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# EVALUATION OF THE LAND FOR PROSPERITY (LFP) ACTIVITY IN COLOMBIA: BASELINE REPORT

**MAY 2022**

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# Evaluation of the Land for Prosperity (LfP) Activity in Colombia: Baseline Report

USAID Contract Number: GS00F061GA

Developed under the Communications, Evidence and Learning (CEL) Project

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Special thanks to the Panagora Group MEL Activity in Bogotá, Diego Velandia, Adriana Arana, and Hanner Sanchez at Sistemas Especializados de Información (SEI), and Juan Carlos Muñoz at Universidad EAFIT.

Suggested Citation: Haugan, G., Protik, A., and Persha, L. (2022) *Evaluation of the Land for Prosperity (LfP) Activity in Colombia: Baseline Report*. Washington, DC: USAID Communications, Evidence and Learning (CEL) Project.

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## ACRONYMS

ANT	<i>Agencia Nacional de Tierras</i> (National Land Agency)
A-WEAI	Abbreviated Women's Empowerment in Agriculture Index
CEL	Communication, Evidence, and Learning
COP	Colombian Pesos
DANE	<i>Departamento Administrativo Nacional de Estadística</i> (National Administrative Department of Statistics)
DDI	Bureau for Development, Democracy and Innovation (USAID)
DID	Difference-in-Differences
EDR	Evaluation Design Report
EEl	Center for Energy, Environment and Infrastructure (USAID)
GD	Group Discussion
GoC	Government of Colombia
IE	Impact Evaluation
IGA	Income Generating Activity
IGAC	<i>Instituto Geográfico Agustín Codazzi</i> (Agustin Codazzi Geographic Institute)
INCODER	<i>Instituto Colombiano de Desarrollo Rural</i> (Colombian Institute for Rural Development)
INCORA	<i>Instituto Colombiano de Reforma Agraria</i> (Colombian Institute for Agrarian Reform)
KII	Key Informant Interview
LfP	Land for Prosperity
LRDP	Land and Rural Development Program
LRG	Land and Resource Governance
MDES	Minimum Detectable Effect Size
MDI	Minimum Detectable Impact
OSPR	<i>Ordenamiento Social de la Propiedad Rural</i> (Participatory Rural Land Use Management Code)
PDET	<i>Programa de Desarrollo con Enfoque Territorial</i> (Territorially Focused Development Plans)
PNIS	<i>Programa Nacional Integral de Sustitución</i> (National Crop Substitution Program)
POSPR	<i>Planes de Ordenamiento Social de la Propiedad Rural</i> (Participatory Rural Land Use Management Plans)
PPP	Public-Private Partnership
SNR	<i>Superintendencia de Notariado y Registro</i> (Superintendency of Notaries and Registry)
STARR	Strengthening Tenure and Resource Rights
URT	<i>Unidad Restitución de Tierras</i> (Land Restitution Unit)
USD	US Dollars
USAID	United States Agency for International Development

## EXECUTIVE SUMMARY

This report provides baseline context for a mixed-methods impact evaluation (IE) of the USAID-supported “Land for Prosperity (LFP)” activity in Colombia. The evaluation aims to provide an evidence base for outcomes of LFP with respect to strengthening land rights and land governance, reducing illicit crop cultivation, and enhancing local livelihoods. The evaluation was commissioned by USAID’s Land and Resource Governance (LRG) unit in the Bureau for Development, Democracy and Innovation’s Center for Energy, Environment and Infrastructure (USAID/DDI/EEI), along with USAID/Colombia, and is led by NORC at the University of Chicago under the Communication, Evidence and Learning (CEL) Project.

This document provides findings from the baseline data collection for the evaluation, including background context on key demographics, household characteristics, and baseline measures on outcome variables. The report also examines balance across LFP (treated) and comparison communities for the IE components of the evaluation, and revisits power calculations from the Evaluation Design Report (EDR) using parameters from the baseline data.

## LAND FOR PROSPERITY ACTIVITY DESCRIPTION

LFP began in August 2019 and is a five-year activity that is implemented by Tetra Tech ARD under the Strengthening Tenure and Resource Rights (STARR) II IDIQ.<sup>1</sup> The activity is envisioned to improve the conditions of conflict-affected rural households in a sustainable manner that will support USAID/Colombia’s effort to promote peace and stability, and contribute to reducing illicit crops and help the Government of Colombia (GoC) strengthen state presence in under-attended regions.<sup>2</sup>

LFP comprises three main intervention components: (1) advancing massive land titling<sup>3</sup> in rural areas along with continued support in land restitution for forcibly displaced households; (2) strengthening local capacity to maintain formalized land transactions; and (3) strengthening land governance and economic development through strategic Public Private Partnerships (PPPs). The LFP activity takes place in a total of seven regions, as well as the vicinity of Chiribiquete National Park.<sup>4</sup> The IE of LFP focuses on ten of the eleven so-called pilot municipalities within these regions, each of which will receive all three components of the intervention.

Together, the three intervention components aim to improve tenure security and access to markets and State services, increase private sector engagement and opportunities for generating income through licit activities, strengthen local land administration systems and infrastructure, reduce land conflict, and improve youth, ethnic, and women’s empowerment.

## EVALUATION QUESTIONS

Table I lists the six evaluation themes addressed by the LFP evaluation. The evaluation questions, which the team developed in collaboration with USAID, focus on meeting USAID’s priority learning interests for this activity and were derived from the LFP theory of change.

<sup>1</sup> LFP grew out of a pilot activity implemented in the municipality of Ovejas, Sucre, which was part of the Land and Rural Development Program (LRDP).

<sup>2</sup> Program municipalities were selected from among a larger group of municipalities that have suffered disproportionately from the Colombian conflict and a lack of State presence, and were identified during the 2016 Peace Accords between the GoC and the FARC guerrilla group to be the focus of targeted investment and programming. This larger group of municipalities is known as the *Programa de Desarrollo con Enfoque Territorial* (Territorially Focused Development Plans - PDET) municipalities.

<sup>3</sup> Land titles are issued by GoC, while LFP provides all necessary inputs for titling and works with relevant entities to ensure the titles are processed. LFP’s stated goal is to facilitate titling for 100 percent of eligible plots, excluding plots that may be located on protected public lands, in hazardous areas such as flood zones, encroach upon indigenous reserves, or otherwise found to be ineligible for titling.

<sup>4</sup> Southern Tolima, Montes de María, Meta, Catatumbo, Tumaco, Northern Cauca, and Bajo Cauca

**TABLE ESI: EVALUATION QUESTIONS AND THEMATIC AREAS OF INVESTIGATION**

THEME	EVALUATION QUESTION
Impacts of LfP on individual households	<ol style="list-style-type: none"> <li>1. What are the effects on households of strengthened land governance and property rights via LfP's land titling (and other types of formal documentation, where applicable) and coupled land administration capacity building?               <ol style="list-style-type: none"> <li>a. Tenure security</li> <li>b. Land use, investment, and illicit crop cultivation</li> <li>c. Improved household wellbeing, food security, and poverty</li> <li>d. Credit access and land market activity</li> <li>e. Youth, ethnic, and women's empowerment</li> </ol> </li> </ol>
Heterogeneity of Impacts on Household-level Outcomes by Beneficiary and Context Characteristics	<ol style="list-style-type: none"> <li>2. How do the impacts of the LfP activity on key outcomes differ for:               <ol style="list-style-type: none"> <li>a. Female-headed households or joint households</li> <li>b. Youth-headed households</li> <li>c. Afro-Colombians, members of indigenous communities, and ethnic minority households</li> <li>d. Households victims of the civil conflict</li> <li>e. Households in coca-producing areas compared to those in areas with no coca</li> </ol> </li> <li>3. Do women recipients of land titles experience improvements on par with men for:               <ol style="list-style-type: none"> <li>a. decision-making regarding land use</li> <li>b. agricultural productivity</li> <li>c. incomes</li> </ol> </li> </ol>
Impacts of LfP on Land Administration and Governance	<ol style="list-style-type: none"> <li>4. To what extent did LfP activities improve municipal level local government self-reliance and public service delivery?</li> <li>5. At the municipal level, what are the impacts of strengthened local government land administration capacity coupled with massive land titling on municipal tax revenue?               <ol style="list-style-type: none"> <li>a. How do mayor's offices use increased tax revenue gained through an increase in the number of title holders?</li> <li>b. Does increased tax revenue lead to improved public services for communities?</li> </ol> </li> </ol>
Impacts of LfP on Private-Sector Engagement and Illicit Crop Substitution	<ol style="list-style-type: none"> <li>6. Did the LfP activity increase private sector engagement in the pilot and corridor municipalities?               <ol style="list-style-type: none"> <li>a. If yes, how much funding and what types of activities were leveraged from the private sector through the LfP initiative?</li> <li>b. If no, what were the major reasons and/or barriers for the private sector to engage effectively?</li> </ol> </li> <li>7. What is the role of mobilized public sector funds and public-private partnership for local public goods in supporting sustainable reduction in coca production based on land titling?</li> <li>8. Does massive land formalization contribute to more sustainable licit crop substitution, as indicated by increased numbers of farmers undertaking substitution and a reduced area under cultivation of illicit crops?               <ol style="list-style-type: none"> <li>a. Once individuals receive a land title, how easily can they connect and improve their income opportunities through the alliances and opportunities created through Component 3?</li> </ol> </li> </ol>
Implementation Effectiveness	<ol style="list-style-type: none"> <li>9. How successful was the approach to adaptation of the strategies and lessons learned from the Ovejas pilot?</li> <li>10. How effective was the strategy to engage the private sector in formalization in scaling progress or sustaining formality?</li> <li>11. How effective was the USAID model for establishing municipal land offices within local government to develop and maintain a decentralized<sup>5</sup>, sustainable land administration and management system in municipalities (includes looking at effectiveness of land tax collection and tax revenue, among others)?</li> </ol>

<sup>5</sup> Noting that for rural parcels, the system may be better characterized as deconcentrated rather than decentralized, as municipalities do not have jurisdiction for land administration in rural areas. Still, LfP aims to work with municipalities to provide related access and motivate registration of changes for rural areas as well.



**TABLE ESI: EVALUATION QUESTIONS AND THEMATIC AREAS OF INVESTIGATION**

	<ol style="list-style-type: none"> <li>a. What strategies or technology innovations were most effective for harmonizing the collection and management of cadastral information and land registry records?</li> <li>b. What is the effect of technology changes (e.g., document digitization) on institutional capacity? Are there any notable effects these institutions faced as they moved from a large staff / high manpower model to one more reliant on improved technology?</li> </ol>
Overarching Lessons	<ol style="list-style-type: none"> <li>12. Did LfP implementation of massive land titling lead to more sustainable illicit crop substitution? In what keys ways?</li> <li>13. In what ways did the LfP activity contribute to land-related Peace Accord agenda objectives, including those specified under Chapter I?</li> <li>14. In what ways did the LfP activity contribute to broader GoC agrarian land rural reform and rural development objectives?</li> <li>15. To what extent did GoC adopt and scale up public policy inputs and recommendations from LfP?</li> <li>16. Were there any unintended broader consequences of the land titling component, beyond those related to LfP objectives?</li> </ol>

## EVALUATION DESIGN

This evaluation is designed as a mixed-methods study, using a quasi-experimental difference-in-differences (DID) approach coupled with statistical matching to select the comparison group. The IE is complemented by pre-post qualitative data analysis based on document reviews, interviews, and group discussions to better understand mechanisms for observed impacts and assess broader implications of the LfP activity.<sup>6</sup>

The household survey sample for the evaluation was designed to consist of 15 households per community across 10 communities per municipality, for a total sample of 150 households per municipality. This yields a total sample of 3,000 households across ten LfP and ten comparison municipalities. To select communities for the sample, the evaluation team first divided each of the ten LfP municipalities into rural and urban communities (veredas and centros poblados, respectively) and then used a stratified probability proportional to size sampling design<sup>7</sup> to select ten communities from each LfP municipality.<sup>8</sup> A random sample of households was then selected from each community, such that the expected number of completed interviews after accounting for non-response would be approximately 15.

As part of the quasi-experimental DID approach, the evaluation team constructed a comparison group for using a three-step statistical matching technique<sup>9</sup> — municipal-level matching in the first step, community-level matching in the second step, and household-level matching in the final step. The team used genetic matching<sup>10</sup> at the municipality and community levels to optimize balance across the LfP and comparison groups on a set of key variables and select 100 matched communities across the 10 matched comparison municipalities. Households were then sampled from these 100 communities using the same household sampling process used for LfP communities.

<sup>6</sup> See Evaluation Matrix in Annex F for additional details.

<sup>7</sup> All communities in each municipality were stratified by urban/rural status. Communities were randomly selected within rural or urban strata with the probability of selection proportional to their population size. This design generates a representative sample for each municipality, while ensuring representation from both rural and urban communities.

<sup>8</sup> Together, these communities comprised the totality of each municipality, except for the municipal seat (i.e., the town or small city where the municipal government is headquartered, and which is generally much larger than any other community in the municipality).

<sup>9</sup> The matching strategy is described in detail in Annex B.

<sup>10</sup> Genetic matching reduces the statistical difference between the treatment and comparison groups by reweighting the observations in the comparison group. It is often superior to traditional propensity score matching (PSM), in that it produces better balance between groups, and avoids known problems of PSM, including model dependence and biased results.



## **BASELINE DATA COLLECTION AND HOUSEHOLD SAMPLE**

Baseline qualitative and quantitative data for this evaluation was collected during April – June 2021 by Colombian data collection firm Sistemas Especializadas de Información (SEI), with supervision by NORC at the University of Chicago, and support from the Mission's MEL Activity in Bogotá that is implemented by the Panagora Group. The final baseline household sample was 2,965 households surveyed across 192 communities (1,512 households from 100 LfP communities and 1,453 households from 92 comparison group municipalities), after accounting for non-response and communities that could not be accessed due to security problems. Qualitative data was collected in all municipalities, and consisted of 20 group discussions (GDs) across two communities in each of ten selected municipalities, 20 group key informant interviews (KIIs) with community leaders from communities across the 20 survey municipalities, and KIIs with six officials across three GoC agencies.

The household survey was administered to the household head (if available) or another adult knowledgeable about the household's land use decisions. Female-headed households comprised 27.5 percent of households in the sample in treatment communities, and 26.2 percent of sampled households in comparison communities. Households were overwhelmingly rural: 75.5 percent of sampled households in treatment communities were located in rural *veredas* (i.e., dispersed rural communities) and 24.5 percent were located in urban *centros poblados* (i.e., small towns other than the municipal seat). Broad land use and ownership context was also similar across sampled LfP and comparison group households, including on: engagement in agriculture on plots under the household's control (77.2 percent of sampled households in treatment communities and 84.1 percent of those in comparison communities); ownership of at least one plot (71.2 percent of sampled households in treatment communities and 70.3 percent of those in comparison communities); and ownership of at least one plot that already has a formal land title (22.0 percent of sampled households in treatment communities and 20.6 percent of those in comparison communities).

Key baseline findings are summarized below for the LfP treatment sample, across the five major themes of interest for the evaluation. Differences with the comparison group sample are discussed in the report body for informational purposes, noting these results at baseline are obtained on the unmatched sample at the household level. Because we are able to obtain a well-balanced sample via statistical matching on household-level characteristics (see discussion on this in the Balance and Power section), any differences presented at this stage are not a concern for the validity of the IE,

## **FINDINGS I: HOUSEHOLD WELL-BEING, FOOD SECURITY, AND POVERTY**

The baseline data suggests that a high proportion of LfP households in the evaluation sample are likely below the national poverty line, while household livelihood strategies are equally distributed across farming and wage labor (which could also be in the agricultural sector). Most households in the sample are food secure, but food insecurity does reach a level of concern in three of the regions. Household participation in non-farm income generating activities is low, at 17.6 percent, and the average combined monthly income reported across all non-farm sources is \$230 USD per month<sup>11</sup>. Credit access is also low, at 17.2 percent of the sample, but among credit takers the average loan size is fairly high (at \$2,408.2 USD) and the source is primarily from formal banks (56.9 percent of households who took loans). Qualitative findings highlighted a perception among GD respondents that formal land titles would increase both their access to and the amount of loans they could obtain from formal banks.

### **LIVELIHOODS**

- The average likelihood of living below the 2016 national poverty line (\$2.73 USD per day, after adjusting for inflation) for sampled households in treatment communities is 42.9 percent.

<sup>11</sup> Here and throughout the report, we use the 2020 average exchange rate of \$1 USD = \$3,691.3 COP.

- 39.2 percent of sampled households in treatment communities earned their main source of livelihood from crop cultivation, while another 39.2 percent earned their livelihoods primarily from wage labor.

#### ACCESS TO CREDIT

- 25.8 percent of sampled households in treatment communities said they had a need for credit during the 12 months prior to the survey, and 17.2 percent said they had received credit from a source outside the household.
- Among households who took loans over the 12-month period prior to the survey, the average loan amount was \$2,408.2 USD.
- Among those who took loans, 56.9 percent of sampled households in treatment communities took loans from formal banks, while 10.4 percent took them from cooperatives and 23.9 percent took loans from informal sources, such as loan sharks or family and friends.
- Qualitative findings support the program's theory of change that formal land titles will improve access to credit. Access to credit was commonly cited as the most important benefit of having a land title in qualitative discussions, as GD participants felt a formal title would both improve the likelihood that a loan would be approved and increase the amount of credit they could obtain from formal banks.

