with less than one room per person, even though the average size is statistically larger for the objectives than for the controls. Regarding the formality conditions of the dwelling, 32% of households in the objective group and 35% of households in the control group own a property title. This result is strongly related with the fact that, in both cases, less than 10% have invested in improvements or enlargements.

Table 16: General housing characteristics, aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	7%	7%	0%	(0.006)
Average per capita rooms	0.83	0.77	0.06	(0.017)***
% access to property title	32%	35%	-4%	(0.013)***
% invested in home	9%	7%	2%	(0.008)***
% access to water b/	59%	72%	-13%	(0.013)***
% access to sewage c/	22%	28%	-6%	(0.012)***
% access to electricity d/	67%	86%	-19%	(0.012)***
% access to communications e/	55%	50%	6%	(0.014)***
Home assets				
% Entertainment f/	94%	96%	-2%	(0.006)***
% Computer	6%	3%	3%	(0.006)***
% Housekeeping g/	45%	38%	7%	(0.014)***
% Transportation h/	30%	25%	5%	(0.013)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding access to services, there are considerable differences between both groups. While households in the control group seem to be in a better situation regarding basic social services (water, sewage, electricity), the objectives seem to be better off regarding communication services. As in the case of communication services, objective households have a better access to the more relevant home assets: computer, housekeeping, and transportation. Control households have greater access to entertainment assets, even though, considering the penetration levels for these kinds of assets (around 95% in both cases), the differences are not important from an analytical point of view.

Table 17: Access to Social Programs, aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% access to food programs	41%	45%	-4%	(0.014)***
% access to the "Juntos" program	24%	24%	0%	(0.012)
% access to education or health programs	15%	12%	3%	(0.010)***
% access to farming program	10%	1%	8%	(0.007)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 17 presents the differences in access to social programs. While there are no significant differences regarding access to the "Juntos" program between both samples (for both the objectives and the controls, 24% has access to this program), there are differences in access to other programs; i.e., the control group tends to receive a higher share of food programs (45% vs. 41%), while receiving a lower share of education and health programs (12% vs. 15%). The difference is greater in the case of farming support programs: 10% of the objectives declare having access to these kinds of programs, against 1% of the controls. This result may be influenced by the presence of the PRA project in these zones. However, taking into consideration that this project is not a typical technical assistance program, its low recognition in the zone should not come as a surprise.

Table 18 shows the distribution of households according to the productive activities they carry out. It can be seen that both groups are predominantly dedicated to agricultural and livestock farming activities, even though agricultural incidence is certainly higher for the controls and livestock farming incidence is higher for the objectives. This is probably associated with the higher incidence of producers of sub-livestock products. However, it could also be the result of PRA influence in the creation of higher value-added activities. The same applies to the case of handicraft production. Finally, forestry activities are clearly not very significant in either sample. This distribution is directly associated with the one in Table 19, which shows the mean composition of Gross Production Value for each kind of household. Thus, farming activities in

both cases explain at least 80%, with a higher share of agricultural production for the controls. The rest of activities show a similar distribution.

Table 18: Distribution of Producer Households, aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	79%	96%	-16%	(0.009)***
% households dedicated to livestock farming	86%	84%	3%	(0.009)***
% households dedicated to sub-livestock farming	62%	38%	24%	(0.013)***
% households dedicated to forestry	1%	1%	0%	(0.002)
% households dedicated to handicrafts	17%	6%	11%	(0.010)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 19: Distribution of Gross Production Value, aggregate PRA intervention

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	51%	67%
Livestock farming		
Average GPV per producer	29%	15%
Sub-livestock farming		
Average GPB per producer	15%	12%
Forestry		
Average GPV per producer	1%	1%
Handicrafts		
Average GPV per producer	4%	5%

a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 20 shows the disaggregated production information for the households. It is recommendable to start by analyzing the totals at the end of the table. The annual gross production value for a PRA beneficiary households is around S/. 12,934, of which 82% is for sale (S/. 10,570), while only S/. 2,364 are for self-consumption. In the case of non-beneficiaries, articulation with the market is lower: out of a total production of S/. 7,809, 74% is for sale (S/. 5,751) and the rest is for self-consumption (S/. 2,059). This result if probably associated with the kind of intervention carried out by the PRA project, which is geared to improve small producers' articulation with the market. There is a greater articulation in all activities carried out by these producers, especially in the case

of sub-livestock products (84% vs. 74%), except for forestry, where controls show a higher articulation (39% vs. 30%). The latter result, as discussed later, may be associated with the particular conditions facing the project in Madre de Dios.

Table 20: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	8,355.6	5,441.7	2,913.9	(481.339)***
Average total sales per producer	6,549.4	3,880.2	2,669.2	(454.160)***
Average total self-consumption per producer	1,806.2	1,561.5	244.7	(146.692)*
% of sales in GPV	*78%*	*71%*		
Livestock farming				
Average GPV per producer	4,682.5	1,539.7	3,142.8	(828.641)***
Average total sales per producer	3,745.2	1,067.1	2,678.1	(766.154)***
Average total self-consumption per producer	603.2	303.0	300.2	(22.894)***
% of sales in GPV	*80%*	*69%*		
Sub-livestock farming				
Average GPV per producer	3,178.7	2,465.7	713.0	(392.336)*
Average total sales per producer	2,669.9	1,821.3	848.6	(379.371)**
Average total self-consumption per producer	508.8	644.4	-135.5	(66.070)**
% of sales in GPV	*84%*	*74%*		
Forestry				
Average GPV per producer	10,574.4	8,876.7	1,697.7	(0.000)
Average total sales per producer	3,151.4	3,479.8	-328.4	(0.000)
Average total self-consumption per producer	7,423.0	5,396.9	2,026.1	(0.000)
% of sales in GPV	*30%*	*39%*		
Handicrafts				
Average GPV per producer	2,675.3	6,909.2	-4,233.9	(2044.076)**
Average total sales per producer	2,621.1	6,678.4	-4,057.3	(2044.313)**
Average total self-consumption per producer	54.3	230.8	-176.6	(59.586)***
% of sales in GPV	*98%*	*97%*		
Total				
Average GPV per producer	12,934.7	7,809.9	5,124.7	(811.730)***
Average total sales per producer	10,570.4	5,751.0	4,819.3	(789.261)***
Average total self-consumption per producer	2,364.3	2,058.9	305.4	(146.285)**
% of sales in GPV	*82%*	*74%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 21: Entrepreneurship Indicators, aggregate PRA intervention

	Objectives [A]	Controls[B]	Difference [A-B]	St. Dev.1/
% w/ savings account	8%	4%	4%	(0.007)***
Average search score a/	5.9	5.6	0.3	(0.074)***
Average investment score b/	6.7	6.3	0.4	(0.071)***
% owning a business	29%	22%	7%	(0.012)***
% fearing business failure	53%	50%	3%	(0.014)**
% willing to start a new business	69%	69%	0%	(0.013)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

A partial explanation for the greater commercial articulation of PRA beneficiaries may be the project's intervention itself, but also the beneficiaries' characteristics. As already analyzed, there is weak evidence of a higher education level among beneficiaries compared with controls. Additionally, Table 21 also shows a higher level of entrepreneurship among beneficiaries. For example, a higher share of household heads in the beneficiary group own a business. (29% vs. 22% in the control group) and they are more linked to the financial system (8% vs. 4% in the control group). Both indicators are considered key characteristics in persons linked to the market. Regarding the behavior against risk, the evidence is mixed. While there is a greater willingness among objectives to look for business and investment opportunities, there is also a higher fear of business failure.

Table 22: Household Expenditure (monthly per capita S/.) and Poverty, aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	587.3	582.1	5.23	(55.975)
Restricted expenditure 1 b/	333.8	291.0	42.80	(7.837)***
Poverty				
Poverty rate a/	46.2%	50.8%	-5%	(0.014)**
Restricted poverty rate 1 b/	47.1%	52.0%	-5%	(0.014)**
Poverty gap				
Poverty gap a/	39.9%	37.5%	2%	(0.009)***
Restricted poverty gap 1 b/	37.4%	36.1%	1%	(0.008)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 22 shows information household expenditure and poverty. Two measures of expenditure are presented: in the first one the extreme values are not eliminated, while in the second one they are eliminated in line with the methodology explained in Appendix 1. For analytical purposes, it is preferable to see what happens with the second definition: the expenditure level of beneficiaries (S/. 334) is approximately 15% higher than for the controls (S/. 291), with a poverty rate 5 percentage points lower (47% vs. 52%). However, in spite of the lower incidence of poverty, the gap shows that the poor in the objective group are poorer than in the control group, with an average gap of 37.4%, compared with 36.1% for the objectives. All these differences are significant at conventional values and are in line with the results for commercial articulation analyzed previously. Additionally, this is reflected in a lower perception of poverty among the objectives than considering the two measures of monetary poverty used in this study. The incidence is lower in objective (39%) than in the control group (between 50% and 52% depending on the measurement. This result is presented in Table 23.

Table 23: Perceptions and Subjective Poverty Indicators, aggregate PRA intervention

	Objectives [A]	Controls [B]	Difference [A-B]	St. D 1/
Perceptions				
% perceiving themselves as poor	39%	50%	-11%	(0.014)***
% perceiving themselves as not living well	39%	52%	-13%	(0.014)***
Considering that … is/are very important for their welfare:				
Basic services	53%	57%	-4%	(0.027)**
Better connections	41%	40%	2%	(0.022)**
Roads in good state	42%	38%	4%	(0.023)**
Higher income	49%	45%	4%	(0.021)**
Market information	22%	19%	3%	(0.021)**
Access to credit	17%	18%	-2%	(0.024)**
Technical assistance for production	15%	27%	-12%	(0.017)**
Health and food social programs	17%	24%	-7%	(0.024)**
Education social programs	17%	21%	-4%	(0.039)**
Employment and incomes social programs	21%	25%	-4%	(0.029)**
Water, sewage, and lighting	33%	36%	-3%	(0.031)**
Roads, sidewalks, and cemented areas in their communities	22%	23%	-1%	(0.049)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

However, a comparison of the data for expenses, monetary poverty, and subjective poverty may show considerable systematic differences. Therefore, a probabilistic matching and control for observables analysis is proposed to reduce these biases and allow a better estimation of the initial gaps between objectives and controls. Table 24 presents the results for the PRA's entire sphere of influence and for each corridor: beneficiaries' expenses are almost 9% higher than if they had not participated in the project. However, apparently this increase is not sufficiently solid yet to ensure a reduction in poverty: as may be seen, according with our estimations, the reduction of almost 2.5 percent points is not significant in statistical terms.

Table 24: Estimation of the impact on selected variables – aggregate PRA intervention, by corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
PRA Project	**0.08949*** **	**-0.02459**	**-0.06159** **
	(0.03288)	***(0.02488)***	***(0.02521)***
Ancash	0.19996**	-0.00162	0.00029
	(0.09319)	*(0.05463)*	*(0.05849)*
Arequipa	-0.05864	0.02218	-0.29950***
	(0.07720)	*(0.05870)*	*(0.06024)*
Ayacucho	0.18111**	-0.08505	0.01966
	(0.08392)	*(0.05198)*	*(0.05546)*
Cusco	-0.04788	0.06918	0.01509
	(0.06156)	*(0.04850)*	*(0.05122)*
Huancavelica	-0.02272	-0.03057	-0.14660***
	(0.06916)	*(0.05252)*	*(0.05440)*
Junín-Pasco	0.21289*	-0.03814	-0.07430
	(0.12672)	*(0.08463)*	*(0.08479)*
La Libertad	0.05212	0.09417*	-0.05216
	(0.06781)	*(0.05680)*	*(0.06006)*
Madre de Dios	-0.35975***	0.08699	-0.02617
	(0.11163)	*(0.09664)*	*(0.10306)*
Puno	0.35639***	-0.17965***	-0.13522**
	(0.08082)	*(0.05333)*	*(0.05526)*
Sierra Norte de Lima	0.05609	0.01529	-0.08343
	(0.07549)	*(0.05766)*	*(0.06062)*

Source: PRA Project Survey
Preparation: Macroconsult

This may be due to two complementary reasons. First, the impact on income may be higher for less poor individuals. This is to be expected if the program's causality rationale is based on small producers' ability to take advantage of business opportunities. In this context, it is not strange that the first ones to take advantage (or more advantage) are those with higher accumulated capital (physical, financial, or productive) or relatively closer to the market. This group is certainly the less poor. Second, as this is an intermediate assessment, it is possible that the effects may have not arrived at full maturity; i.e., permanent income may have not been reinforced adequately to generate a significant drop in poverty. Once again, fulfilling the rationale for PRA interventions (i.e., using the establishment of solid commercial relations to maximize their impact) requires some time to arrive at full maturity. Thus, it may be inferred from the assessment exercise that, while there are indications of a positive impact of the program, it needs to mature.

However, analyzing the last column of the table, it is possible to be optimistic about the future of these impacts. It may be seen that there is a significant change in subjective poverty: a lower share of program beneficiaries considers that their incomes are inadequate. This result may be interpreted as a lower subjective poverty, which, according to the estimations, is 6 percent points lower for the objectives than for the controls (probably 52% vs. 46%). Thus, while objective poverty conditions have not changed yet, beneficiaries are starting to perceive a change in their living conditions.

Results are also presented for specific corridors. While these will be detailed later in the sections dedicated to each corridor, it is useful to review them in the context of the average impacts presented here. A first reflection is that the positive impact on household expenditures cannot be generalized to all spheres of PRA intervention. Moreover, it is clear only in four corridors: Puno (36%), Junín-Pasco (21%), Ancash (20%), and Ayacucho (18%). All other cases show null impacts and, strangely, Madre de Dios shows a negative impact (36%).

It is recommendable to provide certain clarifications regarding the latter result. In our view, conceptually the only way a program like the PRA can create negative impacts is by deviating producers from more profitable activities (which they can carry out privately) towards less profitable ones (promoted by the PRA). This is certainly a possible result, but it needs to be verified. Regretfully, there is not sufficient information for a solid verification (neither the whole universe of economic activities, nor the process to assign labor to each corridor, was subject to research). However, a reasonable hypothesis is that the illegal extraction of gold may have an influence in such result). While around 30% of each sample (objective and control) was obtained from districts with a presence of informal mining activities, a greater relevance of the latter in the control sample cannot be ruled out.

An alternative explanation is the reduced size of the beneficiary universe (a total of 85), which may have an influence in the precision of the indicators. Finally, another possible explanation is the one advanced by Chemonics Alliances to the consultant team, based on the fact that the intervention in Madre de Dios was different from the ones carried out in the other corridors. In this case, more than in any other, defining the beneficiaries as “articulated producers” may complicate the assessment by excluding workers from firms, as in Madre de Dios only 8 out the 20 firms have registered beneficiaries and the rest carry out their production activities with their own workers. It cannot be ruled out that the latter may have contaminated the control sample.

Regarding the corridors where a positive impact is verified, it is possible that this result may be associated with certain special operation and management conditions. For example, according to the monitoring exercise carried out in 2011, only Puno, Junín-Pasco, Ancash, and Ayacucho exceeded the target for working days created within the framework of the PRA project. Additionally, it is possible that the basket of products may have favored the impact because, as a result of the export orientation of the activities supported, the effects may require shorter maturing times. According to the information facilitated by the PRA, this could be the case for organic avocado, asparagus, and aguaymanto in Ancash; watermelon and quinoa in Puno; organic cacao and jalapeño chilis in

Junín; and cacao and coffee in Ayacucho. The situation in these chains contrasts, for example, with alpaca farmers in Huancavelica. In any case, the information provided by this exercise is that the impacts seem to take place under certain special circumstances. With the information gathered under this consultancy, it is not possible to identify such conditions; therefore, looking ahead to the final impact assessment, it is proposed to explore them in depth using qualitative strategies specially designed for these corridors.

The rates of poverty and subjective poverty more or less replicate the average results; i.e., the poverty rate almost does not change, except in Puno, where if drops by around 18 points, in line with the increase in income; and in La Libertad, where (oddly) it increases 9 points. In the other cases it remains constant. Meanwhile, subjective poverty falls in Puno (in line with the latter results) and in Arequipa and Huancavelica. The two latter results are important because, as has been discussed, these corridors do not show an improvement in income or monetary poverty. However, based on the latter information, some kind of economic dynamics can be inferred that may have a certain influence on the living standards perceived by the population.

Finally, Table 25 shows the impact results for certain population groups of interest: urban/rural and male/female household heads. The results show that an increase in income has taken place in both urban and rural zones, although it has been greater in the former case. According to our estimations, the increase in income in urban zones has been close to 14% and approximately 7% in rural zones. Likewise, larger income increases tend to take place in households led by men (10%), against a positive, but not significant impact on women-led households. The latter result may be associated with the low representation of female household heads in the sample and the universe (less than 20%). In any case, this pattern is in line with the hypothesis, pointed out previously, that the beneficiaries who tend to benefit first (or to a larger extent) are those better positioned in the marked, probably urban males.

Table 25: Estimation of the impact on selected variables – aggregate PRA intervention, by subgroup of interest

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
PRA Project	**0.08949*** **	**-0.02459**	**-0.06159** **
	(0.03288)	***(0.02488)***	***(0.02521)***
Urban	0.13700***	-0.05839	-0.06190*
	(0.05006)	*(0.03654)*	*(0.03725)*
Rural	0.06658*	-0.00777	-0.06143**
	(0.03684)	*(0.02779)*	*(0.02889)*
Male	0.10268***	-0.03585	-0.07758***
	(0.03522)	*(0.02655)*	*(0.02673)*
Female	0.00312	0.05267	0.04812
	(0.08367)	*(0.06743)*	*(0.06533)*

Source: PRA Project Survey
Preparation: Macroconsult

Again, no significant effects on poverty reduction are identified when disaggregating by these subgroups. However, an impact is detected in the case of subjective poverty. It is interesting to note that, in contrast with the results for income, these changes are considerably more homogeneous between urban and rural areas (both fall by approximately 6 percent points). The underlying hypothesis may be that changes in income occurred in rural areas, although lower than in urban areas, may have a similar influence on the poverty perception of these households. Regarding the gender of the household head, the results are as expected: the impact concentrates on males (almost 8 percent points).

4.2 Results for the Ancash corridor

The PRA Project's area of influence includes the Ancash economic corridor, which encompasses the departments of Ancash and Lima, and is located in the West Central Peru. The corridor's Sierra includes the Callejón de Huaylas, a valley extending along the Santa River, with the Cordillera Negra (Black Mountain Chain) to the West and the Cordillera Blanca (White Mountain Chain) to the East. The latter is noted for its snow-capped mountains, including the Huascarán, Peru's highest peak (6,768 meters above sea level), located in

Yungay; and numerous glacial lakes. The Cañón del Pato marks the Callejón de Huaylas' northern limit.

The Ancash economic corridor possesses a diverse climate: temperate-hot on the coast; between 12°C-24°C up to 2,900 meters above sea level; mild-cold, between 6°C-12°C at 3,000-3,900 meters above sea level; and 0°C in winter. The puna region (above 4,000 above sea level) experiences cold-dry temperatures below 6° C. Rainfall is seasonal between November-April. Humidity in the coast is almost 100%, in contrast with 60%-70% in the Sierra. The distance between Lima and Huaraz (via Pativilca, on km 206 of the Pan-American Highway) is 407 km (6 hours by car). Transportation by sea (Chimbote) and air (Anta and Chimbote) is also available.

ESC Ancash launched its activities on May 2007, thanks to a partnership between USAID Perú, Sierra Exportadora, and Compañía Minera Antamina. When phase 1 of the PRA came to an end, ESC Ancash was preserved thanks to the contribution of Antamina and the Clinton Foundation. In the ceremony for the inauguration of phase 2 of the PRA, Antamina and the Clinton Foundation renewed their commitment to promote productive businesses in the Ancash corridor through an agreement with USAID[12].

Table 26: PRA results, September 2012, Ancash corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Ancash	16,622,091	570,200	531,376	9,517,194	939	17,702

Source: PRA Project
Preparation: Macroconsult

[12] http://www.proyectopra.com/pra-negocios/centros-de-servicios-economicos/cse-ancash

Table 27: Main products, Ancash corridor

Ancash Corridor	
Tara pods	Milled rice
Organic avocado	Varied capsicums
Aguaymanto	Mango
Scallops	Organic sweet potatoes
Processed asparagus	Trout
Hard yellow corn	

Source: PRA Project
Preparation: Macroconsult

Some indicators for this corridor provided by the PRA Project may be useful for an initial approach to the results created by the intervention. Table 26 shows that the net sales (large firms and small farmers) as of September 2012 reached US$ 16,622,091, of which more than half are export-oriented (US$ 9,517,194). Additionally, 939 small producers in the corridor participated in the PRA Project. Table 27 shows the main products in this corridor.

With an aim to generate a baseline for the Ancash corridor, the study sets out to explain a series of initial indicators aimed at characterizing the region of influence. Specifically, information from surveys on the treated and untreated populations in the Ancash corridor will be examined. The analysis is divided into three parts. The first one shows the balance of the characteristics of household members and housing conditions (family and demographic structure; access to water, lighting, and electricity services; and others). The second one shows information for households' production, sales, and self-consumption, associated in particular with their activities (agriculture, forestry, livestock farming, sub-livestock farming, and handicrafts). The third one puts together objective (e.g., household expenses) and subjective indicators (perceptions regarding welfare and quality of life).

The indicators presented were estimated using information from the samples, which was appropriately weighted by the expansion factor for the Ancash corridor. Most of them are average values for the treated (objective) and untreated (control) groups, the difference between them, and the standard deviation of the difference. The aim of a standard deviation indicator is to

provide readers knowledgeable in inferential statistics with the necessary information to recognize the degree of dispersion of the data and the precision of the estimations. Additionally, in order to facilitate interpretations, and considering that the aim is to verify if there are differences between objectives and controls, formal statistical tests have been carried out to assess the null hypothesis that the difference is equal to zero, using Student's t-test for the difference between means.

The sample taken for the objectives in the Ancash corridor represent 43.2% of the beneficiary universe in the corridor where the PRA project has intervened; i.e., 271 observations out of a total of 627 beneficiary families; while, in the case of the controls, 404 observations were taken which comply with the 1.5 ratio proposed per objective. Table 28 shows that both in the objective and control groups predominate rural households (close to 55%), indicating an adequate balance between the samples.

Table 28: Urban/Rural distribution, Ancash corridor

	Objectives	Controls
# Observations	271	404
% Urban area	44%	45%
% Rural area	56%	55%

Source: PRA Project Survey
Preparation: Macroconsult

The information gathered also permitted an adequate identification of the profile of the interviewed population in terms of household and age composition (Table 29). The profile of the objective households shows a similarity in household composition relative to control households: an average of four members per household and a non-significant difference of only 0.1 in favor of the controls. Additionally, the household structures are highly comparable regarding the type of household members.

In contrast, the demographic structure shows some differences. The objectives show a greater concentration in age groups older than 40 years of age compared with the control group. Indeed, statistical tests confirm that there is a relevant statistical variation. Therefore, apparently the objective population

presents a state of greater "aging" that the controls. Regarding age groups below 40 years of age, homogenous rates are found between objective and control households. Age groups older than 10 and younger than 20 show the highest rates, reflecting an important presence of a young working-age population, and showing a slight, non-significant difference in favor of the controls.

Table 29: Household socio-demographic characteristics, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.92	**4.02**	-0.10	(0.145)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.79	0.78	0.01	(0.032)
Are there any children?	0.74	0.75	-0.13	(0.126)
Any other household members?	0.19	**0.22**	0.02	(0.079)
Demographic structure				
% under 5 years	5%	6%	-1%	(0.008)
% above 5 and under 10 years	8%	8%	0%	(0.010)
% above 10 and under 20 years	17%	**19%**	-2%	(0.016)
% above 20 and under 30 years	12%	11%	0%	(0.015)
% above 30 and under 40 years	**14%**	12%	2%	(0.017)
% above 40 and under 50 years	13%	11%	1%	(0.015)
% above 50 and under 60 years	**16%**	10%	6%	(0.018)***
% above 60 and under 65 years	**16%**	10%	6%	(0.018)***
% above 65 years	10%	**17%**	-7%	(0.021)***
Characteristics of household head				
Average age	49	52	-3	(1.134)**
% males	**92%**	83%	9%	(0.025)***
% migrants	**16%**	8%	8%	(0.026)***
Civil status or partner	81%	78%	2%	(0.031)
Education level				
No level a/	3%	**6%**	-3%	(0.016)*
Primary education	39%	**54%**	-15%	(0.039)***
Secondary education	**44%**	31%	14%	(0.038)***
Higher education	**14%**	9%	5%	(0.025)*

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

An additional characterization is given is given by the household head's profile, shown in Table 29. A rapid inspection shows a similar profile between objective and control household heads: they are around 50 years on average and live with a spouse (they are married or have a partner). Except for a significant

difference in the migratory indicator (which shows that the number of objective household heads residing in a province different from the one where they were born is twice as large as for the controls, 16% vs. 8%) and the gender indicator (which reveals a higher frequency of males in the beneficiary over the control group, 92% vs. 83%), the profile for the household heads tends to be very similar for the entire sample. The migratory indicator may also be qualified as low, but with a statistically significant gap in favor of the objectives, reflecting a greater degree of displacement in these households.

The most notorious contrasts in the characteristics of household heads concern the education level, which depends on other exogenous variables, like the presence of schools and teachers in the localities where they reside. In this regard, there is a higher share of objective household heads with higher education levels (44% with secondary education and 14% with higher education) than the controls (31% and 9%, respectively). This result is important, as it suggests a higher accumulation of human capital among the objectives, conferring them the ability to create or access work sources, which in turn increases their household income and expenditure.

Table 30 shows the general housing characteristics. The rates of access to adequate housing do not even exceed a third of the population, which could be highly related with the types of areas in which the majority of the households surveyed reside (rural areas). However, there are differences between groups. The objectives predominate regarding ownership of adequate housing relative to the controls: the number of objectives living in a home with brick walls and floor different from dirt is twice that for controls. A better relative physical infrastructure, permitting better housing conditions for the objectives, is explained by a larger number of per capita rooms for objective (1.02) relative to control households (0.82). Other indicators, such as the percentage possessing a property title and investing in their households, are similar between objectives and controls: more than half of households possess a property title (objectives 62%, controls 63%), and few households invest in their homes (objectives 7%, controls 10%).

Table 30: Housing and home asset characteristics, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	**24%**	12%	12%	(0.031)***
Average per capita rooms	**1.02**	0.82	0.20	(0.055)***
% possessing a property title	62%	**63%**	-1%	(0.039)
% investing in their homes	**10%**	7%	3%	(0.022)
% access to water b/	81%	**96%**	-15%	(0.026)***
% access to sewage c/	29%	**52%**	-23%	(0.037)***
% access to electricity d/	84%	**91%**	-8%	(0.026)***
% access to communications e/	**82%**	62%	20%	(0.033)***
Home assets				
% access to entertainment f/	94%	**96%**	-1%	(0.018)
% w/ computer	**10%**	5%	5%	(0.022)**
% housekeeping g/	**52%**	33%	19%	(0.038)***
% transportation h/	**30%**	14%	16%	(0.033)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor different from dirt.
b/ Water access from public network in and outside the home.
c/ Hygienic service connected to public network in and outside the home.
d/ Electric lighting.
e/ Telephon, cellphone, Internet, TV.
f/ Radio, TV, DVD system.
g/ Iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ Bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding access to services within the home, in general there is a high coverage rate for water service, electricity, and communications across the sample, exceeding half of the population. However, while it has been mentioned that objective households enjoy a better physical housing infrastructure relative to controls, there is significant statistical evidence to state that the same does not hold regarding access to services. While controls reveal almost complete coverage regarding water, electricity, and sewage (96%, 91%, and 52%, respectively), the objectives differ in an average proportion of 15, with coverage rates of 81%, 84%, and 29%, respectively. In this regard, the indicator that stands out in favor of the objectives is the high coverage in communications relative to the controls (82% vs. 62%).

Concerning home assets, both objectives and controls present a high rate of possession of entertainment appliances, such as TV, ratio, DVD system, both exceeding 90%. However, it is the treated group that predominates regarding the possession of other appliances such as computer, stove, blender, and

transportation means (bicycle, car, and motorcycle). For the entire sample, it is noteworthy that access to technologies such as computers (and the consequent possibility of having Internet access within the home) is still low: on average only 7.5% of both objectives and controls possess a computer.

Regarding access to social programs provided by the government, Table 31 shows that, with the exception of food programs, in general both treated and untreated groups show similar rates for access to social programs like "Juntos" and education and/or health programs; a significant difference is not to be expected regarding these categories. In the case of access to food programs, controls show a rate 7% higher that objectives, but, like them, reaching or exceeding one-third of their populations. Meanwhile, close to one-tenth of the objectives receive support as farming producers, while for the controls such assistance is null.

Table 31: Access to Social Programs, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social programs				
% access to food programs	31%	**38%**	-7%	(0.037)*
% access to the "Juntos" program	8%	11%	-3%	(0.023)
% access to education or health programs	10%	14%	-4%	(0.025)
% access to farming support programs	9%	0%	9%	(0.000)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

As for the distribution of households according to economic activity, Table 32 shows that a majority of households is dedicated to agricultural activities (objective group 88%; control group 99%). Another activity showing a balance between the samples gathered in the Ancash corridor is livestock farming: more than half of both objective control households are dedicated to that activity (objectives 71%, controls 84%). The similarity in the main activities carried out by producer households is consistent with the decisions considered when selecting the controls. For a household to serve as control, it needed to produce the same or similar goods (e.g., organic avocado, asparagus, or aguaymanto) as small beneficiary producer households.

Table 32: Distribution of producer households, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	88%	99%	-12%	(0.021)***
% households dedicated to livestock farming	71%	84%	-13%	(0.033)***
% households dedicated to sub-livestock farming	21%	15%	5%	(0.030)*
% households dedicated to forestry	0%	1%	0%	(0.006)
% households dedicated to handicrafts	13%	3%	10%	(0.022)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 33 shows the distribution of total production, understood as the share of each activity in total GPV. The relative preponderance in GPV is biased towards agricultural activities, as they represent a value greater than 80% for the whole sample. However, agricultural production is also greater for beneficiary than for control producers (88.5% vs.82.4%).

Table 33: Distribution of Gross Production Value, Ancash corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	88.46%	82.38%
Livestock farming		
Average GPV per producer	3.48%	12.39%
Sub-livestock farming		
Average GPV per producer	1.00%	3.61%
Forestry		
Average GPV per producer	0.0%	0.3%
Handicrafts		
Average GPV per producer	7%	1%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 34 shows the average gross production value, sales, and self-consumption per producer. In general, the higher annual average production values concentrate on agricultural activities and handicrafts. However, statistical tests show robust indications that the averages differ in almost all activities between the objective and control groups. While an agricultural producer in the objective group reaches an annual average of S/. 24,526 at market prices, a producer in the control group reaches only one-fifth of that average (S/. 4,749).

Likewise, the average handicrafts output per producer in the objective group (S/. 13,120) is almost 6 times that in the control group (S/. 2,374).

Table 34: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	**24,526.1**	**4,749.7**	19,776.5	(3130.425)***
Average total sales per producer	23,540.8	3,390.4	20,150.4	(3120.174)***
Average total self-consumption per producer	985.3	1,359.3	-374.0	(344.748)
% GPV for sale	***96%***	*71%*		
Livestock farming				
Average GPV per producer	1,193.4	847.2	346.2	(119.921)***
Average total sales per producer	593.2	538.4	54.9	(104.530)
Average total self-consumption per producer	600.2	308.8	291.3	(50.718)***
% GPV for sale	*50%*	*64%*		
Sub-livestock farming				
Average GPV per producer	1,182.3	1,369.6	-187.3	(668.758)
Average total sales per producer	628.5	935.4	-306.9	(546.912)
Average total self-consumption per producer	553.8	434.2	119.6	(317.308)
% GPV per for sale	*53%*	*68%*		
Forestry				
Average GPV per producer	850.0	2,162.7	-1,312.7	(1685.923)
Average total sales per producer	0.0	1,975.0	-1,975.0	(1756.101)
Average total self-consumption per producer	850.0	187.7	662.3	(93.423)***
% GPV per for sale	*0%*	***91%***		
Handicrafts				
Average GPV per producer	**13,120.9**	**2,374.8**	10,746.1	(2101.053)***
Average total sales per producer	12,744.1	1,932.5	10,811.6	(1893.190)***
Average total self-consumption per producer	376.7	442.3	-65.6	(314.022)
% GPV per for sale	***97%***	***81%***		
Total				
Average GPV per producer	24,042.4	5,722.5	18,319.9	(2771.225)***
Average total sales per producer	22,603.0	4,033.7	18,569.3	(2757.548)***
Average total self-consumption per producer	1,439.4	1,688.8	-249.4	(355.122)
% GPV per for sale	*94%*	*70%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

It is important to highlight that in those activities where the objectives have higher average GPVs, the percentages of GPV dedicated to sales are also higher (agriculture 96%, handicrafts 97%). This is in line with the PRA's intervention, which seeks precisely to reduce transaction costs between small producers and the market, thereby increase their articulation with the market.

The higher average GPV and percentage dedicated to sales (94%) for the treated population compared with the control population may be easily explained by PRA intervention, but also by other characteristics of the population. For example, Table 35 shows that the objective population on average shows better entrepreneurship indicators which, together with the significant evidence of high/regular education levels, enable them to achieve better results in the labor/production markets.

Table 35: Entrepreneurship Indicators, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	15%	1%	14%	(0.022)***
Average search score a/	6.7	6.0	0.8	(0.200)***
Average investment score b/	6.6	6.8	-0.2	(0.203)
% owning a business	36%	16%	20%	(0.035)***
% fearing business failure	54%	42%	11%	(0.039)***
% willing to start a new business	68%	73%	-4%	(0.036)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Indeed, while 15% of the treated population has a savings account, only 1% of the controls do. Additionally, it is noteworthy that 36% of the objectives own a business, duplicating the figure for the controls. Both indicators are important because, just like owning a business signals a strong effort to establish a connection with the market, owning a savings account reflects a link to the financial system that can facilitate business transactions and access to clients, suppliers, and buyers/sellers.

Table 36 shows a first indicator for the monthly average expenditure of objectives and controls, and then one for a restricted measure of expenditure.

Based on both, two types of poverty and gap are presented by defect. The indicator for poverty is based on a monetary definition, whereby a person is poor if his/her monthly expenditure is equal to or below the poverty line established by ENAHO, while the gap shows the average distance between per capita expenditure of the poor relative to the poverty line.

If the first indicators are examined without restrictions, the monthly average expenditure for the control population is higher (S/. 738.7) than for the treated population (S/. 675.5), but the poverty rate is twice that for the objectives. An elevated expenditure and a high poverty rate may be explained by a strong presence of extreme values, which may raise the monthly average expenditure. In this light, it was considered convenient to examine these variables using a restricted measure of expenditure that can limit the effect of the extreme values.

Table 36: Household Expenditure (monthly per capita S/.) and Poverty, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	675.5	738.7	-63.28	(253.053)
Restricted expenditure 1 b/	483.2	273.0	210.24	(31.482)***
Poverty				
Poverty rate a/	34.7%	60.4%	-26%	(0.038)**
Poverty rate 1 b/	35.5%	62.1%	-27%	(0.038)**
Poverty gap				
Povecrty gap a/	35.6%	38.8%	-3%	(0.027)**
Poverty gap 1 b/	35.6%	38.8%	-3%	(0.027)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

As mentioned before, the measure of expenditure used eliminates expenditure levels exceeding ENAHO's minimum and maximum per capita expenditure values. This results in a considerable reduction in expenditure averages for the controls (from S/. 738.7 to S/. 273), thereby confirming a high presence of extreme values. Once the data are corrected, expenditure in objective households is higher on average than in control households, which is more consistent with a lower poverty rate (35.5% and 62.1% for objectives and controls, respectively) and poverty depth rate (35.6% and 38.8%, respectively).

Additionally, the statistical significance confirms the difference in the population means of the treated and untreated populations.

Table 37: Perceptions and Subjective Poverty Indicators, Ancash corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	43%	62%	-18%	(0.039) ***
% perceiving themselves as not living well	34%	57%	-23%	(0.038) ***
Considering that … is/are very important for their welfare:				
Basic services	69%	66%	3%	(0.064) *
Better connections	47%	51%	-4%	(0.066) *
Roads in good state	47%	26%	20%	(0.061) *
Higher income	30%	49%	-18%	(0.064) *
Market information	20%	22%	-2%	(0.057) *
Access to credit	9%	10%	-2%	(0.047) **
Technical assistance for production	14%	32%	-18%	(0.050) **
Health and food social programs	20%	25%	-5%	(0.073) *
Education social programs	23%	20%	3%	(0.144)
Employment and incomes social programs	30%	12%	19%	(0.089) *
Water, sewage, and lighting	30%	44%	-14%	(0.109)
Roads, sidewalks, and cemented areas in their communities	0%	8%	-8%	(0.057) *

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Like monetary poverty, a lower welfare level in the untreated population is also reflected in their subjective poverty rate relative to that for the untreated population. More than half of the control population defines itself as a poor household (62%), while less than half of the objectives perceive it in the same way (43%). Another indicator of household perceptions seems to point to a better quality of life among objective compared with control households: close to one-third of the objectives perceive themselves as not living well, while close to 60%, that is, more than half of the controls perceive themselves in the same way.

The subjective information mentioned before is summarized in Table 37. This table also shows information about perceptions regarding services and programs, where access to basic services, better connections, roads in good state, higher income, and market information are the five categories that predominate in the whole sample. However, there are statistically significant differences between the treated and untreated groups.

One of the highest contrasts is that the share of the treated population that highlights the good state of the roads as prioritary for their welfare almost doubles that for the controls. This is consistent with the commercial articulation of the treated group, reflected in their higher production value percentages for sale. Another category is higher income, where the share of the control population that considers it important for their welfare is 18% higher than for the treated population. A possible hypothesis is that, given a higher poverty rate among controls, it is more likely to find a greater need for income in their households (where a little more money creates greater marginal welfare). Regarding access to social programs, access to health, food, and education programs proves almost equally necessary across the entire sample.

Table 38: Impact indicators, Ancash corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.19996**	-0.00162	0.00029
	(0.09319)	*(0.05463)*	*(0.05849)*
Urban	0.29410**	-0.0581	-0.00477
	(0.11642)	*(0.06704)*	*(0.07061)*
Rural	0.15569	0.0265	0.00280
	(0.09806)	*(0.05919)*	*(0.06499)*
Male	0.18717**	-0.00785	-0.00745
	(0.09378)	*(0.05553)*	*(0.05969)*
Female	0.29159	0.04118	0.05342
	(0.20364)	*(0.11626)*	*(0.11990)*

Source: PRA Project Survey

Preparation: Macroconsult

Finally, Table 38 shows the impacts estimated for the corridor. As analyzed before, on average it is possible to identify an increase in household

expenditure close to 20% when comparing the objectives with their controls, which, however, still does not translate in a significant reduction in the poverty rate. Disaggregating within the corridor, it can also be estimated that the effects concentrate in the urban area (incomes 29% higher) rather than in the rural area (where the impact is positive, but not significant); and in male (19%) vs. female household heads (a positive, but not significant effect). The positive impact on the expenditure level, as already mentioned, is associated with the production basket in this corridor (e.g., organic avocado, asparagus, and aguaymanto), whose effects may have shorter maturities given their export orientation.

4.3 Results for the Arequipa corridor

The Arequipa economic corridor is located in South-West Peru and extends into the Arequipa region. It is limited by Ica, Ayacucho, Apurímac, Cusco, Puno, and Moquegua to the East, and by the Pacific Ocean to the West. It contains pampas and mountains, as well as volcanoes (like the Misti and the Ubinas, the only active volcano in Peru) and canyons (like the Colca, twice as deep as the U.S. Grand Canyon). At the mountains' feet the soil is flat and fertile, while in the heights it is desolate and wild.

The weather is even across the corridor. The climate is subtropical and desert-hot, with average, maximum, and minimum temperatures of 20.5 °C, 33 °C, and 9°C, respectively. The climate in the cities is temperate, dry, and intensely sunny, with scarce rainfall. The corridor rises from zero to 4,525 meters above sea level. The weather in the corridor's high region is somewhat less than tropical, reaching temperatures below 10ºC. Highway access from Lima to Arequipa is available (920 km). The most frequently route is the Pan-American Highway (11 hours by car). Air access is also possible through Rodriguez Ballón International Airport.[13].

[13] http://www.proyectopra.com/pra-negocios/centros-de-servicios-economicos/cse-arequipa

Table 39: PRA results, September 2012, Arequipa corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Arequipa	8,456,471	188,055	118,984	1,396,884	786	10,759

Source: PRA Project
Preparation: Macroconsult

Table 40: Main products, Arequipa corridor

Arequipa Corridor	
Cheese (Fresh milk)	Conventional avocado
Categorized alpaca fiber	Paprika
Mozzarella cheese (Fresh milk)	Accessories
Apparel	

Source: PRA Project
Preparation: Macroconsult

Tables Table 39 and 40 show public information for the Arequipa corridor prepared by the PRA. The first table shows that net sales as of September 2012 reached US$ 8,456,471, of which around one-eighth is export-oriented (US$ 1,396,884). As of the same date, the PRA materialized US$ 118,984 in investments in the same corridor. Within the Arequipa corridor, 786 small producers of agricultural, sub-livestock farming, and handicrafts products were articulated with large firms.

With an aim to generate a baseline for the Arequipa corridor, the report now focuses on explaining a series of initial indicators to characterize the area of influence. Specifically, information obtained from surveys on the treated and untreated populations in the Arequipa corridor will be examined. In general terms, the analysis focuses on three main parts: the first one shows the balance regarding the characteristics of household members and housing; the second one presents indicators for production, sales, and self-consumption in the household; and the third one brings together objective indicators, such as household expenditure, with subjective ones, like perceptions regarding welfare and quality of life.

The statistics presented correspond to the values estimated based on the sample information, which where weighted appropriately by the expansion

factor for the Arequipa corridor. A majority are average values for the treated (objectives) and untreated (controls) groups, the difference between both, and the standard deviation of the difference. The indicators aim at providing the necessary information to identify the degree of dispersion in the data and the precision of the estimations. Additionally, differences were identified between objectives and controls, and formal statistical tests were carried out to assess the null hypothesis that the difference is equal to zero using Student's t-test for the difference between the means.

Table 41: Urban/rural distribution, Arequipa corridor

	Objectives	Controls
# observations	292	440
% Urban area	39%	49%
% Rural area	61%	51%

Source: PRA Project Survey
Preparation: Macroconsult

Table 41 shows the sample balance based on 292 beneficiaries surveyed, representing close to 68% of the universe treated by the PRA in the Arequipa corridor[14], and on 440 controls complying with the ratio of 1.5 controls per beneficiary. The latter is a good indicator in favor of the process of gathering on-field information, as the quota of objectives and controls was fully met. Regarding the balance for the type of area, while the objectives show a higher rural representation, the controls have a similar participation in both areas. This may have a certain (downward) influence in the net differences between both groups, which must be taken into consideration in the analysis.

Table 42 shows the characteristics of household members within the corridor. This makes it possible to identify the population profile in terms of its household and age composition. In this respect, the profile of objective households in the corridor shows a similarity in composition relative to control households: an average of 3.5 members per household, with no statistical evidence that can explain any significant difference. Additionally, households in the corridor are

[14] The size of the beneficiary universe is 431 for the Arequipa corridor as a whole and 257 for the Arequipa-Buenaventura stratum.

likely to have a head; the average probability that there is a spouse and children is 0.7; and there is a low probability that there are other household members.

Table 42: Household socio-demographic characteristics, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.60	3.50	0.10	(0.128)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.78	0.81	-0.03	(0.032)
Are there any children?	0.71	0.69	0.23	(0.126)
Any other household members?	0.10	0.16	-0.10	(0.079)
Demographic structure (average)				
% under 5 years	6%	6%	0%	(0.009)
% over 5 and under 10 years	8%	7%	1%	(0.010)
% over 10 and under 20 years	**17%**	13%	4%	(0.014)***
% over 20 and under 30 years	**12%**	9%	3%	(0.015)**
% over 30 and under 40 years	13%	12%	1%	(0.015)
% over 40 and under 50 years	15%	14%	1%	(0.018)
% over 50 and under 60 years	15%	16%	-1%	(0.021)
% over 60 and under 65 years	15%	16%	-1%	(0.021)
% over 65 years	**10%**	16%	-6%	(0.021)***
Characteristics of household head				
Average age	47.68	52.28	-4.59	(1.081)***
% males	79%	85%	-6%	(0.029)*
% migrants	22%	21%	2%	(0.031)
Civil status or partner	85%	80%	4%	(0.028)
Education level				
No levela	9%	6%	2%	(0.020)
Primary education	41%	44%	-3%	(0.037)
Secondary education	37%	38%	-1%	(0.037)
Higher education	13%	12%	2%	(0.025)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

In addition, regarding the demographic structure of the sample gathered, the previous table shows an adequate balance in age groups between objectives and controls, supported by non-significant statistical differences. Intra-group contrasts (within the objective and control groups) reveal a concentration in groups older than 40 years of age, which suggests that the groups are not too young.

An additional characterization is given by the profile of the household head, which can also be seen in previous tables. A rapid inspection shows a household head profile that differs little between objectives and controls: most household heads are male and married or have a partner (more than 80%); one-fifth has migrated outside of their provinces of birth; and they are between 48 and 52 years. Their education levels are low, as more than half seem to have reached only secondary education (objectives 87%; controls 88%).

Table 43 shows the general housing characteristics. A first approach shows that the rate of access to adequate housing is low, as less tan 30% of the population in the Arequipa corridor have a home with brick walls and floor different from dirt; but more than half have formalized the possession of their homes and have access to water and electricity. However, these averages conceal significant differences between groups: while the controls have almost complete access to water and electricity (around 90%), the beneficiaries reach rates close to 70%. In contrast, there is lower overcrowding in beneficiary households, as well as greater telecommunications coverage; i.e., more than 80% have at least telephone, cellphone, Internet, or TV.

Table 43: Housing and home asset characteristics, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	19%	**28%**	-9%	(0.032)***
Average per capita rooms	**0.96**	0.85	0.11	(0.063)*
% possessing a property title	55%	**65%**	-10%	(0.037)***
% investing in their homes	7%	5%	2%	(0.018)
% access to water b/	76%	**90%**	-14%	(0.029)***
% access to sewage c/	24%	37%	-13%	(0.034)***
% access to electricity d/	69%	**94%**	-25%	(0.028)***
% access to communications e/	83%	71%	11%	(0.031)***
Home assets				
% access to entertainment f/	95%	99%	-4%	(0.014)***
% w/ computer	**15%**	9%	6%	(0.025)**
% housekeeping g/	**73%**	63%	11%	(0.034)***
% transportation h/	**42%**	26%	16%	(0.036)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor different from dirt.
b/ Water access from public network in and outside the home.
c/ Hygienic service connected to public network in and outside the home.
d/ Electric lighting.
e/ Telephon, cellphone, Internet, TV.

f/ Radio, TV, DVD system.
g/ Iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ Bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

In addition, access too social programs (government-provided services) can be examined. Table 44 highlights that in both control and beneficiary households, it is food programs that provide the greater population coverage, but still with low rates not exceeding one-third of the population. Education and health programs take a second place; and last come the "Juntos" and farming support programs, with null coverage. The previous reading of the indicators is supported by little statistical significance, which reveals the differences between objectives and controls to be null.

Table 44: Access to Social Programs, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% access to food programs	29%	**30%**	-1%	(0.034)
% access to the "Juntos" program	0%	0%	0%	(0.000)
% access to education or health programs	5%	7%	-1%	(0.017)
% access to farming support programs	0%	0%	0%	(0.004)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 45 presents the distribution of households by economic activity. It can be seen that livestock farming is the one that employs a greater number of households in both the objective (84%) and control (83%) groups. At the same time, agriculture is more relevant for the control group, while sub-livestock farming activities are important in the objective group. It is worth noting that the control group was selected in such a way that it should show a similar percentage of households dedicated to the main activity in the objective group (livestock farming).

Table 45: Distribution of producer households, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	43%	92%	-48%	(0.032)***
% households dedicated to livestock farming	**84%**	**83%**	1%	(0.028)
% households dedicated to sub-livestock farming	73%	46%	27%	(0.035)***
% households dedicated to forestry	2%	0%	2%	(0.000)
% households dedicated to handicrafts	10%	4%	6%	(0.019)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 46 shows the distribution of total production in the Arequipa corridor, understood as the share of each activity in total GPV. The table shows a relative predominance of agriculture, both for the objectives (52.9%) and the controls (65.9%). These data, together with Table 45, show that there are different relative productivities between groups. In the case of the objectives, the fact that most of the production comes from agriculture (52.9%), this does not necessarily mean that the percent of households involved in this activity is higher; in contrast, among controls the higher percentage of households involved in agriculture does respond to the fact that most of the GPV comes from the same activity (65.9% of total GPV). There is a greater imbalance regarding livestock farming: for the whole sample, the percentage of households involved is high, but total GPV is low, not exceeding 11%. It is necessary to consider that, in contrast with the information shown in Table 45, it is possible to find GPV differences explained by PRA intervention, where a greater articulation with the market among small producers may have raised their average sales. In the household distribution, the selection has been deliberate and aimed at striking a balance between the control and objective samples.

Table 46: Distribution of Gross Production Value, Arequipa corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	52.86%	65.92%
Livestock farming		
Average GPV per producer	10.60%	9.24%
Sub-livestock farming		
Average GPV per producer	34.64%	23.68%
Forestry		
Average GPV per producer	0.3%	0.0%
Handicrafts		
Average GPV per producer	2%	1%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 47: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	29762.6	11633.8	18128.8	(3953.873)***
Average total sales per producer	15859.5	8127.3	7732.2	(2300.279)***
Average total self-consumption per producer	13903.1	3506.5	10396.6	(3255.545)***
% GPV for sale	53%	70%		
Livestock farming				
Average GPV per producer	3636.3	2567.0	1069.3	(496.741)**
Average total sales per producer	2671.5	1574.8	1096.7	(403.238)***
Average total self-consumption per producer	417.1	221.7	195.4	(46.799)***
% GPV for sale	73%	61%		
Sub-livestock farming				
Average GPV per producer	11674.3	8366.7	3307.6	(1792.951)*
Average total sales per producer	11211.4	7261.5	3950.0	(1771.018)**
Average total self-consumption per producer	462.9	1105.2	-642.3	(327.676)*
% GPV per for sale	96%	87%		
Forestry				
Average GPV per producer	4129.0	-		
Average total sales per producer	2170.0	-		
Average total self-consumption per producer	1959.0	-		
% GPV per for sale	53%			
Handicrafts				
Average GPV per producer	3980.2	5318.5	-1338.3	(1869.140)
Average total sales per producer	3736.1	67.5	3668.7	(1033.931)***
Average total self-consumption per producer	244.1	5251.0	-5007.0	(1556.367)***
% GPV per for sale	94%	1%		
Total				
Average GPV per producer	24491.4	16148.7	8342.7	(2723.262)***
Average total sales per producer	17700.5	12066.3	5634.2	(1851.908)***
Average total self-consumption per producer	6790.9	4082.4	2708.6	(1609.886)*
% GPV per for sale	72%	75%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 47 shows the average gross production value, sales, and self-consumption per producer in the Arequipa corridor. As mentioned before,

productivity differs between sectors and groups. The objectives more than double the agricultural average GPV per producer obtained by the controls (S/. 29,762 and S/. 11,633, respectively). However, agriculture is the activity that represents the higher average GPV among the controls. Additionally, the difference between the means is supported by highly reliable statistics.

In total terms, the beneficiaries have an annual average GPV per capita of S/. 24,491, different from the controls by more than S/. 8,000. This is consistent with PRA intervention, which seeks precisely to reduce the transaction costs faced by small producers when attempting to sell their output in the market, despite the fact that the share of GPV dedicated to sales is 3 percentage points higher for the non-beneficiaries.

Additionally, considering the information on entrepreneurship (Table 48), the main indicator establishing a difference between the objective and control groups is ownership of a business, supported by significant evidence: 89% of objective households own a business, compared with 81% of controls. The other indicators do not show statistically significant variations that can explain substantial differences between the sample groups: among both objectives and controls, a low percentage owns a savings account (10% vs. 8%), and more than half of the population fears business failure (61% vs. 62%).

Table 48: Entrepreneurship Indicators, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% w/ savings account	10%	8%	1%	(0.022)
Average search score a/	6.0	5.9	0.2	(0.153)
Average investment score b/	6.8	6.8	0.0	(0.140)
% owning a business	**89%**	81%	9%	(0.025)***
% fearing business failure	61%	62%	-1%	(0.037)
% willing to start a new business	74%	77%	-3%	(0.032)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 49 shows two expenditure indicators: first a monthly average expenditure indicator for both objectives and controls; and then a restricted expenditure

measure that eliminates ENAHO's minimum and maximum values. With two kinds of expenditure, two kinds of poverty and gap emerge. The poverty level shown is based on the monetary definition, whereby "poor" is a person with a monthly expenditure equal to or below ENAHO's poverty line, while the gap shows the depth of poverty among the poor (relative to the poverty line).

It has been considered necessary only to focus on the restricted expenditure measure and their corresponding poverty and gap levels. Thus, within the corridor it is possible to obtain an average per capita expenditure slightly higher for the objectives than for the controls (S/. 459 vs. S/. 427 monthly), which in statistical terms is not significant. This is consistent with the fact that the poverty rates are similar: among both beneficiaries and controls the poverty rates are low, not exceeding one-third of the population. However, it is notorious that poverty depth is greater for beneficiary than for control households, and there is significant evidence to support the difference between the means.

Table 49: Household Expenditure (monthly per capita S/.) and Poverty, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	601.3	503.7	97.6	(65.293)
Restricted expenditure 1 b/	**458.8**	426.9	31.9	(24.853)
Poverty				
Poverty rate a/	26.2%	25.1%	0.01	(0.033)**
Poverty rate 1 b/	**24.3%**	25.1%	-0.01	(0.033)**
Poverty gap				
Poverty gap a/	37.9%	25.5%	0.12	(0.032)**
Poverty gap 1 b/	**30.4%**	24.3%	0.06	(0.025)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Subjective poverty indicators are presented together with the analysis of monetary poverty. A subjective poor household is one that defines itself as living in a state of poverty. Table 50 shows that, in line with the results for monetary poverty, the objectives are defined as less poor than the controls: while around one-third of the objectives perceive themselves as poor (35%),

this rate is considerable higher among the controls (43%). Additionally, while the beneficiary population perceiving itself as not living well does not exceed one-half (40%), among the controls the rate reaches 59%. Regarding perceptions about services and programs, higher income, better connections, and basic services are the three main categories identified as the most important for the population's welfare.

Table 50: Perceptions and Subjective Poverty Indicators, Arequipa corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	35%	43%	-9%	(0.036) **
% perceiving themselves as not living well	40%	59%	-19%	(0.037) ***
Considering that … is/are very important for their welfare:				
Basic services	**31%**	**31%**	0%	(0.095) *
Better connections	**35%**	**40%**	-5%	(0.059) *
Roads in good state	21%	22%	-1%	(0.068) *
Higher income	**66%**	**64%**	1%	(0.043) **
Market information	28%	20%	7%	(0.072) *
Access to credit	15%	20%	-5%	(0.056) *
Technical assistance for production	26%	24%	2%	(0.062) *
Health and food social programs	14%	14%	0%	(0.055) *
Education social programs	22%	6%	16%	(0.118)
Employment and incomes social programs	17%	19%	-2%	(0.070) *
Water, sewage, and lighting	32%	14%	18%	(0.066) *
Roads, sidewalks, and cemented areas in their communities	10%	42%	-32%	(0.113)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 51 shows the impact results for the Arequipa corridor. No significant differences are identified between objectives and controls after matching, and therefore it is possible to identify a positive PRA impact on expenditure and poverty. However, as discussed above, the subjective

information suggests that there must be certain perceived changes among the population regarding their living standards. Lower subjective poverty rates are identified on average across all population subgroups. In any case, the most interesting result is that the greatest increase in welfare perception takes place in rural areas.

Table 51: Impact indicators, Arequipa corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.05864	0.02218	-0.29950***
	(0.07720)	*(0.05870)*	*(0.06024)*
Urban	-0.09559	-0.00494	-0.21943**
	(0.09469)	*(0.07019)*	*(0.07782)*
Rural	-0.03969	0.03568	-0.33935***
	(0.08698)	*(0.06683)*	*(0.06855)*
Male	-0.04078	0.00500	-0.311273***
	(0.08048)	*(0.05995)*	*(0.06196)*
Female	-0.17259	0.14008	-0.21869**
	(0.10537)	*(0.09862)*	*(0.10054)*

Source: PRA Project Survey

Preparation: Macroconsult

Results for the Arequipa-Buenaventura stratum

With an aim to carry out an assessment of disaggregated baseline indicators within the corridors, we focus on the Arequipa-Buenaventura stratum. The initial characteristics obtained from the beneficiary and control populations in a sub-sample of the corridor are analyzed. Indicators of the average values for the treated (objective) and untreated (control) groups, the difference between them, and the standard deviation of the difference are also presented. Additionally, Student's t-test for mean differences is used to test the null hypothesis of a zero difference.

Concerning the sample balance, Table 52 shows that in the Arequipa-Buenaventura stratum the objectives represent the greater proportion of the universe of beneficiaries for the corridor (176 observations out of 292); and the

ratio for the controls is close to what is expected, as they are equal to 1.4 controls per beneficiary. For the stratum, the rurality rate is higher for the beneficiary (50%) than for the control (32%) population. Therefore, the urban/rural distribution indicates a higher urban element among the controls compared with the objectives. It is important to consider this imbalance when analyzing the results for this stratum.

Table 52: Urban/Rural distribution, Arequipa-Buenaventura stratum

	Objectives	Controls
# observations	176	248
% Urban area	50%	68%
% Rural area	50%	32%

Source: PRA Project Survey
Preparation: Macroconsult

Table 53 shows the characteristics of household members at the stratum level. This makes it possible to identify the population profile in terms of household composition and age. Regarding the household structure, there is much similarity between beneficiary and control households. Among the objectives, the number of members is 3.7, a difference of only 0.19 with the controls. Apparently the slight difference is explained by a fall in the probability of having children among control households. Likewise, it is important to analyze the age composition of the sample gathered. The stratum shows a balance in the age distribution between the treated and untreated groups. It is possible to identify a widening at the pyramid's base, reflecting a younger population. However, the statistical tests carried out suggest that the share of the young population is higher for the beneficiaries than for the controls: a 6-percent point difference in favor of the treated population is identified in the age groups older than 10 and younger than 30. Indeed, the population older than 65 years of age is low relative to the total, and keeps a highly significant -10% difference for the treated over the untreated population.

Table 53: Household socio-demographic characteristics, Arequipa-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.70	3.52	0.19	(0.167)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.77	0.82	-0.05	(0.040)
Are there any children?	0.73	0.67	0.31	(0.149)**
Any other household members?	0.09	0.14	-0.07	(0.053)
Demographic structure (average)				
% under 5 years	7%	7%	0%	(0.012)
% above 5 and under 10 years	9%	9%	0%	(0.014)
% above 10 and under 20 years	19%	15%	5%	(0.019)**
% above 20 and under 30 years	14%	8%	6%	(0.021)***
% above 30 and under 40 years	13%	12%	1%	(0.020)
% above 40 and under 50 years	15%	14%	0%	(0.025)
% above 50 and under 60 years	13%	15%	-2%	(0.026)
% above 60 and under 65 years	13%	15%	-2%	(0.026)
% above 65 years	7%	16%	-10%	(0.026)***
Characteristics of household head				
Average age	44.50	49.43	-4.93	(1.372)***
% males	78%	85%	-8%	(0.039)**
% migrants	10%	4%	6%	(0.026)**
Civil status or partner	86%	81%	4%	(0.036)
Education level				
No levela/	12%	6%	6%	(0.029)**
Primary education	47%	51%	-5%	(0.049)
Secondary education	36%	36%	0%	(0.047)
Higher education	6%	7%	-1%	(0.024)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the characteristics of the household head, the statistical evidence does not support a close similarity between beneficiary and control households. However, household heads are between 45 and 49 years of age; a low share of them are immigrants, (6% at most on average); and between 75% y 85% are male. In both groups, more than 80% are married and most of them are male. Despite the observable differences, the education levels are quite similar. With the exception of the lowest education level, 36% in both objective and control household heads reach secondary education, and only 6% to 7% reach higher education.

Table 54 shows the general household characteristics at the stratum level. It is a matter of concern that no more than 4% of the homes are considered adequate; and that, on average, they are not furnished with as many rooms as household inhabitants. Regarding access to services, the control group has greater access to water, sewage, and electricity. However, concerning access to communications between objectives and controls (81% vs. 60%) there is a highly significant difference in means of around 22%. Additionally, objective households possess more assets like irons, blenders, stoves (housekeeping), computer, and transportations means than control households, with a significant difference in the means. It can be concluded that all inter-group differences do not exceed 15% on average, but it is the controls that have greater access to services, while the objectives possess better assets within their homes.

Table 54: Housing and home asset characteristics, Arequipa–Buenaventura stratum

	Objectives [A]	Controls [B]	Difference[A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	4%	3%	1%	(0.019)
Average per capita rooms	**0.84**	0.73	0.11	(0.065)*
% possessing a property title	39%	**65%**	-26%	(0.049)***
% investing in their homes	8%	4%	4%	(0.024)
% access to water b/	74%	**96%**	-21%	(0.035)***
% access to sewage c/	30%	35%	-6%	(0.046)
% access to electricity d/	50%	**91%**	-41%	(0.042)***
% access to communications e/	**81%**	60%	22%	(0.043)***
Home assets				
% access to entertainment f/	**92%**	**98%**	-6%	(0.022)***
% w/ computer	11%	2%	9%	(0.025)***
% housekeeping g/	**62%**	38%	24%	(0.048)***
% transportation h/	35%	14%	21%	(0.042)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor different from dirt.
b/ Water access from public network in and outside the home.
c/ Hygienic service connected to public network in and outside the home.
d/ Electric lighting.
e/ Telephone, cellphone, Internet, TV.
f/ Radio, TV, DVD system.
g/ Iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ Bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding access to social programs (Table 55), food programs prevail, followed by education and health programs, and by the “Juntos” program (1% in

favor of the objectives). No participation in farming support programs was identified. Thus, the Arequipa-Buenaventura stratum shows higher coverage ratios for food programs exceeding 30% of the population (objectives 35%, controls 40%). On average, 14% of the objective population and around 26% of the controls have access to these programs.

Table 55: Access to Social Programs, Arequipa-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% access to food programs	35%	**40%**	-5%	(0.047)
% access to the "Juntos" program	1%	0%	1%	(0.000)
% access to education or health programs	6%	8%	-3%	(0.025)
% access to farming support programs	0%	0%	0%	(0.000)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Now it is possible to identify the distribution of households by economic activity in the stratum. The distribution of producer households is mostly balanced regarding livestock farming (objectives 88%, controls 91%). However the percentage of beneficiaries involved in sub-livestock farming is considerably higher (78%, relative to 57% for the controls). It is likely that thanks to the PRA they regard livestock farming as an intermediate activity resulting in greater value added and potential for commercialization. This, in turn, is consistent with the fact that the kinds of products generally produced by beneficiaries in the Arequipa corridor are fresh milk, alpaca fiber, and mozzarella cheese. At the same time, there are significant differences regarding agriculture and handicrafts between treated and untreated households, which are associated with unobservable secondary activities in the selection process.

Table 56: Distribution of Producer Households, Arequipa–Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	36%	88%	-52%	(0.042)***
% households dedicated to livestock farming	**88%**	**91%**	-3%	(0.031)
% households dedicated to sub-livestock farming	78%	57%	21%	(0.044)***
% households dedicated to forestry	3%	0%	3%	(0.000)
% households dedicated to handicrafts	16%	7%	9%	(0.032)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 57: Distribution of Gross Production Value, Arequipa–Buenaventura stratum

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	37.75%	47.04%
Livestock farming		
Average GPV per producer	24.76%	11.65%
Sub-livestock farming		
Average GPB per producer	33.32%	38.46%
Forestry		
Average GPV per producer	1.1%	0.1%
Handicrafts		
Average GPV per producer	3%	3%

a/ Annnual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

The previous information is complemented with an analysis of the distribution of GPV within the stratum (Table 57). A more homogenous distribution is identified among objectives; and most of the population (controls and objectives) is dedicated to agriculture, followed by sub-livestock farming (objectives 33.32%; controls 38.46%).

Table 58: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Arequipa–Buenventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	11500.9	6482.0		(3212.654)
Average total sales per producer	8799.2	5133.1	3666.2	(3144.440)
Average total self-consumption per producer	2701.7	1349.0	1352.7	(566.281)**
% of sales in GPV	77%	79%		
Livestock farming				
Average GPV per producer	3134.3	1555.7	1578.6	(465.462)***
Average total sales per producer	2576.3	1315.0	1261.4	(450.043)***
Average total self-consumption per producer	558.0	240.7	317.3	(60.221)***
% of sales in GPV	82%	85%		
Sub-livestock farming				
Average GPV per producer	4707.6	8100.4	-3392.8	(1695.587)**
Average total sales per producer	4439.2	6645.5	-2206.4	(1630.420)
Average total self-consumption per producer	268.4	1454.9	-1186.5	(470.909)**
% of sales in GPV	94%	82%		
Forestry				
Average GPV per producer	4129.0	-		
Average total sales per producer	2170.0	-		
Average total self-consumption per producer	1959.0	-		
% of sales in GPV	53%			
Handicrafts				
Average GPV per producer	2165.5	5318.5	-3153.0	(1839.698)*
Average total sales per producer	1906.6	67.5	1839.1	(978.618)*
Average total self-consumption per producer	258.9	5251.0	-4992.1	(1559.302)***
% of sales in GPV	88%	1%		
Total				
Average GPV per producer	11077.6	12107.0	-1029.3	(2452.584)
Average total sales per producer	7082.4	6202.5	879.9	(1296.315)
Average total self-consumption per producer	3995.2	5904.4	-1909.2	(1712.174)
% of sales in GPV	64%	51%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 58 shows that total production for the objectives is lower than for controls (S/. 11,077 vs. S/. 12,107). However, despite a difference in favor of the controls, it seems that the objective group has greater commercial articulation, selling 64% or the output, compared with 51% for the controls.

Average agricultural GPV is S/. 11,500 for the objective group (S/. 6,482 for the control group). Similarly, agricultural self-consumption is higher for the treated (S/. 2,701.7, compared with S/. 1,349 for the control group). The difference in total average sales is more significant for agriculture (S/.1,352).

Average livestock gross production is significantly higher for the controls (S/. 1,578). Similarly, total average self-consumption per producer is significant. Sub-livestock farming production shows higher values than the other activities except agriculture, which is significantly higher for the controls. At the same time, handicrafts gross production value is higher for the controls, as well as self-consumption. Both differences are significant.

Regarding entrepreneurship indicators (Table 59), the main indicator marking a difference between the objective and control groups is ownership of a business. For the stratum, 98% of the objectives possess a business, compared with 72% of the controls. The 26% difference in the means is highly significant. For this reason, considering the previous information, it is possible that the kinds of businesses owned by the objectives are not necessarily profitable. At the same time, only 6% in both cases have a savings account, which limits access possibilities to the financial market, as well as the average investment score for the stratum.

Table 59: Entrepreneurship Indicators, Arequipa–Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% w/ savings account	6%	6%	0%	(0.024)
Average search score a/	5.8	5.9	-0.1	(0.192)
Average investment score b/	6.7	6.8	-0.1	(0.177)
% owning a business	**98%**	72%	26%	(0.031)***
% fearing business failure	65%	63%	2%	(0.047)
% willing to start a new business	76%	76%	0%	(0.042)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 60 shows the variables for expenditure and poverty in the Arequipa-Buenaventura stratum. Two expenditure indicators are used: first a monthly

average expenditure indicator for both objectives and controls; and then a restricted expenditure measure that eliminates ENAHO's minimum and maximum values. Two types of poverty and poverty gap are presented together for both expenditure measures: poverty according to a monetary definition, whereby a person is considered poor if his/her monthly expenditure is equal to or below ENAHO's poverty line; and the gap shows the poverty depth (relative to the poverty line).

Average expenditure is almost similar between objectives and controls, with monthly levels close to S/. 400, with a greater poverty gap for the objectives. Using the first restriction, average expenditure is lower in both cases, even though the poverty rate for the controls increases. The poverty gap diminishes when eliminating the minimum and maximum values, probably due to a previous presence of extreme values. The difference between controls and objectives is significant for the poverty rate and gap. That is, comparatively speaking, in the Arequipa–Buenaventura stratum, the population tends to be poorer (exceeding one-third of the population) that the average for the corridor as a whole.

Table 60: Household Expenditure (monthly per capita S/.) and Poverty, Arequipa-Buenaventura stratum

	Objectives[A]	Controls[B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	439.3	520.3	-81.06	(76.460)
Restricted expenditure 1 b/	**385.2**	410.2	-25.02	(30.075)
Poverty				
Poverty rate a/	35.8%	32.7%	3%	(0.047)**
Poverty rate 1 b/	**32.1%**	32.8%	-1%	(0.048)**
Poverty gap				
Poverty gap a/	39.3%	26.1%	13%	(0.037)**
Poverty gap 1 b/	**30.0%**	24.4%	6%	(0.028)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Subjective poverty indicators are presented in Table 61. A subjective poor household must be understood as one that defines itself as living in a state of

poverty. As with the perception of poverty and the perception of not living well, it is the controls that show a lower subjective welfare. Additionally, such indicators provide statistical evidence to establish that there are important differences in the means of beneficiary and control households. Notably, the controls who consider that they do not live well (70%) are one-third higher in the beneficiary population (38%).

Table 61: Perceptions and Subjective Poverty Indicators, Arequipa-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% perceiving themselves as poor	36%	56%	-19%	(0.048) ***
% perceiving themselves as not living well	38%	70%	-32%	(0.047) ***
Considering that … is/are very important for their welfare:				
Basic services	**30%**	**32%**	-2%	(0.135)
Better connections	**35%**	**30%**	5%	(0.080) *
Roads in good state	26%	23%	3%	(0.085) *
Higher income	**68%**	**68%**	0%	(0.054) *
Market information	27%	14%	13%	(0.098) *
Access to credit	13%	21%	-8%	(0.070) *
Technical assistance for production	25%	29%	-4%	(0.090) *
Health and food social programs	17%	13%	4%	(0.075) *
Education social programs	21%	8%	14%	(0.135)
Employment and incomes social programs	11%	13%	-2%	(0.074) *
Water, sewage, and lighting	24%	17%	8%	(0.088) *
Roads, sidewalks, and cemented areas in their communities	8%	41%	-33%	(0.132)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 62 shows the impact results for the Arequipa-Buenaventura stratum. There are no significant differences after matching between objectives and controls regarding per capita household expenses and the monetary poverty rate, and therefore a positive PRA impact cannot be established. On the contrary, there is a fall in expenditure and an increase in poverty in households

led by women. These counter-intuitive results may be caused by the small size of the sample used for the simulation, which may be creating imprecisions in the calculations. However, the subjective poverty indicator suggests positive changes in the population's perception of their living standards. There are significant differences in the subjective poverty rates for almost all population subgroups, reflecting important improvements in the living standards of beneficiary households.