#### FOOD SECURITY

- 92.3 percent of sampled households in treatment communities suffered from little to no hunger, while 7.7 percent suffered from moderate to severe hunger.
- To the extent that hunger exists, it is spatially concentrated in a few regions. Rates of moderate to severe hunger were highest in Coastal Nariño (25.1 percent), Montes de Maria (15.1 percent), and Bajo Cauca (9.6 percent).

#### NON-FARM ACTIVITIES

- Overall, 17.6 percent of sampled households in treatment communities operate a non-farm income generating activity, such as a small business, household-based enterprise, or informal sector entrepreneurial activity.
- The average monthly revenue for entrepreneurial non-farm income generating activities, such as home-based businesses, running a mototaxi, or a non-farm small business, is \$178.0 USD (\$657,000 COP) for sampled households in treatment communities. Overall, these activities tend to be oriented for sale to the final consumer (84.3 percent) and are carried out within the household premises (49.8 percent).

### FINDINGS 2: LAND USE AND AGRICULTURAL PRODUCTION

Households in the sample manage a relatively small number of plots on average, and although the average total area of land managed is quite high, at 17.4 hectares, the total landholding varies widely across households in the sample. Nearly half of the sample has one hectare of land or less. Land is primarily used for agriculture, but households do not appear to be strongly diversified in their agricultural activities as nearly all households rely on three or fewer crops or livestock activities. There is a wide distribution in the amount of agricultural income reported by households, with nearly a third of households reporting \$5 USD or less per month. Still, it is not uncommon for households in the treatment sample to make land investments aimed to improve productivity. The baseline results also provide some evidence to suggest that households with registered land titles may be more likely to make such land investments, or to make higher value investments (households with a title invested \$977.9 USD in their plots, compared to \$373.9 USD for those without), while highlighting that households perceive a lack of resources to be a key barrier to land investment.

## LAND HOLDINGS

- On average, sampled households in treatment communities managed an average of 1.4 plots per household, and used an average of 0.9 plots for agricultural purposes per household. Across all plots managed by households under any tenancy regime, sampled households in treatment communities held an average of 17.4 hectares of land in total, and had an average of 8.4 hectares under agricultural use. The median for total land holdings among sampled households in treatment is 1.5 hectares, and with a median of 1.0 hectares for land under agricultural use.
- The distribution of land holdings across households in the sample is highly unequal. Overall, 31.9 percent of all sampled households had less than 0.25 hectares, and 45.9 percent held one hectare of land or less, while 17.5 percent held more than ten hectares. Households with no registered title to any plot were also significantly more likely to have less than 0.25 hectares of land compared to households with at least one registered title.

## LAND USE

- Among plots controlled by sampled households in treatment communities, 65.0 percent were used for agricultural purposes.
- Among agricultural plots, the most important uses of land reported by households were permanent crops (21.1 percent of plot area), transitory crops (18.3 percent of plot area), unused or fallow land (13.9 percent of plot area), single species livestock (13.9 percent of plot area), and dwelling (12.1 percent of plot area).
- The primary reason households cited for leaving land unused was a lack of financial resources (57.7 percent of plots with unused land), which may support the program's theory of change for improved land use and productivity from land titling, if land titling helps households to have improved access to credit.

## AGRICULTURAL PRODUCTION

- Agricultural diversification among households in the sample is fairly low, as households are generally reliant on a small number of agricultural or livestock activities. Among households in the sample that are engaged in agricultural activities, 29.0 percent engaged in only one crop or livestock activity; 26.8 percent had two crop or livestock activities; and 44.2 percent listed three crop or livestock activities.
- Overall, the most common crops farmed or livestock raised by sampled households are plantain (33.8 percent), roots and tubers (32.8 percent), and poultry (27.9 percent).
- On average, sampled farming households in treatment communities earned \$466.0 USD (\$1.7 million COP) per month in revenue from all agricultural and livestock activities on their agricultural plots.<sup>12</sup>
- The distribution of income from agriculture across farming households in the sample is highly unequal. Nearly a third of farming households report almost no earnings (i.e., between \$0 and \$5 USD per month) from agriculture, suggesting their agricultural production is almost completely for consumption within the household. Another 49.0 percent earn between \$6 and \$250 USD per month from agriculture, while just 20.2 percent of sampled households in treatment communities reported earning more than \$250 USD per month from agricultural activities on their plots.

## PRODUCTIVE INVESTMENTS

- Among all plots controlled by sampled households in treatment communities, households said they had made productive investments for 41.1 percent of plots in the treatment sample over

<sup>12</sup> Note that mean revenue from agricultural activities for farming households is higher than mean income for all sources for all households reported in Findings I. This has two main explanations: (1) farming households have more land and higher incomes than other households, on average; (2) the figures for agricultural revenue and total household income come from two different sections of the survey, one asking about sales revenue from farm production, and the other asking about household income.

the last 12 months. At the household level, 48.1 percent of sampled households in treatment communities had made an investment on at least one plot under their control in that same time frame. The most common types of investment that households made were housing (15.7 percent of plots) and fruit, timber, or other commercial trees (7.9 percent).

- Households with a registered title to at least one plot had made significantly greater financial investment in their land (\$977.9 USD) than those without a title (\$373.9 USD), on average. This is driven, in part, by the increased share of households without a title who made no investments (63.5 percent) compared to households with a title (53.1 percent). Among households who had made any investment in their plots, the value of the investment was also higher, on average, for those with titles (\$1,872.9 USD) compared to those without at title (\$889.1 USD), though this difference is not statistically significant.
- The most common reason households cited for not investing in their land was a lack of resources (64.3 percent), supporting the program logic that improved access to credit through land titling may also lead to greater land investment.

### **FINDINGS 3: LAND ACQUISITION AND TENURE SECURITY**

At the plot level, the large average size of plots also masks highly unequal distribution of plot sizes across households in the sample. Plots that already have formal titles are larger in size, on average, and also are more likely to have been acquired through purchase. Households have no documentation confirming the household's occupancy rights for nearly half (46.7 percent) of plots that are owned or under de facto occupation by households in the sample. The baseline findings also suggest that most households that do currently have a title for their plots have already formally registered it. At the same time, findings pointed to a fair amount of confusion among respondents around the differences between registered and unregistered titles, reasons and resources required to pursue formalization, and services provided by land governance institutions. Perceived tenure security across plots was fairly high, with respondents reporting they felt unlikely to lose ownership or use rights over the next five years for 80 percent of plots (respondents expressed tenure insecurity for 16 percent of plots), and the incidence of land disputes in the twelve months prior to survey was very low, at around two percent.

#### **LAND CHARACTERISTICS / LAND OVERVIEW**

- The average plot size for plots belonging to sampled households in treatment communities is 12.4 hectares.
- The distribution of land holdings across the sample is highly unequal, and plots with formal titles tend to be larger (19.3 hectares) than those without (7.7 hectares).
- The distribution of plot sizes even within the group of untitled plots is also highly unequal: nearly half of all plots without a registered title (46.4 percent) are less than 0.25 hectares, and 66.4 percent are one hectare or less, while 9.0 percent of all plots without a registered title are larger than 10 hectares (including 5.3 percent that are larger than 20 hectares). This suggests the vast majority of titles issued through LFP's work will go to small landowners, though most of the newly titled land may belong to a relatively small share of households.

#### **MODE OF ACQUISITION AND TENURE**

- Titled plots are significantly more likely to have been acquired through purchase (65.2 percent of titled plots, 45.4 percent of untitled plots), and significantly less likely to have been acquired through inheritance (27.6 percent of titled plots, 40.5 percent of untitled plots), occupying vacant land (0.1 percent of titled plots, 2.2 percent of untitled plots), or through exchange or as gifts (1.1 percent of titled plots, 3.4 percent of untitled plots).
- Qualitative interviews with communities suggest that previous GOC efforts at land formalization have come undone over time as plots are inherited, sold, or transferred.

## LAND RIGHTS

- Among plots owned or under de facto occupation by households with a registered title for the plot, households said they had the right to sell 91.1 percent of these plots, and had the right to bequeath 95.5 percent; this compares to 66.3 percent and 86.0 percent, respectively, for plots without a formal title.

## LAND DOCUMENTATION

- Among all plots owned or under de facto occupation by respondents in the sample, 46.7 percent had no land document to verify the household's right to occupancy; the figure was significantly higher for plots under usufruct, rental, or sharecropping agreements, at 97.6 percent of such plots. Documents held by households for plots owned or under de facto occupation included registered titles (26.0 percent), unregistered formal titles (2.1 percent), other formal documents<sup>13</sup> (18.9 percent), and informal or semi-formal documents<sup>14</sup> (6.2 percent).
- Plots with any document besides a registered title are somewhat more likely to have only the male decisionmaker listed on the document (50.0 percent) than plots with a registered title (45.2 percent), but the difference is not significant. Similarly, plots with any other document are also somewhat more likely to have only the female decisionmaker listed on the document (29.2 percent), compared to those with a registered title (28.3 percent), though the difference is not statistically significant. On the other hand, plots with a registered title are significantly more likely to have the male and female decisionmakers from the household listed jointly on the document (9.0 percent) than plots with some other document (5.9 percent).
- It appears far more common for either the male or female decisionmaker to be the sole person listed, than for the two to be listed together, regardless of the document type. This may be due to the fact that formal marriage is relatively uncommon among the sampled population.
- The most common reasons that respondents provided for not pursuing formalized land tenure were that it was not necessary (34.6 percent of plots) and that the household lacked the resources to formalize (29.8 percent). A large share (23.8 percent) also provided other responses, which often dealt with confusion or customs around the inheritance process for land.

## TENURE SECURITY

- Among all plots, respondents said they were either “not at all likely” or “somewhat unlikely” to lose ownership or use rights to the plot in the next five years for 79.9 percent of plots controlled by sampled households in treatment communities.
- Among sampled households in treatment communities, respondents said they were either “not worried” or “not at all worried” they might lose the right to use the plot within the next five years for 78.7 percent of plots.
- For 45.8 percent of plots controlled by sampled households in treatment communities, respondents said they could not leave their land fallow for any period without losing their use rights to the land.
- Among sampled households with at least one formally titled plot, 4.4 percent reported having lost their land against their will in the past 12 months for any reason (e.g., natural disasters, forced displacements, or other reasons), compared to 3.7 percent of households without a formal title to any plot; this difference is not statistically significant.
- 3.0 percent of households with at least one registered title and 2.9 percent of those without had experienced eviction threats during the 12-month period prior to the survey.

<sup>13</sup> “Other formal documents” refers to a legal document that is not a title, such as a will, written contract, or non-title document from one of the national land agencies.

<sup>14</sup> “Informal or semi-formal documents” refer to non-legal documents, such as a signed letter, extrajudicial statement, or verbal contract.

## LAND DISPUTES

- There is a similarly low level of exposure to any type of land-related conflict or dispute in the 12-month period prior to survey for households with registered land titles and those without (2.5 percent of households with registered titles and 2.2 percent of those without registered titles).

## LAND GOVERNANCE, LAND MARKETS, AND PUBLIC SERVICE DELIVERY

- For the statement “Land rights are clear and easy to understand”, 44.7 percent of sampled households in treatment communities agreed with the statement, while 41.1 agreed with the statement “Land rights are well-protected by authorities”.
- Among all households in the sample, 1.9 percent purchased any land in the municipality during the 12-month period before the survey. Among all households who purchased land, the mean amount of land purchased is 9.5 hectares. However, the distribution is highly unequal, with a median purchase of just 0.08 hectares.
- Among sampled households in treatment communities, 41.4 percent had usufruct, rental, or sharecropping agreements to occupy land belonging to someone else, while just 6.7 percent reported having such agreements in place for use of their own land by other households.
- Households reported low levels of satisfaction with local service delivery. Among sampled households in treatment communities, 29.6 percent said they were satisfied with the quality of the municipality’s roads, 4.6 percent said they were satisfied with the quality of irrigation infrastructure in their municipality, and 12.4 percent said they were satisfied with the quality of overall infrastructure services in their municipality.

## FINDINGS 4: PRIVATE SECTOR ENGAGEMENT AND ILLICIT CROP SUBSTITUTION

Baseline findings suggest generally low trust in government institutions at municipal and other levels, while social capital in communities is high. Residents of coca-growing municipalities had particularly high levels of dissatisfaction and mistrust, but qualitative data also suggested that a lack of communication and widespread confusion on national land titling policies and institutions has contributed to general mistrust across the evaluation sample. In conjunction with this, household participation in alternative development programs and perceived benefits from public-private partnerships (PPP) is also low, which may pose challenges for LFP’s intended PPP activities, or at least suggest a need to strategize carefully on how to engender interest and set expectations among the target population. Findings on this theme also suggest potential challenges for the intended pathway to illicit crop substitution via land formalization. While a very low proportion of households admit to growing coca currently (2.8 percent), households with registered land titles have the highest prevalence of admitting to coca cultivation in the survey sample, but it is also possible that such households simply feel more secure admitting to coca cultivation. Given the complex and potentially diverse reasons why some households may be more or less willing to admit to growing coca, these results should be interpreted with caution.

## TRUST IN INSTITUTIONS

- Levels of trust in most institutions are low. Just 28.4 percent of sampled households in treatment communities trust judges, 43.2 percent trust their local Community Action Board (*Junta de Acción Comunal*), 25.5 percent trust their town hall (*Alcaldía Municipal*), and 43.1 percent trust the Municipal Land Office (*Oficina Municipal de Tierras*).
- Just 20.0 percent of sampled households in treatment communities agreed with the statement “There is little corruption in the municipal government”, just 26.3 percent agreed with the statement “I am very satisfied with the municipal government’s work in rural development”, and just 34.5 percent agreed that they “trust the municipal government works on behalf of the interests of all its citizens”.



- Qualitative discussion highlighted that patchwork policies and changing laws and institutions around land titling have not been properly communicated to communities and have created a situation where households do not know what is happening at the national level, eroding trust.
- Qualitative discussions also highlighted high levels of distrust in government from participants in coca-growing municipalities. It is clear that for some, years of militarization of their communities, criminalization of their main source of livelihood, and promises that never come to fruition have resulted in a hostile stance towards the government in Bogota. Changes in the qualification criteria for participating in the national government's crop substitution program (PNIS) appear to be exacerbating the situation.

### **SOCIAL CAPITAL**

- Among sampled households in treatment communities, 68.3 percent agreed with the statement, "I can trust most of the neighbors in my community", 88.7 percent agreed with the statement, "If someone in the community needs help, we are all willing to help," and 87.5 percent agreed with the statement, "I could work on a community project that doesn't benefit me directly".
- 49.9 percent of sampled households in treatment communities do not belong to any organization. The most common organizations that households do belong to include the local community action board, ethnic community councils, and local civic organizations.

### **PUBLIC-PRIVATE PARTNERSHIPS<sup>15</sup>**

- Among sampled households in treatment communities, 12.1 percent agreed that their household had benefitted from government development projects in the past 12 months, 8.8 percent agreed that it had become easier to find a job in the municipality in the past 12 months, and 7.7 percent said they had participated in or benefited from productive projects in the past 12 months.

### **PARTICIPATION IN ALTERNATIVE DEVELOPMENT PROGRAMS**

- Overall, 6.2 percent of sampled households in treatment communities said they had ever benefitted from alternative development programs. Participation is spatially concentrated. Among all sampled households, the areas with highest participation in alternative development programs are Tumaco and Coastal Nariño (16.8 percent), Bajo Cauca (12.5 percent), Meta (3.5 percent), and Catatumbo (2.7 percent).
- Among all households who said they had benefitted from alternative development programs, the most common programs were Forest Guarding Families (33.1 percent), followed by PNIS (27.8 percent), and Voluntary Substitution Agreements (11.3 percent).
- Participation in Alternative Development Programs in treatment communities increased dramatically between 2016 and 2018, corresponding with the first years of implementation of the Colombian peace accords. Participation dropped substantially after 2018.

### **ILLICIT CROP CULTIVATION**

- Among sampled households in treatment communities, 9.0 percent admitted to ever having cultivated coca, while 2.8 percent admitted to growing coca currently. Among those households currently cultivating coca, sampled households in treatment communities said they had 1.4 hectares under cultivation, on average.
- Due to complex issues with household self-reporting, refusals, and security in coca-growing municipalities, coca results from the household survey sample are best interpreted as lower-end estimates of the true prevalence. The results suggest at least 5.9 percent of households in coca growing municipalities who own at least one plot are currently cultivating coca, including at least 8.0 percent of those with a formal title to at least one plot, and at least 4.8 percent of those

<sup>15</sup> At baseline, we looked at household participation in development projects in general.



without any formal title. However, the issues highlighted here make it difficult to draw firm conclusions on the relationship between tenure and coca at baseline.

- Quantitative and qualitative findings highlight several threats to the theory of change for reducing illicit crop cultivation through land titling: (1) the risk of expropriation must be sufficiently high to dissuade titled owners from illicit crops; (2) it is unclear whether LfP will be able to reduce illicit crop cultivation on vacant public lands or national parks; (3) pressure from armed groups may give households little choice but to continue cultivating coca. How these risks evolve depends to a great extent on factors outside the program's control, including enforcement by the Colombian government, dynamics of the armed conflict, how communities continue to perceive and participate in the PNIS program, and whether the GoC decides to resume aerial spraying.

## **FINDINGS 5: WOMEN'S EMPOWERMENT**

Findings from the wives' module of the household survey provide several indications of lower land tenure security for women in the survey sample compared to men. Women in the survey sample are less commonly named on registered land titles or any land documents, while male and female respondents alike are less likely to see women as having a right to sell household land. Men are also more likely than women to express knowledge of their land rights, where to obtain help for land conflicts, and to feel they would have access to representation if a land dispute should arise. There are also large disparities by gender with respect to participation in income-generating activities and economic decisions, but less so with respect to control over income and asset ownership. Male primary decisionmakers in the survey sample are more likely to report obtaining loans, and their average loan size (among loan takers) is nearly twice that of female primary decisionmakers.

### **WOMEN AND LAND TENURE**

- 31.3 percent of primary male decisionmakers appear on any land document, compared to 22.3 percent of primary female decisionmakers. 15.5 and 11.5 percent of primary male and female decisionmakers, respectively, appear on a registered land title.
- Male and female decisionmakers appear to have a similar perception of who within the household has a right to sell land. 46.6 percent of all adult male decisionmakers and just 27.0 percent of adult female decisionmakers described themselves as personally having the right to sell any of their plots, representing a statistically significant gap of 19.6 percentage points. Similarly, just 25.6 percent of male decisionmakers said that the primary adult female decisionmaker in the household had the right to sell any plot, while 37.0 percent of female decisionmakers said the same for the primary adult male decisionmaker.
- Patterns appear somewhat different for how male and female decisionmakers describe who in the household has a right to bequeath land. 40.7 percent of male decisionmakers said the female decisionmaker in the household had a right to bequeath land, while just 28.3 percent of female decisionmakers said the male decisionmaker had the same right. The qualitative findings suggest that land is often inherited without any written will from the deceased, and that it is common, particularly for men, to have children with multiple partners, along with unions through common law, as opposed to formal marriage. These dynamics contribute to tenure insecurity for women.
- Female decisionmakers were significantly more likely to say the household was not likely to lose its rights to any plot within the next five years (79.1 percent of females, 71.9 percent of males), and to say they were not worried about the household losing its rights to any plot over the same time period (78.8 percent of females, 73.0 percent of males). On the other hand, male decisionmakers were significantly more likely to say the household could leave its land fallow indefinitely and would never lose its land use rights (28.0 percent of males, 14.5 percent of females).

- A statistically significant greater share of male decisionmakers (43.1 percent) agreed with the statement “I know more about my land rights now than I did last year”, compared to female decisionmakers (34.4 percent). Similarly, a significantly greater share of male decisionmakers (54.9 percent) agreed with the statement “I know where to go if I have a conflict about my land” than female decisionmakers (42.4 percent), while 50.2 percent of male decisionmakers agreed with the statement “I have access to legal representation if I have a land dispute”, compared to 35.9 percent of female decisionmakers.

#### PARTICIPATION IN PRODUCTIVE ACTIVITIES AND ECONOMIC DECISIONS

- Among all plots belonging to sampled households, 69.2 percent were under the primary responsibility of the primary male decisionmaker in treatment communities, while female primary decisionmakers were the main person responsible for 29.0 percent of all plots.
- The survey asked male and female decisionmakers about whether they participated in each of six income generating activities, including food crop farming, cash crop farming, livestock farming, non-farm economic activities, wage employment, and fishing or fishpond culture. 40.3 percent of all female decisionmakers indicated they participated in none of the six activities, compared to 10.4 percent of male decisionmakers. On average, female decisionmakers participated in 1.0 activities, compared to 1.9 activities for male decisionmakers.
- The evaluation team created an indicator of empowerment in productive decisions, using the template provided by the Abbreviated Women’s Empowerment in Agriculture Index (A-WEAI). Among male and female decisionmakers in treatment communities, 72.4 and 47.5 percent, respectively, met the empowerment in productive decisions criteria.

#### CONTROL OVER INCOME

- The evaluation team created an indicator of empowerment in control over income, using the definition from the A-WEAI. Among male and female decisionmakers in treatment communities, 97.7 and 85.5 percent, respectively, met the empowerment in control over income criteria.

#### ASSET OWNERSHIP

- Male decisionmakers described themselves as personally owning more items (5.6 items) than female decisionmakers (5.3 items). The difference is statistically significant. Male and female decisionmakers are also different in terms of which assets they own, with males more likely to own agricultural land, large livestock, and farm equipment, and females more likely to own poultry and small livestock, non-farm business equipment, and consumer durables.
- The evaluation team created an indicator of empowerment in asset ownership, using the definition from the A-WEAI. Among male and female decisionmakers in treatment communities, 99.0 percent of respondents in each group met the empowerment in asset ownership criteria.

#### ACCESS TO CREDIT

- Among all male and female decisionmakers, 9.6 and 7.7 percent, respectively, took out any loan over the 12-month period before the survey. The difference is statistically significant.
- On average, male decisionmakers obtained \$265.4 USD (\$1.0 million COP) in loans over the 12-month period before the survey (\$2,753.1 USD or \$10.2 million COP for male decisionmakers who took loans), compared to \$118.5 USD or \$400,000 COP for female decisionmakers (\$1,546.9 USD or \$5.7 million COP for female decisionmakers who took loans). These differences are statistically significant.
- Few differences were observed by gender in terms of where men and women access loans from. Although men who took loans were more likely to obtain those loans from the Agrarian Bank (30.3 percent) than women (24.9 percent), women were more likely to obtain loans from other formal banks besides the Agrarian Bank (37.1 percent) than men (32.2 percent). These differences are not statistically significant, and suggest that men and women who obtain loans

are approximately equally likely to obtain those loans from any formal bank (62.5 and 62.0 percent, respectively).

## **BALANCE AND POWER**

The evaluation team used the baseline data to revisit statistical assumptions related to the methodology proposed for this evaluation, including the ability to achieve balance between sampled households in treatment and comparison communities on key outcome variables and covariates, using the planned statistical matching strategy planned by the team during the evaluation design phase. The team also updated power calculations for the IE using the baseline data, and confirmed that the evaluation is well-powered to detect many key outcomes. Balance tests suggest the treatment and comparison groups are well balanced after statistical matching, providing an appropriate counterfactual for the evaluation. However, the updated power calculations suggest that the evaluation will not be powered to detect impacts of LfP on the proportion of households that engage in coca production via the intended statistical analysis. This is discussed in the report body and alternative strategies are suggested.

## **CONCLUSIONS**

Several of the baseline findings support the LfP programming logic and elements of the intended theory of change, although some findings call attention to issues that may present challenges for LfP's intended objectives, and/or require adaptive programming to address as implementation progresses. It is also important to recognize certain limitations of the baseline study, including the sensitive nature of some questions regarding illicit crop cultivation and threats from armed groups, which can affect the reliability of responses or respondent willingness to respond. The evaluation team also notes that the apparently low level of understanding of the legal and institutional landscape around land titling among some respondents could mean that households' self-reported land tenure status at baseline is not always accurate.

Key areas of support include:

- There is scope to greatly improve the proportion of households with formalized land rights, and LFP's programming emphasis on strengthening the culture of formalization over time among the target population also appears to be highly relevant.
- Linkages between titling and credit, and potential improvements to agricultural productivity.
- Linkages between formalized titling, strengthening women's land rights and women's empowerment.

Key areas where the baseline findings underscore potential challenges for LfP's intended programming include:

- Results suggest some challenges to the theory of change that land titles will lead to widespread improvements in tenure security, given findings from baseline related to sources of tenure insecurity, experience with prior formalization efforts, and eligibility for titling. For example, some communities have developed their own informal systems for land governance in the absence of State presence, and findings also suggest that holding a land title may not address some common sources of tenure insecurity, such as land expropriation by armed groups.
- Colombia's highly unequal land distribution may pose a challenge for program beneficiaries to leverage land titles into improved livelihoods, as baseline findings suggest that many households have insufficient land to earn a living from even if these holdings are formalized. The benefits of formalization could then also accrue disproportionately to a smaller share of households that have medium to large land holdings.
- Low levels of satisfaction with local service delivery and infrastructure present both a challenge and an opportunity for LFP programming. The program's focus on local service delivery and

infrastructure as part of its activities appears well-placed in this respect, but the current status quo does present a substantial challenge given that market access will be needed to improve livelihoods and trust in the government infrastructure will be needed to support formal transactions.

- Land restitution is contentious. Given that the cadaster updates will serve as an input to the land restitution process, potential challenges of accelerated land restitution for LfP include the possibility of increased social tension.
- Trust in government is low, particularly in coca-growing areas.
- To be effective at reducing coca cultivation, LfP will likely need to be accompanied by a credible threat of expropriation and viable alternative livelihoods.

## RECOMMENDATIONS FOR SUBSEQUENT DATA COLLECTION FOR THE IE

The baseline data collection experience and findings also highlight some key issues that will be important to address for the endline data collection round:

- *Supplemental strategies to strengthen the evaluation's reporting on changes to coca production*, including an expanded focus on this in the qualitative data collection, and potential use of supplemental geospatial data to inform on coca expansion.
- *Expanded role for qualitative data collection at endline*, to strengthen the ability to interpret endline results. This should particularly focus on expanding the number of group discussions, holding gender-segregated discussions, and expanding coverage on issues related to women's land rights, tenure security and empowerment. It should also aim to help inform on potential differences in trends across the diverse regional contexts where LfP operates.
- *Modifications to the endline survey instrument*, including: equipping enumerators with a picture of an *escritura publica* and adding a question on the survey to confirm this and other document types stated by respondents; clarifications reduce respondent confusion on whether poultry raising is included as part of livestock activities on the wives module; and targeted work to shorten the instrument (for example, efficiencies can be gained by reducing the level of detail collected about loans, and certain details on the crop roster).
- *Ensuring at least 6 months lead time for endline data collection and evaluation team procurement*, to ensure sufficient time to plan and engage in the data collection preparations with the endline firm. This is especially important given the challenging security context in the LfP implementation and comparison communities for this evaluation.  
*Independent data firm procurement via the Mission's MEL activity and collaboration with the evaluation team* worked well at baseline, and can be replicated in subsequent rounds.
- *Maintain the same community definitions used at baseline*. GoC may change maps over time, but subsequent data collection activities and rounds of analysis should continue to use the community definitions from baseline data collection. These community definitions considered the diverging official cartographies from DANE and IGAC, how LfP would use these cartographies to conduct its activities, and the realities of how fieldwork would need to be conducted.

## INTRODUCTION

This report provides baseline information on the study population and the socio-economic context for the mixed-methods impact evaluation (IE) of the “Land for Prosperity (LFP)” activity in Colombia. The evaluation aims to provide an evidence base for outcomes of LFP with respect to strengthening land rights and land governance, reducing illicit crop cultivation, and enhancing local livelihoods. The evaluation was commissioned by USAID’s Land and Resource Governance (LRG) unit in the Bureau for Development, Democracy and Innovation’s Center for Energy, Environment and Infrastructure (USAID/DDI/EEI), and is led by NORC at the University of Chicago under the CEL Project.

This document provides findings from the baseline data collection for the evaluation, including background context on key demographics, household characteristics, and baseline measures on outcome variables. The report also examines balance across LFP (treated) and comparison communities for the IE components of the evaluation, and revisits power calculations from the Evaluation Design Report (EDR) using parameters from the baseline data.

## CONCEPTUAL FRAMING, EVALUATION PURPOSE AND EVALUATION QUESTIONS

### LAND TENURE, PRODUCTIVITY, CONFLICT AND ILLICIT CROPS BACKGROUND

Colombia is characterized by a dualistic distribution of land ownership, which can be traced back to the colonial period (Ibáñez and Muñoz-Mora, 2010). A relatively small share of plots have formalized titles (mostly medium- and large-size plots) and operate in a formal land market, while a significant number of small plots have informal land rights, in large part due to the unplanned expansion of the agricultural frontier (C. C. LeGrand and Valencia Goelkel, 2016). For centuries, small peasants, formerly enslaved groups, and even entire communities found an alternative to land access by venturing beyond the agricultural frontier to inhabit unused land, driven by several factors: (i) conflicts between peasants and large landlords; (ii) land availability; and (iii) individual motivation (Machado and Vivas, 2009; Ibáñez and Muñoz-Mora, 2010). Forests were logged to make room for new villages, roads, and rural communities, creating economies based on subsistence agriculture (C. LeGrand, 1988). In some regions, the State promoted this as a strategy to expand and to boost agricultural production. Public idle land (*baldíos*) with economic potential was formally assigned to capitalists and entrepreneurs looking to establish an agricultural system with potential for export markets such as bananas, cocoa, and coffee, among others (C. LeGrand, 1988). The correlation between regions with insecure land tenure systems and low State presence has created an opening for land-related disputes, expropriation, presence of illegal actors, and other illegal activities (Centro Nacional de Memoria Histórica, 2014; Ibáñez and Muñoz-Mora, 2010; Machado and Vivas, 2009).

On average, approximately 22 percent of all private rural land in Colombia has no formal title, of which 89 percent are small plots of less than 20 hectares (Muñoz-Mora et al., 2018). In recent decades, the consolidation of the drug economy has also prolonged and deepened the persistence of insecure land tenure systems. Thanks to the country’s abundant natural resources, high prevalence of poverty, territorial control by illegal actors, and low public enforcement, the rural sector has become the perfect environment to grow coca and other illicit crops (Dávalos et al., 2011). In this context, informal tenure systems both push households into illicit crop cultivation by making it harder to obtain credit, make productive investments, and make a living from licit crops, and weaken the State’s ability to punish those growing illicit crops. Despite decades of effort under the War on Drugs and billions of dollars spent on counter-narcotics operations in the country, cocaine production and land under coca cultivation have

been increasing since 2012, and Colombian cocaine production is currently at all-time highs, surpassing the 1980s and 1990s under Pablo Escobar and the Medellín and Cali Cartels.<sup>16</sup>

Yet the traditional land administration system has been slow to improve. According to 2019 data from Colombia's *Instituto Geográfico Agustín Codazzi* (Agustín Codazzi Geographic Institute - IGAC), nearly 87 percent of Colombian municipalities (954 out of 1100) had outdated cadastral information (last updated more than 12.2 years prior), and for 7 percent of the territory, land administration information had never been collected (Departamento Nacional de Planeación, 2019).

In recent years, the Government of Colombia (GoC) has developed a new land tenure approach for rural property, known as the *Ordenamiento Social de la Propiedad Rural* (Participatory Rural Land Use Management Code – OSPR). OSPR was defined by Decree 902 of 2017 and grew out of the legal framework that was part of the peace process between the GoC and the FARC (*Fuerzas Armadas Revolucionarias de Colombia*) guerrilla group. The policy moves formalization of land tenure from a demand-driven model, in which landowners issued individual requests, to a supply-driven model that seeks to resolve all land tenure issues in a municipality at one time. OSPR consists of three stages:

- A *planning stage*, using government registries and community information sources to determine land uses and tenure forms, identify land conflicts and measure the level of informality, generating a formal implementation plan for approval by the National Land Agency (ANT – Spanish Acronym);
- An *implementation stage*, where a cadastre update and parcel sweep are conducted to multipurpose cadastre and collect requests from petitioners along with documents to prove their possession; and
- A *legalization stage*, in which the ANT reviews requests, makes decisions on each case, and issues formal land titles.

OSPR's municipal-level planning and implementation mechanism, known as POSPR (Participatory Rural Land Use Management Plans), was piloted in Ovejas, Sucre in 2018-2019 with the support of USAID under the Land and Rural Development Program (LRDP). As a forerunner to the current LFP activity, USAID's LRDP accomplished several achievements, including: designing and piloting massive titling methodologies; strengthening local land governance by establishing municipal land offices, titling schools and lands with public services to allow social investment; obtaining GoC commitment for joint cadastre and titling efforts; mobilizing funding in remote rural areas for the provision of basic services; establishing PPPs and linking restituted families and beneficiaries of land titling; improving access and security of land information; and incorporating new methodologies to accelerate land restitution and secure sustainable implementation of judicial orders. Through this pilot program, approximately 3,000 rural properties are in process of being formalized<sup>17</sup> (totaling 42,000 hectares), addressing 100 percent of the informal holdings in the area. The pilot included more than 15,000 beneficiaries and 9 government entities. Learning from the Ovejas pilot has contributed to an adjusted approach for the planned LFP activity that, among others, considers specific regional conditions such as ethnic community land rights, presence of illicit crops, and large private sector investments.

The 2016 peace accords and the Victims' and Land Restitution Law of 2011 also established a new framework for dealing with restitution, land titling, and illicit crops. Since the beginnings of the

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<sup>16</sup> <https://www.whitehouse.gov/ondcp/briefing-room/2021/07/16/ondcp-releases-data-on-coca-cultivation-and-potential-cocaine-production-in-the-andean-region/>

<sup>17</sup> Per USAID, 2,046 of 3,002 titles had been issued as of October 2021, while 188 titles had been denied, and 768 cases were still pending. The remaining titles will be issued under LFP assistance.