Table 62: Impact indicators, Arequipa–Buenaventura stratum

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.13138	0.03985	-0.50759***
	(0.09178)	*(0.07749)*	*(0.07629)*
Urban	-0.14046	0.01876	-0.42876***
	(0.09369)	*(0.07587)*	*0.0805833*
Rural	-0.12683	0.05034	-0.54682***
	(0.10798)	*(0.09344)*	*0.0921472*
Male	-0.10982	0.01607	-0.53700***
	(0.09579)	*(0.07935)*	*(0.07846)*
Female	-0.26596**	0.20308*	-0.30570***
	(0.11431)	*(0.12122)*	*(0.11738)*

Source: PRA Project Survey

Preparation: Macroconsult

4.4 Results for the Ayacucho corridor

Ayacucho is located in the Peru's South Central Sierra. In particular, the weather in the city of Ayacucho is temperate and dry, with an average temperature of 17.5 C° during the year. Its distance from Lima is 543 km. It limits to the North with Junín and Huancavelica; to the West with Ica; to the South West with Arequipa; and to the East with Apurímac and Cusco. This strategic location makes Ayacucho a key commercial link with the Center and South Sierra, the Selva, and the Coast.

Additionally, the Río Cachi Irrigation Project is being developed in the city of Huamanga, with an aim to secure water for 14,000 hectares in the high[15] and

[15] 3,200 at 4,000 meters above sea level.

intermediate[16] areas. The Valley of the Rivers Apurímac and Ene is located between the eastern parts of the departments of Ayacucho, Cusco, and Junín. The weather is hot (suffocating between 400-800 meters above sea level) and mild with pleasant chill in the "Ceja de Montaña" (1,000-1,500 meters above sea level). The temperature varies between 20 C° to 35 C° around the rivers. Rainfall exceeds 750 mm per year, causing the valley to form an isopluvial area. Meanwhile, only two seasons are considered to take place in the Selva: rain and drought. Rain depends on temperature and humidity. Due to its proximity to the capital, the Ayacucho region is an attractive area for agriculture projects.

The PRA Project has been present in the Ayacucho corridor. Table 63 shows the results for the PRA as of September 2012. Net sales reached US$ 6,148,008 and the number of working days created by sales reached US$ 411,730.[17] The main products in the Ayacucho corridor are agricultural goods and handicrafts (Table 64): cacao, organic coffee, purple corn, and textile handicrafts.

Table 63: PRA Results, September 2012, Ayacucho corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Ayacucho	6,148,008	411,730	138,986	4,075,288	1,308	4,700

Source: PRA Project
Preparation: Macroconsult

Table 64: Products intervened by the PRA Project, Ayacucho corridor

Ayacucho Corridor	
Textile handicrafts	Organic cacao
Cacao grains	Purple corn
Fresh wide beans	Amaranth grains
Organic coffee	Bakery
White quinoa	

Source: PRA Project
Preparation: Macroconsult

[16] 2,600 at 3,190 meters above sea level.
[17] http://www.proyectopra.com/es/pra-negocios/centros-de-servicios-economicos/cse-ayacucho

The Ayacucho corridor comprises the departments of Apurímac, Cusco, Huancavelica, Junín, and Ayacucho. Information was gathered from a sample of 822 observations, divided in a treatment (318) and a control group (504). The urban/rural balance is similar in both groups: on average, around 65% of the population is rural, and close to 35% is urban (Table 65).

Table 65: Urban/rural distribution, Ayacucho corridor

	Objectives	Controls
Sample balance		
# observations	318	504
% Urban area	34%	36%
% Rural area	66%	64%

Source: PRA Project Survey
Preparation: Macroconsult

The information in Table 66 makes it possible to identify the population profile in terms of composition and household size in the Ayacucho corridor. The household profile indicates that they are formed by 4 members, with no significant differences between beneficiary and control households. Similarly, in both groups only one household head is likely to be recognized by all members, and there is a probability of 0.81 that there is a spouse or a child. Additionally, the population composition was analyzed. In general, the population tends to be young and balanced across the treated and untreated groups. Strictly speaking, there are significant differences only in the range from 30 to 40 years of age and older than 65 years of age, but with gaps no larger than 5%. Therefore, the demographic composition is similar, reflecting a widening at the base of the pyramid, both for beneficiary and control households.

Table 66: Household socio-demographic characteristics, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.18	4.06	0.12	(0.124)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.81	0.81	0.01	(0.032)
Are there any children?	0.82	0.84	-0.13	(0.126)
Any other household members?	0.12	0.13	0.02	(0.079)
Demographic structure				
% under 5 years	8%	9%	-1%	(0.010)
% above 5 and under 10 years	11%	11%	0%	(0.011)
% above 10 and under 20 years	23%	21%	2%	(0.015)
% above 20 and under 30 years	16%	15%	1%	(0.017)
% above 30 and under 40 years	17%	13%	4%	(0.015)***
% above 40 and under 50 years	12%	11%	1%	(0.014)
% above 50 and under 60 years	9%	9%	0%	(0.015)
% above 60 and under 65 years	9%	9%	0%	(0.015)
% above 65 years	2%	7%	-5%	(0.011)***
Characteristics of household head				
Average age	41	44	-3	(0.915)***
% males	86%	88%	-2%	(0.024)
% migrants	8%	11%	-3%	(0.020)*
Civil status or partner	84%	81%	2%	(0.027)
Education level				
No level a/	8%	7%	2%	(0.019)
Primary education	46%	47%	-1%	(0.036)
Secondary education	41%	41%	0%	(0.035)
Higher education	4%	5%	-1%	(0.015)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

It was possible to gather information to calculate the baseline for the characteristics of household heads. Except for a significant difference in age (around 40 years of age), the characteristics of household heads are similar for both objectives and controls: most of them are male, they have a spouse, and very few reside in a province different from the one where they were born. There is a balance between household heads in both groups regarding education levels, supported by an absence of statistically significant differences: in both groups, less than one-tenth of the population reaches higher education (4%-5%) and close to one half reaches only primary education (46% y 47%).

Table 67 shows the results for housing characteristics and home assets. A first approach shows that, in general, there is no significant evidence to reject a null difference regarding adequate housing, formality, or home investments; i.e., in both beneficiary and control households the percentage of homes with brick walls and floor different from dirt is low (5% vs. 3%); there are around 0.7 rooms per capita; one-third of the population possesses a property title (33% vs. 36%); and less than one-tenth of households invest in their homes (9% vs. 7%). In contrast, regarding services within homes, the only similarity between both groups is in access to water. In the other categories the differences are considerable: while access to sewage and electricity is higher for the controls, with differences of -10% and -20% between the means, access to communications is higher for the objectives, but with a difference of 8% between de means.

At the same time, ownership of home assets is found to be similar for beneficiaries and controls. In both groups, a majority owns at least some entertainment asses (objectives 92%; controls 94%); and few have their own means of transportation. Significant differences are identified regarding ownership of a computer, even though it is relatively low for both objectives and controls (3% vs. 1%); and home keeping, where a slight difference in favor of the controls may be identified (a -6% difference between the means).

Table 67: General housing characteristics, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	5%	3%	2%	(0.015)
Average per capita rooms	0.74	0.71	0.03	(0.040)
% access to property title	33%	36%	-3%	(0.035)
% invested in home	9%	7%	2%	(0.019)
% access to water b/	84%	85%	-1%	(0.026)
% access to sewage c/	23%	33%	-10%	(0.032)***
% access to electricity d/	74%	94%	-20%	(0.027)***
% access to communications e/	53%	45%	8%	(0.036)**
Home assets				
% Entertainment f/	92%	94%	-2%	(0.019)
% Computer	3%	1%	2%	(0.011)**
% Housekeeping g/	31%	37%	-6%	(0.034)*
% Transportation h/	9%	12%	-3%	(0.021)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 68 shows information on the coverage of social programs in the area, with an aim to examine the government's assistance to the objective population. As can be seen, the social programs assisting both the beneficiary and control populations are food programs, "Juntos", health or education programs, and farming programs, in that order. The main differences in the means are found in education or health programs, where 8% more beneficiary households receive this kind of support compared with the controls.

Table 68: Access to Social Programs, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	62%	55%	7%	(0.035)*
% access to the "Juntos" program	45%	39%	5%	(0.035)
% access to education or health programs	20%	12%	8%	(0.027)***
% access to farming program	25%	1%	24%	(0.025)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Another significant difference, but with a lower degree of reliability, is in access to food programs: while 62% of beneficiary households have access to the program, only 55% of the controls are covered. Additionally, the higher significant difference is in access to farming support, covering more than one-fifth of the beneficiary households.

Table 69 shows the percentages of controls and objectives dedicated to different activities. The main activity within the Ayacucho corridor is agriculture. Almost all beneficiary households within the corridor are dedicated to this activity, which is why it was considered when selecting the control households. Therefore, it makes sense that 95% of the objective group and 100% of the control group are dedicated to agriculture. In turn, this is in line with the fact that beneficiary households produced mainly agricultural goods like cacao, broad beans, purple corn, quinoa, etc. (Table 64). This has been balanced with a control sample of the same characteristics.

Table 69: Distribution of Producer Households, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	**95%**	**100%**	-4%	(0.012)***
% households dedicated to livestock farming	74%	69%	5%	(0.032)
% households dedicated to sub-livestock farming	34%	29%	5%	(0.033)
% households dedicated to forestry	0%	0%	0%	(0.004)
% households dedicated to handicrafts	42%	1%	41%	(0.028)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The previous information is complemented with the distribution of total production presented in Table 70. It can be seen that most of the production by both objectives and controls comes from agriculture (more than 81% in both cases), followed by livestock and sub-livestock farming (13% and 16% for objectives and controls, respectively). Livestock farming and products are important for sales and self-consumption. In contrast, forestry activities are minimal, and handicrafts are more important in the objective group.

Table 70: Distribution of Gross Production Value, Ayacucho corridor

	Objectives	Controls
Agriculture		
Average GPVa/ per producer	81.58%	82.81%
Livestock farming		
Average GPV per producer	7.46%	9.25%
Sub-livestock farming		
Average GPB per producer	5.78%	7.14%
Forestry		
Average GPV per producer	0.0%	0.2%
Handicrafts		
Average GPV per producer	5%	1%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 71 shows the average gross value, average total sales, and total self-consumption per producer in each economic activity. In the case of the objective group, total average GPV is S/. 8,006 annually, with sales representing 81% of the total, and S/. 6,375 for the control group (with sales representing 65% of the total). This confirms a greater articulation with the market among the objectives compared with the controls. Disaggregating, there are statistically significant differences only for the average agricultural GPV between objectives and controls, with an annual difference of S/. 1,500 in favor of the beneficiaries compared with the controls.

Table 71: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	6901.0	5322.3	1578.8	(641.340)**
Average total sales per producer	5632.1	3530.0	2102.1	(559.029)***
Average total self-consumption per producer	1268.9	1792.3	-523.4	(227.317)**
% of sales in GPV	*82%*	*66%*		
Livestock farming				
Average GPV per producer	808.3	856.7	-48.5	(110.278)
Average total sales per producer	589.8	527.7	62.1	(90.968)
Average total self-consumption per producer	218.5	329.0	-110.5	(45.763)**
% of sales in GPV	*73%*	*62%*		
Sub-livestock farming				
Average GPV per producer	1374.6	1582.5	-207.9	(418.521)
Average total sales per producer	913.4	833.5	79.9	(348.524)
Average total self-consumption per producer	461.2	749.0	-287.8	(120.839)**
% of sales in GPV	*66%*	*53%*		
Forestry				
Average GPV per producer	120.0	8000.0	-7880.0	(0.000)
Average total sales per producer	0.0	8000.0	-8000.0	(0.000)***
Average total self-consumption per producer	120.0	0.0	120.0	(0.000)
% of sales in GPV	*0%*	*100%*		
Handicrafts				
Average GPV per producer	983.5	2929.7	-1946.2	(1607.845)
Average total sales per producer	982.8	2871.7	-1888.8	(1620.619)
Average total self-consumption per producer	0.7	58.0	-57.3	(31.757)*
% of sales in GPV	*100%*	*98%*		
Total				
Average GPV per producer	8006.8	6375.9	1630.8	(660.123)**
Average total sales per producer	6488.4	4155.2	2333.2	(555.851)***
Average total self-consumption per producer	1518.4	2220.8	-702.4	(240.701)***
% of sales in GPV	*81%*	*65%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Likewise, agricultural self-consumption is higher among the controls (S/. 1,792.3 compared with S/. 1,268.9 for the objective group). The difference in average total sales is more significant in the case of agriculture (S/. 2,102.1); and the percentage of average agricultural GPV dedicated to sales is higher in the objective group (82% compared with 66% in the control group).

The gross production value of livestock farming is higher on average for the controls (S/. 856.7). It is important to note that this difference is not significant, like for sales. Sub-livestock farming activities show higher values for the gross production value over other activities except agriculture; and is higher (but not

significant) for the control group. Likewise, total sales are not significant, with a value of S/. 913.4 for the objectives, higher than S/. 833.5 for their counterparts. Finally, average self-consumption shows relevant evidence of a difference in the means (S/. 287.8 higher for the controls).

Table 72: Entrepreneurship Indicators, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	6%	4%	2%	(0.015)
Average search score a/	6.4	6.5	-0.1	(0.141)
Average investment score b/	7.0	6.8	0.2	(0.132)
% owning a business	14%	14%	-1%	(0.025)
% fearing business failure	39%	38%	1%	(0.035)
% willing to start a new business	72%	69%	3%	(0.032)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

The higher commercial development may be linked to the characteristics of beneficiaries, such as the education and/or entrepreneurship level. In order to evaluate entrepreneurship and the approach to business-making, the variables shown in Table 72 were considered. For example, ownership of a savings account is considered important. The result is only 6% for the objectives and 4% for the controls. Lack of access to the financial market limits the possibility of growing, creating savings, and gradually gaining access to credit. 72% and 69% of the objectives and the controls, respectively, wish to start a new business. However, lack of market access limits this possibility. The differences between both groups are not significant in this case.

The survey threw high averages for those looking for business opportunities and that would consider investing. The former obtained an average score close to 6.5, indicating a desire to move forward and create new businesses and incomes. They also obtained a high score (around 7), signaling a willingness to create businesses and an inclination to entrepreneurship. However, around 38% is afraid of business failure. The economic activities mentioned previously are, in many cases, household activities, where the children inherit the work of the household head and must continue performing it. This creates a fear to

switch to different activities or make changes to their current ones. It should be highlighted that 14% already own businesses.

Table 73 presents figures for household expenditure and poverty. In order to focus the analysis on a more precise indicator, it is recommendable to evaluate the estimations made eliminating ENAHO's minimum and maximum levels.

Table 73: Household Expenditure (monthly per capita S/.) and Poverty, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	782.1	502.3	279.85	(150.578)*
Restricted expenditure 1 b/	358.3	321.1	37.22	(20.318)*
Poverty				
Poverty rate a/	41.8%	45.4%	-4%	(0.035)**
Restricted poverty rate 1 b/	44.1%	47.0%	-3%	(0.037)**
Poverty gap				
Poverty gap a/	36.6%	34.8%	2%	(0.023)**
Restricted poverty gap 1 b/	36.1%	34.8%	1%	(0.022)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

The restricted expenditure measure was S/. 358 for the objectives and S/. 321 for the controls, thus reducing the gap for the unrestricted expenditure between both groups. Additionally, regarding poverty, using the first restriction the differences shortens to 3%; and, similarly, the poverty gap decreases to 1%. In spite of a lower poverty rate for the objectives, the poverty gap seems to be more severe than for control households.

Finally, subjective poverty must be understood as an indicator about households' perception of their poverty level and the quality of life. Table 74 shows that the results for the first indicator reveal a similarity between beneficiary and control households, as in both around 50% perceive themselves as poor. However, significant differences are found for the indicator of whether they perceive themselves to live well or not: while 46% of the objectives claimed not to live well, 53% of the controls expressed the same. That is, a significant difference of 7% makes it possible to establish that the controls perceive

themselves as less satisfied with their living standards than the beneficiaries. Altogether, subjective poverty levels are higher than monetary poverty indicators, suggesting that a higher income does not necessarily go hand in hand with an improved perception of living standards.

Additionally, welfare priorities differ between both groups. The objectives consider that it is more important to expand their connection networks, while access to services is more important for the controls (although it is also relevant for the former group). Both groups agree that higher incomes and the state of the roads improve welfare, in light of the importance of agriculture and livestock farming, and of the need to transport goods in order to be sold.

Table 74: Perceptions and Subjective Poverty Indicators, Ayacucho corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	46%	52%	-6%	(0.036)
% perceiving themselves as not living well	46%	53%	-7%	(0.036)**
Considering that … is/are very important for their welfare:				
Basic services	52%	62%	-10%	(0.060)*
Better connections	58%	46%	13%	(0.066)*
Roads in good state	37%	38%	-1%	(0.059)*
Higher income	46%	33%	13%	(0.061)*
Market information	22%	22%	1%	(0.059)*
Access to credit	12%	11%	1%	(0.050)**
Technical assistance for production	14%	28%	-14%	(0.042)**
Health and food social programs	16%	25%	-9%	(0.056)*
Education social programs	20%	19%	1%	(0.090)*
Employment and incomes social programs	37%	28%	9%	(0.082)*
Water, sewage, and lighting	43%	44%	-1%	(0.092)*
Roads, sidewalks, and cemented areas in their communities	30%	10%	20%	(0.114)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The treated group considers technical assistance for production as not so relevant for welfare compared with the controls (28%). The -14% difference with the controls is significant and underscores the relevance of this measure.

Additionally, access to health, food, education, employment, and incomes social programs is significant for the results obtained. Health and food programs are more relevant for the control group, while education, employment, and incomes programs are prioritary for the objective group. Finally, access to basic services like water, sewage, and lighting has the same relevance for both groups. Around 44% consider them necessary for welfare.

Table 75: Impact indicators, Ayacucho corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.18111**	-0.08505	0.01966
	(0.08392)	*(0.05198)*	*(0.05546)*
Urban	0.11809	-0.05848	-0.08312
	(0.10409)	*(0.06810)*	*(0.07089)*
Rural	0.21379**	-0.09827*	0.07082
	(0.09702)	*(0.05686)*	*(0.06132)*
Male	0.20895**	-0.09587*	0.00412
	(0.08903)	*(0.05404)*	*(0.05710)*
Female	0.00655	-0.01079	0.12631
	(0.14196)	*(0.10154)*	*(0.10644)*

Source: PRA Project Survey

Preparation: Macroconsult

Table 75 shows the impact indicators estimated. As mentioned before, in Ayacucho an increase in household expenditure of almost 18% is identified, even though the poverty rate has remained unchanged. The important result is that, at the population subgroup level, the increase seems to concentrate in rural areas (21%), resulting in a reduction in poverty incidence of almost 10 percent points. Additionally, the higher increase seems to have taken place in households led by men compared to women (with a positive but statistically not significant result). Like in Ancash, it is possible to argue that the maturity times for the effects in this corridor may be shorter, given the structure of the production basket.

4.5 Results for the Cusco corridor

Cusco is located in Peru's South Sierra, extending across the valley formed by the Huatanay River and the surrounding mountains. In general the weather is dry and temperate. There are two distinct seasons, dry in April-October, with sunny days, cold nights, and average temperature of 13°C; and rainy in November-March, with an average temperature of 12°C. On sunny days the temperature reaches 20°C.

Alejandro Velasco Astete International Airport, in Cusco City, receives flights from Lima, Arequipa, Puerto Maldonado, and Juliaca; and also international flights from La Paz, Bolivia. It is the second busiest airport in the country after Jorge Chávez International Airport in Lima. The highway to Abancay City is the fastest route to Lima (20 hours through the departments of Apurímac, Ayacucho, Ica, and Lima). The PRA Project was present in the Cusco Corridor. The local ESC was financed by Odebrecht and USAID.[18]

Tables 77 and 78 show the main PRA results as of September 2012. Net sales reached US$ 4,081,443, exports US$ 1,459,910, and investments US$ 1,359,777, benefiting a total of 2,525 small producers. On average, each producer represented US$1,616 of total sales. Employment creation was equal to 541,473 working days. The main products in the Cusco corridor are categorized alpaca fiber and fresh milk, indicating the importance of livestock and sub-livestock farming, handicrafts (textile handicrafts and accessories), and agriculture (amaranth).

[18] http://www.proyectopra.com/es/pra-negocios/centros-de-servicios-economicos/cse-cusco

Table 76: PRA Results, September 2012, Cusco corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Cusco corridor	4,081,443	541,473	1,359,777	1,459,910	2,525	1,616

Source: PRA Project
Preparation: Macroconsult

Table 77: Products intervened by the PRA Project, Cusco corridor

Cusco Corridor	
Categorized alpaca fiber	Amaranth grains
Fresh milk	Accesories
Textile handicrafts	

Source: PRA Project
Preparation: Macroconsult

Table 78 shows the sample balance for the Cusco corridor. Out of a total of 952 observations, 373 are for the objective group (40%) and 579 for the control group (60%). The sample is perfectly balanced in both groups: 21% urban and 79% rural. It should be stressed that the objective group is formed entirely by Cusco households, while the control group, although also mostly from Cusco, included households from Apurímac and Junín.

Table 78: Urban/rural distribution, Cusco corridor

	Objective Group	Control Group
# observations	373	579
% Urban area	21%	21%
% Rural area	79%	79%

Source: PRA Project Survey
Preparation: Macroconsult

Table 79 shows the characteristics of household members in the Cusco corridor. On average, households are formed by 4 members, although there is a significant difference in that objective households tend to be larger by 0.33. As for the rest, household structures are similar in both groups: all of them are likely to have a household head and the probability for the presence of a spouse is 0.8. Additionally, the probability for the presence of a member outside the household core is very low.

Table 79: Household socio-demographic characteristics, Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.64	4.31	0.33	(0.128)**
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.86	0.83	0.03	(0.024)
Are there any children?	0.83	0.83	0.38	(0.118)***
Any other household members?	0.15	0.18	-0.09	(0.045)*
Demographic structure				
% under 5 years	7%	8%	-1%	(0.008)
% over 5 and under 10 years	11%	10%	1%	(0.009)
% over 10 and under 20 years	25%	21%	3%	(0.013)**
% over 20 and under 30 years	12%	12%	-1%	(0.013)
% over 30 and under 40 years	10%	12%	-2%	(0.011)*
% over 40 and under 50 years	14%	11%	3%	(0.013)**
% over 50 and under 60 years	10%	11%	-2%	(0.014)
% over 60 and under 65 years	10%	11%	-2%	(0.014)
% over 65 years	7%	10%	-2%	(0.015)*
Characteristics of household head				
Average age	46	48	-2	(0.879)**
% males	89%	87%	2%	(0.021)
% migrants	3%	7%	-4%	(0.014)***
Civil status or partner	89%	83%	6%	(0.023)***
Education level				
No levela/	12%	6%	5%	(0.019)***
Primary education	57%	52%	5%	(0.033)
Secondary education	28%	35%	-7%	(0.031)**
Higher education	3%	6%	-3%	(0.013)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the demographic structure, both groups are fairly balanced: the population is relatively young, with a widening at the base of the population pyramid. The main differences are slight gaps for age groups 10-20 years, 30-40 years, and 40-50 years (3%, -2%, and 3%, respectively).

The characteristics of the household head do not seem to be similar between the beneficiary and control groups but, when analyzed in detail, the gaps do not exceed 5% in most cases. The average age of household heads in the objective group is lower (46 years, compared with 48 years in the control group). The percentage of migrant household heads is low, although slightly higher for the control group (7%) than for the objective group (3%). Additionally, most household heads are married or have a partner, but with a higher percentage

for the objectives. However, there is a considerable similarity regarding gender, as most household heads are male (close to 90%).

Concerning the education level of household heads, in general it is low for both groups of households. More than half have only primary education (objectives 57%, controls 52%). Only 28% of the the objectives have secondary education, against 35% of the controls. The share of household heads with a higher education is very low across the corridor, but it is higher in the objective group (6% compared with 3% in the control group). In the objective group, 12% of household heads do not have any education level, against only 6% in the control group. Education is an important variable, as it conditions income. Therefore, it is not surprising that the incomes in the control group are higher, as its household heads are better educated.

Table 80 shows the general housing characteristics in the Cusco corridor. It can be seen than no homes, in either the beneficiary or control groups, can be classified as adequate (brick walls and floor different from dirt). However, except for the latter and for access to communications, there are significant differences between both groups. The average number of rooms per household inhabitant is around 0.8, but is higher for the objectives (0.82) than for the controls (0.75). The percentage of households whose members have a property title is higher for the control group (20%) than for the objective group (10%). However, the percentage of home investment is higher for the objectives (15%) than for the controls (11%). Regarding the access to basic services (water, sewage, and electricity), there are statistically significant differences between the objective and control groups. At the same time, in terms of basic services, there is a difference: coverage is higher for water, sewage, and electricity for the controls than for the objectives. 47% of households in the objective group have access to water, against 75% in the control group. The same is true for sewage (only 16% in the objective group, compared with 31% in the control group). The trend is similar regarding access to electricity: 70% in the objective group, against 91% in the control group. However, in the case of communications both groups have the same access (42%).

Table 80: General housing characteristics, Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	0%	0%	0%	(0.004)
Average per capita rooms	0.82	0.75	0.08	(0.039)**
% access to property title	10%	20%	-11%	(0.023)***
% invested in home	15%	11%	4%	(0.022)**
% access to water b/	47%	75%	-28%	(0.031)***
% access to sewage c/	16%	31%	-15%	(0.027)***
% access to electricity d/	70%	91%	-21%	(0.027)***
% access to communications e/	42%	42%	1%	(0.033)
Home assets				
% Entertainment f/	96%	98%	-2%	(0.012)*
% Computer	3%	4%	-1%	(0.012)
% Housekeeping g/	44%	37%	7%	(0.033)**
% Transportation h/	31%	20%	11%	(0.029)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 80 shows the assets held by households. There are significant differences between both groups, reaching up to 11 percentage points. Regarding entertainment assets, most households own a TV set, radio, or DVD system. However, only 44% of objective households and 37% of control households perform housekeeping activities. The percentage of households owning a means of transportation is higher for the objective (31%) than for the control (20%) group, with a statistically significant difference. In general, in may be established that the composition of household assets in both groups concentrates in entertainment assets, followed by housekeeping and transportation.

Table 81: Access to Social Programs, Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	45%	47%	-2%	(0.033)
% access to the "Juntos" program	35%	31%	3%	(0.031)
% access to education or health programs	26%	12%	14%	(0.027)***
% access to farming program	8%	3%	4%	(0.016)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The previous table shows a balance between both groups regarding access to food programs and the "Juntos" program; and that both have the highest coverage within the Cusco corridor. However, access to education or health programs is 26% for the objective group, compared with only 12 for the control group, with a statistically significant difference. Farming assistance reaches a lower number of households, but access is higher for the objective group, which could be due to PRA intervention. The difference is statistically significant for both programs.

Household distribution by economic activity (Table 82) shows that most households in both groups are dedicated to livestock farming and agriculture. 98% of objective households are dedicated to agriculture, compared with 94% of control households; and 98% of objective households are dedicated to livestock farming, against 93% in the control group. The balance for livestock farming may be explained by the fact that it can be considered an intermediate activity; and that, given its predominance among treated households, it may have been easier to find it also in control households. This is not the case for sub-livestock farming. The latter would have implied creating a value added over livestock farming, which may have strengthened, especially in the case of the beneficiaries, through PRA intervention. Indeed, 86% of beneficiary households are dedicated to sub-livestock farming, against 58% in the control group.

Table 82: Distribution of Producer Households, Cusco corridor

	Objective Group [A]	Control Group [B]	Differenc e [A-B]	St. Dev.1/
% households dedicated to agriculture	98%	94%	4%	(0.012)***
% households dedicated to livestock farming	98%	93%	6%	(0.013)***
% households dedicated to sub-livestock farming	86%	58%	29%	(0.027)***
% households dedicated to forestry	1%	0%	0%	(0.004)
% households dedicated to handicrafts	26%	12%	14%	(0.027)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The next table shows the distribution of production by economic activity. Agriculture concentrates most of the average gross product per producer, especial in the control group. Livestock and sub-livestock farming also represent an important part of total production (although larger for the objective group). Handicrafts also play an important role in production distribution among the controls.

Table 83: Distribution of Gross Production Value, Cusco corridor

	Objective Group [A]	Control Group [B]
Agriculture		
Average GPVa/ per producer	23.17%	45.91%
Livestock farming		
Average GPV per producer	31.88%	21.73%
Sub-livestock farming		
Average GPB per producer	34.75%	13.39%
Forestry		
Average GPV per producer	0.5%	0.0%
Handicrafts		
Average GPV per producer	10%	19%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 84 shows the gross production value (GPV) per producer by economic activity in this corridor, as well as the sales and self-consumption structure. In general, in can be seen that the Cusco corridor is integrated with the market, as most of the GPV is dedicated to sales, especially in the objective group, probably as a result of PRA intervention. At the same time, forestry has the highest share of GPV in the objective group (although it affects only 1% of households). It is followed by sub-livestock farming (a good indicator, as it

employs 86% of households in this group), handicrafts, livestock farming, and finally agriculture. In the case of the objective group, the activity yielding the highest average gross value per producer is handicraft production, even though it employs only 12% of households, followed by agriculture and livestock and sub-livestock farming.

Table 84: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	1961.7	2914.4	-952.8	(266.123)***
Average total sales per producer	383.1	1309.9	-926.8	(179.381)***
Average total self-consumption per producer	1578.5	1604.5	-26.0	(159.032)
% of sales in GPV	*20%*	*45%*		
Livestock farming				
Average GPV per producer	2692.5	1399.8	1292.7	(162.634)***
Average total sales per producer	1920.2	1010.7	909.5	(141.470)***
Average total self-consumption per producer	772.3	389.1	383.2	(51.994)***
% of sales in GPV	*71%*	*72%*		
Sub-livestock farming				
Average GPV per producer	3328.4	1384.8	1943.6	(355.825)***
Average total sales per producer	2627.6	532.5	2095.1	(298.930)***
Average total self-consumption per producer	700.8	852.3	-151.5	(142.126)
% of sales in GPV	*79%*	*38%*		
Forestry				
Average GPV per producer	7935.0	480.0	7455.0	(6742.008)
Average total sales per producer	7880.0	0.0	7880.0	(6737.678)
Average total self-consumption per producer	55.0	480.0	-425.0	(4.330)***
% of sales in GPV	*99%*	*0%*		
Handicrafts				
Average GPV per producer	3061.1	9355.8	-6294.7	(3731.652)*
Average total sales per producer	3026.6	9307.5	-6280.8	(3731.767)*
Average total self-consumption per producer	34.4	48.3	-13.9	(24.716)
% of sales in GPV	*99%*	*99%*		
Total				
Average GPV per producer	8218.2	5964.9	2253.3	(702.137)***
Average total sales per producer	5324.2	3598.8	1725.3	(627.014)***
Average total self-consumption per producer	2894.1	2366.0	528.0	(211.602)**
% of sales in GPV	*65%*	*60%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 85 provides entrepreneurship indicators in the Cusco corridor. A rapid approach shows that both groups have similar characteristics in this field. For example, both have the same average score for search of business and investment opportunities. Additionally, both groups show the same aversion to risk: around 57% of households are afraid of business failure. However, close to 70% are willing to set up a new business, reflecting that fear of failure is lower than entrepreneurship. However there are key indicators, like possession of a savings account and ownership of a business, where significant differences are present (6 and 9 percent points higher for objective than for control households, respectively). Low business ownership may not only be explained by lack of entrepreneurship, but by other kinds of external factors, such as, for example, lack of capital, which is possible given the poverty conditions across this corridor.

Table 85: Entrepreneurship Indicators, Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	10%	4%	6%	(0.018)***
Average search score a/	6.2	6.2	0.0	(0.162)
Average investment score b/	6.4	6.4	-0.1	(0.164)
% owning a business	38%	29%	9%	(0.031)***
% fearing business failure	58%	56%	3%	(0.033)
% willing to start a new business	69%	70%	-1%	(0.031)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 86 shows the estimations for expenditure and poverty. The indicators were calculated using two methods. The first one was obtained without using any kind of restriction, and in the second one ENAHO's extreme values were eliminated. The calculation for expenditure varies under the two methods, indicating that the extreme values tend to overestimate the average. Under either method, the poverty rate in the Cusco corridor is high among the objectives. The poverty gaps indicate how poor the poor are. In any case, on average, expenditure among the poor is 30% below their respective poverty

lines. However, the poor in the objective group are poorer that in the control group.

Table 86: Household Expenditure (monthly per capita S/.) and Poverty, Cusco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	617.6	666.4	-48.79	(137.577)
Restricted expenditure 1 b/	317.5	348.9	-31.40	(19.643)
Poverty				
Poverty rate a/	44.8%	36.6%	8%	(0.033)**
Restricted poverty rate 1 b/	45.8%	37.7%	8%	(0.034)**
Poverty gap				
Poverty gap a/	34.3%	30.0%	4%	(0.023)**
Restricted poverty gap 1 b/	31.5%	29.2%	2%	(0.021)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Household perceptions regarding living conditions are shown in Table 87. Around one-third of the population considers itself poor and not living well. It is interesting that this percentage is lower than the poverty rate in this corridor; i.e., a percentage of the population that qualifies as poor does not feel poor or living in bad conditions, meaning that subjective poverty is lower than monetary poverty. In both groups, the most important element for welfare is access to basic services and higher incomes.

Table 87: Perceptions and Subjective Poverty Indicators, Cusco corridor

	Objective Group [A]	Control Group [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	36%	36%	0%	(0.032)
% perceiving themselves as not living well	32%	33%	-1%	(0.031)
Considering that … is/are very important for their welfare:				
Basic services	57%	57%	0%	(0.056)*
Better connections	32%	35%	-3%	(0.051)*
Roads in good state	33%	28%	5%	(0.065)*
Higher income	50%	40%	10%	(0.044)**
Market information	21%	13%	9%	(0.053)*
Access to credit	14%	10%	4%	(0.072)*
Technical assistance for production	10%	31%	-21%	(0.039)**
Health and food social programs	21%	30%	-9%	(0.062)*
Education social programs	12%	23%	-11%	(0.084)*
Employment and incomes social programs	18%	26%	-8%	(0.071)*
Water, sewage, and lighting	38%	40%	-1%	(0.076)*
Roads, sidewalks, and cemented areas in their communities	55%	36%	19%	(0.164)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 88 shows the impact results. It may be seen that, once the matching has been carried out, sample differences tend to disappear, and there are systematic differences between objectives and controls. This may lead to suppose that PRA impacts in this corridor are more modest. This conclusion is applicable to the average and to all population subgroups analyzed.

Table 88: Impact indicators, Cusco corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.04788	0.06918	0.01509
	(0.06156)	*(0.04850)*	*(0.05122)*
Urban	-0.06134	0.03816	0.01395
	(0.08445)	*(0.07139)*	*(0.07349)*
Rural	-0.04111	0.08463*	0.01566
	(0.06381)	*(0.04964)*	*(0.05316)*
Male	-0.03978	0.06178	-0.00492
	(0.06313)	*(0.05000)*	*(0.05203)*
Female	-0.10167	0.12000	0.15249
	(0.12083)	*(0.10099)*	*(0.11526)*

Source: PRA Project Survey

Preparation: Macroconsult

4.6 Results for the Huancavelica corridor

Huancavelica is located in Peru's West Central Sierra, between the departments of Lima, Ica, Ayacucho, and Junín. Its geography is one of the most difficult in Peru, with valleys, gorges, high mountains, plateaus, and winding roads. It limits with Junín to the North; with Ayacucho and Ica to the South; and with Lima and Ica to the West. Altitudes range from 1,950 to 5,000 meters above sea level.

Huancavelica has a variety of micro-climates. On the West, the weather goes from dry to sub-humid as altitude increases. Rainfall reaches 70 mm per annum in the lowest ecological levels and 800 mm in the highest ones. The temperature is determined by the altitude in each area, descending 0.48 °C per each 100-meter increase in altitude. Rainfall is intense in the inter-Andean area, because the high mountains capture rain-loaded clouds pushed by the winds from the Selva. The rain season starts in October and extends until April. Finally, the North-East part of the region (Tayacaja province) forms a special climate zone due to its proximity with the Selva. In this region, rainfall is around 2,000 mm per annum, the highest in the department. Huancavelica has three main paved highways: Lima-Huancavelica (457 km), Ica-Huancavelica, and Ayacucho-Huancavelica. In addition it is connected with Lima by train through four routes: Huancayo, Villa de Arma-Chincha, Castrovirreyna-Ticrapo-Pisco, and Rumichaca-Huaytara (Libertadores-Pisco).

ESC Huancavelica initiated its activities in June 2002 under the sponsorship of Compañía de Minas Buenaventura, in partnership with USAID. Buenaventura continued supporting ESC Huancavelica when phase 1 of the PRA Project ended; and in January 2010 it renewed its commitment to promoting businesses in the Huancavelica corridor by signing a new agreement with USAID. The following Table shows the main results for the PRA as of September 2012 for the Huancavelica corridor. Total net sales reached 1,293,354 dollars and exports 508,619 dollars. The total number of small producers benefited was 1,638; i.e., each small producer generated 790 dollars in sales. Employment created was 99,944 working days. The main products in the Huancavelica

corridor are categorized and classified alpaca fiber, apparel, and agricultural products such as broad beans and corn. Huancavelica relies mostly on livestock and sub-livestock farming, and agriculture.

Table 89: PRA Results, September 2012, Huancavelica corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Huancavelica	1,293,354	99,944	248	508,619	1,638	790

Source: PRA Project
Preparation: Macroconsult

Table 90: Products intervened by the PRA Project, Huancavelica corridor

Huancavelica Corridor	
Categorized alpaca fiber	Dried broad beans
Classified alpaca fiber	Cusco-style corn
Apparel	Dried white corn

Source: PRA Project
Preparation: Macroconsult

Table 91 shows the sample balance for the Huancavelica corridor. Out of 929 observations, 337 are for the objective group (36%) and 592 for the control group (64%). This distribution is in line, and exceeds, the minimum quota of 1.5 controls per beneficiary surveyed. Regarding the urban/rural distribution, the sample is balanced: both for the objective and the control groups, the percentage of rural areas predominates (80% for both). It should be highlighted that the objective group in the Huancavelica corridor is formed only by Huancavelica households, while the control group also includes observations from Ayacucho and Junín.

Table 91: Urban/rural distribution, Huancavelica corridor

	Objectives	Controls
Sample balance		
# observations	337	592
% Urban area	16%	18%
% Rural area	84%	82%

Source: PRA Project Survey
Preparation: Macroconsult

Table 92 shows the characteristics of household members. The number of members in the average household is similar between both groups (approximately 4). Additionally, the family structure is similar between both groups, especially regarding the probability that there is a household head and that there are other family members, while the probability that there are at least a child and that there is a spouse are slightly different: the probability is higher on both accounts for control households (0.82 and 0.85, respectively) than for the beneficiaries (0.78 vs. 0.77, respectively). Given the average number of household members, the family structure is similar between objectives and controls, but it is slightly larger for control households.

The demographic structure distributes the population by age brackets, and is similar between both groups. There are significant differences in five age brackets, but the largest gaps reach 4 percentage points. In general, it can be established that the population is young for both the objective and control groups, as more than half of the population is younger than 30 years of age in both groups. Based on the significant differences, it can be suggested that the population is somewhat more adult among the objectives compared with the controls (for example, people over 65 years of age is 14% for the objectives, compared with 10% for the controls).

Table 92: Household socio-demographic characteristics, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.50	4.27	0.24	(0.149)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.78	0.82	-0.05	(0.028)*
Are there any children?	0.77	0.85	-0.07	(0.131)*
Any other household members?	0.14	0.15	0.01	(0.056)
Demographic structure				
% under 5 years	5%	7%	-2%	(0.008)**
% over 5 and under 10 years	8%	10%	-2%	(0.009)**
% over 10 and under 20 years	23%	24%	-1%	(0.015)
% over 20 and under 30 years	15%	13%	2%	(0.014)
% over 30 and under 40 years	9%	11%	-2%	(0.012)
% over 40 and under 50 years	9%	11%	-2%	(0.011)*
% over 50 and under 60 years	11%	10%	1%	(0.013)
% over 60 and under 65 years	11%	10%	1%	(0.013)
% over 65 years	14%	10%	4%	(0.019)**
Characteristics of household head				
Average age	51.18	47.26	3.92	(0.987)***
% males	82%	87%	-5%	(0.025)**
% migrants	1%	2%	-1%	(0.007)**
Civil status or partner	79%	83%	-4%	(0.027)
Education level				
No levela/	11%	10%	0%	(0.021)
Primary education	52%	53%	-2%	(0.034)
Secondary education	28%	33%	-5%	(0.031)
Higher education	9%	3%	7%	(0.017)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the characteristics of household heads, the average age is around 50 years. However, household heads in the control group are relatively younger (47 years) than in the beneficiary group (51 years). However, the similarities between household heads in both groups predominate. In most households, the household head is male (82% objectives, 87% controls) and has not migrated outside of the province where he/she was born (1% vs. 2%). Additionally, most household heads are married or have a spouse in both groups, but with a lower frequency among the objectives compared with the controls (79% vs. 83%). Regarding access to education, except for the higher level, it can be established that the level is similar for both groups. More than half of household heads have

primary education (52% vs. 53%), and one-third have secondary education (28% vs. 33%). However, the hypothesis of a zero difference is rejected for the higher level: 9% of household heads reach that level, compared with only 3% in the control group. This difference is statistically significant, and therefore it is possible that the objective group is building up more human capital.

Table 93: General housing characteristics, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	11%	0%	11%	(0.017)***
Average per capita rooms	0.70	0.86	-0.16	(0.040)***
% access to property title	27%	37%	-10%	(0.032)***
% invested in home	2%	3%	-1%	(0.011)
% access to water b/	55%	79%	-24%	(0.032)***
% access to sewage c/	39%	12%	27%	(0.030)***
% access to electricity d/	71%	89%	-19%	(0.028)***
% access to communications e/	48%	41%	7%	(0.034)**
Home assets				
% Entertainment f/	85%	94%	-9%	(0.022)***
% Computer	6%	1%	5%	(0.013)***
% Housekeeping g/	28%	9%	18%	(0.027)***
% Transportation h/	2%	7%	-5%	(0.013)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 93 shows the housing characteristics in the Huancavelica corridor. In general, there are significant differences, and therefore it is not possible to establish that housing characteristics among both groups of households are similar. In the objective group, only 11% of homes can be classified as adequate (brick walls and floor different from dirt), while no homes fall in this classification in the control group. The difference is statistically significant. This characteristic is in line with the high poverty levels in this corridor and the strong rural bias in the sample. Additionally, there is a lower number of rooms per capita in objective households (0.70 rooms) than in control households (0.86).

The difference is also statistically different. Only close to one-third of households have a property title (higher in the control group); and there are virtually no home investments.

Access to services is different between both groups. While access to sewage and communications is higher for the objectives (39% and 48%, respectively) than for the controls (12% and 41%, respectively), the contrary holds for access to water and electricity: it is higher for the controls (79% and 89%, respectively) than for the objectives (55% and 71%, respectively).

Regarding home assets, most households hold entertainment assets (objectives 85%, controls 94%) and very few own a computer or transportation means, or perform housekeeping activities. Even though the differences regarding the possession of assets in both groups are statistically significant, both groups show similar trends. The only considerable difference is that 28% of the objective group performs home maintenance activities, compared with 9% in the control group.

Table 94: Access to Social Programs, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	30%	54%	-24%	(0.032)***
% access to the "Juntos" program	18%	55%	-37%	(0.029)***
% access to education or health programs	2%	14%	-12%	(0.016)***
% access to farming program	4%	2%	3%	(0.012)**

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 94 shows that the control group tends to access a greater number of social programs compared with the objective group. 54% of the control group has access to a food program an 55% to "Juntos", while only 30% of the objective group has access to a food program and only 18% has access to "Juntos". The difference between both groups is statistically significant. Both programs are the most important and have the higher coverage in the Huancavelica corridor. Only the control group has access to education or health

programs (14%), while in the objective group this percentage is extremely low (2%).

Regarding production in the Huancavelica corridor, Table 95 shows the distribution of households by economic activity. The activity where a greater balance exists between objectives and controls is livestock farming (86% and 87%, respectively). The similarity between both groups regarding livestock farming is consistent with the decisions considered when selecting the controls. In order to survey a household that can serve as control, it was necessary that it generated products of the same kind or similar to those produced by small beneficiary producers (e.g., categorized and classified alpaca fiber) located in the Huancavelica corridor.

Table 95: Distribution of Producer Households, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	43%	99%	-55%	(0.027)***
% households dedicated to livestock farming	86%	87%	-1%	(0.024)
% households dedicated to sub-livestock farming	63%	9%	54%	(0.029)***
% households dedicated to forestry	0%	0%	0%	(0.002)
% households dedicated to handicrafts	8%	3%	5%	(0.017)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 96 shows the distribution of total production for both the objective and the control groups. The distribution varies according to the group. Production in the objective group is distributed mainly in livestock farming (48%), agriculture (36%), and sub-livestock farming (14%), while in the control group production is mainly divided into agriculture (54%), sub-livestock farming (32%), and, to a lesser extent, livestock farming (12%). The table shows that, even though there are similar shares of households (around 86%) among beneficiaries and controls, the share they represent in terms of production is higher for the objectives. Sub-livestock farming production is higher for the controls (31,9%) than for the beneficiaries (14,2%).

Table 96: Distribution of Gross Production Value, Huancavelica corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	35.96%	53.75%
Livestock farming		
Average GPV per producer	47.94%	11.79%
Sub-livestock farming		
Average GPB per producer	14.23%	31.95%
Forestry		
Average GPV per producer	0.0%	0.3%
Handicrafts		
Average GPV per producer	2%	2%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 97 shows the average gross value (GPV) per producer by economic activity. In general, both groups are fairly integrated with the market: 74% and 79% of the objective and controls groups, respectively, is dedicated to sales. Agriculture and sub-livestock farming are the activities that reach the highest average gross value per producer in the objective and control groups, respectively.

Table 98 shows that the entrepreneurship characteristics of households differ somewhat between the objective and control groups. There are significant differences that make it possible to establish that the control group tends to seek for more business opportunities than the objective group, while the objectives achieve a higher investment score. This can be explained by the differences between those who own a business: those who already own a business are not looking for new business opportunities, but rather wish to reinforce their businesses with new investments (7% of the objectives own business, vs. 4% of the controls). Additionally, the larger percentage of objectives owning a business faces potential risks, and therefore experiences a higher fear of business failure (59% of objectives fear failure, compared with 38% of controls). Therefore, the case of the control group is different because, as there are few controls owning a business, the percentage willing to establish a new business is fairly high (71%, higher than for beneficiaries).

Table 97: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	2822.9	2050.1	772.9	(738.147)
Average total sales per producer	1550.6	1410.9	139.7	(467.346)
Average total self-consumption per producer	1272.4	639.2	633.2	(353.661)*
% of sales in GPV	55%	69%		
Livestock farming				
Average GPV per producer	1909.8	511.6	1398.2	(416.244)***
Average total sales per producer	1531.8	405.5	1126.3	(371.694)***
Average total self-consumption per producer	377.9	106.0	271.9	(52.246)***
% of sales in GPV	80%	79%		
Sub-livestock farming				
Average GPV per producer	764.2	12702.2	-11938.0	(4175.931)***
Average total sales per producer	725.3	12105.9	-11380.6	(4193.736)***
Average total self-consumption per producer	38.9	596.3	-557.4	(167.319)***
% of sales in GPV	95%	95%		
Forestry				
Average GPV per producer	-	4129		
Average total sales per producer	-	2170		
Average total self-consumption per producer	-	1959		
% of sales in GPV	-	53%		
Handicrafts				
Average GPV per producer	769.0	3106.7	-2337.7	(1433.169)
Average total sales per producer	763.0	3079.3	-2316.3	(1435.617)
Average total self-consumption per producer	6.1	27.5	-21.4	(14.169)
% of sales in GPV	99%	99%		
Total				
Average GPV per producer	3408.8	3758.5	-349.7	(649.845)
Average total sales per producer	2507.7	2979.3	-471.6	(576.553)
Average total self-consumption per producer	901.1	779.2	121.9	(166.259)
% of sales in GPV	74%	79%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 98: Entrepreneurship Indicators, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	3%	1%	2%	(0.010)*
Average search score a/	5.4	6.4	-1.0	(0.224)***
Average investment score b/	8.4	7.1	1.3	(0.152)***
% owning a business	7%	4%	3%	(0.016)**
% fearing business failure	59%	38%	21%	(0.033)***
% willing to start a new business	54%	71%	-17%	(0.033)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 99 shows the estimations for expenditure and poverty in the Huancavelica corridor for both the objective and control groups. Two estimations were carried out for expenditure, one unrestricted and the other one eliminating ENAHO's minimum and maximum values. It is recommendable to use the latter, which provides a cleaner indicator without extreme values. While expenditure is higher in the control group compared with the objective group, its poverty rate is also higher. However, while there is a higher number of poor households in the control sample, poverty depth (the poverty gap) shows that there are 7% more poor objective households away from the poverty line than poor control households. In the objective group, average expenditure among poor households is 51.4% lower than their respective poverty lines, while average expenditure is 44.6% below the poverty line in the control group. That is, while the number of poor households is greater in the control group, poor households in the objective group are 7 percent points poorer than those in the control group.

Table 99: Household Expenditure (monthly per capita S/.) and Poverty, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	199.3	622.9	-423.63	(141.424)***
Restricted expenditure 1 b/	156.1	182.7	-26.59	(10.511)**
Poverty				
Poverty rate a/	78.9%	75.0%	4%	(0.029)**
Restricted poverty rate 1 b/	78.2%	80.3%	-2%	(0.029)**
Poverty gap				
Poverty gap a/	54.4%	45.3%	9%	(0.017)**
Restricted poverty gap 1 b/	51.4%	44.6%	7%	(0.016)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 100 shows how households in the Huancavelica corridor perceive themselves. More than half of the population perceive themselves to be poor and not living well, which is to be expected in light of the rate of monetary poverty in the Huancavelica corridor. The objective group perceives itself as experiencing a better quality of life: the share of households perceiving themselves as poor is 64% and not living well 62%, compared with higher shares in the control group (75% and 88%, respectively). The differences are statistically significant.

Table 100: Perceptions and Subjective Poverty Indicators, Huancavelica corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	64%	75%	-10%	(0.031)***
% perceiving themselves as not living well	62%	88%	-26%	(0.029)***
Considering that … is/are very important for their welfare:				
Basic services	39%	58%	-19%	(0.066)*
Better connections	45%	32%	14%	(0.053)*
Roads in good state	45%	37%	8%	(0.078)*
Higher income	53%	53%	1%	(0.046)**
Market information	15%	22%	-7%	(0.050)*
Access to credit	41%	21%	19%	(0.077)*
Technical assistance for production	16%	26%	-10%	(0.039)**
Health and food social programs	3%	27%	-24%	(0.044)**
Education social programs	9%	35%	-26%	(0.100)
Employment and incomes social programs	10%	20%	-10%	(0.058)*
Water, sewage, and lighting	55%	28%	27%	(0.105)
Roads, sidewalks, and cemented areas in their communities	35%	4%	31%	(0.141)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 101 shows the impact indicators for the corridor. No impacts are identified regarding expenditure and poverty. Given the economic conditions in this corridor (limited production infrastructure) and the predominant product (alpaca fiber), perhaps the arguments regarding impact maturities are more important in this case. However, a certain reduction is identified for the subjective poverty indicator. The averages for the population subgroups suggest a certain improvement in the way households perceive their quality of life: there are significant impacts for the poverty rate in the urban (18%) and rural (12%) subgroups, and for male household heads (15%).

Table 101: Impact indicators, Huancavelica corridor

Huancavelica Total	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.02272	-0.03057	-0.14660***
	(0.06916)	*(0.05252)*	*(0.05440)*
Urban	0.09744	-0.05159	-0.18365**
	(0.11455)	*(0.07330)*	*(0.08631)*
Rural	-0.07753	-0.02011	-0.12815**
	(0.06704)	*(0.05441)*	*(0.05587)*
Male	-0.01167	-0.0386	-0.15290***
	(0.07176)	*(0.05427)*	*(0.05580)*
Female	-0.09532	0.02457	-0.10330
	(0.10727)	*(0.08443)*	*(0.10016)*

Source: PRA Project Survey

Preparation: Macroconsult

Results for the to Huancavelica-Buenaventura stratum

Table 102 shows the urban-rural distribution of the sample. The latter is made up of 313 observations, divide into 89 for the objective group (28%) and 224 for the control group (72%). The urban/rural distribution is balanced between both groups: for both the objectives and the controls, 25% of those surveyed live in urban areas and 75% in rural areas.

Table 102: Urban/Rural distribution, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]
Sample balance		
# observations	89	224
% Urban area	25%	25%
% Rural area	75%	75%

Source: PRA Project Survey
Preparation: Macroconsult

Table 103: Household socio-demographic characteristis, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.61	4.28	0.33	(0.268)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.85	0.81	0.05	(0.046)
Are there any children?	0.76	0.89	0.25	(0.244)
Any other household members?	0.16	0.16	0.03	(0.081)
Demographic structure (average)				
% under 5 years	5%	7%	-2%	(0.014)
% above 5 and under 10 years	9%	11%	-2%	(0.018)
% above 10 and under 20 years	28%	27%	2%	(0.030)
% above 20 and under 30 years	11%	12%	-1%	(0.022)
% above 30 and under 40 years	7%	11%	-4%	(0.020)*
% above 40 and under 50 years	8%	10%	-2%	(0.019)
% above 50 and under 60 years	12%	11%	1%	(0.025)
% above 60 and under 65 years	12%	11%	1%	(0.025)
% above 65 years	11%	8%	3%	(0.030)
Characteristics of household head				
Average age	50	47	3	(1.740)*
% males	90%	84%	6%	(0.040)
% migrants	0%	1%	-1%	(0.006)
Civil status or partner	89%	82%	7%	(0.042)*
Education level				
No levela/	17%	13%	3%	(0.046)
Primary education	51%	60%	-10%	(0.062)
Secondary education	26%	23%	3%	(0.054)
Higher education	7%	4%	3%	(0.029)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

The characteristics of household members in the Huancavelica-Buenaventura stratum (Table 103) are quite similar to the aggregate case. On average, the average size is very similar for the objectives and the controls, exceeding 4 people. Regarding household structure, there is no statistical support to argue in favor of considerable differences between objectives and controls. The probability is close to 1 that there is a household head; 0.8 that there is a spouse; 0.8 that there is at least a child; and 0.16 that there are other household members.

The demographic structure is found to be similar between both groups, with little significant differences suggesting different distributions between objectives and controls. With the exception of the 30-40 age group, the beneficiary and control groups tend to concentrate on the age groups under 30 years. Additionally, there is a slight widening at the top, as above 50 years of age the rates are higher for both the beneficiary and control populations.

Concerning household heads, there are no systematic differences reflecting different characteristics between groups. Household heads are around 50 years of age, but tend to be somewhat younger in the control group (47 years) than in the objective group. Most of them are males in both groups (90% vs. 84%); and almost nobody has migrated to a place different from the province where they were born (1% vs. 0%). Most of them are married or have a partner, but there is a 7-percentage point difference in favor of the objectives compared with the controls. Regarding the education level, household heads are very similar in beneficiary and control households. In both cases, more than half of them have only primary education (objectives 51%; controls 60%); and a lower share have secondary education (objectives 26%; controls 23%). An important number of beneficiary and control household heads lack education (17% and 13%); and a small minority have higher education (7% and 4%). In spite of the differences, there is no significant evidence to establish that the means are different from cero, and therefore these gaps cannot be considered relevant.

Table 104 shows that, in terms of adequate housing and number of rooms per capita, there are similarities between beneficiary and control households. Normally, few homes can be classified as adequate (16% of homes in the objective group, 0% in the control group); and the average number of rooms per capita reaches 0.7 in both groups. It should be stressed that, on average, households that served as controls had higher access to services. Regarding access to water, electricity, and communications, the mean differences are 37%, 28%, and 1% in favor of controls. The differences are lower for ownership of home assets.

Table 104: General housing characteristics, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	16%	0%	16%	(0.000)
Average per capita rooms	0.67	0.69	-0.03	(0.055)
% access to property title	16%	40%	-24%	(0.052)***
% invested in home	7%	2%	5%	(0.028)*
% access to water b/	37%	75%	-37%	(0.059)***
% access to sewage c/	30%	13%	17%	(0.054)***
% access to electricity d/	60%	87%	-28%	(0.057)***
% access to communications e/	47%	48%	-1%	(0.063)
Home assets				
% Entertainment f/	83%	89%	-6%	(0.045)
% Computer	0%	0%	0%	(0.004)
% Housekeeping g/	31%	3%	29%	(0.050)***
% Transportation h/	2%	3%	-1%	(0.020)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Except for the assets used to carry out housekeeping activities, there are no significant differences in terms of home assets. Most homes have entertainment assets (objective group 83%; control group 89%); no households have a computer; and very few households have some means of transportation in this stratum. The distribution of ownership of artifacts such as iron, blender, stove, and refrigerator (housekeeping) is uneven between both groups, and tends to be higher for the objectives (31% vs. 3%).

Table **105** shows the social programs to which the population of the Huancavelica-Buenaventura stratum has access. There are significant differences between groups; and the main programs are food programs and "Juntos". The control group tends to have greater access to social programs than the objective group, and the difference is statistically significant. It should be noted that, in this stratum, the control group depends considerably on food programs and the "Juntos" program. Additionally, households in the objective

group do not have access to education or health programs, while 15% in the control group do. This difference is also statistically significant.

Table 105: Access to Social Programs, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	28%	66%	-38%	(0.057)***
% access to the "Juntos" program	18%	69%	-51%	(0.051)***
% access to education or health programs	0%	15%	-15%	(0.024)***
% access to farming program	2%	4%	-2%	(0.021)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding economic activities, a balance is found between objectives and controls, mainly for livestock farming, although with differences in favor of the controls (objectives 73% vs. controls 83%). Table 106 shows that, in the objective group, most households are dedicated to livestock farming (73%), followed by sub-livestock farming (55%), while a majority of the control group is dedicated to agriculture (100%) and livestock farming (83%). There is a greater balance between objectives and controls for livestock farming, where, while there is a significant difference of 1%, it can be suggested that this activity has been intentionally considered when choosing to survey a household that can serve as control. The similarity between groups regarding livestock farming is associated with the kinds of livestock products generated by beneficiary households and predominant in their sales (alpaca fiber).

Table 106: Distribution of Producer Households, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agricultura	54%	100%	-46%	(0.053)***
% households dedicated to livestock farming	73%	83%	-10%	(0.053)*
% households dedicated to sub-livestock farming	55%	9%	46%	(0.056)***
% households dedicated to forestry	0%	0%	0%	(0.000)
% households dedicated to handicrafts	22%	4%	18%	(0.046)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 107 shows the distribution of production by economic activity. For the objective group, total production concentrates mainly in livestock farming (51%), followed by sub-livestock farming (21%) and agriculture (20%); while in the control group the main activity is agriculture (61%) and, to a lesser extent, livestock farming (19%).

Table 107: Distribution of Gross Production Value, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	20.34%	60.76%
Livestock farming		
Average GPV per producer	51.44%	19.17%
Sub-livestock farming		
Average GPB per producer	21.42%	10.11%
Forestry		
Average GPV per producer	0.0%	0.0%
Handicrafts		
Average GPV per producer	7%	10%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 108 shows that in the objective group, the activity that generates the higher average gross production value (GPV) per household is livestock farming; and that handicrafts predominate in the control groups. It is interesting to analyze livestock farming GVP per producer. The trend is the same as in the Huancavelica corridor, as the objective group seems to be more productive than the control groups. In general, this stratum is less integrated with the market and less productive relative to the Huancavelica corridor as a whole. However, the objective group is more integrated than the control group. The objective group produces on average S/. 978.5, compared with just S/. 478.2 for the control group.

Table 108: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	523.9	1263.7	-739.9	(184.255)***
Average total sales per producer	404.1	699.8	-295.7	(54.881)***
Average total self-consumption per producer	119.8	563.9	-444.1	(165.864)***
% of sales in GPV	*77%*	*55%*		
Livestock farming				
Average GPV per producer	978.5	478.2	500.3	(173.215)***
Average total sales per producer	689.5	394.5	295.0	(158.506)*
Average total self-consumption per producer	288.9	83.6	205.3	(35.417)***
% of sales in GPV	*70%*	*83%*		
Sub-livestock farming				
Average GPV per producer	540.6	2234.1	-1693.5	(556.701)***
Average total sales per producer	461.7	897.2	-435.6	(272.267)
Average total self-consumption per producer	79.0	1336.9	-1257.9	(367.984)***
% of sales in GPV	*85%*	*40%*		
Forestry				
Average GPV per producer	-	-		
Average total sales per producer	-	-		
Average total self-consumption per producer	-	-		
% of sales in GPV	-	-		
Handicrafts				
Average GPV per producer	420.6	5130.6	-4709.9	(2456.894)*
Average total sales per producer	420.6	5122.6	-4701.9	(2458.666)*
Average total self-consumption per producer	0.0	8.0	-8.0	(7.676)
% of sales in GPV	*100%*	*100%*		
Total				
Average GPV per producer	1389.3	2070.7	-681.4	(280.216)**
Average total sales per producer	916.9	1178.9	-262.1	(242.035)
Average total self-consumption per producer	472.4	891.8	-419.4	(82.943)***
% of sales in GPV	*66%*	*57%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 109 show entrepreneurship indicators for the persons surveyed in the Huancavelica-Buenaventura stratum. While both groups show a similar aversion to risk (close to 60% fear business failure), 68% of households in the control group wish to start a new business, compared with only 40% in the objective group. The

difference is statistically significant. In the rest of indicators there is a balance between both groups.

Table 109: Entrepreneurship Indicators, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Differenc e [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	0%	0%	0%	(0.004)
Average search score a/	6.3	6.8	-0.5	(0.353)
Average investment score b/	7.9	7.3	0.6	(0.270)**
% owning a business	4%	4%	1%	(0.025)
% fearing business failure	61%	57%	4%	(0.062)
% willing to start a new business	40%	68%	-27%	(0.061)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 110 shows estimations for expenditure and poverty levels. The Huancavelica-Buenaventura stratum is very poor. The monthly average expenditure of households in this corridor is slightly higher in the control group (S/.196.5) compared with the objective group (S/.167.5), and there is no statistical evidence to establish that the difference is different from zero. There are significant differences regarding the poverty rate, which is higher by 2.5 percentage points for the controls than for the beneficiaries (80% vs. 77.5%). Poverty depth indicators show not only that there are more poor households in the control group, but that the poor are poorer in this group (36.2%) than in the beneficiary group (35%). The poor in this stratum are not as poor as the average for the Huancavelica corridor.

Table 110: Household Expenditure (monthly per capita S/.) and Poverty, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	167.5	282.6	-115.17	(60.105)*
Restricted expenditure 1 b/	167.5	196.5	-29.05	(18.323)
Poverty				
Poverty rate a/	77.5%	78.6%	-1%	(0.052)*
Restricted poverty rate 1 b/	77.5%	80.0%	-2%	(0.052)*
Poverty gap				
Poverty gap a/	35.1%	35.6%	0%	(0.031)**
Restricted poverty gap 1 b/	35.1%	36.2%	-1%	(0.031)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 111 shows poverty perceptions and subjective poverty for the Huancavelica-Buenaventura stratum. The objective group clearly perceives itself to be less poor than the control group, despite the fact that both groups have similar poverty rates. While a majority of households in the objective group do not perceive themselves as poor, in the control group more than 87% of households do. The differences in the means are significant, confirming diverging perceptions between groups: a majority of controls see themselves as living in a state of poverty and express little satisfaction regarding their quality of life.

Table 111: Perceptions and Subjective Poverty Indicators, Huancavelica-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	49%	87%	-38%	(0.058)***
% perceiving themselves as not living well	38%	87%	-49%	(0.056)***
Considering that … is/are very important for their welfare:				
Basic services	26%	54%	-28%	(0.090)*
Better connections	19%	13%	6%	(0.072)*
Roads in good state	44%	17%	27%	(0.138)
Higher income	62%	59%	3%	(0.116)
Market information	30%	30%	0%	(0.172)
Access to credit	80%	19%	61%	(0.120)
Technical assistance for production	38%	23%	15%	(0.107)
Health and food social programs	0%	30%	-30%	(0.046)**
Education social programs	0%	32%	-32%	(0.061)*
Employment and incomes social programs	13%	25%	-13%	(0.133)
Water, sewage, and lighting	0%	36%	-36%	(0.065)*
Roads, sidewalks, and cemented areas in their communities	57%	20%	37%	(0.270)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finalizing the assessment of the Huancavelica-Buenaventura stratum, let us analyze the impact results (Table 112). Impacts are not significant regarding per capita expenditure and the rate of monetary poverty. This is also the pattern in the subgroups for the types of areas and male household heads. However, a certain reduction in the subjective poverty indicator can be identified. Both for the stratum as a whole and for its subgroups, there is a reduction in the subjective poverty rates. Additionally, the highest impacts are concentrated in urban areas and where the household heads are male. These subgroups report better progress concerning the perception of their own quality of life. At the same time, it is true that the result is negative for female household heads in the Huancavelica-Buenaventura stratum. However, given the sample size, the precision of the estimation can be subject to discussion. However, the fact that it is the only group that does not show and improvement in subjective welfare may be revealing certain intervention problems for this population group in this particular stratum.

Table 112: Impact indicators, Huancavelica-Buenaventura stratum

Huancavelica-Buenaventura	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.02009	0.05878	-0.41983***
	(0.09947)	*(0.07602)*	*(0.07743)*
Urban	0.12585	0.07328	-0.51402***
	(0.13124)	*(0.08729)*	*(0.11342)*
Rural	-0.08552	0.05156	-0.37294***
	(0.10603)	*(0.08660)*	*(0.08611)*
Male	0.05212	0.02962	-0.47200***
	(0.10904)	*(0.07982)*	*(0.07942)*
Female	-0.39855***	0.25895**	-0.06165
	(0.12631)	*(0.10516)*	*(0.18499)*

Source: PRA Project Survey

Preparation: Macroconsult

4.7 Results for the Junín-Pasco corridor

The regions of Junín and Pasco are located in Peru's central Andes. Its variety of micro-climates is favorable to the development of agriculture. Huancayo, the capital of Junín, is in the middle of Peru's widest valley. Its climate should be tropical, but the presence of the Andes and an altitude of 3,259 meters above sea level create a temperate weather throughout the year, between 21 C° and -5 °C. As a consequence, two seasons can be identified: the rain season (October-April) and the drought season (May-September). It is located 300 km from Lima along the Central Highway, which links Lima with Peru's central region through Junín, Huancavelica, Ayacucho, Pasco, Huánuco, San Martín, and Ucayali. Vehicles headed for Huancavelica and Ayacucho must pass through Huancayo.

Table 111 shows the main results as of September 2012. Exports reached 4,662,883 dollars and net sales 9,490,516 dollars.[19] Table 114 shows the corridor's main products: agricultural, livestock, and sub-livestock farming products. Livestock products include cheese and other dairy products and cut beef; and agricultural products include cacao, hot peppers, chili, and ginger.

[19] http://www.proyectopra.com/es/pra-negocios/centros-de-servicios-economicos/cse-junin-pasco

Table 113: PRA Results, September 2012, Junín-Pasco corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Junín-Pasco	9,490,516	251,582	1,488,848	4,662,883	395	24,027

Source: PRA Project
Preparation: Macroconsult

Table 114: Products intervened by the PRA Project, Junín-Pasco corridor

Junín-Pasco Corridor	
Organic cacao grains and cacao products	Little orange
Live cattle	Eviscerated trout
Jalapeño chilis	Cheese and other dairy products (fresh milk)
Cut beef	Tabasco chili
Fresh hot peppers	Fresh ginger

Source: PRA Project
Preparation: Macroconsult

The Junín-Pasco corridor comprises a sample of 324 observations, divided into 128 for the treated group and 196 for the control group, exceeding the proposed ratio of 1.5 controls per beneficiary. The urban/rural distribution is balanced: most observations were gathered in rural areas (objectives 77%; controls 80%), while around one-fifth were gathered from urban areas (23% vs. 20%). (Table 115)

Table 115: Urban/rural distribution, Junín-Pasco corridor

	Objectives	Controls
Sample balance		
# observations	128	196
% Urban area	23%	20%
% Rural area	77%	80%

Source: PRA Project Survey
Preparation: Macroconsult

Table 116 shows the demographic characteristics of households in the Junín-Pasco corridor. A first indicator shows that there is a significant difference between the sizes of beneficiary and control households: objective households tend to be slightly smaller than control households (3.65 vs. 4.01). However, while there are differences in household size, there is no significant evidence of important differences within the household: in both groups, the probability is one

that there is a household head; 0.8 that there is a spouse; and 0.1 that there are other household members. The probability that there is a child differs between both groups, but the difference is not supported by significant statistical evidence.

Additionally, Table 116 also shows the demographic structure of households in the Junín-Pasco corridor, and that of its control group. The age distribution is similar in the beneficiary and control groups. The differences are not significant, and in both cases most concentrate around the middle of the population pyramid; i.e., age groups 20-50 years of age.

Table 116: Household socio-demographic characteristics, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.65	4.01	-0.36	(0.208)*
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.80	0.83	-0.03	(0.045)
Are there any children?	0.72	0.84	-0.27	(0.174)
Any other household members?	0.13	0.16	-0.06	(0.068)
Demographic structure				
% under 5 years	7%	7%	0%	(0.014)
% over 5 and under 10 years	8%	9%	0%	(0.015)
% over 10 and under 20 years	15%	18%	-3%	(0.022)
% over 20 and under 30 years	14%	14%	0%	(0.025)
% over 30 and under 40 years	14%	14%	0%	(0.023)
% over 40 and under 50 years	19%	15%	5%	(0.028)
% over 50 and under 60 years	13%	12%	1%	(0.028)
% over 60 and under 65 years	13%	12%	1%	(0.028)
% over 65 years	8%	6%	2%	(0.024)
Characteristics of household head				
Average age	45.55	47.24	-1.69	(1.357)
% males	93%	86%	7%	(0.033)**
% migrants	48%	26%	22%	(0.054)***
Civil status or partner	84%	84%	1%	(0.042)
Education level				
No levela/	6%	4%	2%	(0.026)
Primary education	37%	47%	-10%	(0.056)*
Secondary education	48%	42%	5%	(0.057)
Higher education	9%	7%	3%	(0.031)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Information on the characteristics of household heads was also processed. First, it is found that household heads in both objective and control households are around 46 years of age; and most of them have a partner or are married (84%). However, there are also some significant differences, such as regarding the gender of the household head: 93% of objective household heads are male, compared with 86% in the control group. The most noticeable difference is that the number of migrant household heads: the percentage of household heads migrating outside their provinces is twice as large in the objective group as in the control group (48% vs. 26%).