Colombian conflict in the 1960s, approximately 7 million Colombians have been forcibly displaced, or around 15 percent of the country's population (UNHCR, 2015). The Victims' Law of 2011 established a framework for returning land to victims through the *Unidad Restitución de Tierras* (Land Restitution Unit - URT). Under this law, victims who were forced to sell land, abandoned land due to threats, were forced to sell land under unfair selling conditions due to the needs generated by the violence, or whose signatures were falsified on selling documents are eligible for restitution, regardless of whether they have a formal title to the plot, as long as the events occurred after January 1, 1991<sup>18</sup>.

A new framework for dealing with illicit crop cultivation was established under the 2016 peace accords. Prior to signing the peace deal, the Colombian government suspended aerial fumigation of coca crops, which had been part of Colombia's counter-narcotics operations for over 20 years, citing the negative environmental and health effects.<sup>19</sup> The peace accords created the *Programa Nacional Integral de Sustitución de Cultivos de Uso Ilícito* (Comprehensive Program for Illicit Crop Substitution - PNIS). Envisioned as the country's first ever attempt at crop substitution on a massive scale, the program sought to change Colombia's counter-narcotics efforts from a forced eradication to a voluntary substitution model. The program aimed to enlist nearly 80 percent of Colombia's coca-growers in a program providing regular payments and technical assistance in exchange for voluntarily destroying their coca crops and replacing them with licit alternatives, initiated through community-level agreements covering all coca farmers in participating communities.<sup>20</sup> However, the program has experienced numerous complications and changes since its original inception, including funding challenges, changes to definitions on who can qualify for the program, and reformulating the agreements such that they are made with individual farmers instead of whole communities.<sup>21</sup>

## LAND FOR PROSPERITY ACTIVITY DESCRIPTION

Building on the experiences of LRDP, the LfP activity is envisioned to improve the conditions of conflict-affected rural households in a sustainable manner that will support USAID/Colombia's effort to promote peace and stability, and to reduce illicit crops and help the GoC strengthen state presence in under-attended regions.<sup>22</sup> LfP began in August 2019 and is a five-year activity that is implemented by Tetra Tech ARD under the Strengthening Tenure and Resource Rights (STARR) II IDIQ. LfP comprises three main intervention components:

*Component 1:* Advancing massive land titling in rural areas along with continued restitution support,

*Component 2:* Strengthening local capacity to maintain formalized land transactions, and

*Component 3:* Strengthening land governance and economic development through strategic PPPs.

In total, these components will provide access to land titles or other types of formal rights, where relevant<sup>23</sup>, while supporting land restitution as part of a broader land title policy support, strengthening local government capacity, and integrating citizens to licit socio-economic opportunities in target areas. These components are advanced under the activity's seven guiding principles: (1) integration of gender, ethnic minorities, and youth; (2) environmental considerations; (3) coordination with other USAID programs and donors; (4) coordination of high-level dialogue meetings with the GoC; (5) transition of knowledge, skills, and

<sup>18</sup> <https://www.minjusticia.gov.co/programas/justicia-transicional/ley-victimas-restitucion-tierras>

<sup>19</sup> [https://www.bbc.com/mundo/noticias/2015/05/150514\\_colombia\\_glifosato\\_suspension\\_nc](https://www.bbc.com/mundo/noticias/2015/05/150514_colombia_glifosato_suspension_nc)

<sup>20</sup> <https://www.crisisgroup.org/latin-america-caribbean/andes/colombia/87-deeply-rooted-coca-eradication-and-violence-colombia>

<sup>21</sup> <https://www.revistaciendiascinep.com/home/la-muerte-lenta-del-pnis-en-el-gobierno-duque/>

<sup>22</sup> Land for Prosperity Quarterly Report, October-December, 2019.

<sup>23</sup> Per LfP implementing partners, titling is anticipated to be the predominant form of formalization under LfP however in some municipalities other forms of formal documentation could be prevalent.



abilities; (6) citizen security; (7) evidence-based policy.

The original geographic scope of the LfP activity covered a total of seven regions, including Southern Tolima, Montes de Maria, Meta, Catatumbo, Tumaco, Northern Cauca, and Bajo Cauca and Southern Córdoba. Ten municipalities across the seven regions will benefit from all three different components of the LfP activity, and these are referred to as pilot municipalities. An overarching objective of the activity implementation in these “proof of concept” pilots is to help inform GoC with evidence-based implementation to shape land policy reform. These ten municipalities in the original geographic scope of LfP are also the focus of the IE. Additional municipalities along the same economic corridor as the ten pilot municipalities are planned to receive components 2 (13 additional municipalities) and 3 (56 additional municipalities), for a total program geographic coverage of 79 municipalities.<sup>24</sup> Below, we provide additional high-level details for the three components.

Early in activity implementation, LfP’s geographic scope was expanded to include Chiribiquete National Park and its vicinity, the municipality of Puerto Rico in the department of Meta, and two pilot communities in the region of Southern Meta and the vicinity of Chiribiquete, while a stronger environmental focus and some new implementation activities were also rolled-out in these areas, including additional PPPs, and land use contracts in the pilot communities. LfP activities in this expanded geography are not included in the design or scope of this evaluation, nor are they covered in this report.

### MASSIVE LAND TITLING

Component I, the massive land titling, is at the center of the LfP activity and has four stages. The first stage involves the POSPR, which determines land uses and tenure forms, as well as documenting possible land conflicts, restrictions, and the level of informality. Several GoC agencies, such as the IGAC, *Agencia Nacional de Tierras* (National Land Agency - ANT), and the URT are also involved in this process for many of the intervention municipalities. In the second stage, LfP teams will go to the field to announce the beginning of the parcel sweep, including the methods, geographic routes, and scope. The third stage involves actual household visits to collect socio-economic, demographic, cartographic, and legal data. The fourth stage involves the document preparation by LfP for land titling. The final stage involves the GoC validating cadaster information and issuing titles; although this is not a direct responsibility of LfP, program results will depend on GoC using the LfP-provided inputs from Stages 1-4 to carry out this phase. The timeframe from the beginning of stage 1 to households receiving land titles is anticipated to be potentially 12-18 months, per the LfP IP.

In terms of eligibility, Component I aims to include every rural plot in the municipality in the parcel sweep. Plots in areas where the security situation prevents access may not be covered by the parcel sweep, and the activity would use indirect or remote methods to cover these plots; it is anticipated that only in extreme cases, would the activity be unable to complete the cadaster update in a community and be unable to advance titling. Other factors may also impact which plots are eligible for receipt of titles: plots with conflicting claims, open land restitution cases, or located on vacant public lands (*baldíos*) may take longer to title, while those located on lands with use restrictions (such as those located on flood plains) may not be granted a title at all, and communities seeking to obtain or enhance collective community titles to land (such as ethnic minority communities, which have a separate process for titling and recognition by GOC) are unlikely to receive such titles through this program, although they will still be included in the cadaster update.

<sup>24</sup> Figures come from ACCESO\_79\_MUNICIPIOS.xlsx document provided to NORC by LfP.

## STRENGTHENING LOCAL GOVERNMENT CAPACITY

Component 2 promotes the sustainability of LfP efforts by strengthening local capacities for land market transactions and updating urban cadaster and titling, as well as public infrastructure in national lands. The aim is to build information management capacities and interoperability amongst GoC entities and local government institutions, prioritizing data security and the legal integrity of information, while increasing access to municipal land offices that serve as an entry point for rural citizens to access national land agencies. Thus, the activity works to decentralize services and access to information, while creating single access points for information that is currently maintained by disparate institutions, digitizing records, and expanding local land management capacity through municipal land offices.

The inclusion of this component in the design of the activity was motivated by a review of international cooperation experiences supporting land titling, in which efforts were undone over time due to insufficient capacity for land administration by the local actor after the end of program support.

## PROMOTING PUBLIC-PRIVATE PARTNERSHIPS (PPPs)

Component 3 seeks to expand licit economic opportunities for households in the LfP implementation municipalities. As part of this component, LfP will strengthen the capacity of subnational governments to obtain and mobilize regional and national funds, plan and execute projects, and provide services. In particular, the activity aims to mobilize public and private funds for local public goods and services, as well as the integration of smallholders into value chain alliances. The activity meets with local chambers of commerce, industry groups, and mayors' offices to identify value chains and investment projects for prioritization that can be linked to PPPs. By identifying bottlenecks in the agricultural value chains, the activity works to mobilize resources in support of solving problems to make local businesses more competitive (including, but not limited to construction of tertiary roads, small irrigation projects, among others).

## DEVELOPMENT HYPOTHESIS

Figure I draws on intervention logic provided in the LfP solicitation, literature review by the evaluation team, and discussions with USAID and LfP IPs to depict a proposed Theory of Change for the LfP activity. The model was first developed by the evaluation team as part of a feasibility assessment for the IE<sup>25</sup> and was further refined during the evaluation design process. The theory of change presented here serves as a broader learning framework to examine whether and under what conditions the direct outputs resulting from a massive land titling program such as LfP may also achieve a range of higher-level development outcomes, many of which may not be explicit targets of LfP programming directly.

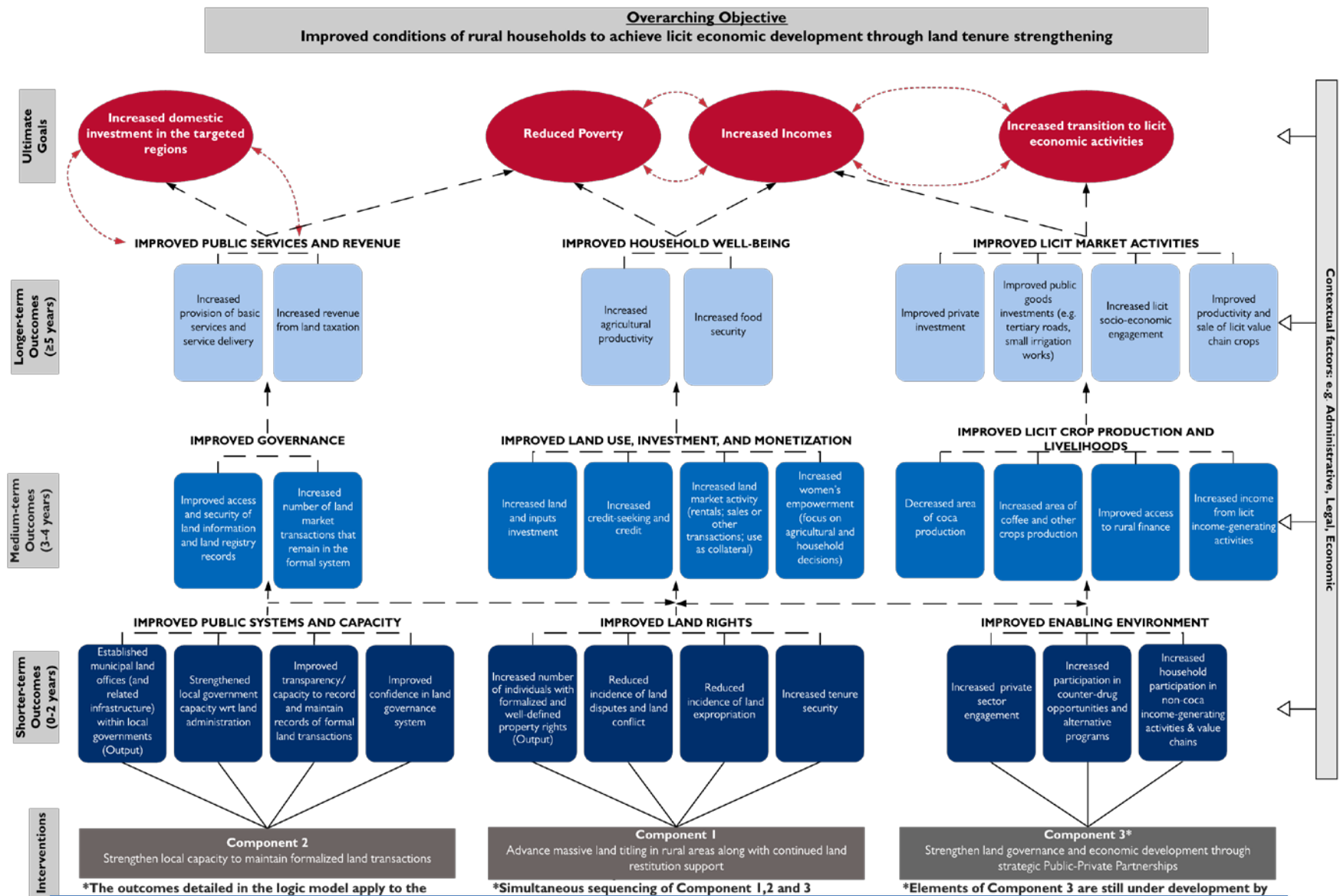
Figure I uses solid black arrows to show the direct linkages between LfP activities and shorter-term outcomes that are anticipated to be more directly attributable to LfP. Changes in these short-term outcomes may also lead to changes in the medium- and longer-term outcomes listed, particularly in the presence of additional actions and intervention from regional and national governments, the private sector, and other donor programs. These less direct linkages to LfP activities are shown by dashed black lines. At endline, the evaluation team will measure the changes in outcomes that are observed and will also work to understand the reasons for the observed outcomes and provide interpretation of the results. This includes, for example, understanding how LfP implementation together with a range of complex factors operating in the study area may have influenced the observed results (whether negatively or positively), and providing learning on where the evaluation results either support or may suggest a need to revisit elements of the overarching logic chain from land titling to some of the ultimate development objectives.

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<sup>25</sup> NORC at the University of Chicago. 2019. "Impact Evaluation Feasibility Assessment of the Land for Prosperity (LfP) Activity". Prepared for USAID under the Communications, Evidence, and Learning (CEL) Project, USAID Contract Number GS00F061GA.

It is important to keep in mind that several additional USAID-supported activities are also active within the broader LfP geography, across different sectors, and in many cases they also focus on achieving the same overarching development objectives and outcomes as LfP. It is possible that results across several of these programs may also be necessary to achieve widespread change on some of the longer-term outcomes and ultimate development goals listed in Figure 1, there are potentially a wide range of administrative, legal, and economic contextual factors that may also be necessary for achieving the desired changes in the outcomes listed in the TOC. As such, the theory of change relies on a host of assumptions that are necessary conditions for achieving the changes as envisioned in the model. We present these assumptions below.

**FIGURE 1: LFP THEORY OF CHANGE**



**Interpretation Guide:**

- Dashed red arrows indicate feedback loops.
- Dashed black arrows indicate outcomes that are not directly linked to LfP performance goals. All outcomes are likely influenced by a range of contextual factors to some extent.

## KEY ASSUMPTIONS

- Activity implementers and government stakeholders will be able to establish effective land conflict resolution mechanisms and effectively coordinate with land restitution efforts in implementation zones.<sup>26</sup>
- Corruption within the land administration and related government systems will be reduced through improved public systems and capacity-building.
- There is effective coordination between land administration officials and other public entities (for example, local tax authorities and municipal service providers).
- Land titling, improved land governance, and expanded economic opportunities in licit sectors provide sufficient additional incentive to existing government interventions, such as the government's Comprehensive Program for Illicit Crop Substitution / *Programa Nacional Integral de Sustitución de Cultivos de Uso Ilícito* (PNIS) and Strategic Areas of Integral Intervention / *Zonas Estratégicas de Intervención Integral* (ZEII), for farmers to participate in such programs and shift from illicit crop production to licit crop or other economic activities.
- The State will enforce prevailing laws, such that obtaining a formal land title will increase the risk of state sanctions by landowners who have coca production on their land. Receipt of formal land title is therefore assumed to be tied to increased risk of land expropriation by the State for such landowners<sup>27</sup>.
- There is sufficient public and private sector interest and commitment to engage in public-private partnerships, and sufficient capacity to engage farmer-based organizations and provide public services.
- Similarly, farmer-based organizations will have sufficient interest and capacity to participate and benefit from these partnerships.
- There will be programs or efforts from other agents to provide technical assistance and build capacity for households to increase farm productivity.
- Rural banks, other local financial institutions or formal lenders have or will be willing to create loan products (because of training or incentive programs) that are accessible and of interest to under-served borrowers in the implementation area (rural smallholder farmers, micro- and small-scale enterprises and entrepreneurs).
- It will be possible within the LFP lifetime to understand market systems behavior, actors and opportunities within the implementation zones; and, implement new opportunities at scale, including any technological or other innovations needed to bolster market systems and address constraints.
- GoC provides security and proper coordination for de-mining and coca eradication, in cases where voluntary substitution in exchange for the land title is not achieved. In addition, the ANT is able to properly plug into the *Formalizar para Sustituir* Program, which is mandated to do the crop substitution in exchange for the land title.
- Broader policy and/or macro-economic assumptions:
  - Land values and demand for land experience gradual change rather than sharp volatility.
  - There are no major changes to in/out-migration dynamics as a result of program activities or other factors during the activity lifetime.
  - Coca prices do not increase to a point such that revenue earned to smallholders through alternative crops is non-competitive.
  - Current levels of violence in implementation zones do not increase significantly.
  - Introduction of additional counter-drug policies and programs, or pre-existing such programs in the implementation area, are synergistic with LFP-promoted economic activities and enabling environment.

<sup>26</sup> Note that municipalities are overseen by local government and mayors, while rural areas in the implementation regions are administered by national agencies.

<sup>27</sup> Under current GoC policies, the State can expropriate land from such landowners, and they may also be charged with a criminal offense. This is seen as a key mechanism by which strengthened land rights may alter the risk preferences and incentives landowners face with respect to coca production (Munoz-Mora et al 2019).

- LfP will be able to effectively coordinate with other USAID portfolios relevant to the outcomes of interest, such as environment, justice, governance, and economic development.

## ACTIVITY IMPLEMENTATION STATUS

LfP had already begun operating in some municipalities at the time of baseline data collection for this evaluation, although the nature of implementation activities was not expected to affect baseline results or threaten the validity of the IE. Table 1 shows the status of LfP implementation by treatment municipality as of the close of baseline data collection on June 17, 2021. Preparation activities were underway in six municipalities, including conducting social mapping to identify intervention units, developing work plans, submitting plans for approval with ANT, and holding meetings with local and regional entities. Three other municipalities had already had their implementation plans approved and were in a pre-implementation phase. Parcel sweeps were already underway in two municipalities, though massive land titling had not yet begun. No implementation had started yet in one municipality.

**TABLE 1: LFP IMPLEMENTATION STATUS AT BASELINE DATA COLLECTION**

REGION	MUNICIPALITY	STATUS AT BASELINE
Montes de Maria	San Jacinto	Implementation plan approved
	El Carmen de Bolivar	Preparation stage
Sur de Tolima	Ataco	Parcel sweeps in progress
	Chaparral	Implementation plan approved
Catatumbo	Sardinata	Preparation stage
Meta	Fuente de Oro	Preparation stage
	Puerto Lleras	Implementation plan approved
Bajo Cauca	Cáceres	Parcel sweeps in progress
Norte de Cauca	Santander de Quilichao	No implementation started
Tumaco	Tumaco	Preparation stage

## EVALUATION PURPOSE, AUDIENCE, AND INTENDED USES

The overarching purpose of the LfP IE is to (1) provide an evidence base for impacts of the LfP activities with respect to strengthening land rights and land governance on several outcome categories, how impacts vary across key sub-groups of interest, and reasons why; and (2) provide targeted learning on overall lessons learned and several ‘deeper dive’ learning interests around titling effects, elements of implementation effectiveness, women’s empowerment and household food security, participation in licit market opportunities, illicit crop substitution, and improvements to municipal-level public service delivery.

The primary audiences for the evaluation results are USAID/DDI/EEI/LRG, USAID/Colombia, and the LfP IP. Key secondary audiences for the evaluation results include the broader donor community, various GoC agencies related to land formalization efforts in Colombia, and other stakeholders involved in land and related development sectors.

The evaluation findings are expected to have accountability and learning value to USAID. The evaluation will inform the design of future activities that aim to integrate massive land titling with local capacity building to strengthen tenure security, enhance livelihoods, promote durable peace, and reduce the cultivation of illicit crops. It is also intended to provide targeted learning on key knowledge and theory of change logic gaps to inform the design of massive land titling projects that may follow.

## EVALUATION QUESTIONS

The evaluation uses a mixed-methods approach combining a quantitative quasi-experimental difference-in-difference design and a qualitative pre-post data analysis to answer a set of evaluation questions across six thematic areas. The evaluation questions were developed in conjunction with USAID and LfP, and reflect specific USAID learning interests. See Annex F for an Evaluation Design Matrix summarizing data sources, outcome measures and analytic approach by evaluation question.<sup>28</sup> This IE measures the combined impacts of LfP across all three intervention components. This is because all three components of the LfP activity are being implemented in the ten pilot municipalities, and the intervention group for the IE consists only of these ten pilot municipalities.

Table 2 below summarizes the evaluation questions for this IE, and Table 3 below lists the household- and municipal-level outcomes that constitute the IE focus across different outcome domains.

**TABLE 2: EVALUATION QUESTIONS AND THEMATIC AREAS OF INVESTIGATION**

THEME	EVALUATION QUESTION
Impacts of LfP on individual households	<ol style="list-style-type: none"> <li>1. What are the effects on households of strengthened land governance and property rights via LfP's land titling (and other types of formal documentation, where applicable) and coupled land administration capacity building?               <ol style="list-style-type: none"> <li>a. Tenure security</li> <li>b. Land use, investment, and illicit crop cultivation</li> <li>c. Improved household wellbeing, food security, and poverty</li> <li>d. Credit access and land market activity</li> <li>e. Women's empowerment</li> </ol> </li> </ol>
Heterogeneity of Impacts on Household-level Outcomes by Beneficiary and Context Characteristics	<ol style="list-style-type: none"> <li>2. How do the impacts of the LfP activity on key outcomes differ for:               <ol style="list-style-type: none"> <li>a. Female-headed households or joint households</li> <li>b. Youth-headed households</li> <li>c. Afro-Colombians, members of indigenous communities, and ethnic minority households</li> <li>d. Households victims of the civil conflict</li> <li>e. Households in coca-producing areas compared to those in areas with no coca</li> </ol> </li> <li>3. Do women recipients of land titles experience improvements on par with men for:               <ol style="list-style-type: none"> <li>a. decision-making regarding land use</li> <li>b. agricultural productivity</li> <li>c. incomes</li> </ol> </li> </ol>
Impacts of LfP on Land Administration and Governance	<ol style="list-style-type: none"> <li>4. To what extent did LfP activities improve municipal level local government self-reliance and public service delivery?</li> <li>5. At the municipal level, what are the impacts of strengthened local government land administration capacity coupled with massive land titling on municipal tax revenue?               <ol style="list-style-type: none"> <li>a. How do mayor's offices use increased tax revenue gained through an increase in the number of title holders?</li> <li>b. Does increased tax revenue lead to improved public services for communities?</li> </ol> </li> </ol>
Impacts of LfP on Private-Sector Engagement and Illicit Crop Substitution	<ol style="list-style-type: none"> <li>6. Did the LfP activity increase private sector engagement in the pilot and corridor municipalities?               <ol style="list-style-type: none"> <li>a. If yes, how much funding and what types of activities were leveraged from the private sector through the LfP initiative?</li> <li>b. If no, what were the major reasons and/or barriers for the private sector to engage effectively?</li> </ol> </li> <li>7. What is the role of mobilized public sector funds and public-private partnership for local public goods in supporting sustainable reduction in coca production based on land titling?</li> <li>8. Does massive land formalization contribute to more sustainable licit crop substitution, as indicated by increased numbers of farmers undertaking substitution and a reduced area under cultivation of illicit crops?</li> </ol>

<sup>28</sup> For additional evaluation design details, see Protik, A., G. Haugan, R. Wendt, L. Persha, and J.C. Muñoz Mora. (2020) *Evaluation of the 'Evaluation of the Land for Prosperity (LfP) Activity' in Colombia: Evaluation Design Report*. Washington, DC: USAID Communications, Evidence and Learning Project.



THEME	EVALUATION QUESTION
	<p>a. Once individuals receive a land title, how easily can they connect and improve their income opportunities through the alliances and opportunities created through Component 3?</p>
Implementation Effectiveness	<p>9. How successful was the approach to adaptation of the strategies and lessons learned from the Ovejas pilot?</p> <p>10. How effective was the strategy to engage the private sector in formalization in scaling progress or sustaining formality?</p> <p>11. How effective was the USAID model for establishing municipal land offices within local government to develop and maintain a decentralized<sup>29</sup>, sustainable land administration and management system in municipalities (includes looking at effectiveness of land tax collection and tax revenue, among others)?</p> <p>a. What strategies or technology innovations were most effective for harmonizing the collection and management of cadastral information and land registry records?</p> <p>b. What is the effect of technology changes (e.g., document digitization) on institutional capacity? Are there any notable effects these institutions faced as they moved from a large staff / high manpower model to one more reliant on improved technology?</p>
Overarching Lessons	<p>12. Did LfP implementation of massive land titling lead to more sustainable illicit crop substitution? In what keys ways?</p> <p>13. In what ways did the LfP activity contribute to land-related Peace Accord agenda objectives, including those specified under Chapter 1?</p> <p>14. In what ways did the LfP activity contribute to broader GoC agrarian land rural reform and rural development objectives?</p> <p>15. To what extent did GoC adopt and scale up public policy inputs and recommendations from LfP?</p> <p>16. Were there any unintended broader consequences of the land titling component, beyond those related to LfP objectives?</p>

<sup>29</sup> Noting that for rural parcels, the system may be better characterized as deconcentrated rather than decentralized, as municipalities do not have jurisdiction for land administration in rural areas. Still, LfP aims to work with municipalities to provide related access and motivate registration of changes for rural areas as well.

**TABLE 3: EVALUATION INDICATORS AND OUTCOMES MEASURES<sup>30</sup>**

HOUSEHOLD-LEVEL OUTCOMES				
ANTICIPATED TIME FRAME TO ACHIEVE CHANGE AT SCALE FROM END OF INTERVENTION	TENURE SECURITY	IMPROVED LAND USE AND INVESTMENT	IMPROVED HOUSEHOLD WELL-BEING, FOOD SECURITY, AND POVERTY	IMPROVED CREDIT ACCESS AND LAND MARKET ACTIVITY
SHORT-TERM (0-2 years)	<ul style="list-style-type: none"> <li>Formalized land documentation (+)</li> <li>Incidence of land expropriation and displacement (-)</li> <li>Perceived tenure security (+)</li> <li>Recent land disputes (-)</li> </ul>	<ul style="list-style-type: none"> <li>Area under licit crop production (+)</li> <li>Area under coca production (-)</li> <li>Participation in licit cash crop production (+)</li> <li>Number of licit cash crops grown (+)</li> </ul>		
MEDIUM-TERM (3-4 years)		<ul style="list-style-type: none"> <li>Farm investments (irrigation, fertilizer, labor, etc.) (+)</li> <li>Investment and participation in off-farm and non-farm businesses (+)</li> <li>Women's empowerment and participation in PPPs (agricultural and household decision making) (+)</li> </ul>	<ul style="list-style-type: none"> <li>Household income (+)</li> <li>Income from licit crops (+)</li> <li>Income from licit off-farm and non-farm activities (+)</li> <li>Investments on land assets (machinery, coffee depulpers, dryers, etc.) (+)</li> </ul>	<ul style="list-style-type: none"> <li>Seeking and access to formal and informal sources of credit (+)</li> <li>Amount of credit obtained (+)</li> <li>Land market activity (rentals, sales or other transactions, use as collateral) (+)</li> </ul>
LONGER-TERM (≥ 5 years)	<ul style="list-style-type: none"> <li>Satisfaction with and confidence in land administration and governance (+)</li> </ul>	<ul style="list-style-type: none"> <li>Satisfaction with PPPs (+)</li> <li>HH involvement in PPPs (+)</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Agricultural productivity (+)</li> <li>Food security (+)</li> <li>Access to markets (distance and road quality) (+)</li> <li>Satisfaction with quality of public goods (e.g., roads/irrigation) (+)</li> <li>Subjective household wellbeing (+)</li> </ul>	

<sup>30</sup> All household-level outcomes will be evaluated for heterogeneity of impacts by key beneficiary sub-groups and geographic variation, and reasons why. Key sub-groups of interest include: women, youth, conflict victims, Afro-Colombians, indigenous communities, and households in coca producing areas. Key geographic variation of interest is to be determined.

MUNICIPAL-LEVEL OUTPUTS OR OUTCOMES			
SHORT-TERM (0-2 years)	<ul style="list-style-type: none"> <li>• Number of land titles issued (+)</li> <li>• Establishment of municipal land offices (+)</li> <li>• Digitization of land transaction records for preservation and transparency (+)</li> <li>• Amount of private-sector funds mobilized for land formalization (+)</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Area under licit crop production (+)</li> <li>• Area under coca production (-)</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in private investment (+)</li> <li>• Investment in public goods (e.g., roads/irrigation) (+)</li> </ul>
	<ul style="list-style-type: none"> <li>•</li> </ul>		
MEDIUM-TERM (3-4 years)	<ul style="list-style-type: none"> <li>• Amount of land tax received (+)</li> <li>• Incidence of displacement (-)</li> </ul>		

## EVALUATION DESIGN AND METHODS

### DESIGN OVERVIEW

This evaluation uses a quasi-experimental difference-in-differences (DID) approach to assess the impacts of LfP through household-level and municipal-level data, coupled with statistical matching to select the comparison group. The IE is complemented by a pre-post qualitative data analysis based on document reviews, interviews, and group discussions to better understand mechanisms for observed impacts or reasons for no impacts and to assess broader implications of the LfP activity.

The IE is designed to estimate impacts of LfP on various outcomes of interest measured as the difference between outcome levels for beneficiaries and the counterfactual condition, which represents outcome levels of the same beneficiaries had the intervention not taken place. Because it is impossible to observe outcome levels for beneficiaries without the intervention once the intervention has been implemented, the IE design approximates the counterfactual scenario by using a closely-matched group of non-beneficiaries, whose observed characteristics are largely similar to those of the beneficiaries at baseline—the comparison group. The evaluation team constructed this comparison group using a three-step statistical matching technique that is summarized below. See Annex B for additional technical details.

### THREE-STEP STATISTICAL MATCHING

The evaluation team implemented a three-step process for identifying the comparison group—a municipal-level matching in the first step, a community-level matching in the second step, and a household-level matching in the final step. The team used genetic matching (Diamond and Sekhon, 2013) at municipality and community levels to optimize the balance between the LfP and the comparison group across a set of key variables. The IE analysis that will be conducted at endline is designed to also use entropy balancing at the household level, to improve covariate balance between the treatment and comparison groups.

We conduct statistical matching at the municipality level, to take account of municipal-level effects and to increase the cost-effectiveness of the IE data collection by limiting the comparison group to a single comparison municipality for each of the 10 LfP pilot municipalities. The evaluation team used 34 municipal-level variables, including variables that were considered by LfP in selecting the pilot municipalities, variables we hypothesize may be impacted by LfP, and other variables that are related to the treatment and may be important in shaping potential outcomes, to the extent that the data or reasonable proxies were available.

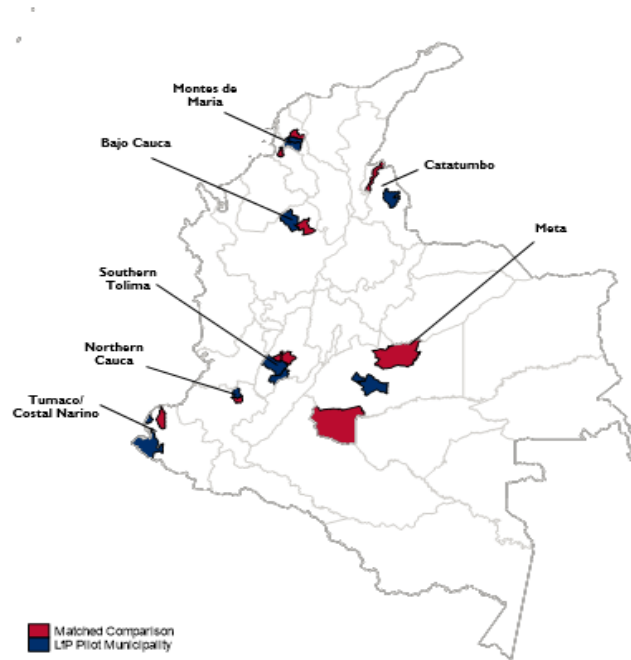
We implement the second step for two reasons: (1) while the parcel sweep is conducted for the entire municipality, the final phase involving dispute resolution and document preparation for the titling process will be implemented on a community-by-community basis. This implies that there is likely to be greater variability across communities within a given municipality in terms of household outcomes and that there will be variations in implementation timing across communities within municipalities; and (2) community-level matching provides greater statistical power because there are more communities than municipalities. The evaluation team first divided each LfP municipality into rural and urban communities (*veredas* and *centros poblados*), as defined by IGAC<sup>31</sup>. Together, these communities comprised the totality of each municipality, except for the municipal seat (i.e., the town or small city where the municipal government is headquartered, and which is generally much larger than any other community in the municipality). The team then used a stratified probability proportional to size sampling design to select 10 communities from each LfP municipality, for a total of 100 selected communities. The team then employed a genetic-matching

<sup>31</sup> Note that IGAC's definitions of communities are different from those from DANE, which also maintains maps of communities within municipalities.

process to match each LfP municipality to a comparison municipality located in the same microregion. This resulted in a final selection of 200 communities for household-level data collection.

Figure 2 shows a map of the LfP and the matched-comparison municipalities. The locations of the ten LfP municipalities are shown in blue, while the ten matched comparison municipalities are shown in red, and the map labels each of the seven microregions.

**FIGURE 2: MAP OF LFP AND COMPARISON MUNICIPALITIES**



The final matching step is conducted on the baseline data after the survey data collection and cleaning have been completed. In this step, Entropy Balancing is used to re-weight household observations in comparison municipalities and improve the statistical balance with household observations in LfP municipalities across a set of key household context characteristics at baseline, such as whether the household has agricultural activities, number of children and adults in the household, whether the household head identifies as a member of a racial minority group, sex of the household head, whether the household head lives with a spouse or domestic partner, household head age, and household head education, along with pre-treatment indicator values. We undertake this final statistical matching step to further improve the similarity of the LfP and the comparison group sample across important characteristics and enhance our future ability to make inferences about the impacts of the LfP intervention on households. We present further details on the household-level Entropy Balancing in the Balance and Power chapter in the main body of the report.