The education level is similar between beneficiary and control household heads. In both cases, close to 90% of household heads reach a regular education level (primary and secondary), while higher education is rare (objectives 9%; controls 7%). It can also be highlighted that there is a significant difference in means at the primary level, where beneficiary household heads reach a rate 10 percentage points lower than the controls (37% vs 47%, respectively). Relatively speaking, beneficiary households reach higher education levels (secondary and higher).

Table 117 shows access to basic services and home assets. An initial approach shows that, while there are significant differences regarding the physical characteristics of homes between beneficiaries and controls, the trends are similar. In both cases, no more than one-fifth of households own a home with brick walls and floor different from dirt (objectives 16% vs. controls 18%). Additionally, it is more frequent to find a higher number of objectives who have formalized ownership of their homes relative to controls (27% vs. 15%). However, regarding the size of homes, objectives own a statistically larger average number of rooms per capita (1.08) tan the controls (0.7).

The comparison between groups regarding access to basic services and home assets shows significant differences for access to sewage, electricity, and communications (differences of 8%, -33%, and 11% in the objectives relative to the controls). However, the difference is not statistically significant regarding

other services like access to water (-9%). Concerning possession of assets, the distribution is more even between objectives and controls than for access to basic services. With the exception of access to transportation, where there is a significant difference, there are similar percentages in both treated and untreated households for entertainment assets (96% vs. 95%), ownership of a computer (5% vs. 2%), or ownership of housekeeping appliances (45% vs. 52%).

Table 117: General housing characteristics, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	16%	18%	-3%	(0.042)
Average per capita rooms	1.08	0.72	0.36	(0.088)***
% access to property title	27%	15%	13%	(0.048)***
% invested in home	9%	11%	-1%	(0.034)
% access to water b/	49%	58%	-9%	(0.057)
% access to sewage c/	30%	21%	8%	(0.050)*
% access to electricity d/	61%	94%	-33%	(0.046)***
% access to communications e/	57%	46%	11%	(0.056)*
Home assets				
% Entertainment f/	96%	95%	1%	(0.023)
% Computer	5%	2%	3%	(0.023)
% Housekeeping g/	45%	52%	-7%	(0.057)
% Transportation h/	36%	12%	24%	(0.049)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 118 shows information regarding access to social programs. Coverage of social programs is similar for both groups. With the exception of food programs, no significant differences are found. Food programs are the ones that provide the highest assistance to the objective population, followed by “Juntos”, farming programs, and education and health programs. More specifically, 30% of the objective population and 42% of controls access food programs. The difference between both groups is statistically significant. However, it is interesting to underscore that access to farming programs is 9% higher for the objectives, but this difference is not statistically significant. The objective group has greater

access to the “Juntos” program (9% vs. 7%); and access to education programs is equal for both groups (2% in both cases).

Table 118: Access to Social Programs, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	30%	42%	-12%	(0.054)**
% access to the “Juntos” program	9%	7%	1%	(0.031)
% access to education or health programs	2%	2%	0%	(0.014)
% access to farming program	9%	0%	9%	(0.000)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 119 shows the distribution of households by economic activity. Most households in the Junín-Pasco corridor are dedicated to livestock farming and agricultures. 93% and 80% of objective and control households, respectively, are dedicated to livestock farming. 89% and 94% of objective and control households, respectively, are dedicated to agriculture. There is a balance between both groups in these activities, which is consistent with the products generated by small beneficiary producers, such as organic cacao, live cattle, jalapeño chilis, cut meat, etc. (Table 114).

Table 119: Distribution of Producer Households, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	89%	94%	-5%	(0.033)
% households dedicated to livestock farming	93%	80%	13%	(0.037)***
% households dedicated to sub-livestock farming	34%	16%	17%	(0.049)***
% households dedicated to forestry	2%	2%	0%	(0.017)
% households dedicated to handicrafts	0%	6%	-6%	(0.017)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The previous information is complemented by data on the distribution of total production by activity (Table 120). In line with the information discussed before, close to 90% of the average production value comes from agricultural and livestock farming activities in both groups. The average production for sub-livestock farming, handicrafts, and forestry tends to be small of even null.

However, as seen before, there are significant differences in the distribution of households by activity: while there is a smaller percentage of control households dedicated to sub-livestock farming, their relative production (12.7%) also tends to be lower than for objective livestock farmers (46.7%). It is to be expected that the average gross production value is different between both groups, as beneficiaries' production may already be reflecting the sales reached after PRA intervention, establishing a difference with the results obtained by the controls.

Table 120: Distribution of Gross Production Value, Junín-Pasco corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	42.35%	80.20%
Livestock farming		
Average GPV per producer	46.72%	12.69%
Sub-livestock farming		
Average GPB per producer	3.65%	1.69%
Forestry		
Average GPV per producer	0.0%	2.7%
Handicrafts		
Average GPV per producer	0%	0%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 121 shows the average gross production value, average sales, and average total self-consumption for all economic activities. Gross production value in the agricultural sector is significantly higher for the control group, with a difference of S/.11,056.2. Similarly, total sales and self-consumption in the same sector are higher and significant for the objective group. Sales in the treated group reach S/. 12,826.7 compared with S/.3,663.9 for the controls. The difference for self-consumption is S/. 1,893.4.

Livestock farming shows the highest values for gross production value and total sales (significantly higher for the control group). GPV for the objectives reaches S/. 16,749, compared with only S/. 894.5 for the control group. Sales reach S/. 15,953.7 on average for the objectives, compared with just S/. 677.7 for the controls. Total average self-consumption per producer shows a high level of significance, with a difference of 578.5 in the means in favor of the objectives.

Sub-livestock farming activities also show higher levels for the treated group, with a high level of significance. However, these values are lower than those for agriculture or livestock farming. The average gross value for the treated group is S/. 3,625, compared with just S/. 579.3 for their counterparties. The difference in the means for total sales (S/. 1,454.4) is significant, as is the difference for self-consumption (S/.1,591.3).

While neither forestry nor handicrafts show significant changes at a statistical level, it can be established that handicrafts production is practiced only within the control group. At the same time, total sales and average gross value per producer associated with forestry are higher for the objective group, although without statistical significance due to their distribution. Additionally, self-consumption is higher for the treated group by S/. 85,833.3).

Finally the percentage of average gross value dedicated to sales is higher for the objectives in most economic activities except handicrafts production. Sub-livestock farming shows a difference (52% vs. 73%), followed by livestock farming (95% vs. 76%). The exception is forestry, where a higher commercial articulation can be identified (10% vs. 1%).

The commercial links may be associated with the characteristics of the beneficiaries.

Table 122 shows indicators for entrepreneurship and capacities to manage a business. The indicators show important similarities regarding entrepreneurship between objectives and controls. For example, the share of objectives and controls owning a business does not exceed 20%, and neither does it show statistically significant differences. Additionally, fear of business failure is similar for objectives and controls. However, there are also significant differences in the means. The most important ones are for the scores given to search of new business opportunities and to investment in businesses, which are statistically higher in objective households. At the same time, entrepreneurship is greater, with a higher desire to start a new business than for the controls (77% vs. 55%).

Table 121: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	15850.0	4793.8	11056.2	(1216.441)***
Average total sales per producer	12826.7	3663.9	9162.8	(1216.159)***
Average total self-consumption per producer	3023.3	1129.9	1893.4	(463.040)***
% of sales in GPV	81%	76%		
Livestock farming				
Average GPV per producer	16749.0	894.5	15854.5	(3864.667)***
Average total sales per producer	15953.7	677.7	15276.0	(3814.688)***
Average total self-consumption per producer	795.3	216.9	578.5	(142.989)***
% of sales in GPV	95%	76%		
Sub-livestock farming				
Average GPV per producer	3625.1	579.3	3045.8	(648.297)***
Average total sales per producer	1877.0	422.5	1454.4	(474.116)***
Average total self-consumption per producer	1748.1	156.8	1591.3	(419.449)***
% of sales in GPV	52%	73%		
Forestry				
Average GPV per producer	103,533.3	7,562.5	95,970.8	(78230.187)
Average total sales per producer	10,200.0	62.5	10,137.5	(8732.511)
Average total self-consumption per producer	93,333.3	7,500.0	85,833.3	(82367.610)
% of sales in GPV	*10%*	*1%*		
Handicrafts				
Average GPV per producer	-	2447		
Average total sales per producer	-	2363		
Average total self-consumption per producer	-	84		
% of sales in GPV	-	97%		
Total				
Average GPV per producer	33332.1	5611.0	27721.1	(4396.271)***
Average total sales per producer	27125.3	4193.9	22931.4	(3476.488)***
Average total self-consumption per producer	6206.8	1417.1	4789.7	(2354.562)**
% of sales in GPV	81%	75%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 122: Entrepreneurship Indicators, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% w/ savings account	6%	2%	5%	(0.023)**
Average search score a/	6.4	5.7	0.7	(0.239)***
Average investment score b/	7.6	6.7	0.9	(0.218)***
% owning a business	17%	11%	6%	(0.040)
% fearing business failure	41%	41%	-1%	(0.056)
% willing to start a new business	77%	55%	23%	(0.051)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

The previous table shows two kinds of indicators for household expenditure and poverty: the first one uses the values as they were surveyed, and the second one restricts ENAHO's maximum and minimum values. In the first case, expenditure and the poverty rate are higher for the controls than for the objectives. Next, in order to eliminate extreme values that may introduce a bias in the averages, a restricted indicator was generated (Appendix 1). The result is an average total expenditure, which is statistically higher for the objective group, with a difference in means of S/. 172.25 compared with the controls. When applying the restriction to poverty, the difference is preserved, but the poverty levels increase by around 2%. The level of significance is the same, a higher average poverty rate for the controls (54.2%) than for the objectives (37.9%), but with a higher incidence of poverty among the objective poor (38%) than for the control poor (37.2%).

Table 123: Household Expenditure (monthly per capita S/.) and Poverty, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	528.7	721.9	-193.21	(283.745)
Restricted expenditure 1 b/	429.0	256.7	172.25	(38.732)***
Poverty				
Poverty rate a/	36.7%	52.6%	-16%	(0.056)*
Restricted poverty rate 1 b/	37.9%	54.2%	-16%	(0.057)*
Poverty gap				
Poverty gap a/	38.0%	37.2%	1%	(0.036)**
Restricted poverty gap 1 b/	38.0%	37.2%	1%	(0.036)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 124 shows the subjective measures of the satisfaction experienced by the surveyed households regarding their living standards and poverty. A first approach reveals that the perception ratios differ between objectives and control, but are consistent ith the results for expenditure and monetary poverty. Thus, the rate of monetary poverty was found to be higher for the controls, and so is the rate of subjective poverty (43%) compared with the objectives (20%). Additionally, close to one-fifth of objective households (24%) perceive themselves as not living well, while the number of controls revealing the same lack of satisfaction is almost twice as large (44%).

Table 124: Perceptions and Subjective Poverty Indicators, Junín-Pasco corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	20%	43%	-23%	(0.050)***
% perceiving themselves as not living well	24%	44%	-20%	(0.052)***
Considering that … is/are very important for their welfare:				
Basic services	56%	76%	-19%	(0.141)
Better connections	56%	49%	7%	(0.086)*
Roads in good state	47%	49%	-2%	(0.082)*
Higher income	54%	42%	12%	(0.091)*
Market information	12%	13%	0%	(0.059)*
Access to credit	10%	10%	0%	(0.075)*
Technical assistance for production	6%	17%	-11%	(0.054)*
Health and food social programs	13%	16%	-3%	(0.132)
Education social programs	33%	15%	18%	(0.212)
Employment and incomes social programs	0%	17%	-17%	(0.081)*
Water, sewage, and lighting	33%	39%	-5%	(0.143)
Roads, sidewalks, and cemented areas in their communities	20%	29%	-9%	(0.179)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The hierarchy of the goods and services necessary for achieving welfare differs between both groups. The objective group considers that access to basic services, establishing connections, and creating higher income is more important. All of them have values higher than 50%. In contrast, the control group considers access to basic services as prioritary (76%). The difference in the means (-19%) relative to the objective group is not significant due to the dispersion of the distribution. The treated group considers that farming technical assistance is not so relevant for their welfare compared with the controls (6%). The -11% difference (objectives over controls), which is statistically significant, underscores the relevance of this measure. Similarly, access to roads in good state is significant, with a 25 difference (controls over objectives). Additionally, access to social health, food, education, employment, and incomes programs show relevant differences in means. However, only those associated with employment and income are significant for the results obtained. Health and food programs, as well as employment and incomes programs, are more relevant for the control group. In contrast, education is prioritary for the objective group.

To conclude the report on this corridor, Table 125 shows the results for impact indicators. As mentioned above, the results for this corridor are positive and significant. That is, once the matching process is carried out, a positive difference may be identified for per capita household expenditure in favor of the beneficiaries compared with the controls. This suggests a positive impact of the program in this corridor (a change in expenditure equal to 21%). However, like in other corridors showing similar results, there do not seem to be changes in permanent income in the upper section of the income distribution, and therefore the rate of monetary poverty does not seem to have changed.

Table 125: Impact indicators, Junín-Pasco corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.21289*	-0.03814	-0.07430
	(0.12672)	*(0.08463)*	*(0.08479)*
Urban	0.25312	-0.04168	0.01003
	(0.21477)	*(0.10780)*	*(0.11327)*
Rural	0.19335	-0.03638	-0.11636
	(0.12413)	*(0.08939)*	*(0.08894)*
Male	0.23242*	-0.06733	-0.09042
	(0.12513)	*(0.08597)*	*(0.08454)*
Femal	0.08692	0.16218	0.03596
	(0.33218)	*(0.15255)*	*(0.19613)*

Source: PRA Project Survey

Preparation: Macroconsult

At the population subgroup level, impacts (on household expenditure) seem to concentrate on households led by males (a 23% variation) compared with females (a positive, but not statistically significant result). Additionally, given the basket of products (organic cacao, livestock, and jalapeño chilis), it is possible to argue that the time needed for impacts to reach full maturity is lower in this case than for the other corridors.

4.8 Resuls for the La Libertad corridor

The La Libertad economic corridor encompasses total or partially the Sierra provinces of Trujillo, Gran Chimú, Otuzco, Sánchez Carrión, Bolívar, Julcán, Santiago de Chuco, and Pataz. Its main cities are Trujillo (capital of the region),

Otuzco, Santiago de Chuco, Huamacucho, and Virú. La Libertad is the only department of Peru encompassing the three natural regions: Coast, Sierra, and Selva. It is connected by highway with Piura (415 km), Chiclayo (206 km), Chimbote (131 km), and Lima (557 km). Trujillo's Capitán FAP Carlos Martínez de Pinillos International Airport receives several daily flights from Lima (50 minutes). Trujillo's weather is humid and cold during most of the year. Drizzle and fog are usual in winter and autumn. The corridor's Andean sierra has a dry and temperate climate during the day and is cold during the night starting 3,000 meters above sea level. In January-March the winter season brings intense rainfall.[20]

Table 126: PRA Results, September 2012, La Libertad corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
La Libertad	4,199,600	119,109	166,756	2,928,570	795	5,283

Source: PRA Project
Preparation: Macroconsult

According to public information provided by the Program, total sales for producers articulated by the PRA in the La Libertad corridor as of September 2012 reached US$ 4,199,600, resulting in 119,109 working days. As of the same date, PRA intervention materialized in investments of US$ 166,756, which translated into exports amounting to US$ 2,928,570. In sum, 795 small producers were articulated in the La Libertad corridor. This, combined with the information for total sales, indicates that net sales per producer in the corridor amount to US$ 5,283. This information is summarized in Table 126. Given its geographical conditions, the main goods produced in the La Libertad corridor are listed in Table 127.

Table 127: Products intervened by the PRA Project, La Libertad corridor

La Libertad Corridor	
Conventional avocado	Amaranth grains
Tara pods	Dried broad beans
Cheese and other dairy products (fresh milk)	Beef carcass
Organic avocado	Mangoes

Source: PRA Project
Preparation: Macroconsult

[20]http://www.proyectopra.com/pra-negocios/centros-de-servicios-economicos/cse-la-libertad

Table 128 shows the sample balance for the La Libertad corridor. According to the PRA's beneficiary register, the 270 observations come from a total universe of 390 households in the corridor. Regarding the controls, the number of observations gathered exceeds the ratio of 1.5 controls per beneficiary. In addition, the urban-rural proportion is kept constant for both the beneficiary and control groups (close to 90% are from the rural area).

Table 128: Urban/rural distribution, La Libertad corridor

	Objectives	Controls
Sample balance		
# observations	270	440
% Urban area	9%	10%
% Rural area	91%	90%

Source: PRA Project Survey
Preparation: Macroconsult

Table 129 shows the characteristics of household members for the beneficiary and control groups within the La Libertad corridor. Specifically, the information suggests that the treated group is similar to the untreated group. There are no significant differences between the groups reflecting differing characteristics, household size, of household structure. Concerning the demographic structure (reflecting the age composition within the households), no systematic differences between age groups in the objective and controls gro both groups. Except for the group between 50 and 65 years of age, there are no significant differences.

Regarding the household heads, the treated group includes more migrants; and its education dispersion is also more marked. This group has a higher share of both household heads without an education and with higher education.

Table 129: Household socio-demographic characteristics, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.21	4.05	0.15	(0.156)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.80	0.80	0.01	(0.032)
Are there any children?	0.73	0.79	-0.13	(0.126)
Any other household members?	0.24	0.19	0.02	(0.079)
Demographic structure				
% under 5 years	8%	9%	-1%	(0.010)
% over 5 and under 10 years	9%	10%	-2%	(0.011)
% over 10 and under 20 years	19%	17%	1%	(0.016)
% over 20 and under 30 years	14%	15%	-1%	(0.017)
% over 30 and under 40 years	12%	13%	-2%	(0.015)
% over 40 and under 50 years	12%	12%	1%	(0.018)
% over 50 and under 60 years	12%	9%	4%	(0.016)**
% over 60 and under 65 years	12%	9%	4%	(0.016)**
% over 65 years	10%	11%	-1%	(0.020)
Characteristics of household head				
Average age	48	47	1	(1.176)
% males	87%	85%	2%	(0.027)
% migrants	18%	9%	9%	(0.028)***
Civil status or partner	82%	82%	0%	(0.030)
Education level				
No levela/	5%	12%	-7%	(0.020)***
Primary education	72%	69%	3%	(0.036)
Secondary education	18%	16%	1%	(0.030)
Higher education	6%	2%	3%	(0.016)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Table 130 complements the previous information with data on the characteristics of homes in the beneficiary and control groups. Twelve indicators are presented, organized in two main categories: i) home characteristics, where some references are made regarding the physical characteristics of homes; and ii) home assets, where reference is made to home furnishing.

Concerning home characteristics, program beneficiaries are in better conditions than the controls, as 7 out of 12 indicators show statistically significant differences in favor of that group (except for adequate access to water, where the difference favors the controls).

Table 130: General housing characteristics, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	6%	1%	5%	(0.016)***
Average per capita rooms	0.87	0.78	0.09	(0.051)*
% access to property title	27%	17%	9%	(0.034)***
% invested in home	7%	7%	0%	(0.020)
% access to water b/	66%	75%	-9%	(0.036)**
% access to sewage c/	18%	17%	1%	(0.030)
% access to electricity d/	58%	57%	1%	(0.038)
% access to communications e/	62%	41%	20%	(0.038)***
Home assets				
% Entertainment f/	94%	96%	-2%	(0.017)
% Computer	5%	1%	4%	(0.015)***
% Housekeeping g/	31%	19%	13%	(0.035)***
% Transportation h/	19%	5%	14%	(0.027)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 131: Access to Social Programs, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% access to food programs	30%	45%	-15%	(0.036)***
% access to the "Juntos" program	26%	36%	-10%	(0.035)***
% access to education or health programs	33%	22%	11%	(0.035)***
% access to farming support programs	11%	1%	10%	(0.019)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 131 includes the percentage of access to social programs by both beneficiary and control households. It is possible to identify significant differences for all indicators presented, with differences in favor of the controls for food programs and "Juntos", and in favor of the beneficiaries for education, health, and farming programs.

Table 132 shows the distribution of households for both the treated and control group in the La Libertad corridor by economic activity. In both groups, most households are dedicated to agriculture (99% in both cases). The sample is perfectly balanced between both groups regarding the activity involving a majority of households.

Table 132: Distribution of Producer Households, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	99%	99%	0%	(0.006)
% households dedicated to livestock farming	80%	87%	-7%	(0.030)**
% households dedicated to sub-livestock farming	20%	11%	9%	(0.028)***
% households dedicated to forestry	3%	0%	2%	(0.011)**
% households dedicated to handicrafts	1%	5%	-3%	(0.013)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 133 shows the share of the activities mentioned before in Gross Production Value (GPV). It is reasonable to expect a high percentage of GPV generated by agriculture, given the high concentration of households dedicated to that activity. However, this does not seem to hold in the case of livestock farming: while more than half of the beneficiary and control populations are also dedicated to livestock farming (80%), the production level is lower than for agriculture.

Table 133: Distribution of Gross Production Value, La Libertad corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	87.46%	75.16%
Livestock farming		
Average GPV per producer	6.63%	19.04%
Sub-livestock farming		
Average GPB per producer	5.01%	3.98%
Forestry		
Average GPV per producer	0.9%	0.8%
Handicrafts		
Average GPV per producer	0%	1%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

The next table shows four indicators of volume by economic activity. Results are presented for average gross production value (GPV), total annual sales, self-consumption, and the share of GPV dedicated to sales. The bottom line shows the aggregate results. The study found statistical differences for agricultural, sub-livestock farming, and handicrafts GPV, as well as for aggregate GPV, where the GPV for the treated group (S/. 12,956.1) is almost four times that for the controls (S/. 3,615.2). Disaggregating, the main

differences are for agriculture (S/.11,459 for beneficiaries, vs. S/. 2,743.5 for controls); and sub-livestock farming (S/. 3,195.6 vs. S/. 1,255.9).

Table 134: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	11,459.1	2,743.5	8,715.5	(1498.892)***
Average total sales per producer	10,215.7	2,029.4	8,186.2	(1443.348)***
Average total self-consumption per producer	1,243.4	714.1	529.3	(158.178)***
% of sales in GPV	*89%*	*74%*		
Livestock farming				
Average GPV per producer	1,078.3	794.2	284.0	(180.022)
Average total sales per producer	728.3	616.3	112.0	(120.972)
Average total self-consumption per producer	349.9	177.9	172.0	(82.870)**
% of sales in GPV	*68%*	*78%*		
Sub-livestock farming				
Average GPV per producer	3,195.6	1,255.9	1,939.7	(801.670)**
Average total sales per producer	2,916.7	951.3	1,965.3	(769.061)**
Average total self-consumption per producer	278.9	304.5	-25.6	(93.522)
% of sales in GPV	*91%*	*76%*		
Forestry				
Average GPV per producer	4,066.6	6,036.7	-1,970.1	(2143.542)
Average total sales per producer	3,966.1	2,725.7	1,240.4	(2105.663)
Average total self-consumption per producer	100.5	3,311.0	-3,210.5	(286.794)***
% of sales in GPV	*98%*	*45%*		
Handicrafts				
Average GPV per producer	223.9	805.0	-581.1	(188.976)***
Average total sales per producer	147.4	653.4	-506.0	(177.142)***
Average total self-consumption per producer	76.5	151.6	-75.1	(53.633)
% of sales in GPV	*66%*	*81%*		
Total				
Average GPV per producer	12,952.1	3,615.2	9,336.9	(1523.189)***
Average total sales per producer	11,380.9	2,696.0	8,685.0	(1456.711)***
Average total self-consumption per producer	1,571.2	919.2	652.0	(177.171)***
% of sales in GPV	*88%*	*75%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

The higher GPV for the beneficiaries can be explained by a greater ability or willingness to start a business, or other unobservable entrepreneurial characteristics. Table

Table 135 shows six indicators reflecting indirectly the entrepreneurial capacities of both beneficiaries and controls in the La Libertad corridor. The information gathered suggests that, regarding entrepreneurship, there may be systematic differences in favor of the treated group. This could explain why, out of six indicators, five are higher than for the controls; and in one case (percentage of households willing to start a new business) they are equal.

Table 135: Entrepreneurship Indicators, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	9%	3%	5%	(0.020)***
Average search score a/	6.1	5.2	0.9	(0.194)***
Average investment score b/	7.2	6.5	0.8	(0.192)***
% owning a business	14%	11%	3%	(0.026)
% fearing business failure	46%	41%	5%	(0.039)
% willing to start a new business	73%	73%	1%	(0.035)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 136 shows information for household expenditure and poverty in the La Libertad corridor. Two data are presented for expenditure: the first one does not eliminate extreme values, while the second one does. Correspondingly, two measures are shown for poverty and the poverty gap. The results for expenditure show significant differences for the restricted monthly per capita expenditure in favor of the treated group. While the difference is not significant, the result for the unrestricted expenditure is similar. Regarding poverty and the poverty gap, there are significant differences for both the unrestricted and restricted poverty measures. In line with a higher monthly expenditure, the treated group shows lower poverty rates than their counterparties in the control group.

Table 136: Household Expenditure (monthly per capita S/.) and Poverty, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	876.2	843.5	32.74	(238.913)
Restricted expenditure 1 b/	305.8	236.2	69.54	(24.256)***
Poverty				
Poverty rate a/	55.3%	59.1%	-4%	(0.039)**
Restricted poverty rate 1 b/	59.7%	63.1%	-3%	(0.040)**
Poverty gap				
Poverty gap a/	21.2%	20.6%	1%	(0.018)**
Restricted poverty gap 1 b/	22.9%	21.9%	1%	(0.019)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 137 shows indicators for the way individuals perceive their own poverty situation and quality of life, as well as the importance they give to social programs and other services for their subsistence. In the case of the La Libertad corridor, all indicators show significant differences between the treated and control groups. It is interesting that the percentages of persons perceiving themselves as poor and not living well are both considerably lower in the treated group (almost half) tan in the control group. This divergence in lifestyle perceptions is in line with the results obtained both for GPV and entrepreneurship, where the treated group always shows better indicators.

Table 137: Perceptions and Subjective Poverty Indicators, La Libertad corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	35%	69%	-34%	(0.036)***
% perceiving themselves as not living well	33%	61%	-28%	(0.037)***
Considering that … is/are very important for their welfare:				
Basic services	71%	68%	3%	(0.075)*
Better connections	44%	47%	-3%	(0.064)*
Roads in good state	58%	37%	21%	(0.063)*
Higher income	47%	41%	6%	(0.059)*
Market information	27%	19%	8%	(0.059)*
Access to credit	7%	14%	-7%	(0.050)**
Technical assistance for production	8%	20%	-11%	(0.045)**
Health and food social programs	7%	15%	-7%	(0.055)*
Education social programs	20%	6%	14%	(0.093)*
Employment and incomes social programs	5%	41%	-35%	(0.054)*
Water, sewage, and lighting	7%	34%	-27%	(0.069)*
Roads, sidewalks, and cemented areas in their communities	0%	0%	0%	(0.000)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 138 shows the results for the impact indicators in La Libertad. As a whole, the corridor does not show an increase in household expenditure, but it does show an increase in poverty (almost 9 points). This results is strange, and seems to show a reversion of the results presented in Table 134, reflecting that, even though incomes, on average, do not seem to be systematically different between objectives and controls, it is possible that there are differences in the lower distribution bracket. This is consistent with the fact that the increase in poverty tends to concentrate in rural areas. As will be seen in the impact results disaggregated at the stratum level, the only way of explaining this result is the presence of important systematic differences in the three segments (Barrick, Poderosa, Rest). The strong increase in incomes in Poderosa (they almost duplicated) and the null increase in Barrick tend to be compensated by a strong fall in the rest of the corridor (this is not presented, as it has no influence in this segment). The same happens with the poverty indicator, where the fall in Poderosa and the null change in Barrick must be compensated by a strong increase in the rest. The same explanation must hold at the population subgroup level.

Table 138: Impact indicators, La Libertad corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.05212	0.09417*	-0.05216
	(0.06781)	*(0.05680)*	*(0.06006)*
Urban	0.11121	0.00613	0.03563
	(0.11386)	*(0.09502)*	*(0.10637)*
Rural	0.02388	0.13799**	-0.09586*
	(0.06757)	*(0.05412)*	*(0.05637)*
Male	0.06893	0.08415	-0.07986
	(0.07061)	*(0.05764)*	*(0.06099)*
Female	-0.05636	0.16295	0.13803
	(0.11222)	*(0.10504)*	*(0.10080)*

Source: PRA Project Survey

Preparation: Macroconsult

An element that casts doubts about the result (probably the result of a certain imprecision in the impact estimation) is the apparent contradiction between the results for monetary and subjective poverty. The latter indicator shows a reduction, and the contradictions appear again when disaggregating by stratum. Therefore, it is possible that there are certain systematic differences across the analyzed zones (Poderosa vs. Barrick vs. rest) that are not being captured by the model.

Results for the La Libertad-Barrick stratum

Table 139 shows that sample balance for the La Libertad-Barrick stratum. There is a balance between the beneficiary and controls groups, as in both cases the entire sample has been gathered from rural areas. Additionally, the number of controls and beneficiaries complies with the quota of 1.5 controls per beneficiary.

Table 139: Urban/rural distribution, La Libertad–Barrick stratum

	Objectives	Controls
Sample balance		
# observations	60	92
% Urban area	0%	0%
% Rural area	100%	100%

Source: PRA Project Survey

Preparation: Macroconsult

Table 140 shows information for the socio-demographic characteristics of the households in the La Libertad-Barrick stratum. The household structure is similar in both groups, although somewhat higher for the objective group regarding the existence of a spouse and children. In La Libertad-Barrick there are statistically significant differences only in the upper bracket of the age pyramid; i.e., the treated population has a population between 50 and 65 years of age. In this light, is is noticeable that the treated population contains a lower percentage of persons over 65 years of age. There are also some significant differences concerning the household head. Treated household heads seem to be, on average, older that household heads in the control group. It should be noted that the percent of migrant persons also shows significant differences, with a higher migrant percentage in the control group.

Table 140: Household socio-demographic characteristics, La Libertad-Barrick

	Objectives [A]	Controls [B]	Difference [A-B]	Devv. Error 1/
Average # of household members	4.38	4.21	0.18	(0.337)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	
Is there a spouse?	0.85	0.75	0.10	
Are there any children?	0.80	0.79	0.15	
Any other household members?	0.22	0.25	-0.07	
Demographic structure				
% under 5 years	11%	9%	2%	(0.025)
% over 5 and under 10 years	10%	12%	-2%	(0.022)
% over 10 and under 20 years	20%	18%	2%	(0.034)
% over 20 and under 30 years	17%	13%	4%	(0.037)
% over 30 and under 40 years	10%	14%	-4%	(0.030)
% over 40 and under 50 years	11%	12%	-2%	(0.034)
% over 50 and under 60 years	11%	5%	6%	(0.030)**
% over 60 and under 65 years	11%	5%	6%	(0.030)**
% over 65 years	6%	12%	-6%	(0.033)*
Characteristics of household head				
Average age	42	48	-6	(2.580)**
% males	80%	88%	-8%	(0.062)
% migrants	0%	10%	-10%	(0.031)***
Civil status or partner	85%	79%	6%	(0.063)
Education level				
No levela/	12%	10%	2%	(0.052)
Primary education	82%	79%	2%	(0.066)
Secondary education	7%	9%	-2%	(0.044)
Higher education	0%	2%	-2%	(0.015)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding housing characteristics (Table 141), it is important to note the low percentage (almost null) of adequate homes in both the treated and control groups. Regarding access to services, the differences are higher in access to water and electricity. Concerning water, 87% of controls have access, compared with 60% in the objective group. Likewise, only 20% of the objective group has access to electricity, compared with 59% in the control group. Regarding home assets, the distribution is similar for both groups: more than 85% of households have entertainment assets and only a small percentage has a computer.

Regarding access to social programs (
Table 142), there are statistically significant differences for the four access indicators, all favorable to the treated households. The latter have much higher rates that the controls households regarding access to food, education, and health programs.

Table 141: General housing characteristics, La Libertad-Barrick

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	0%	1%	-1%	(0.011)
Average per capita rooms	0.75	0.73	0.02	(0.108)
% access to property title	12%	27%	-15%	(0.063)**
% invested in home	13%	3%	10%	(0.048)**
% access to water b/	60%	87%	-27%	(0.073)***
% access to sewage c/	8%	3%	5%	(0.040)
% access to electricity d/	20%	59%	-39%	(0.073)***
% access to communications e/	47%	42%	4%	(0.083)
Home assets				
% Entertainment f/	85%	98%	-13%	(0.049)***
% Computer	0%	2%	-2%	(0.015)
% Housekeeping g/	5%	13%	-8%	(0.045)*
% Transportation h/	8%	3%	5%	(0.040)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 142: Access to Social Programs, La Libertad-Barrick

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	45%	27%	18%	(0.079)**
% access to the "Juntos" program	53%	35%	19%	(0.082)**
% access to education or health programs	48%	4%	44%	(0.068)***
% access to farming support programs	7%	0%	7%	(0.032)**

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 143 shows the concentration on agricultural production, although the figures are similar for livestock farming (especially for the treated group). It is important to note the significant difference in the share of households dedicated to sub-livestock farming. While in the case of the corridor as a whole the percentage of households dedicated to that activity is around 20%, in the case of the treated group in La Libertad-Barrick the share reaches 65%. Indeed, it can be pointed out that there is a balance between objectives and controls in agriculture, but also in livestock farming; and that this was deliberately controlled by selecting controls that were similar to the objectives.

Table 143: Distribution of Producer Households, La Libertad-Barrick stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	97%	99%	-2%	(0.026)
% households dedicated to livestock farming	98%	86%	12%	(0.040)***
% households dedicated to sub-livestock farming	65%	2%	63%	(0.064)***
% households dedicated to forestry	0%	0%	0%	(0.000)
% households dedicated to handicrafts	7%	2%	4%	(0.036)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 144: Distribution of Gross Production Value, La Libertad-Barrick stratum

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	38.03%	66.71%
Livestock farming		
Average GPV per producer	38.95%	30.83%
Sub-livestock farming		
Average GPB per producer	22.55%	2.25%
Forestry		
Average GPV per producer	0.0%	0.0%
Handicrafts		
Average GPV per producer	0%	0%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

For the objective group, there are three main activities, and therefore the GPV of La Libertad-Barrick is distributed with greater symmetry (Table 144).

Finally, Table 145 shows the differences by activity for GPV, sales, and self-consumption. Only livestock farming has significant differences in GPV and average total sales per producer. However, GPV for sub-livestock farming shows a higher difference in soles. In contrast, the distribution is similar for agriculture and handicrafts.

Table 145: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), La Libertad-Barrick stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	1365.7	1421.9	-56.2	(485.893)
Average total sales per producer	953.2	481.8	471.5	(358.290)
Average total self-consumption per producer	412.5	940.2	-527.7	(304.928)*
% of sales in GPV	*70%*	*34%*		
Livestock farming				
Average GPV per producer	1375.2	756.9	618.3	(324.200)*
Average total sales per producer	1138.2	552.2	585.9	(294.614)**
Average total self-consumption per producer	237.1	204.6	32.4	(62.170)
% of sales in GPV	*83%*	*73%*		
Sub-livestock farming				
Average GPV per producer	1204.2	2185.0	-980.8	(1366.621)
Average total sales per producer	1013.5	1140.0	-126.5	(674.715)
Average total self-consumption per producer	190.7	1045.0	-854.3	(705.708)
% of sales in GPV	*84%*	*52%*		
Forestry				
Average GPV per producer	-	-		
Average total sales per producer	-	-		
Average total self-consumption per producer	-	-		
% of sales in GPV	-	-		
Handicrafts				
Average GPV per producer	246.3	203.8	42.5	(138.193)
Average total sales per producer	149.4	127.5	21.9	(67.973)
Average total self-consumption per producer	96.9	76.3	20.6	(72.005)
% of sales in GPV	*61%*	*63%*		
Total				
Average GPV per producer	3471.7	2108.4	1363.3	(715.170)*
Average total sales per producer	2186.7	1431.7	754.9	(462.112)
Average total self-consumption per producer	1285.0	676.6	608.4	(381.729)
% of sales in GPV	*63%*	*68%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the entrepreneurship indicators, it is important to note that the results for this stratum do not favor the beneficiaries (Table 146). The entrepreneurship results for the treated group are almost always below those for the controls (except in the case of those who fear business failure). However, it is necessary to analyze in depth, as only two of the six differences presented are statistically significant. Indeed, 96% of the controls wish to start a business, compared with 80% in the objective group.

Table 146: Entrepreneurship Indicators, La Libertad-Barrick stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	0%	2%	-2%	(0.015)
Average search score a/	5.4	6.1	-0.7	(0.394)*
Average investment score b/	7.2	7.3	-0.1	(0.426)
% owning a business	3%	7%	-3%	(0.035)
% fearing business failure	33%	30%	3%	(0.078)
% willing to start a new business	80%	96%	-16%	(0.056)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 147 shows the levels of expenditure and poverty. In principle, even though the difference is not statistically significant, it is noticeable that the unrestricted average expenditure for the controls is considerably higher than for the treated group. While the poverty rate and gap is similar for both groups, the poverty measures for the objectives are higher than for the controls. Such is also the case for the poverty gaps. Additionally, when eliminating the minimum and maximum values, these measure increase for the control group, but remain constant for the treated group.

Table 147: Household Expenditure (monthly per capita S/.) and Poverty, La Libertad-Barrick stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	192.8	520.9	-328.11	(233.172)
Restricted expenditure 1 b/	192.8	186.0	6.77	(24.070)
Poverty				
Poverty rate a/	76.7%	70.7%	6%	(0.073)*
Restricted poverty rate 1 b/	76.7%	72.7%	4%	(0.073)*
Poverty gap				
Poverty gap a/	29.4%	29.8%	0%	(0.041)**
Restricted poverty gap 1 b/	29.4%	30.2%	-1%	(0.041)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 148 shows the indicators associated with perceptions in this stratum. Considering the results for expenditure and poverty presented previously, it is paradoxical that the perception results reflect a more optimistic view about the

way treated households see their own poverty and living standards. In contrast, the controls perceive themselves as poorer and living in precarious conditions (53% vs. 36% for the objectives). Additionally, basic services, higher income, and connections are considered prioritary for welfare.

Table 148: Perceptions and Subjective Poverty Indicators, La Libertad-Barrick stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	38%	54%	-16%	(0.082)*
% perceiving themselves as not living well	35%	53%	-18%	(0.081)**
Considering that … is/are very important for their welfare:				
Basic services	93%	72%	21%	(0.112)
Better connections	67%	50%	17%	(0.150)
Roads in good state	55%	45%	10%	(0.146)
Higher income	62%	46%	16%	(0.124)
Market information	10%	13%	-4%	(0.085)*
Access to credit	0%	22%	-22%	(0.099)*
Technical assistance for production	13%	24%	-11%	(0.107)
Health and food social programs	13%	13%	1%	(0.149)
Education social programs	0%	0%	0%	(0.000)***
Employment and incomes social programs	0%	7%	-7%	(0.066)*
Water, sewage, and lighting	11%	33%	-22%	(0.164)
Roads, sidewalks, and cemented areas in their communities	0%	0%	0%	(0.000)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 149 does not show a significant impact in poverty reduction when disaggregating these subgroups, but it does for subjective poverty. Additionally, there are no significant changes in income; but it is interesting that the positive impact is higher on the expenditure of households led by women compared to those led by men. The reduction in the poverty rate is also higher in households led by women (12%) than in those led by men (3%). These results are important because they show a gender pattern that runs counter to almost all other strata. In contrast, it is found that in households led by women, subjective poverty has decreased by 6 percentage points, in contrast with a 32 percentage point reduction in households led by men. That is, even though incomes seem to have increased, in the case of women-led households the low changes in subjective poverty may reflect that the variations in income have not been sufficient to perceive themselves as non-poor households.

Table 149: Impact indicators, La Libertad-Barrick stratum

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.15955 *(0.13293)*	-0.04712 *(0.11031)*	-0.28652** *(0.11628)*
Urban	n.a.	n.a.	n.a.
Rural	n.a.	n.a.	n.a.
Male	0.13454 *(0.13176)*	-0.03698 *(0.11224)*	-0.31936** *(0.11954)*
Female	0.34676 *(0.26078)*	-0.11673 *(0.17397)*	-0.06111 *(0.17756)*

Source: PRA Project Survey
Preparation: Macroconsult

Results for the La Libertad-Poderosa stratum

As mentioned before, the La Libertad corridor is formed by two strata, La Libertad–Barrick and La Libertad–Poderosa. Table 150 shows the sample balance for the latter. The samples of objectives and controls are balanced, as 81% in both groups belong to the rural area, in contrast with only 19% for the urban area.

Table 150: Urban/rural distribution, La Libertad–Poderosa stratum

	Objectives	Controls
Sample balance		
# observations	68	108
% Urban area	19%	19%
% Rural area	81%	81%

Source: PRA Project Survey
Preparation: Macroconsult

Table 151 shows the socio-demographic characteristics of the households in this stratum. The socio-demographic information gathered for beneficiaries and controls in the La Libertad–Poderosa stratum does not show significant differences between both groups regarding age composition (most of the population is young). However, there are differences regarding the probability that there is a spouse, with a clear dominance of the treated group.

Other significant differences appear in the information sub-section about household heads. For the objective group, almost all household heads are male and few of them are immigrants; while for the control group 74% are males and 11% are migrants. Additionally, concerning the education level, most have primary education, but only 5% (on average) attained higher education.

Table 151: Household socio-demographic characteristics, La Libertad-Poderosa

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	4.75	4.34	0.41	(0.323)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.90	0.75	0.15	(0.056)***
Are there any children?	0.85	0.82	0.30	(0.264)
Any other household members?	0.18	0.26	-0.04	(0.149)
Demographic structure				
% under 5 years	10%	10%	1%	(0.021)
% over 5 and under 10 years	9%	11%	-2%	(0.020)
% over 10 and under 20 years	20%	17%	3%	(0.030)
% over 20 and under 30 years	14%	15%	-1%	(0.031)
% over 30 and under 40 years	12%	11%	1%	(0.030)
% over 40 and under 50 years	12%	11%	1%	(0.029)
% over 50 and under 60 years	13%	10%	3%	(0.030)
% over 60 and under 65 years	13%	10%	3%	(0.030)
% over 65 years	7%	12%	-5%	(0.037)
Characteristics of household head				
Average age	48	50	-2	(2.056)
% males	94%	74%	20%	(0.051)***
% migrants	3%	11%	-8%	(0.037)**
Civil status or partner	90%	76%	14%	(0.055)**
Education level				
No levela/	6%	18%	-12%	(0.047)**
Primary education	76%	64%	13%	(0.069)*
Secondary education	12%	15%	-3%	(0.052)
Higher education	6%	4%	2%	(0.034)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Concerning home characteristics (Table 152), no adequate homes were found in the La Libertad-Poderosa stratum for either the treated or the control groups. Indeed, the average number of rooms per household member is around 0.8. Additionally, more than half of the population has access to water and electricity, but the differences in the means are significant: 80% of the controls have access to water, compared with 66% of the objectives. Ownership of home assets is evenly distributed in both groups.

Table 152: General housing characteristics, La Libertad-Poderosa

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	0%	0%	0%	(0.000)
Average per capita rooms	0.81	0.76	0.05	(0.095)
% access to property title	6%	8%	-2%	(0.039)
% invested in home	7%	6%	1%	(0.040)
% access to water b/	66%	80%	-13%	(0.069)*
% access to sewage c/	32%	33%	-1%	(0.073)
% access to electricity d/	94%	83%	11%	(0.046)**
% access to communications e/	44%	36%	8%	(0.076)
Home assets				
% Entertainment f/	97%	94%	3%	(0.030)
% Computer	3%	1%	2%	(0.023)
% Housekeeping g/	19%	16%	3%	(0.059)
% Transportation h/	4%	7%	-3%	(0.036)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, regarding access to social programs, this stratum does nos show considerable differences between treated and control households, except in access to farming programs, with a clear advantage for the former (treated 34% vs. controls 2%). A little more than one-third of the population has access to the "Juntos" program; and around 20% have access to education or health programs.

Table 153: Access to Social Programs, La Libertad-Poderosa

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% access to food programs	46%	51%	-5%	(0.077)
% access to the "Juntos" program	32%	38%	-6%	(0.074)
% access to education or health programs	24%	26%	-2%	(0.067)
% access to farming support programs	34%	2%	32%	(0.059)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Almost all beneficiaries in the La Libertad–Poderosa stratum and their respective controls are dedicated to agriculture. Moreover, in general the distribution by activities is very similar between treated and control households

(Table 154). The symmetry in the distribution of the population by economic activity is also reflected in the distribution of GPV (Table 155).

Table 154: Distribution of Producer Households, La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	100%	99%	1%	(0.009)
% households dedicated to livestock farming	75%	82%	-7%	(0.064)
% households dedicated to sub-livestock farming	6%	6%	-1%	(0.037)
% households dedicated to forestry	3%	1%	2%	(0.023)
% households dedicated to handicrafts	1%	1%	1%	(0.017)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Cuadro No. 155: Distribution of Gross Production Value, La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]
Agriculture			
Average GPVa/ per producer	93.84%	83.30%	11%
Livestock farming			
Average GPV per producer	5.76%	13.79%	-8%
Sub-livestock farming			
Average GPB per producer	0.10%	0.57%	0%
Forestry			
Average GPV per producer	0.3%	2.2%	-1.9%
Handicrafts			
Average GPV per producer	0%	0%	0%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding average GPV, annual sales, and self-consumption by activity, La Libertad-La Poderosa shows statistically significant differences only in agriculture, forestry, and at the aggregate level. In this case, the differences between the treated and control groups are again considerable, with higher magnitudes for the treated group, except for forestry (with a clear advantage for the controls). In particular, livestock and sub-livestock farming show minor differences for the average GPV per producer.

Table 156: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles),La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	8906.5	2679.8	6226.7	(1383.732)***
Average total sales per producer	2131.1	949.7	1181.4	(319.187)***
Average total self-consumption per producer	6775.4	1730.1	5045.3	(1235.901)***
% of sales in GPV	*24%*	*35%*		
Livestock farming				
Average GPV per producer	728.5	533.4	195.1	(140.399)
Average total sales per producer	412.3	281.6	130.7	(118.069)
Average total self-consumption per producer	316.2	251.8	64.4	(67.552)
% of sales in GPV	*57%*	*53%*		
Sub-livestock farming				
Average GPV per producer	161.3	279.7	-118.5	(222.553)
Average total sales per producer	0.0	147.1	-147.1	(138.083)
Average total self-consumption per producer	161.3	132.6	28.7	(118.931)
% of sales in GPV	*0%*	*53%*		
Forestry				
Average GPV per producer	900.0	7500.0	-6600.0	(606.218)***
Average total sales per producer	600.0	3750.0	-3150.0	(346.410)**
Average total self-consumption per producer	300.0	3750.0	-3450.0	(259.808)***
% of sales in GPV	*67%*	*50%*		
Handicrafts				
Average GPV per producer	140.0	560.0	-420.0	(0.000)
Average total sales per producer	140.0	350.0	-210.0	(0.000)
Average total self-consumption per producer	0.0	210.0	-210.0	(0.000)
% of sales in GPV	*100%*	*63%*		
Total				
Average GPV per producer	9490.9	3187.3	6303.6	(1390.284)***
Average total sales per producer	7104.3	1993.6	5110.7	(1238.989)***
Average total self-consumption per producer	2386.5	1193.7	1192.8	(330.589)***
% of sales in GPV	75%	63%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table. 157: Entrepreneurship Indicators, La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% w/ savings account	15%	5%	10%	(0.048)**
Average search score a/	6.4	5.7	0.7	(0.392)*
Average investment score b/	7.6	6.8	0.8	(0.348)**
% owning a business	31%	13%	18%	(0.065)***
% fearing business failure	54%	35%	19%	(0.076)**
% willing to start a new business	82%	54%	29%	(0.067)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Regarding entrepreneurship measures in the La Libertad-Poderosa stratum (Table Table. 157), the treated households consistently show higher results than the controls, especially a 29-percentage point difference in favor of the treated for the percentage or persons who wish to start a new business.

The following table shows measures for expenditure, poverty, and poverty gap for the stratum. The results show a clear advantage for the treated over the control group. Additionally, the measures for poverty and the poverty gap are much higher for the latter group. The following table shows that the poverty rate for the controls is close to 75%, compared with 53% for the objective group (without extreme values). The difference is maintained for the poverty gap (approximately 10% higher for the control group).

Table 158: Household Expenditure (monthly per capita S/.) and Poverty, La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	945.3	327.0	618.37	(192.328)***
Restricted expenditure 1 b/	511.3	225.2	286.10	(84.722)***
Poverty				
Poverty rate a/	47.1%	74.1%	-27%	(0.074)*
Restricted poverty rate 1 b/	53.3%	75.5%	-22%	(0.077)*
Poverty gap				
Poverty gap a/	22.3%	35.0%	-13%	(0.041)**
Restricted poverty gap 1 b/	25.3%	35.6%	-10%	(0.043)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 159 shows perceptions of subjective poverty for the beneficiaries and controls in the La Libertad-La Poderosa stratum. In line with the information discussed above, the self-perception of poverty and quality of life is more optimistic in the treated than in the control group, even though the difference is not statistically significant in the former case. Likewise, both prioritize access to basic services and the state of the roads. They differ regarding social programs, which are more relevant for the objective group; and regarding water, sewage, and lighting services, which are considered relevant for welfare by 78% of the controls.

Table 159: Perceptions and Subjective Poverty Indicators, La Libertad-Poderosa stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	63%	71%	-8%	(0.073)
% perceiving themselves as not living well	38%	55%	-16%	(0.076)**
Considering that … is/are very important for their welfare:				
Basic services	61%	75%	-14%	(0.139)
Better connections	49%	20%	29%	(0.113)
Roads in good state	63%	47%	16%	(0.106)
Higher income	32%	42%	-10%	(0.106)
Market information	0%	38%	-38%	(0.123)
Access to credit	15%	7%	9%	(0.111)
Technical assistance for production	0%	15%	-15%	(0.069)*
Health and food social programs	13%	0%	13%	(0.000)***
Education social programs	14%	0%	14%	(0.137)
Employment and incomes social programs	0%	4%	-4%	(0.037)**
Water, sewage, and lighting	14%	78%	-64%	(0.160)
Roads, sidewalks, and cemented areas in their communities	0%	0%	0%	(0.000)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table

Table 160 shows the impact results for the La Libertad-Poderosa stratum. There is a strong increase in income in Poderosa (it almost doubles). Additionally, there is a 17 percent decline in poverty, which is statistically significant. At the population subgroup level, the highest impacts in terms of improved quality of life (increase in income and decrease in the poverty rate) are for urban zones and households led by males. This is reinforced by the results for the subjective poverty rate.

Table 160: Impact indicators, Libertad-Poderosa stratum

La Libertad Poderosa	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	1.05595***	-0.16629**	-0.0005346
	(0.31831)	*(0.08381)*	*(0.10881)*
Urban	1.99493**	-0.32252***	-0.1450313
	(0.81576)	*(0.11035)*	*(0.15696)*
Rural	0.70488**	-0.08853	0.07139***
	(0.27223)	*(0.08916)*	*(0.11332)*
Male	1.17084**	-0.18995**	-0.0720016
	(0.35378)	*(0.08379)*	*(0.11280)*
Female	0.41550	-0.00386	0.49006***
	(0.26430)	*(0.20762)*	*(0.12282)*

Source: PRA Project Survey

Preparation: Macroconsult

4.9 Results for the Madre de Dios corridor

The Madre de Dios corridor is located in Peru's South East. It is the only corridor located entirely in the Selva, with areas in the high and low Selva. It limits with Cusco and Puno to the South; Ucayali and Brazil to the North; Cusco to the West; and Brazil and Bolivia to the East. The weather is tropical hot and humid, with rainfall from November to April. Annual rainfall exceeds 1,000 mm. Cold masses of air blow from the South East, driving temperatures down to 8°C. The average annual temperature is 26°C (maximum 38°C in August and September; minimum 8°C). The distance from Lima to Puerto Maldonado is 1,638 km. The more recommendable routes are: Lima-Arequipa-Cusco-Puerto Maldonado (42 hours, 2,024 km); and Lima-Nazca-Abancay-Cusco-Puerto Maldonado (43 hours, 1,619 km). There are flights from Lima (1½ hours) and Cusco (45 minutes). The intervention in the Madre de Dios corridor was financed by Odebrecht and USAID.[21]

According to public information provided by the Program, total sales by producers articulated by the PRA in the Madre de Dios corridor as of

[21]http://www.proyectopra.com/pra-negocios/centros-de-servicios-economicos/cse-madre-de-dios

September 2012 reach US$ 2,263,158, which translates into salaries amounting to US$ 40,185. As of the same date, PRA intervention materialized in investments equal to US$ 318,744, which translated into exports amounting to US$ 1, 028,561. In sum, 202 small producers were articulated in the Madre de Dios corridor. Combined with the figure for total sales, this indicates that total sales per producer in the corridor reach US$ 11,204. This information is summarized in Table 161.

Table 161: PRA Results, September 2012, Madre de Dios corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Madre de Dios	2,263,158	40,185	318,744	1,028,561	202	11,204

Source: PRA Project
Preparation: Macroconsult

Additionally, based on PRA information, the main goods produced in the Madre de Dios corridor are listed in Table 162:

Table 162: Products intervened by the PRA Project, Madre de Dios corridor

Madre de Dios Corridor	
Unpeeled chesnuts	Rubber sheets
Standing timber	Watermelons
Vegetable leather blankets	

Source: PRA Project
Preparation: Macroconsult

Table 163 shows the sample balance for the Madre de Dios corridor. According to PRA information, the 73 observations for treated households represent a universe of 85 households in the corridor. The 108 observations for the control households comply exactly with the ratio of 1.5 control households per treated household; i.e., the information gathering process fully complies with the quotas for treated and control households.

Table 163: Urban/rural distribution, Madre de Dios corridor

	Objectives	Controls
#. Observations	73	108
% Urban area	100%	100%
% Rural area	0%	0%

Source: PRA Project Survey
Preparation: Macroconsult

Table 164 shows the characteristics of household members for the beneficiary and controls households. Apart from the average number of household members, Table 164 presents other three groups of indicators: i) household structure, which groups the indicators associated with the composition of households; ii) demographic structure, which presents the age composition of households; and iii) characteristics of household heads.

The first indicator in the table indicates that there is statistical evidence to suggest that beneficiary households are smaller than control households (3.64 children vs. 4.24 children, respectively). However, there is no statistical significance to establish that the household structure differs between both kinds of households. Additionally, regarding the demographic structure, there are no significant differences between objectives and controls, except for the groups between 5 and 10 and over 65 years of age. In this regard, in the objective group there are fewer children (7% vs. 11%) and more adults (17% vs. 7%) than in the control group.

Table 164: Household socio-demographic characteristics, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.64	4.24	-0.60	(0.298)**
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.67	0.81	-0.14	(0.032)
Are there any children?	0.62	0.85	-0.23	(0.126)
Any other household members?	0.26	0.12	0.14	(0.079)
Demographic structure				
% under 5 years	6%	11%	-5%	(0.018)**
% over 5 and under 10 years	7%	11%	-5%	(0.020)**
% over 10 and under 20 years	16%	20%	-5%	(0.031)
% over 20 and under 30 years	17%	14%	3%	(0.038)
% over 30 and under 40 years	11%	13%	-2%	(0.029)
% over 40 and under 50 years	15%	11%	4%	(0.035)
% over 50 and under 60 years	9%	9%	0%	(0.029)
% over 60 and under 65 years	9%	9%	0%	(0.029)
% over 65 years	17%	7%	10%	(0.040)**
Characteristics of household head				
Average age	51	46	5	(2.445)**
% males	79%	88%	-9%	(0.057)
% migrants	25%	47%	-23%	(0.070)***
Civil status or partner	74%	81%	-8%	(0.064)
Education level				
No levela/	4%	6%	-1%	(0.032)
Primary education	51%	52%	-1%	(0.076)
Secondary education	26%	36%	-10%	(0.069)
Higher education	19%	6%	13%	(0.052)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

The previous table also shows information for household heads in each group surveyed. The first four indicators show that, both for the objectives and controls, most household heads are married or have a partner. However, there are statistically significant differences in the average age (51 years for the treated households vs. 46 years for the controls); and in the percentage of immigrant household heads (25% vs. 47%, respectively). Regarding the education level, objective household heads are similarly educated in both groups, even though the difference is statistically significant for higher education (objectives 19%; controls 6%).

Table 165 shows the housing characteristics for beneficiary and control households. Twelve indicators are organized in two categories: housing characteristics and home assets.

Table 165: General housing characteristics, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	16%	12%	4%	(0.054)
Average per capita rooms	0.95	0.65	0.30	(0.094)***
% access to property title	41%	28%	13%	(0.074)*
% invested in home	7%	18%	-11%	(0.047)**
% access to water b/	55%	62%	-7%	(0.075)
% access to sewage c/	30%	16%	14%	(0.064)**
% access to electricity d/	64%	83%	-19%	(0.067)***
% access to communications e/	60%	57%	3%	(0.075)
Home assets				
% Entertainment f/	84%	96%	-13%	(0.047)***
% Computer	19%	6%	14%	(0.051)***
% Housekeeping g/	64%	57%	7%	(0.074)
% Transportation h/	37%	42%	-5%	(0.074)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Housing characteristics are grouped in 8 indicators, in 5 of which there are statistically significant differences between treated and control households. Specifically, the study found significant differences for the average number of rooms per capita (treated 0.95; controls 0.65); the average number of households possessing a property title (41% vs. 28%, respectively); the percentage that invested in home improvements (7% vs. 18%), the percentage of households with access to sewage (30% vs. 16%); and the percentage of households with electric lighting (64% vs. 83%, respectively). Concerning the percentage of households inhabiting an adequate dwelling, and with access to water and communications, no significant differences were identified. The second part of the table shows the differences for ownership of certain important home assets. Out of four indicators calculated; i.e., ownership of entertainment appliances, computer, housekeeping, and transportation, it was possible to find statistically significant differences only for the first two.

Table 166 includes the percentages of access to social programs for beneficiary and control households. Four indicators for access to programs are shown: food, “Juntos”, education or health, and farming support programs.

Table 166: Access to Social Programs, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	30%	50%	-20%	(0.072)***
% access to the “Juntos” program	0%	5%	-5%	(0.020)**
% access to education or health programs	1%	2%	0%	(0.019)
% access to farming program	19%	0%	19%	(0.046)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Of the four indicators mentioned above, only access to education or health programs does not show a statistically significant difference between the treated and control groups. Among the indicators where significant differences can be identified, access to food programs can be highlighted: the rate of participation for the treated households is only 30%, compared with 50% for the controls.

Table 167 shows the distribution of objective and control households according to the economic activities they perform. It is a mainly agricultural corridor. Most households are dedicated to agriculture (objectives 77%; controls 81%). Additionally, the sample is balanced between both groups regarding the main activity in the corridor. However, in terms of leading products, standing timber predominates in beneficiaries’ sales. This may suggest that the balance in agriculture is not as important as in forestry.

Table 167: Distribution of Producer Households, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	77%	81%	-5%	(0.062)
% households dedicated to livestock farming	63%	55%	8%	(0.074)
% households dedicated to sub-livestock farming	36%	27%	9%	(0.071)
% households dedicated to forestry	5%	7%	-2%	(0.037)
% households dedicated to handicrafts	25%	4%	21%	(0.054)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The previous table is directly associated with Table 168, which shows the share of each activity in Gross Production Value (GPV). In line with the information discussed previously, the main fact to be considered regarding this information is the concentration of GPV in agriculture, both for treated and control individuals (85.4% and 60.2%, respectively). The fact that agricultural GPV is more than three-fifths the total value of treated households (compared with only 60.2% in the case of controls) makes the share of other activities somewhat disperse in this group. Total GPV for the controls is more diversified: more than one-fifth of their GPV comes from forestry.

Table 168: Distribution of Gross Production Value, Madre de Dios corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	85.40%	60.18%
Livestock farming		
Average GPV per producer	5.16%	16.63%
Sub-livestock farming		
Average GPB per producer	1.39%	2.29%
Forestry		
Average GPV per producer	1.9%	20.7%
Handicrafts		
Average GPV per producer	6%	0%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 169 shows four indicators of production volume by economic activity. Specifically, results are presented for average gross production value (GPV), total annual sales, total producer self-consumption, and percentage of GPV dedicated to sales.

Table 169: Production, Sales, and Self-Consumption by Economic Activity (nuevos soles), Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	11,891.2	4,098.9	7,792.2	(2104.590)***
Average total sales per producer	8,881.4	2,455.5	6,426.0	(1992.019)***
Average total self-consumption per producer	3,009.7	1,643.5	1,366.3	(575.934)**
% of sales in GPV	*75%*	*60%*		
Livestock farming				
Average GPV per producer	874.5	1,689.7	-815.2	(957.403)
Average total sales per producer	425.0	1,348.6	-923.6	(947.161)
Average total self-consumption per producer	449.5	341.1	108.4	(91.158)
% of sales in GPV	*49%*	*80%*		
Sub-livestock farming				
Average GPV per producer	416.9	472.4	-55.5	(131.012)
Average total sales per producer	24.2	102.8	-78.7	(93.973)
Average total self-consumption per producer	392.7	369.6	23.2	(88.246)
% of sales in GPV	*6%*	*22%*		
Forestry				
Average GPV per producer	3,718.8	15,533.0	-11,814.3	(8120.169)
Average total sales per producer	3,617.5	15,233.0	-11,615.5	(8185.179)
Average total self-consumption per producer	101.3	300.0	-198.8	(215.800)
% of sales in GPV	*97%*	*98%*		
Handicrafts				
Average GPV per producer	2,659.9	245.0	2,414.9	(765.511)***
Average total sales per producer	2,601.5	230.0	2,371.5	(726.203)***
Average total self-consumption per producer	58.4	15.0	43.4	(53.976)
% of sales in GPV	*98%*	*94%*		
Total				
Average GPV per producer	10,681.2	5,549.5	5,131.7	(1969.653)***
Average total sales per producer	7,929.3	3,902.0	4,027.3	(1817.104)**
Average total self-consumption per producer	2,751.9	1,647.5	1,104.5	(514.760)**
% of sales in GPV	*74%*	*70%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Analyzing by economic activity, only agriculture and handicrafts show statistically significant differences between the averages for treated and controlled households. In the case of agriculture, there are important differences in favor of the treated group. In this regard, the difference between the agricultural GPV of the treated and untreated households is S/. 7,792.2; the difference in sales is S/. 6,426; and the difference in self-consumption is S/. 1,366.3. The percentage dedicated to sales is also higher (treated 75%; controls 60%).

Handicraft production presents a similar situation: the averages for the treated households are considerably higher than those for the controls. However, it is important to note that, in this case, only two out of three differences are statistically significant (GPV and total sales).

The aggregate data in the last section of the table show that there are significant differences for GPV, sales, and total self-consumption between treated and control households. However, it is interesting to note that this average does not necessarily reflect the situation for all activities. For example, even though the differences are not statistically significant, the controls show higher dynamism in livestock and sub-livestock farming and forestry.

The higher average GPV for the beneficiaries can be explained by a greater willingness to start a business, or could be simply due to higher entrepreneurship. Table 170 shows six indicators that seek to reflect, although indirectly, the entrepreneurship capacities of both beneficiaries and controls. While only in two out of six indicators the differences are statistically significant, the treated individuals seem to be consistently more entrepreneurial that their control counterparties. This is particularly noticeable in the percentage of household heads that wish to start a new business (treated 82%; controls 63%).

Table 170: Entrepreneurship Indicators, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% w/ savings account	11%	8%	3%	(0.045)
Average search score a/	5.7	6.5	-0.7	(0.401)*
Average investment score b/	7.3	7.1	0.2	(0.372)
% owning a business	29%	26%	3%	(0.068)
% fearing business failure	42%	36%	6%	(0.074)
% willing to start a new business	82%	63%	19%	(0.065)***

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 171 shows information for household expenditure and poverty. Two figures are presented for expenditure, with and without extreme values. Correspondingly, two measures for poverty and the poverty gap are calculated. Even though the differences are not statistically significant, treated households show average expenditure calculations below those for the controls. In the case of poverty and the poverty gap there are statistically significant differences, where treated households are less poor than the controls for the two expenditure measures. However, for the poverty gap the unrestricted expenditure measure shows that the gap for treated households is greater than for the controls; while using the restricted expenditure measure the gap is greater for the controls than for treated households.

Table 171: Household Expenditure (monthly per capita S/.) and Poverty, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	351.9	394.3	-42.5	(45.061)
Restricted expenditure 1 b/	377.7	394.3	-16.6	(44.942)
Poverty				
Poverty rate a/	41.1%	44.4%	-3.3%	(0.075)*
Poverty rate 1 b/	36.8%	44.4%	-7.7%	(0.076)*
Poverty gap				
Poverty gap a/	20.5%	15.0%	5.5%	(0.041)**
Poverty gap 1 b/	14.7%	15.0%	-0.3%	(0.034)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Finally, Table 172 shows indicators associated with individuals' perceptions about their own poverty situation and living standards, as well as with the importance they give to social programs and other services for their subsistence. First, it is important to note that the percentage of persons that consider themselves poor in the control group (47%) is twice as large as for the treated group ((21%), while, in line with the information discussed previously, the percentage of the controls that do not perceive themselves as living well (45%) is higher than for the treated group (25%).

Table 172: Perceptions and Subjective Poverty Indicators, Madre de Dios corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	21%	47%	-27%	(0.068)***
% perceiving themselves as not living well	25%	45%	-21%	(0.070)***
Considering that … is/are very important for their welfare:				
Basic services	68%	69%	-1%	(0.141)
Better connections	54%	47%	7%	(0.132)
Roads in good state	28%	50%	-22%	(0.134)
Higher income	38%	72%	-35%	(0.117)
Market information	35%	19%	16%	(0.146)
Access to credit	0%	12%	-12%	(0.052)*
Technical assistance for production	14%	21%	-7%	(0.107)
Health and food social programs	27%	9%	18%	(0.114)
Education social programs	17%	0%	17%	(0.111)
Employment and incomes social programs	22%	3%	19%	(0.144)
Water, sewage, and lighting	43%	4%	39%	(0.112)
Roads, sidewalks, and cemented areas in their communities	0%	0%	0%	(0.000)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding the importance of services and programs, the treated and control groups show similar indicators. Clearly, there is a notion in both groups that access to basic services is a necessary condition for welfare. Regarding the other categories, it is worth noting that the only statistically significant difference is for access to credit. The latter's weight is 0% for the treated group, compared with 12% for the controls. The difference is counter-intuitive as, according to the information for entrepreneurship, households in the treated group are more willing to start a new business; although, at the same time, this result may be

explained by higher poverty rates in the treated group compared with the control group.

Finally, Table 173 shows the impact results for this corridor. As discussed previously, it is possible to identify a negative average impact on household expenditure. This result may be influenced by the dynamics created by illegal gold extraction[22] in the economy of Madre de Dios, which may cause a bias against the objective sample. Additionally, it is possible that the definition of beneficiary used in this context may be somewhat inappropriate and may result in a contamination of the control sample. It is necessary to consider that the definition of beneficiary refers only to articulated producers and not to workers involved (those who work with client firms or in producers' plots). In this corridor, only 8 out of 20 clients have consigned beneficiaries; the other 12 are forestry firms that do not buy to third parties and tend to produce their own output. Additionally, it is possible that the precision of the indicators may have been affected by the small number of observations in the corridor's beneficiary universe. These hypotheses seem to be reasonable in the light of the baseline indicators discussed, which do not suggest systematic differences in household expenditure.

Table 173: Impact indicators, Madre de Dios corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	-0.35975***	0.08699	-0.02617
	(0.11163)	*(0.09664)*	*(0.10306)*
Urban	n.a.	n.a.	n.a.
Rural	n.a.	n.a.	n.a.
Male	-0.32455***	0.04243	-0.06367
	(0.11940)	*(0.09910)*	*(0.10564)*
Female	-0.55665***	0.39290**	0.23124
	(0.12628)	*(0.17722)*	*(0.17958)*

Source: PRA Project Survey

Preparation: Macroconsult

[22] Around 30% of both samples (objectives and controls) are from districts with a high incidence of informal mining activities: Huepetue, Inambari, and Laberinto for the controls; and Tambopata for the beneficiaries.

4.10 Results for the Puno corridor

The Puno corridor is located on the Collao plateau, 1,324 km South East of Lima, at 4,000 meters above sea level. It limits to the North with Madre de Dios; to the East with Bolivia; to the South with Tacna; and to the West with Moquegua, Arequipa, and Cusco. Puno is a vast plain covered with pasture or scrub, with rivers, lakes, and snow-capped mountains. The maximum temperature in the region ranges between 14ºC and 22°C. In the capital the temperature is 15º-22º during the summer and 5º-16º during the winter. In sum, the Puno corridor enjoys one of the warmest climates in the region because of a thermal effect created by Lake Titicaca (heat is absorbed during the day and released at night).

Arequipa, Moquegua, and Cusco are Puno's main links. The ride via highway from Lima lasts 17 hours and includes a stop in Arequipa. There is also a tourist railway service to Cusco city. Additionally, the Puno corridor is connected via highway with Bolivia. The Inter-Ocean Highway linking Peru's Pacific Coast with Brazil's Atlantic Coast passes through this area. International Airport Inca Manco Cápac, located in the city of Juliaca (one hour from Puno city), receives flights from Lima, Cusco, and Arequipa. The flight from Lima's Jorge Chávez International Airport is 1 hour and 45 minutes. ESC Puno is financed by an alliance between Minsur and USAID, following the signature of an agreement in January 2010.

Table 174 shows that net sales in the Puno corridor exceeded 8 million dollars and were carried out by 2,048 small producers in the area (3,399 dollars on average). In turn, these sales generate 516,050 working days in the most important economic activities in the area (trout farming in lakes or rivers; color and white quinoa; sub-livestock farming products such as cheese and other dairy products; sheep wool; categorized alpaca fiber; and organic coffee).

Table 174: PRA Results, September 2012, Puno corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Puno	8,184,356	516,050	125,903	6,584,497	2,408	3,399

In order to calculate the indicators for the Puno corridor, information was gathered from 912 households (objective groups 364; control group 548, complying with the rule of 1.5 controls per beneficiary). Table 175 shows a fairly balanced urban/rural distribution between objectives and controls.

Table 175: Urban/rural distribution, Puno corridor

	Objectives	Controls
Sample balance		
# observations	364	548
% Urban area	54%	43%
% Rural area	46%	57%

Source: PRA Project Survey
Preparation: Macroconsult

The indicators for household composition are similar between both groups. All households in the sample have only one head recognized by all its members and in charge of making important decisions. On average, household heads are in charge of 4.02 persons in the treated group and 3.87 persons in the control group. Table 176 shows that the probability for the existence of a spouse is 0.82 in the treated group and 0.80 in the control group, implying that one parent is absent, possibly due to abandonment or death, among other causes. The number of children suggests a significant difference: the probability of there being children is 0.77 in the treated group, 0.05 more than for their counterparts. Finally, it should be noted that there are few households hosting other family members.

The age classification of the population makes it possible to construct a population pyramid for the Puno corridor. Specifically, in both groups the percentage of children under 5 years of age is low, with a 0.01 difference at a significance level of 10%. It can be argued that in previous years apparently the birth rate was low, and that the population has aged, as more than 20% of the population is over 60 years of age. This in turn may increase the mortality rate over the next years. In particular, the population over 65 years of age is 6% higher in the control group. Additionally, there is a considerable concentration in both groups for the segment aged 10-20 years. In the objective group this

segment represents 21% of the observations, compared with 17% in the control group. The difference is statistically significant.

Table 176: Household socio-demographic characteristics, Puno corridor

	Objectives [A]	Controls [B]	Difference A-B]	St. Dev.1/
Average # of household members	4.02	3.87	0.15	(0.129)
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.000)
Is there a spouse?	0.82	0.80	0.02	(0.026)
Are there any children?	0.77	0.72	0.05	(0.113)*
Any other household members?	0.12	0.16	-0.06	(0.043)
Demographic structure				
% under 5 years	6%	7%	-1%	(0.008)*
% over 5 and under 10 years	8%	9%	-1%	(0.009)
% over 10 and under 20 years	21%	17%	4%	(0.014)***
% over 20 and under 30 years	14%	13%	2%	(0.015)
% over 30 and under 40 years	11%	11%	0%	(0.013)
% over 40 and under 50 years	13%	8%	5%	(0.012)***
% over 50 and under 60 years	11%	12%	0%	(0.015)
% over 60 and under 65 years	11%	12%	0%	(0.015)
% over 65 years	11%	17%	-6%	(0.020)***
Characteristics of household head				
Average age	48.11	50.53	-2.43	(0.991)**
% males	86%	81%	5%	(0.025)**
% migrants	14%	5%	9%	(0.020)***
Civil status or partner	82%	80%	2%	(0.026)
Education level				
No levela/	4%	12%	-8%	(0.018)***
Primary education	47%	46%	1%	(0.034)
Secondary education	37%	37%	0%	(0.033)
Higher education	12%	6%	6%	(0.020)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey

Household heads in both groups are around 50 years old on average and most of them are male (treated group 86%; control group 81%). Additionally, the number of household heads residing in their places of birth is greater for the treated group (14% of observations, compared with 5% in the control group). Finally, most household heads only have primary studies; and it is even more relevant that in both groups the share that did not have access to any education is very low. This is probably associated with a low literacy rate in the area. The

difference is significant for higher education and for those lacking an education, reflecting that the education level is higher for the treated group.

The analysis of the infrastructure owned by households is important to assess the living conditions of the population, as it reflects the context in which daily activities are performed. Table 177 shows that no more than 5% of households can be considered adequate. There is no significant evidence to suggest that there are differences regarding adequate housing: 5% of homes the control group comply with the minimum requirements to be classified as adequate, 1% higher than for the objective group. Additionally, the difference is not statistically significant for the number of per capita rooms in both groups.

Table 177: General housing characteristics, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	4%	5%	-1%	(0.014)
Average per capita rooms	0.79	0.74	0.05	(0.042)
% access to property title	55%	48%	7%	(0.034)*
% invested in home	7%	3%	3%	(0.015)**
% access to water b/	46%	43%	3%	(0.034)
% access to sewage c/	19%	17%	2%	(0.026)
% access to electricity d/	50%	80%	-31%	(0.031)***
% access to communications e/	56%	52%	4%	(0.034)
Home assets				
% Entertainment f/	99%	95%	4%	(0.011)***
% Computer	7%	3%	4%	(0.015)***
% Housekeeping g/	51%	36%	15%	(0.033)***
% Transportation h/	57%	53%	4%	(0.034)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Members of the treated group value their homes more, reflected in the fact that a larger number of persons dedicate a part of their income to investing in home improvements. Indeed, 7% of objective group members declare having invested in their homes, 3% more than in the objective group. The evidence also shows

that around 55% of the treated group members have access to a property title, compared with 48% in the control group.

The comparison between groups regarding access to basic services reflects that there is a significant difference only for access to electricity (30% more control households). Regarding water, sewage and telecommunications services, the differences are 3%, 2%, and 4%, respectively, always favorable to the treated groups.

The indicators for ownership of home assets reflect a great dispersion between both groups. Most households in the objective group own entertainment assets such as radio, television, or DVD system. The situation is similar in the control group (although 4% lower). In contrast, more than half of the persons within the objective group own housekeeping appliances, compared with only 36% of the people who do not have access to the PRA. Additionally, few households own a computer in both groups (treated group 7%; control group 3%).

Table 178: Access to Social Programs, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social programs				
% access to food programs	37%	42%	-5%	(0.033)
% access to the "Juntos" program	19%	5%	14%	(0.023)***
% access to education or health programs	3%	14%	-10%	(0.017)***
% access to farming support programs	3%	0%	3%	(0.000)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 178 summarizes the information for access to social programs. Participation is higher for food programs (objective group 37%; control group 42%). Participation in the "Juntos" program is low for the control group, in contrast with the treated group (a statistically significant difference of 14%). On the contrary, participation in education and health programs is 10% higher in the control group.

Table 179 shows the distribution of households by economic activity in the Puno corridor. Most households are dedicated to livestock farming (objectives 86%;

controls 89%). The share of households dedicated to sub-livestock farming is higher for the beneficiary population (78%, compared with 59% of control households. It may be suggested that PRA beneficiaries have reinforced livestock production by generating higher value added products (cheese, wool). Additionally, the differences for the other economic activities have not been as controlled as for livestock and sub-livestock farming. The latter are more associated with products sold by beneficiary producers (categorized alpaca, cheese, and sheep wool).

Table 179: Distribution of Producer Households, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	56%	93%	-37%	(0.028)***
% households dedicated to livestock farming	86%	89%	-3%	(0.022)
% households dedicated to sub-livestock farming	78%	59%	19%	(0.030)***
% households dedicated to forestry	0%	0%	0%	(0.002)
% households dedicated to handicrafts	6%	7%	-1%	(0.017)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 180 shows the distribution of households by economic activity. Livestock farming absorbs most of the production in both groups, especially the objectives (70.9% of total production). In the case of controls, production seems to be more evenly distributed by activity.

Table 180: Distribution of Gross Production Value, Puno corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	17.72%	34.74%
Livestock farming		
Average GPV per producer	70.86%	35.12%
Sub-livestock farming		
Average GPB per producer	11.05%	23.39%
Forestry		
Average GPV per producer	0.0%	0.1%
Handicrafts		
Average GPV per producer	0%	7%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

The previous table shows that, within the objective group, livestock farming has the highest gross production value. Table 180 shows that total average sales per producer represent 93% of average GPV. Therefore, it can be established that most of the results obtained for livestock farming are dedicated to commerce, while the rest is reserved for self-consumption. This pattern of behavior is similar in both groups.

Agricultural gross production value is higher for the objective group by S/. 2,181. Even more noticeable is the difference in the behavior of both groups. There is a greater tendency within the treated group to sell most of the GPV: average sales represent 67% of GPV, compared with only 12% in the control group. In consequence, households in the latter group use a considerable portion of harvests to supply themselves. The table confirms this: self-consumption amounts to S/. 1,871 (more than two-thirds of agricultural GPV).

Another significant difference in favor of the objectives comes from average livestock GPV (five times the average for the controls). The objectives do not perform forestry activities, in contrast with sub-livestock farming, where average GPV per producer is S/. 1,927 and 86% is dedicated to sales in the objective group (87% in the control group).

Handicrafts production is significantly higher for the control group (close to S/. 5,200, compared with under S/. 1,000 in the objective group). Additionally, handicrafts are almost entirely dedicated to sales, which is consistent with the fact that ornaments and handicrafts are main tourist attractions.

In general, it can be established that not only the gross production value is much higher for the objective group, but also the average value of total sales per producer. Therefore, there are indications that commercial activities are more significant in the objective group. The difference between both groups is statistically significant.

Table 181: Gross Production Value, Sales, and Self-Consumption by Economic Activity (nuevos soles), Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	4,309.0	2,127.7	2,181.3	(422.812)***
Average total sales per producer	2,874.2	256.6	2,617.7	(350.862)***
Average total self-consumption per producer	1,434.8	1,871.1	-436.3	(265.756)
% of sales in GPV	67%	12%		
Livestock farming				
Average GPV per producer	11,248.6	2,247.5	9,001.1	(3729.254)**
Average total sales per producer	10,481.4	1,923.8	8,557.6	(3714.756)**
Average total self-consumption per producer	767.2	323.7	443.5	(55.764)***
% of sales in GPV	93%	86%		
Sub-livestock farming				
Average GPV per producer	1,927.4	2,263.1	-335.7	(986.736)
Average total sales per producer	1,657.3	1,974.8	-317.6	(970.330)
Average total self-consumption per producer	270.1	288.3	-18.1	(61.597)
% of sales in GPV	86%	87%		
Forestry				
Average GPV per producer	-	2,400.0		
Average total sales per producer	-	0.0		
Average total self-consumption per producer	-	2,400.0		
% of sales in GPV	-	0%		
Handicrafts				
Average GPV per producer	853.3	5,226.1	-4,372.7	(786.149)***
Average total sales per producer	749.5	5,153.5	-4,403.9	(789.917)***
Average total self-consumption per producer	103.8	72.6	31.2	(41.857)
% of sales in GPV	88%	99%		
Total				
Average GPV per producer	13,676.7	5,721.4	7,955.2	(3268.960)**
Average total sales per producer	11,990.8	3,503.7	8,487.1	(3249.436)***
Average total self-consumption per producer	1,685.8	2,217.7	-531.9	(217.553)**
% of sales in GPV	88%	61%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 182 shows the entrepreneurship indicators. First, the low percentage of observations for ownership of a savings account in both groups (higher for the objectives by 4%) may reflect a low confidence in trusting deposits to a banking entity. On the contrary, the low index of persons owning a business may suggest that they have access to micro-credits provided by banking entities or savings banks. Regarding entrepreneurship proper, scores fluctuate around a value of 5. In particular, the average score for business opportunity search is 4.5 for the objectives and 3.4 for the controls. In contrast, the average score for willingness to invest in a business is 6 for the treated group and 4.9 for their counterparts. The differences in both categories are statistically significant.

Table 182: Entrepreneurship Indicators, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	5%	1%	4%	(0.013)***
Average search score a/	4.5	3.4	1.1	(0.180)***
Average investment score b/	6.0	4.9	1.0	(0.194)***
% owning a business	27%	16%	11%	(0.028)***
% fearing business failure	52%	57%	-4%	(0.034)
% willing to start a new business	67%	62%	5%	(0.032)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Two methods were used to analyze household expenditure. First, uncensored data were used. The average expenditure calculated this way is higher by S/. 50.92 for the objective group (which is to be expected, as objective households have higher monthly incomes, and therefore can finance a better lifestyle). Moreover, the poverty rate is higher in the first group (first two columns of Table 183), and the poverty gap is also lower. These are the only two differences at the statistical level, and therefore it is possible to establish that indeed there are differences between both groups.

Table 183: Household Expenditure (monthly per capita S/.) and Poverty, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	426.5	375.5	50.92	(91.381)
Restricted expenditure 1 b/	297.7	212.6	85.10	(13.688)***
Poverty				
Poverty rate a/	48.6%	68.4%	-20%	(0.033)**
Restricted poverty rate 1 b/	49.1%	68.3%	-19%	(0.034)**
Poverty gap				
Poverty gap a/	41.7%	42.2%	0%	(0.020)**
Restricted poverty gap 1 b/	38.4%	38.5%	0%	(0.019)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 184: Perceptions and Subjective Poverty Indicators, Puno corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	36%	59%	-23%	(0.033)***
% perceiving themselves as not living well	42%	63%	-20%	(0.033)***
Considering that … is/are very important for their welfare:				
Basic services	42%	43%	-1%	(0.080)*
Better connections	37%	32%	5%	(0.058)*
Roads in good state	49%	50%	-1%	(0.050)**
Higher income	51%	45%	5%	(0.049)**
Market information	23%	20%	3%	(0.064)*
Access to credit	21%	29%	-7%	(0.065)*
Technical assistance for production	22%	22%	0%	(0.052)*
Health and food social programs	14%	21%	-7%	(0.051)*
Education social programs	18%	6%	11%	(0.104)
Employment and incomes social programs	23%	26%	-3%	(0.066)*
Water, sewage, and lighting	23%	35%	-13%	(0.060)*
Roads, sidewalks, and cemented areas in their communities	7%	22%	-14%	(0.097)*

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The second method consists of eliminating ENAHO's maximum and minimum values. The only item that remained unchanged was the poverty rate. As for the rest, the size of the sample is reduced by the restriction, resulting in a higher intra-group difference. In contrast, the poverty gap did not change, and actually preserved the significance level of the previous measure.

Table **184** shows the perceptions. All variations are significant, except for the access to education programs. Regarding lifestyle, the percentage is higher for members of the control group, compared with the objective group, that perceive themselves as poor or not living well. A comparison between this information and the one provided previously shows differences between subjective and monetary poverty. Specifically, there is a certain affinity in the data, such that the index for those who perceive themselves as poor is quite close to the real one. Indeed, the divergence between these two kinds of poverty is lower when we consider the percentage of persons who perceive themselves as not living well. Additionally, in both groups a majority considers higher incomes and access to roads as a priority for welfare. Both are somewhat correlated, as roads in good state lead to increased intra-region commerce, resulting in higher salaries within the Puno corridor. The one with the least relevance within the objective group is the creation of roads, sidewalks, and cemented areas in the community (7% of those surveyed), compared with access to education programs in the control group.

Table 185 shows the impact indicators for the Puno corridor. There is statistical evidence to establish that there is a considerable impact on household income, the monetary poverty rate, and the subjective poverty rate. As mentioned previously, this is one of the corridors where generalized PRA impacts have been identified for almost all population subgroups. In the corridor as a whole there is a 35 percentage point increase in household income among objectives and controls. This indicator shows that the impact concentrates on household subgroups residing in urban areas (54%) and male household heads (36%). Additionally, significant 17 and 13 percent point reductions have been found for the poverty rate and subjective poverty, respectively. Again, the portfolio of

products in this corridor (organic coffee, watermelon, quinoa) suggest that impacts have shorter maturing periods.

Table 185: Impact indicators, Puno corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.35639***	-0.17965***	-0.13522**
	(0.08082)	*(0.05333)*	*(0.05526)*
Urban	0.54104***	-0.24627***	-0.1165*
	(0.10910)	*(0.06105)*	*(0.06418)*
Rural	0.27290***	-0.14649**	-0.14453**
	(0.08814)	*(0.06107)*	*(0.06336)*
Male	0.36463***	-0.19094***	-0.14682***
	(0.08454)	*(0.05516)*	*(0.05726)*
Female	0.30119**	-0.10215	-0.05563
	(0.15163)	*(0.10000)*	*(0.09732)*

Source: PRA Project Survey

Preparation: Macroconsult

4.11 Results for the Sierra Norte de Lima corridor

The Sierra Norte de Lima corridor encompasses samples from Lima and Pasco generating over 7 million dollars in sales thanks to the activities performed by 956 small producers, with average net sales amounting to 7,962 dollars. Additionally, exports of conventional avocado, native potatoes, peaches, black-eyed beans, sheep wool, and handicrafts, among other products, generate 5.7 million dollars. Investments reach 648,209 dollars. This activity generates 243,249 working days (Table 186)[23].

Table 186: PRA Results, September 2012, Sierra Norte de Lima corridor

Corridor	Net Sales (US$)	Employment (Working Days)	Investments (US$)	Exports (US$)	Small producers	Net sales / # producers
Sierra Norte de Lima	7,611,324	243,249	648,209	5,710,943	956	7,962

Source: PRA Project

Preparation: Macroconsult

[23] http://www.proyectopra.com/es/pra-negocios/centros-de-servicios-economicos/cse-sierra-norte-de-lima-huanuco

The sample for the Sierra Norte de Lima corridor was made up of 806 observations distributed between the control and objective groups. Table 187 shows a certain imbalance between the samples, as the control group seems to be more biased towards the rural area. This fact must be taken into consideration when assessing the results.

Table 187: Urban/rural distribution, Sierra Norte de Lima corredor

	Objectives	Controls Z
#. Observations	342	464
% Urban area	51%	32%
% Rural area	49%	68%

Source: PRA Project Survey
Preparation: Macroconsult

Table 188 suggests that there is little variation between groups for the indicators calculated. Even though many of the calculated averages are not comparable due to the dispersion of the observations, it should be noted that families in the control group have more members than in the objective group. In particular, the 0.33 gap is significant. However, within the household structure, the probability of identifying a household head is the same between objectives and controls; and the probability is 0.8 of finding a spouse; and close to 0.7 of finding at least one child. The only significant difference is the probability of finding a different household member (controls 0.3; objectives 0.19).

In general, the demographic structure is fairly comparable between beneficiary and control households: the only significant difference is for the age group between 30-40 years, with a confidence level of 1%. In general, in both beneficiary households and their control counterparts the majority concentrates in people 40 years of age or older. On the other extreme, both groups show a low number of members less than 10 years of age.

Most household heads are male (90.5% on average) in both the objective and control group; their average ages are similar (52 years); and more than half live with a partner (82%). Strictly speaking, there is a significant difference in the migratory status of household heads: while the migratory level is low in both cases, there are more household heads in the control group (30%) who reside

in a province different from the one where they were born than in the beneficiary group (11%). Education levels are similar in both groups: many of them finished school and few have higher education. However, there is statistical evidence of a difference for the primary and higher levels: objective household heads have slightly higher levels (secondary 46%; higher 10%) than control household heads (39% and 3%, respectively).

Table 188: Household socio-demographic characteristics, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.73	4.06	-0.33	(0.133)**
Family structure (probability)				
Is there a household head?	1.00	1.00	0.00	(0.001)
Is there a spouse?	0.81	0.82	0.00	(0.028)
Are there any children?	0.69	0.76	-0.14	(0.110)
Any other household members?	0.19	0.30	-0.20	(0.075)***
Demographic structure				
% under 5 years	6%	5%	1%	(0.008)
% over 5 and under 10 years	8%	7%	1%	(0.009)
% over 10 and under 20 years	15%	15%	0%	(0.014)
% over 20 and under 30 years	11%	13%	-2%	(0.014)
% over 30 and under 40 years	10%	12%	-3%	(0.013)*
% over 40 and under 50 years	14%	14%	0%	(0.016)
% over 50 and under 60 years	13%	15%	-1%	(0.018)
% over 60 and under 65 years	13%	15%	-1%	(0.018)
% over 65 years	17%	14%	4%	(0.022)
Characteristics of household head				
Average age	52	53	-1	(1.074)
% males	91%	90%	1%	(0.021)
% migrants	11%	30%	-20%	(0.028)***
Civil status or partner	83%	82%	0%	(0.028)
Education level				
No level a/	2%	5%	-2%	(0.013)
Primary education	42%	53%	-11%	(0.036)***
Secondary education	46%	39%	7%	(0.036)*
Higher education	10%	3%	6%	(0.018)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

Table 189 shows the physical characteristics of homes. Many homes in both the beneficiary and control groups are not furnished with an appropriate infrastructure. Adequate homes are few, but even more so in the beneficiary than in the control group (7% vs. 34%). However, differences are not significant,

and therefore it is possible to establish that there are similar characteristics in the average number of rooms per capita, home investments, and access to water and electricity. Additionally, there are significant differences for property titles and access to sewage and communications, which are higher for the controls than for the beneficiaries.

Regarding home assets, almost the entire population (beneficiaries and controls) owns some entertainment appliance, such as ratio, TV, or DVD (95% and 96%, respectively), but very few own a computer (5% y 6%, respectively). However, ownership of home keeping appliances and transportation means is higher for the controls (81% and 42%, respectively) than for the beneficiaries (52% and 26%, respectively).

Table 189: General housing characteristics, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	7%	34%	-27%	(0.027)***
Average per capita rooms	0.92	0.88	0.04	(0.055)
% access to property title	14%	25%	-10%	(0.029)***
% invested in home	8%	6%	2%	(0.019)
% access to water b/	67%	71%	-4%	(0.033)
% access to sewage c/	21%	44%	-23%	(0.033)***
% access to electricity d/	71%	72%	-1%	(0.031)
% access to communications e/	62%	69%	-6%	(0.035)*
Home assets				
% Entertainment f/	95%	96%	-2%	(0.015)
% Computer	5%	6%	-1%	(0.017)
% Housekeeping g/	52%	81%	-29%	(0.033)***
% Transportation h/	26%	42%	-15%	(0.034)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Regarding social programs, most of the population has access to government food programs. According to information for the corridor as a whole (Table 190), there are systematic differences in the access to social programs between beneficiaries and controls. While 40% of the objective group participates in

them, the same holds for 33% of the control group. Participation in the "Juntos" program also differs significantly between the two reference groups; and the difference is even greater regarding access to health programs. Additionally, while participation in programs for farmers is absorbed entirely by the objective group, the 17% difference is not significant.

Table 190: Access to Social Programs, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference[A-B]	St. Dev.1/
Social Programs				
% access to food programs	40%	33%	8%	(0.034)**
% access to the "Juntos" program	10%	5%	5%	(0.021)**
% access to education or health programs	15%	6%	9%	(0.023)***
% access to farming program	17%	0%	17%	(0.000)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 191 shows the distribution of production for the corridor. In both cases, most households are dedicated to agriculture, but with significant evidence that there are differences between groups: 86% of objective households are dedicated to this activity, compared with 97% in the control group. Indeed, the predominance of agriculture is linked to the kinds of products and the agricultural surface that characterize beneficiary households, and which were taken into consideration when selecting the control households.

Table 191: Distribution of Producer Households, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
% households dedicated to agriculture	86%	97%	-11%	(0.016)***
% households dedicated to livestock farming	82%	58%	23%	(0.032)***
% households dedicated to sub-livestock farming	40%	10%	30%	(0.030)***
% households dedicated to forestry	7%	7%	-1%	(0.017)
% households dedicated to handicrafts	4%	1%	3%	(0.011)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The results show that the participation of agriculture in total production is high (Table **192**). The objective group generates 73.14% of production, compared with 92.31% in the control group. The share of livestock farming is much lower in both groups (objectives 12.68%; controls 3.37%). Finally, within the objective

group sub-livestock farming represents 11,51% and forestry 2.4%, compared with 1.64% and 2.6%, respectively, in the control group.

Table 192: Distribution of Gross Production Value, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	73.14%	92.31%
Livestock farming		
Average GPV per producer	12.68%	3.37%
Sub-livestock farming		
Average GPB per producer	11.51%	1.64%
Forestry		
Average GPV per producer	2.4%	2.6%
Handicrafts		
Average GPV per producer	0%	0%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 193 presents information on production, sales, and self-consumption by economic activity for the corridor as a whole. These figures reveal considerable differences between the treated and control groups. Quantitatively, agriculture clearly contributes with the highest gross production value in all regions. At the same time, this activity generates a greater GPV in the control group (a S/. 9,385 difference). A significant portion of harvests is dedicated to sales, and therefore agriculture is relevant for the composition of revenues from production. In contrast, self-consumption represents a low share of GPV, and the S/. 61.1 difference in favor of the objective group is not statistically significant.

Livestock farming generates a higher GPV per producer within the objective group. The figures reveal that in this group the value generated is S/. 3,232, compared with S/. 1,643 in the counterparty group. Out of these values, 83% and 81% respectively are dedicated to sales, and the S/. 1,336 gap between them is not significant. Regarding sub-livestock farming, the objective and control groups dedicate 17% and 15% to self-consumption, respectively; while

within handicrafts production sales represent 97% of gross production value in the treated group, compared with less than 60% in the control group. In these activities, a high portion of gross production value is dedicated to sales, but the contrary is true for the remaining activities. Forestry, the activity with the second most important participation in GPV in both groups, dedicates only 21% y 25% of gross value to sales in the objective and control groups, respectively.

Table 193: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	17,753.8	27,139.4	-9,385.7	(3374.151)***
Average total sales per producer	16,507.4	25,954.2	-9,446.8	(3282.415)***
Average total self-consumption per producer	1,246.3	1,185.2	61.1	(745.128)
% of sales in GPV	*93%*	*96%*		
Livestock farming				
Average GPV per producer	3,232.5	1,643.8	1,588.6	(912.640)*
Average total sales per producer	2,669.7	1,333.2	1,336.5	(901.986)
Average total self-consumption per producer	562.8	310.6	252.2	(57.643)***
% of sales in GPV	*83%*	*81%*		
Sub-livestock farming				
Average GPV per producer	5,966.9	4,701.9	1,265.0	(2248.275)
Average total sales per producer	4,966.1	4,000.0	966.1	(2186.746)
Average total self-consumption per producer	1,000.8	701.9	298.9	(426.262)
% of sales in GPV	*83%*	*85%*		
Forestry				
Average GPV per producer	7,591.2	10,160.6	-2,569.4	(3507.314)
Average total sales per producer	1,626.9	2,511.6	-884.7	(1511.658)
Average total self-consumption per producer	5,964.3	7,649.0	-1,684.7	(2903.618)
% of sales in GPV	*21%*	*25%*		
Handicrafts				
Average GPV per producer	1,321.6	1,354.5	-32.9	(930.217)
Average total sales per producer	1,276.2	779.0	497.2	(554.759)
Average total self-consumption per producer	45.4	575.5	-530.1	(449.325)
% of sales in GPV	*97%*	*58%*		
Total				
Average GPV per producer	20,824.8	28,351.2	-7,526.5	(3252.988)**
Average total sales per producer	18,492.4	26,382.9	-7,890.5	(3162.264)**
Average total self-consumption per producer	2,332.4	1,968.3	364.1	(748.679)
% of sales in GPV	*89%*	*93%*		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Entrepreneurship indicators indicate the surveyed households' proclivity to seek business opportunities and/or their entrepreneurship characteristics. Table 194 shows that the average score for investment (on a scale from 1 to 10) is 6.9 and 6.6 for the objective and control groups, respectively. In contrast, the 0.6 difference for the search score is significant at a 1% confidence level. At the same time, there are other similarities between objectives and controls. For example, 8% of both samples own a savings account; and close to one-fifth in each group own a business (22% and 25%, respectively). Additionally, many persons consider themselves prone to failure (50% and 55 %, respectively); but there is also a high number of persons who consider the possibility of starting a business.

Table 194: Entrepreneurship Indicators, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	8%	8%	0%	(0.020)
Average search score a/	6.3	5.7	0.6	(0.213)***
Average investment score b/	6.9	6.6	0.4	(0.204)*
% owning a business	22%	25%	-3%	(0.031)
% fearing business failure	50%	55%	-6%	(0.037)
% willing to start a new business	83%	79%	3%	(0.029)

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Table 195 shows the results for household expenditure in the corridor as a whole. The unrestricted analysis shows that objective households have an average expenditure of S/. 786.7, compared with S/. 610 for the control group. Close to 36% of observations in the objective group are considered poor, 1% above the poverty rate for the control group, and the difference is significant. The poverty gap in the objective group shows that average household expenditure differs 11.9% from the poverty line, compared with 11.2% for the control group, and the difference is significant. Thus, poverty is deeper in the treated group. The elimination of ENAHO's extreme values, which reduces the dispersion of the data, provides a better adjustment for total average

expenditures. In contrast with the unrestricted calculations, the restricted indicators yield a significant difference. Poverty indicators vary slightly, without eliminating the significance of the differences.

Table 195: Household Expenditure (monthly per capita S/.) and Poverty, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	786.7	610.8	175.94	(164.756)
Restricted expenditure 1 b/	394.8	322.7	72.11	(20.070)***
Poverty				
Poverty rate a/	36.2%	35.2%	1%	(0.035)**
Restricted poverty rate 1 b/	38.4%	35.9%	2%	(0.036)**
Poverty gap				
Poverty gap a/	33.0%	31.8%	1%	(0.024)**
Restricted poverty gap 1 b/	32.1%	31.5%	1%	(0.023)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Table 196 shows perception indicators for the corridor. Poverty perceptions do not differ significantly between groups (just 1%). However, in general, around one-fourth of the population does not feel an improvement in living conditions and feel they continue to be poor. While these percentages are relatively considerable, they do not come close to the poverty values. That is, not all the poor consider themselves as such, perhaps because of improving living conditions that they regard as sufficient not to be classified any more as poor. At the same time, the population regards basic services and greater connections as indispensable tools for welfare. Additionally, the control group gives great importance to the creation of roads and to higher incomes. They give the least importance to employment and incomes social programs.

Table 196: Perceptions and Subjective Poverty Indicators, Sierra Norte de Lima corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	27%	28%	-1%	(0.033)
% perceiving themselves as not living well	25%	26%	-1%	(0.032)
Considering that … is/are very important for their welfare:				
Basic services	51%	49%	2%	(0.076)*
Better connections	51%	45%	6%	(0.050)**
Roads in good state	35%	43%	-7%	(0.061)*
Higher income	30%	42%	-13%	(0.073)*
Market information	28%	25%	3%	(0.051)*
Access to credit	16%	28%	-11%	(0.075)*
Technical assistance for production	22%	21%	0%	(0.043)**
Health and food social programs	24%	19%	4%	(0.075)*
Education social programs	23%	23%	-1%	(0.123)
Employment and incomes social programs	7%	13%	-6%	(0.081)*
Water, sewage, and lighting	31%	37%	-6%	(0.080)*
Roads, sidewalks, and cemented areas in their communities	25%	30%	-4%	(0.132)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Source: PRA Project Survey

Preparation: Macroconsult

Table 197: Impact indicators, Sierra Norte de Lima corridor

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.05609	0.01529	-0.08343
	(0.07549)	*(0.05766)*	*(0.06062)*
Urban	0.18712**	-0.02229	-0.04390
	(0.09006)	*(0.06076)*	*(0.06588)*
Rural	-0.00363	0.03400	-0.10310
	(0.08235)	*(0.06556)*	*(0.06732)*
Male	0.08709	-0.00533	-0.10868*
	(0.07881)	*(0.05793)*	*(0.06144)*
Female	-0.13409	0.15683	0.08992
	(0.13585)	*(0.12936)*	*(0.13037)*

Source: PRA Project Survey

Preparation: Macroconsult

Finally, Table 197 shows the impact indicators. No impacts on the mean for the beneficiaries are identified in the corridor as a whole. However, there are significant differences between objectives and controls in the case of household expenditure in urban areas. Additionally, there seems to be a lower sensation of

poverty in households led by males. This may suggest that, even though the mean in this corridor does not show impacts for these subgroups (urban and male), certain changes might be taking place in terms of living standards.

Results for the Sierra Lima-Buenaventura corridor

The study assesses the baseline indicators for the Sierra Lima–Buenaventura stratum. The urban/rural distribution of the stratum (Table 198) reveals a strong predominance of rural areas in the sample; and shows an adequate balance for rural residents in the objective and control groups (100% vs. 95%, respectively).

Table 198: Urban/rural distribution, Sierra Lima-Buenaventura stratum

	Objectives	Controls
#. Observations	74	118
% Urban area	0%	5%
% Rural area	100%	95%

Source: PRA Project Survey
Preparation: Macroconsult

Table 199 shows that the household structure and the age composition are fairly homogeneous between the beneficiary and control groups. Except for the percentage for other household members, there is no significant evidence of important differences between both groups. The probability is close to 1 for the presence of a household head in both beneficiary and control households; 0.8 for the presence of a spouse; and 0.8 for the presence of at least one child. Regarding age composition, the population is fairly young, concentrating in the group between 10 and 30 years of age and between 40 the 65 years of age. Additionally, there are similarities between both groups for the characteristics of household heads: most of them are male (87%), around 48 years old, and with a low migration rate (under 10%). As for the education level, the main statistically significant differences can be found in higher and basic education, reflecting a tendency among beneficiary household heads to have a higher education level (secondary and higher) compared with control household heads.

Table 199: Household socio-demographic characteristics, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Average # of household members	3.91	4.27	-0.37	(0.286)
Family structure (probability)				
Is there a household head?	1.00	0.99	0.01	(0.008)
Is there a spouse?	0.74	0.81	-0.07	(0.062)
Are there any children?	0.80	0.81	-0.13	(0.242)
Any other household members?	0.14	0.26	-0.17	(0.097)*
Demographic structure				
% under 5 years	7%	5%	2%	(0.015)
% over 5 and under 10 years	7%	10%	-3%	(0.020)
% over 10 and under 20 years	20%	21%	-1%	(0.030)
% over 20 and under 30 years	13%	16%	-3%	(0.030)
% over 30 and under 40 years	9%	9%	0%	(0.023)
% over 40 and under 50 years	16%	12%	3%	(0.033)
% over 50 and under 60 years	14%	14%	0%	(0.034)
% over 60 and under 65 years	14%	14%	0%	(0.034)
% over 65 years	8%	8%	1%	(0.035)
Characteristics of household head				
Average age	49	48	0	(1.975)
% males	86%	88%	-2%	(0.050)
% migrants	9%	4%	5%	(0.039)
Civil status or partner	76%	84%	-8%	(0.060)
Education level				
No levela/	1%	8%	-6%	(0.028)**
Primary education	34%	42%	-8%	(0.071)
Secondary education	50%	47%	3%	(0.074)
Higher education	15%	3%	12%	(0.044)***

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Initial or no education level.
Source: PRA Project Survey
Preparation: Macroconsult

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Table 200 does not identify significant differences in the Sierra Lima-Buenaventura stratum for adequate housing, average number of rooms, access to formal housing, or household investment and maintenance between objectives and controls. In contrast, there are significant differences in almost all home services. Access to water and sewage is much higher for the control group, and therefore it can be established that they enjoy better hygiene conditions. The same happens with electricity, and therefore it can be suggested that more households in the control group own electric appliances.

The differences shorten for ownership of home assets. In particular, the 42% difference for housekeeping assets is significant at the 1% level.

Table 200: General housing characteristics, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Housing characteristics				
% adequate housing a/	1%	3%	-2%	(0.021)
Average per capita rooms	0.65	0.70	-0.05	(0.090)
% access to property title	1%	4%	-2%	(0.023)
% invested in home	9%	8%	1%	(0.043)
% access to water b/	1%	71%	-70%	(0.044)***
% access to sewage c/	0%	26%	-26%	(0.041)***
% access to electricity d/	14%	97%	-84%	(0.042)***
% access to communications e/	81%	60%	21%	(0.064)***
Home assets				
% Entertainment f/	96%	95%	1%	(0.031)
% Computer	5%	7%	-1%	(0.035)
% Housekeeping g/	24%	66%	-42%	(0.066)***
% Transportation h/	24%	31%	-7%	(0.066)

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Brick walls and floor material different from dirt.
b/ Access to water from public network and outside the home.
c/ Hygienic service connected to the public network in and outside the home.
d/ House furnished with electric lighting.
e/ House furnished with telephone, cellphone, Internet, TV.
f/ House furnished with radio, TV, DVD system.
g/ House furnished with iron, blender, stove, refrigerator, washing machine, oven, sewing machine.
h/ House furnished with bicycle, car, motorcycle.
Source: PRA Project Survey
Preparation: Macroconsult

Table 201 shows that, while neither group have access to the “Juntos” program, and only 1% of the objective group participates in some education program, the differences are more radical for food programs, where the difference is statistically significant and reaches 51%. Additionally, the gap is also significant for farming programs, although it is higher for the stratum as a whole.

Table 201: Access to Social Programs, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Social Programs				
% access to food programs	32%	83%	-51%	(0.065)***
% access to the "Juntos" program	0%	0%	0%	(0.000)
% access to education or health programs	1%	0%	1%	(0.000)
% access to farming program	12%	0%	12%	(0.038)***

1/ Standard deviation for the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Table 202 shows that, in the Sierra Lima-Buenaventura stratum, most households in both groups are involved in livestock farming. The most important differences occur in agriculture and sub-livestock farming. In fact, only 4% of objective families are dedicated to agriculture, in contrast with the control group, where all households have access to agriculture. In the case of sub-livestock farming, a greater participation can be identified among the objectives. These results are consistent with the selection of control households dedicated to (as a main or secondary activity) to the objectives' main activity, type of product, and cultivated area.

Table 202: Distribution of Producer Households, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	Devv. Error 1/
% households dedicated to agriculture	4%	100%	-96%	(0.023)***
% households dedicated to livestock farming	100%	94%	6%	(0.022)***
% households dedicated to sub-livestock farming	97%	15%	82%	(0.038)***
% households dedicated to forestry	1%	36%	-35%	(0.046)***
% households dedicated to handicrafts	1%	4%	-3%	(0.023)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

The following table shows the results for the distribution of production in the Sierra Lima–Buenaventura stratum. There is an imbalance in the production value generated between both groups. Among the objectives and controls, the higher production value comes from livestock farming and forestry, respectively. As mentioned before, these results may be due to a selection process for the control households; but also because these calculations show intermediate

results, where PRA intervention creates differences. While almost 100% of objective and control households are dedicated to livestock farming, beneficiary households show a greater relative production. On the contrary, the gross value for the control group intensifies in forestry and sub-livestock farming for the control and objective groups, respectively.

Table 203: Distribution of Gross Production Value, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]
Agriculture		
Average GPVa/ per producer	0.47%	27.24%
Livestock farming		
Average GPV per producer	73.71%	13.77%
Sub-livestock farming		
Average GPB per producer	25.66%	0.79%
Forestry		
Average GPV per producer	0.1%	57.4%
Handicrafts		
Average GPV per producer	0%	1%

a/ Gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Table 204 shows that average production per worker in agriculture is very low compared with the corridor as a whole, reflecting that this stratum concentrates persons with low agricultural productivity. However, the average livestock farming GPV per producer in the objective group is much higher than the corresponding result in the previous table. Therefore, there is evidence that objective livestock producer in this stratum have a high productivity. Productivity in the control group is close to the mean. It should be noted that, in this activity, there is a significant difference in self-consumption: the objectives dedicate S/. 787.6 less than the controls to sales.

Sub-livestock farming is significantly higher in the objective group (a S/. 3,635 difference). Moreover, the volume of production dedicated to sales is also much higher in this group, and therefore this activity generates higher incomes for the objective group. It is interesting that, within the objective group, total forestry production, which is much lower than the average production for the corridor, is dedicated entirely to self-consumption. Additionally, productivity in the control group is considerably higher: the intra-group difference for productivity is

therefore significant, and the same occurs with the portion of production dedicated to sales

Table 204: Gross Production Value, Sales, and Self-Consumption (Nuevos soles per year), Sierra Lima–Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Agriculture				
Average GPVa/ per producer	1758.3	1895.5	-137.1	(962.846)
Average total sales per producer	1225.0	1234.0	-9.0	(536.633)
Average total self-consumption per producer	533.3	661.5	-128.2	(447.162)
% of sales in GPV	*70%*	*65%*		
Livestock farming				
Average GPV per producer	11168.6	1018.5	10150.2	(5620.098)*
Average total sales per producer	9903.6	541.0	9362.6	(5590.648)*
Average total self-consumption per producer	1265.1	477.5	787.6	(195.410)***
% of sales in GPV	*89%*	*53%*		
Sub-livestock farming				
Average GPV per producer	3996.2	361.2	3635.0	(592.503)***
Average total sales per producer	3425.1	210.2	3214.9	(473.721)***
Average total self-consumption per producer	571.1	151.0	420.1	(232.720)*
% of sales in GPV	*86%*	*58%*		
Forestry				
Average GPV per producer	750.0	10956.0	-10206.0	(3342.980)***
Average total sales per producer	0.0	2751.8	-2751.8	(1585.875)*
Average total self-consumption per producer	750.0	8204.2	-7454.2	(2657.627)***
% of sales in GPV	*0%*	*25%*		
Handicrafts				
Average GPV per producer	1040.0	1354.5	-314.5	(862.649)
Average total sales per producer	1015.0	779.0	236.1	(427.913)
Average total self-consumption per producer	25.0	575.5	-550.5	(448.632)
% of sales in GPV	*98%*	*58%*		
Total				
Average GPV per producer	15152.3	6958.5	8193.9	(6066.042)
Average total sales per producer	13271.5	2238.2	11033.2	(5866.243)*
Average total self-consumption per producer	1880.9	4720.2	-2839.4	(1138.817)**
% of sales in GPV	88%	32%		

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Annual gross production value in soles.
Source: PRA Project Survey
Preparation: Macroconsult

Entrepreneurship in the Sierra Lima-Buenaventura stratum (Table 205) shows similar indicators between objectives and controls. In general, a low share of the population owns a savings account both among the objectives and the controls (9% vs. 7%, respectively). Additionally, the percentage of the population that owns a business is around 10%, although with slight differences in favor of the

controls (12%) relative to the objectives (9%). The latter figures contrast with those for most other strata, where more objectives own a business relative to the controls. However, the scores for search and investment suggest that entrepreneurship is more marked among the objectives.

Table 205: Entrepreneurship Indicators, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Entrepreneurship				
% w/ savings account	9%	7%	3%	(0.041)
Average search score a/	7.2	6.4	0.8	(0.310)***
Average investment score b/	7.6	7.5	0.1	(0.311)
% owning a business	9%	12%	-2%	(0.045)
% fearing business failure	58%	64%	-5%	(0.073)
% willing to start a new business	84%	95%	-11%	(0.048)**

1/ Standard deviation of the differences in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Score indicating if the household head seeks business opportunities. Scale from 1 to 10 (10 is the highest score).
b/ Score indicating if the household head invests without thinking twice. Scale from 1 to 10 (10 is the highest score).
Source: PRA Project Survey
Preparation: Macroconsult

Expenditure is higher in the control group of the Sierra Lima-Buenaventura stratum (Table 206) relative to the objective group. However, eliminating ENAHO's extreme values, expenditure in the control group falls more sharply. Regarding poverty indicators, it should be noted that no considerable fluctuations were identified when switching from the corridor to the control group; however, poverty continues to be more marked in the control group.

Table 206: Household Expenditure (monthly per capita S/.) and Poverty, Sierra Lima-Buenaventura stratum

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Household expenditure				
Average expenditure a/	455.6	1001.6	-545.95	(432.425)
Restricted expenditure 1 b/	311.9	281.5	30.42	(34.098)
Poverty				
Poverty rate a/	36.5%	46.6%	-10%	(0.073)*
Restricted poverty rate 1 b/	35.2%	48.7%	-13%	(0.074)*
Poverty gap				
Poverty gap a/	15.5%	17.2%	-2%	(0.034)**
Restricted poverty gap 1 b/	13.9%	18.0%	-4%	(0.033)**

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
a/ Obtained from the unrestricted total expenditure.
b/ Obtained from total expenditure without ENAHO's minimum and maximum values.
Source: PRA Project Survey
Preparation: Macroconsult

Poverty perceptions in the Sierra Lima-Buenaventura stratum differ from the results for the corridor as a whole (Table 207). Specifically, the fall in the perception of poverty in the objective group is offset by the increase in the same indicators for the control group, leading to significant differences. Additionally, the population continues to highlight the welfare impact of basic services and the need for greater connections. While the need for higher incomes and new roads continues to have great importance for the objective group, education programs and the construction of roads, cemented areas, and sidewalks are important within the control group.

Table 207: Perceptions and Subjective Poverty Indicators, Sierra Norte de Lima-Buenaventura corridor

	Objectives [A]	Controls [B]	Difference [A-B]	St. Dev.1/
Perceptions				
% perceiving themselves as poor	16%	28%	-12%	(0.060)*
% perceiving themselves as not living well	16%	32%	-16%	(0.061)***
Considering that … is/are very important for their welfare:				
Basic services	58%	67%	-8%	(0.184)
Better connections	76%	58%	18%	(0.087)*
Roads in good state	20%	34%	-14%	(0.112)
Higher income	38%	39%	-1%	(0.210)
Market information	28%	6%	22%	(0.076)*
Access to credit	0%	10%	-10%	(0.098)*
Technical assistance for production	3%	35%	-32%	(0.066)*
Health and food social programs	7%	12%	-4%	(0.094)*
Education social programs	50%	20%	30%	(0.380)
Employment and incomes social programs	17%	11%	6%	(0.191)
Water, sewage, and lighting	35%	41%	-6%	(0.151)
Roads, sidewalks, and cemented areas in their communities	50%	33%	17%	(0.393)

1/ Standard deviation of the difference in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: PRA Project Survey
Preparation: Macroconsult

Lastly, Table 208 shows the impact indicators for the Sierra Norte de Lima-Buenaventura corridor. The results are important and show a strong positive impact (supported by statistical evidence) on household expenditure for more than half of the sample (53%). While in general the result is clear, it is even more so for households led by males. The impact on households led by women

is positive, but not significant. Additionally, the poverty rate decreases by 33 percentage points, a result that is representative and statistically significant for the male subgroup. In contrast, there are no significant changes in the subjective perception of poverty.

Table 208: Impact indicators, Sierra Norte de Lima-Buenaventura

	Monthly per capita household expenditure	Monetary poverty rate	Subjective poverty (income definition)
Total	0.52863**	-0.33536**	-0.1494
	(0.24738)	*(0.13076)*	*(0.11521)*
Urban	n.a.	n.a.	n.a.
Rural	n.a.	n.a.	n.a.
Male	0.57408**	-0.35996***	-0.13686
	(0.25784)	*(0.13261)*	*(0.11612)*
Female	0.25011	-0.16650	-0.23544
	(0.33300)	*(0.18794)*	*(0.17481)*

Source: PRA Project Survey

Preparation: Macroconsult

5. RESULTS FOR QUALIFIED INFORMANT IN POPULATED CENTERS

Together with the quantitative work, the study includes a survey of qualified informants identified as leaders or social delegates of populated centers. The report is purely qualitative and aims at gathering information on infrastructure, public services, and social programs. Given the size of the sample, this information must be used solely as reference and, at best, to characterize the PRA's area of influence as a whole. Additionally, the beneficiary informant has been defined as a local leader representing a populated center subject to PRA intervention; and the control informant is considered to be a delegate of a populated center defined as control in the baseline assessment.

The sample is made up of 85 observations divided between the objective and control groups. Table 209 shows the distribution of the sample gathered: a total of 44 observations for the objective group and 41 for the control group. Additionally, Table 210 indicates the distribution of the survey for local leaders in each corridor. The corridors with the largest number of surveyed leaders are La Libertad and Cusco.

Table 209: Sample Balance

	Objectives	Controls
Sample Balance		
Number of observations	44	41

Source: PRA Project Survey
Preparation: Macroconsult

Table 210: Distribution of the qualified informant's survey by corridor

Corredor	Objectives	Controls
Ancash	3	1
Arequipa	6	4
Ayacucho	3	3
Cusco	2	10
Huancavelica	6	4
Junín - Pasco	4	1
La Libertad	9	10
Madre de Dios	3	2
Puno	3	2
Sierra Norte	5	4
Total	44	41

Source: PRA Project Survey
Preparation: Macroconsult

Transportation

Table 211 shows the transportation, time, and money used. Regarding acces to roads, more than 50% of the objectives and 39% of the controls have access to carriage roads. Only 38.6% of the objective group has access to dirt roads, compared with 48.8% of the control group. Finally, only 27.3% of the objectives and 19.5% of the controls have access to asphalt roads. Regarding access to air transportation, the results are minimal in both cases: 2.3% of the objectives, compared with 0% of the controls. Additionally, access to bridle paths is greater for the objective group (15.9%) than for the control group (4.9%).

Concerning transportation to access the nearest province or department capital, the most common means is by minibus (objectives 45.5%, controls 51%), reflecting an intense traffic in local areas, followed by inter-provincial buses (25% and 12.2%, respectively). The use of SUVs is lower for the treated group; and the use of "mototaxis" is almost zero in both groups. Only 4.9% of the controls mention other transportation means.

Progressively, the distance to the nearby cities is around 99 km for the objectives and 74 km for the controls. However, transportation times are higher for the latter (close to 5 travel hours, compared with 3 hours on average for the objectives). This is probably due to the type and quality of the roads. Finally, the

average amount spent to access the capital is S/. 22 for the objectives and S/.16 for the controls.

Table 211: Access Means

	Objectives	Controls
What are the available access means?		
Asphalt road	27.3%	19.5%
Dirt road	38.6%	48.8%
Carriage road	52.3%	39.0%
Bridle path	15.9%	4.9%
River or lake	4.5%	2.4%
Airplane	2.3%	0.0%
What is the distance to the nearest province or department capital (km)?	98.48	73.99
What kind of transportation means do you use?		
Inter-provincial bus	25.0%	12.2%
Minibus	45.5%	51.2%
SUV	18.2%	9.8%
Mototaxi	-	-
Walk	2.3%	2.4%
Other	0.0%	4.9%
How long does it take to access the city of destination using the indicated transportation means?		
Hours	3.36	4.53
Minutes	11.82	17.07
What is the cost of accessing the city of destination using the indicated transportation means?		
Amount	21.81	16.35

Source: PRA Project Survey
Preparation: Macroconsult

Types of services

Table 212 shows the information provided by populated center leaders on access to community, education, health, and farming services.

The results on community services indicate that not all population members have complete access to them, probably because they reside in remote areas. It can be seen that 15.9% of the objectives have more access to mail offices, relative to only 4.9% for the controls. The situation is similar regarding bank branches. Additionally, a majority (more than 50% in both cases) has access to

a community telephone (public or private), and more than 34% of the objectives and 26.8% of the controls have access to Internet booths. More than 50% of both groups have access to motor transportation. The consistent characteristics perceived by community leaders confirm the adequate selection of control populated centers.

Regarding education, most of the population attends primary school; but access to other education services diminishes as the education level increases. Concerning initial education or PRONOEI, coverage is considerable: objectives 86.4%; controls 92.7%. Leaders indicate high coverage rates for primary education, but it is the objectives that have greater access to this education level (objectives 90.9%; controls 87.8%). Secondary education also reaches more than half of the population (beneficiaries 70.5%; controls 63.4%). The situation worsens regarding access to higher education institutions or universities, and is similar for objectives and controls: the service is available for only one-fifth of the population. Indeed, only 9.1% of the treated group and 9.8% of the control group have access to this service. This is consistent with the education levels reached by household heads in the PRA intervention area as a whole: more than half of household heads have only an initial or primary education level; one-third has secondary education, and less than one-tenth has higher education.

Local leaders reveal that most of the population has access to health posts or centers (75% and 65.9% for objectives and controls, respectively). However, access to hospitals is rather low: only 9.1% of objective informants report the presence of hospitals in their populated centers, compared with 2.4% of controls.

Regarding farming services, the levels reached by the objective group are greater than for the control group in the three types of services mentioned in Table 212: institutions that provide technical assistance, tractor rental services, and commercialization of farming inputs. This is probably due to the fact that PRA beneficiary populations had more access to farming assets. This has been identified in some corridors, where it was found that beneficiary households

tended to assign a greater proportion of total production to sales and not to self-consumption.

Table 212: Types of Services

	Objectives	Controls
Community services		
Main office	15.9%	4.9%
Community telephone (public or private)	56.8%	58.5%
Public Internet booth	34.1%	26.8%
Bank branch	18.2%	4.9%
Motor transport	50.0%	53.7%
Market or fair	36.4%	39.0%
Police delegation	29.5%	17.1%
Education services		
Initial education center or PRONOEI	86.4%	92.7%
Primary school	90.9%	87.8%
Secondary school	70.5%	63.4%
Higher education institution or university	9.1%	9.8%
Health services		
Health post or center (MINSA)	75.0%	65.9%
Hospital (MINSA)	9.1%	2.4%
Farming services		
Institutions or entities providing farming technical assistance	27.3%	12.2%
Tractor rental service	27.3%	24.4%
Farming input supplier	22.7%	17.5%

Source: PRA Project Survey
Preparation: Macroconsult

Social programs

Table 213 shows information for the coverage of social programs in the area. Populated centers in both groups show a balance regarding access to social programs provided by the government. For example, as revealed by the qualified informants, coverage of the “Vaso de Leche” program is almost complete in both groups (97.7% vs 100%, respectively). Likewise, the “Wawa Wasi” program, according to local leaders, is accessed by less than one-third of selected populated centers, with a slight difference in favor of the objectives (22.7%) compared with the controls (14.6%).

The balance is similar in other programs like “Comedor Infantil” (“Children’s Dinners”), which covers less than 10% of populated centers. “Comedor Popular” (“Popular Dinners”) covers less than one-third; and “Alimentos por Trabajo” (“Food for Work”) less than 5% of populated centers. The programs where differences greater than 10% were identified are food programs like PCA and PANTBC. The distribution is similar as for the aggregate PRA intervention, where 40% has access to food programs.

Table 213: Financing of Social Programs

	Objectives	Controls
Food assistance		
Vaso de Leche	97.7%	100%
Wawa Wasi	22.7%	14.6%
Comedor Infantil	4.5%	2.4%
Comedor Popular	31.8%	31.7%
Alimentos por trabajo	4.5%	0.0%
PANFAR food basket	27.3%	41.5%
Food Complementation Program (PCA)	29.5%	14.6%
Tuberculosis Patient’s Food and Nutrition Program (PANTBC)	40.9%	29.3%
Education		
School breakfast	72.7%	61.0%
School dinners	50.0%	43.9%
School uniforms, sports clothes, and shoes	15.9%	12.2%
School textbooks and articles	45.5%	53.7%
School insurance	34.1%	58.5%
Youth labor training	18.2%	2.4%
Women’s labor training	13.6%	2.4%
Literacy program	20.5%	24.4%
Health		
Children’s growth control	79.5%	82.9%
Family planning	68.2%	80.5%
Tuberculosis control	59.1%	58.5%
Vaccination program (Immunization)	72.7%	82.9%
Diharreic disease control program	65.9%	70.7%
Infrastructure		
Construction, repair, and equipping of education centers	61.4%	48.8%
Construction, repair, and equipping of health centers	45.5%	31.7%
Water	61.4%	73.2%
Sewage	43.2%	53.7%
Electric lighting	56.8%	82.9%
Sewage system	27.3%	31.7%
Latrine	40.9%	48.8%

Roads and bridges	50.0%	61.0%
Construction of terraces (“andenes”)	11.4%	7.3%
Irrigation system	20.5%	34.1%
Other	2.3%	0.0%
Employment		
Farming technical assistance	31.8%	34.1%
Technical assistance in other productive activities	22.7%	12.2%
Income generation program	11.4%	9.8%
Microcredit program	13.6%	14.6%

Source: PRA Project Survey
Preparation: Macroconsult

Regarding programs for adequate access to education, the distribution between controls and objectives is even for those aimed at ensuring the nourishment of schoolchildren and other assets like uniforms and textbooks; but the same is not true for young people’s and women’s labor training. According to the perception of local leaders, the “Programa de Desayuno” (“Breakfast Program”) covers more than 60% of populated centers, both objective and control (72.7% and 61%, respectively). Additionally, “Alimentation Escolar” (“School Dinners”) covers almost half of the populated centers (objectives 50%; controls 44%). Similar averages can be found for access to school textbooks and articles, and for school uniforms and sports clothes. In contrast, the main difference regarding training is in youth labor training, where the coverage for the objective group (18.2%) is almost nine times that for the control group (2.4%). The situation is similar for women’s labor training.

In the health sector, community leaders seem to reveal similarities between objective and control populated centers. Except for family planning and vaccination programs, where the maximum differences reach 10%, the health programs in Table 213 show a similar coverage for objectives and controls. Regarding infrastructure, access to basic services like water, sewage, electric lighting, sewage system, latrines, and bridges is relatively higher for the control group. The latter distribution is similar to the aggregate results. The difference in access to electric lighting is 56.8% for the objective group and 82.9% for the control group. Concerning employment assistance, the gaps shorten and the balance is greater between both groups. Almost one-third of populated centers have access to farming technical assistance, although with slight differences in

favor of the control group. Additionally, almost 10% in both groups report access to the income generation program (although the share is greater for the objective group). Finally, the low percentage for microcredit is associated with the low aggregate entrepreneurship levels (less than 8% of the objectives and 4% of the controls own a savings account).

Social investment projects

The following table shows the social investment projects developed in populated centers during the last five years. According to the information gathered from leaders, the health systems have been implemented in a higher proportion in objective populated centers (52.3%, compared with 43.9% for the control group). The construction or improvement of education centers is better in the control group (70.7%). The equipping of health centers is similar in both groups. The trend is similar for roads, bridges, electricity, and irrigation systems, where the controls report higher government participation. Reforestation is higher for the objective groups, but with a small difference of 0.7%.

Finally, regarding technical assistance and formalization, both groups show similar levels for technical assistance and land property titles. Concerning farming sanitation, the percentages are around one-third of the population. The latter results reveal similar characteristics between treated and untreated populated centers. However, delivery of inputs is higher for the objective group (13.6%, compared with 7.3% for the control groups), but access to land titles are similar for both groups. In addition, the difference for farming credit is only 1%.

Table 214: Social Investment Projects

	Objectives	Controls
Infrastructure		
Running water, sewage systems, latrines	52.3%	43.9%
Construction or improvement of schools	56.8%	**70.7%**
Furnishing of schools	38.6%	**48.8%**
Construction or improvement of health facilities	40.9%	39.0%
Furnishing of health facilities	15.9%	19.5%
Housing	13.6%	7.3%
Roads/Bridges	45.5%	46.3%
Electrification	31.8%	**43.9%**
Watering systems	18.2%	**31.7%**
Reforestation	22.7%	22.0%
Land recovery: terraces (“andenes), ridges (“camellones”)	0.0%	2.4%
Technical assistance and formalization		
Technical assistance	27.3%	24.4%
Farming sanitation	29.5%	34.1%
Input delivery (seeds, fertilizers)	13.6%	7.3%
Land entitlement	22.7%	24.4%
Financial assistance and others		
Farm credit	13.6%	14.6%

Source: PRA Project Survey
Preparation: Macroconsult

6. CONCLUSIONS AND RECOMMENDATIONS

This study calculates the baseline and performs an intermediate evaluation as of 2012 for the "New Private Sector Competitiveness and Poverty Reduction and Alleviation Activity-PRA" Project carried out by Chemonics International under the sponsorship of USAID. With this aim, representative information was gathered for the PRA intervention as a whole and individually for the ten corridors in which it operates: Sierra de La Libertad, Ancash, Sierra Norte de Lima–Huánuco, Pasco–Junín, Huancavelica, Ayacucho–VRAE, Cusco, Arequipa, Puno, and Madre de Dios. Additionally, a strategy was developed to assess the cross-section impact aimed at controlling for the observable factors in order to identify the impacts generated by the project. However, it must be recognized that these results are preliminary, as there are unobservable factors that may be introducing an upward bias in the results. In this context, the main methodological recommendation is to confirm these results through a double-differences strategy in the foreseen 2014 final assessment, using the results from this study as baseline. The main findings of the study are summarized in the following sections.

Baseline and Intermediate Assessment Results

At the aggregate level

The poverty rate of PRA beneficiaries is around 46%, significantly lower than for the controls surveyed in the study (approximately 51%). This difference is explained by higher household expenditure among the objectives (a per capita monthly level of S/. 334, higher than S/. 291 for the controls). This difference of almost 15% cannot be entirely explained by the PRA, as there other observable characteristics than can contribute to the result (e.g. education). Therefore, once the matching process is performed and the differences are corrected, it is possible to establish that the PRA explains an increase in expenditures of almost 9%. However, these impacts cannot be generalized to all corridors. There is evidence that they concentrate in Ancash, Ayacucho, Junín-Pasco, and Puno. Additionally, at the population subgroup level, impacts are higher for

urban areas and for households led by males. The fact that the effect is greater in urban areas suggests that urban households are taking more advantage of greater articulation. This is not surprising, as these households are closer to the markets. Nor should it be surprising to identify a higher impact on households led by men, as most household heads are males in the area of intervention (more than 80%).

However, despite the impact on expenditure, the results are not yet sufficiently intense to reduce monetary poverty, possibly because of the length of maturity periods or a certain bias towards the upper wealth distribution bracket. In any case, it is possible to verify a reduction in the number of households that perceive themselves as poor: subjective poverty diminished by approximately 6 percentage points, suggesting changes in certain dimensions of poverty among beneficiaries. At the same time, it is important to implement a qualitative study in the corridors where the impact from the program was higher and draw lessons regarding the conditions that made this result possible. A possible explanation is associated with the kinds of products that were intervened, which probably required shorter maturity periods.

Ancash corridor

In the case of the Ancash corridor, monthly per capita household expenditure was S/. 483, almost twice as for the control sample (S/. 273). This difference defines a poverty rate for the objective group of around 35%, lower than 62% for the control group. At the intermediate impact level, when these differences are corrected it is possible to verify a positive PRA impact on household expenditure (a 20% increase) concentrated in the urban area and in households led by males. However, no impact is identified on monetary poverty or the welfare perception of households.

Arequipa corridor

Monthly per capita household expenditure in the Arequipa corridor is S/. 459, higher than for the control sample (S/. 427). However, this difference is associated with similar poverty rates in both groups (around 25%). It is not

possible to identify a positive PRA impact in this corridor on household expenditure and poverty. Nonetheless, the subjective poverty rate is lower, suggesting that, even though the objective indicators do not change, individuals seem to perceive some kind of change in their living standards. This creates favorable expectations in this corridor concerning the medium-term maturity of the impact.

Ayacucho corridor

In the case of the Ayacucho corridor, monthly per capita household expenditure is S/. 358, slightly higher than for the control sample (S/. 321). This difference is associated with a poverty rate of around 42% in the objective group, lower than 45% in the control group. These differences are corrected upwards, resulting in a positive PRA impact that increased household expenditure in almost 18%, concentrated in rural areas and households led by males. This is an important result, as it is one of the few corridors showing a positive impact in the rural area. This is associated not only with an increase in the mean, but also with a better impact distribution. Additionally, in this case there is a decrease in the poverty rate in both groups. No impacts are identified regarding the households' welfare perception.

Cusco corridor

Household expenditure in the Cusco corridor reach S/. 318, lower than for the control sample (S/. 349). This difference defines higher poverty rates for the objectives (46%) than for the controls. However, even though this difference is significant, they are corrected once the impact estimation is carried out, resulting in a null effect on all variables and almost all subgroups in this corridor.

Huancavelica corridor

Household expenditure in the Huancavelica corridor is S/. 156, lower than for the control sample (S/. 183). However, despite the difference in the mean, the poverty rate is lower for the objectives (78%) than for the controls (80%). This is

due to the distribution bias among the controls towards the higher values. The differences in both cases are significant, but they are corrected when the impact model is estimated, resulting in a null impact on household expenditure and poverty. In spite of this result, a lower subjective poverty rate can be identified (on average, in urban and rural areas, and in households led by males), which suggests that, even though objective indicators do not change, individuals seem to perceive some kind of change in their living standards. This creates favorable expectations in this corridor regarding the medium-term maturity of effects.

Junín-Pasco corridor

Monthly per capita household expenditure in the Junín-Pasco corridor are S/. 429, almost twice the level for the control sample (S/. 257). This difference defines a poverty rate in the objective group of around 38%, lower than for the control group (54%). When the differences are corrected, it is possible to identify a positive PRA impact resulting in a 20% increase in household expenditure, concentrated in households led by males. However, no impacts are identified on monetary poverty and households' welfare perception.

La Libertad corridor

Monthly household expenditure in the La Libertad corridor is S/. 306, higher than for the control sample (S/. 237). This difference is associated with a lower poverty rate for the objectives (60%) than for the controls (63%). Even though these differences are not significant, they are corrected once the impact estimation is carried out, resulting in null impacts on all variables and almost all subgroups in the corridor. However, average poverty increases by almost 9 percentage points, which is counter-intuitive in light of the information analyzed. For this reason, a certain level of imprecision in the calculation of this indicator cannot be ruled out.

Madre de Dios corridor

Monthly per capita household expenditure in the Madre de Dios corridor is S/. 378, lower than for the control sample (S/. 394). However, this does not define a

lower poverty rate for the former. On the contrary, poverty is lower for the beneficiaries (37%) compared with the controls (44%). This is due to the important presence of extreme values in the control sample, which prevails even after the matching process is carried out. The differences become even more notorious when the impact indicators are estimated. These indicate a drop in expenditure close to 36% (for both men and women). This strong fall occurs without a change in poverty or subjective poverty. In this respect, it is possible to suggest the presence of illegal gold producers that may deteriorate the impact assessment in this corridor. Their incidence may be directly affecting the population's income. Moreover, the small beneficiary universe may affect the precision of the indicators.

Puno corridor

Monthly per capita expenditure in the Puno corridor is S/. 298, slightly higher than for the control sample (S/. 213). This difference defines a poverty rate for the objective group of around 49%, lower than for the control group (68%). The impacts confirm these differences. A positive PRA impact results in an increase in household expenditure of almost 36%, concentrated in the urban area (54%, compared with 27% in the rural area) and in households led by males (36%, compared with 30% in those led by women). Additionally, poverty declined by almost 18 percentage points and households' welfare perception improved, with a similar pattern at the subgroup level (although in the latter case subjective welfare perceptions seem to react more in rural areas).

Sierra Norte de Lima corridor

Monthly per capita household expenditure in the Sierra Norte de Lima corridor is S/. 395, higher than for the control sample (S/. 323). Despite the difference between the means, the poverty rate is higher for the objectives (38%) than for the controls (36%). This is due to a distribution bias towards higher values among the objectives. The differences in both cases are significant, but the estimation of the impact model corrects them, showing that the impact on household expenditure and poverty (monetary and subjective) is null. However, despite this aggregate result, it is possible to identify a certain increase in

expenditure among urban households and an improved welfare perception among households led by males.

Results from qualified informants in populated centers

The team conducted a survey on a sample of 85 community leaders (objectives 44; controls 41). The results could not be disaggregated for each stratum, as it is not possible to draw inferences at that level due to the small size of the sample. Therefore, it is important to stress that the inferences drawn are only valid at the aggregate level.

Similarities were found for access routes and transportation means between the objective and control groups. On average almost all localities (close to 90%) have initial or primary education centers; but percentages are lower for secondary education (approximately 65%) and even more so for higher education (9%). This result is consistent with findings at the aggregate level: most household heads have initial and primary education; one-third has secondary education; and only 9% has higher education. Health posts or centers seem to be accessible, as they cover almost 70% of populated centers; but access to hospitals declines to less than 10%.

There are more farming institutions in beneficiary than control populated centers. This is consistent with the fact that, at the corridor level, beneficiary households highlight that most of their production is dedicated to sales. Regarding access to social programs, local leaders informed that more than one-third of populated centers have access to food assistance programs; and that “Vaso de Leche” and other school nourishment programs are present in almost all objective and control populated centers.

This information is consistent with the predominance of rural areas and high poverty rates in the aggregate sample where, due to dispersion and difficult geographical conditions, roads are not expected to be in good state, province capitals are distant, and access to secondary and higher education centers is low; but presence of social programs is strong.

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7. APPENDICES

Anexo 1: Metodología para el cálculo de la Pobreza

El estudio de evaluación de impacto del PRA implicó la medición de la pobreza en el ámbito de intervención del programa. Esta variable, una vez obtenida, funcionará como uno de los indicadores de impacto a ser evaluados durante el presente estudio. Para tal efecto, el estudio adoptó una metodología de Línea de Pobreza Monetaria Absoluta (ver Ravallion, 2008). Esta metodología permitirá una medición comparable a través de los distintos ámbitos de intervención del programa y, como ventaja adicional, permitirá comparar los resultados con estándares nacionales tales como el utilizado en la Encuesta Nacional de Hogares (ENAHO) del Instituto Nacional de Estadística e Informática (INEI). El objetivo primordial de esta sección es describir de manera detallada los pasos que el equipo consultor siguió para realizar la medición del mencionado indicador.

La definición de la pobreza

Como se mencionó, el concepto operativo de pobreza utilizado en esta investigación es el de pobreza monetaria absoluta. Siguiendo sus cimientos teóricos, la identificación de la pobreza en este caso se orienta a diferenciar a aquellos individuos que alcanzan un nivel de vida mínimo aceptable y aquellos que no. La forma de hacer, siguiendo el concepto monetario, es a través de la valorización de una canasta básica de consumo (alimentario y no alimentario) que considera aquellos bienes que el individuo debe consumir para procurarse dicho nivel de bienestar. Esta canasta básica es lo que en la literatura se conoce como Línea de Pobreza. De este modo, individuos con los ingresos suficientes para comprar esa canasta (o superar la Línea de Pobreza) son considerados no pobres e individuos con ingresos menores a este nivel son considerados pobres. No obstante, debe tenerse cuidado con el ingreso que se utiliza en la medición, ya que el concepto de pobreza no se relaciona al ingreso corriente. Por el contrario, lo que interesa medir es alguna aproximación del ingreso permanente. Es por esta razón, y siguiendo los principios metodológicos definidos por este método de medición de la pobreza es que el indicador monetario utilizado es el gasto familiar.

La muestra de la encuesta PRA

La principal fuente de información de este estudio será la encuesta ad-hoc recogida por el equipo consultor en el ámbito de intervención del programa. Las cantidades finales de individuos recogidos se encuentran en el Cuadro No. 1.

Cuadro No. 1: Muestra efectiva de la encuesta PRA

Estrato	Objetivos	Controles	Total
Ancash	271	404	675
Arequipa - Buenaventura	176	248	424
Arequipa - Las demás	116	192	308
Ayacucho	318	504	822
Cusco	373	579	952
Huancavelica - Buenaventura	89	224	313
Huancavelica - Las demás	248	368	616
Junín-Paso	128	196	324
La Libertad - Barrick	60	92	152
La Libertad - Poderosa	68	108	176
La Libertad - Las demás	142	240	382
Madre de Dios	73	108	181
Puno	364	548	912

Sierra norte de Lima - Buenaventura	74	118	192
Sierra norte de Lima - Las demás	268	346	614
Total	**2,768**	**4,275**	**7,043**

Elaboración: Macroconsult

El tamaño de la muestra total del PRA que entrará al proceso de análisis es de 7,043 observaciones. Estas, a su vez, se subdividen en 2,768 observaciones de tratados y 4,275 observaciones de control.