## BASELINE DATA COLLECTION

### HOUSEHOLD QUANTITATIVE SAMPLE

Household survey data collection at baseline took place during April 6 – June 17, 2021. The household survey sample for the evaluation was designed to consist of 15 households per community across 10 communities per municipality, for a total sample of 150 households per municipality or 3,000 total households.

The evaluation team selected the targeted sample of 3,000 households from across the 200 matched LfP and comparison group communities using a modified random sampling process. Although two separate GoC institutions, DANE and IGAC, maintain maps of communities within municipalities, the IE used those from IGAC for better alignment with how LfP is implemented. The process used slightly different procedures for sampling households depending on whether the selected community was a rural *vereda* (analogous to an unincorporated rural community in the United States) or an urban *centro poblado* (analogous to a town), considering the feasibility and cost of data collection. For *centros poblados*, communities were divided by census blocks using data from DANE<sup>32</sup>. Three blocks per *centro poblado* were selected at random, enumerators then listed dwellings in selected census blocks, and then randomly selected seven dwellings per block. The anticipation was that approximately 30 percent of selected dwellings would be uninhabited, uncooperative, or unreachable, and would yield a final sample of 15 successfully surveyed households per community, on average. For *veredas*, a GIS team divided the community into segments using satellite imagery such that each *vereda* segment contained approximately 10 building structures and that building structures were located within relatively close proximity of each other to facilitate fieldwork. Three *vereda* segments were then randomly selected, and enumerators attempted interviews at all building structures found to be dwellings once in the field.<sup>33</sup> The anticipation was that approximately 50 percent of structures would be found not to be dwellings, uninhabited dwellings, or dwellings with unresponsive or uncooperative households, and would yield a final sample of 15 successfully surveyed households per community, on average.

The final sample consisted of 2,965 households across 192 communities, with 51 percent of the households belonging to the LfP intervention group (Figure 3). The final sample size is smaller than the planned sample size because data collection in eight communities, all located in comparison municipalities, could not be completed, either because of security reasons or because of inaccessibility. Three of these communities were located in La Macarena, four in Convención, and one in Olaya Herrera.<sup>34</sup>

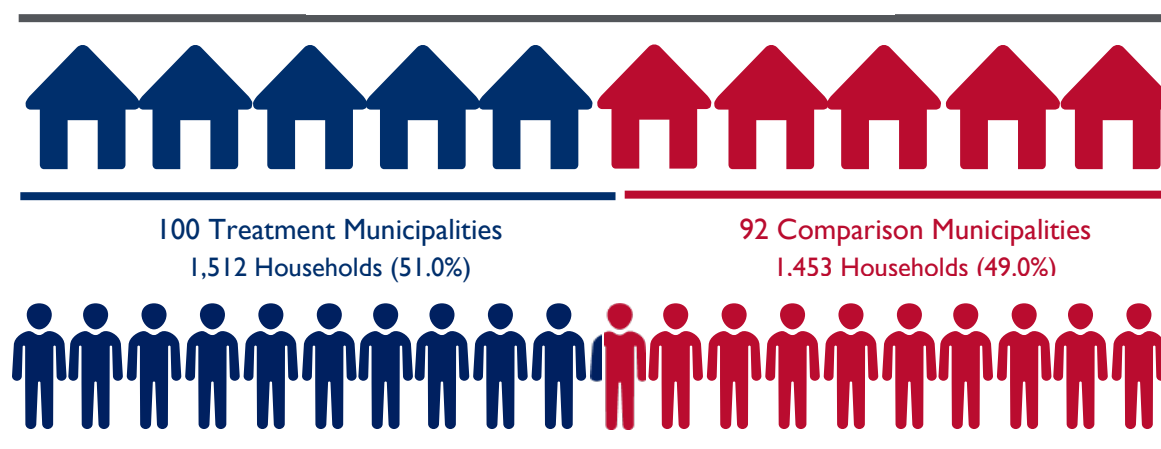
<sup>32</sup> Although the IE uses the IGAC definition of communities, we used the DANE census blocks because the Colombian census is carried out by DANE using their own definition of communities. For more details on the sampling process, please see Annex C.

<sup>33</sup> Distance between households and difficult road access made it impossible to do a listing of the entire community, or to have larger segments that would be listed and used to randomly sample households. Additionally, listing was not recommended due to security risks, as the process of going door to door listing households is similar to activities historically done by armed groups.

<sup>34</sup> In La Macarena, the enumerator team faced an increasingly difficult security situation. Armed groups were enforcing a general strike, and a land restitution team in a neighboring municipality had just gone missing (and tragically, later was found murdered). The team in La Macarena decided to abandon activities after completing seven communities, with NORC's full support. In Convención, the team arrived to find that approximately 80 percent of the municipality was a red zone, with guerrilla activity and illicit crops. While many areas were considered no-go areas, the team worked with local leaders to obtain access. After completing six communities, access to the remaining communities was not forthcoming, while protests around a proposed tax reform were getting increasingly worse, and the threat of roadblocks could have prevented them from leaving the municipality indefinitely unless they left immediately; again, NORC fully supported their decision. In Olaya Herrera, one sampled community was found to be abandoned. Olaya Herrera is an extremely isolated municipality whose main access is via boat over the ocean from Tumaco. By the time a replacement community could be selected and communicated to the team, they had already left the municipality and it was not feasible to return.

**FIGURE 3: BASELINE SAMPLE**

Total Baseline Sample N = 2,965 Households

**QUALITATIVE SAMPLE**

Qualitative data collection took place between July 8 and August 11, 2021 after the quantitative data collection had already ended. A qualitative training session was held with a group of potential enumerators in May, but actual fieldwork had to be postponed when a participant tested positive for COVID-19 shortly after the training. By the time enumerators had completed their mandatory quarantine, the situation around the national protests had reached a level where it was not possible to get teams into the field until July. Three types of qualitative data collection activities were conducted: Group Discussions (GDs) with community members, Group Key Informant Interviews (KII) with community leaders, and KIIs with national government officials. Table 4 provides a breakdown of how these activities were conducted.



Group Discussion in an LFP community  
PHOTO BY SEI

For GDs, communities were selected by the evaluation team. First, the team purposefully selected five treatment and five comparison municipalities to provide broad representation across the different regions in the study, while also trying to include as many known coca-producing municipalities as possible. Treatment municipalities included Cáceres, Fuente de Oro, Tumaco, San Jacinto, and Sardinata. Comparison municipalities included Convención, La Macarena, Olaya Herrera, San Juan Nepomuceno, and Zaragoza. The team then randomly selected two communities per municipality. This resulted in a total of 13 veredas and 7 centros poblados.<sup>35</sup>

<sup>35</sup> During data collection, the qualitative team in La Macarena encountered security problems similar to those encountered by the quantitative team, and were only able to complete one GD and one Group KII. The IE team selected a replacement community from the municipality of Caldonio by reviewing the quantitative data and selecting a municipality where respondents reported coca growing.



GDs were conducted with a total of 151 participants, of which 71 were female and 80 were male. Participants in each GD sought to include a range of age and ethnic minority groups. The GDs utilized semi-structured instruments and were conducted by a moderator, with assistance from a notetaker (see Annex D for instrument). Group KIs included a total of 75 participants, of which 30 were female and 45 were male. Again, the groups were selected to include women, and a range of age and ethnic minority groups. Group KIs used the same instruments as the GDs, and were conducted by a moderator, with assistance from a notetaker. A total of six KIs were conducted with government officials; potential participants were recommended by LfP, and NORC's local data collection partner, SEI, conducted outreach to obtain their cooperation. All GDs and KIs were conducted in Spanish.

**TABLE 4: QUALITATIVE DATA COLLECTION SUMMARY**

TYPE	PARTICIPANTS	NUMBER OF INTERVIEWS CONDUCTED	DESCRIPTION
Group Discussions (GDs)	6-10 community members from a single community	<ul style="list-style-type: none"> <li>2 communities per municipality in 5 treatment municipalities for a total of 10 treatment GDs;</li> <li>2 communities per municipality 5 comparison municipalities for a total of 10 comparison GDs.</li> </ul>	<ul style="list-style-type: none"> <li>Multiple people participating in an open, semi-structured discussion facilitated by a moderator;</li> <li>Structured to cover specific questions and topics, but the conversation is allowed to flow naturally;</li> <li>Participants purposefully selected to include women, youth, and ethnic minorities;</li> <li>Purpose is to gain an in-depth understanding of selected communities.</li> </ul>
Group KIs	4-6 community leaders from different communities in a municipality	<ul style="list-style-type: none"> <li>20 (1 in each of the 10 treatment and 10 comparison municipalities)</li> </ul>	<ul style="list-style-type: none"> <li>Multiple community leaders interviewed at once;</li> <li>Semi-structured interviews, led by an interviewer;</li> <li>Participants purposefully selected to include leaders who are women, youth, and from ethnic minorities;</li> <li>Purpose is to gain an in-depth understanding of the municipality through the experience of different communities, according to their leaders.</li> </ul>
KIs	One-on-one interviews with officials from the ANT, URT, and PNIS	<ul style="list-style-type: none"> <li>1 ANT interview;</li> <li>1 URT interview;</li> <li>4 PNIS interviews (1 each with officials from Cáceres, La Macarena, Sardinata, and Cauca).</li> </ul>	<ul style="list-style-type: none"> <li>One person interviewed at a time</li> <li>Semi-structured interviews, led by an interviewer;</li> <li>Purpose is to describe how an entity operates, its interactions with LfP, and potential chokepoints in the program TOC.</li> </ul>

## HOUSEHOLD SURVEY

The household survey used at baseline consisted of 14 modules, as listed in Table 5. The survey was administered to the household head or another household member knowledgeable about the household's land and productive activities (see Annex E for the full household survey instrument).

**TABLE 5: HOUSEHOLD SURVEY MODULES**

SECTION	COVERAGE	KEY NOTES
A	Household identification and consent	n/a
B	Respondent and household information	n/a
C	Household assets and wellbeing	n/a
D	General agricultural production	Includes a roster of the household's three most important crops/animal species that is only administered to farming households.
E	Plot roster	Module administered once for each plot the household controls.
F	General tenure security and land rights	n/a
G	Land conflict/restitution	Only administered if the household had at least one conflict in the past 12 months.
H	Participation in alternative development programs	n/a
I	Land market activity and local service delivery	n/a
J	Non-farm income generating activities	Only administered if anyone in the household operates a non-farm income generating. Activity.
K	Credit	n/a
L	Food security	n/a
M	Wives' module	Administered separately to the principal male and female decisionmakers.
N	Survey conclusion	Collected information for future follow-up surveys.

**CHALLENGES ENCOUNTERED DURING DATA COLLECTION**

Data collection itself occurred under extremely challenging conditions in the field. Both the planning and the fieldwork for the baseline data collection coincided with the COVID-19 pandemic. The evaluation team followed a strict protocol to reduce the risk of COVID spread including, remote enumerator training with trainees gathered in smaller groups in multiple locations, specific training for enumerators on personal safety and social distancing, and provision of masks, sanitizer, and alcohol wipes to each enumerator. Team supervisors also contacted local officials before visiting each municipality and community to ensure teams could comply with any specific local COVID protocols. Nonetheless, the COVID-19 pandemic created delays in fieldwork, and logistical challenges as enumerator teams navigated travel restrictions and local health protocols. Qualitative data collection, originally intended to coincide with the household survey, had to be delayed after an interviewer tested positive for COVID shortly after the qualitative training, requiring a two-week quarantine for all training participants as per our protocol.

Added to this was large-scale social and political unrest throughout the country beginning in late April, shortly after the start of data collection, in response to a tax reform proposal put forward by the national government. There were roadblocks that inhibited intermunicipal travel and forced teams to reroute, gasoline shortages, reduced availability among the community leaders who grant fieldwork permissions, and general strikes and stay-at-home orders enforced by illegal armed groups. Further complicating matters was a general deterioration of security conditions throughout the country, which made some data collection areas off-limits and further complicated access to community leaders (who are often the targets of violence).

A final challenge came from the weather for the municipalities in Meta, in particular in Puerto Lopez. Recent flooding had left some communities mostly abandoned and required several to be replaced.

## BASELINE SAMPLE CHARACTERISTICS

The baseline sample was stratified by urban or rural classification of the communities. In Colombia, these are known as *centros poblados* (small towns) and *veredas* (unincorporated rural communities). Among sampled treatment community households, 24.5 percent of the sample is in *centros poblados*, while 75.5 percent is in *veredas*; this compares to 25 percent of the sample in *centros poblados* and 75 percent in *veredas* among the comparison sample (Figure 4). The average household in treatment communities has 3.7 members, compared to 3.8 among households in the comparison sample (Figure 5). Throughout the report, differences between the treatment and comparison group sample obtained on the unmatched sample are provided for informational purposes, but are not a concern for the validity of the IE (see additional discussion in the Balance and Power section).

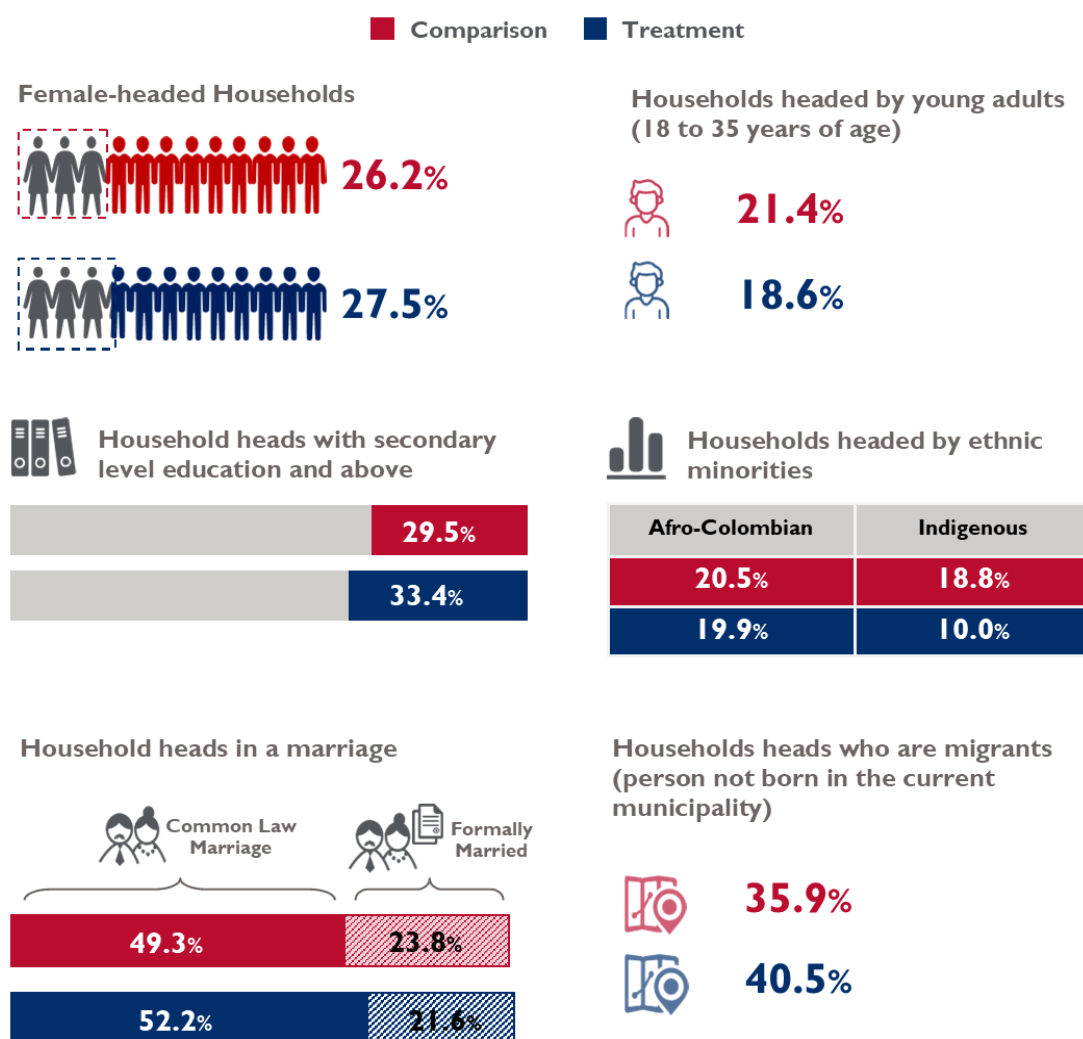
**FIGURE 4: URBAN (CENTROS POBLADO) VS. RURAL (VEREDA) SPLIT OF SAMPLE**



**FIGURE 5: AVERAGE HOUSEHOLD SIZE AT BASELINE**



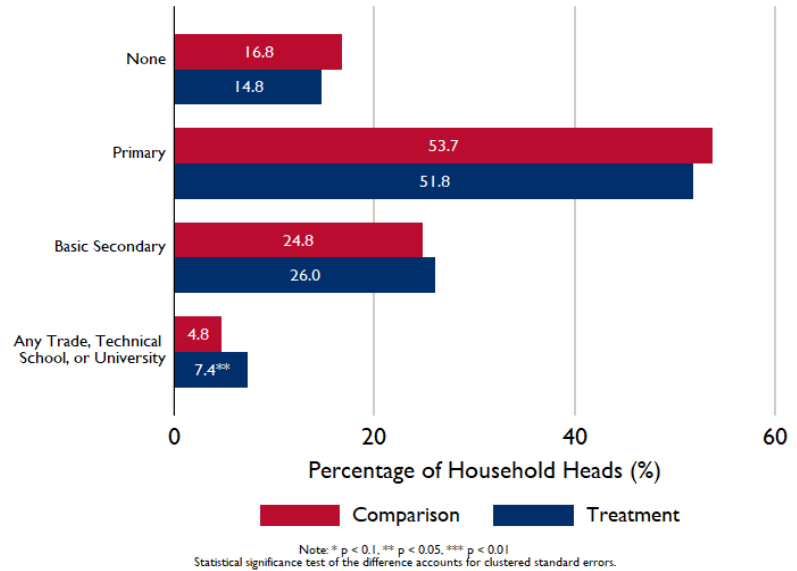
Figure 6 presents the basic demographic characteristics of the sampled households at baseline. In both treatment and comparison community households, the majority were headed by males. Just above a quarter—27.5 percent of households in the treatment communities and 26.2 percent in the comparison communities—were female-headed households. The majority of the households were also headed by older members—18.6 percent of the households in the treatment communities and 21.4 percent in the comparison communities were headed by young adults who were aged between 18 and 35 years. In terms of marital status, 52.2 percent of sampled household heads in treatment communities were in a common law marriage and 21.6 percent were formally married. The numbers were similar for household heads in comparison communities. A large share of the household heads—40.5 percent in the treatment communities and 35.9 percent in the comparison communities—were migrants, who were not born in the municipality they currently live in. None of the differences in basic demographic characteristics between the treatment and comparison communities in Figure 6 were statistically significant.