El cálculo del Gasto

El cálculo de la pobreza en el presente estudio se hará usando una metodología de cálculo de pobreza absoluta en la que se comparará una línea de pobreza total con el gasto mensual per cápita de los integrantes de cada familia participante en la encuesta. Este procedimiento se conoce como el Método Estándar del Presupuesto. Para tal fin, el levantamiento de información del estudio incluyó una secciónded icada a recoger información sobre los gastos de los individuos incluidos en la muestra.Esta sección estuvo, a su vez, subdividida en módulos organizados en función a tipos de gasto específicos. Estos módulos fueron: Gastos alimentarios, Gasto en alimentos consumidos dentro y fuera del hogar obtenidos de instituciones benéficas, Gastos en mantenimiento de la vivienda, Gastos en transportes y comunicaciones, Gastos en servicios a la vivienda (Servicios comunitarios, etc.), Gastos en esparcimientos, diversión y servicios de cultura, Gastos en bienes y servicios para cuidados personales, Gastos en vestido y calzado, Gastos de transferencias, Gastos en muebles y enseres, Gastos en otros bienes y servicios (Joyería, servicios financieros, etc.), Gastos en equipamiento del hogar (No fue incluido en la medición del gasto total), Gastos en educación, Gastos en salud, Gastos en alimentos consumidos fuera del hogar, Otros gastos. Adicionalmente, el gasto total incluyó los gastos por consumo de electricidad, alquiler de vivienda, servicios de agua y desagüe, servicios de comunicación y combustible que utiliza el hogar para cocinar sus alimentos.

El computo del gasto sigue una metodología similar a la explicada en INEI (2000), por lo que el trabajo se realizó módulo por módulo debido a que cada tipo de gasto presentó características particulares en términos de estructura del cuestionario, frecuencia de gasto por la que se pregunta, rubros que se incluyen y método de imputación. De manera general, el cómputo del gasto total siguió tres etapas. En la primera etapa, todas las magnitudes de gasto reportado fueron anualizadas en términos monetarios (nuevos soles) para aquellos individuos que reportaron efectivamente haber realizado un gasto monetario en sus bienes y servicios consumidos. En la segunda etapa, se procedió a realizar un proceso de imputación de gasto en los casos de individuos que reportaron no haber gastado en su consumo, sino que lo obtuvieron de cualquier otra forma. El método de imputación fue distinto en función al módulo. En los módulos en los que se le preguntó al informante cuánto cree que habría tenido que pagar si hubiera comprado el bien o servicio, la imputación se realizó a partir de esta información a la manera de una valorización contingente. En los módulos en los cuáles no existió información para realizar la valoración contingente, el método de imputación implicó dos pasos: i) calcular un valor mediano del bien o servicio por corredor (se consideró como outliers los valores unitarios que se ubicaron por encima de las cinco desviaciones estándar respecto a la mediana); ii) usar este valor mediano a manera de precio para valorizar las magnitudes consumidas por las personas que reportaron no haber comprado los bienes y servicios que consumieron. En la tercera etapa se sumaron los gastos totales por cada módulo y por familia para obtener un gasto total familiar anualizado e imputado.

Los resultados promedio del gasto mensual per cápita por corredor para toda la encuesta PRA se muestran en el Cuadro No. 2. A nivel de corredor, en seis de los diez corredores el gasto per cápita mensual promedio de los controles es superior al de los

tratados. A nivel de la muestra global, el nivel de gasto más alto se encuentra en el corredor de La Libertad y el menor se encuentra en el corredor de Madre de Dios.

Cuadro No. 2: Gasto mensual per-cápita por corredor en la muestra PRA, nuevos soles

Corredor	Total PRA	Objetivos	Controles
Ancash	713.3	675.5	738.7
	(3,744.4)	*(1,729.2)*	*(4,630.8)*
Arequipa	541.8	598.7	503.9
	(809.5)	*(976.4)*	*(675.0)*
Ayacucho	610.5	782.1	502.3
	(1,844.4)	*(2,491.3)*	*(1,269.1)*
Cusco	647.3	617.6	666.4
	(2,297.0)	*(1,587.4)*	*(2,656.8)*
Huancavelica	477.9	200.1	636.1
	(2,803.2)	*(627.4)*	*(3,470.7)*
Junín-Pasco	645.6	528.7	721.9
	(3,046.0)	*(723.5)*	*(3,874.6)*
La Libertad	802.5	831.2	784.9
	(2,736.0)	*(2,734.3)*	*(2,740.1)*
Madre de Dios	377.2	351.9	394.3
	(317.2)	*(253.9)*	*(353.9)*
Puno	395.9	426.5	375.5
	(1,534.0)	*(887.0)*	*(1,842.8)*
Sierra Norte de Lima	698.4	752.2	658.7
	(2,633.5)	*(1,710.6)*	*(3,146.3)*
Promedio Total	**597.9**	**590.6**	**602.7**
	(2,418.6)	***(1,656.4)***	***(2,803.9)***

Nota: Desviaciones estándar entre paréntesis.
Fuente: Encuesta PRA. Elaboración: Macroconsult

Mientras tanto, en el Cuadro No. 3 se presenta el gasto per cápita promedio por estrato obtenido a partir de la encuesta PRA. En este caso, en diez de los quince estratos de la muestra el gasto de los controles es superior al de los tratados. A nivel global de la muestra, el gasto mensual per cápita más alto se encuentra en el estrato de La Libertad-las demás, mientras que el menor nivel se encuentra en Huancavelica-Buenaventura.

Cuadro No. 3: Gasto mensual per-cápita por estrato en la muestra PRA, nuevos soles

Estrato	Total PRA	Objetivos	Controles
Ancash	713.3	675.5	738.7
	(3,744.4)	*(1,729.2)*	*(4,630.8)*
Arequipa-Buenaventura	486.7	439.3	520.3
	(782.0)	*(764.2)*	*(794.2)*
Arequipa-las demás	617.6	840.7	482.8
	(841.3)	*(1,194.1)*	*(480.4)*
Ayacucho	610.5	782.1	502.3
	(1,844.4)	*(2,491.3)*	*(1,269.1)*
Cusco	647.3	617.6	666.4
	(2,297.0)	*(1,587.4)*	*(2,656.8)*
Huancavelica-Buenaventura	249.9	167.5	282.6
	(750.2)	*(112.6)*	*(882.4)*
Huancavelica-las demás	593.8	211.8	851.2
	(3,395.9)	*(728.4)*	*(4,336.2)*

Junin-Pasco	645.6	528.7	721.9
	(3,046.0)	*(723.5)*	*(3,874.6)*
La libertad- Barrick	391.4	192.8	520.9
	(1,744.0)	*(149.3)*	*(2,233.8)*
La libertad- Poderosa	565.9	945.3	327.0
	(1,164.9)	*(1,426.2)*	*(892.6)*
La libertad-las demás	1,075.1	1,046.2	1,092.2
	(3,454.5)	*(3,614.0)*	*(3,364.2)*
Madre de Dios	377.2	351.9	394.3
	(317.2)	*(253.9)*	*(353.9)*
Puno	395.9	426.5	375.5
	(1,534.0)	*(887.0)*	*(1,842.8)*
Sierra Norte de Lima-Buenaventura	791.2	455.6	1,001.6
	(3,550.7)	*(1,318.0)*	*(4,402.5)*
Sierra Norte de Lima-las demás	669.4	834.1	541.7
	(2,275.0)	*(1,797.5)*	*(2,580.4)*
Total	**597.9**	**590.6**	**602.7**
	(2,418.6)	***(1,656.4)***	***(2,803.9)***

Nota: Desviaciones estándar entre paréntesis.
Fuente: Encuesta PRA. Elaboración: Macroconsult

Asimismo, de manera referencial, en el Cuadro No. 4, se muestra la comparación del gasto mensual per cápita de los tratados obtenido de la encuesta PRA con el gasto mensual promedio obtenido de la ENAHO 2011. El gasto mensual de los tratados de la encuesta PRA se encuentra en la primera columna, mientras que el gasto de la ENAHO se encuentra en la segunda. Dado que los métodos de cálculo fueron similares, es posible hacer esta comparación. Los resultados de la ENAHO corresponden a los departamentos en los cuales se detectó algún tipo de intervención por parte del programa PRA.

Cuadro No. 4: Gasto mensual per-cápita por corredor (PRA vs. ENAHO), nuevos soles

Corredor	Objetivos (PRA)	ENAHO 2011
Ancash	675.5	471.3
	(1,729.2)	*(373.6)*
Arequipa	598.7	616.0
	(976.4)	*(439.6)*
Ayacucho	782.1	302.1
	(2,491.3)	*(249.5)*
Cusco	617.6	416.5
	(1,587.4)	*(348.9)*
Huancavelica	200.1	281.4
	(627.4)	*(235.2)*
Junín-Pasco	528.7	443.0
	(723.5)	*(321.6)*
La Libertad	831.2	509.9
	(2,734.3)	*(449.3)*
Madre de Dios	351.9	698.7
	(253.9)	*(436.6)*
Puno	426.5	325.4
	(887.0)	*(268.2)*
Sierra Norte de Lima	752.2	753.5
	(1,710.6)	*(599.8)*
Promedio Total	**590.6**	**597.2**

	(1,656.4)	*(522.0)*

Nota: Desviaciones estándar entre paréntesis.
Fuente: Encuesta PRA y ENAHO-2011. Elaboración: Macroconsult

La comparación muestra que el gasto mensual per cápita calculado a partir de la ENAHO es bastante similar (aunque ligeramente menor) si es que se compara el PRA como un todo. Sin embargo, existen diferencias destacables por corredor. Así, el gasto de la ENAHO es superior en tres departamentos (Arequipa, Huancavelica y Madre de Dios), inferior en seis (Ancash, Ayacucho, Cusco, Junín-Pasco, La Libertad y Puno) y similar en uno de ellos (Sierra Norte de Lima). Un aspecto llamativo de la comparación entre ambas encuestas es que las desviaciones estándar calculadas a partir de la encuesta PRA son mucho más grandes que las desviaciones que presentan los gastos de la ENAHO. Esto último significa que a pesar de que el nivel de gasto de los beneficiarios del programa es superior, en promedio, al de los individuos de la ENAHO, presenta mayor dispersión. Las menores desviaciones estándar de los datos ENAHO podría deberse al hecho de que la muestra de la ENAHO en los departamentos identificados es más grande que la muestra de la encuesta PRA. Al respecto, la cantidad de observaciones de la ENAHO que se encuentran en los departamentos donde el PRA intervino es casi 10 veces mayor.

La mayor dispersión en los gastos obtenidos a partir de la encuesta PRA puede verse de manera más clara cuando se hace la misma comparación anterior por deciles de gasto. Esto se muestra en el Cuadro No. 5. Como se puede ver en la tabla anterior, los gastos mensuales per cápita calculados a partir de la encuesta PRA tienen valores inferiores a los obtenidos a partir de la ENAHO desde el primer decil hasta el noveno, mientras que en el décimo decil, el gasto para los beneficiarios PRA es casi 80 por ciento mayor al de sus contraparte ENAHO. Esto último hecho hace sospechar que la mayor dispersión de nuestra muestra se explica fundamentalmente por valores extremos altos; lo cual se muestra también en el Gráfico No. 1 donde se aproximan las distribuciones completas. Lo que muestra la comparación entre ambos gráficos es la misma situación. El gasto calculado a partir de la encuesta PRA está claramente concentrado alrededor de la media pero contiene casos en los que este se eleva hasta bordear los 30,000 soles mensuales. Mientras tanto, la información de la ENAHO es mucho más uniforme, con valores máximos que no sobrepasan los 8,000 soles.

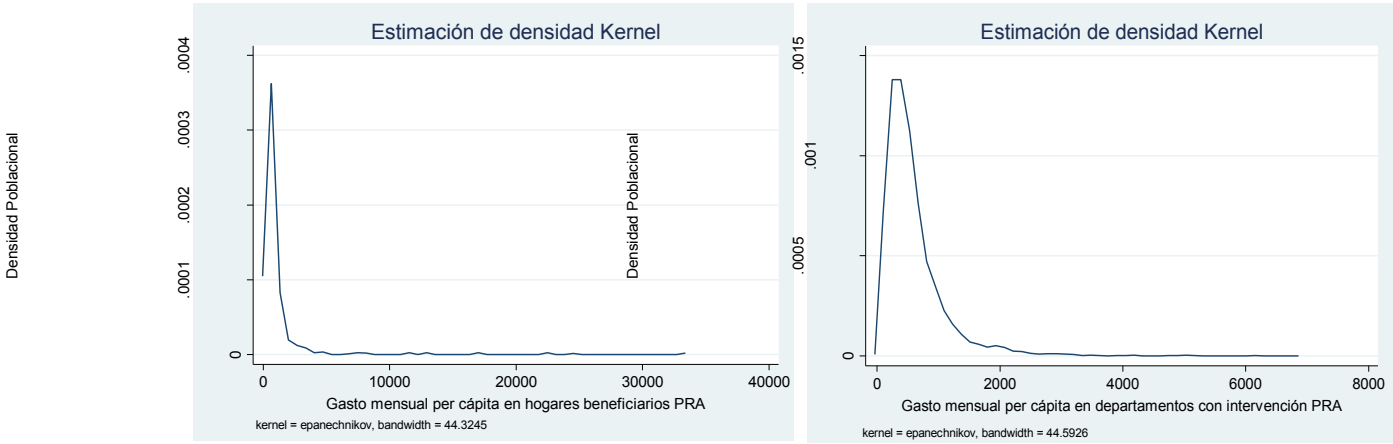
Cuadro No. 5: Gasto mensual per-cápita por deciles de gasto (PRA vs. ENAHO), nuevos soles

Decil	Objetivos (PRA)	ENAHO 2011
Primero	59.3	104.6
	(23.1)	*(24.3)*
Segundo	106.5	163.8
	(9.3)	*(14.8)*
Tercero	138.3	215.2
	(8.8)	*(14.9)*
Cuarto	171.0	271.5
	(10.1)	*(18.3)*
Quinto	208.8	335.0
	(12.7)	*(18.8)*
Sexto	256.4	409.0
	(15.5)	*(22.7)*
Séptimo	314.4	492.9
	(19.9)	*(27.9)*
Octavo	401.5	606.4
	(33.1)	*(39.2)*
Noveno	584.4	787.8
	(81.2)	*(73.7)*
Décimo	2,869.0	1,516.0

	(3,957.0)	*(705.5)*
Promedio Total	**590.6**	**597.2**
	(1,656.4)	***(522.0)***

Nota: Desviaciones estándar entre paréntesis.
Fuente: Encuesta PRA y ENAHO-2011. Elaboración: Macroconsult

Gráfico No. 1: Densidades Kernel del gasto mensual per-cápita (PRA vs. ENAHO)



Nota: PRA (Panel de la izquierda), ENAHO (Panel de la Derecha)
Fuente: Encuesta PRA y ENAHO-2011. Elaboración: Macroconsult

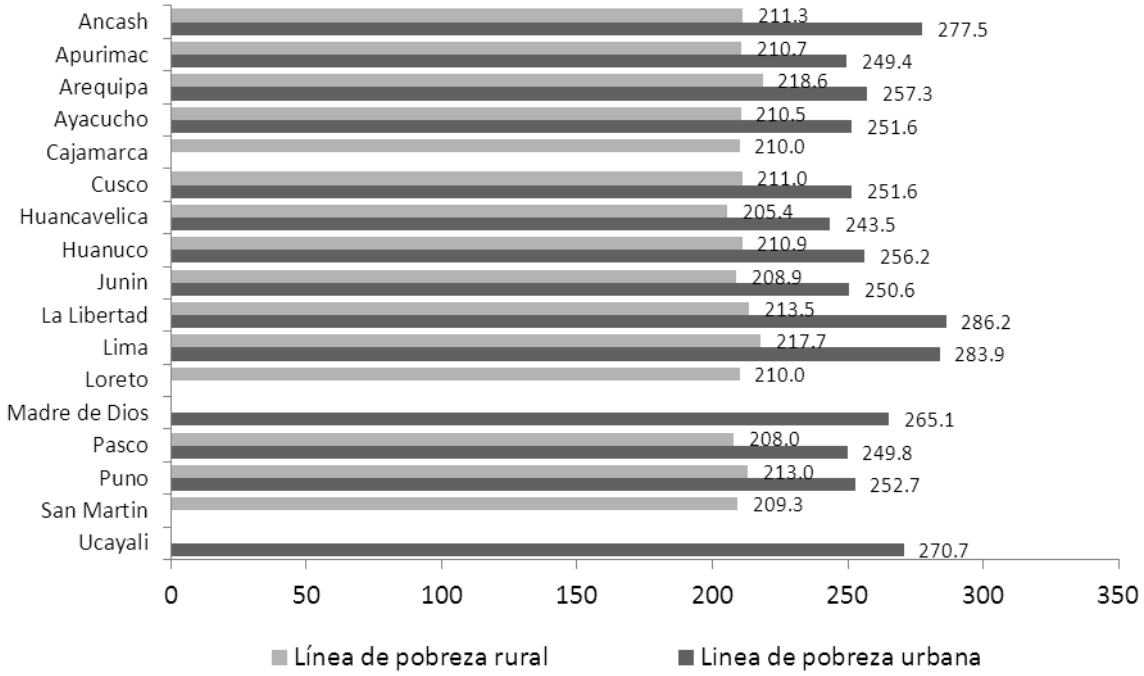
La existencia de valores extremos altos afecta la estimación de impacto por lo que en esta investigación se recomienda trabajar los modelos de impacto corrigiendo parcialmente por este defecto. Para ello se propone censurar la variable de gasto total a los valores mínimos y máximos que define la ENAHO en cada corredor e involucrando en cada caso a la muestra de control para no alterar los resultados. De este modo, en el análisis se contará con dos definiciones de gasto: Gasto promedio (el que se obtiene sin restricciones) y Gasto restringido (que elimina los valores mínimos y máximos de la ENAHO).

<u>El cálculo de la pobreza</u>

La pobreza calculada a partir de la muestra recogida en la encuesta PRA fue hecha comparando el gasto mensual per cápita de las familias versus las líneas de pobreza absoluta mensual per cápita utilizadas en la ENAHO. En la encuesta ENAHO del año 2011, el INEI utilizó 83 líneas de pobreza total (que reúnen un componente alimentario y un componente no alimentario) que varían en función al departamento, ámbito y región natural en los que se encuentran las familias que componen su muestra. La línea de pobreza que el INEI asigna a cada individuo varía distritalmente, a pesar de que la encuesta solamente llega a tener representatividad departamental y, por consiguiente, no abarca todos los distritos del Perú, como sí lo llegaría a hacer un censo. Dado que la representatividad de la ENAHO es departamental y que su muestreo no necesariamente abarca a todos los distritos contemplados en la muestra PRA, el equipo consultor optó por tomar líneas departamentales promedio subdivididas por ámbitos urbanos y rurales. Así, la medición de pobreza del estudio se realizará usando 29 líneas de pobreza correspondientes a los diez corredores encuestados (el corredor de Madre de Dios no tiene ámbito rural) que, en la muestra total, abarcan 17 departamentos. Las líneas de pobreza a ser utilizadas se encuentran

en el Gráfico No. 2. Es importante recordar que el levantamiento de información de la encuesta PRA se realizó entre los meses de agosto y septiembre del año 2012, mientras que las líneas de pobreza utilizadas corresponden a las encuestas de hogares del INEI del año 2011. Con el objetivo de generar consistencia en el cálculo de la pobreza, todas las líneas de pobreza fueron deflactadas a precios de agosto del 2012.

Gráfico No. 2: Líneas de Pobreza por corredor



Fuente: ENAHO-2011. Elaboración: Macroconsult

Los resultados de la tasa de pobreza se muestran en el Cuadro No. 6. Es importante mencionar que para fines de la explicación metodológica la definición de gasto utilizada en estos cálculos es aquella sin imponer restricciones. Así, de acuerdo a los cálculos realizados, la tasa de pobreza total en todo el ámbito de intervención del PRA es de 45.8%, mientras que para los controles es de 51.5%. Analizando únicamente a la muestra de objetivos, el corredor donde se registra la menor tasa de pobreza es Arequipa, con 26.4%; mientras que el más pobre es Huancavelica, con 78.9%. El Cuadro No. 7 muestra los resultados por estrato. En este caso, se observa que la menor tasa de pobreza para objetivos se registra en Arequipa-las demás, con solamente 12.1%, mientras que el más pobre es Huancavelica-las demás, con 79.4%.

Cuadro No. 6: Tasa de Pobreza Total por corredor

Corredor	Total PRA	Objetivos	Controles
Ancash	50.1%	34.7%	60.4%
Arequipa	25.7%	26.4%	25.2%
Ayacucho	44.0%	41.8%	45.4%
Cusco	39.8%	44.8%	36.6%
Huancavelica	76.3%	78.9%	74.8%
Junín-Pasco	46.3%	36.7%	52.6%
La Libertad	59.2%	56.3%	60.9%
Madre de Dios	43.1%	41.1%	44.4%

Puno	60.5%	48.6%	68.4%
Sierra Norte de Lima	36.5%	36.3%	36.6%
Promedio Total	**49.3%**	**45.8%**	**51.5%**

Fuente: Encuesta PRA . Elaboración: Macroconsult

Cuadro No. 7: Tasa de Pobreza Total por estrato

Estrato	Total PRA	Tratados	Controles
Ancash	50.1%	34.7%	60.4%
Arequipa-Buenaventura	34.0%	35.8%	32.7%
Arequipa-las demás	14.3%	12.1%	15.6%
Ayacucho	44.0%	41.8%	45.4%
Cusco	39.8%	44.8%	36.6%
Huancavelica-Buenaventura	78.3%	77.5%	78.6%
Huancavelica-las demás	75.3%	79.4%	72.6%
Junín-Pasco	46.3%	36.7%	52.6%
La libertad- Barrick	73.0%	76.7%	70.7%
La libertad- Poderosa	63.6%	47.1%	74.1%
La libertad-las demás	51.6%	52.1%	51.3%
Madre de Dios	43.1%	41.1%	44.4%
Puno	60.5%	48.6%	68.4%
Sierra Norte de Lima-Buenaventura	42.7%	36.5%	46.6%
Sierra Norte de Lima-las demás	34.5%	36.2%	33.2%
Total	**49.3%**	**45.8%**	**51.5%**

Fuente: Encuesta PRA. Elaboración: Macroconsult

Como en el caso del gasto, se puede establecer un paralelo con indicadores calculados a partir de la ENAHO 2011. Los resultados de este ejercicio se encuentran en el Cuadro No. 8. Se observa así, que la tasa de pobreza promedio es de la muestra de objetivos del PRA es superior a la de la ENAHO. Este es un resultado esperado dada la mayor concentración de población rural en las localidades entrevistadas. En efecto, mientras que solo el 23% de la población identificada en la ENAHO vive en zonas rurales, en el caso de la muestra PRA, el 66% es rural. Al analizar el Cuadro No. 9, esta misma explicación puede utilizarse en la mayoría de casos donde se registran mayores niveles de pobreza (Ancash, Arequipa, Cusco, Huancavelica, Junín-Pasco, La Libertad, Sierra Norte de Lima) donde incluso las diferencias tienden a exacerbarse dada la exclusión de ciudades importantes en estos ámbitos en la encuesta PRA. Distinto es el caso de Madre de Dios, donde si bien toda la población es urbana, la encuesta ha estado diseñada para recoger información de productores agropecuarios y artesanales, por lo que presumimos que el segmento de altos ingresos minero informal (presente en la ENAHO y no en la muestra de beneficiarios del PRA) es el que está explicando las diferencias. La misma hipótesis es la que pensamos puede estar explicando las diferencias en el caso de Puno al excluir al tanto al segmento minero informal como el sector comercial informal. En el caso de Ayacucho (único caso donde la pobreza es menor en la muestra PRA) consideramos que las diferencias son pequeñas y pueden haber aspectos temporales afectando las cifras.

Cuadro No. 8: Tasa de Pobreza Total PRA vs. ENAHO

Corredor	Objetivos (PRA)	ENAHO 2011
Ancash	34.7%	24.5%
Arequipa	26.4%	9.7%

Ayacucho	41.8%	47.4%
Cusco	44.8%	25.2%
Huancavelica	78.9%	49.2%
Junín-Pasco	36.7%	22.5%
La Libertad	56.3%	24.3%
Madre de Dios	41.1%	3.0%
Puno	48.6%	37.2%
Sierra Norte de Lima	36.3%	14.5%
Promedio Total	**45.8%**	**20.7%**

Fuente: Encuesta PRA y ENAHO-2011. Elaboración: Macroconsult

Cuadro No. 9: Balance Urbano/Rural, PRA vs. ENAHO

Corredor	Objetivos (PRA)	ENAHO 2011
Ancash	56.1%	40.2%
Arequipa	61.0%	12.5%
Ayacucho	66.0%	49.6%
Cusco	79.4%	46.6%
Huancavelica	84.0%	76.7%
Junín-Pasco	77.3%	36.9%
La Libertad	91.1%	23.1%
Madre de Dios	0.0%	25.6%
Puno	46.2%	54.7%
Sierra Norte de Lima	54.1%	7.3%
Promedio Total	**65.6%**	**23.0%**

Fuente: Encuesta PRA y ENAHO-2011. Elaboración: Macroconsult

Anexo 2: Propensity Score Matching a nivel distrital

1. Descripción de las variables

Variable	Característica Socioeconómica
Idh	Índice de desarrollo humano
Super_perca	Superficie agropecuaria per-cápita 93
Ganadoperca	Cabezas de ganado per cápita 93
Altitud	Altitud de la capital del distrito
Ingpc	Ingreso per cápita mensual 07
Mortai	Mortalidad infantil 07
Desnuoms	% Desnutrición crónica 07
Pobretot	Pobreza total 07
Novivagua	% de Viviendas sin abastecimiento de agua 07
Ndesague	% de Viviendas sin desagüe 07
Mujeres_no_lee	% de Mujeres que no saben leer 07
Mayor18	% Mayor de 18 sin nivel educativo
Noelectr	% de Viviendas sin electricidad
Notelefonia	% de Viviendas sin telefonía 07
Pobrural07	% de Población rural
Densidad	Personas por km2
Vivptierra07	% Viviendas con piso de tierra
No_asiste	% No asistencia de población entre 6-17 (en edad escolar)
Tv_radio	% Hogares con tv y radio
Espervida	Esperanza de vida
Nseguro_	% Personas sin seguro
Partida_cen	% de personas que reporta tener partida de nacimiento del registro civil
Lengua_cen	% de personas que reporta tener una lengua nativa como lengua materna
Religion	% de la población que NO profesa la religión católica respecto a la población mayor de 12 años
Atraso2	% Atraso escolar (7-18)

2. Regresiones

2.1.Ancash

a.

Probit regression	Number of obs	=	165
	LR chi2(25)	=	96.95
	Prob> chi2	=	0.0000
Log likelihood = -48.205576	Pseudo R2	=	0.5014

b.

d1	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	1.362593	.3411908	3.99	0.000	.6938715	2.031315
idh	82.59933	40.56611	2.04	0.042	3.091215	162.1074
super_perca	-.0047144	.0084285	-0.56	0.576	-.0212339	.0118052
ganadoperca	.0140992	.0059509	2.37	0.018	.0024357	.0257628
altitud	-.0008286	.0003263	-2.54	0.011	-.0014681	-.0001891
ingpc	-.0193428	.0107073	-1.81	0.071	-.0403288	.0016431
desnuoms	-1.627435	1.641185	-0.99	0.321	-4.844098	1.589229
pobretot	-6.649056	4.055534	-1.64	0.101	-14.59776	1.299645
novivagua	.1897664	.7222506	0.26	0.793	-1.225819	1.605352
ndesague	2.883682	1.263216	2.28	0.022	.4078227	5.35954
mujeres_no~e	21.33691	9.726569	2.19	0.028	2.273188	40.40064
mayor18	-5.266433	4.161474	-1.27	0.206	-13.42277	2.889907
noelectr	-.064449	1.60459	-0.04	0.968	-3.209387	3.080489
notelefonia	3.048764	1.806339	1.69	0.091	-.4915967	6.589124
pobrural07	-.1916569	1.346995	-0.14	0.887	-2.831718	2.448405
densidad	2.281729	2.837391	0.80	0.421	-3.279456	7.842913
vivptierra07	1.476063	3.324296	0.44	0.657	-5.039438	7.991565
no_asiste	8.077223	4.926426	1.64	0.101	-1.578395	17.73284
tv_radio	5.64498	4.268149	1.32	0.186	-2.720439	14.0104
espervida	-.3065358	.2180065	-1.41	0.160	-.7338207	.1207492
nseguro_	-.0040307	.013751	-0.29	0.769	-.0309823	.0229208
partida_cen	-36.20192	27.11125	-1.34	0.182	-89.33899	16.93515
lengua_cen	3.439916	1.367204	2.52	0.012	.7602445	6.119587
religion	-7.86863	4.348222	-1.81	0.070	-16.39099	.6537289
atraso2	-8.824839	3.404044	-2.59	0.010	-15.49664	-2.153036
_cons	.6351097	29.34341	0.02	0.983	-56.87691	58.14713

Note: the common support option has been selected
The region of common support is [.07428577, .99993739]

2.2.Arequipa : Buenaventura

a.

Probit regression	Number of obs	=	41
	LR chi2(9)	=	16.62
	Prob> chi2	=	0.0550
Log likelihood = -15.532896	Pseudo R2	=	0.3486

b.

d2	Coef.	Std. Err. z	P>z	[95% Conf.	Interval]
ltap3	.1598615	.4471899 0.36	0.721	-.7166146	1.036338
ganadoperca	.0012715	.0084184 0.15	0.880	-.0152283	.0177712
altitud	-.0004359	.0005545 -0.79	0.432	-.0015228	.000651
ingpc	-.0189492	.0109153 -1.74	0.083	-.0403427	.0024443
mortai	-51.51231	.2864651 -179.82	0.000	-52.07377	-50.95085
desnuoms	-2.592412	1.975724 -1.31	0.189	-6.464759	1.279935
pobretot	-2.934446	4.874081 -0.60	0.547	-12.48747	6.618578
espervida	-169.2605	.1254202 -1349.55	0.000	-169.5063	-169.0147
nseguro_	.0513965	.0424132 1.21	0.226	-.0317317	.1345248
_cons	13328.17	.	.	.	.

Note: the common support option has been selected
The region of common support is [.26613304, .80913193]

2.3.Arequipa : Las demás

a.

Probit regression	Number of obs	=	55
	LR chi2(18)	=	41.95
	Prob> chi2	=	0.0011
Log likelihood = -7.8765431	Pseudo R2	=	0.7270

b.

d3	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	5.366969	3.962237	1.35	0.176	-2.398872	13.13281
super_perca	.0956771	.0892714	1.07	0.284	-.0792916	.2706457
ganadoperca	.0113331	.0333233	0.34	0.734	-.0539793	.0766455
altitud	-.0028533	.0022959	-1.24	0.214	-.0073532	.0016466
ingpc	-.0099767	.0199085	-0.50	0.616	-.0489967	.0290433
mortai	5.13248	13.04044	0.39	0.694	-20.42631	30.69127
pobretot	18.25208	24.30437	0.75	0.453	-29.38361	65.88777
novivagua	13.41917	13.89203	0.97	0.334	-13.80871	40.64705
ndesague	-2.836639	6.800791	-0.42	0.677	-16.16594	10.49267

noelectr	-64.25442	65.00425	-0.99	0.323	-191.6604	63.15156
notelefonia	39.57332	42.29327	0.94	0.349	-43.31997	122.4666
pobrural07	22.23543	23.04419	0.96	0.335	-22.93036	67.40123
densidad	-7.51159	11.62598	-0.65	0.518	-30.2981	15.27492
vivptierra07	8.344808	16.77178	0.50	0.619	-24.52727	41.21689
tv_radio	-1.022226	39.80886	-0.03	0.980	-79.04616	77.00171
espervida	20.25359	40.65485	0.50	0.618	-59.42845	99.93564
nseguro_	-.2987778	.1845819	-1.62	0.106	-.6605516	.0629961
atraso2	7.667421	37.98492	0.20	0.840	-66.78166	82.11651
_cons	-1643.345	3227.316	-0.51	0.611	-7968.769	4682.079

Note: the common support option has been selected
The region of common support is [.33165134, 1]

2.4.Arequipa : Buenaventura y las demás

a.

Probit regression	Number of obs	=	82
	LR chi2(26)	=	79.86
	Prob> chi2	=	0.0000
Log likelihood = -8.7289048	Pseudo R2	=	0.8206

b.

d23	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	10.43639	7.738433	1.35	0.177	-4.730664	25.60344
idh	148.7575	452.8281	0.33	0.743	-738.7693	1036.284
super_perca	.2969152	.2498428	1.19	0.235	-.1927678	.7865982
ganadoperca	.0582762	.0735595	0.79	0.428	-.0858979	.2024502
altitud	-.0075338	.0067708	-1.11	0.266	-.0208044	.0057367
ingpc	-.0255482	.0458263	-0.56	0.577	-.1153661	.0642698
mortai	5.759504	15.0776	0.38	0.702	-23.79205	35.31106
desnuoms	3.089297	33.02848	0.09	0.925	-61.64533	67.82392
pobretot	-59.67372	69.06915	-0.86	0.388	-195.0468	75.69932
novivagua	22.86938	20.93439	1.09	0.275	-18.16127	63.90003
ndesague	-11.75544	8.762273	-1.34	0.180	-28.92918	5.418296
mujeres_no~e	439.239	345.2427	1.27	0.203	-237.4243	1115.902
mayor18	-180.2409	214.2083	-0.84	0.400	-600.0813	239.5996
noelectr	-115.8156	109.8391	-1.05	0.292	-331.0963	99.46512
notelefonia	-1.822514	22.5463	-0.08	0.936	-46.01244	42.36741
pobrural07	-32.74271	26.27169	-1.25	0.213	-84.23428	18.74887
densidad	-50.56034	60.59594	-0.83	0.404	-169.3262	68.20551
vivptierra07	23.32409	17.42356	1.34	0.181	-10.82545	57.47363
no_asiste	196.0739	175.0538	1.12	0.263	-147.0251	539.173
tv_radio	-2.957408	45.90109	-0.06	0.949	-92.92189	87.00707
espervida	21.14816	45.04185	0.47	0.639	-67.13225	109.4286
nseguro_	-1.245674	1.117107	-1.12	0.265	-3.435164	.9438148
partida_cen	2936.348	2604.505	1.13	0.260	-2168.388	8041.085
lengua_cen	62.43273	74.08985	0.84	0.399	-82.78071	207.6462
religion	-107.6674	133.6126	-0.81	0.420	-369.5434	154.2085

atraso2	133.7241	130.7853	1.02	0.307	-122.6103	390.0586
_cons	-4745.479	4267.552	-1.11	0.266	-13109.73	3618.77

Note: the common support option has been selected
The region of common support is [.08710636, 1]

2.5.Ayacucho

a.

Probit regression	Number of obs	=	93
	LR chi2(26)	=	75.58
	Prob> chi2	=	0.0000
Log likelihood = -10.624486	Pseudo R2	=	0.7805

b.

d4	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	2.988401	2.644353	1.13	0.258	-2.194436	8.171238
idh	-753.8111	574.6783	-1.31	0.190	-1880.16	372.5376
super_perca	.2121548	.1535905	1.38	0.167	-.088877	.5131867
ganadoperca	.6165695	.4339534	1.42	0.155	-.2339635	1.467102
altitud	-.0012731	.0023323	-0.55	0.585	-.0058444	.0032982
ingpc	.0939555	.0634279	1.48	0.139	-.030361	.218272
mortai	-16.55259	9.074975	-1.82	0.068	-34.33921	1.234035
desnuoms	-2.024593	12.09768	-0.17	0.867	-25.73561	21.68642
pobretot	-31.56811	34.65236	-0.91	0.362	-99.48549	36.34928
novivagua	-14.15176	10.7681	-1.31	0.189	-35.25685	6.953329
ndesague	10.1981	11.36596	0.90	0.370	-12.07877	32.47498
mujeres_no~e	32.91398	43.33096	0.76	0.447	-52.01315	117.8411
mayor18	-178.7753	120.9405	-1.48	0.139	-415.8142	58.26369
noelectr	11.9308	9.75244	1.22	0.221	-7.183631	31.04523
notelefonia	12.5101	15.77456	0.79	0.428	-18.40747	43.42766
pobrural07	-3.412528	7.739886	-0.44	0.659	-18.58243	11.75737
densidad	-117.7814	89.07772	-1.32	0.186	-292.3705	56.80776
vivptierra07	-57.72165	36.30431	-1.59	0.112	-128.8768	13.43349
no_asiste	-32.6514	42.95051	-0.76	0.447	-116.8329	51.53005
tv_radio	63.14277	44.91855	1.41	0.160	-24.89598	151.1815
espervida	-53.85776	30.44971	-1.77	0.077	-113.5381	5.822576
nseguro_	-.1291259	.1385632	-0.93	0.351	-.4007047	.1424529
partida_cen	189.0027	139.4724	1.36	0.175	-84.35818	462.3637
lengua_cen	65.99969	52.70322	1.25	0.210	-37.29672	169.2961
religion	13.66912	11.02709	1.24	0.215	-7.943592	35.28182
atraso2	-18.37286	15.06437	-1.22	0.223	-47.89848	11.15276
_cons	4459.376	2468.269	1.81	0.071	-378.3416	9297.095

Note: the common support option has been selected
The region of common support is [.06178304, 1]

2.6.Cusco

a.

Probit regression	Number of obs	=	142
	LR chi2(26)	=	36.54
	Prob> chi2	=	0.0821
Log likelihood = -54.947856	Pseudo R2	=	0.2495

b.

d5	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	.1008921	.3151367	0.32	0.749	-.5167644	.7185487
idh	87.42222	50.21772	1.74	0.082	-11.0027	185.8471
super_perca	.0026191	.0061843	0.42	0.672	-.0095018	.0147401
ganadoperca	-.0178882	.0359892	-0.50	0.619	-.0884258	.0526493
altitud	-.0000187	.0005478	-0.03	0.973	-.0010924	.0010549
ingpc	.0065027	.0090301	0.72	0.471	-.011196	.0242013
mortai	.2565829	.3489622	0.74	0.462	-.4273706	.9405363
desnuoms	.1639774	2.346676	0.07	0.944	-4.435424	4.763378
pobretot	8.387181	4.549766	1.84	0.065	-.5301953	17.30456
novivagua	.0489878	.9676917	0.05	0.960	-1.847653	1.945629
ndesague	-1.807758	1.319836	-1.37	0.171	-4.394589	.779072
mujeres_no~e	14.94697	9.533635	1.57	0.117	-3.738609	33.63255
mayor18	7.596788	8.400453	0.90	0.366	-8.867797	24.06137
noelectr	-1.317653	1.518447	-0.87	0.386	-4.293754	1.658448
notelefonia	.6385562	2.545631	0.25	0.802	-4.350789	5.627901
pobrural07	.4102403	1.208964	0.34	0.734	-1.959287	2.779767
densidad	1.398319	1.15587	1.21	0.226	-.8671444	3.663782
vivptierra07	6.553503	3.928959	1.67	0.095	-1.147115	14.25412
no_asiste	9.777586	8.995825	1.09	0.277	-7.853907	27.40908
tv_radio	6.720562	4.032804	1.67	0.096	-1.183589	14.62471
espervida	.5180258	1.31397	0.39	0.693	-2.057307	3.093359
nseguro_	-.0132489	.0197205	-0.67	0.502	-.0519003	.0254025
partida_cen	18.59753	41.18276	0.45	0.652	-62.11919	99.31426
lengua_cen	-.8852111	1.448686	-0.61	0.541	-3.724583	1.954161
religion	3.011044	2.067534	1.46	0.145	-1.041248	7.063336
atraso2	-.9015897	3.192986	-0.28	0.778	-7.159727	5.356548
_cons	-131.135	108.6656	-1.21	0.228	-344.1157	81.84569

Note: the common support option has been selected
The region of common support is [.06144974, .7076017]

2.7.Huancavelica: Buenaventura

a.

Probit regression	Number of obs	=	38
	LR chi2(5)	=	21.90
	Prob> chi2	=	0.0005
Log likelihood = -3.8473345	Pseudo R2	=	0.7400

b.

d6	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	2.633735	2.638496	1.00	0.318	-2.537623	7.805092
super_perca	-.0554799	.0589141	-0.94	0.346	-.1709495	.0599896
ganadoperca	-.0264359	.2832351	-0.09	0.926	-.5815664	.5286947
altitud	.0045272	.0030563	1.48	0.139	-.001463	.0105173
ingpc	-.0148381	.03497	-0.42	0.671	-.083378	.0537018
_cons	-34.26108	26.8636	-1.28	0.202	-86.91276	18.3906

Note: the common support option has been selected
The region of common support is [.17785102, .99983271]

2.8. Huancavelica: Las demás

a.

Probit regression	Number of obs	=	89
	LR chi2(11)	=	35.18
	Prob> chi2	=	0.0002
Log likelihood = -24.335512	Pseudo R2	=	0.4195

b.

d7	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	.7765541	.32893	2.36	0.018	.1318631	1.421245
super_perca	-.0142891	.0114908	-1.24	0.214	-.0368106	.0082323
ganadoperca	-.0781488	.0758128	-1.03	0.303	-.2267391	.0704415
altitud	.0018408	.0007308	2.52	0.012	.0004085	.0032731
ingpc	-.0015784	.0084618	-0.19	0.852	-.0181633	.0150064
mortai	1.057038	.8813215	1.20	0.230	-.6703203	2.784397
novivagua	-.3825654	1.002605	-0.38	0.703	-2.347635	1.582504
ndesague	.3165875	1.723709	0.18	0.854	-3.06182	3.694995
espervida	3.396655	3.1269	1.09	0.277	-2.731957	9.525268
nseguro_	.0103214	.0205986	0.50	0.616	-.0300511	.050694
lengua_cen	-.0446441	1.112928	-0.04	0.968	-2.225942	2.136654
_cons	-280.6286	244.0616	-1.15	0.250	-758.9806	197.7234

Note: the common support option has been selected
The region of common support is [.03522983, .99856439]

2.9. Huancavelica: Buenaventura y las demás

a.

Probit regression	Number of obs	=	112

	LR chi2(24)	=	89.81
	Prob> chi2	=	0.0000
Log likelihood = -9.1420478	Pseudo R2	=	0.8309

b.

d67	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	6.771603	2.457581	2.76	0.006	1.954834	11.58837
super_perca	.0277947	.0656929	0.42	0.672	-.100961	.1565504
ganadoperca	-1.993994	.4364334	-4.57	0.000	-2.849388	-1.138601
altitud	.0359711	.0047275	7.61	0.000	.0267055	.0452368
ingpc	-.3005154	.1175092	-2.56	0.011	-.5308293	-.0702015
mortai	37.705	.3589405	105.05	0.000	37.00149	38.40851
desnuoms	-57.7615	17.84539	-3.24	0.001	-92.73782	-22.78519
pobretot	10.85194	39.54803	0.27	0.784	-66.66078	88.36466
novivagua	37.39094	6.060355	6.17	0.000	25.51287	49.26902
ndesague	-43.13972	11.09481	-3.89	0.000	-64.88515	-21.39428
mujeres_no~e	-243.5411	60.17411	-4.05	0.000	-361.4802	-125.602
mayor18	201.1383	42.74079	4.71	0.000	117.3679	284.9087
noelectr	11.10242	8.208886	1.35	0.176	-4.986696	27.19154
notelefonia	179.115	46.66746	3.84	0.000	87.64848	270.5816
pobrural07	-11.60923	14.59101	-0.80	0.426	-40.20708	16.98862
densidad	36.47419	11.01815	3.31	0.001	14.87902	58.06936
vivptierra07	-129.4973	26.45833	-4.89	0.000	-181.3547	-77.63994
no_asiste	-71.64632	49.07451	-1.46	0.144	-167.8306	24.53795
tv_radio	96.45567	37.41187	2.58	0.010	23.12975	169.7816
espervida	123.9668	.7933608	156.26	0.000	122.4118	125.5217
nseguro_	-.1835584	.0537577	-3.41	0.001	-.2889215	-.0781952
lengua_cen	.2203361	5.560714	0.04	0.968	-10.67846	11.11913
religion	3.523513	11.85793	0.30	0.766	-19.71761	26.76463
atraso2	-24.92407	19.95423	-1.25	0.212	-64.03364	14.18551
_cons	-9899.33	.	.	.	.	.

Note: the common support option has been selected

The region of common support is [.10344883, 1]

2.10. Junín - Pasco

a.

Probit regression	Number of obs	=	101
	LR chi2(15)	=	56.87
	Prob> chi2	=	0.0000
Log likelihood = -17.341336	Pseudo R2	=	0.6212

b.

d8	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	2.530319	.7984267	3.17	0.002	.9654316	4.095207
super_perca	.0008656	.0035274	0.25	0.806	-.006048	.0077791
ganadoperca	.244823	.0935997	2.62	0.009	.0613708	.4282751
altitud	.0002077	.0006261	0.33	0.740	-.0010195	.0014348

ingpc	-.0426377	.0182126	-2.34	0.019	-.0783337	-.0069417
desnuoms	-11.21566	6.357498	-1.76	0.078	-23.67613	1.244811
pobretot	-9.073612	6.448876	-1.41	0.159	-21.71318	3.565953
mayor18	-28.75767	16.64626	-1.73	0.084	-61.38375	3.868402
pobrural07	6.143988	3.168028	1.94	0.052	-.0652319	12.35321
densidad	-1.94837	1.965972	-0.99	0.322	-5.801604	1.904863
vivptierra07	-5.908194	2.176036	-2.72	0.007	-10.17315	-1.643241
espervida	.015089	.250518	0.06	0.952	-.4759173	.5060953
nseguro_	.1473109	.0526434	2.80	0.005	.0441318	.25049
lengua_cen	5.612488	3.810124	1.47	0.141	-1.855218	13.08019
atraso2	-2.209523	7.721793	-0.29	0.775	-17.34396	12.92491
_cons	-10.76055	17.29702	-0.62	0.534	-44.66209	23.14099

Note: the common support option has been selected

The region of common support is [.10879752, .99088534]

2.11. La Libertad: Las demás

a.

Probit regression	Number of obs	=	112
	LR chi2(23)	=	54.93
	Prob> chi2	=	0.0002
Log likelihood = -16.640874	Pseudo R2	=	0.6227

b.

d11	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	-.601783	.6756609	-0.89	0.373	-1.926054	.722488
idh	15.52016	101.8946	0.15	0.879	-184.1895	215.2298
super_perca	-.0094255	.0106966	-0.88	0.378	-.0303904	.0115395
ganadoperca	-2.62103	1.591322	-1.65	0.100	-5.739963	.4979036
altitud	.0006831	.0009003	0.76	0.448	-.0010815	.0024477
ingpc	-.0128927	.0126003	-1.02	0.306	-.0375889	.0118035
mortai	-1.758192	1.690043	-1.04	0.298	-5.070614	1.554231
desnuoms	3.877357	4.57997	0.85	0.397	-5.099218	12.85393
pobretot	-4.070586	9.114376	-0.45	0.655	-21.93444	13.79326
novivagua	2.054955	1.708801	1.20	0.229	-1.294233	5.404143
ndesague	-4.090931	2.906405	-1.41	0.159	-9.787379	1.605518
mujeres_no~e	-12.03324	19.83476	-0.61	0.544	-50.90866	26.84218
mayor18	20.46786	11.9035	1.72	0.086	-2.862571	43.79829
noelectr	-3.523396	4.689861	-0.75	0.452	-12.71536	5.668564
notelefonia	-10.82556	6.974057	-1.55	0.121	-24.49446	2.843345
pobrural07	.2878741	4.300353	0.07	0.947	-8.140663	8.716411
vivptierra07	-6.872174	5.454107	-1.26	0.208	-17.56203	3.817679
no_asiste	16.11017	18.31917	0.88	0.379	-19.79475	52.01508
tv_radio	-25.85768	19.46079	-1.33	0.184	-64.00013	12.28478
espervida	-5.649983	5.314922	-1.06	0.288	-16.06704	4.767074
nseguro_	.1557012	.0802694	1.94	0.052	-.0016241	.3130264
religion	2.310454	9.264982	0.25	0.803	-15.84858	20.46948
atraso2	19.95241	8.565984	2.33	0.020	3.163389	36.74143
_cons	451.8331	431.9983	1.05	0.296	-394.868	1298.534

Note: the common support option has been selected

The region of common support is [.12241009, .99788284]

2.12. La Libertad: Barrick, Poderosa y las demás

a.

Probit regression	Number of obs	=	116
	LR chi2(16)	=	58.21
	Prob> chi2	=	0.0000
Log likelihood = -22.619908	Pseudo R2	=	0.5627

b.

d91011	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	.3171694	.3523508	0.90	0.368	-.3734255	1.007764
super_perca	-.0053618	.0100037	-0.54	0.592	-.0249686	.014245
ganadoperca	-1.422001	.75521	-1.88	0.060	-2.902186	.058183
altitud	.000103	.0003984	0.26	0.796	-.0006779	.0008838
ingpc	-.0122953	.0091984	-1.34	0.181	-.0303239	.0057332
mortai	-2.343065	1.322686	-1.77	0.076	-4.935481	.2493515
novivagua	2.31309	1.168297	1.98	0.048	.0232688	4.60291
ndesague	-2.501627	1.973946	-1.27	0.205	-6.37049	1.367236
mayor18	8.094298	4.991412	1.62	0.105	-1.688689	17.87728
noelectr	-1.622018	2.132033	-0.76	0.447	-5.800726	2.556691
notelefonia	-3.800181	3.857839	-0.99	0.325	-11.36141	3.761046
pobrural07	2.848303	2.121154	1.34	0.179	-1.309082	7.005688
vivptierra07	-9.254647	4.53886	-2.04	0.041	-18.15065	-.3586442
espervida	-7.269552	4.209784	-1.73	0.084	-15.52058	.9814738
nseguro_	.0410166	.0280969	1.46	0.144	-.0140523	.0960855
atraso2	13.53089	5.524117	2.45	0.014	2.703819	24.35796
_cons	577.8919	334.9724	1.73	0.084	-78.64198	1234.426

Note: the common support option has been selected
The region of common support is [.14400656, .99999991]

2.13. Puno

a.

Probit regression	Number of obs	=	122
	LR chi2(25)	=	48.65
	Prob> chi2	=	0.0031
Log likelihood = -40.159301	Pseudo R2	=	0.3772

b.

d13	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	1.191106	.4205085	2.83	0.005	.3669247	2.015288
idh	-115.7576	79.99608	-1.45	0.148	-272.5471	41.03181
ganadoperca	-.0232257	.075407	-0.31	0.758	-.1710206	.1245693
altitud	.0012204	.000606	2.01	0.044	.0000326	.0024082

ingpc	-.0245282	.0137127	-1.79	0.074	-.0514047	.0023483
mortai	-.2449344	.6187736	-0.40	0.692	-1.457708	.9678395
desnuoms	3.791274	6.553321	0.58	0.563	-9.052998	16.63555
pobretot	-7.719961	4.986181	-1.55	0.122	-17.4927	2.052773
novivagua	-.2259138	1.450695	-0.16	0.876	-3.069224	2.617397
ndesague	-3.543003	1.590879	-2.23	0.026	-6.661069	-.4249376
mujeres_no~e	-2.526136	13.56854	-0.19	0.852	-29.11999	24.06771
mayor18	-25.9303	15.0075	-1.73	0.084	-55.34446	3.483861
noelectr	.4295897	1.6651	0.26	0.796	-2.833947	3.693126
notelefonia	-3.74563	4.044275	-0.93	0.354	-11.67226	4.181003
pobrural07	-2.156168	2.170228	-0.99	0.320	-6.409737	2.0974
densidad	-1.372777	2.174031	-0.63	0.528	-5.6338	2.888245
vivptierra07	-4.605945	3.303832	-1.39	0.163	-11.08134	1.869447
no_asiste	-18.26446	12.79406	-1.43	0.153	-43.34036	6.811434
tv_radio	-12.0163	8.046987	-1.49	0.135	-27.78811	3.755502
espervida	-.4163341	2.378151	-0.18	0.861	-5.077425	4.244757
nseguro_	-.0267847	.0186319	-1.44	0.151	-.0633025	.0097331
partida_cen	85.01602	84.24136	1.01	0.313	-80.09401	250.1261
lengua_cen	-2.491948	2.746186	-0.91	0.364	-7.874373	2.890478
religion	.1705704	2.69497	0.06	0.950	-5.111474	5.452615
atraso2	5.560366	6.141983	0.91	0.365	-6.4777	17.59843
_cons	27.54736	222.1879	0.12	0.901	-407.9328	463.0276

Note: the common support option has been selected
The region of common support is [.10015618, .95544654]

2.14. Sierra norte de Lima: Las demás

a.

Probit regression	Number of obs	=	98
	LR chi2(26)	=	80.67
	Prob> chi2	=	0.0000
Log likelihood = -14.216171	Pseudo R2	=	0.7394

b.

d15	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	.2947341	.9011874	0.33	0.744	-1.471561	2.061029
idh	300.4793	163.7144	1.84	0.066	-20.39507	621.3537
super_perca	-.0572856	.0373915	-1.53	0.126	-.1305717	.0160004
ganadoperca	.0230485	.026626	0.87	0.387	-.0291376	.0752345
altitud	-.0020829	.0011802	-1.76	0.078	-.004396	.0002302
ingpc	-.0262012	.0244722	-1.07	0.284	-.0741658	.0217635
mortai	-1.528581	1.211353	-1.26	0.207	-3.902789	.8456277
desnuoms	10.91933	7.246082	1.51	0.132	-3.282733	25.12139
pobretot	2.062317	10.01926	0.21	0.837	-17.57506	21.6997
novivagua	1.626835	2.894694	0.56	0.574	-4.046661	7.300331
ndesague	-8.403212	4.828793	-1.74	0.082	-17.86747	1.061048
mujeres_no~e	55.23623	52.99982	1.04	0.297	-48.64151	159.114
mayor18	40.571	37.6875	1.08	0.282	-33.29515	114.4372
noelectr	7.267271	4.57612	1.59	0.112	-1.701759	16.2363

notelefonia	8.193369	6.846848	1.20	0.231	-5.226206	21.61294
pobrural07	2.865761	4.224586	0.68	0.498	-5.414276	11.1458
densidad	-4.205993	15.63209	-0.27	0.788	-34.84433	26.43234
vivptierra07	12.23889	7.482664	1.64	0.102	-2.42686	26.90464
no_asiste	18.13638	20.37633	0.89	0.373	-21.8005	58.07326
tv_radio	45.88891	20.4751	2.24	0.025	5.75845	86.01937
espervida	-6.145125	4.190159	-1.47	0.142	-14.35768	2.067435
nseguro_	-.0513082	.054409	-0.94	0.346	-.1579479	.0553316
partida_cen	-32.55992	34.50576	-0.94	0.345	-100.19	35.07013
lengua_cen	-46.73602	23.90971	-1.95	0.051	-93.59819	.1261499
religion	13.83013	8.6738	1.59	0.111	-3.170208	30.83046
atraso2	-25.99685	19.93798	-1.30	0.192	-65.07457	13.08088
_cons	309.0739	279.3264	1.11	0.269	-238.3957	856.5435

Note: the common support option has been selected
The region of common support is [.11707312, 1]

2.15. Sierra norte de Lima: Buenaventura y las demás

a.

Probit regression	Number of obs	=	105
	LR chi2(26)	=	87.46
	Prob> chi2	=	0.0000
Log likelihood = -15.036648	Pseudo R2	=	0.7441

b.

d1415	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
ltap3	.1026403	.742074	0.14	0.890	-1.351798	1.557079
idh	306.6371	154.6924	1.98	0.047	3.445448	609.8287
super_perca	-.0568494	.0347609	-1.64	0.102	-.1249794	.0112807
ganadoperca	.014786	.0239937	0.62	0.538	-.0322408	.0618127
altitud	-.0023047	.0010928	-2.11	0.035	-.0044465	-.0001628
ingpc	-.0210222	.0236583	-0.89	0.374	-.0673916	.0253473
mortai	-1.372542	1.170043	-1.17	0.241	-3.665784	.9206992
desnuoms	11.22646	6.866435	1.63	0.102	-2.231509	24.68442
pobretot	.6813114	9.117913	0.07	0.940	-17.18947	18.55209
novivagua	2.111481	2.679091	0.79	0.431	-3.139442	7.362404
ndesague	-9.083053	4.860723	-1.87	0.062	-18.60989	.443789
mujeres_no~e	76.06821	47.4624	1.60	0.109	-16.95639	169.0928
mayor18	24.89117	32.00994	0.78	0.437	-37.84715	87.6295
noelectr	9.145216	5.175673	1.77	0.077	-.9989165	19.28935
notelefonia	5.629814	5.905688	0.95	0.340	-5.945121	17.20475
pobrural07	1.997901	3.088116	0.65	0.518	-4.054694	8.050496
densidad	-.0953406	10.87399	-0.01	0.993	-21.40796	21.21728
vivptierra07	14.00749	6.196041	2.26	0.024	1.863471	26.15151
no_asiste	17.58749	22.05767	0.80	0.425	-25.64476	60.81973
tv_radio	47.18448	20.84338	2.26	0.024	6.332216	88.03675
espervida	-5.786091	4.012245	-1.44	0.149	-13.64995	2.077765

nseguro_	-.0478577	.0527964	-0.91	0.365	-.1513368	.0556214
partida_cen	-37.73465	31.47849	-1.20	0.231	-99.43135	23.96205
lengua_cen	-48.82019	21.80674	-2.24	0.025	-91.56061	-6.07977
religion	15.64023	7.987731	1.96	0.050	-.0154372	31.29589
atraso2	-21.00297	18.49517	-1.14	0.256	-57.25284	15.2469
_cons	279.5503	272.4166	1.03	0.305	-254.3764	813.4769

Note: the common support option has been selected
The region of common support is [.06935041, 1]

Anexo 3: Lista de distritos control

Estrato de corredor: 01. Ancash			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
20102	Ancash	Huaraz	cochabamba
20108	Ancash	Huaraz	olleros
20110	Ancash	Huaraz	pariacoto
20111	Ancash	Huaraz	pira
20203	Ancash	Aija	huacllan
20305	Ancash	Antonio Raymondi	mirgas
20401	Ancash	Asunción	chacas
20402	Ancash	Asunción	acochaca
20503	Ancash	Bolognesi	antonioraymondi
20505	Ancash	Bolognesi	cajacay
20507	Ancash	Bolognesi	colquioc
20508	Ancash	Bolognesi	huallanca
20601	Ancash	Carhuaz	carhuaz
20603	Ancash	Carhuaz	amashca
20605	Ancash	Carhuaz	ataquero
20607	Ancash	Carhuaz	pariahuanca
20610	Ancash	Carhuaz	tinco
20611	Ancash	Carhuaz	yungar
20702	Ancash	Carlos FerminFitzcarrald	san nicolas
20905	Ancash	Corongo	la pampa
21001	Ancash	Huari	huari
21003	Ancash	Huari	cajay
21007	Ancash	Huari	huachis
21009	Ancash	Huari	masin
21011	Ancash	Huari	ponto
21204	Ancash	Huaylas	huaylas
21206	Ancash	Huaylas	pamparomas
21207	Ancash	Huaylas	pueblo libre
21209	Ancash	Huaylas	santo toribio
21210	Ancash	Huaylas	yuracmarca
21304	Ancash	Mariscal Luzuriaga	fidel olivas escudero
21404	Ancash	Ocros	carhuapampa
21410	Ancash	Ocros	santiago de chilcas
21602	Ancash	Pomabamba	huayllan
21603	Ancash	Pomabamba	parobamba
21702	Ancash	Recuay	catac
21704	Ancash	Recuay	huayllapampa
21706	Ancash	Recuay	marca
21707	Ancash	Recuay	pampas chico
21804	Ancash	Santa	macate

21910	Ancash	Sihuas	sicsibamba
22001	Ancash	Yungay	yungay
22003	Ancash	Yungay	mancos
100301	Huanuco	Dos de Mayo	la union
100404	Huanuco	Huacaybamba	pinra
101004	Huanuco	Lauricocha	queropalca
131001	La Libertad	Santiago de Chuco	santiago de chuco
150502	Lima	Canete	asia
150503	Lima	Canete	calango
150506	Lima	Canete	coayllo
Estrato de corredor: 02. Arequipa - Buenaventura			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
40408	Arequipa	Castilla	machaguay
40503	Arequipa	Caylloma	cabanaconde
40504	Arequipa	Caylloma	callalli
40511	Arequipa	Caylloma	lluta
40514	Arequipa	Caylloma	san antonio de chuca
40516	Arequipa	Caylloma	tapay
40603	Arequipa	Condesuyos	cayarani
40607	Arequipa	Condesuyos	salamanca
40806	Arequipa	La Union	puyca
Estrato de corredor: 03. Arequipa - las demás			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
40101	Arequipa	Arequipa	arequipa
40103	Arequipa	Arequipa	cayma
40122	Arequipa	Arequipa	socabaya
40124	Arequipa	Arequipa	uchumayo
40410	Arequipa	Castilla	pampacolca
40413	Arequipa	Castilla	uraca
40701	Arequipa	Islay	mollendo
Estrato de corredor: 04. Ayacucho			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
30606	Apurimac	Chincheros	ongoy
50110	Ayacucho	Huamanga	san juan bautista
50203	Ayacucho	Cangallo	los morochucos
50403	Ayacucho	Huanta	huamanguilla
50406	Ayacucho	Huanta	santillana
50503	Ayacucho	La mar	ayna
50505	Ayacucho	La mar	chungui
50507	Ayacucho	La mar	santa rosa
50902	Ayacucho	Sucre	belen
80906	Cusco	La Convencion	quellouno
90205	Huancavelica	Acobamba	marcas
90309	Huancavelica	Angaraes	julcamarca

90310	Huancavelica	Angaraes	san antonio de antaparco
Estrato de corredor: 05. Cusco			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
30101	Apurimac	Abancay	abancay
30104	Apurimac	Abancay	curahuasi
30106	Apurimac	Abancay	lambrama
30108	Apurimac	Abancay	san pedro de cachora
30109	Apurimac	Abancay	tamburco
30502	Apurimac	Cotabambas	cotabambas
30503	Apurimac	Cotabambas	coyllurqui
30703	Apurimac	Grau	gamarra
80101	Cusco	Cusco	cusco
80103	Cusco	Cusco	poroy
80104	Cusco	Cusco	san jeronimo
80105	Cusco	Cusco	san sebastian
80106	Cusco	Cusco	santiago
80204	Cusco	Acomayo	mosocllacta
80206	Cusco	Acomayo	rondocan
80304	Cusco	Anta	chinchaypujio
80305	Cusco	Anta	huarocondo
80307	Cusco	Anta	mollepata
80402	Cusco	Calca	coya
80403	Cusco	Calca	lamay
80404	Cusco	Calca	lares
80408	Cusco	Calca	yanatile
80501	Cusco	Canas	yanaoca
80502	Cusco	Canas	checca
80506	Cusco	Canas	pampamarca
80507	Cusco	Canas	quehue
80508	Cusco	Canas	tupacamaru
80604	Cusco	Canchis	marangani
80605	Cusco	Canchis	pitumarca
80607	Cusco	Canchis	san pedro
80608	Cusco	Canchis	tinta
80702	Cusco	Chumbivilcas	capacmarca
80801	Cusco	Espinar	espinar
80905	Cusco	La Convencion	ocobamba
80908	Cusco	La Convencion	santa teresa
81002	Cusco	Paruro	accha
81005	Cusco	Paruro	huanoquite
81007	Cusco	Paruro	paccaritambo
81009	Cusco	Paruro	yaurisque
81101	Cusco	Paucartambo	paucartambo
81104	Cusco	Paucartambo	colquepata

81201	Cusco	Quispicanchi	urcos
81202	Cusco	Quispicanchi	andahuaylillas
81206	Cusco	Quispicanchi	cusipata
81207	Cusco	Quispicanchi	huaro
81208	Cusco	Quispicanchi	lucre
81211	Cusco	Quispicanchi	oropesa
81302	Cusco	Urubamba	chinchero
81303	Cusco	Urubamba	huayllabamba
81305	Cusco	Urubamba	maras
81306	Cusco	Urubamba	ollantaytambo
81307	Cusco	Urubamba	yucay
90116	Huancavelica	Huancavelica	vilca
120108	Junin	Huancayo	chongos alto
120111	Junin	Huancayo	chupuro
120204	Junin	Concepcion	chambara
120214	Junin	Concepcion	san jose de quero
120431	Junin	Jauja	sincos
120907	Junin	Chupaca	san juan de jarpa
151021	Lima	Yauyos	miraflores
210208	Puno	Azangaro	munani
210209	Puno	Azangaro	potoni
210212	Puno	Azangaro	san jose
210215	Puno	Azangaro	tirapata
210310	Puno	Carabaya	usicayos
210805	Puno	Melgar	macari
Estrato de corredor: 06. Huancavelica- Buenaventura			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
50205	Ayacucho	Cangallo	paras
51011	Ayacucho	Victor Fajardo	sarhua
90203	Huancavelica	Acobamba	anta
90208	Huancavelica	Acobamba	rosario
90303	Huancavelica	Angaraes	callanmarca
90312	Huancavelica	Angaraes	secclla
Estrato de corredor: 07. Huancavelica- las demás			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
50402	Ayacucho	Huanta	ayahuanco
90104	Huancavelica	Huancavelica	conayca
90107	Huancavelica	Huancavelica	huayllahuara
90108	Huancavelica	Huancavelica	izcuchaca
90109	Huancavelica	Huancavelica	laria
90110	Huancavelica	Huancavelica	manta
90112	Huancavelica	Huancavelica	moya
90115	Huancavelica	Huancavelica	pilchaca
90116	Huancavelica	Huancavelica	vilca

90202	Huancavelica	Acobamba	andabamba
90203	Huancavelica	Acobamba	anta
90208	Huancavelica	Acobamba	rosario
90303	Huancavelica	Angaraes	callanmarca
90306	Huancavelica	Angaraes	congalla
90307	Huancavelica	Angaraes	huanca-huanca
90308	Huancavelica	Angaraes	huayllay grande
90309	Huancavelica	Angaraes	julcamarca
90312	Huancavelica	Angaraes	secclla
90501	Huancavelica	Churcampa	churcampa
90502	Huancavelica	Churcampa	anco
90503	Huancavelica	Churcampa	chinchihuasi
90504	Huancavelica	Churcampa	el carmen
90506	Huancavelica	Churcampa	locroja
90507	Huancavelica	Churcampa	paucarbamba
90701	Huancavelica	Tayacaja	pampas
90703	Huancavelica	Tayacaja	acraquia
90704	Huancavelica	Tayacaja	ahuaycha
90705	Huancavelica	Tayacaja	colcabamba
90706	Huancavelica	Tayacaja	danielhernandez
90709	Huancavelica	Tayacaja	huaribamba
90710	Huancavelica	Tayacaja	nahuimpuquio
90711	Huancavelica	Tayacaja	pazos
110209	Ica	Chincha	san pedro de huacarpana
120108	Junin	Huancayo	chongos alto
120112	Junin	Huancayo	colca
120113	Junin	Huancayo	cullhuas
120126	Junin	Huancayo	pucara
151016	Lima	Yauyos	huantan
Estrato de corredor: 08. Junín - Pasco			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
80902	Cusco	La Convencion	echarate
80909	Cusco	La Convencion	vilcabamba
100903	Huanuco	Puerto Inca	honoria
100904	Huanuco	Puerto Inca	tournavista
120214	Junin	Concepcion	san jose de quero
120301	Junin	Chanchamayo	chanchamayo
120304	Junin	Chanchamayo	san luis de shuaro
120503	Junin	Junin	ondores
160601	Loreto	Ucayali	contamana
190110	Pasco	Pasco	ticlacayan
190301	Pasco	Oxapampa	oxapampa
190305	Pasco	Oxapampa	pozuzo
190307	Pasco	Oxapampa	villa rica

250104	Ucayali	Coronel Portillo	masisea
Estrato de corredor: 09. La Libertad - Barrick			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
60202	Cajamarca	Cajabamba	cachachi
130605	La Libertad	Otuzco	huaranchal
130614	La Libertad	Otuzco	usquil
131006	La Libertad	Santiago de Chuco	quiruvilca
131104	La Libertad	Gran Chimu	sayapullo
Estrato de corredor: 10. La Libertad - Poderosa			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
130810	La Libertad	Pataz	pias
130907	La Libertad	SanchezCarrion	sarin
130908	La Libertad	SanchezCarrion	sartimbamba
220601	San Martin	Mariscal Caceres	juanjui
Estrato de corredor: 11. La Libertad - las demás			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
60102	Cajamarca	Cajamarca	asuncion
60109	Cajamarca	Cajamarca	magdalena
60202	Cajamarca	Cajabamba	cachachi
60501	Cajamarca	Contumaza	contumaza
61007	Cajamarca	San Marcos	jose sabogal
130105	La Libertad	Trujillo	la esperanza
130207	La Libertad	Ascope	santiago de cao
130303	La Libertad	Bolivar	condormarca
130614	La Libertad	Otuzco	usquil
130705	La Libertad	Pacasmayo	san jose
130810	La Libertad	Pataz	pias
130908	La Libertad	SanchezCarrion	sartimbamba
220601	San Martin	Mariscal Caceres	juanjui
130605	La Libertad	Otuzco	huaranchal
130702	La Libertad	Pacasmayo	guadalupe
130907	La Libertad	SanchezCarrion	sarin
131006	La Libertad	Santiago de Chuco	quiruvilca
131104	La Libertad	Gran Chimu	sayapullo
Estrato de corredor: 12. Madre de Dios			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
80902	Cusco	La Convencion	echarate
170102	Madre de Dios	Tambopata	inambari
170103	Madre de Dios	Tambopata	las piedras
170104	Madre de Dios	Tambopata	laberinto
170201	Madre de Dios	Manu	manu
170202	Madre de Dios	Manu	fitzcarrald
170203	Madre de Dios	Manu	madre de dios
170204	Madre de Dios	Manu	huepetuhe

170303	Madre de Dios	Tahuamanu	tahuamanu
210304	Puno	Carabaya	coasa
211203	Puno	Sandia	limbani
250201	Ucayali	Atalaya	raymondi
250202	Ucayali	Atalaya	sepahua
250204	Ucayali	Atalaya	yurua
250401	Ucayali	Purus	purus
Estrato de corredor: 13. Puno			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
80605	Cusco	Canchis	pitumarca
80801	Cusco	Espinar	espinar
210106	Puno	Puno	chucuito
210108	Puno	Puno	huata
210109	Puno	Puno	manazo
210110	Puno	Puno	paucarcolla
210112	Puno	Puno	plateria
210113	Puno	Puno	san antonio
210201	Puno	Azangaro	azangaro
210205	Puno	Azangaro	caminaca
210207	Puno	Azangaro	jose domingo choquehuanca
210208	Puno	Azangaro	munani
210209	Puno	Azangaro	potoni
210210	Puno	Azangaro	saman
210212	Puno	Azangaro	san jose
210213	Puno	Azangaro	san juan de salinas
210215	Puno	Azangaro	tirapata
210308	Puno	Carabaya	ollachea
210309	Puno	Carabaya	san gaban
210310	Puno	Carabaya	usicayos
210402	Puno	Chucuito	desaguadero
210405	Puno	Chucuito	pisacoma
210407	Puno	Chucuito	zepita
210501	Puno	El Collao	ilave
210502	Puno	El Collao	capazo
210605	Puno	Huancane	pusi
210607	Puno	Huancane	taraco
210608	Puno	Huancane	vilque chico
210701	Puno	Lampa	lampa
210702	Puno	Lampa	cabanilla
210705	Puno	Lampa	ocuviri
210710	Puno	Lampa	vilavila
210805	Puno	Melgar	macari
210809	Puno	Melgar	umachiri
211001	Puno	San Antonio de Putina	putina

211002	Puno	San Antonio de Putina	ananea
211004	Puno	San Antonio de Putina	quilcapuncu
211103	Puno	San Roman	cabanillas
211205	Puno	Sandia	phara
Estrato de corredor: 14. Sierra Norte Lima - Buenaventura			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
150303	Lima	Cajatambo	gorgor
190108	Pasco	Pasco	san francisco de asis de yarusyacan
190109	Pasco	Pasco	simonbolivar
190111	Pasco	Pasco	tinyahuarco
Estrato de corredor: 15. Sierra Norte Lima - las demás			
Ubigeo	**Departamento**	**Provincia**	**Distrito**
20507	Ancash	Bolognesi	colquioc
21105	Ancash	Huarmey	malvas
70106	Callao	Constitucional del Callao	ventanilla
100106	Huanuco	Huanuco	quisqui
100301	Huanuco	Dos de Mayo	la union
150106	Lima	Lima	carabayllo
150303	Lima	Cajatambo	gorgor
150407	Lima	Canta	santa rosa de quives
150605	Lima	Huaral	chancay
150606	Lima	Huaral	ihuari
190109	Pasco	Pasco	simonbolivar
150406	Lima	Canta	san buenaventura

Anexo 4: Informe de la Prueba Piloto

I PRESENTACIÓN

El presente informe denominado “Informe de la Prueba Piloto” tiene como objetivo principal, detallar en forma general las actividades desarrolladas para realizar la Prueba Piloto y los resultados de la misma. Asimismo, se exponen los diferentes problemas presentados durante el levantamiento de la información y las medidas que se proponen para el desarrollo del trabajo de campo, que permitan cumplir con los objetivos planteados.

II OBJETIVOS

2.1 ObjetivoGeneral:

El objetivo central de la prueba piloto fue validar el cuestionario que se utilizara en el trabajo de campo, es decir, verificar y evaluar si la estructura del cuestionario diseñado y las preguntas tal cual están formuladas, facilitan su diligenciamiento y si son o no adecuadamente comprendidas por la población encuestada. Asimismo, se ha aplicado un cuestionario a las autoridades de la comunidad para levantar información correspondiente a la Infraestructura, Comunicaciones, Programas Sociales, Proyectos de Inversión y Financiamiento con que cuenta o ha contado la comunidad que ellos representan.

2.2 Objetivos Específicos:

- Determinar el grado de dificultad de parte del personal de campo y de los informantes en la interpretación y comprensión de las preguntas del cuestionario a aplicarse a la población beneficiaria y control.
- Evaluar los parámetros asumidos en el planeamiento de la Operación de Campo, tales como, como el rendimiento diario del personal de campo en el diligenciamiento de los cuestionarios y la mecánica operativa para el relevamiento de la información.
- Registrar las principales preguntas e inquietudes de la Población a que responde al encuestador.
- Registrar las principales inconsistencias en el llenado de la información.

III PREPARACIÓN DE LA PRUEBA PILOTO.

Esta etapa consiste en realizar una simulación de la encuesta en pequeña escala, con la finalidad de:

- Probar los instrumentos para la recolección de información,
- Delinear la capacitación,
- Evaluar los tiempos de diligenciamiento Y
- Definir las cargas de trabajo para la operación de la campo.

En esta etapa se requirió de la ejecución de diferentes actividades que se describen a continuación:

3.1 Capacitación del Personal de Campo

La capacitación del personal se realizó el día 12 de Julio en el local principal del Instituto Cuanto en el horario de 9.00 de la mañana a 6.00 de la tarde, El curso estuvo a cargo del Especialista Econ. Moisés Ventocilla Alor con la participación del Jefe de operación de campo Econ. Demetrio Querevalù Yenque y 5 personas como capacitadas, de las cuales 4 eran Encuestadores, y 1 Supervisor, todos los cuales contaban con amplia experiencia en levantamiento de encuestas de hogares.

La metodología del curso fue expositiva-demostrativa usando como herramienta el cuestionario.

El curso - taller se desarrolló siguiendo estrictamente el orden del cuestionario.

El contenido del curso fue el siguiente:

- Objetivos de la encuesta
- Conceptos y definiciones básicas
- Diligenciamiento del cuestionario, considerando los siguiente módulos:
  - Datos Generales y de Control
    - **MODULO A: DATOS NO PRODUCTIVOS DEL HOGAR**
      - Características de la vivienda y del hogar
      - Características de Todos los Miembros del Hogar
      - Empleo y Actividad Económica.

      Gastos en alimentos del Hogar
      - Gastos en Alimentos y Bebidas
      - Alimentos consumidos dentro y fuera del Hogar obtenidos de Instituciones Benéficas.

      Otros Gastos del Hogar
      - Mantenimiento de la Vivienda
      - Transportes y Comunicaciones
      - Servicios a la Vivienda
      - Esparcimiento, Diversión y Servicios de Cultura
      - Bienes y Servicios de Cuidados Personales
      - Vestido y Calzado
      - Gastos de Transferencias

      - Muebles y Enseres
      - Otros Bienes y Servicios.
      - Equipamiento del Hogar.
      - Gastos en Educación
      - Gastos en Salud
      - Alimentos consumidos fuera del hogar
      - Otros Gastos

      Preguntas Complementarias Ahorros e ImpuestosPercepciones Subjetivas
      - Percepciones personales
      - Percepción de Consumo de Bienes Específicos

      Emprendimiento y Capacitación Técnica

      Otras Preguntas complementarias del Hogar

    - **MODULO B: DATOS PRODUCTIVOS DEL HOGAR**
      - ProducciónAgrícola
      - Producción Pecuaria
      - Sub Productos Pecuarios

- Actividad Forestal
- Trabajo Artesanal y Manufactura

- Pautas finales para la recolección de datos.

Posteriormente se realizaron dos prácticas, una casuística dirigida y otra de entrevistas simuladas. Durante el desarrollo del taller se detectaron y corrigieron algunos problemas en el cuestionario, especialmente de alternativas de respuesta y diseño del formulario (campos para respuesta).

3.2 Selección de la Muestra

La prueba piloto fue ejecutada en dos distritos de la Provincia de Cañete: Pacaràn y Zuñiga. En estos distritos se realizaron 31 encuestas a hogares,

3.3 Conformación de Equipos de Trabajo

Se contó para esta ocasión con 1 equipo, compuesto por 4 encuestadores y un Supervisor. Asimismo, el Jefe de Operación de Campo participo en la supervisión de la Prueba Piloto.

El equipo de trabajo estuvo conformado de la siguiente manera:

TOTAL ENCUESTAS			**31**
1	Daniel Muñoz Arrascue	Gladys Meza Quispe	8
		Javier Bernardo Falla Ruiz	8
		Víctor Hugo Díaz Romero	8
		Henry Gustavo Ruiz Saldaña	7

3.4 Distribución de las Cargas de Trabajo

La muestra se distribuyó de manera equitativa entre los encuestadores, asignando 8 encuestas a cada uno, salvo el caso del encuestador Henry Ruiz quien realizo 7 encuestas. El trabajo de campo se programó para 2 días.

Total Encuestas			**31**
CAÑETE	PACARAN	Urbana	7
		Rural	8
	ZUÑIGA	Urbana	8
		Rural	8

IV EJECUCIÓNDE LA PRUEBA PILOTO

La prueba piloto del cuestionario de hogares se ejecutó los días 14 y 15 de Julio (sábado y domingo).

La mecánica operativa que se aplicó en la Prueba Piloto es la misma diseñada para el trabajo de campo definitivo y no ha presentado inconvenientes que justifiquen modificarla, inclusive con las sugerencias planteadas para mejorar la agilidad y comprensión del cuestionario, su diligenciamiento debe mejorar.

Durante la estadía de los encuestadores en el área de trabajo no se registraron mayores problemas que podrían haber incidido en el desarrollo de la prueba piloto.

Se asigno en promedio una carga diaria de trabajo para cada encuestador de 4 encuestas, se diligencio un total de 31 encuestas a hogares. Asimismo, se diligenciaron 2 encuestas a las principales autoridades de los distritos seleccionados, en ambos casos se entrevisto a los Alcaldes de dichos distritos.

A efectos de determinar la duración de las entrevistas, se tomo el tiempo de duración de las entrevistas, estableciéndose un promedio de 2 horas para cada entrevista, ello dependió de la cantidad de personas y de la disponibilidad de los informantes en los hogares. Los principales informantes fueron las amas de casa y los jefes del hogar. El principal problema fue la ubicación de todos los informantes y el tiempo disponible que tenían para acceder a la entrevista.

Asimismo, se ejecuto la encuesta a las principales autoridades de los distritos seleccionados.
Durante el trabajo de campo de la prueba piloto se conto con la participación como observador del funcionario de Chemonics Sr. Juan Manuel Antonio Vílchez Moreno.

4.1 Observaciones al Cuestionario y Correcciones Propuestas

Sección	Pregunta	Observación	Corrección propuesta	(*)Tipo de Problema
1. Caratula - A. Ubicación Geográfica	P4	No existe el campo para anotar la categoría del Centro Poblado	Incluir campo para categoría del centro poblado.	2
	P7	Hay poco espacio para anotar la referencia, se requiere ampliar esta.	Ampliar a 3 líneas para anotar la referencia.	2
2. Características de la Vivienda y del hogar	P105, P109, P111	Aprovechar la pregunta de electricidad, agua, telefonía fija, celular, cable e Internet para preguntar por el monto de pago mensual	Añadir un recuadro para anotar el monto de pago mensual en Electricidad y Agua, respectivamente. Agregar la pregunta 12 cuyo tenor seria: ¿Cuánto es el monto que paga mensualmente por los servicios de la pregunta anterior?	2
	P106	Cuando se consulta el monto de pago en alternativas 1 y 4, no se indica el periodo	Añadirá el periodo de pago mensual	1
	P112	La pregunta debe ser cambiada para rescatar una sola respuesta del uso principal de combustible para cocinar eliminar la respuesta múltiple	Se modificara pregunta para consultar por el principal combustible que usa para cocinar. Asimismo se añadirá una pregunta para consultar sobre el pago mensual por combustible	1
	P113	Dado que todavía no se conocen quienes son los miembros del hogar, la pregunta debe trasladarse a la sección Característica de los miembros del hogar	Se trasladara la pregunta después de la pregunta 209.	2
3.Característica de los Miembros del Hogar	P206	Es necesario indicar con un pase que si nació en el distrito se circule 1 y pase a P207.	Se incluirá el pase indicado e incidirá en la capacitación.	2,3
	P209	Debe precisarse el concepto de miembros del hogar y período de referencia para ser considerados como tal	Se Precisara quienes califican como miembros del hogar e incidirá en capacitación	1,3
	P210	Trasladar la P113	Se traslada la P113	2
4. Empleo y Actividad Económica (para personas de 6 años y mas)	P503	Es necesario especificar el tratamiento en el caso de los pensionistas jubilados o rentistas	Se incluirá la P511 para el caso del pensionista jubilado, rentista u otros y se precisara en la P503	1,2
	P509	No procede la alternativa no sabe	Se eliminara la alternativa no sabe.	1,2
5. Gastos del Hogar	P601e	Los entrevistados mencionan que no saben o que todos los productos son nacionales. Se debe incluir la alternativa No sabe.	Se añadirá la alternativa no sabe para todas las preguntas de este tipo	1

Sección	Pregunta	Observación	Corrección propuesta	(*)Tipo de Problema
6. Alimentos consumidos Dentro y Fuera del Hogar obtenidos de instituciones benéficas	P602-A	En el caso de la pregunta sobre vaso de leche preparado se encontró que le entregan tarros de leche y avena sin preparar y en periodos superiores a la semana	Se incluirá como una categoría mas "Vaso de leche" y se modificara la pregunta 602b de la siguiente manera ¿Generalmente con que frecuencia recibe? Y se incluirá una tabla de frecuencias.	1
10. Equipamiento del Hogar	P612b	Incidir en capacitación en el caso de que indique que no lo compraron y es un regalo, lo que se esta observando es la tenencia del activo.	Se incidirá en la capacitación	3
13. Otros Gastos	P616 a P616e	La pregunta P604 esta referida a Transportes y Comunicaciones, por tanto pensamos que deben de juntarse con la P616.	Se elimina sección 616 Otros Gastos	1,2
14. Preguntas Complementarias	P702	Se encontró que en algunos casos mencionaron disminución en sus ahorros	Se modificara la P702 ¿Cuánto a crecido o disminuido esta cuenta en el ultimo año de Mayo 2011 a Abril 2012? adiciona Crecido/Disminuido.	1,2
	P703 y P704	Esta información ya se encuentra en la P609 y P611	Se elimina P703 y P704	1,2
15. Percepciones Subjetivas	P803a	Después de la P803a, debe haber un pase a la P804	Se incluirá un pase a la P804.	1,2
	P806	Algunas alternativas de respuesta son diferentes a la tarjeta.	Se modificaran las alternativas de respuesta de acuerdo a la tarjeta.	1,2
16. Emprendimiento y Capacitación Técnica	P1004	Existe un poco de confusión con el fraseo de la pregunta no la entienden.	Se modifica la pregunta de la siguiente manera: "En una escala de 1 al 10, póngale una nota a las siguientes afirmaciones"	1,2
	P1006	Debe existir un pase a la P2001 si contesta NO	Se añade pase	1,2
	P1007	Para un mejor entendimiento cambiar palabra TAL por ESE	Se realiza cambio	1,2
17. Otras Preguntas Complementarias Para el Jefe de Hogar	P2001	Si en las alternativas de 1 al 5 respondió NO y además marco SI en la alternativa 99, debe FINALIZAR LA ENTREVISTA.	Se incluirá la indicación FIN DE LA ENCUESTA..	1,2

(*) 1/ Redacción de parte de la pregunta
2/ Diagramación y Digitación de la pregunta
3/ Capacitación de encuestadores.

Una de las principales ventajas de la prueba piloto fue que el personal de campo participante tenía experiencia en la encuesta de hogares.

V RESULTADOS DE LA VALIDACIÓN DEL CUESTIONARIO

A fin de tomar conocimiento y analizar los hallazgos de la prueba piloto, el 16 de julio se efectuó una reunión de evaluación en la que participaron el personal de campo y los profesionales a cargo del proyecto.

Como conclusiones de la reunión se observaron los siguientes puntos:

1. El grupo objetivo de la prueba piloto es similar al grupo objetivo meta.
2. Respecto al contenido de las preguntas, el encuestado responde correctamente a la mayoría de las preguntas. Sin embargo, para una mejor y mas sencilla comprensión se mejorara la forma de preguntar y modificara y añadirá en algunas secciones las alternativas de respuestas conforme se observa en el cuadro de observaciones del cuestionario.
3. Respecto a los términos usados en las preguntas en su gran mayoría han sido entendibles por parte del encuestador y en unas pocas preguntas se mejoraran para el entendimiento del encuestado, conforme se observa en el cuadro de observaciones del cuestionario.
4. Respecto al número final y secuencia de las preguntas, se considera que el número de preguntas es adecuado para la cobertura de los temas y con respecto al orden lógico se recomienda algunos cambios en el cuestionario, conforme se observa en el cuadro de observaciones del cuestionario.
5. Respecto a la presentación del cuestionario, con los cambios propuestos éste tiene un adecuado tipo de impresión y orden en la redacción, de forma tal que se evitan malentendidos y se minimizan los errores de registro.
6. El tiempo promedio de diligenciamiento del cuestionario fue de 2 horas.

Finalmente, por lo expuesto, que son los resultados de la prueba piloto y de las coordinaciones realizadas post piloto, consideramos que el cuestionario con las adecuaciones propuestas se consideraóptimo para la recopilación de la información y el logro de los objetivos propuestos.

Anexo 5: (Metodológico, viene en un documento aparte)

Anexo 6: Rutas de Campo y Plan de Operaciones

Es importante aclarar que para el ruteo los tamaños de muestra por estrato tienden a aumentar de modo que se equiparen las cargas de trabajo. En el siguiente cuadro se presenta el resumen de los tamaños de muestra considerados en cada ruta, organizado según estrato:

	Beneficiarios	Controles	Total
Ancash	269	404	673
Arequipa - Buenaventura	168	248	416
Arequipa - Las demás	128	192	320
Ayacucho	328	492	820
Cusco	388	580	968
Huancavelica - Buenaventura	152	224	376
Huancavelica - Las demás	256	380	636
Junín - Pasco	132	196	328
La Libertad - Barrick	60	92	152
La Libertad - Poderosa	70	108	178
La Libertad - Las demás	159	240	399
Madre de Dios	72	108	180
Puno	368	548	916
Sierra norte de Lima - Buenaventura	77	116	193
Sierra norte de Lima - Las demás	268	404	672
TOTAL	**2,895**	**4,332**	**7,227**

A continuación se detallan cada una de las rutas consideradas.

- Ruta No. 1: Supervisores (1), Encuestadores (6), Duración en días (32), Total muestra (389)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
020104	01- ANCASH	ANCASH	HUARAZ	HUANCHAY	25		25
020106	01- ANCASH	ANCASH	HUARAZ	JANGAS	21		21
020110	01- ANCASH	ANCASH	HUARAZ	PARIACOTO		12	12
020601	01- ANCASH	ANCASH	CARHUAZ	CARHUAZ		36	36
020610	01- ANCASH	ANCASH	CARHUAZ	TINCO		12	12
020611	01- ANCASH	ANCASH	CARHUAZ	YUNGAR		12	12
022001	01- ANCASH	ANCASH	YUNGAY	YUNGAY		24	24
022003	01- ANCASH	ANCASH	YUNGAY	MANCOS		24	24
022008	01- ANCASH	ANCASH	YUNGAY	YANAMA	10		10
021204	01- ANCASH	ANCASH	HUAYLAS	HUAYLAS		24	24
020401	01- ANCASH	ANCASH	ASUNCION	CHACAS		12	12
021001	01- ANCASH	ANCASH	HUARI	HUARI		36	36
021008	01- ANCASH	ANCASH	HUARI	HUANTAR	14		14
021011	01- ANCASH	ANCASH	HUARI	PONTO		12	12
020305	01- ANCASH	ANCASH	ANTONIO RAYMONDI	MIRGAS		12	12
020905	01- ANCASH	ANCASH	CORONGO	LA PAMPA		12	12
021303	01- ANCASH	ANCASH	MARISCAL LUZURIAGA	ELEAZAR GUZMAN BARRON	22		22
021305	01- ANCASH	ANCASH	MARISCAL LUZURIAGA	LLAMA	33		33
021603	01- ANCASH	ANCASH	POMABAMBA	PAROBAMBA		12	12
021910	01- ANCASH	ANCASH	SIHUAS	SICSIBAMBA		12	12
020508	01- ANCASH	ANCASH	BOLOGNESI	HUALLANCA		12	12
					125	**264**	**389**

- Ruta No. 2: Supervisores (1), Encuestadores (3), Duración en días (15), Total muestra (128)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
021801	01- ANCASH	ANCASH	SANTA	CHIMBOTE	8		8
021804	01- ANCASH	ANCASH	SANTA	MACATE		12	12
021805	01- ANCASH	ANCASH	SANTA	MORO	21		21
020803	01- ANCASH	ANCASH	CASMA	COMANDANTE NOEL	8		8
021101	01- ANCASH	ANCASH	HUARMEY	HUARMEY	26		26
021103	01- ANCASH	ANCASH	HUARMEY	CULEBRAS	41		41
021105	15- SIERRA NORTE DE LIMA-Las demás	ANCASH	HUARMEY	MALVAS		12	12
					104	**24**	**128**

- Ruta No. 3: Supervisores (1), Encuestadores (6), Duración en días (29), Total muestra (530)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
040204	03- AREQUIPA-Las demás	AREQUIPA	CAMANA	MARISCAL CACERES	16		16
040208	03- AREQUIPA-Las demás	AREQUIPA	CAMANA	SAMUEL PASTOR	7		7
040401	03- AREQUIPA-Las demás	AREQUIPA	CASTILLA	APLAO	75		75
040410	03- AREQUIPA-Las demás	AREQUIPA	CASTILLA	PAMPACOLCA		12	12
040413	03- AREQUIPA-Las demás	AREQUIPA	CASTILLA	URACA		108	108
040404	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CASTILLA	CHACHAS	108		108
040408	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CASTILLA	MACHAGUAY		12	12
040409	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CASTILLA	ORCOPAMPA	20		20
040603	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CONDESUYOS	CAYARANI		52	52
040607	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CONDESUYOS	SALAMANCA		12	12
040806	02- AREQUIPA-BUENAVENTURA	AREQUIPA	LA UNION	PUYCA		108	108
					226	**304**	**530**

- Ruta No. 4: Supervisores (1), Encuestadores (5), Duración en días (20), Total muestra (206)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
040101	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	AREQUIPA		12	12
040103	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	CAYMA		12	12
040107	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	JACOBO HUNTER	2		2
040108	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	LA JOYA	18		18
040110	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	MIRAFLORES	2		2
040112	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	PAUCARPATA	2		2
040122	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	SOCABAYA		12	12
040124	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	UCHUMAYO		12	12
040125	03- AREQUIPA-Las demás	AREQUIPA	AREQUIPA	VITOR 1/	6		6
040701	03- AREQUIPA-Las demás	AREQUIPA	ISLAY	MOLLENDO		24	24
040502	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	ACHOMA	24		24
040503	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	CABANACONDE		28	28
040504	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	CALLALLI		12	12
040511	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	LLUTA		12	12
040513	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	MADRIGAL	8		8
040514	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	SANANTONIO DE CHUCA 2/		12	12
040519	02- AREQUIPA-BUENAVENTURA	AREQUIPA	CAYLLOMA	YANQUE	8		8
					70	136	206

- Ruta No. 5: Supervisores (1), Encuestadores (6), Duración en días (32), Total muestra (672)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
050101	04- AYACUCHO	AYACUCHO	HUAMANGA	AYACUCHO	16		16
050102	04- AYACUCHO	AYACUCHO	HUAMANGA	ACOCRO	16		16
050104	04- AYACUCHO	AYACUCHO	HUAMANGA	CARMEN ALTO	8		8
050105	04- AYACUCHO	AYACUCHO	HUAMANGA	CHIARA	16		16
050110	04- AYACUCHO	AYACUCHO	HUAMANGA	SAN JUAN BAUTETA		12	12
050112	04- AYACUCHO	AYACUCHO	HUAMANGA	SOCOS	48		48
050113	04- AYACUCHO	AYACUCHO	HUAMANGA	TAMBILLO	8		8
050202	04- AYACUCHO	AYACUCHO	CANGALLO	CHUSCHI	48		48
050203	04- AYACUCHO	AYACUCHO	CANGALLO	LOS MOROCHUCOS		60	60
050205	06- HUANCAVELICA-BUENAVENTURA	AYACUCHO	CANGALLO	PARAS		24	24
050206	04- AYACUCHO	AYACUCHO	CANGALLO	TOTOS	40		40
050402	07- HUANCAVELICA-Las demás	AYACUCHO	HUANTA	AYAHUANCO		12	12
050403	04- AYACUCHO	AYACUCHO	HUANTA	HUAMANGUILLA		48	48
050406	04- AYACUCHO	AYACUCHO	HUANTA	SANTILLANA		48	48
050407	04- AYACUCHO	AYACUCHO	HUANTA	SIVIA	48		48
050501	04- AYACUCHO	AYACUCHO	LA MAR	SAN MIGUEL	8		8
050502	04- AYACUCHO	AYACUCHO	LA MAR	ANCO	24		24
050503	04- AYACUCHO	AYACUCHO	LA MAR	AYNA		48	48
050505	04- AYACUCHO	AYACUCHO	LA MAR	CHUNGUI		24	24
050507	04- AYACUCHO	AYACUCHO	LA MAR	SANTA ROSA		84	84
051011	06- HUANCAVELICA-BUENAVENTURA	AYACUCHO	VICTOR FAJARDO	SARHUA		32	32
					280	392	672

- Ruta No. 6: Supervisores (1), Encuestadores (6), Duración en días (30), Total muestra (496)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
030101	05- CUSCO	APURIMAC	ABANCAY	ABANCAY		12	12
030104	05- CUSCO	APURIMAC	ABANCAY	CURAHUASI		48	48
030106	05- CUSCO	APURIMAC	ABANCAY	LAMBRAMA		24	24
030502	05- CUSCO	APURIMAC	COTABAMBAS	COTABAMBAS		12	12
030503	05- CUSCO	APURIMAC	COTABAMBAS	COYLLURQUI		36	36
030606	04- AYACUCHO	APURIMAC	CHINCHEROS	ONGOY		84	84
080101	05- CUSCO	CUSCO	CUSCO	CUSCO		12	12
080103	05- CUSCO	CUSCO	CUSCO	POROY		28	28
080104	05- CUSCO	CUSCO	CUSCO	SANJERONIMO		12	12
080105	05- CUSCO	CUSCO	CUSCO	SANSEBASTIAN		36	36
080106	05- CUSCO	CUSCO	CUSCO	SANTIAGO		24	24
080204	05- CUSCO	CUSCO	ACOMAYO	MOSOC LLACTA		12	12
080205	05- CUSCO	CUSCO	ACOMAYO	POMACANCHI	8		8
080207	05- CUSCO	CUSCO	ACOMAYO	SANGARARA	16		16
080301	05- CUSCO	CUSCO	ANTA	ANTA	8		8
080302	05- CUSCO	CUSCO	ANTA	ANCAHUASI	24		24
080305	05- CUSCO	CUSCO	ANTA	HUAROCONDO		24	24
080309	05- CUSCO	CUSCO	ANTA	ZURITE	16		16
080402	05- CUSCO	CUSCO	CALCA	COYA		24	24
080403	05- CUSCO	CUSCO	CALCA	LAMAY		12	12
080404	05- CUSCO	CUSCO	CALCA	LARES		12	12
080408	05- CUSCO	CUSCO	CALCA	YANATILE		12	12
					72	424	496

- Ruta No. 7: Supervisores (1), Encuestadores (5), Duración en días (19), Total muestra (304)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
081101	05- CUSCO	CUSCO	PAUCARTAMBO	PAUCARTAMBO		12	12
081104	05- CUSCO	CUSCO	PAUCARTAMBO	COLQUEPATA		12	12
081204	05- CUSCO	CUSCO	QUISPICANCHI	CCARHUAYO	8		8
081205	05- CUSCO	CUSCO	QUISPICANCHI	CCATCA	16		16
081206	05- CUSCO	CUSCO	QUISPICANCHI	CUSIPATA		24	24
081209	05- CUSCO	CUSCO	QUISPICANCHI	MARCAPATA	80		80
081210	05- CUSCO	CUSCO	QUISPICANCHI	OCONGATE	140		140
081211	05- CUSCO	CUSCO	QUISPICANCHI	OROPESA		12	12
					244	**60**	**304**

- Ruta No. 8: Supervisores (1), Encuestadores (5), Duración en días (27), Total muestra (332)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
081302	05- CUSCO	CUSCO	URUBAMBA	CHINCHERO		12	12
081303	05- CUSCO	CUSCO	URUBAMBA	HUAYLLABAMBA		36	36
081305	05- CUSCO	CUSCO	URUBAMBA	MARAS		12	12
080906	04- AYACUCHO	CUSCO	LA CONVENCION	QUELLOUNO		60	60
080909	08- JUNIN-PASCO	CUSCO	LA CONVENCION	VILCABAMBA		48	48
080910	04- AYACUCHO	CUSCO	LA CONVENCION	PICHARI	24		24
080501	05- CUSCO	CUSCO	CANAS	YANAOCA		36	36
080505	05- CUSCO	CUSCO	CANAS	LAYO	32		32
080506	05- CUSCO	CUSCO	CANAS	PAMPAMARCA		12	12
080601	05- CUSCO	CUSCO	CANCHIS	SICUANI	8		8
080606	05- CUSCO	CUSCO	CANCHIS	SANPABLO	8		8
080702	05- CUSCO	CUSCO	CHUMBIVILCAS	CAPACMARCA		12	12
081001	05- CUSCO	CUSCO	PARURO	PARURO	8		8
081002	05- CUSCO	CUSCO	PARURO	ACCHA		12	12
081005	05- CUSCO	CUSCO	PARURO	HUANOQUITE		12	12
					80	**252**	**332**

- Ruta No. 9: Supervisores (1), Encuestadores (6), Duración en días (34), Total muestra (716)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
090101	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	HUANCAVELICA	24		24
090106	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	HUANCAVELICA	HUACHOCOLPA	20		20
090109	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	LARIA		12	12
090113	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	NUEVO OCCORO	32		32
090114	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	PALCA	8		8
090117	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	YAULI	64		64
090118	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	ASCENSION	56		56
090119	07- HUANCAVELICA-Las demás	HUANCAVELICA	HUANCAVELICA	HUANDO	8		8
090201	07- HUANCAVELICA-Las demás	HUANCAVELICA	ACOBAMBA	ACOBAMBA	8		8
090202	07- HUANCAVELICA-Las demás	HUANCAVELICA	ACOBAMBA	ANDABAMBA		24	24
090203	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ACOBAMBA	ANTA		72	72
090205	04- AYACUCHO	HUANCAVELICA	ACOBAMBA	MARCAS		12	12
090206	07- HUANCAVELICA-Las demás	HUANCAVELICA	ACOBAMBA	PAUCARA	16		16
090207	07- HUANCAVELICA-Las demás	HUANCAVELICA	ACOBAMBA	POMACOCHA	8		8
090208	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ACOBAMBA	ROSARIO		72	72
090301	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ANGARAES	LURCAY	64		64
090302	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ANGARAES	ANCHONGA	8		8
090304	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ANGARAES	CCOCHACCASA	52		52
090305	04- AYACUCHO	HUANCAVELICA	ANGARAES	CHINCHO	8		8
090310	04- AYACUCHO	HUANCAVELICA	ANGARAES	SAN ANTONIO DE ANTAPARCO		12	12
090312	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	ANGARAES	SECCLLA		24	24
090411	07- HUANCAVELICA-Las demás	HUANCAVELICA	CASTROVIRREYNA	SANTA ANA	24		24
090502	07- HUANCAVELICA-Las demás	HUANCAVELICA	CHURCAMPA	ANCO		32	32
090506	07- HUANCAVELICA-Las demás	HUANCAVELICA	CHURCAMPA	LOCROJA		24	24
090507	07- HUANCAVELICA-Las demás	HUANCAVELICA	CHURCAMPA	PAUCARBAMBA		24	24
090607	06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	HUAYTARA	PILPICHACA	8		8
					408	308	716

- 10: Supervisores (1), Encuestadores (6), Duración en días (34), Total muestra (497)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
250201	12- MADRE DE DIOS	UCAYALI	ATALAYA	RAYMONDI		12	12
250202	12- MADRE DE DIOS	UCAYALI	ATALAYA	SEPAHUA		12	12
250401	12- MADRE DE DIOS	UCAYALI	PURUS	PURUS		12	12
220601	10- LA LIBERTAD- PODEROSA	SAN MARTIN	MARISCAL CACERES	JUANJUI		12	12
160601	08- JUNIN-PASCO	LORETO	UCAYALI	CONTAMANA		12	12
100106	15- SIERRA NORTE DE LIMA-Las demás	HUANUCO	HUANUCO	QUISQUI		48	48
101001	15- SIERRA NORTE DE LIMA-Las demás	HUANUCO	LAURICOCHA	JESUS	8		8
101003	15- SIERRA NORTE DE LIMA-Las demás	HUANUCO	LAURICOCHA	JIVIA	12		12
101004	01- ANCASH	HUANUCO	LAURICOCHA	QUEROPALCA		12	12
101007	15- SIERRA NORTE DE LIMA-Las demás	HUANUCO	LAURICOCHA	SAN MIGUEL DE CAURI	40		40
100404	01- ANCASH	HUANUCO	HUACAYBAMBA	PINRA		36	36
100901	08- JUNIN-PASCO	HUANUCO	PUERTO INCA	PUERTO INCA	2		2
100902	08- JUNIN-PASCO	HUANUCO	PUERTO INCA	CODO DEL POZUZO	14		14
100903	08- JUNIN-PASCO	HUANUCO	PUERTO INCA	HONORIA		12	12
100904	08- JUNIN-PASCO	HUANUCO	PUERTO INCA	TOURNAVISTA		12	12
100905	08- JUNIN-PASCO	HUANUCO	PUERTO INCA	YUYAPICHIS	7		7
190110	08- JUNIN-PASCO	PASCO	PASCO	TICLACAYAN		24	24
190105	08- JUNIN-PASCO	PASCO	PASCO	NINACACA	7		7
190107	08- JUNIN-PASCO	PASCO	PASCO	PAUCARTAMBO	11		11
190108	14- SIERRA NORTE DE LIMA-BUENAVENTURA	PASCO	PASCO	SAN FCO. DE ASIS DE YARUSYAC		116	116
190201	14- SIERRA NORTE DE LIMA-BUENAVENTURA	PASCO	DANIEL ALCIDES CARRI	YANAHUANCA	76		76
					177	320	497

- Ruta No. 11: Supervisores (1), Encuestadores (6), Duración en días (30), Total muestra (507)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
090701	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	PAMPAS		36	36
090702	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	ACOSTAMBO	8		8
090703	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	ACRAQUIA		12	12
090704	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	AHUAYCHA		12	12
090705	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	COLCABAMBA		24	24
090706	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	DANIEL HERNANDEZ		36	36
090709	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	HUARIBAMBA		24	24
090711	07- HUANCAVELICA-Las demás	HUANCAVELICA	TAYACAJA	PAZOS		60	60
120112	07- HUANCAVELICA-Las demás	JUNIN	HUANCAYO	COLCA		12	12
120113	07- HUANCAVELICA-Las demás	JUNIN	HUANCAYO	CULLHUAS		12	12
120126	07- HUANCAVELICA-Las demás	JUNIN	HUANCAYO	PUCARA		24	24
120907	05- CUSCO	JUNIN	CHUPACA	SANJUAN DEJARPA		12	12
120909	05- CUSCO	JUNIN	CHUPACA	YANACANCHA	16		16
120909	08- JUNIN-PASCO	JUNIN	CHUPACA	YANACANCHA	6		6
120204	05- CUSCO	JUNIN	CONCEPCION	CHAMBARA		12	12
120431	05- CUSCO	JUNIN	JAUJA	SINCOS		12	12
120503	08- JUNIN-PASCO	JUNIN	JUNIN	ONDORES		12	12
120301	08- JUNIN-PASCO	JUNIN	CHANCHAMAYO	CHANCHAMAYO		16	16
120302	08- JUNIN-PASCO	JUNIN	CHANCHAMAYO	PERENE	13		13
120303	08- JUNIN-PASCO	JUNIN	CHANCHAMAYO	PICHANAQUI	5		5
120304	08- JUNIN-PASCO	JUNIN	CHANCHAMAYO	SAN LUIS DE SHUARO		36	36
190302	08- JUNIN-PASCO	PASCO	OXAPAMPA	CHONTABAMBA	6		6
190303	08- JUNIN-PASCO	PASCO	OXAPAMPA	HUANCABAMBA	2		2
190304	08- JUNIN-PASCO	PASCO	OXAPAMPA	PALCAZU	13		13
190307	08- JUNIN-PASCO	PASCO	OXAPAMPA	VILLA RICA		24	24
120604	08- JUNIN-PASCO	JUNIN	SATIPO	MAZAMARI	2		2
120606	08- JUNIN-PASCO	JUNIN	SATIPO	PANGOA	13		13
120607	08- JUNIN-PASCO	JUNIN	SATIPO	RIO NEGRO	5		5
120608	04- AYACUCHO	JUNIN	SATIPO	RIO TAMBO	16		16
120608	08- JUNIN-PASCO	JUNIN	SATIPO	RIO TAMBO	14		14
120699	08- JUNIN-PASCO	JUNIN	SATIPO	MAZAMARI - PANGOA	12		12
					131	**376**	**507**

- Ruta No. 12: Supervisores (1), Encuestadores (5), Duración en días (17), Total muestra (216)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
131104	09- LA LIBERTAD- BARRICK	LA LIBERTAD	GRAN CHIMU	SAYAPULLO		12	12
060102	11- LA LIBERTAD-Las demás	CAJAMARCA	CAJAMARCA	ASUNCION		72	72
060109	11- LA LIBERTAD-Las demás	CAJAMARCA	CAJAMARCA	MAGDALENA		12	12
060202	09- LA LIBERTAD- BARRICK	CAJAMARCA	CAJABAMBA	CACHACHI		12	12
061007	11- LA LIBERTAD-Las demás	CAJAMARCA	SAN MARCOS	JOSE SABOGAL		108	108
					0	216	216

- Ruta No. 13: Supervisores (1), Encuestadores (6), Duración en días (32), Total muestra (537)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
130105	11- LA LIBERTAD-Las demás	LA LIBERTAD	TRUJILLO	LA ESPERANZA		12	12
130106	11- LA LIBERTAD-Las demás	LA LIBERTAD	TRUJILLO	LAREDO	15		15
130108	11- LA LIBERTAD-Las demás	LA LIBERTAD	TRUJILLO	POROTO	9		9
130207	11- LA LIBERTAD-Las demás	LA LIBERTAD	ASCOPE	SANTIAGO DE CAO		12	12
131202	11- LA LIBERTAD-Las demás	LA LIBERTAD	VIRU	CHAO	63		63
130302	11- LA LIBERTAD-Las demás	LA LIBERTAD	BOLIVAR	BAMBAMARCA	23		23
130601	11- LA LIBERTAD-Las demás	LA LIBERTAD	OTUZCO	OTUZCO	5		5
130614	09- LA LIBERTAD-BARRICK	LA LIBERTAD	OTUZCO	USQUIL		68	68
130702	11- LA LIBERTAD-Las demás	LA LIBERTAD	PACASMAYO	GUADALUPE		24	24
130809	10- LA LIBERTAD-PODEROSA	LA LIBERTAD	PATAZ	PATAZ	3		3
130901	11- LA LIBERTAD-Las demás	LA LIBERTAD	SANCHEZ CARRION	HUAMACHUCO	21		21
130902	10- LA LIBERTAD-PODEROSA	LA LIBERTAD	SANCHEZ CARRION	CHUGAY	41		41
130903	10- LA LIBERTAD-PODEROSA	LA LIBERTAD	SANCHEZ CARRION	COCHORCO	26		26
130905	11- LA LIBERTAD-Las demás	LA LIBERTAD	SANCHEZ CARRION	MARCABAL	23		23
130906	09- LA LIBERTAD-BARRICK	LA LIBERTAD	SANCHEZ CARRION	SANAGORAN	60		60
130907	10- LA LIBERTAD-PODEROSA	LA LIBERTAD	SANCHEZ CARRION	SARIN		36	36
130908	10- LA LIBERTAD-PODEROSA	LA LIBERTAD	SANCHEZ CARRION	SARTIMBAMBA		60	60
131001	01- ANCASH	LA LIBERTAD	SANTIAGO DE CHUCO	SANTIAGO DE CHUCO		36	36
					289	248	537

- Ruta No. 14: Supervisores (1), Encuestadores (6), Duración en días (23), Total muestra (404)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
070106	15- SIERRA NORTE DE LIMA-Las demás	CALLAO	CALLAO	VENTANILLA		32	32
150106	15- SIERRA NORTE DE LIMA-Las demás	LIMA	LIMA	CARABAYLLO		80	80
150407	15- SIERRA NORTE DE LIMA-Las demás	LIMA	CANTA	SANTA ROSA DE QUIVES		72	72
150502	01- ANCASH	LIMA	CAÑETE	ASIA		20	20
150503	01- ANCASH	LIMA	CAÑETE	CALANGO		12	12
150506	01- ANCASH	LIMA	CAÑETE	COAYLLO		12	12
150604	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUARAL	AUCALLAMA	16		16
150605	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUARAL	CHANCAY		148	148
150606	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUARAL	IHUARI		12	12
					16	**388**	**404**

- Ruta No. 15: Supervisores (1), Encuestadores (5), Duración en días (29), Total muestra (233)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
150201	01- ANCASH	LIMA	BARRANCA	BARRANCA	8		8
150204	01- ANCASH	LIMA	BARRANCA	SUPE	7		7
150802	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUAURA	AMBAR	16		16
150807	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUAURA	LEONCIO PRADO	8		8
150808	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUAURA	PACCHO	64		64
150809	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUAURA	SANTA LEONOR	16		16
150810	01- ANCASH	LIMA	HUAURA	SANTA MARIA	25		25
150812	15- SIERRA NORTE DE LIMA-Las demás	LIMA	HUAURA	VEGUETA	8		8
150901	14- SIERRA NORTE DE LIMA-BUENAVENTURA	LIMA	OYON	OYON	1		1
150904	15- SIERRA NORTE DE LIMA-Las demás	LIMA	OYON	COCHAMARCA	16		16
150905	15- SIERRA NORTE DE LIMA-Las demás	LIMA	OYON	NAVAN	20		20
150906	15- SIERRA NORTE DE LIMA-Las demás	LIMA	OYON	PACHANGARA	44		44
					233	**0**	**233**

- Ruta No. 16: Supervisores (1), Encuestadores (4), Duración en días (12), Total muestra (132)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
170101	12- MADRE DE DIOS	MADRE DE DIOS	TAMBOPATA	TAMBOPATA	24		24
170102	12- MADRE DE DIOS	MADRE DE DIOS	TAMBOPATA	INAMBARI 1/		12	12
170103	12- MADRE DE DIOS	MADRE DE DIOS	TAMBOPATA	LAS PIEDRAS 2/		24	24
170104	12- MADRE DE DIOS	MADRE DE DIOS	TAMBOPATA	LABERINTO		12	12
170204	12- MADRE DE DIOS	MADRE DE DIOS	MANU	HUEPETUHE		12	12
170301	12- MADRE DE DIOS	MADRE DE DIOS	TAHUAMANU	IÑAPARI	20		20
170302	12- MADRE DE DIOS	MADRE DE DIOS	TAHUAMANU	IBERIA	28		28
					72	**60**	**132**

- Ruta No. 17: Supervisores (1), Encuestadores (6), Duración en días (32), Total muestra (452)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
211103	13- PUNO	PUNO	SAN ROMAN	CABANILLAS		12	12
211104	13- PUNO	PUNO	SAN ROMAN	CARACOTO	8		8
210106	13- PUNO	PUNO	PUNO	CHUCUITO		36	36
210109	13- PUNO	PUNO	PUNO	MAÑAZO		12	12
210112	13- PUNO	PUNO	PUNO	PLATERIA		24	24
210113	13- PUNO	PUNO	PUNO	SAN ANTONIO		12	12
210401	13- PUNO	PUNO	CHUCUITO	JULI	8		8
210402	13- PUNO	PUNO	CHUCUITO	DESAGUADERO		24	24
210405	13- PUNO	PUNO	CHUCUITO	PISACOMA		12	12
210406	13- PUNO	PUNO	CHUCUITO	POMATA	8		8
210407	13- PUNO	PUNO	CHUCUITO	ZEPITA		36	36
210501	13- PUNO	PUNO	EL COLLAO	ILAVE		92	92
210605	13- PUNO	PUNO	HUANCANE	PUSI		12	12
210607	13- PUNO	PUNO	HUANCANE	TARACO		48	48
210701	13- PUNO	PUNO	LAMPA	LAMPA		12	12
210707	13- PUNO	PUNO	LAMPA	PARATIA	72		72
210709	13- PUNO	PUNO	LAMPA	SANTA LUCIA	24		24
					120	**332**	**452**

- Ruta No. 18: Supervisores (1), Encuestadores (6), Duración en días (33), Total muestra (476)

UBIGEO	ESTRATO DEL ESTUDIO	DEPARTAMENTO	PROVINCIA	DISTRITO	TRATADOS	CONTROLES	TOTAL
210201	13- PUNO	PUNO	AZANGARO	AZANGARO		12	12
210203	13- PUNO	PUNO	AZANGARO	ARAPA	16		16
210207	13- PUNO	PUNO	AZANGARO	JOSE DOMINGO CHOQUEHUANCA		12	12
210210	13- PUNO	PUNO	AZANGARO	SAMAN		60	60
210304	12- MADRE DE DIOS	PUNO	CARABAYA	COASA		12	12
210301	13- PUNO	PUNO	CARABAYA	MACUSANI	48		48
210302	13- PUNO	PUNO	CARABAYA	AJOYANI	24		24
210305	13- PUNO	PUNO	CARABAYA	CORANI	36		36
210308	13- PUNO	PUNO	CARABAYA	OLLACHEA		24	24
210309	13- PUNO	PUNO	CARABAYA	SAN GABAN		12	12
210802	13- PUNO	PUNO	MELGAR	ANTAUTA	40		40
210808	13- PUNO	PUNO	MELGAR	SANTA ROSA	8		8
211001	13- PUNO	PUNO	SAN ANTONIO DE PUTIN	PUTINA		12	12
211002	13- PUNO	PUNO	SAN ANTONIO DE PUTIN	ANANEA		48	48
211004	13- PUNO	PUNO	SAN ANTONIO DE PUTIN	QUILCAPUNCU		12	12
211205	13- PUNO	PUNO	SANDIA	PHARA		24	24
211207	13- PUNO	PUNO	SANDIA	SAN JUAN DEL ORO	16		16
211209	13- PUNO	PUNO	SANDIA	ALTO INAMBARI	24		24
211210	13- PUNO	PUNO	SANDIA	SAN PEDRO DE PUTINA PUCO	36		36
					248	**228**	**476**

Finalmente, se presenta el plan de operaciones de Campo.

1. Organización de la operación de campo

Antes de realizar la operación de campo es necesario determinar la forma como se va a ejecutar esta actividad, para ello en primer lugar, se establecerá la estructura orgánica de funcionamiento de la encuesta, donde se especifican los niveles jerárquicos de los cargos del personal participante.

En segundo lugar se organizarán los cuadros del personal que tendrá la responsabilidad de la ejecución de la encuesta en cada uno de los ámbitos geográficos establecidos

2. Metodología de la operación de campo

En este acápite se describen las técnicas y métodos que se utilizarán en la operación de campo, comprendiendo en ello las labores operacionales previas, como la asignación de cargas de trabajo, las concurrentes con el empadronamiento como la supervisión y las posteriores al diligenciamiento como el traslado del material de la encuesta.

2.1 Método de empadronamiento

Se aplicará el método de recolección tradicional, que tiene validez en función de su eficacia, es decir a través a encuestadores, que efectúan una entrevista directa en cada persona beneficiaria y control.

2.2 Personal y duración del trabajo de campo.

Para el trabajo de campo será necesario contar 18 brigadas, cada brigada estará constituida por 1 supervisor y entre 3 y 6 encuestadores. El trabajo de campo tendrá una duración máxima de 34 días.

Cabe destacar que el trabajo de campo estará a cargo del Jefe de Operación de campo el mismo que dirige administrativamente y técnicamente esta actividad.

2.3 Elaboración de rutas de trabajo

Para garantizar el cumplimiento de trabajo de campo en las fechas programadas, se elaborará un documento que se denomina "*RUTA DE TRABAJO DE CAMPO",* éste es un esquema que sirve como una guía calenda rizada para la ejecución del trabajo de campo.

Este documento será elaborado por el Jefe de Operación de Campo.

2.4 Control de Calidad de la Operación de Campo – Programa Supervisión del Trabajo de Campo

El Jefe de campo es la persona responsable de verificar que la operación de campo se cumpla de acuerdo a las normas técnicas impartidas a cada funcionario que participa en la encuesta, siendo esta supervisión en forma permanente a lo largo de todo el trabajo de campo. Cabe destacar que son los supervisores que velaran por el recojo de la información. Las actividades que realizaran los supervisores para asegurar la calidad de la información serán las siguientes:

a. Reentrevistas: 15% del total
b. Observación de entrevistas: 30% del total

c. Revisión de cuestionarios: 60% del total

3. Selección y capacitación del personal

Es casi redundante enfatizar la importancia que asignamos al recurso humano en la realización de las labores de la investigación.

Sin embargo, además de emplear un eficaz sistema para evaluar las potencialidades de los postulantes nos preocupamos por incrementar sus capacidades a través de acciones de capacitación.

3.1 Programa de Selección del personal

Para la selección del personal que participará en la ejecución de la encuesta se han establecido ciertos requisitos que dicho personal debe cumplir.

- Egresado (a) de instrucción superior universitaria o técnica superior
- Experiencia no menor de 01 año en encuesta a establecimientos
- Disponibilidad para trabajar a dedicación exclusiva

3.2 Plan de Capacitación para Supervisores y Encuestadores

3.2.1 Finalidad.

Disponer de un equipo (de encuestadores y supervisores) debidamente capacitado en los aspectos técnicos de la encuesta y concientes de la importancia del rol a desempeñar.

3.2.2 Objetivos:

Al finalizar el evento los participantes serán capaces de:

- Comprender y explicar las definiciones y conceptos de la encuesta, así como el esquema general del proceso y las funciones que deberán desempeñar.
- Conocer y ejecutar con eficacia los procedimientos técnicos y administrativos, en particular las técnicas de entrevista en hogares y el diligenciamiento del cuestionario.

3.2.3 Metodología

Para los aspectos conceptuales se privilegiará la metodología expositiva – participativa. En cambio, para los tópicos procedí mentales se emplearán técnicas mas dinámicas y de comprobación inmediata, para lo que se utilizarán dramatizaciones y juego de roles.

En adición a las prácticas simuladas en aula, se realizará en campo una ejecución controlada de las funciones integrales del encuestador.

En las prácticas en el aula se practicará el diligenciamiento de cada capítulo del cuestionario, mediante entrevistas simuladas.

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1. Presentación

El presente documento es el Informe final del trabajo de campo del diligenciamiento de los cuestionarios aplicados a la población beneficiaria, población de control y líderes comunales en el ámbito de intervención del proyecto PRA. Este último servirá como fuente primaria de datos y permitirá lograr los objetivos y metas planteados en la presente consultoría.

Para llevar a cabo éste trabajo se contó con un equipo profesional y técnico especializado integrado por el Jefe del Proyecto, el Jefe de Campo,

Supervisores y encuestadores. Estos últimos fueron capacitados en el manejo de los instrumentos para el llenado de las encuestas y recojo de información, así como en las diferentes metodologías y técnicas necesarias para un levantamiento de información eficaz. Por su parte, la operación de Campo estuvo conformada por un conjunto de tareas relacionadas entre sí cuyo objetivo la recopilación de la información primaria en forma eficiente y oportuna.

El presente informe incluye una breve introducción del proyecto PRA, sus lineamientos operativos y su cobertura geográfica. Asimismo, expresa el proceso de trabajo realizado que se desagrega en las siguientes actividades y tareas:

- El planeamiento

Que comprende la organización territorial y funcional del equipo responsable del trabajo, la elaboración de los instrumentos de recojo de la información, la identificación de la unidad de análisis, la selección del personal de trabajo de campo, la capacitación del personal y la selección de la muestra.

- La organización del trabajo de campo

Comprende la conformación de las rutas de trabajo, los equipos de trabajo y la programación del trabajo de campo.

- La ejecución del trabajo de campo

Comprende el trabajo de levantamiento de información en campo de las unidades seleccionadas a través de los instrumentos de recojo de información.

- Control y supervisión del trabajo de campo

De manera paralela a la ejecución del trabajo de campo, esta etapa comprende la supervisión que se realizó con el objetivo de verificar la correcta recolección de información por parte de los equipos desplazados tanto en calidad como en oportunidad de acuerdo a las normas y técnicas establecidas para solucionar problemas aparecidos.

- Presentación de los resultados del trabajo de campo

Comprende la emisión de una base de datos con la información recogida, así como el de un informe donde se especifique el cumplimiento o no de las metas planteadas, así como las incidencias y soluciones presentadas y adoptadas en el trabajo de campo.

Expresamos nuestro reconocimiento a los directivos, funcionarios y personal del PRA, que contribuyeron al cumplimiento de las metas planteadas.

2. Introducción[24]

2.1. Antecedentes

El Proyecto New Private Sector Competitiveness and Poverty Reduction and Alleviation Activity, conocido también como Proyecto de Alivio y Reducción de la Pobreza –PRA, es una actividad implementada en el Perú, promovida y apoyada por la Agencia de los Estados Unidos para el Desarrollo Internacional (USAID) a través de la empresa Chemonics International.

El propósito del PRA es contribuir a la reducción de la pobreza a través de la generación de ingresos y empleos sostenibles, haciendo que los mercados y la inversión privada se integren a los pobres en el interior del país. Para ello, el proyecto propone generar una dinámica de crecimiento económico en las zonas de pobreza, comprometiendo la inversión privada de las empresas y propiciando una mejor inserción al mercado de los pequeños productores. En estas zonas hay un dinamismo económico, de transacciones de bienes y servicios, marcado por la interconexión económica de ciudades intermedias, las cuales conforman lo que se ha denominado como Corredor Económico.

[24] Información de los Términos de referencia y pagina web del PRA

2.2. Modelo operativo del PRA

El punto de partida de toda la estrategia a desarrollarse es el mercado. En este sentido, la estrategia implementada en los Corredores Económicos puede clasificarse como orientada por el mercado ("market- driven").

Por esta razón, el proyecto propone dinamizar estas zonas pobres a partir de la identificación y desarrollo de productos que tengan una demanda efectiva y real en el mercado, que se resume en la frase "producir lo que se vende". Por ello, el PRA desarrolla Planes de Negocio, donde siempre deben estar presentes el interés de compra de una empresa específica y la capacidad productiva de los pequeños productores de un Corredor Económico determinado. Las acciones del proyecto en los Corredores Económicos son llevadas a cabo a través de los Centros de Servicios Económicos – CSE, los cuales tienen la función de prestar y canalizar diversos tipos de servicios no financieros dirigidos a empresas privadas, empresas de comercialización y pequeños productores urbanos o rurales, de cualquier sector productivo o de servicios, individuales o asociados, ubicados en el Corredor Económico. En última instancia, interesa que estos agentes tengan potencial de acumulación y posibilidad de impacto sobre la dinámica económica regional.

2.3. Resultados del PRA en el periodo 2000-2008

En este periodo, el PRA trabajó en trece Corredores Económicos, localizados principalmente en la sierra y selva del Perú, con excepción del corredor Piura-Tumbes, generando US$ 307 millones de dólares de ventas incrementales, 82 mil empleos permanentes, y US$ 20 millones de dólares en inversiones privadas de las empresas participantes, articulando unos 40 mil pequeños productores articulados a las cadenas de negocio promovidas por el proyecto. El 46% de los resultados de ventas fueron por exportaciones.

2.4. Segunda fase del PRA: 2009-2014

En esta segunda fase, el objetivo de USAID es tener un impacto medible en la reducción de pobreza en los corredores económicos y consolidar la metodología implementada en la primera fase. A su vez, el implementador

(Chemonics International) debe estar comprometido en implementar diversos esquemas de Alianzas Globales de Desarrollo que le permita al proyecto contar con una mayor cantidad de recursos para cofinanciar las actividades de los CSE en los Corredores Económicos.

La premisa básica del proyecto, es que la pobreza no es solamente el resultado de la limitada inversión pública (ausencia de bienes públicos: carreteras, agua, energía, comunicación), sino principalmente por la poca o débil articulación que tienen los pequeños productores al mercado de bienes y servicios, y a la escasa presencia de la inversión privada y empresas que puedan desarrollar actividades sostenibles.

2.5. Ámbito de operación del proyecto

El PRA trabaja en esta segunda fase en diez Corredores Económicos, los cuales son manejados a través de subcontratos con operadores regionales, en su mayoría ONG's, con una probada experiencia en el manejo administrativo de este tipo de actividades. Sin embargo, para asegurar una sola dirección programática del proyecto, los CSE dependen técnicamente de la oficina central del PRA ubicada en Lima.

La mayor parte de la cartera de negocios desarrollada por el PRA está relacionada con productos agrícolas, agroindustriales, pecuarios y artesanía, localizados principalmente en la sierra del Perú. A continuación se presentan los corredores económicos del PRA y los principales productos desarrollados en los planes de negocio:

Gráfico 1. Corredores económicos del PRA

Cuadro 1. Distribución de corredores, estratos y departamentos – PRA

Corredor económico	Estrato del estudio	Departamentos
1. Ancash	01- Ancash	Ancash
		Lima
2. Arequipa	02- Arequipa-Buenaventura	Arequipa
	03- Arequipa-Las Demás	Arequipa
3. Ayacucho	04- Ayacucho	Ayacucho
		Cusco
		Huancavelica

		Junín
4. Cusco	05- Cusco	Cusco
5. Huancavelica	06- Huancavelica-Buenaventura	Huancavelica
	07- Huancavelica-Las Demás	
6. Junín - Pasco	08- Junín-Pasco	Huánuco
		Junín
		Pasco
7. La libertad	09- La Libertad- Barrick	La libertad
	10- La Libertad- Poderosa	La libertad
	11- La Libertad-Las Demás	La libertad
8. Madre de dios	12- Madre De Dios	Madre de dios
9. Puno	13- Puno	Puno
10. Sierra norte de lima	14- Sierra Norte De Lima-Buenaventura	Lima
		Pasco
	15- Sierra Norte De Lima-Las Demás	Huánuco
		Lima

Gráficos 2. Corredor Ancash – Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
ANCASH	VAINA DE TARA	99
	PALTA ORGÁNICA	43
	AGUAYMANTO	34
	CONCHAS DE ABANICO	34
	ESPÁRRAGO PROCESADO	31
	MAÍZ AMARILLO DURO	9
	ARROZ PILADO	8
	CAPSICUMS VARIADOS	7
	MANGO	2
	CAMOTE ORGÁNICO	1
	TRUCHA	1
Total ANCASH		269

Gráficos 3. Corredor Arequipa – Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
AREQUIPA	QUESO (LECHE FRESCA)	139
	FIBRA DE ALPACA CATEGORIZADA	84
	QUESO MOZARELLA (LECHE FRESCA)	24
	PRENDAS DE VESTIR	20
	PALTA CONVENCIONAL	16
	PÁPRIKA	11
	ACCESORIOS	2
Total AREQUIPA		296

Gráficos 4. Corredor Ayacucho – Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
AYACUCHO	ARTESANÍA TEXTIL	151
	CACAO EN GRANO	72
	HABA EN FRESCO	32
	CAFÉ ORGÁNICO	24
	QUINUA BLANCA	16
	CACAO ORGÁNICO	16
	MAÍZ MORADO	8
	KIWICHA GRANO	8
	PANADERÍA	1
Total AYACUCHO		328

Gráficos 5. Corredor Cusco – Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
CUSCO	FIBRA DE ALPACA CATEGORIZADA	235
	LECHE FRESCA	120
	ARTESANÍA TEXTIL	17
	KIWICHA GRANO	8
	ACCESORIOS	8
Total CUSCO		388

Gráficos 6. Corredor Huancavelica – Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
HUANCAVELICA	FIBRA DE ALPACA CATEGORIZADA	254
	FIBRA DE ALPACA CLASIFICADA	72
	PRENDAS DE VESTIR	58
	HABA EN GRANO SECO	9
	CHOCLO TIPO CUSCO	8
	MAÍZ BLANCO EN GRANO SECO	7
Total HUANCAVELICA		408

Gráficos 7. Corredor Junín-Pasco Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
JUNIN-PASCO	CACAO ORGÁNICO EN GRANO Y DERIVADOS	43
	GANADO EN PIE	22
	AJÍ JALAPEÑO	17
	CARNE EN CORTES	14
	ROCOTO FRESCO	11
	NARANJILLA	8
	TRUCHA EVISCERADA	7
	QUESOS Y OTROS DERIVADOS (LECHE FRESCA)	6
	AJÍ TABASCO	3
	KION FRESCO	1
Total JUNIN-PASCO		132

Gráficos 8. Corredor La Libertad - Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
LA LIBERTAD	PALTA CONVENCIONAL	88
	VAINA DE TARA	76
	QUESOS Y OTROS DERIVADOS (LECHE FRESCA)	47
	PALTA ORGÁNICA	28
	KIWICHA GRANO	20
	HABA EN GRANO SECO	15
	CARCASA DE RES	13
	MANGO	2
Total LA LIBERTAD		289

Gráficos 9. Corredor Madre De Dios - Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
MADRE DE DIOS	CASTAÑA EN CASCARA	24
	MADERA EN PIE	20
	MANTAS DE CUERO VEGETAL	13
	LÁMINAS DE CAUCHO	10
	SANDÍA	5
Total MADRE DE DIOS		72

Gráficos 10. Corredor Puno - Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
PUNO	FIBRA DE ALPACA CATEGORIZADA	212
	CAFÉ ORGÁNICO	76
	QUINUA DE COLOR	48
	QUINUA BLANCA	8
	TRUCHA	8
	LANA DE OVINO	8
	QUESOS Y OTROS DERIVADOS (LECHE FRESCA)	8
Total PUNO		368

Gráficos 11. Corredor Sierra Norte De Lima – Huánuco - Principales Productos

Corredor	Subproducto	N° de beneficiarios de la muestra
SIERRA NORTE DE LIMA	DURAZNO	139
	FIBRA DE ALPACA CATEGORIZADA	83
	LANA DE OVINO	55
	OVINO EN PIE	34
	QUESOS Y OTROS DERIVADOS	18
	FREJOL CASTILLA	8
	ARTESANÍA TEXTIL	5
	TRUCHA ENTERA Y EVISCERADA	1
	PAPA NATIVA	1
	PALTA CONVENCIONAL	1

3. Objetivo general del estudio

La Evaluación Intermedia de Impacto y Línea de Base del PRA 2012 (EIILB) tiene como propósito medir el impacto que han tenido las actividades implementadas por el proyecto en el ingreso de las familias de los pequeños productores, los mismos que han sido apoyados y articulados por el proyecto con empresas compradoras. Asimismo, se pretende conocer cuál ha sido el nivel de reducción de la pobreza de esta población beneficiada por el proyecto.

La variación del ingreso y la reducción del nivel de la pobreza se calcularán comparando **el grupo de tratamiento del proyecto** (en adelante también denominados como Beneficiarios PRA) **con un grupo de control,** es decir, las familias que no han sido beneficiarias del proyecto.

4. Planeamiento

La descripción de cada una de las actividades y tareas relacionadas con el planeamiento del trabajo de campo se detalla a continuación:

4.1. Estructura organizacional y territorial

4.1.1. Estructura organizativa

El equipo consultor está conformado por un equipo investigador central, un equipo de trabajo de campo y un equipo administrativo de apoyo (ver diagrama No. 1). El equipo investigador del nivel central está integrado por los siguientes profesionales: un investigador principal (que actuará como coordinador del equipo y será el responsable de la consultoría), un estadístico (encargado de ver el comportamiento de la muestra) y el jefe de operación de campo (responsable de centralizar la información y absolver consultas de los supervisores).

El equipo de campo nacional está integrado a su vez por 116 personas entre supervisores y encuestadores. Los supervisores cuentan con formación profesional en pedagogía, psicología, ciencias sociales o profesiones afines y los encuestadores con formación técnica y/o superior universitaria en pedagogía, psicología, ciencias sociales o profesiones afines. Este equipo es

el encargado de llevar a cabo el adecuado proceso de recolección de la información en el campo, es decir, en los hogares de los centros poblados de la población beneficiaria, población control y líderes de las comunidades de dichos centros poblados.

Adicionalmente, se conto con un equipo de apoyo logístico y administrativo del área respectiva del Instituto Cuánto, que se encargó de ver todo lo relacionado con la logística y el manejo financiero del estudio.

4.1.2. Funciones de los Integrantes del equipo de Trabajo

- Equipo Central
  - Está conformado por un Investigador Principal, que hace las veces de Coordinador del equipo, un estadístico y un Jefe de Campo, sus funciones son las siguientes:
- Investigador Principal:
  - Es el responsable del diseño técnico y la conducción del estudio
  - Coordina las acciones entre los integrantes del equipo y el contratante
  - Responsable de elaborar el plan de capacitación y participar en las capacitaciones.
  - Conduce la elaboración final del cuestionario y el plan de tabulaciones
  - Garantiza el cumplimiento de las actividades en los plazos previstos
  - Responsable de conducir las reuniones técnicas con el contratante
  - Responsable de elaborar el informe final de la investigación
- Estadístico:
  - Responsable de establecer la muestra
  - Responsable de analizar el comportamiento de la muestra.
  - Responsable del procesamiento de la información
- Jefe de Campo:
  - Participar en la elaboración del cuestionario.
  - Ejecutar la Prueba piloto y validación de los instrumentos de recopilación de la información.
  - Elaborar el informe de la validación de instrumentos.
  - Elaborar el Manual de trabajo de campo

- Participar en la contratación del personal de campo
- Conducir la capacitación en la sede que se le asigne
- Elaborar el plan de trabajo de campo
- Conducir el levantamiento de la información de campo y verificar el trabajo de campo
- Solucionar problemas en el trabajo de campo y recepcionar la información recolectada
- Responsable de dirigir la crítica respectiva antes de su procesamiento
- Responsable de hacer el informe del trabajo de campo
- Participa en las reuniones con la contratante.

○ Apoyo Administrativo

- Es el responsable institucional de Cuanto ante la contraparte
- Responsable del control del plan de ejecución presupuestal
- Responsable de la contratación del personal
- Recepción y administración de los recursos
- Responsable de la logística del estudio

4.1.3. Equipo de Campo

Los equipos de campo están conformados por el supervisor y los encuestadores.

○ Supervisor(a):

- Hace las coordinaciones con los gestores de los CSE respectivas a nivel de las localidades beneficiarias para facilitar el trabajo.
- Responsable de planificar el trabajo de los encuestadores según las rutas establecidas.
- Responsable de orientar la correcta administración de los cuestionarios por los encuestadores y solucionar los problemas que se puedan presentar a nivel local, según las indicaciones del Manual.
- Es el responsable de llenar el formato de control de la “ficha de comportamiento de la muestra”
- Hace la crítica diaria respectiva de los cuestionarios.
- Recolectar y ordenar los cuestionarios.

- Enviar el material de campo según las instrucciones al respecto.

- Encuestador(a):
  - Es el responsable de administrar el cuestionario a nivel de población beneficiaria y población control.
  - Explica a la población objetivo en que consiste el cuestionario.
  - Responsable de revisar los cuestionarios como primer filtro.
  - Absuelve las consultas respectivas a los encuestados en las preguntas que tengan problemas de comprensión.
  - Responsable de cumplir su carga diaria y el cumplimiento del cronograma establecido.

4.1.4. Estructura territorial

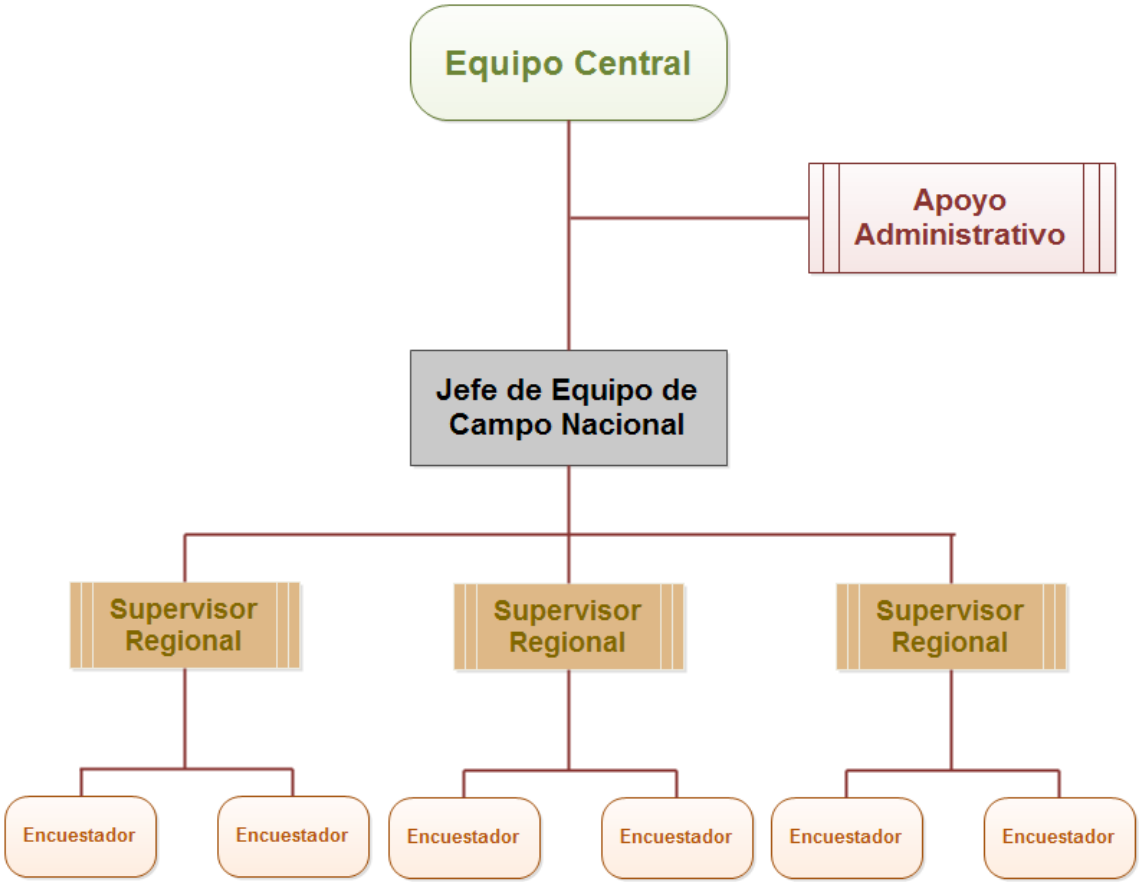
En el nivel más amplio, el ámbito geográfico de intervención se divide en diez corredores económicos en los que se encuentran localizados parcial o talmente doce departamentos o regiones del País. Estos corredores se subdividen, a su vez, en quince estratos de estudio.

Para efectos funcionales se han establecido 19 rutas de trabajo en el territorio que abarcan los diez corredores económicos con equipos de trabajo integrados por supervisores y encuestadores. Los equipos de trabajo fueron desplazados de acuerdo a un eje de rutas previamente establecido en donde el trabajo de cada encuestador estuvo minuciosamente chequeado por su supervisor regional, quien diariamente realizaba la crítica respectiva de la información recolectada.