**FIGURE 6: BASELINE SAMPLE DEMOGRAPHICS**

Level of education among household heads was low. About a third of the household heads—33.4 percent of treatment community household heads and 29.5 percent of comparison community household heads had secondary level education or higher. The baseline sample was also represented by ethnic minorities: 19.9 percent and 10 percent Afro-Colombian and indigenous household heads, respectively, among those in treatment communities. The corresponding numbers for the comparison communities were 20.5 percent and 18.8 percent.

Figure 7 provides a breakdown of education levels of heads among sampled households in treatment communities: 14.8 percent of household heads had no education, 51.8 percent said their highest level of education was at the primary level (kindergarten through first grade), 26.0 percent said their highest level of education was at the secondary level, and 7.4 percent said they had any higher education. In general, household heads in comparison communities had similar levels of education to those in treatment communities, with the percentage who had any higher education representing the only statistically significant difference.

**FIGURE 7: EDUCATION LEVEL OF HOUSEHOLD HEADS**



**FIGURE 8: ETHNIC IDENTITY OF HOUSEHOLD HEADS**

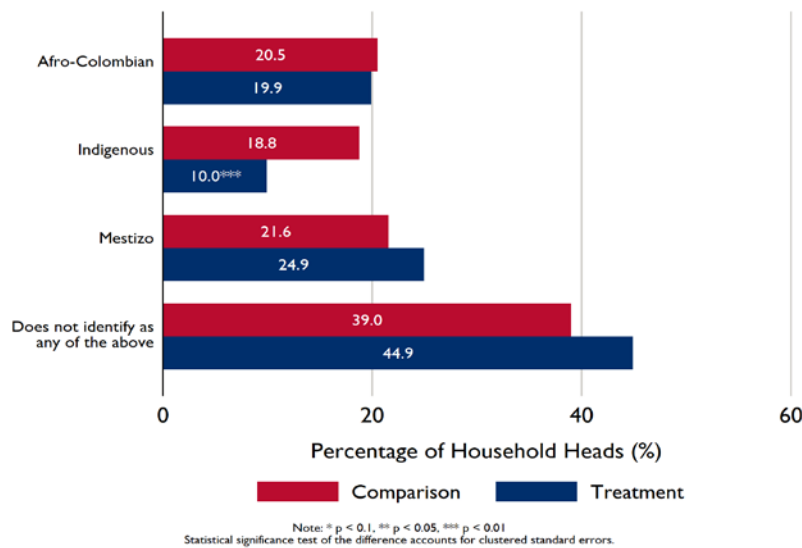
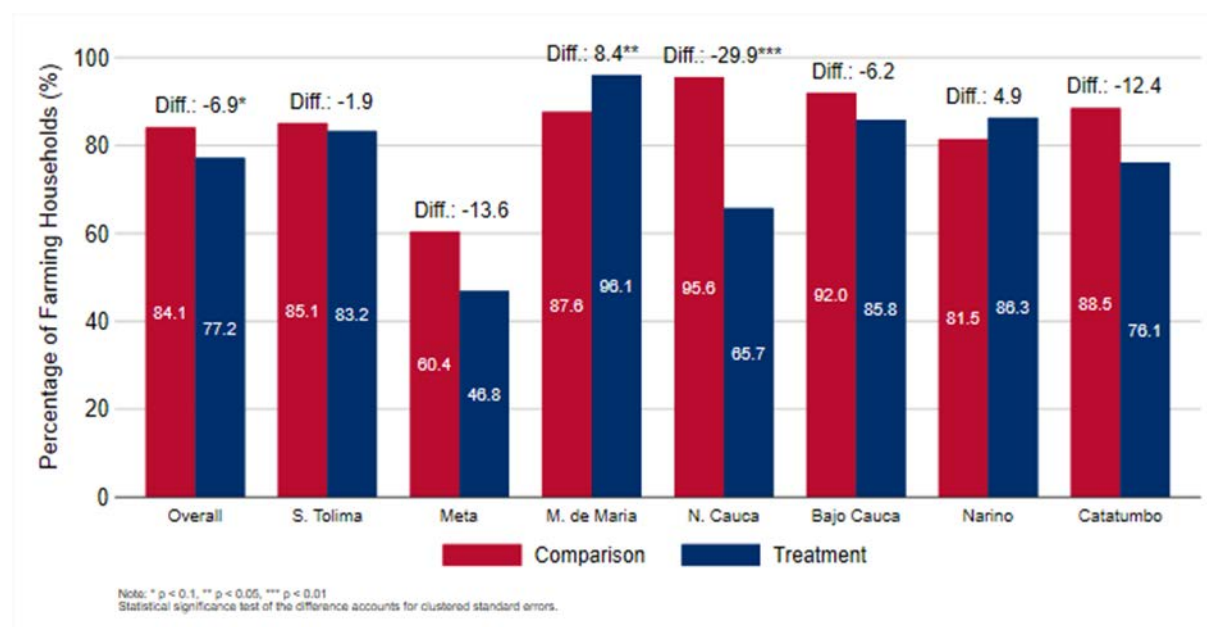


Figure 8 presents details regarding ethnic identity of the baseline sample. Among sampled households in treatment communities, 19.9 percent identify as Afro-Colombian, compared to 20.5 percent of sampled comparison community households. As expected, Afro-Colombian households are largely concentrated in the Nariño (along the Pacific coast) and Montes de Maria regions, and to a somewhat lesser extent in Northern Cauca. Ten percent of households in the treatment community sample identify as indigenous, compared to 18.8

percent of sampled comparison community households, a difference that is statistically significant. Indigenous households in the sample are largely concentrated in Southern Tolima, Montes de Maria, and Northern Cauca. Among the treatment community sample, 24.9 percent identify as mestizo, a fluid category that describes people of mixed ancestry, while 44.9 percent do not identify with any of the listed racial or ethnic groups (which may include white Colombians or Colombians of mixed ancestry who do not necessarily identify as mestizo).

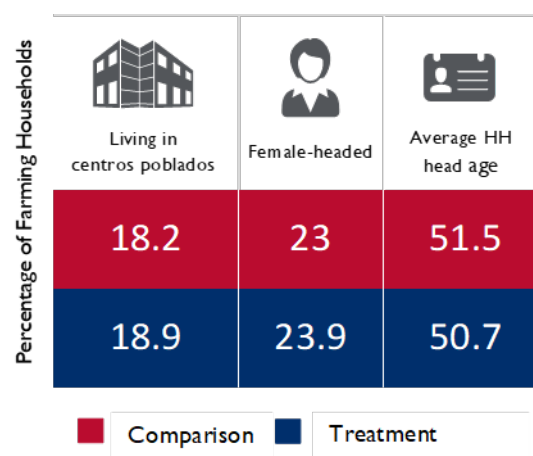
Finally, we look at households among the baseline sample who were engaged in agriculture, defined as conducting any agriculture or livestock activities on any plots controlled by the household. Across all sampled households in the treatment communities, 77.2 percent were engaged in agriculture. This was slightly less than the 84.1 percent of households engaged in agriculture among the comparison community sample, a difference that is statistically significant (Figure 9). We also see some regional variation; in particular, Meta has a lower percentage of both treatment and comparison community households engaged in agriculture than other regions, likely due to specific characteristics including the importance of the petroleum sector and the extreme inequality in the distribution of landholdings, which leads more households to rely on wage labor as their primary source of income.

**FIGURE 9: HOUSEHOLDS WITH FARMING ACTIVITIES, BY REGION**



For households engaged in agriculture in treatment communities, 81.1 percent live in *veredas* and 18.9 percent live in *centros poblados*; the corresponding numbers for comparison communities are 81.8 percent and 18.2 percent, respectively (Figure 10). Among these farming households, 23.9 percent of those in treatment communities were headed by a female, compared to 23 percent in comparison communities. The average age for heads of farming households is similar to that seen previously for all households; average age of the head of a farming household is 50.7 years in treatment communities and 51.5 in comparison communities. There was no statistically significant difference in these characteristics between agricultural households in treatment and comparison communities.

**FIGURE 10: DEMOGRAPHICS OF FARMING HOUSEHOLDS**

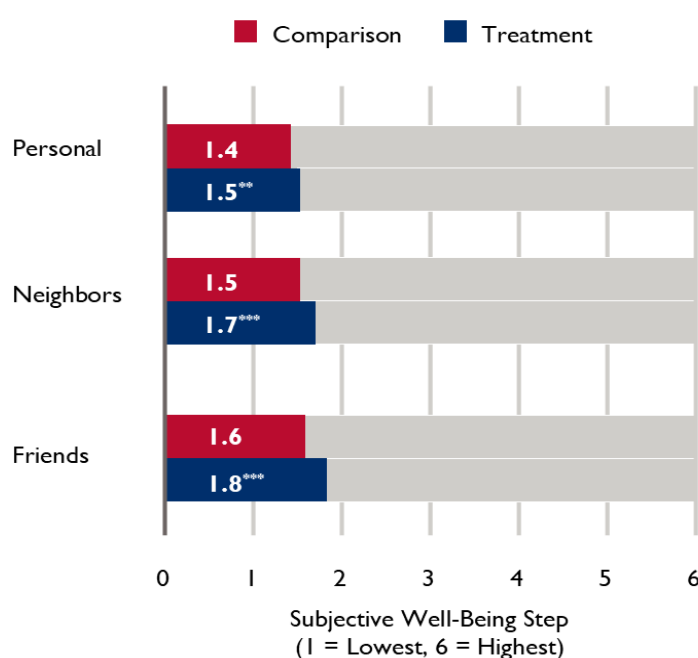


## FINDINGS I: HOUSEHOLD WELL-BEING, FOOD SECURITY, AND POVERTY

### LIVELIHOODS

To measure subjective well-being, the household survey asked respondents to imagine a ladder with six steps, where the poorest were at the bottom and the richest were at the top. It then asked respondents where they, their neighbors, and their friends stood on that ladder at the time of the interview. On average, households in treatment communities said they stood on step 1.5, their neighbors were on step 1.7, and their friends were on step 1.8. For each of these three categories, sampled comparison community households averaged just slightly lower, though the differences were always statistically significant (Figure 11).

**FIGURE 11: HOUSEHOLD SUBJECTIVE WELL BEING**



Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$   
 Statistical significance test of the difference accounts for clustered standard errors.

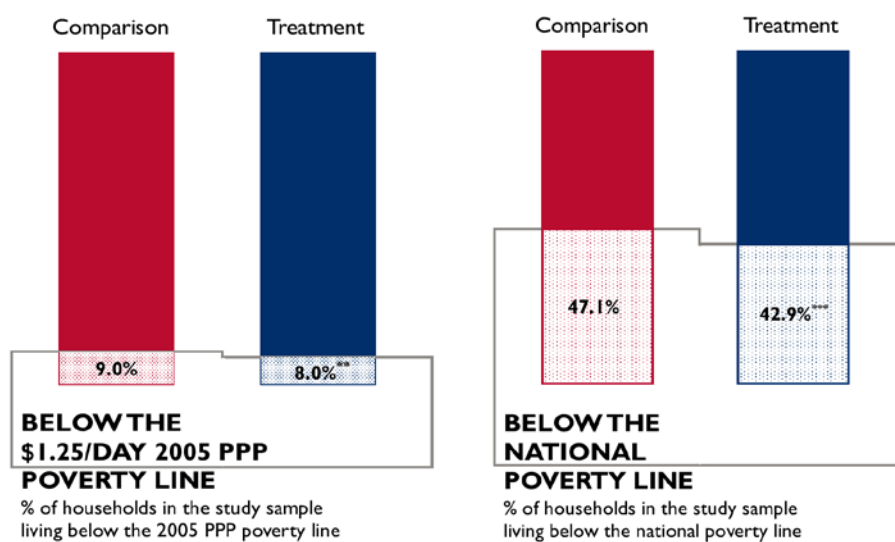
We also measure poverty objectively using the Poverty Probability Index (PPI), which assigns each household a likelihood of falling below the poverty line based on certain household characteristics and asset ownership.<sup>36</sup> We consider two different poverty lines: Colombia's 2016 national poverty line,<sup>37</sup> and the more extreme \$1.25 US Dollars (USD) per day 2005 Purchasing Power Parity international poverty line. Figure 12 presents the poverty rates in the baseline sample. When the national poverty line is considered, 42.9 percent of treatment community households and 47.1 percent of sampled comparison community households are below the national poverty line.

When the more extreme poverty line of \$1.25 per day is considered, poverty rates in our baseline sample are much lower at 8.0 percent for treatment community households and 9.0 percent for sampled comparison community households. The differences in poverty rates between the treatment and comparison groups for both measures were statistically significant.

<sup>36</sup> The PPI is developed by the Innovations for Poverty Action at Yale University. The PPI is based on 10 questions related to household characteristics and asset ownership, such as number of household members, having all children aged 6-12 enrolled in school, or owning clothes washing machine. Responses are scored and then totaled to generate an index for each household, and each point on the index corresponds to a pre-determined likelihood that the household with that score would fall below the poverty line. The Colombia user guide describes that the poverty line is "adjusted by a spatial price index, so that it is possible to compare...between regions or rural and urban areas." For more information, see: <https://www.povertyindex.org/country/colombia>

<sup>37</sup> PPI documentation for Colombia states that probability of poverty at the national poverty was calculated using the 2016 poverty line of COP\$8,556 per person per day, equal to COP\$10,087 per day after accounting for inflation. This is equal to approximately \$2.73 USD per person per day, using the 2020 average exchange rate of \$1 USD = \$3,691.3 COP. For more information, see: <https://www.povertyindex.org/country/colombia>










**FIGURE 12: BASELINE POVERTY RATES**

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Statistical significance test of the difference accounts for clustered standard errors.

To explore the high poverty rates further, we examined the main income sources of households in Figure 13. Wage employment and crop cultivation make up the main income sources for most households in both the treatment and comparison groups. Among sampled households in treatment communities, crop cultivation was the main income source for 39.2 percent, and wage employment was the main income source for another 39.2 percent; there was no statistically significant differences between the treatment and the comparison community households on these two dimensions. The other common main sources of income were commercial businesses, livestock, transfers (from government assistance programs or from family members outside the household), and real estate.

**FIGURE 13: MOST IMPORTANT SOURCE OF INCOME**

	 Crops	 Livestock	 Commercial Business	 Wages	 Real Estate	 Transfers	 Other
Percentage of Households	38.4	5.4	4.7	43.9	0.5	5.8	1.2
	39.2	7.8	7.9	39.2	1.0	3.7	1.2
Diff	0.8	2.4	3.3**	-4.7	0.5	-2.1**	<-0.1

■ Comparison    ■ Treatment

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Statistical significance test of the difference accounts for clustered standard errors.

The high percentage of households earning their main income from wages are not necessarily employed in the private sector. In response to questions related to private sector employment (which we used to construct the PPI), only 16.6 percent of the households in the treatment communities mentioned that they have at least one household member employed by a private company at the time of the interview. The corresponding number for households in the comparison communities was 10.9 percent.<sup>38</sup> In qualitative discussions, respondents mentioned the lack of formal private sector employment, and frequently mentioned that many people in their communities relied on informal daily wage labor, often working on local farms. As has already been alluded to and will become a theme throughout this report, the distribution of land in many areas is highly unequal, leaving many households without any access to agricultural land or with only a very small amount of land that is insufficient to make a living from.