El trabajo de campo a nivel nacional estuvo monitorizado por el Jefe de equipo de campo nacional, quien es el encargado de la resolución de problemas que pudieran reportar los supervisores regionales de cada equipo y también es el responsable de la recepción y clasificación ordenada de los cuestionarios diligenciados.

Gráficos 12.

Organigrama Funcional del Equipo de Trabajo



Nota: El diagrama solo muestra a 3 supervisores (a manera ilustrativa).

4.2. Instrumentos de recojo de información y unidad de análisis

Los instrumentos que fueron aplicados para el recojo de la información, y las unidades de análisis fueron los siguientes:

Cuadro 2. Instrumentos

Instrumento de recolección de datos	Unidad de análisis
Encuesta a Hogares	Población beneficiaria y población control, Jefes de Hogar y miembros del hogar, de dichos grupos.
Encuestas a Lideres de las comunidades	Autoridades de las Localidades.

4.2.1. Instrumentos

Como un insumo para llevar a efecto el proceso de elaboración de la evaluación intermedia, se elaboró instrumentos de recojo de información:

4.2.1.1. Encuesta a hogares: módulo A

- Datos no productivos del hogar
  - Características de la vivienda y del hogar
  - Características de Todos los Miembros del Hogar
  - Empleo y Actividad Económica.
- Gastos en alimentos del Hogar
  - Gastos en Alimentos y Bebidas
  - Alimentos consumidos dentro y fuera del Hogar obtenidos de Instituciones Benéficas.
- Otros Gastos del Hogar
  - Mantenimiento de la Vivienda
  - Transportes y Comunicaciones
  - Servicios a la Vivienda

- Esparcimiento, Diversión y Servicios de Cultura
- Bienes y Servicios de Cuidados Personales
- Vestido y Calzado
- Gastos de Transferencias
- Muebles y Enseres
- Otros Bienes y Servicios.
- Equipamiento del Hogar.
- Gastos en Educación
- Gastos en Salud
- Alimentos consumidos fuera del hogar
- Otros Gastos

- Preguntas Complementarias Ahorros e Impuestos
- Percepciones subjetivas
    - Percepciones personales
    - Percepción de Consumo de Bienes Específicos
- Emprendimiento y Capacitación Técnica
- Otras Preguntas complementarias del Hogar

4.2.1.2. Encuesta a hogares: Módulo B

- Datos Productivos del Hogar
    - Producción Agrícola
    - Producción Pecuaria
    - Sub Productos Pecuarios
    - Actividad Forestal
    - Trabajo Artesanal y Manufactura

4.2.1.3. Encuesta a líderes de las comunidades.

La encuesta a líderes de las comunidades, incluye preguntas tales como: Las principales actividades económicas de la localidad, recursos naturales, medios de comunicación, medios de transporte, vías de acceso y su estado

de conservación, las ferias de la localidad, servicios básicos e informáticos, locales sociales, instituciones financieras y programas sociales. Este registro fue diligenciado por el supervisor de campo y el informante fue una autoridad de la localidad.

4.2.2. Selección del personal de campo

Ciertos requisitos básicos fueron tomados en cuenta para la selección del personal de campo. Específicamente, las características requeridas para supervisores y encuestadores fueron las siguientes:

- Egresado (a) de instrucción superior universitaria o técnica superior
- Experiencia no menor de 3 años en encuesta de hogares
- Edad mayor de 21 años.
- Disponibilidad para trabajar y viajar.

Como producto del proceso de selección fueron seleccionados los siguientes profesionales: 19 supervisores y 97 encuestadores, es decir, un total de 116 profesionales con experiencia en aplicación de encuestas a hogares.

4.2.3. Capacitación del personal

La capacitación tuvo como objetivo entrenar al equipo de campo en la correcta aplicación de los instrumentos de recojo de información. Realizada la selección de personal y elaborados los instrumentos de recojo de información, se procedió a llevar a cabo la capacitación del personal, la misma que tuvo las siguientes características:

- Metas De Atención

Se capacitó aproximadamente a 140 participantes de entre los cuales al final de la capacitación se seleccionaron 116 personas. 19 tenían el cargo de Supervisores y 116 el cargo de encuestadores.

- Duración de la capacitación.

La capacitación tuvo una duración de 2 días, los días 30 y 31 de Julio del 2012.

- Sede de la capacitación

La sede del evento de la Capacitación fue en el local institucional de Instituto Cuanto, sito Av. Prescott cuadra 5 en el Distrito de San Isidro.

- Facilitadores de la capacitación

La persona encargada de la Capacitación fueron los especialistas Econ. Moisés Ventocilla Alor, Lic. Melva Bernales y Econ. Demetrio Querevalú Yenque, integrante del equipo profesional de la Consultoría.

- De la metodología de capacitación

La metodología de la capacitación fue a través del desarrollo de cada uno de los cuestionarios, en todas las secciones y preguntas que conllevaron estas. Asimismo, se procedió a efectuar entre miembros del equipo encuestador teatralizaciones en donde se asumían papeles de entrevistado y encuestador.

4.2.4. Prueba piloto

Para efectos de la validación de los instrumentos de recolección de información, vale decir, los cuestionarios, se efectuó una prueba piloto en la Provincia de Cañete en los Distritos de Pacarán y Zúñiga, en esta prueba participaron 6 personas, cinco miembros del equipo seleccionado para el trabajo de campo y una del equipo Consultor. La prueba piloto permitió validar los cuestionarios y en su caso realizar algunas modificaciones las que posteriormente fueron compartidas con el resto del equipo seleccionado para el trabajo de campo. Asimismo, se reflejó en las modificaciones de los instrumentos de recolección de información. La prueba Piloto se llevo a cabo los días 14 y 15 de Julio del 2012.

Cuadro 3. Selección de la muestra

RUTA N°	ESTRATO DEL ESTUDIO	PROYECTADO		
		TOTAL	TRATADOS	CONTROLES
1	01- ANCASH	425	125	300
2	01- ANCASH Y 15- SIERRA NORTE DE LIMA-LAS DEMÁS	128	104	24
3	02- AREQUIPA-BUENAVENTURA Y 03-AREQUIPA-LAS DEMÁS	530	226	304
4	02- AREQUIPA-BUENAVENTURA Y 03-AREQUIPA-LAS DEMÁS	206	70	136

5	04- AYACUCHO, 06- HUANCAVELICA-BUENAVENTURA Y 07- HUANCAVELICA-LAS DEMÁS	672	280	392
6	05- CUSCO	496	72	424
7	05- CUSCO	320	260	60
8	04- AYACUCHO, 05- CUSCO Y 08- JUNIN-PASCO	332	80	252
9	04- AYACUCHO, 06- HUANCAVELICA-BUENAVENTURA Y 07- HUANCAVELICA-LAS DEMÁS	716	408	308
10	08- JUNIN-PASCO, 10- LA LIBERTAD-PODEROSA Y 12- MADRE DE DIOS	60	0	60
11	01- ANCASH, 08- JUNIN-PASCO, 14- SIERRA NORTE DE LIMA-BUENAVENTURA Y 15-SIERRA NORTE DE LIMA-LAS DEMÁS	401	177	224
12	04- AYACUCHO, 05- CUSCO, 07-HUANCAVELICA-LAS DEMÁS Y 08- JUNIN-PASCO	491	115	376
13	09- LA LIBERTAD- BARRICK Y 11- LA LIBERTAD-LAS DEMÁS	216	0	216
14	01- ANCASH, 09- LA LIBERTAD- BARRICK, 10-LA LIBERTAD- PODEROSA Y 11- LA LIBERTAD-LAS DEMÁS	537	289	248
15	01- ANCASH Y 15- SIERRA NORTE DE LIMA-LAS DEMÁS	404	16	388
16	01- ANCASH Y 15- SIERRA NORTE DE LIMA-LAS DEMÁS	233	233	0
17	12- MADRE DE DIOS	132	72	60
18	13- PUNO	452	120	332
19	12- MADRE DE DIOS Y 13- PUNO	476	248	228

TOTAL	7227	2895	4332

La selección de la muestra para el grupo beneficiario fue de 2895 y para el grupo control de 4332.

RUTA Nº	CORREDOR DEL ESTUDIO	TOTAL	TRATADOS	CONTROLES
1,2,16	Ancash	4	3	1
3,4	Arequipa	10	6	4
5, 6	Ayacucho	6	3	3
6,7 ,8	Cusco	12	2	10
5,9 ,12	Huancavelica	10	6	4
11,12	Junín - Pasco	5	4	1
13,14	La Libertad	19	9	10
10, 17	Madre de Dios	5	3	2
18,19	Puno	5	3	2
11,15,16	Sierra Norte	9	5	4
	Total	85	44	41

Con respecto a la muestra de los líderes de las comunidades, 44 son correspondientes a beneficiarios y 41 a grupo control.

4.3. Organización del trabajo de campo

4.3.1. Conformación de los equipos de trabajo

Los equipos se han conformado según ruta de trabajo, habiéndose conformado 19 grupos de trabajo, para diligenciar tanto la encuesta a hogares (Beneficiarios y Control) como a líderes de las comunidades. Los grupos de trabajo quedaron conformados de la siguiente manera:

Cuadro 5. Personal de campo desplazado

Ruta	N°	PERSONAL: NOMBRES Y APELLIDOS	CARGO
Ruta 1-Ancash	**1**	**HENRY RUIZ SALDAÑA**	**SUPERVISOR**
	2	LICET JACQUELINE HILARIO SOTO	ENCUESTADOR
	3	YELKA VERONICA VILCA PARDINA	ENCUESTADOR
	4	DORIS TORRES	ENCUESTADOR
	5	CARLOS URRUTIA VALDEZ	ENCUESTADOR
	6	PERCY FALCONI	ENCUESTADOR
	7	FREDY CORDERO	ENCUESTADOR

Ruta 2-Ancash	**1**	**VERONICA FLORES HORNA**	**SUPERVISOR**
	2	NATHALY MAGUIÑA URIBE	ENCUESTADOR
	3	ISABEL JARAMILLO	ENCUESTADOR
	4	URSULA ROTA	ENCUESTADOR
Ruta 3-Arequipa	**1**	**HEBERT RAMOS URIZAR**	**SUPERVISOR**
	2	JORGE BARRERA CALIXTO	ENCUESTADOR
	3	JACQUELINE GARCIA PEREZ	ENCUESTADOR
	4	JORGE VARGAS	ENCUESTADOR
	5	ISABEL RAMIREZ	ENCUESTADOR
	6	RAQUEL DULANTO ALVARADO	ENCUESTADOR
	7	HENRY BALTAZAR MARRON CARCAGNO	ENCUESTADOR
Ruta 4-Arequipa	**1**	**MARIA DEL CARMEN SANCHEZ**	**SUPERVISOR**
	2	ALEJANDRO GAMARRA	ENCUESTADOR
	3	PASCUAL ALPACA	ENCUESTADOR
	4	EMILIA RAMOS	ENCUESTADOR
	5	MARIANELA TAPIA REATEGUI	ENCUESTADOR
	6	SILVIA MEZA MONGE	ENCUESTADOR
Ruta 5-Ayacucho	**1**	**FLORO RAMIREZ MENDOZA**	**SUPERVISOR**
	2	MARIELA LOPEZ GOMEZ	ENCUESTADOR
	3	PAUL URBINA GUTIERREZ	ENCUESTADOR
	4	NESTOR GUTIERREZ MUÑOZ	ENCUESTADOR
	5	JANETH ORE AYALA	ENCUESTADOR
	6	JUAN JOSE DE LA CRUZ ORBEGOZO	ENCUESTADOR
	7	CESAR FALLA RUIZ	ENCUESTADOR
Ruta 6-Cusco	**1**	**NIEVES PACHECO BAEZ**	**SUPERVISOR**
	2	JANET LUZMILA PACHECO BAEZ	ENCUESTADOR
	3	JAIME OSWALDO SILVA TORRES	ENCUESTADOR
	4	ANGELA LILIANA GIRALDO FARFAN	ENCUESTADOR
	5	MERLI MESICANO	ENCUESTADOR
	6	DENNIS KAROLAY SILVA PACHECO	ENCUESTADOR
	7	ROGER QUISPE MONGE	ENCUESTADOR
Ruta 7-Cusco	**1**	**DANIEL ARIAS ESPICHAN**	**SUPERVISOR**
	2	HUGO BARRETO	ENCUESTADOR
	3	FAUSTO GARCIA CHAVEZ	ENCUESTADOR
	4	RUTH AGUILAR	ENCUESTADOR
	5	PAUL ROBERT BACA ESCOBAR	ENCUESTADOR
	6	YENI HUAMANGA HUAMANGA	ENCUESTADOR
Ruta 8-Cusco	**1**	**OSWALDO MAURICIO CHURAMPI**	**SUPERVISOR**
	2	ORLANDO JUSTINIANO LOPEZ	ENCUESTADOR
	3	NANCY LOAYZA	ENCUESTADOR
	4	NAZARIA GLADYS MEZA QUISPE	ENCUESTADOR
	5	EDITHAPARICIO MENDOZA	ENCUESTADOR
	6	CARLA APARICIO MENDOZA	ENCUESTADOR
Ruta 9-Huancavelica	**1**	**RAFAEL VELASQUEZ ESPAÑA**	**SUPERVISOR**
	2	ROCIO RONCAL SUELDO	ENCUESTADOR
	3	VICTOR RICARDO CORONEL CASTILLO	ENCUESTADOR
	4	SERGIO SARMIENTO CLEMENTE	ENCUESTADOR
	5	SAUL EDINSON ZUÑIGA HERMOSA	ENCUESTADOR
	6	EVELINAROJASMORAN	ENCUESTADOR

	7	ANGEL HUMBERTO ROJAS MENENDEZ	ENCUESTADOR
Ruta 10-Ucayali	**1**	**JAIME MEGO ULLOA**	**SUPERVISOR**
	2	LOIS ACHO GONZALES	ENCUESTADOR
	3	RAUL GRANDES GARCIA	ENCUESTADOR
Ruta 11-Huanuco	**1**	**MARIA ESTRADA JUIPA**	**SUPERVISOR**
	2	DAVID CONTRERAS PRETEL	ENCUESTADOR
	3	CLEVER RODRIGUEZ JARA	ENCUESTADOR
	4	OLGA NANCY RAMIREZ	ENCUESTADOR
	5	SAIRA ESTRADA JULCA	ENCUESTADOR
Ruta 12-Junin	**1**	**JULIA GARCIA PEREZ**	**SUPERVISOR**
	2	ADOLFO JESUS ORE CORNEJO	ENCUESTADOR
	3	LUISA SALOME MEDINA DAMIAN	ENCUESTADOR
	4	MELETINA MOLINA RODRIGUEZ	ENCUESTADOR
	5	GIANCARLO ANSELMO TORRES GARCIA	ENCUESTADOR
	6	ROSARIO RAMON LOZANO	ENCUESTADOR
	7	PEDRO EDGAR ALVARADO DELGADO	ENCUESTADOR
Ruta 13-Cajamarca	**1**	**NANCY CHILON HUAMAN**	**SUPERVISOR**
	2	LETY DIMAS MALCA BARBZA	ENCUESTADOR
	3	WILLY CULQUI	ENCUESTADOR
	4	ISABEL QUIROZ RODRIGUEZ	ENCUESTADOR
	5	SUSY SALINAS SOLER	ENCUESTADOR
	6	GENOVEVA MURILLO	ENCUESTADOR
Ruta 14-La Libertad	**1**	**GIANFRANCO TORRES GARCIA**	**SUPERVISOR**
	2	ESTHER ACEVEDO CAPCHA	ENCUESTADOR
	3	KAREN GALLEGOS CALLE	ENCUESTADOR
	4	LILIA YAURI HUAMAN	ENCUESTADOR
	5	ALDO ADRIAN CALIZAYA CARAZAS	ENCUESTADOR
	6	JORGE BARRETO	ENCUESTADOR
	7	KEILA SAMAME VICARIO	ENCUESTADOR
Ruta 15-Lima	**1**	**DANIEL MUÑOZ ARRASCUE**	**SUPERVISOR**
	2	SIVIA GONZALES SANZ	ENCUESTADOR
	3	MARDELI ROMO REYES	ENCUESTADOR
	4	PILAR TELLO	ENCUESTADOR
	5	GERMAN SOTO CANCINO	ENCUESTADOR
	6	HECTOR PERALTA MARMOLEJO	ENCUESTADOR
	7	MARIANELLA ESPIRITU CANCHAYA	ENCUESTADOR
Ruta 16-Lima Provincia	**1**	**IRMA VENTOCILLA ALOR**	**SUPERVISOR**
	2	ROLANDO FUENTES	ENCUESTADOR
	3	RENE HOYOS	ENCUESTADOR
	4	MARILU VALVERDE	ENCUESTADOR
	5	TERESA ROMERO	ENCUESTADOR
	6	LUZ GUERRERO	ENCUESTADOR
Ruta 17-Madre de Dios	**1**	**VICTOR URIBE CRUZ**	**SUPERVISOR**
	2	ALEIXIS MEGO CALAMPA	ENCUESTADOR
	3	LUZ ANGELICA RICOPA	ENCUESTADOR
	4	JAMES LOZANO	ENCUESTADOR
Ruta 18-Puno	**1**	**LUIS ESTRADA MOYA**	**SUPERVISOR**
	2	MIRELLA ANAIS VENTURA	ENCUESTADOR
	3	ZAIDA QUISPE ALIAGA	ENCUESTADOR

	4	JHONY GOMES ARRASCUE	ENCUESTADOR
	5	RAUL TICCE	ENCUESTADOR
	6	JAVIER BERNARDO FALLA RUIZ	ENCUESTADOR
	7	VICTOR HUGO DIAZ ROMERO	ENCUESTADOR
Ruta 19-Puno	**1**	**YOLANDA MAMANI ZAPANA**	**SUPERVISOR**
	2	AREMY DOLORES LUQUE DE LA RIVA	ENCUESTADOR
	3	MARIA FELICITAS PORTUGAL DE VILLASANTE	ENCUESTADOR
	4	TEOFILA BOMBILLA QUILCA	ENCUESTADOR
	5	LUZ AYDE CANAZA TORRES	ENCUESTADOR
	6	INDIRA JHONELLY ROMAN HUAYAPA	ENCUESTADOR
	7	IRENE NOEMI MAMANI MAMANI	ENCUESTADOR

4.3.2. Programación del trabajo

El programa de trabajo para los 19 grupos de trabajo tenía como fecha de inicio el 03 de agosto y de culminación el día 08 de setiembre. La carga de trabajo por encuestador estaba establecida en un mínimo de 4 encuestas diarias, considerando las encuestas de hogares y a líderes de la comunidad, siendo el supervisor la persona encargada de diligenciar la entrevista a las autoridades de las localidades. La programación de las rutas de trabajo tuvo como factores principales: i) el tiempo de diligenciamiento de la encuesta, ii) el tiempo de desplazamiento tanto entre las localidades como el desplazamiento interno en la búsqueda de los informantes. En algunas zonas este último podía llegar a ser considerablemente alto debido a la distancia entre los informantes seleccionados.

Cuadro 6. N° de Personal por Rutas de Trabajo y Fechas de Trabajo Campo

Ruta	RUTA	N° Supervisores	N° Encuestadores	Total	Días de Campo	Fecha en Localidad	Fecha Fin Campo
N° 1	ANCASH	1	6	7	32	03-ago	04-sep
N° 2	ANCASH	1	3	4	15	03-ago	18-ago
N° 3	AREQUIPA	1	6	7	29	03-ago	03-sep
N° 4	AREQUIPA	1	5	6	20	03-ago	23-ago
N° 5	AYACUCHO	1	6	7	32	03-ago	06-sep
N° 6	CUSCO	1	6	7	30	04-ago	05-sep
N° 7	CUSCO	1	5	6	19	04-ago	25-ago
N° 8	CUSCO	1	5	6	27	05-ago	05-sep
N° 9	HUANCAVELICA	1	6	7	34	05-ago	10-sep
N° 10	UCAYALI	1	2	3	15	04-ago	19-ago

N° 11	HUANUCO	1	4	5	29	03-ago	03-sep
N° 12	JUNIN	1	6	7	30	03-ago	04-sep
N° 13	CAJAMARCA	1	5	6	17	03-ago	20-ago
N° 14	LA LIBERTAD	1	6	7	32	03-ago	06-sep
N° 15	LIMA	1	6	7	23	03-ago	26-ago
N° 16	LIMA PROV.	1	5	6	29	03-ago	01-sep
N° 17	MADRE DE DIOS	1	3	4	17	03-ago	20-ago
N° 18	PUNO	1	6	7	32	04-ago	05-sep
N° 19	PUNO	1	6	7	33	04-ago	08-sep
TOTAL		**19**	**97**	**116**			

Antes de la partida a campo, cada jefe de equipo y sus integrantes fue provisto con los materiales para el recojo de información y se le dio las instrucciones pertinentes por cada zona visitada. El material incluyó:

- Los cuestionarios a diligenciar
- La muestra seleccionada a encuestar en el caso del grupo beneficiario y un directorio extra.
- Las credenciales que los identificaban como personal de Instituto Cuánto.
- El Cuadro de reporte del trabajo de campo.

Asimismo, se les dio las indicaciones sobre los mecanismos de comunicación con el jefe de equipo de campo para el reporte de ocurrencias y dificultades encontradas en el trabajo de campo y las orientaciones sobre el desplazamiento a los lugares de trabajo y recomendaciones para el cumplimiento del cronograma de actividades.

5. Ejecución del trabajo de campo

5.1. Recolección de información

Consistió en el acopio de la información en las localidades seleccionadas, aplicando los instrumentos diseñados para este fin. En el proceso de recolección se siguió los siguientes pasos:

- Asignación de las unidades muéstrales.

- Distribución de los equipos y formularios correspondientes a cada responsable de equipo
- Acopio de la información a cargo del Equipo de campo.
- Crítica de la información recolectada por Localidad y reporte de ocurrencias a cargo del jefe de cada equipo.

5.2. Metodología del trabajo de campo

5.2.1. Método de empadronamiento

El método empleado para la recolección de datos fue el siguiente:

- Entrevista directa a los Hogares por medio de la observación directa.
- Entrevista directa a las Autoridades Locales de las localidades de la muestra.

5.2.2. Estrategia de ejecución de la encuesta

En cuanto a los Beneficiarios (Tratados), estos debían corresponder a un Listado Base proporcionado por el Instituto Cuánto, con margen de maniobra dentro del Listado mencionado o un Listado Extra de Beneficiarios. En cuanto a la selección de Controles en campo, se tuvo en cuenta los siguientes aspectos:

- Las características productivas en términos de áreas de cultivos cosechados y superficie manejadas.
- Pertenencia a un conjunto de canasta de productos
- Creación de autoempleo y venta por ellos mismos de su producción. (Producción Artesanal).

5.3. Control y supervisión del trabajo de campo

La supervisión se realizó con el objeto de verificar la correcta recolección de información por parte de los equipos de campo, tanto en calidad como en oportunidad de acuerdo a las normas establecidas y para solucionar problemas aparecidos en el campo.

5.3.1. Niveles de supervisión

El control y supervisión del trabajo de campo estuvo a cargo del supervisor del equipo de campo. Este último asignaba la carga de trabajo y supervisaba a los encuestadores a su cargo quienes diligenciaban los cuestionarios. Los jefes de equipo de campo supervisaban, a su vez, a los responsables de los equipos El jefe del proyecto supervisó a todo nivel.

5.3.2. Programa de supervisión del trabajo de campo

Los Supervisores fueron los responsables de verificar que la operación de campo se cumpla de acuerdo a las normas impartidas, sus funciones fueron los siguientes:

- Revisión de cuestionarios: Tarea efectuada al concluir el día de trabajo, de esta forma se consistencia los cuestionarios y detectaron errores para determinar, si el caso lo ameritaba, el regreso a campo para aclarar o recuperar la información.
- Control de avance de la operación de campo: Esta tarea tuvo como finalidad controlar el avance de la operación de campo con el fin de evitar desfases en la programación.
- Coordinación telefónica con la sede en Lima para informar avances de metas al término de la encuesta en una ciudad: La comunicación realizada con la sede central fue constante a través del teléfono, con la finalidad de monitorear el trabajo y absolver consultas y solucionar problemas encontrados en el terreno.

6. Resultados del trabajo de campo

6.1. Encuesta a beneficiarios o tratados a nivel de corredor económico

Como se observa en el cuadro a nivel de corredor económico, se ejecutó el 97% de la muestra proyectada, en donde solo el corredor económico La Libertad (93%) y el corredor económico Huancavelica (83%) registran una ejecución menor que el promedio.

Cuadro 7. Beneficiarios por Corredor económico

CORREDOR	BENEFICIARIOS		
	PROYECTADO	EJECUTADO	% EJECUTADO
1. ANCASH	269	271	101%
2. AREQUIPA	296	296	100%
3. AYACUCHO	328	322	98%
4. CUSCO	388	390	101%
5. HUANCAVELICA	408	340	83%
6. JUNIN-PASCO	132	128	97%
7. LA LIBERTAD	289	270	93%
8. MADRE DE DIOS	72	73	101%
9. PUNO	368	368	100%
10. SIERRA NORTE DE LIMA	345	345	100%
TOTAL	**2895**	**2803**	**97%**

6.2. Encuesta a beneficiarios o tratados a nivel de estrato

Como se observa en el cuadro a nivel de estrato de estudio, se ejecutó el 97% de la muestra proyectada, en donde solo el estrato de estudio La Libertad-Las Demás (89%) y el estrato de estudio Huancavelica-Buenaventura (59%) registran una ejecución menor que el promedio.

Cuadro 8. Beneficiarios por estrato

ESTRATO DEL ESTUDIO	BENEFICIARIOS		
	PROYECTADO	EJECUTADO	% EJECUTADO
01- ANCASH	269	271	101%
02- AREQUIPA-BUENAVENTURA	168	176	105%
03- AREQUIPA-LAS DEMAS	128	120	94%
04- AYACUCHO	328	322	98%
05- CUSCO	388	390	101%
06- HUANCAVELICA -BUENAVENTURA	152	89	59%
07- HUANCAVELICA -LAS DEMAS	256	251	98%
08- JUNIN-PASCO	132	128	97%
09- LA LIBERTAD- BARRICK	60	60	100%
10- LA LIBERTAD- PODEROSA	70	68	97%

11- LA LIBERTAD- LAS DEMAS	159	142	89%
12- MADRE DE DIOS	72	73	101%
13- PUNO	368	368	100%
14- SIERRA NORTE DE LIMA-BUENAVENTURA	77	76	99%
15- SIERRA NORTE DE LIMA-LAS DEMAS	268	269	100%
TOTAL	**2895**	**2803**	**97%**

6.3. Encuesta a beneficiarios o tratados a nivel de departamentos o regiones

Como se observa en el cuadro a nivel de Estrato de estudio y Departamento, se ejecuto el 97% de la muestra proyectada, en donde los estratos de estudio La Libertad-Las Demás (89%), el estrato de estudio Huancavelica-Buenaventura (59%) y el Estrato de estudio Ayacucho–Huancavelica, registran una ejecución menor que el promedio, aunque en esta ultima la data es muy relativa debido al bajo número de beneficiarios 8.

Cuadro 9. Beneficiarios por departamento

ESTRATO DEL ESTUDIO	DPTO	BENEFICIARIOS		
		PROYECTADO	EJECUTADO	% EJECUTADO
01- ANCASH	ANCASH	229	231	101%
	LIMA	40	40	100%
02- AREQUIPA-BUENAVENTURA	AREQUIPA	168	176	105%
03- AREQUIPA-LAS DEMAS	AREQUIPA	128	120	94%
04- AYACUCHO	AYACUCHO	280	280	100%
	CUSCO	24	24	100%
	HUANCAVELICA	8	2	25%
	JUNIN	16	16	100%
05- CUSCO	CUSCO	388	390	101%
06- HUANCAVELICA-BUENAVENTURA	HUANCAVELICA	152	89	59%
07- HUANCAVELICA-LAS DEMAS	HUANCAVELICA	256	251	98%
08- JUNIN-PASCO	HUANUCO	23	23	100%
	JUNIN	70	66	94%
	PASCO	39	39	100%

09- LA LIBERTAD- BARRICK	LA LIBERTAD	60	60	100%
10- LA LIBERTAD- PODEROSA	LA LIBERTAD	70	68	97%
11- LA LIBERTAD-LAS DEMAS	LA LIBERTAD	159	142	89%
12- MADRE DE DIOS	MADRE DE DIOS	72	73	101%
13- PUNO	PUNO	368	368	100%
14- SIERRA NORTE DE LIMA-BUENAVENTURA	LIMA	1	1	100%
	PASCO	76	75	99%
15- SIERRA NORTE DE LIMA-LAS DEMAS	HUANUCO	60	56	93%
	LIMA	208	213	102%
TOTAL		**2895**	**2803**	**97%**

6.4. Informe de incidencias por ruta – Tratados

RUTA 1 y 2 ANCASH

En estas rutas se tuvo coordinaciones directas y/o visitas de funcionarios del PRA- Juan Manuel Vílchez, Paul Figueroa, Alindor Mendoza y Carlos Barreto-
.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal y cambios de residencia.

En la Provincia de Huaraz se dieron las siguientes situaciones:

- Distrito de Huanchay, en el CCPP de Colcap se realizaron encuestas a 13 de los 25 beneficiarios, por los que se completo con 12 beneficiarios del CCPP La cumbre del mismo distrito.
- Distrito de Jangas, en el CCPP de Cahuish no se pudo completar la muestra de 9 beneficiarios por motivo de viaje de 2 beneficiarios completándose con beneficiarios del CCPP de Atupa en el mismo distrito.

En la Provincia de Mariscal Luzuriaga se dieron las siguientes situaciones:

- Distrito de Llama, se completo la muestra de beneficiarios de Gasga, Carhuag y Caviña por otros beneficiarios del mismo distrito.

RUTA 3 y 4 AREQUIPA

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Marco Aspilcueta, Fanny Mosquera, Mara Manrique, María luz Gonzales y Carlos Flores.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

En la Provincia de Castilla se dieron las siguientes situaciones:

- Distrito de Aplao, debido a que algunos de los beneficiarios ya no residían en el los CCPP se completaron con beneficiarios de la lista extra de beneficiarios del mismo CCPP o en algunos casos con beneficiarios de otro CCPP del mismo distrito.

RUTA 5 – AYACUCHO

En esta ruta se tuvo coordinaciones con funcionarios del PRA (Gabina Tealdo y Sally Sánchez) y a través de ellos con el líder comunitario Macedonio Palomino, quien tiene mucha influencia en las comunidades.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

Se dieron las siguientes situaciones:

- Debido a que algunos de los beneficiarios ya no residían en los CCPP seleccionado se completo con beneficiarios de la lista extra de beneficiarios del mismo CCPP o en algunos casos con beneficiarios de

otro CCPP del mismo distrito. Ello se dio en el caso de los distritos de Sivia, Totos, Chuschi y Anco.

- En el caso de la Provincia de Cangallo, distrito de Chuschi fue importante la presencia del líder general de los artesanos Macedonio Palomino, pues sin su consentimiento no nos hubiesen dado facilidades para la encuesta las comunidades de dicho distrito, ello debido a que mencionaron que hace dos años el PRA no da asesoría técnica a esa población.

RUTA 6, 7 y 8 CUSCO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Ana Maria Andrade Navarro, Elvis chuspe, Gladys Cassos, Jose Atao, Francisco Carbajal, Wilfredo Delgado.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

Se dieron las siguientes situaciones:

- Saxancay como centro poblado no existe, los beneficiarios que aparecen en el listado se les ubico en el centro artesanal Pachatusan del distrito de Marcapata.
- Cccollana como centro poblado tampoco existe, a los beneficiarios del listado se les ubico en el sector Llacco, Chumpi y Cañimaco.
- Los beneficiarios del distrito de Marcapata se les ubico en Llacco, Chumpi y Cañimaco y Marcapata.
- Los beneficiarios de Tinqui se les ubico en Upis, Pucarumi, Marampaqui y en el mismo Tinqui.
- Los beneficiarios de Ocongate se les ubico en Mallma y en el mismo Ocongate.

En general se puede decir que los casos de remplazos de beneficiarios seleccionados se realizaron por la no ubicación de dichos beneficiarios en su

localidad respectiva (y en algunos casos ni siquiera el consultor del PRA Cusco los conocía), o, inclusive, están viviendo en otro distrito u otra provincia.

RUTA 9 Y 12 HUANCAVELICA

En esta ruta se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

Las mayores dificultades se encontraron en la provincia de Angaraes, mencionándose las siguientes situaciones por las que no fueron encuestadas:

- Algunas personas no fueron encuestadas porque ellos se negaron rotundamente ya que mencionaron que no tiene idea de lo que es el PRA.
- Otras de las personas no encuestadas son personas que no radican, no existen en la zona, se llegó a los hogares y se encontró a otras familias, en la cual se consultó su paradero y mencionaron que esas personas son desconocidas y que nadie les conoce, cerciorando que son datos que no conciernen a dicha comunidad centro poblado o distrito.
- En otros casos no se encuestaron porque las personas beneficiarias ya fallecieron por tanto no se le encuesto.
- Se observo que personas beneficiarias se mudaron a otros centros poblados, distritos, provincias u otros departamentos buscado una mejora de calidad de vida y/o por motivos de jubilación de las personas que trabajan en la mina.
- Otros beneficiarios realizaron viajes familiares por motivo de la huelga ya que no laboran las instituciones educativas, y aprovecharon para realizar viajes por diferentes motivos a otros lugares.

La encuesta se realizó minuciosamente buscando en los hogares a cada beneficiario. Se tuvo la participación de personal del PRA en la cual se constató que la relación de los beneficiarios no coincidía con las personas que participan en el PRA, mencionando que la relación de beneficiarios se obtuvo de aquellos personas que llegaron solo para vender la fibra de alpaca en años anteriores, por tal motivo ninguno de los pobladores conocía el paradero de aquellas personas.

RUTA 10 y 17 MADRE DE DIOS

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Carlos Trujillo

No hubo mayores incidencias en la población beneficiaria.

RUTA 11 y 12 JUNIN- PASCO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA (Juan Manuel Vílchez, Ramón Ríos, Ing. Jorge Gordillo, Ing. Julio Arenas).

- En la provincia de Lauricocha se trabajo los Distritos de Jesús, San Miguel de Cauri, Jivia y Queropalca. En su gran mayoría, los beneficiarios en esta zona no han tenido asistencia técnica y algunos de ellos se quejan porque la papa que acopiaron no les compró y se malogro.
- En el centro poblado de Yachasmarca la muestra fue de 16 pero solo se trabajó 04 no se pudo completar por que las Autoridades del CCPP se negaron y comunicaron a los beneficiarios que no den información porque ellos están en contra de la minera Raura por que el Proyecto PRA trabajo en convenio con la minera, por lo que se tuvo que completar con los beneficiarios de la lista de remplazo en el Distrito de Jesús y sus centros poblados.
- En el CCPP de Cauri la muestra fue 16 se trabajó 12 no se completó por ausencia de beneficiarios y lo completo otro supervisor del mismo corredor. En esta provincia se trabajó en coordinación con el ing. Jorge Gordillo y con el apoyo de los técnicos de la zona.

- Con respecto a los beneficiarios de Tindalpata su vivienda permanente es en el departamento de Huánuco, Provincia de Pachitea por lo que se tuvo que encuestar en Huánuco.
- En el distrito de Yanahuanca, CCPP. Los Andes fue difícil ubicar las viviendas porque en el listado no tenía referencias y se tenía que caminar de 2 a 3 horas empezamos trabajando y la gran mayoría vivían en Lima y Pasco.
- En Cachipampa la comunidad es totalmente dispersa se encontró que habían beneficiarios inexistentes y ausentes por lo que se remplazó con los beneficiarios de Pampa Salera. Esta población se queja que no han tenido asistencia técnica y 2 veces por año les visitan los técnicos para comprar la fibra. Tercera visita a cachipampa,
- En la zona de Puerto Inca se coordinó con el Ing. Ramón Ríos y los técnicos encargados, el trabajo de campo porque los lugares a encuestar son lejanas aunque algunos se tuvo que remplazar por ausencia con la lista de remplazo.
- En Ninacaca se coordinó y trabajó con el Ing. Orlando se encuesto 6 no se completó a 7 por que uno de los nombres se repetía y no hay más beneficiario para remplazo.

En la gran mayoría de los encuestados compran sus víveres para cada 3 meses o cada vez que venden sus productos.

RUTA 13 y 14 LA LIBERTAD

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

- En el Departamento de Cajamarca, provincia de Cajamarca, distrito de la Asunción los caseríos Sapali y el Porvenir fueron remplazados

debido a que se presentar negaron a brindar información confundiendo a los encuestadores con personas de la minera.

- En el departamento de La Libertad, Provincia de Viru, Distrito de Chao, Los beneficiarios de este distrito en una buena cantidad han migrado de sus localidades para Trujillo, Chimbote y otros lugares; motivo por el cual no se pudo completar la lista aunque se conto con la ayuda de los consultores del PRA para la ubicación de los beneficiarios.

RUTA 15 y 16 LA SIERRA NORTE DE LIMA

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia en Lima, Churín, Huacho, Pastorean en las alturas.

Se dieron las siguientes situaciones:

En la provincia de Huaura

- Distrito Santa María – Santa Rosalía: La beneficiaria Lucila Gregorio Trujillo es parte del hogar del beneficiario Juan Gregorio Trujillo (hermano) los dos están en la lista pero Lucila no tiene trabajo y vive en el hogar de Juan Gregorio, siendo remplazado por Rosa Evangelista Maguiña.
- En Santa Rosalía los beneficiarios desean ser capacitados en forma directa por el PRA y no a través de APROPAL ni EUROFRESH.
- Distrito Leoncio Prado – Parán: Rechazo de Julca Carrera Michelle argumenta que el PRA no ha capacitado a los agricultores.
- Distrito Vegueta – Medio Mundo: El beneficiario Tarazona Leiva (analista de créditos de la Caja de Sullana de Paramonga) aparece en todas partes, porque en ese lugar alquiló el campo de cultivo pero él vive en Barranca donde fue la entrevista.

- Santa Leonor – Jucul: Sus cosechas son para su autoconsumo. El PRA no ejecutó el proyecto para el mejoramiento de fibra de ganado Ovino.
- Paccho – Musga y San Andrés de Huacar: A los beneficiarios alejados del pueblo no llegó el PRA. Conocen mejor al acopiador FELLES en Musga. En Huacar todos son dueños de transporte de carga.

En la provincia de Oyon

- Distrito Naván – Conchao-Puná: Los beneficiarios no quieren que los capacite los acopiadores FELLES y CHEVES, sino el mismo PRA en Puna; porque estos acopiadores fijan el precio del melocotón arbitrariamente perjudicando la economía de los productores.
- Distrito Cochamarca: La campaña del 2012 del melocotón fue cero, motivo que la poda asesorada por el PRA perjudicó la producción del melocotón.
- Pachangara: Todo lo que siembran es para su autoconsumo; 24 toneladas de su cosecha de ajos se perdieron debido a que el PRA no consiguió a los acopiadores. Adicionalmente, la minera Los Quenuales les ha dado una indemnización en dólares por haber perjudicado los terrenos de cultivo (desde 2,000 hasta 20,000 Dólares Americanos). La minera les da campaña de salud y regalos (útiles escolares y buzos).

En la provincia de Barranca (Son inscritos en Ancash).

- Distrito Supe: El PRA no ha llegado a capacitarlos según declaran los productores de Supe.
- Ámbar – Jalcán: No han tenido capacitación del PRA. Hubo supervisión del USAID acompañados por el Ing. del PRA, Ing. Arenas quien les mostraba terrenos de buenos cultivos que pertenecían a los productores que no estaban inscritos en el PRA.

RUTA 18 y 19 PUNO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia y rechazo de la población.

Se dieron las siguientes situaciones:

- En el distrito de Macusani se tuvo un número elevado de direcciones muy dispersas entre sí; esto hizo muy difícil el desplazamiento para los encuestadores. En algunos casos, el listado era contradictorio ya que los beneficiarios tenían más de dos direcciones. Adicionalmente, se perdió un día de trabajo, tratando de ubicar a los beneficiarios ya que ellos no conocían al proyecto PRA, un día después, llego el promotor encargado del distrito informo que se estaba trabajando con el nombre de SPAR MACUSANI; luego de la aclaración de parte del personal responsable del (PRA) recién se realizó el trabajo.
- El listado de los beneficiarios del distrito de Larimayo no coincidía con los nombres enviados, lo cual dificultó el desarrollo normal del trabajo, teniendo que regresar en más de tres oportunidades para lograr completar la carga de trabajo. Finalmente, de los 74 beneficiarios del listado de Larimayo, solamente se encuestó a 18, completando la muestra con el listado del distrito de Antauta. Cabe mencionar también que para completar dicha muestra se tuvo apoyo por parte del personal del PRA que brindó su transporte para llegar a los lugares más alejados del centro poblado. Sin embargo, estos beneficiarios se encontraban en mas 6 localidades dispersas. Por ejemplo, para rescatar solo una encuesta se tuvo que hace un desplazamiento que duró un día completo.
- Por otro lado, en el listado del distrito de Ajoyani se encontró un beneficiario que figuraba en el Centro Poblado de Puerto Arturo, se tomo esta encuesta ya que para todo los casos fue muy difícil completar la muestra asignada para cada localidad.

- Los beneficiarios del Distrito de Antauta habitan en comunidades distantes y esto dificultó el buen desarrollo del trabajo ya que el desplazamiento de una vivienda a otra tomó demasiado tiempo. Lo mismo sucedió en las localidades de Santa Rosa de Melgar, Aymaña (Macusani), y así sucesivamente en otras localidades de la provincia de Carabaya.
- Cabe resaltar también que para los lugares donde han acopiado la lana, no hubo ningún tipo de capacitación. Lo que es más, hubo quejas de que no les pagan hasta ahora por la lana habiendo entregado la misma en el mes de Diciembre del 2011.
- En la localidad de Antauta, un informante indica que solo le invitaron a llevar su lana al SPAR Macusani, no recibió ninguna capacitación y no cree que por eso este su nombre como beneficiario.
- Con respecto a la Semilla de Quinua manifestaron que era de mala calidad, y la entrega fue después de su fecha de siembra.
- En Santa Rosa, el PRA entro a trabajar con leche pero todas las personas o los hogares entrevistados elaboran queso y no venden la leche, manifestando que les pedían la leche por la madrugada y ellos no podían ordeñar, debido a razones climáticas, a esa hora.
- En la localidad de Machaca Isla, se conversó con autoridades locales -como el Presidente de la Comunidad o el Teniente-, los cuales manifestaron que todos los encuestadores vienen con engaños y ellos no quieren que se les encueste, pese a ello se visitó domicilio por domicilio y las personas, al igual que las autoridades, se mostraron renuentes a contestar. Por esta razón, solamente se logró llenar una encuesta. La carga original de 12 encuestas se completó en la localidad vecina Desvío de Samán.

En general para la mayoría de las localidades de esta zona en un hogar se podían encontrar hasta tres beneficiarios que figuraban en el listado (jefe del hogar, pareja, hijo (a), pareja con nombre de casada y soltera a la vez), esto resto el número de hogares informantes establecido originalmente. Un

problema derivado de esto último fue buscar los reemplazos correspondientes.

6.5. Encuesta de hogares control a nivel de corredor económico

Como se observa en el cuadro a nivel de corredor económico, se ejecutó el 100% de la muestra proyectada.

Cuadro 10. Número de hogares controles encuestados por corredor

CORREDOR	CONTROLES		
	PROYECTADO	EJECUTADO	% EJECUTADO
1. ANCASH	404	404	1
2. AREQUIPA	440	440	1
3. AYACUCHO	504	504	1
4. CUSCO	580	579	1
5. HUANCAVELICA	592	592	1
6. JUNIN-PASCO	196	196	1
7. LA LIBERTAD	440	440	1
8. MADRE DE DIOS	108	108	1
9. PUNO	548	548	1
10. SIERRA NORTE DE LIMA	520	522	1
TOTAL	**4332**	**4333**	**1**

6.6. Encuesta de hogares control a nivel de estrato de estudio

Como se observa en el cuadro a nivel de estrato de estudio, se ejecuto el 100% de la muestra proyectada.

Cuadro 11. Número de hogares controles encuestados por estrato

ESTRATO DEL ESTUDIO	CONTROLES		
	PROYECTADO	EJECUTADO	% EJECUTADO
01- ANCASH	404	404	100%
02- AREQUIPA-BUENAVENTURA	248	248	100%
03- AREQUIPA-LAS DEMAS	192	192	100%
04- AYACUCHO	504	504	100%
05- CUSCO	580	579	100%
06- HUANCAVELICA-BUENAVENTURA	224	224	100%
07- HUANCAVELICA-LAS DEMAS	368	368	100%
08- JUNIN-PASCO	196	196	100%
09- LA LIBERTAD- BARRICK	92	92	100%
10- LA LIBERTAD- PODEROSA	108	108	100%
11- LA LIBERTAD-LAS DEMAS	240	240	100%
12- MADRE DE DIOS	108	108	100%

13- PUNO	548	548	100%
14- SIERRA NORTE DE LIMA-BUENAVENTURA	116	118	102%
15- SIERRA NORTE DE LIMA-LAS DEMAS	404	404	100%
TOTAL	**4332**	**4333**	**100%**

6.7. Encuesta de hogares control a nivel de departamentos o regiones

Como se observa en el cuadro a nivel de Estrato de estudio y Departamento, se ejecuto el 100% de la muestra proyectada.

Cuadro 12. Número de hogares controles encuestados por departamento

ESTRATO DEL ESTUDIO	DEPARTAMENTO	CONTROLES		
		PROYECTADO	EJECUTADO	% EJECUTADO
01- ANCASH	ANCASH	276	276	100%
	HUANUCO	48	48	100%
	LA LIBERTAD	36	36	100%
	LIMA	44	44	100%
02- AREQUIPA-BUENAVENTURA	AREQUIPA	248	248	100%
03- AREQUIPA-LAS DEMAS	AREQUIPA	192	192	100%
04- AYACUCHO	APURIMAC	84	84	100%
	AYACUCHO	336	336	100%
	CUSCO	60	60	100%
	HUANCAVELICA	24	24	100%
05- CUSCO	APURIMAC	132	132	100%
	CUSCO	412	411	100%
	JUNIN	36	36	100%
06- HUANCAVELICA-BUENAVENTURA	AYACUCHO	56	56	100%
	HUANCAVELICA	168	168	100%
07- HUANCAVELICA-LAS DEMAS	HUANCAVELICA	320	320	100%
	JUNIN	48	48	100%
08- JUNIN-PASCO	CUSCO	48	48	100%
	HUANUCO	24	24	100%
	JUNIN	64	64	100%
	LORETO	12	12	100%
	PASCO	48	48	100%
09- LA LIBERTAD- BARRICK	CAJAMARCA	12	12	100%
	LA LIBERTAD	80	80	100%
10- LA LIBERTAD-PODEROSA	LA LIBERTAD	96	96	100%
	SAN MARTIN	12	12	100%
11- LA LIBERTAD-LAS DEMAS	CAJAMARCA	192	192	100%
	LA LIBERTAD	48	48	100%
12- MADRE DE DIOS	MADRE DE	60	60	100%

	DIOS			
	PUNO	12	12	100%
	UCAYALI	36	36	100%
13- PUNO	PUNO	548	548	100%
14- SIERRA NORTE DE LIMA-BUENAVENTURA	PASCO	116	118	102%
15- SIERRA NORTE DE LIMA-LAS DEMAS	ANCASH	12	12	100%
	HUANUCO	48	48	100%
	LIMA	344	344	100%
TOTAL		**4332**	**4333**	**100%**

6.8. Informe de incidencias por ruta – Controles

RUTA 1 y 2 ANCASH

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Juan Manuel Vílchez, Paul Figueroa, Alindor Mendoza y Carlos Barreto.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

- Masin se remplazó por Ponton y Pushka por Mirgas

RUTA 3 y 4 AREQUIPA

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Marco Aspilcueta, Fanny Mosquera, Mara Manrique, María luz Gonzales y Carlos Flores.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

De otro lado, debido al difícil acceso y falta de medios de transporte para llegar a los centros poblados de Arcata, Cayarani y Salamanca, estos fueron

cambiados por Chiringay, Carmen Alto y Papachacra, respectivamente. El mismo día se partió hacia el distrito de Puica, provincia de La Unión, para realizar entrevistas en los centros poblados Maghuacca, Suni, Pettcce y Puica. En las tres primeras localidades se realizaron veinte controles, en tanto que en la cuarta se realizaron doce.

El centro poblado de Huactapata se reemplazó por Tomepampa, Churca por Taurima. En Tomepampa se realizaron veinticuatro controles y en Taurima doce.

Cuadro 13. Resumen de reemplazos en los hogares control – Ruta 3 y 4

Distrito	Centro Poblado	Muestra	Tipo	Remplazado por	
				Distrito	Centro poblado
Uraca	Punta Colorada	12	Controles	Uraca	Canta
Cayarani	Arcata	20	Controles	Chuquibamba	Chiringayi
	Cayarani	12	Controles		Carmen Alto
Salamanca	Salamanca	12	Controles		Papachacra
Puica	Huactapata	24	Controles	Tomepampa	Tomepampa
	Churca	20 (12)	Controles	Huaynacota	Taurisma
	Suni	12 (20)	Controles		

RUTA 5 – AYACUCHO

En esta ruta se tuvo coordinaciones con funcionarios del PRA (Gabina Tealdo y Sally Sánchez) y líderes de la comunidad como Macedonio Palomino, quien tiene influencia en las comunidades.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

Se dieron las siguientes situaciones:

- En la provincia de Cangallo, distrito de Paras, CCPP Ccarhuac Licapa debido al difícil acceso se remplazó por el CCPP Santa Rosa.
- En la provincia de Victor Fajardo, distrito de Sarhua, CCPP Tomanga debido al difícil acceso se remplazó por el CCPP Auquilla.
- En la provincia de Huanta, distrito de Ayahuanco, centro poblado seleccionado Qochaq: Esta localidad es considerada como "zona de mochileros" (narcotraficante y además es zona de sendero luminoso) y además es de difícil acceso, por lo que se complementó estas encuestas en el distrito de Huamanguilla, perteneciente a la provincia de Huanta.

RUTA 6, 7 y 8 CUSCO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA, Juan Manuel Vílchez, Gladys Cassos.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

No hubo mayores incidencias en la población control

RUTA 9 HUANCAVELICA

En esta ruta se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia.

No hubo mayores incidencias en la población control

RUTA 10 y 17 MADRE DE DIOS

En esta ruta se tuvo coordinaciones y/o vistas de funcionarios del PRA.

No hubo mayores incidencias en la población control

RUTA 11 y 12 JUNIN- PASCO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA (Juan Manuel Vílchez, Ramón Ríos, Ing. Jorge Gordillo, Ing. Julio Arenas).

No hubo mayores incidencias en la población control

RUTA 13 y 14 LA LIBERTAD

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PARA.

No hubo mayores incidencias en la población control

RUTA 15 y 16 LA SIERRA NORTE DE LIMA

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA.

No hubo mayores incidencias en la población control

RUTA 18 y 19 PUNO

En estas rutas se tuvo coordinaciones y/o vistas de funcionarios del PRA.

Con respecto a los cambios realizados, estos se explican por alguno de los siguientes motivos: el difícil acceso a los centros poblados, la poca frecuencia del transporte público, el fallecimiento de beneficiarios, viaje temporal, cambio de residencia y rechazo de la población.

Se dieron las siguientes situaciones:

- En la provincia de Sandia, distrito de Phara tuvieron como dificultad que no podíamos conseguir movilidad por el motivo del paro minero. Cuando llegaron os a Phara se dieron con la sorpresa que los

pobladores se habían trasladado a la ciudad de Puno casi en su totalidad.

- Por otro lado los pobladores en su mayoría se dedican a la actividad minera ya que hay gran afluencia de minas en el distrito, razón por la cual se busco hogares que se dediquen a la producción agropecuaria, lo cual dificulto el avance de campo.
- Por último se realizo cambios de muestra para el caso control en el Distrito de Ananea en 04 localidades por el Distrito de Putina, ya que en el distrito de Ananea no se pudo trabajar, porque la población se dedica a la actividad minera y dejando de lado la producción agropecuaria en su totalidad porque esta no les genera los ingresos deseados según mencionan.

6.9. Encuesta a líderes comunales

En cuanto a este instrumento de recolección de información se cumplió con el 100% de lo proyectado:

Cuadro 15. Número de líderes comunales encuestados

RUTA Nº	Corredor	TRATADOS		CONTROLES		TOTAL	
		PROYEC.	EJECUT.	PROYEC.	EJECUT.	PROYEC.	EJECUT.
1,2,16	Ancash	3	3	2	1	5	4
3,4	Arequipa	9	6	6	4	15	10
5, 6	Ayacucho	3	3	2	3	5	6
6,7 ,8	Cusco	3	2	2	10	5	12
5,9 ,12	Huancavelica	9	6	6	4	15	10
11,12	Junín - Pasco	3	4	2	1	5	5
13,14	La Libertad	15	9	10	10	25	19
10, 17	Madre de Dios	3	3	2	2	5	5
18,19	Puno	3	3	2	2	5	5
11,15,16	Sierra Norte	5	5	4	4	9	9
	Total	56	44	38	41	94	85

Anexo 8: Protocolo de armado de la Base de Datos

El objetivo genérico del armado de la base de datos esta acción es convertir el conjunto de datos provisto por la operación de campo en información depurada y adecuada para efectuar los análisis específicos. Fundamentalmente está constituida por las siguientes actividades: Control de Inventarios, Crítica – Codificación, Digitación, Consistencia de la información estadística, Diseño y Generación de cuadros estadísticos. A continuación se proporciona una descripción resumida de cada una de ellas y en el Anexo 6 se presenta el protocolo del armado de la base de datos:

- Control de Inventarios. En general esta actividad abarca todas las tareas que apuntan a disponer de manera oportuna, segura y en cantidades suficientes de los materiales que demanda la encuesta. Empero, en particular aquí nos referimos, por su importancia, a la tarea que consiste en el almacenamiento de los documentos trabajados en la operación de campo.

- Crítica - Codificación. La Crítica se entiende como un conjunto de reglas que permiten verificar la coherencia de la información captada en campo. La Codificación, por el contrario, se refiere a la asignación de códigos o claves a los datos, a los efectos de facilitar su posterior procesamiento electrónico. La Crítica - Codificación estará a cargo de la Unidad de Codificación del Instituto Cuánto. Es importante destacar que el personal involucrado en esta tarea recibe constantemente programas de capacitación y actualización y que para cada nueva encuesta se formula especialmente un Manual de Crítica – Codificación, con el que se les familiariza. Además, para el respectivo control de calidad, el Jefe del Grupo diariamente tomará una muestra de la producción de cada Critico Codificador y verificará que los códigos estén correctamente asignados.

- Digitación. Convierte los datos inscritos en los formularios en claves para el computador de manera que posteriormente sea fácil su manipulación y transformación. Esta actividad se puede desagregar en:

    - Sistema de entrada de datos. La digitación de los datos del cuestionario se realiza a través del programa CSPRO que es un software especializado de ingreso de datos para encuestas y censos, que permite incorporar los controles de consistencias, rangos, flujos de datos y las reglas de consistencia preestablecidas de acuerdo al diseño del cuestionario. Esto hace que la captación de datos se realice en forma “inteligente” con un mínimo de errores de digitación. Es importante detallar las principales funciones que cumple el software referido, para de allí inferir la confiabilidad que provee al proceso de tratamiento de datos. Así, se realiza la consistencia entre variables en la cual se valida cada una de las variables del cuestionario con variables que pueden guardar relación. Por ejemplo relacionado la edad y el nivel educativo de los miembros del hogar entrevistados, es decir que para una persona con 8 años de edad no es admisible un nivel educativo mayor que primaria. Luego, se analizan flujos lo que se refiere a la secuencia lógica del pase de una pregunta a otra no consecutiva, verificando la existencia de datos, de ser el caso. Este proceso garantiza, paralelamente, que no existan datos entre las preguntas no consecutivas, manteniendo de esta manera la coherencia de la información. Luego, el análisis de rangos que verifica que los valores digitados estén dentro de rangos admisibles La definición de los rangos es exhaustiva y se define para cada una de las variables de los diversos capítulos. Luego, la cobertura que verifica que todos los cuestionarios estén digitados, es decir que exista coherencia con los archivos físicos. La estructura, dado que cada encuesta tiene una estructura jerárquica, es decir está formado por varias secciones (que se manifiestan en diferentes tipos de registro, donde cada registro puede tener distinta longitud).

El programa verifica que todas las secciones pertinentes estén presentes. Finalmente, la conversión de archivos que es el paso final del proceso, y consiste en exportar el archivo de datos a los paquetes estadísticos (SPSS, STATA, SAS, etc.), para su correspondiente tratamiento.

- Control de calidad de entrada de datos adicionales a la consistencia mecanizada. Adicionalmente a la consistencia mecanizada en la entrada de datos al computador, se ha diseñado normas especiales que aseguren la calidad de los datos ingresados al computador. Estas normas son las siguientes: Se dictará un curso de capacitación al personal de digitación, con las características propias de esta investigación; se determinará la carga óptima diaria a cada digitador, de forma que siendo altamente productivos, no excedan sus capacidades, pues ello redunda en errores; se implementarán dos turnos de trabajo, evitándose el turno de amanecida, para evitar el cansancio del personal, el mismo que conduce a desmotivación y errores sistemáticos; y la doble digitación.

- Consistencia. La Consistencia Integral de la información se puede definir como el conjunto de tareas que tiene por finalidad asegurar que la información recopilada en campo sea coherente y consistente, al eliminarse manual o mecánicamente errores inherentes al empadronamiento, como aquellos que se pudieran haber generado durante el procesamiento. Esta tarea se efectúa una vez que se concluyó con la entrada de datos inteligente, y consiste en la aplicación de otro conjunto de programas informáticos que garantizan la validación final e integral de la información digitada.

- Plan de tabulación. En el diseño del Plan de Tabulación se prevén los cruces entre variables que a priori se consideran los más representativos. Así se obtiene una serie de tablas que constituyen el plan de cuadros

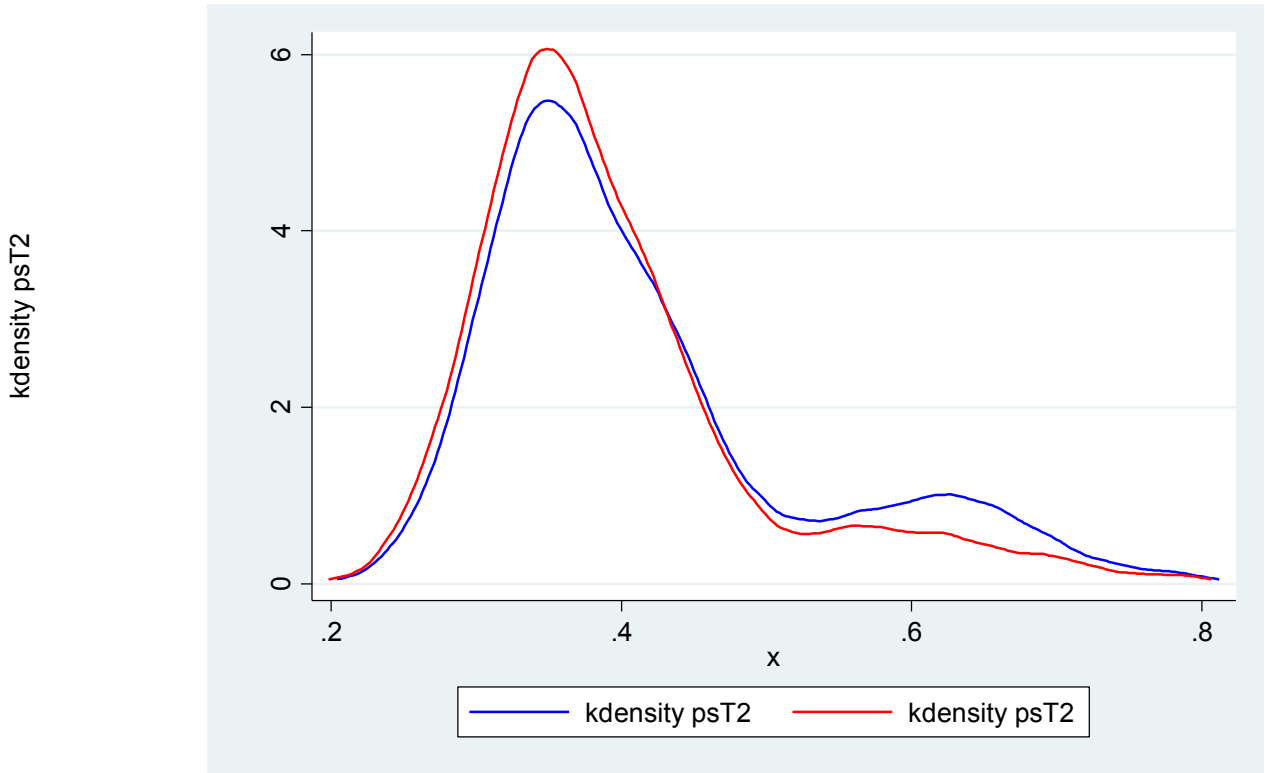
necesarios para la investigación. Para la obtención de los cuadros estadísticos (Cruce de variables cualitativas y cuantitativas) que permitan cumplir con las inferencias preliminares previas a la resolución de los modelos de evaluación, se desarrollarán programas especiales utilizando el Paquete Estadístico para las Ciencias Sociales (STATA)

Anexo 9: Resultados del PSM y modelos de regresión

Modelo de emparejamiento global

```
Probit regression                                 Number of obs   =       6368
                                                  LR chi2(18)     =     271.98
                                                  Prob > chi2     =     0.0000
Log likelihood = -4121.9157                       Pseudo R2       =     0.0319

------------------------------------------------------------------------------
        tipo |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  acc_titulo |  -.0877783   .0348387    -2.52   0.012    -.1560609   -.0194957
acc_viv_ad~a |  -.1705708   .0604099    -2.82   0.005     -.288972   -.0521695
nhabpercap~a |   .0871435   .0309142     2.82   0.005     .0265528    .1477341
entretenim~o |  -.2579482    .075357    -3.42   0.001    -.4056453   -.1102511
       compu |   .3814867   .0793923     4.81   0.000     .2258805    .5370928
    quehacer |   .1482231   .0359092     4.13   0.000     .0778423    .2186038
   p_mieho_5 |  -.2659304   .1525273    -1.74   0.081    -.5648784    .0330176
  p_mieho_65 |  -.1093376   .0859088    -1.27   0.203    -.2777157    .0590405
      esposa |  -.0096605   .0568811    -0.17   0.865    -.1211454    .1018245
        hijo |  -.1259028   .0515646    -2.44   0.015    -.2269676   -.0248381
   jh_hombre |   .0990457   .0622894     1.59   0.112    -.0230393    .2211307
     jh_edad |  -.0039683    .001601    -2.48   0.013    -.0071063   -.0008304
 jh_primaria |  -.0810004   .0498901    -1.62   0.104    -.1787833    .0167824
jh_secunda~a |  -.0770368   .0536887    -1.43   0.151    -.1822648    .0281911
prog_educa~d |   .0756158   .0500485     1.51   0.131    -.0224775     .173709
e_miedo_ne~c |   .1164454   .0324477     3.59   0.000     .0528491    .1800416
hogar_fore~l |  -.0366419   .1233098    -0.30   0.766    -.2783247    .2050409
hogar_arte~l |   .6846269   .0595332    11.50   0.000     .5679441    .8013098
       _cons |     .04723   .1283948     0.37   0.713    -.2044193    .2988792
------------------------------------------------------------------------------

The region of common support is [.20413879, .8421911]


                 Estimated propensity score
-------------------------------------------------------------
      Percentiles      Smallest
 1%     .2433959       .2041388
 5%     .2770378        .212764
10%     .2950877       .2180341       Obs                6366
25%     .3249852       .2193355       Sum of Wgt.        6366

50%     .3640136                      Mean           .3897114
                        Largest       Std. Dev.      .1008508
75%     .4209947       .8327122
90%      .540044        .835436       Variance       .0101709
95%     .6252389       .8409516       Skewness       1.533384
99%     .7186166       .8421911       Kurtosis       5.443614


  Inferior | Tipo de beneficiario:
  of block | 1=objetivo,2=control
of pscore  |         0  Objetivos |     Total
-----------+----------------------+----------
        .2 |       547        211 |       758
        .3 |     1,266        583 |     1,849
       .35 |     1,064        633 |     1,697
        .4 |       710        584 |     1,294
        .5 |       164        191 |       355
        .6 |       131        272 |       403
        .8 |         2          8 |        10
-----------+----------------------+----------
     Total |     3,884      2,482 |     6,366
```

Distribución de los scores estimados



Modelos de regresión con funciones de control

```
Linear regression                                      Number of obs =    4040
                                                       F(141,  3898) =   29.88
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.4792
                                                       Root MSE      =  .55859

------------------------------------------------------------------------------------------
                         |               Robust
                lgashog2_pc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                      tipo1 |   .1822902   .0776607     2.35   0.019     .0300307    .3345497
                      tipo2 |  -.1408526   .1056627    -1.33   0.183    -.3480119    .0663068
                      tipo3 |   .0583611   .1111415     0.53   0.600    -.1595398     .276262
                      tipo4 |   .1664531   .0710558     2.34   0.019      .027143    .3057632
                      tipo5 |  -.0490609   .0646527    -0.76   0.448    -.1758173    .0776955
                      tipo6 |  -.0202965    .101506    -0.20   0.842    -.2193064    .1787134
                      tipo7 |  -.0240431   .0824848    -0.29   0.771    -.1857606    .1376743
                      tipo8 |   .1930089   .1044766     1.85   0.065    -.0118251    .3978429
                      tipo9 |    .148028   .1146362     1.29   0.197    -.0767245    .3727806
                     tipo10 |   .7207397   .1548238     4.66   0.000     .4171964    1.024283
                     tipo11 |   -.205694    .077992    -2.64   0.008    -.3586029    -.052785
                     tipo12 |   -.445902   .1743469    -2.56   0.011    -.7877217   -.1040823
                     tipo13 |   .3048273   .0595842     5.12   0.000     .1880081    .4216465
                     tipo14 |   .4243725   .1618332     2.62   0.009     .1070867    .7416582
                     tipo15 |   .0016531   .0795074     0.02   0.983    -.1542269    .1575331
                       area |  -.0335177   .0391163    -0.86   0.392    -.1102081    .0431728
                 acc_titulo |   .0244884   .0356122     0.69   0.492    -.0453319    .0943087
            acc_viv_adecuada |  -.0320844   .0596977    -0.54   0.591    -.1491261    .0849573
               acc_alumbrado |   .0251196   .0455852     0.55   0.582    -.0642534    .1144926
                     acc_agua |   .0129178   .0385253     0.34   0.737    -.0626139    .0884494
                  acc_desague |   .0005531   .0449059     0.01   0.990    -.0874882    .0885943
                 acc_telefono |   .0603532   .0347415     1.74   0.082      -.00776    .1284665
               nhabpercapita |   .1551935   .0485599     3.20   0.001     .0599883    .2503987
            entretenimiento |  -.0769248   .0732281    -1.05   0.294    -.2204939    .0666443
                       compu |   .1215563   .0668516     1.82   0.069    -.0095112    .2526238
                    quehacer |   .1904325   .0387671     4.91   0.000     .1144267    .2664383
```

transporte	.0904743	.0401397	2.25	0.024	.0117776	.1691711
e_ctaahorro	.3327917	.0879132	3.79	0.000	.1604316	.5051518
ln	-.5396056	.0681024	-7.92	0.000	-.6731254	-.4060859
p_mieho_hombre	-.0889792	.0870874	-1.02	0.307	-.2597204	.081762
p_mieho_5	-.3221329	.1700338	-1.89	0.058	-.6554965	.0112307
p_mieho_65	-.0901449	.0872505	-1.03	0.302	-.2612057	.080916
esposa	.0647697	.0627615	1.03	0.302	-.0582789	.1878183
hijo	.1255347	.0635237	1.98	0.048	.0009919	.2500775
otromie	.0285648	.0494741	0.58	0.564	-.0684328	.1255624
jh_migro	.015832	.0446865	0.35	0.723	-.0717792	.1034431
jh_hombre	-.0021627	.0722591	-0.03	0.976	-.1438319	.1395065
jh_edad	-.0003433	.0017496	-0.20	0.844	-.0037735	.0030868
jh_dni	-.0089114	.3328166	-0.03	0.979	-.6614225	.6435998
jh_primaria	.0457328	.0682228	0.67	0.503	-.088023	.1794886
jh_secundaria	.0628216	.0746228	0.84	0.400	-.0834819	.209125
jh_superior	.1111706	.0915925	1.21	0.225	-.0684031	.2907444
prog_aliment	.0586019	.042234	1.39	0.165	-.024201	.1414048
prog_juntos	-.0878552	.0458926	-1.91	0.056	-.1778308	.0021205
prog_educat_salud	.1240347	.0579783	2.14	0.032	.010364	.2377054
e_tiene_negocio	.08061	.0409591	1.97	0.049	.0003068	.1609133
e_miedo_negoc	.0088388	.031911	0.28	0.782	-.053725	.0714026
e_nuevo_negoc	.0684672	.0369939	1.85	0.064	-.004062	.1409964
hogar_agro	.2241008	.0674347	3.32	0.001	.0918903	.3563114
hogar_pecuario	.105021	.0420041	2.50	0.012	.0226689	.187373
hogar_subpecuario	.0731621	.0419115	1.75	0.081	-.0090084	.1553327
hogar_forestal	.1214889	.1406554	0.86	0.388	-.1542763	.3972541
hogar_artesanal	-.1041362	.0558535	-1.86	0.062	-.213641	.0053685
WOtipo_acc_titulo	.0084202	.0456662	0.18	0.854	-.0811118	.0979521
WOtipo_acc_viv_adecuada	.2006544	.0716948	2.80	0.005	.0600915	.3412173
WOtipo_acc_alumbrado	-.0263163	.0574967	-0.46	0.647	-.1390428	.0864102
WOtipo_acc_agua	-.0235918	.0493144	-0.48	0.632	-.1202763	.0730926
WOtipo_acc_desague	.0756224	.0574106	1.32	0.188	-.0369353	.1881801
WOtipo_acc_telefono	.0639861	.0442976	1.44	0.149	-.0228625	.1508347
WOtipo_nhabpercapita	-.0839945	.0538748	-1.56	0.119	-.1896199	.0216309
WOtipo_entretenimiento	.2912415	.0919437	3.17	0.002	.1109792	.4715038
WOtipo_compu	.1264225	.0823589	1.54	0.125	-.0350481	.287893
WOtipo_quehacer	-.0744325	.0479097	-1.55	0.120	-.168363	.0194979
WOtipo_transporte	.0413147	.049073	0.84	0.400	-.0548965	.1375259
WOtipo_e_ctaahorro	-.1690359	.098238	-1.72	0.085	-.3616387	.0235668
WOtipo_ln	-.0329389	.0801994	-0.41	0.681	-.1901755	.1242978
WOtipo_p_mieho_hombre	.1153127	.1080123	1.07	0.286	-.0964531	.3270786
WOtipo_p_mieho_5	-.0061286	.2075913	-0.03	0.976	-.4131266	.4008693
WOtipo_p_mieho_65	.0380964	.1069986	0.36	0.722	-.1716821	.2478749
WOtipo_esposa	-.0350659	.0749451	-0.47	0.640	-.1820013	.1118694
WOtipo_hijo	-.1088278	.0776906	-1.40	0.161	-.2611458	.0434903
WOtipo_otromie	-.0177191	.0621907	-0.28	0.776	-.1396485	.1042103
WOtipo_jh_migro	.1570247	.0569202	2.76	0.006	.0454286	.2686209
WOtipo_jh_edad	.0017324	.0021313	0.81	0.416	-.0024461	.0059109
WOtipo_jh_dni	-.0789454	.3698915	-0.21	0.831	-.8041446	.6462539
WOtipo_jh_primaria	-.0284209	.0863661	-0.33	0.742	-.1977478	.140906
WOtipo_jh_secundaria	-.0252679	.0944748	-0.27	0.789	-.2104927	.159957
WOtipo_jh_superior	.0188589	.1160563	0.16	0.871	-.2086778	.2463957
WOtipo_prog_aliment	-.0401103	.0510086	-0.79	0.432	-.1401163	.0598958
WOtipo_prog_juntos	.0587808	.0577135	1.02	0.309	-.0543708	.1719324
WOtipo_prog_educat_salud	-.1177775	.0709519	-1.66	0.097	-.2568838	.0213287
WOtipo_e_tiene_negocio	.09104	.0518249	1.76	0.079	-.0105666	.1926466
WOtipo_e_miedo_negoc	-.0512768	.0398865	-1.29	0.199	-.1294773	.0269237
WOtipo_e_nuevo_negoc	.0477805	.0458265	1.04	0.297	-.0420656	.1376267
WOtipo_hogar_agro	-.0739362	.0782995	-0.94	0.345	-.2274481	.0795758
WOtipo_hogar_pecuario	-.0761308	.0569957	-1.34	0.182	-.1878751	.0356134
WOtipo_hogar_subpecuario	-.0065666	.0532016	-0.12	0.902	-.1108722	.0977389
WOtipo_hogar_forestal	.0467748	.1607311	0.29	0.771	-.2683502	.3618999
WOtipo_hogar_artesanal	.0545711	.0711324	0.77	0.443	-.0848891	.1940313
WOtipo1_area	.1131229	.0812643	1.39	0.164	-.0462017	.2724475
WOtipo1_jh_hombre	-.0842987	.1523468	-0.55	0.580	-.3829858	.2143883
WOtipo2_area	-.0157361	.1161615	-0.14	0.892	-.2434792	.2120069
WOtipo2_jh_hombre	.192863	.1351384	1.43	0.154	-.0720855	.4578116
WOtipo3_area	-.1253255	.1745426	-0.72	0.473	-.467529	.2168779
WOtipo3_jh_hombre	.0812705	.1518609	0.54	0.593	-.2164638	.3790048
WOtipo4_area	-.0821246	.0972215	-0.84	0.398	-.2727345	.1084853
WOtipo4_jh_hombre	.1832179	.1412285	1.30	0.195	-.0936709	.4601067
WOtipo5_area	-.0213223	.0813042	-0.26	0.793	-.1807252	.1380806

WOtipo5_jh_hombre	.0666228	.1306232	0.51	0.610	-.1894735	.3227191
WOtipo6_area	.2079405	.1198557	1.73	0.083	-.0270454	.4429264
WOtipo6_jh_hombre	.5592199	.205357	2.72	0.006	.1566026	.9618373
WOtipo7_area	.1601472	.1214172	1.32	0.187	-.0779001	.3981945
WOtipo7_jh_hombre	-.0977569	.1124099	-0.87	0.385	-.3181447	.122631
WOtipo8_area	.0488691	.1654145	0.30	0.768	-.2754381	.3731762
WOtipo8_jh_hombre	.12563	.299547	0.42	0.675	-.4616538	.7129137
WOtipo9_jh_hombre	-.1714761	.1749924	-0.98	0.327	-.5145615	.1716093
WOtipo10_area	.5634284	.282509	1.99	0.046	.009549	1.117308
WOtipo10_jh_hombre	.427633	.1811996	2.36	0.018	.072378	.7828881
WOtipo11_area	-.0595351	.1275845	-0.47	0.641	-.3096738	.1906037
WOtipo11_jh_hombre	.1050418	.1431293	0.73	0.463	-.1755736	.3856572
WOtipo12_jh_hombre	.421014	.2545437	1.65	0.098	-.0780375	.9200655
WOtipo13_area	.1911547	.0770247	2.48	0.013	.0401423	.3421672
WOtipo13_jh_hombre	.0476006	.1172574	0.41	0.685	-.182291	.2774923
WOtipo14_jh_hombre	.2304405	.2373503	0.97	0.332	-.2349021	.695783
WOtipo15_area	.2002328	.0896171	2.23	0.026	.0245319	.3759336
WOtipo15_jh_hombre	.2270475	.1663048	1.37	0.172	-.0990051	.5531002
ltap3	-.0130987	.0152099	-0.86	0.389	-.0429188	.0167215
n_distmin_dist	.0001669	.0000765	2.18	0.029	.0000168	.0003169
lva	.0265418	.0097037	2.74	0.006	.007517	.0455667
empresa	.0035304	.0024079	1.47	0.143	-.0011905	.0082513
mortai	.0095859	.0054519	1.76	0.079	-.001103	.0202748
desnuoms	-.4278877	.107887	-3.97	0.000	-.639408	-.2163675
religion	.3435195	.1328198	2.59	0.010	.0831166	.6039224
espervida	.046237	.0200564	2.31	0.021	.006915	.0855591
rd_via1	.0958698	.0946948	1.01	0.311	-.0897863	.2815259
rd_via2	.0064613	.0278809	0.23	0.817	-.0482012	.0611239
rd_via3	-.0598953	.0240301	-2.49	0.013	-.107008	-.0127826
est_1	-.1037963	.0850679	-1.22	0.222	-.2705782	.0629855
est_2	.1735238	.0997164	1.74	0.082	-.0219774	.3690251
est_3	-.0937109	.0996966	-0.94	0.347	-.2891734	.1017516
est_4	.0792779	.0775759	1.02	0.307	-.0728153	.231371
est_5	.2275701	.0745419	3.05	0.002	.0814254	.3737149
est_6	-.1386593	.1014246	-1.37	0.172	-.3375095	.060191
est_7	-.4689743	.0895027	-5.24	0.000	-.644451	-.2934977
est_8	-.2002047	.0877419	-2.28	0.023	-.372229	-.0281803
est_9	-.1559092	.1052671	-1.48	0.139	-.3622931	.0504747
est_10	-.2828886	.1178022	-2.40	0.016	-.5138485	-.0519287
est_11	-.0184651	.0782751	-0.24	0.814	-.1719291	.134999
est_12	.2829319	.1723546	1.64	0.101	-.0549819	.6208457
est_13	-.4114975	.0749619	-5.49	0.000	-.5584657	-.2645292
est_14	-.3340791	.1407316	-2.37	0.018	-.6099937	-.0581645
_cons	1.972208	1.64418	1.20	0.230	-1.251327	5.195742

Linear regression

Number of obs	= 4040
F(141, 3898)	= 24.87
Prob > F	= 0.0000
R-squared	= 0.3219
Root MSE	= .4172

pobreza	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
tipo1	-.0016176	.0546319	-0.03	0.976	-.1087274	.1054922
tipo2	.0398459	.0774918	0.51	0.607	-.1120824	.1917742
tipo3	-.0039168	.0773061	-0.05	0.960	-.155481	.1476473
tipo4	-.0850498	.051979	-1.64	0.102	-.1869585	.0168588
tipo5	.0691843	.0484965	1.43	0.154	-.0258966	.1642652
tipo6	.0587785	.0760175	0.77	0.439	-.0902594	.2078164
tipo7	-.0659132	.060984	-1.08	0.280	-.1854767	.0536503
tipo8	-.0381435	.0846296	-0.45	0.652	-.204066	.1277789
tipo9	-.0471177	.1103089	-0.43	0.669	-.2633864	.1691509
tipo10	-.1662892	.0838107	-1.98	0.047	-.3306061	-.0019722
tipo11	.2231941	.0773501	2.89	0.004	.0715435	.3748447
tipo12	.08699	.0966426	0.90	0.368	-.1024849	.2764649
tipo13	-.1796524	.0533339	-3.37	0.001	-.2842175	-.0750874
tipo14	-.3353618	.1307608	-2.56	0.010	-.5917278	-.0789958
tipo15	.0654734	.063352	1.03	0.301	-.0587327	.1896796
area	.1386476	.031751	4.37	0.000	.0763975	.2008977

acc_titulo	-.0196266	.0296989	-0.66	0.509	-.0778534	.0386002
acc_viv_adecuada	.018071	.0535223	0.34	0.736	-.0868632	.1230053
acc_alumbrado	-.0150567	.0375789	-0.40	0.689	-.0887327	.0586194
acc_agua	.0086496	.0305511	0.28	0.777	-.051248	.0685473
acc_desague	-.0256357	.0321791	-0.80	0.426	-.0887251	.0374537
acc_telefono	-.0657405	.0266119	-2.47	0.014	-.1179151	-.0135659
nhabpercapita	-.0377212	.0255255	-1.48	0.140	-.0877659	.0123234
entretenimiento	.0319522	.0593252	0.54	0.590	-.0843591	.1482636
compu	-.0906339	.0579749	-1.56	0.118	-.2042979	.02303
quehacer	-.1017578	.0317196	-3.21	0.001	-.1639465	-.0395692
transporte	-.0354201	.0337816	-1.05	0.294	-.1016513	.0308111
e_ctaahorro	-.1915472	.0552837	-3.46	0.001	-.2999348	-.0831595
ln	.3631365	.0528902	6.87	0.000	.2594415	.4668315
p_mieho_hombre	.0496588	.067313	0.74	0.461	-.0823133	.1816308
p_mieho_5	.1138423	.1316581	0.86	0.387	-.1442829	.3719675
p_mieho_65	.0490531	.0600343	0.82	0.414	-.0686485	.1667547
esposa	-.0508121	.0483238	-1.05	0.293	-.1455546	.0439303
hijo	-.0675482	.0462388	-1.46	0.144	-.1582027	.0231063
otromie	-.0205546	.0402914	-0.51	0.610	-.0995489	.0584397
jh_migro	-.0370548	.038071	-0.97	0.330	-.1116958	.0375863
jh_hombre	-.0100403	.060379	-0.17	0.868	-.1284177	.1083372
jh_edad	-.0013673	.001385	-0.99	0.324	-.0040827	.001348
jh_dni	-.0435403	.2186971	-0.20	0.842	-.4723119	.3852313
jh_primaria	-.0422184	.0502136	-0.84	0.401	-.1406659	.0562292
jh_secundaria	-.0826732	.0554429	-1.49	0.136	-.191373	.0260266
jh_superior	-.123262	.0703633	-1.75	0.080	-.2612144	.0146905
prog_aliment	-.0210026	.0331529	-0.63	0.526	-.0860014	.0439961
prog_juntos	.0630182	.0356348	1.77	0.077	-.0068464	.1328828
prog_educat_salud	.0112177	.0398477	0.28	0.778	-.0669066	.0893419
e_tiene_negocio	.0000854	.0335128	0.00	0.998	-.0656189	.0657897
e_miedo_negoc	.0224364	.0246169	0.91	0.362	-.0258268	.0706997
e_nuevo_negoc	-.0857285	.0278122	-3.08	0.002	-.1402564	-.0312007
hogar_agro	-.0943151	.0703705	-1.34	0.180	-.2322816	.0436515
hogar_pecuario	-.0248888	.0368432	-0.68	0.499	-.0971226	.0473451
hogar_subpecuario	-.0777639	.0308279	-2.52	0.012	-.1382044	-.0173235
hogar_forestal	-.2096395	.1197482	-1.75	0.080	-.4444145	.0251355
hogar_artesanal	.0859954	.0450934	1.91	0.057	-.0024135	.1744043
WOtipo_acc_titulo	.0217469	.0365713	0.59	0.552	-.0499537	.0934475
WOtipo_acc_viv_adecuada	-.1095189	.0604694	-1.81	0.070	-.2280736	.0090358
WOtipo_acc_alumbrado	.0229317	.0455144	0.50	0.614	-.0663026	.112166
WOtipo_acc_agua	-.0306884	.0379496	-0.81	0.419	-.1050913	.0437145
WOtipo_acc_desague	.003388	.0404783	0.08	0.933	-.0759727	.0827486
WOtipo_acc_telefono	-.035713	.0336769	-1.06	0.289	-.1017391	.030313
WOtipo_nhabpercapita	.0300156	.029406	1.02	0.307	-.027637	.0876682
WOtipo_entretenimiento	-.1325427	.0708076	-1.87	0.061	-.2713662	.0062807
WOtipo_compu	.0248598	.0671044	0.37	0.711	-.1067033	.1564229
WOtipo_quehacer	.0190119	.0380257	0.50	0.617	-.0555403	.093564
WOtipo_transporte	-.0219893	.0400368	-0.55	0.583	-.1004843	.0565058
WOtipo_e_ctaahorro	.0562795	.0625491	0.90	0.368	-.0663526	.1789116
WOtipo_ln	-.0621305	.0614316	-1.01	0.312	-.1825717	.0583107
WOtipo_p_mieho_hombre	-.0338127	.0814727	-0.42	0.678	-.1935459	.1259205
WOtipo_p_mieho_5	.0403887	.15985	0.25	0.801	-.2730088	.3537862
WOtipo_p_mieho_65	-.0644689	.0737246	-0.87	0.382	-.2090113	.0800735
WOtipo_esposa	.0545167	.0581124	0.94	0.348	-.0594169	.1684504
WOtipo_hijo	.0467909	.056198	0.83	0.405	-.0633894	.1569712
WOtipo_otromie	.0425381	.0491859	0.86	0.387	-.0538944	.1389706
WOtipo_jh_migro	-.0514079	.0453508	-1.13	0.257	-.1403215	.0375056
WOtipo_jh_edad	.0001555	.0016404	0.09	0.924	-.0030605	.0033716
WOtipo_jh_dni	.0369344	.2483893	0.15	0.882	-.4500509	.5239198
WOtipo_jh_primaria	.025344	.0637434	0.40	0.691	-.0996295	.1503175
WOtipo_jh_secundaria	.0655933	.0696739	0.94	0.347	-.0710074	.202194
WOtipo_jh_superior	.0577101	.0864328	0.67	0.504	-.1117477	.2271679
WOtipo_prog_aliment	.0194444	.0399865	0.49	0.627	-.0589521	.0978409
WOtipo_prog_juntos	-.0111226	.0438629	-0.25	0.800	-.097119	.0748738
WOtipo_prog_educat_salud	-.0475528	.0495658	-0.96	0.337	-.1447302	.0496246
WOtipo_e_tiene_negocio	-.0995603	.040592	-2.45	0.014	-.1791438	-.0199768
WOtipo_e_miedo_negoc	-.0003492	.0302626	-0.01	0.991	-.0596813	.0589829
WOtipo_e_nuevo_negoc	.0097296	.0344461	0.28	0.778	-.0578046	.0772638
WOtipo_hogar_agro	.0263042	.0758646	0.35	0.729	-.1224339	.1750423
WOtipo_hogar_pecuario	.0441638	.0461215	0.96	0.338	-.0462609	.1345884
WOtipo_hogar_subpecuario	.0559504	.0388614	1.44	0.150	-.0202403	.1321411
WOtipo_hogar_forestal	.0098522	.132521	0.07	0.941	-.2499648	.2696692

WOtipo_hogar_artesanal	-.0506624	.0554801	-0.91	0.361	-.1594351	.0581103
WOtipo1_area	-.0845899	.0618173	-1.37	0.171	-.2057873	.0366075
WOtipo1_jh_hombre	-.049034	.1133504	-0.43	0.665	-.2712656	.1731976
WOtipo2_area	-.0315762	.0884733	-0.36	0.721	-.2050346	.1418823
WOtipo2_jh_hombre	-.1870167	.11066	-1.69	0.091	-.4039736	.0299403
WOtipo3_area	-.0539712	.1077986	-0.50	0.617	-.2653182	.1573758
WOtipo3_jh_hombre	-.0583674	.1068094	-0.55	0.585	-.267775	.1510402
WOtipo4_area	.0397891	.0670674	0.59	0.553	-.0917015	.1712796
WOtipo4_jh_hombre	-.0850793	.1021496	-0.83	0.405	-.2853509	.1151924
WOtipo5_area	-.0464661	.066693	-0.70	0.486	-.1772226	.0842903
WOtipo5_jh_hombre	-.058221	.1007682	-0.58	0.563	-.2557844	.1393424
WOtipo6_area	.0217239	.0890602	0.24	0.807	-.1528851	.1963329
WOtipo6_jh_hombre	-.229329	.1035061	-2.22	0.027	-.4322602	-.0263978
WOtipo7_area	-.0525371	.0799126	-0.66	0.511	-.2092116	.1041374
WOtipo7_jh_hombre	.0025348	.0867683	0.03	0.977	-.1675808	.1726504
WOtipo8_area	-.0052963	.0957455	-0.06	0.956	-.1930124	.1824197
WOtipo8_jh_hombre	-.2295028	.142314	-1.61	0.107	-.5085198	.0495141
WOtipo9_jh_hombre	.0797566	.1552723	0.51	0.608	-.224666	.3841791
WOtipo10_area	-.2339918	.1024828	-2.28	0.022	-.4349167	-.0330668
WOtipo10_jh_hombre	-.1860908	.2032544	-0.92	0.360	-.5845858	.2124043
WOtipo11_area	-.1342958	.1365157	-0.98	0.325	-.4019447	.1333532
WOtipo11_jh_hombre	-.0870718	.1161521	-0.75	0.454	-.3147964	.1406528
WOtipo12_jh_hombre	-.350477	.1704744	-2.06	0.040	-.6847045	-.0162495
WOtipo13_area	-.0997798	.0631364	-1.58	0.114	-.2235632	.0240037
WOtipo13_jh_hombre	-.0887944	.0987983	-0.90	0.369	-.2824956	.1049068
WOtipo14_jh_hombre	-.193463	.1572204	-1.23	0.219	-.501705	.114779
WOtipo15_area	-.0643418	.0674125	-0.95	0.340	-.1965089	.0678252
WOtipo15_jh_hombre	-.157679	.1360965	-1.16	0.247	-.424506	.1091481
ltap3	.0129804	.0113668	1.14	0.254	-.0093049	.0352658
n_distmin_dist	-.0000561	.0000514	-1.09	0.275	-.0001569	.0000446
lva	-.0166837	.007248	-2.30	0.021	-.0308939	-.0024736
empresa	-.0008216	.0019229	-0.43	0.669	-.0045916	.0029484
mortai	-.0079546	.0043901	-1.81	0.070	-.0165616	.0006525
desnuoms	.238859	.0743672	3.21	0.001	.0930568	.3846613
religion	-.3255969	.0956208	-3.41	0.001	-.5130684	-.1381254
espervida	-.0308247	.0161811	-1.90	0.057	-.062549	.0008995
rd_via1	-.0840028	.0916241	-0.92	0.359	-.2636386	.095633
rd_via2	-.0237287	.0198567	-1.19	0.232	-.0626593	.0152018
rd_via3	.012367	.0176304	0.70	0.483	-.0221988	.0469327
est_1	.0398408	.0631592	0.63	0.528	-.0839873	.1636689
est_2	-.0663084	.0754843	-0.88	0.380	-.2143009	.0816842
est_3	.0634521	.074852	0.85	0.397	-.0833007	.210205
est_4	.0046063	.0608037	0.08	0.940	-.1146037	.1238163
est_5	-.1350762	.0598469	-2.26	0.024	-.2524103	-.0177421
est_6	.1069947	.0787042	1.36	0.174	-.0473106	.2613
est_7	.314276	.0702052	4.48	0.000	.1766337	.4519184
est_8	.1329349	.0810164	1.64	0.101	-.0259037	.2917736
est_9	.16087	.1020187	1.58	0.115	-.0391451	.3608851
est_10	.1296853	.0794637	1.63	0.103	-.026109	.2854797
est_11	-.0679223	.0733579	-0.93	0.355	-.2117457	.0759011
est_12	-.0014388	.090957	-0.02	0.987	-.1797667	.1768891
est_13	.2588403	.0672185	3.85	0.000	.1270535	.3906271
est_14	.3139785	.1162753	2.70	0.007	.0860124	.5419447
_cons	2.835878	1.306612	2.17	0.030	.2741699	5.397586

Linear regression

Number of obs =	4040
F(141, 3898) =	32.08
Prob > F =	0.0000
R-squared =	0.2656
Root MSE =	.4299

percep_pobre	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
tipo1	.0557061	.0572263	0.97	0.330	-.0564902	.1679024
tipo2	-.2089177	.076521	-2.73	0.006	-.3589427	-.0588927
tipo3	.0695022	.0828989	0.84	0.402	-.0930272	.2320316
tipo4	-.082517	.0544597	-1.52	0.130	-.1892892	.0242552
tipo5	-.0200744	.0475525	-0.42	0.673	-.1133046	.0731558
tipo6	-.355272	.0752633	-4.72	0.000	-.5028312	-.2077129

tipo7	.1081012	.0689702	1.57	0.117	-.0271198	.2433222
tipo8	-.2530664	.0756434	-3.35	0.001	-.4013709	-.104762
tipo9	-.2089695	.1174458	-1.78	0.075	-.4392306	.0212915
tipo10	-.0919184	.1052111	-0.87	0.382	-.2981923	.1143556
tipo11	-.2374555	.072416	-3.28	0.001	-.3794322	-.0954787
tipo12	-.1626524	.0963663	-1.69	0.092	-.3515855	.0262808
tipo13	-.1298393	.0508395	-2.55	0.011	-.2295139	-.0301647
tipo14	-.3352606	.11034	-3.04	0.002	-.5515902	-.118931
tipo15	-.0627396	.0652457	-0.96	0.336	-.1906585	.0651794
area	-.0571634	.0326183	-1.75	0.080	-.121114	.0067872
acc_titulo	.0028227	.0279624	0.10	0.920	-.0519995	.057645
acc_viv_adecuada	-.0971571	.0448437	-2.17	0.030	-.1850765	-.0092377
acc_alumbrado	.0009607	.0378021	0.03	0.980	-.0731531	.0750746
acc_agua	-.039779	.0307772	-1.29	0.196	-.1001198	.0205619
acc_desague	.0308453	.032158	0.96	0.338	-.0322028	.0938935
acc_telefono	-.0713001	.0277847	-2.57	0.010	-.1257742	-.0168261
nhabpercapita	-.0282477	.0196678	-1.44	0.151	-.0668079	.0103125
entretenimiento	-.0774404	.0478267	-1.62	0.105	-.1712082	.0163274
compu	.0443216	.0576511	0.77	0.442	-.0687076	.1573508
quehacer	-.1396645	.0329529	-4.24	0.000	-.2042711	-.0750579
transporte	-.0559235	.0320574	-1.74	0.081	-.1187745	.0069275
e_ctaahorro	-.0777393	.0543801	-1.43	0.153	-.1843554	.0288768
ln	-.0522461	.0457461	-1.14	0.253	-.1419347	.0374425
p_mieho_hombre	-.0946082	.0611586	-1.55	0.122	-.214514	.0252977
p_mieho_5	.1575587	.1213151	1.30	0.194	-.0802883	.3954058
p_mieho_65	.1612217	.0600087	2.69	0.007	.0435703	.2788731
esposa	-.0332355	.0451611	-0.74	0.462	-.1217771	.0553061
hijo	.0297869	.0431127	0.69	0.490	-.0547387	.1143125
otromie	.0408308	.0355849	1.15	0.251	-.0289359	.1105975
jh_migro	.0218936	.0359031	0.61	0.542	-.0484972	.0922843
jh_hombre	.081377	.0512863	1.59	0.113	-.0191736	.1819275
jh_edad	-.0023237	.0013488	-1.72	0.085	-.0049681	.0003208
jh_dni	-.0708833	.0691197	-1.03	0.305	-.2063974	.0646309
jh_primaria	-.0645018	.0461743	-1.40	0.163	-.1550299	.0260262
jh_secundaria	-.1316049	.0545378	-2.41	0.016	-.2385303	-.0246795
jh_superior	-.2287055	.0728015	-3.14	0.002	-.3714381	-.0859729
prog_aliment	-.0126795	.0314972	-0.40	0.687	-.074432	.0490731
prog_juntos	-.0178335	.0368431	-0.48	0.628	-.0900671	.0544002
prog_educat_salud	-.0182531	.0393914	-0.46	0.643	-.0954828	.0589765
e_tiene_negocio	-.1802243	.0326156	-5.53	0.000	-.2441695	-.116279
e_miedo_negoc	.0025763	.0249274	0.10	0.918	-.0462958	.0514483
e_nuevo_negoc	-.0805577	.0277007	-2.91	0.004	-.1348669	-.0262484
hogar_agro	-.0220438	.0586537	-0.38	0.707	-.1370387	.0929511
hogar_pecuario	.0487555	.0339446	1.44	0.151	-.0177954	.1153064
hogar_subpecuario	-.0322034	.0304284	-1.06	0.290	-.0918605	.0274536
hogar_forestal	-.0378442	.1040101	-0.36	0.716	-.2417637	.1660752
hogar_artesanal	.0196661	.0437548	0.45	0.653	-.0661184	.1054505
WOtipo_acc_titulo	-.0384333	.0351359	-1.09	0.274	-.1073198	.0304532
WOtipo_acc_viv_adecuada	.0240084	.0547309	0.44	0.661	-.0832955	.1313124
WOtipo_acc_alumbrado	.0952045	.0455596	2.09	0.037	.0058816	.1845275
WOtipo_acc_agua	.0553406	.0389042	1.42	0.155	-.0209339	.131615
WOtipo_acc_desague	-.0708854	.041304	-1.72	0.086	-.1518649	.0100942
WOtipo_acc_telefono	.017556	.0348979	0.50	0.615	-.0508638	.0859758
WOtipo_nhabpercapita	-.0414152	.0251886	-1.64	0.100	-.0907993	.0079688
WOtipo_entretenimiento	.0291118	.0609241	0.48	0.633	-.0903344	.1485579
WOtipo_compu	-.0985686	.0669296	-1.47	0.141	-.2297889	.0326518
WOtipo_quehacer	-.0824122	.0396662	-2.08	0.038	-.1601807	-.0046438
WOtipo_transporte	.0255408	.0393843	0.65	0.517	-.0516751	.1027566
WOtipo_e_ctaahorro	.0006387	.0626469	0.01	0.992	-.122185	.1234625
WOtipo_ln	.0554276	.0566427	0.98	0.328	-.0556246	.1664798
WOtipo_p_mieho_hombre	.057874	.0776907	0.74	0.456	-.0944443	.2101922
WOtipo_p_mieho_5	-.0716669	.1516155	-0.47	0.636	-.3689201	.2255863
WOtipo_p_mieho_65	-.1262288	.0759844	-1.66	0.097	-.2752017	.022744
WOtipo_esposa	.0099159	.0569472	0.17	0.862	-.1017332	.121565
WOtipo_hijo	-.0876507	.0547166	-1.60	0.109	-.1949267	.0196252
WOtipo_otromie	-.0691552	.045878	-1.51	0.132	-.1591024	.020792
WOtipo_jh_migro	-.0067743	.0439586	-0.15	0.878	-.0929583	.0794096
WOtipo_jh_edad	.0042845	.0016363	2.62	0.009	.0010765	.0074926
WOtipo_jh_dni	.1068421	.1526554	0.70	0.484	-.19245	.4061342
WOtipo_jh_primaria	-.0419292	.060348	-0.69	0.487	-.1602459	.0763875
WOtipo_jh_secundaria	-.0002227	.069159	-0.00	0.997	-.135814	.1353686
WOtipo_jh_superior	.0754404	.0878612	0.86	0.391	-.096818	.2476987

WOtipo_prog_aliment	.0573654	.0390893	1.47	0.142	-.0192721	.1340029
WOtipo_prog_juntos	.0498534	.0458009	1.09	0.276	-.0399427	.1396494
WOtipo_prog_educat_salud	-.0455773	.048951	-0.93	0.352	-.1415493	.0503948
WOtipo_e_tiene_negocio	.1201286	.0404027	2.97	0.003	.0409162	.199341
WOtipo_e_miedo_negoc	.0490975	.0310171	1.58	0.114	-.0117137	.1099088
WOtipo_e_nuevo_negoc	.1146774	.0349115	3.28	0.001	.0462309	.1831238
WOtipo_hogar_agro	-.0150803	.0663457	-0.23	0.820	-.1451558	.1149953
WOtipo_hogar_pecuario	-.0923827	.0445832	-2.07	0.038	-.1797912	-.0049742
WOtipo_hogar_subpecuario	.0104701	.0389646	0.27	0.788	-.0659229	.0868631
WOtipo_hogar_forestal	.0670552	.1255081	0.53	0.593	-.1790127	.313123
WOtipo_hogar_artesanal	.0622173	.0553204	1.12	0.261	-.0462422	.1706769
WOtipo1_area	-.0829031	.0690643	-1.20	0.230	-.2183087	.0525025
WOtipo1_jh_hombre	-.0399612	.0967723	-0.41	0.680	-.2296903	.1497679
WOtipo2_area	-.0973655	.0944254	-1.03	0.303	-.2824934	.0877624
WOtipo2_jh_hombre	-.21974	.1071921	-2.05	0.040	-.429898	-.009582
WOtipo3_area	.2474943	.1409042	1.76	0.079	-.0287586	.5237473
WOtipo3_jh_hombre	.0956096	.1306468	0.73	0.464	-.1605329	.3517522
WOtipo4_area	.1259764	.0677751	1.86	0.063	-.0069016	.2588544
WOtipo4_jh_hombre	-.1296015	.0970485	-1.34	0.182	-.3198721	.0606691
WOtipo5_area	.0678058	.0652907	1.04	0.299	-.0602013	.1958129
WOtipo5_jh_hombre	-.1579983	.1112482	-1.42	0.156	-.3761085	.0601119
WOtipo6_area	-.2199921	.1210422	-1.82	0.069	-.4573042	.0173199
WOtipo6_jh_hombre	-.4863404	.0984912	-4.94	0.000	-.6794396	-.2932412
WOtipo7_area	.1541666	.0846372	1.82	0.069	-.0117708	.320104
WOtipo7_jh_hombre	.0399317	.0911774	0.44	0.661	-.1388282	.2186917
WOtipo8_area	.1105798	.0885487	1.25	0.212	-.0630265	.284186
WOtipo8_jh_hombre	-.0054723	.1654832	-0.03	0.974	-.329914	.3189695
WOtipo9_jh_hombre	-.3926393	.1536438	-2.56	0.011	-.6938693	-.0914094
WOtipo10_area	.1382162	.1677021	0.82	0.410	-.1905759	.4670084
WOtipo10_jh_hombre	-.4226817	.103288	-4.09	0.000	-.6251853	-.220178
WOtipo11_area	.2262881	.1141137	1.98	0.047	.0025598	.4500164
WOtipo11_jh_hombre	-.1171303	.10843	-1.08	0.280	-.3297151	.0954546
WOtipo12_jh_hombre	-.0945796	.1577245	-0.60	0.549	-.4038101	.2146508
WOtipo13_area	.1204607	.0639095	1.88	0.060	-.0048386	.2457599
WOtipo13_jh_hombre	-.1649359	.0908805	-1.81	0.070	-.3431136	.0132419
WOtipo14_jh_hombre	.158903	.0843116	1.88	0.060	-.0063961	.3242021
WOtipo15_area	.0486466	.0699033	0.70	0.487	-.0884039	.1856972
WOtipo15_jh_hombre	-.2913656	.1264721	-2.30	0.021	-.5393234	-.0434077
ltap3	-.0038128	.0119266	-0.32	0.749	-.0271958	.0195702
n_distmin_dist	.0000168	.0000522	0.32	0.747	-.0000855	.0001192
lva	-.0192183	.0075407	-2.55	0.011	-.0340024	-.0044341
empresa	-.0003267	.0018549	-0.18	0.860	-.0039635	.00331
mortai	.0046626	.0037796	1.23	0.217	-.0027475	.0120727
desnuoms	-.0196668	.076524	-0.26	0.797	-.1696977	.1303641
religion	-.0297251	.0990474	-0.30	0.764	-.2239147	.1644645
espervida	.0025007	.0139128	0.18	0.857	-.0247764	.0297779
rd_via1	-.016476	.0560461	-0.29	0.769	-.1263585	.0934066
rd_via2	-.0013875	.0210638	-0.07	0.947	-.0426847	.0399097
rd_via3	.0077035	.0185358	0.42	0.678	-.0286373	.0440442
est_1	.1007483	.0655002	1.54	0.124	-.0276696	.2291662
est_2	.3480995	.077607	4.49	0.000	.1959453	.5002537
est_3	.134372	.0699805	1.92	0.055	-.0028299	.2715739
est_4	.0522321	.0622486	0.84	0.401	-.0698108	.1742751
est_5	-.0869966	.0587666	-1.48	0.139	-.2022128	.0282196
est_6	.3096732	.0717211	4.32	0.000	.1690588	.4502877
est_7	.1026091	.0760948	1.35	0.178	-.0465803	.2517984
est_8	.1371795	.078686	1.74	0.081	-.0170901	.2914491
est_9	.0509691	.1046246	0.49	0.626	-.1541551	.2560933
est_10	.2517967	.0920792	2.73	0.006	.0712687	.4323247
est_11	.1770826	.0746998	2.37	0.018	.0306281	.3235371
est_12	.0843068	.09404	0.90	0.370	-.1000655	.2686792
est_13	.0701929	.0653851	1.07	0.283	-.0579994	.1983852
est_14	.0035503	.0969857	0.04	0.971	-.1865972	.1936978
_cons	.8896699	1.115488	0.80	0.425	-1.297326	3.076665

Linear regression

Number of obs = 4040
F(141, 3898) = 15.15
Prob > F = 0.0000

R-squared = 0.2069
Root MSE = .44743

percep_vive	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
tipo1	.0002862	.0584933	0.00	0.996	-.1143942	.1149665
tipo2	-.5075911	.0762894	-6.65	0.000	-.657162	-.3580201
tipo3	.0078643	.0911632	0.09	0.931	-.1708678	.1865964
tipo4	.0196616	.0554564	0.35	0.723	-.0890647	.1283879
tipo5	.0150908	.051224	0.29	0.768	-.0853375	.1155191
tipo6	-.4198319	.0774349	-5.42	0.000	-.5716487	-.268015
tipo7	-.0385512	.0633444	-0.61	0.543	-.1627425	.0856401
tipo8	-.074358	.0847938	-0.88	0.381	-.2406024	.0918865
tipo9	-.2865276	.1162843	-2.46	0.014	-.5145115	-.0585437
tipo10	-.0005346	.1088138	-0.00	0.996	-.2138721	.2128028
tipo11	-.0033709	.0810722	-0.04	0.967	-.1623187	.155577
tipo12	-.0261717	.1030588	-0.25	0.800	-.2282259	.1758826
tipo13	-.1352298	.0552624	-2.45	0.014	-.2435757	-.0268839
tipo14	-.149403	.1152069	-1.30	0.195	-.3752744	.0764685
tipo15	-.0739837	.0675173	-1.10	0.273	-.2063563	.058389
area	-.0473815	.0335806	-1.41	0.158	-.1132187	.0184558
acc_titulo	.0102053	.0296846	0.34	0.731	-.0479936	.0684041
acc_viv_adecuada	-.1423313	.0521504	-2.73	0.006	-.2445759	-.0400867
acc_alumbrado	.072	.0402832	1.79	0.074	-.0069782	.1509782
acc_agua	.0002705	.0323221	0.01	0.993	-.0630993	.0636403
acc_desague	.0393751	.0326169	1.21	0.227	-.0245727	.1033228
acc_telefono	-.0821316	.0272426	-3.01	0.003	-.1355426	-.0287206
nhabpercapita	-.0224341	.0231213	-0.97	0.332	-.0677652	.0228969
entretenimiento	-.0195953	.0522643	-0.37	0.708	-.1220634	.0828727
compu	-.0072549	.0643456	-0.11	0.910	-.1334092	.1188994
quehacer	-.0523248	.0337096	-1.55	0.121	-.118415	.0137653
transporte	-.0710201	.0335601	-2.12	0.034	-.1368172	-.0052231
e_ctaahorro	-.0712388	.067527	-1.05	0.292	-.2036303	.0611527
ln	.0405918	.0527799	0.77	0.442	-.062887	.1440705
p_mieho_hombre	-.0709909	.0624059	-1.14	0.255	-.1933422	.0513603
p_mieho_5	-.0285278	.1224893	-0.23	0.816	-.268677	.2116214
p_mieho_65	.0315114	.0634056	0.50	0.619	-.0927999	.1558227
esposa	-.0627542	.0475564	-1.32	0.187	-.1559919	.0304835
hijo	-.0008998	.05001	-0.02	0.986	-.098948	.0971485
otromie	-.0562298	.0378525	-1.49	0.137	-.1304423	.0179827
jh_migro	-.0239873	.037998	-0.63	0.528	-.0984852	.0505106
jh_hombre	.0023992	.0526839	0.05	0.964	-.1008914	.1056899
jh_edad	.0018527	.0014127	1.31	0.190	-.000917	.0046225
jh_dni	-.376434	.0803636	-4.68	0.000	-.5339927	-.2188753
jh_primaria	.0214338	.0502283	0.43	0.670	-.0770425	.1199101
jh_secundaria	.0197181	.0588223	0.34	0.737	-.0956074	.1350435
jh_superior	.0577068	.0818135	0.71	0.481	-.1026944	.2181081
prog_aliment	-.0049735	.0331652	-0.15	0.881	-.0699963	.0600494
prog_juntos	-.0865764	.0369575	-2.34	0.019	-.1590342	-.0141186
prog_educat_salud	-.1058373	.0394269	-2.68	0.007	-.1831367	-.028538
e_tiene_negocio	-.2283012	.0339577	-6.72	0.000	-.2948778	-.1617246
e_miedo_negoc	-.0530044	.0259991	-2.04	0.042	-.1039776	-.0020312
e_nuevo_negoc	-.0645303	.0302685	-2.13	0.033	-.1238739	-.0051866
hogar_agro	.0609456	.0595224	1.02	0.306	-.0557523	.1776436
hogar_pecuario	.0272596	.0358045	0.76	0.446	-.0429378	.0974569
hogar_subpecuario	-.0781055	.0328392	-2.38	0.017	-.1424893	-.0137218
hogar_forestal	-.11575	.1078595	-1.07	0.283	-.3272163	.0957163
hogar_artesanal	.0169725	.0438966	0.39	0.699	-.0690899	.103035
WOtipo_acc_titulo	-.0460577	.0374287	-1.23	0.219	-.1194394	.027324
WOtipo_acc_viv_adecuada	.1289101	.0631618	2.04	0.041	.0050769	.2527434
WOtipo_acc_alumbrado	-.0921343	.0483275	-1.91	0.057	-.1868839	.0026154
WOtipo_acc_agua	.0441504	.0405564	1.09	0.276	-.0353634	.1236643
WOtipo_acc_desague	-.0040905	.0422839	-0.10	0.923	-.0869912	.0788101
WOtipo_acc_telefono	.0656592	.034969	1.88	0.061	-.0029	.1342185
WOtipo_nhabpercapita	-.032989	.0289984	-1.14	0.255	-.0898425	.0238645
WOtipo_entretenimiento	-.019497	.0655666	-0.30	0.766	-.1480452	.1090512
WOtipo_compu	-.1431364	.0740115	-1.93	0.053	-.2882413	.0019685
WOtipo_quehacer	-.0703194	.0406872	-1.73	0.084	-.1500896	.0094507
WOtipo_transporte	.0318746	.0409549	0.78	0.436	-.0484205	.1121698
WOtipo_e_ctaahorro	-.085979	.07421	-1.16	0.247	-.2314732	.0595152

WOtipo_ln	-.0557886	.0627214	-0.89	0.374	-.1787584	.0671813
WOtipo_p_mieho_hombre	.0837179	.0799477	1.05	0.295	-.0730254	.2404611
WOtipo_p_mieho_5	.15922	.1541012	1.03	0.302	-.1429066	.4613467
WOtipo_p_mieho_65	-.0495511	.0802563	-0.62	0.537	-.2068994	.1077973
WOtipo_esposa	.0443828	.0591645	0.75	0.453	-.0716135	.1603791
WOtipo_hijo	.024037	.0613259	0.39	0.695	-.0961969	.1442709
WOtipo_otromie	.0340497	.0481445	0.71	0.479	-.060341	.1284404
WOtipo_jh_migro	.0553607	.0464634	1.19	0.234	-.0357342	.1464555
WOtipo_jh_edad	.0020548	.0017053	1.20	0.228	-.0012885	.0053981
WOtipo_jh_dni	.477692	.1425427	3.35	0.001	.1982266	.7571574
WOtipo_jh_primaria	-.0346298	.0661287	-0.52	0.601	-.16428	.0950204
WOtipo_jh_secundaria	-.0144239	.0750919	-0.19	0.848	-.161647	.1327992
WOtipo_jh_superior	-.0787667	.0985964	-0.80	0.424	-.2720721	.1145386
WOtipo_prog_aliment	.0034846	.0407085	0.09	0.932	-.0763273	.0832966
WOtipo_prog_juntos	.0365479	.0461885	0.79	0.429	-.0540081	.1271039
WOtipo_prog_educat_salud	.0449986	.0493251	0.91	0.362	-.0517068	.141704
WOtipo_e_tiene_negocio	.2590123	.0426016	6.08	0.000	.1754887	.3425359
WOtipo_e_miedo_negoc	.0666487	.0322682	2.07	0.039	.0033846	.1299128
WOtipo_e_nuevo_negoc	.0464454	.0377326	1.23	0.218	-.0275322	.1204229
WOtipo_hogar_agro	-.1004177	.0680375	-1.48	0.140	-.2338102	.0329748
WOtipo_hogar_pecuario	-.013771	.0471928	-0.29	0.770	-.106296	.078754
WOtipo_hogar_subpecuario	.0602008	.0415835	1.45	0.148	-.0213266	.1417282
WOtipo_hogar_forestal	.1834568	.1300163	1.41	0.158	-.0714496	.4383632
WOtipo_hogar_artesanal	.0682442	.0569353	1.20	0.231	-.0433816	.1798701
WOtipo1_area	-.007576	.0689718	-0.11	0.913	-.1428002	.1276481
WOtipo1_jh_hombre	-.0608777	.1168956	-0.52	0.603	-.29006	.1683046
WOtipo2_area	.1180579	.0951106	1.24	0.215	-.0684134	.3045292
WOtipo2_jh_hombre	-.2312962	.1084609	-2.13	0.033	-.4439416	-.0186507
WOtipo3_area	.1226563	.1379318	0.89	0.374	-.147769	.3930816
WOtipo3_jh_hombre	.1123212	.1385678	0.81	0.418	-.159351	.3839934
WOtipo4_area	-.1539478	.0705893	-2.18	0.029	-.2923433	-.0155523
WOtipo4_jh_hombre	-.1221863	.1044455	-1.17	0.242	-.3269593	.0825867
WOtipo5_area	-.0017122	.0690509	-0.02	0.980	-.1370915	.1336671
WOtipo5_jh_hombre	-.1574172	.1134551	-1.39	0.165	-.3798542	.0650198
WOtipo6_area	-.1410841	.1206624	-1.17	0.242	-.3776516	.0954833
WOtipo6_jh_hombre	-.4103537	.1865231	-2.20	0.028	-.7760458	-.0446616
WOtipo7_area	-.0216533	.1025623	-0.21	0.833	-.2227342	.1794276
WOtipo7_jh_hombre	.0930728	.0991914	0.94	0.348	-.1013992	.2875448
WOtipo8_area	.1264006	.103021	1.23	0.220	-.0755795	.3283808
WOtipo8_jh_hombre	-.1263891	.1884076	-0.67	0.502	-.4957759	.2429977
WOtipo9_area	0	(omitted)				
WOtipo9_jh_hombre	-.2582542	.1633039	-1.58	0.114	-.5784233	.0619149
WOtipo10_area	-.2164213	.1489149	-1.45	0.146	-.5083797	.0755372
WOtipo10_jh_hombre	-.5620672	.1032813	-5.44	0.000	-.7645578	-.3595766
WOtipo11_area	.2876219	.1535494	1.87	0.061	-.013423	.5886667
WOtipo11_jh_hombre	-.0887985	.1207479	-0.74	0.462	-.3255336	.1479366
WOtipo12_area	0	(omitted)				
WOtipo12_jh_hombre	-.2949183	.1703628	-1.73	0.084	-.6289269	.0390904
WOtipo13_area	.0280048	.0670098	0.42	0.676	-.1033728	.1593824
WOtipo13_jh_hombre	-.0911859	.0955223	-0.95	0.340	-.2784643	.0960926
WOtipo14_area	0	(omitted)				
WOtipo14_jh_hombre	.0985709	.1465032	0.67	0.501	-.1886593	.3858011
WOtipo15_area	.0676709	.0683714	0.99	0.322	-.0663763	.2017181
WOtipo15_jh_hombre	-.2411327	.1390884	-1.73	0.083	-.5138256	.0315601
ltap3	.010568	.0123199	0.86	0.391	-.013586	.0347221
n_distmin_dist	.0000127	.000054	0.23	0.815	-.0000932	.0001185
lva	.0025502	.0075812	0.34	0.737	-.0123132	.0174137
empresa	.0032935	.0020764	1.59	0.113	-.0007775	.0073645
mortai	.003618	.0036308	1.00	0.319	-.0035005	.0107364
desnuoms	.1426121	.0790218	1.80	0.071	-.0123158	.2975401
religion	-.0919994	.1020189	-0.90	0.367	-.2920148	.1080161
espervida	.003405	.0135489	0.25	0.802	-.0231586	.0299685
rd_via1	.012239	.0680069	0.18	0.857	-.1210934	.1455714
rd_via2	-.0180143	.0213633	-0.84	0.399	-.0598987	.02387
rd_via3	.0070906	.0192979	0.37	0.713	-.0307444	.0449256
est_1	.0552729	.0693471	0.80	0.425	-.0806871	.1912328
est_2	.4772083	.0802574	5.95	0.000	.3198579	.6345588
est_3	.2359348	.0827883	2.85	0.004	.0736223	.3982473
est_4	.0670472	.06705	1.00	0.317	-.0644093	.1985036
est_5	-.0673884	.0670685	-1.00	0.315	-.198881	.0641042
est_6	.3240778	.0745397	4.35	0.000	.1779372	.4702183
est_7	.2903267	.0725061	4.00	0.000	.1481732	.4324801

```
       est_8 |   .0058311   .0830367     0.07   0.944    -.1569683    .1686305
       est_9 |   .1722516   .1027296     1.68   0.094    -.0291572    .3736603
      est_10 |   .0137632    .101815     0.14   0.892    -.1858525    .2133789
      est_11 |   .0746972   .0768251     0.97   0.331     -.075924    .2253183
      est_12 |   .0808903   .0995517     0.81   0.417     -.114288    .2760686
      est_13 |   .1992776   .0715732     2.78   0.005     .0589531    .3396021
      est_14 |  -.0916681   .1043694    -0.88   0.380     -.296292    .1129558
       _cons |    .410826   1.086562     0.38   0.705    -1.719457    2.541109
------------------------------------------------------------------------------
```

Anexo 10: Diccionario de variables

A) LINEA DE BASE Y EVALUACIÓN DE IMPACTO

A continuación mostramos el detalle de las variables utilizadas para la línea de base y evaluación de impacto.

Variable	Detalle
ficha	Número de cuestionario
dpto	Departamento
provin	Provincia
distri	Distrito
cenpob	Centro poblado
cenpobcat	Centro poblado categoria
percep_ingresos	¿Dentro de qué rango cree usted que están los ingresos de su hogar?
corredor	Corredor
estratodelestudio	Estrato del estudio
area	1=Urbano, 2= Rural
tipo	Tipo de beneficiario: 1=Objetivos, 2=Controles
acc_piso	1=pPiso de tierra, 0=Otro
acc_titulo	1=Título de propiedad, 0=No título
acc_viv_adecuada	1=Vivienda adecuada,pared ladrillo, piso diferente de tierra, 0=Otro
acc_alumbrado	1=Electricidad, 0=Otro: petróleo,vela,generador
acc_invierte	1=Invierte en vivienda en el último año, 0=No Invierte
acc_agua	1=Agua proviene de red pública, 0=Otro: pozo, río.
acc_desague	1=Serv.higiénico conectado a red pública, 0=Otro:pozo, río
acc_telefono	1=Teléfono o celular, 0=Otro
acc_combustible	Combustible para cocinar: 1=Eléctrico,gas, 0=Otro
entretenimiento	1=Tiene radio, TV,equipo, DVD, 0=No tiene
compu	1=Tiene computadora, 0=No tiene
quehacer	1=Tiene plancha,licuadora,cocina,refrigeradora,lavadora,horno, máquina de coser, 0=No tiene
transporte	1=Tiene bicicleta,auto,moto, 0=No tiene
percep_pobre	Percepción de pobreza: 1=Pobre 0=No pobre
percep_vive	Percepción de calidad de vida: 1=Vive bien, 0=No vive bien
percep_migra	Percepción de migrar: 1= Percibe Migración, 0=Percibe no Migración
percep_con_servicios_basicos	1=Percibe prioritario "los servicios básicos" para el bienestar, 0= no es muy prioritario
percep_con_mayores_contactos	1=Percibe prioritario "mayores contactos" para el bienestar, 0= no es muy prioritario
percep_con_carreteras	1=Percibe prioritario "Carreteras en buen estado" para el bienestar, 0= no es muy prioritario
percep_con_mayores_ingresos	1=Percibe prioritario "Mayores ingresos " para el bienestar, 0= no es muy prioritario
percep_con_informacion_mercado	1=Percibe prioritario "Información de Mercado" para el bienestar, 0= no es muy prioritario

percep_con_acceso_credito	1=Percibe prioritario "Acceso a crédito" para el bienestar, 0= no es muy prioritario
percep_con_asistencia_produccion	1=Percibe prioritario "Asistencia técnica para la producción " para el bienestar, 0= no es muy prioritario
percep_con_progr_salud_aliment	1=Percibe prioritario "Programas sociales de salud y alimentación" para el bienestar, 0= no es muy prioritario
percep_con_programa_educacion	1=Percibe prioritario "Programas sociales de educación" para el bienestar, 0= no es muy prioritario
percep_con_programa_empleo	1=Percibe prioritario "Programas sociales de empleo e ingresos" para el bienestar, 0= no es muy prioritario
percep_con_agua_luz	1=Percibe prioritario "Agua, desagüe y luz" para el bienestar, 0= no es muy prioritario
percep_con_pistas	1=Percibe prioritario "Pistas, veredas y lozas en su comunidad " para el bienestar, 0= no es muy prioritario
e_tiene_negocio	Tiene/tuvo o no negocio: 1=Tiene negocio, 0=No tiene
e_miedo_negoc	Miedo al fracaso del negocio: 1=Tiene miedo, 0=No tiene
e_nuevo_negoc	Desea poner nuevo negocio: 1=Sí desea, 0=No desea
e_ctaahorro	1=Tiene cuenta de ahorro o depósito,0=No tiene
e_nueva_oportunidad	1=Se encuentra constantemnte en búsqueda de oportunidades, 0=No
e_invertir_negocio	1=Si encuentra oportunidad de negocio invierte sin pensarlo 2 veces, 0=No
actividad_agro	1=Realiza actividad agropecuaria, forestal, artesanía, 0=No realiza
hogar_agro	1=Hogar se dedica a actividad agrícola, 0=Otra actividad
hogar_pecuario	1=Hogar se dedica a actividad pecuaria, 0=Otra actividad
hogar_subpecuario	1=Hogar se dedica a actividad subpecuaria, 0=Otra actividad
hogar_forestal	1=Hogar se dedica a actividad forestal, 0=Otra actividad
hogar_artesanal	1=Hogar se dedica a actividad artesanal, 0=Otra actividad
totpropias	Totalidad propias
maypropias	Mayoría propias (mas del 50%)
minpropias	Minoría propias(menos del 50%)
niguna	Ninguna propia
jh_migro	1=JH migra,0=No migra
jh_hombre	1=Jefe de hogar hombre, 0= JH mujer
jh_edad	Edad del Jefe Hogar
jh_dni	1=JH tiene dni, 0=No tiene
jh_estado	1=JH casado/conviviente, 0=No casado/conviviente
ingreso_principal	(A)Ingreso principal mensual de todos los miembros del hogar de personas mayores a 14
ingreso_secundario	(B)Ingreso secundario mensual de todos los miembros del hogar de personas mayores a 14
ingreso_total	(A+B)Ingreso total mensual de todos los miebros del hogar de personas mayores a 14
si_ppal	Nº miembros del hogar que trabajan en una actividad principal y son mayores de 14 años
sippal_enedad	Nº miembros del hogar que trabajan en una actividad principal
si_sec	Nº miembros del hogar que trabajan en una actividad secundaria
jh_sinnivel	1=JH alcanza nivel incial/sinnivel, 0= No alcanza
jh_primaria	1=JH alcanza primaria, 0= No alcanza
jh_secundaria	1=JH alcanza secundaria, 0=No alcanza
jh_superior	1=JH alcanza superior, 0= No alcanza
mieho	Número de miembros del hogar
p_mieho_menor	% De miembros del hogar menor a 5 años
p_mieho_hombre	% De miembros del hogar hombres
p_mieho_jh	% De miembros del hogar Jefes de Hogar
p_mieho_conyuge	% De miembros del hogar conyuges
p_mieho_hijos	% De miembros del hogar
p_mieho_otros	% De miembros del hogar de otros miembros
p_mieho_5	% De miembros del hogar menor de 5
p_mieho_5_10	% De miembros del hogar mayor de 5 y menor de 10
p_mieho_10_20	% De miembros del hogar mayor de 10 y menor de 20
p_mieho_20_30	% De miembros del hogar mayor de 20 y menor de 30

p_mieho_30_40	% De miembros del hogar mayor de 30 y menor de 40
p_mieho_40_50	% De miembros del hogar mayor de 40 y menor de 50
p_mieho_50_60	% De miembros del hogar mayor de 50 y menor de 60
p_mieho_60_65	% De miembros del hogar mayor de 60 y menor de 65
p_mieho_65	% De miembros del hogar mayor de 65
ingreso_princ_percap	(A_pcap) Ingreso principal mensual percápita de personas mayores a 14
ingreso_sec_percap	(B_pcap) Ingreso secundario mensual percápita de personas mayores a 14
ingreso_tot_percap	(A_pcap+B_pcap)Ingreso total mensual percápita de personas mayores a 14
p_miehotrab1	% De miembros del hogar que trabajan en una actividad principal
p_miehotrab2	% De miehogar que trabajan en una actividad secundaria
jh	1=Existe JH, 0=No existe
esposa	1=Existe esposa, 0=No existe
hijo	1=Existe Hijo, 0=No existe
otromie	1=Existen otros miembros, 0=No existen
prog_aliment	1=Recibe programa alimentario, 0= No recibe
prog_juntos	1=Recibe programa juntos, 0= No recibe
prog_educat_salud	1=Recibe progr. educativo o de salud, 0= No recibe
prog_agro	1=Recibe programa agropecuario, 0= No recibe
nhabpercapita	Numero de habitantes per capita
tap1	P: Tipo de área-Urbano-07
tap2	P: Tipo de área-Rural-07
tap3	P: Tipo de área-total-07
opo2	P6a+: Ocupación principal por agrupación -Profesores, científicos e intelectuales-07
opo3	P6a+: Ocupación principal por agrupación-Técnico de nivel medio y trabajadores
opo4	P6a+: Ocupación principal por agrupación-Jefes y empleados de oficina -07
opo5	P6a+: Ocupación principal por agrupación -Trabajo de servicio personal y vendedor del comerc.
opo6	P6a+: Ocupación principal por agrupación - Agricultura trabajador calificado agropecuario y pes
opo7	P6a+: Ocupación principal por agrupación - Obrero y oper. de minas,cant.,ind.,manu
opo8	P6a+: Ocupación principal por agrupación-Obreros construcc.,conf.,papel, fab.
opo9	P6a+: Ocupación principal por agrupación-Trabaj.no calif.serv.,peon,vend.,amb.,
idh	idh_pnud
ext	Extension total del distrito(Km2)-pnud
nseguro_	Personas sin seguro %inei-2007
super_perca	Suferficie agropecuaria percapita-93
cabmayor	% Ganado mayor -93
cabmenor	% Ganado menor -93
ganadoperca	Cabezas de ganado percápita-93
altitud	Altitud del distrito -07
ingpc	Ingreso percápita mensual-07
mortai	Mortalidad infantil-07
espervida	Esperanza de vida-07
tv_radio	% Hogares con radio y TV-07
desnuoms	% Desnutrición crónica de la OMS-07
pobretot	% Pobreza total-07
pobreext	% Pobreza extrema-07
novivagua	% Viviendas sin abastecimiento de agua-07
ndesague	% Vivienda no tienen desague-07
no_asiste	% Población entre 6-17 no asiste centro educativo-07
mujeres_no_lee	% Mujeres no sabe leer-07
mayor18	% Poblacion mayor de 18 sin nivel -07
atraso2	% Poblacion atraso de 7-18
vivptierra07	% Viviendas con piso de tierra-07

vivpala07	% Viviendas con pared de ladrillo-07
noelectr	% Viviendas no tienen electricidad-07
notelefonia	% Hogares sin telefonia
pobrural07	% Población rural - 07
partida_cen	% Con partida de nacimiento en el Reg. Civil
lengua_cen	% De personas con lengua nativa como lengua materna
desempleo	% Personas que no trabajaron la semana anterior y no tienen empleo
centro_lab1	% De personas q trabajan en empresas con menos de 10 trabajadores
religion	% De personas no católicas
densidad	Personas por km2
ccdd	Código de departamento
ccpp	Código de provincia
ccdi	Código de distrito
dpto_nom	Nombre del departamento
prov_nom	Nombre de la provincia
dist_nom	Nombre del distrito
rd_club_madres	1=Distrito con/sin Club de madres, 0=No tiene
rd_vaso_leche	1=Distrito c/s Vaso de leche, 0=No tiene
rd_com_popu	1=Distrito c/s Comedor Popular, 0=No tiene
rd_wawa_wasi	1=Distrito c/s Wawa Wasi, 0=No tiene
rd_otros	1=Distritos c/s otros programas, 0=No tiene
rc_mypes	Número de Mypes en el distrito
rd_promo_mypes	1=Distrito tiene activ. de incentivo a MYPES, 0=No tiene
rd_dis_artesania	1=Distrito con producc. artesanal, 0=No tiene
rd_promo_artesania	1=Distrito fomenta producc. artesanal, 0= No tiene
rd_distri_agricultura	1=Distrito act. princ. Agricultura, 0=No
rd_distri_ganaderia	1=Distrito act. princ.Ganaderia, 0=No
rd_distri_pesca	1=Distrito act. princ. Pesca, 0=No
rd_distri_mineria	1=Distrito act. princ.Mineria, 0=No
rd_distri_industria	1=Distrito act. princ.Industria , 0=No
rd_distri_petroleo	1=Distrito act. princ.Petróleo, electric, gas, 0=No
rd_distri_construccion	1=Distrito act. princ.Construccion , 0=No
rd_distri_turismo	1=Distrito act. princ.Turismo , 0=No
rd_distri_artesania	1=Distrito act. princ.Artesania , 0=No
rd_distri_transporte	1=Distrito act. princ.Transportes y Comunicaciones, 0=No
rd_distri_finanzas	1=Distrito act. princ.Finanzas y seguros, 0=No
rd_dis_comunicado	1=Distrito tiene comunicación, 0= No tiene
rd_dis_alumbrado	1=Distrito tiene alumbrado, 0= No tiene
rd_dis_agua	1=Distrito tiene agua, 0=No tiene
rd_dis_agua_tratadas	1=Distrito da tratamiento a aguas, 0=No tiene
rd_via1	Vía tipo 1
rd_via2	Vía tipo 2
rd_via3	Vía tipo 3
vbt_agricola	Valor bruto anual de la producción Agrícola
venta	Venta total anual Agrícola
consumo	Consumo total anual Agrícola
fertilizante	1=Usa fertilizante en al menos 1 producto, 0=No usa
zanja	1=Usa zanja en al menos 1 producto,0=No usa
riego_aspersion	1=Usa riego por aspersión en al menos 1 producto, 0=No usa
riego_goteo	1=Usa riego goteo en al menos 1 producto, 0=No usa
vbt_pecuario	Valor bruto anual de la produccion Pecuario
venta_pecuario	Venta total anual Pecuario
consumo_pecuario	Consumo total anual Pecuario
vbt_subpecuario	Valor bruto anual de la producción Subpecuario

venta_subpecuario	Venta total anual Subpecuario
consumo_subpecuario	Consumo total anual Subpecuario
vbt_forestal	Valor bruto anual de la producción Forestal
venta_forestal	Venta total anual Forestal
consumo_forestal	Consumo total anual Forestal
vbt_artesanal	Valor bruto anual de la producción Artesanal
venta_artesanal	Venta total anual Artesanal
consumo_artesanal	Consumo total anual Artesanal
vbp_total	Valor bruto anual de la produccion Agrícola, Artesanal, Forestal, Pecuario, Subpecuario
venta_total	Venta anual de la produccion Agrícola, Artesanal, Forestal, Pecuario, Subpecuario
consumo_total	Autoconsumo de la produccion Agrícola, Artesanal, Forestal, Pecuario, Subpecuario
i_vbp_total	Valor bruto anual de la producción Imputado con la media en cada actividad Agrícola, Artesanal, Forestal, Pecuario
i_venta_total	Venta anual Imputado de la produccion Agrícola, Artesanal, Forestal, Pecuario, Subpecuario
i_consumo_total	Autoconsumo Imputado de la producción Agrícola, Artesanal, Forestal, Pecuario, Subpecuario
linea	Línea de pobreza total
gashog2	Gasto total familiar anual
gashog2_pc	Gasto total mensual per cápita
i_gashog2_pc	Gasto total mensual per cápita imputado
gashog2r1_pc	Gasto total mensual per cápita - res. 1.Obtenido del Gasto Total sin 5 d.e. hacia arriba y hacia abajo, y sin ceros.
gashog2r2_pc	Gasto total mensual per cápita - res. 2.Obtenido del Gasto Total sin valores minimos y máximos de la ENAHO.
gashog2r3_pc	Gasto total mensual per cápita - res. 3.Obtenido del Gasto Total sin los deciles 1 y 10.
gashog2r4_pc	Gasto total mensual per cápita - res. 4.Obtenido del Gasto Total sin el decil 10.
pobreza	Tasa de pobreza
pobreza_r1	Tasa de pobreza restricción 1.Obtenido del Gasto Total-res1
pobreza_r2	Tasa de pobreza restricción 2.Obtenido del Gasto Total -res2
pobreza_r3	Tasa de pobreza restricción 3.Obtenido del Gasto Total-res3
pobreza_r4	Tasa de pobreza restricción 4.Obtenido del Gasto Total-res4
gashog2r11_pc	Gasto total mensual per cápita - res. 11.Obtenido del Gasto Total sin 5 d.e. hacia arriba y hacia abajo, y sin ceros, por corredor.
gashog2r22_pc	Gasto total mensual per cápita - res. 22.Obtenido del Gasto Total sin valores minimos y máximos de la ENAHO, por corredor.
gashog2r33_pc	Gasto total mensual per cápita - res. 33.Obtenido del Gasto Total sin los deciles 1 y 10,, por corredor.
gashog2r44_pc	Gasto total mensual per cápita - res. 44.Obtenido del Gasto Total sin el decil 10, por corredor.
pobreza_r11	Tasa de pobreza restricción 11
pobreza_r22	Tasa de pobreza restricción 22
pobreza_r33	Tasa de pobreza restricción 33
pobreza_r44	Tasa de pobreza restricción 44
brecha	Brecha de Pobreza 0 - FGT(1)
brecha_r1	Brecha de Pobreza r1 - FGT(1)
brecha_r2	Brecha de Pobreza r2 - FGT(1)
brecha_r3	Brecha de Pobreza r3 - FGT(1)
brecha_r4	Brecha de Pobreza r4 - FGT(1)
brecha_r11	Brecha de Pobreza r11 - FGT(1)
brecha_r22	Brecha de Pobreza r22 - FGT(1)
brecha_r33	Brecha de Pobreza r33 - FGT(1)
brecha_r44	Brecha de Pobreza r44 - FGT(1)

B) INFORME DE LÍDERES LOCALES

Ahora, presentamos las variables utilizadas para el Informe de Líderes locales:

Variable	Detalle
cpavimentada	1=carretera afirmada, 0=no tiene
cafirmada	1=carretera pavimentada, 0=no tiene
trocha	1= trocha carrozable , 0=no tiene
herradura	1=camino herradura , 0=no tiene
rio	1=rìo o lago , 0=no tiene
aire	1=vía aérea , 0=no tiene
p902	¿cuál es la distancia a la capital de provincia o a la capital?
tinterprovinc~l	1=transporte interprovincial , 0=no tiene
combi	1= combi , 0=no tiene
camioneta	1=camioneta , 0=no tiene
pie	1=a pie , 0=no tiene
otro	1=otro transporte , 0=no tiene
p904_horas	¿cuánto tiempo le toma a la población ir a esa ciudad en? - horas
p904_min	¿cuánto tiempo le toma a la población ir a esa ciudad en? - minutos
p905_a	¿cuánto le cuesta el pasaje a la poblacion en el transporte que
p905_b	¿cuánto le cuesta el pasaje a la poblacion en el transporte que
	906_x: ¿en este centro poblado existe? -
p906_1	1=oficina de correos, 0= no existe
p906_2	1=Teléfono comunitario, público o privado, 0= no existe
p906_3	1=Cabina pública de internet, 0= no existe
p906_4	1=Agencia Bancaria, 0= no existe
p906_5	1=Transporte motorizado, 0= no existe
p906_6	1=Mercado o feria, 0= no existe
p906_7	1=Delegación policial, 0= no existe
p906_8	1=Centro de educación inicial o PRONOEI, 0= no existe
p906_9	1=Escuela Primaria, 0= no existe
p906_10	1=Escuela Secundaria, 0= no existe
p906_11	1=Instituto Superior o Universidad, 0= no existe
p906_12	1=Puesto o Centro de Salud (MINSA), 0= no existe
p906_13	1=Hospital (MINSA), 0= no existe
p906_14	1=Instituciones o entidades que brinden Asistencia Técnica , 0= no existe
p906_15	1=Servicio de Alquiler de tractor, 0= no existe
p906_16	1=Comercializadora de insumos agropecuarios, 0= no existe
p908_1	1=Vaso de Leche, 0 =no existe
p908_2	1=Wawa Wasi, 0 =no existe
p908_3	1=Comedor Infantil, 0 =no existe
p908_4	1=Comedor Popular, 0 =no existe
p908_5	1=Alimentos por trabajo, 0 =no existe

p908_6	1=Canasta Alimentaria PANFAR, 0 =no existe
p908_7	1=Programa de Complementación Alimentaria (PCA), 0 =no existe
p908_8	1=Alimentación y Nutrición para el paciente con tuberculosis (PANTBC), 0 =no existe
p908_9	1=Desayuno Escolar, 0 =no existe
p908_10	1=Alimentación Escolar, 0 =no existe
p908_11	1=Uniformes, Buzos y Calzado Escolar, 0 =no existe
p908_12	1=Textos y Útiles escolares, 0 =no existe
p908_13	1=Seguro Escolar, 0 =no existe
p908_14	1=Capacitación Laboral Juvenil, 0 =no existe
p908_15	1=Capacitación Laboral para Mujeres, 0 =no existe
p908_16	1=Programa de Alfabetización, 0 =no existe
p908_17	1=Control de Crecimiento del Niño, 0 =no existe
p908_18	1=Planificación Familiar, 0 =no existe
p908_19	1=Control de Tuberculosis, 0 =no existe
p908_20	1=Programa de Vacunas (Inmunización), 0 =no existe
p908_21	1=Programa de Control de Enfermedades Diarreicas, 0 =no existe
p908_22	1=Construcción, Reparación o Equipamiento de Centros Educativos , 0 =no existe
p908_23	1=Construcción, Reparación o Equipamiento de Centros de Salud, 0 =no existe
p908_24	1=Agua, 0 =no existe
p908_25	1=Desague , 0 =no existe
p908_26	1=Luz Eléctrica, 0 =no existe
p908_27	1=Alcantarillado, 0 =no existe
p908_28	1=Letrina, 0 =no existe
p908_29	1=Caminos y puentes, 0 =no existe
p908_30	1=Cosntrucción de andenes, 0 =no existe
p908_31	1=Sistema de riego, 0= noexiste
p908_31_otros	1=Otro, 0= noexiste
p908_32	1=Asistencia Técnica Agropecuaria, 0= noexiste
p908_33	1=Asistencia Técnica en otras actividades productivas, 0= noexiste
p908_34	1=a, 0= noexiste
p908_35	1=Programa de microcréditos, 0= noexiste
	En los últimos cinco años los proyectos de inversión social que se han realizado
p910_1	1=Agua potable, red de desague, letrinas, 0= no se realizó
p910_2	1=Construcción o mejoramiento de Centros Educativos, 0= no se realizó
p910_3	1=Equipamiento en el Centro Educativo, 0= no se realizó
p910_4	1=Construcción o mejoramiento de Establecimientos de Salud, 0= no se realizó
p910_5	1=Equipamiento en los Establecimientos de Salud, 0= no se realizó
p910_6	1=Viviendas, 0= no se realizó
p910_7	1=Carreteras/Puentes, 0= no se realizó
p910_8	1=,Electrificación 0= no se realizó

p910_9	1=Sistemas de Riego, 0= no se realizó
p910_10	1=Reforestación, 0= no se realizó
p910_11	1=Recuperación de tierras (andenes, camellones), 0= no se realizó
p910_12	1=Asistencia Técnica , 0= no se realizó
p910_13	1=Sanidad Agropecuaria, 0= no se realizó
p910_14	1=Entrega de Insumos (semillas, fertilizantes), 0= no se realizó
p910_15	1=Titulación de tierras y/o lotes, 0= no se realizó
p910_16	1=Crédito Agropecuario, 0= no se realizó