Also, it is clear from both the quantitative and qualitative data that the significant diversity across the seven regions in the study also correlates to the variation in main income source across regions. From the qualitative data, agriculture, cattle ranching, and day labor are mentioned as primary sources in the Montes de Maria region; ranching, illicit crops, coffee and cacao, mining, and day labor are mentioned in Catatumbo; coffee, cacao, and ranching are mentioned in Southern Tolima; agriculture, mining, day labor, and informal employment are mentioned in Bajo Cauca; cacao, palm, illicit crops, fishing, and logging are mentioned in Tumaco and Olaya Herrera; ranching and farming are mentioned in Meta; and agriculture, including both licit and illicit crops, are mentioned in Northern Cauca. In some cases, group discussion participants mentioned environmental factors that have harmed productivity and led to shifts in activities. For example, multiple participants in Southern Tolima mentioned that climate change has led to a decline in cacao productivity and a shift away from this crop, while respondents in Tumaco mentioned that polluted waters meant they could no longer make a living from fishing, and in Olaya

<sup>38</sup> The difference between the two groups is statistically significant. Also, 9.7 percent of the households in the treatment communities had at least one member with a written employment contract and 8.3 percent had at least one member who was a boss or employer. The corresponding numbers for households in the comparison communities was 6.2 percent and 6.3 percent, respectively. The difference between the two groups for having at least one household member with a written contract is statistically significant.

Herrera overlogging in the past has led to a decline in that activity today.

## ACCESS TO CREDIT

With crop cultivation and informal daily wage labor being the main income source, it is not surprising that 25.8 percent of sampled households in treatment communities said they had a need for credit during the 12 months prior to the survey, and 17.2 percent said they received credit from a source outside of the household over the same period (Table 6). These figures represent statistically significant differences from sampled comparison community households, who reported both lower need for credit (19.6 percent) and actual receipt of credit (13.9 percent). On the other hand, 5.8 percent of all sampled households in treatment communities said they had wanted credit over the past 12 months, but were unable to obtain it, while a similar figure (5.3 percent) reported the same among the comparison group.<sup>39</sup> The average household in treatment communities borrowed \$1.5 million COP over the 12-month period prior to the survey, or approximately \$402.7 USD. Among treatment community households who actually obtained loans, the average amount borrowed was higher, at \$8.9 million COP, or approximately \$2,408.2 USD. The average amount borrowed was lower among comparison households, though the differences are not statistically significant (Table 6).

**TABLE 6: LOAN TAKE-UP AND SIZE OF LOAN**

Outcome	Overall		Treatment Households		Comparison Households		
	N	Mean	N	Mean	N	Mean	Diff
Had need for credit in the past 12 months (%)	2963	22.7	1510	25.8	1453	19.6	6.1 ***
Received credit (%)	2960	15.6	1510	17.2	1450	13.9	3.4 *
Wanted credit, but could not obtain it	2962	5.5	1509	5.8	1453	5.3	0.5
Amount borrowed (USD) - All HHs	2943	333.2	1501	402.7	1442	260.9	141.8
Amount borrowed (USD) - Only HHs who took a loan	444	2208.6	251	2408.2	193	1949.1	459.1

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

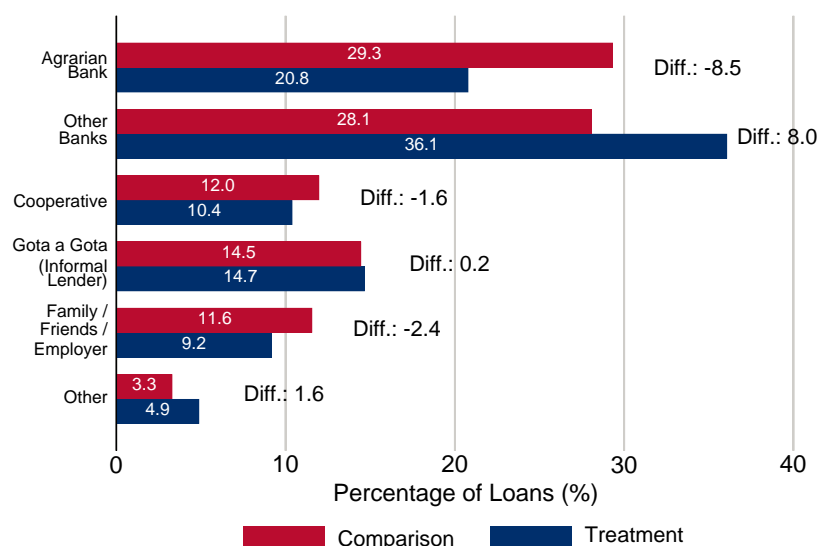
<sup>39</sup> Note that the survey logic on these questions was such that the total of households receiving credit and wanting credit but not being able to obtain it does not necessarily add up to the percentage who had need of credit. For example, a household could have received credit for one need, but then had another need for credit that they were unable to obtain financing for. Additionally, the household may have had a need for credit but did not make any attempt to obtain it, and thus may not have indicated that they were unable to obtain it.

Figure 14 presents the sources of loans for the sampled households. Of those who obtained loans, the most common sources were banks and cooperatives not including the Agrarian Bank (32.7 percent of all loans), the Agrarian Bank (24.4 percent of loans), informal lenders or loan sharks known as *gota a gota* lenders (14.6 percent of loans), and family or friends (9.2 percent). Differences between treatment and comparison community households in the prevalence of these loan sources, among those who took loans, were not statistically significant.

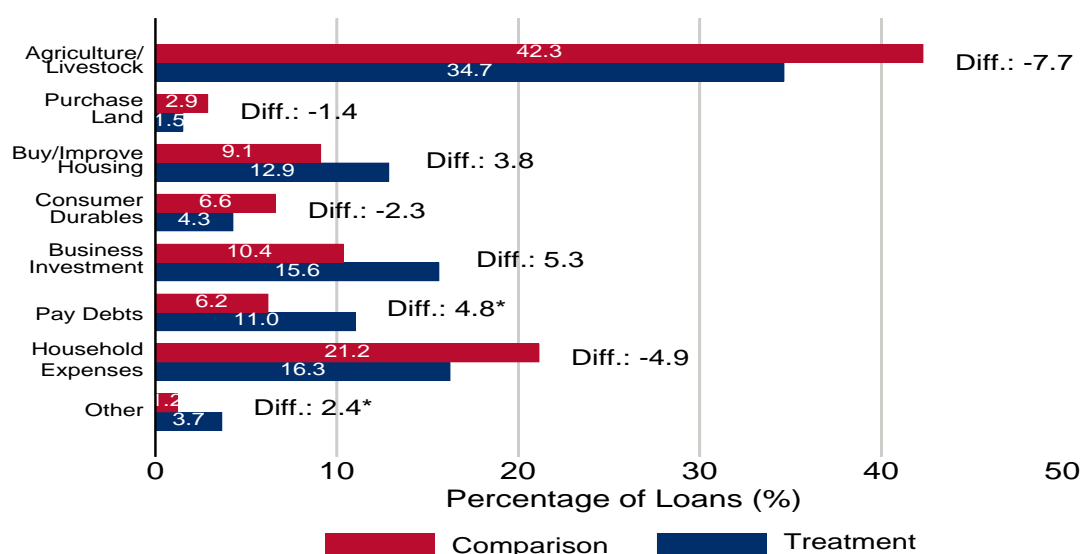
The *gota a gota* loan sharks are generally predatory lenders that lend amounts smaller than those typically provided by traditional banks; they charge high interest rates, sometimes resort to violence to ensure the loan is repaid, and are often affiliated with organized criminal groups. *Gota a gota* loans were particularly prevalent in the Montes de Maria region, accounting for about 42 percent of all loans there, and to a somewhat lesser extent in Tumaco and Sardinata, where they accounted for about 20 percent of all loans.

The most common uses for these loans were agriculture and livestock, including labor payments, purchase of inputs or machinery, post-harvest processing, and other agricultural services, followed by household expenses, including recreation, clothes, food, and health care, business investments, and buying or improving housing. Purchase of land accounted for only 1.5 percent of all loans among sampled households in treatment communities and 2.9 percent among those in comparison communities, with the difference not being statistically significant (Figure 15).

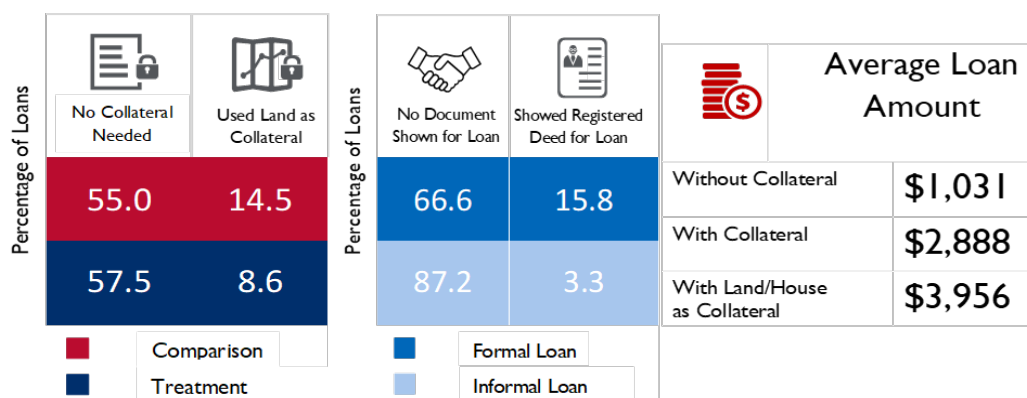
**FIGURE 14: LOAN SOURCE**



Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01  
Statistical significance test of the difference accounts for clustered standard errors.

**FIGURE 15: LOAN USE**

Notwithstanding the use of loan, most households did not need to provide any collateral for loans. As shown in Figure 16, for 57.5 percent of the loans taken by sampled households in treatment communities and for 55 percent of loans taken by comparison community households, no collateral was needed (difference not statistically significant). Land was provided as collateral for 8.6 percent of all loans among sampled treatment community households and for 14.5 percent of all loans among sampled households in comparison communities (difference not statistically significant). Respondents also reported not having to show a land document for 75.4 percent of loans obtained, including 66.6 percent of all loans obtained from formal sources and 87.2 percent of loans obtained from informal sources. Of those who needed to provide a land document, a registered title or deed was by far the most common document that was provided, accounting for 15.8 percent of loans from formal sources (or 42.5 percent of all loans where a land document was shown). However, loans where no collateral was provided were for substantially lower amounts; the average loan without collateral was for \$3.8 million COP (\$1,031 USD), versus \$10.7 million COP (\$2,888 USD) for loans with collateral. The average loan where land or a house or building was used as collateral was even higher at \$14.6 million COP (\$3,956 USD). These results support the theory of change assumption that providing households with a formal title to their land will likely improve their ability to access loans from formal banks and obtain larger loans for productive investments.

**FIGURE 16: LOAN COLLATERAL**

The qualitative data from group discussions and KII also shows that lack of collateral in the form of land titles is a major barrier to obtaining formal sector loans, and participants consistently mention easier access to credit as a main advantage of having a formal land title. As one community leader in Convención put it,

*“The challenge of not having [a legal title] for your land is that, well, many times you can’t access credit from the bank to improve the quality of life, to be able to work the land, because well...even though today there’s an alternative from the Agrarian Bank...if a person is the owner of the plot, even if you don’t have a legal title, they’re giving out some credit, but the amount is really low so a lot of times it’s not what the farmer needs.”* (Community Leader KII, Convención.)

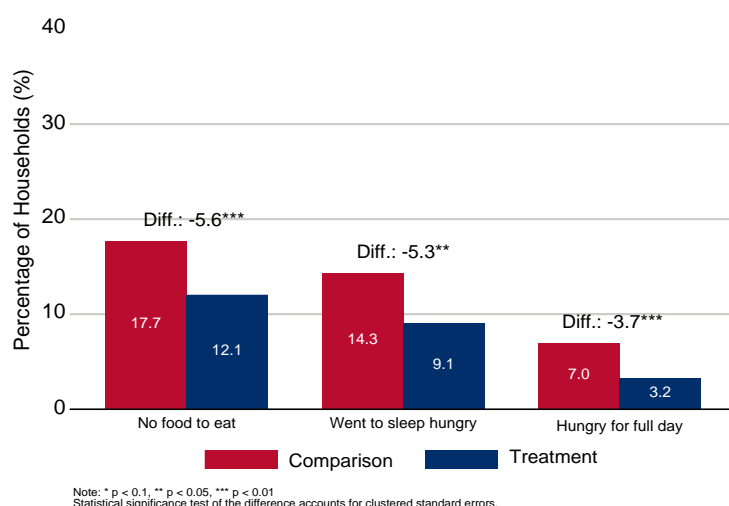
This suggests that the main benefit of a title is not simply access to credit, but rather access to higher quality credit, in the form of larger loans, formal financial sector credit sources, and lower interest rates. According to one female community leader for Tumaco:

*“Our community is really beaten down. There’s little economic activity because they government tore up our [coca] crops, and it hasn’t brought the projects [that it promised as alternative development programs]. And the people are in a [difficult] situation...because in reality, the main bank is the Banco Agrario, and it doesn’t want to give people loans...it’s not working with us like it should. And the other banks are day-to-day lenders – in reality they are got a got lenders and they’re sucking people dry, people are afraid to get involved in that because if you don’t pay, you’ve got a big problem coming.”* (Community Leader KII, Tumaco.)

At the same time, participants frequently described their distrust of the formal banking system, balked at the high interest rates charged by formal banks, and expressed fear that if they had a failed harvest they would still need to repay the loan and end up deeper in debt. This suggests additional barriers may need to be overcome to provide access to the formal credit sector.

## **FOOD SECURITY**

The household survey asked several questions related to food scarcity over the 30-day period prior to the interview, to generate a standard measure of food insecurity. In general, food scarcity is more prevalent among sampled comparison community households, who were 5.6 percentage points more likely to have no food in the homes at some point in 30 days before the interview, 5.3 percentage points more likely to have a member who went to bed hungry because of lack of food, and 3.7 percentage points more likely to have a member go a full day without eating anything at all due to lack of resources to get food. These differences are all statistically significant (Figure 17).

**FIGURE 17: PREVALENCE OF FOOD SCARCITY**

Using these responses, combined with additional responses about the frequency with which these three hunger situations occurred over the past four weeks (rarely, sometimes, or often), we calculated each household's score on the Household Hunger Scale (HHS<sup>40</sup>). The HHS is a food deprivation scale that measures the percent of households experiencing hunger. The scale takes values from 0 to 6, where 0-1 equates to little to no hunger, 2-3 denotes moderate hunger, and 4-6 corresponds to severe hunger.

The results presented in Table 7 shows that respondents tended to be at the lower end of the HHS, on average, though sampled comparison community households had a significantly higher degree of hunger than sampled households in treatment communities. Based on the HHS, the percentage of households that experienced moderate to severe hunger was 12.5 percent among sampled households in comparison communities and 7.7 percent among those in treatment communities, a difference that was statistically significant. An additional consideration with respect to hunger is that while levels of hunger are low overall, hunger is highly concentrated among a small group of municipalities. Among households in the Coastal Nariño region, 25.1 percent suffer from moderate or severe hunger, compared to 15.1 percent in Montes de Maria, 9.6 percent in Bajo Cauca, 5.9 percent in Southern Tolima, 4.6 percent in Meta, 3.6 percent in Catatumbo, and 2.9 percent in Northern Cauca.

**TABLE 7: HOUSEHOLDS WITH MODERATE TO SEVERE HUNGER**

Outcome	Overall		Treatment Households		Comparison Households		Diff.
	N	Pct.	N	Pct.	N	Pct.	
All regions	2958	10.0	1507	7.7	1451	12.5	-4.8 ***
Coastal Nariño	407	25.1	203	15.3	204	34.8	-19.5 ***
Montes de Maria	610	15.1	303	13.5	307	16.6	-3.1
Bajo Cauca	280	9.6	105	7.6	175	10.9	-3.2
Southern Tolima	592	5.9	298	6.0	294	5.8	0.3
Meta	456	4.6	269	4.1	187	5.3	-1.3
Catatumbo	302	3.6	154	4.5	148	2.7	1.8
Northern Cauca	311	2.9	175	0.0	136	6.6	-6.6 **

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

While levels of hunger are low, it is important to keep in mind that the levels seen here may be impacted in the near future by the COVID-19 pandemic and political unrest happening in Colombia at the time of data collection. In qualitative discussions, respondents mentioned that these factors had

<sup>40</sup> USAID, 2019. *USAID Food for Peace: Indicators for Emergency Program Performance Indicator Reference Sheets*. Washington, DC.



disrupted supply chains by interrupting transportation, and made food less accessible due to inflation. However, we expect any such effects on hunger to be uniform across treatment and comparison communities, thus this will not pose a concern for the impact evaluation's identification strategy.

## NON-FARM ACTIVITIES

Although most households rely heavily on agriculture, about 17.6 percent of sampled households in treatment communities and 15.6 percent of comparison community households operate a non-farm income generating activity (IGA), such as a small business, household-based enterprise, or informal-sector entrepreneurial activity (Table 8). Among all IGAs, 49.8 percent are located on the household premises, and most of the IGAs are newer—27 percent has been operating for 1 year or less and 58.3 percent has been operating for 5 years or less. In addition, only 55.1 percent of the IGAs operated year round in the 12 months preceding the survey (Table 8). These figures are likely impacted by the COVID-19 pandemic. As one focus group participant in Tumaco put it,

*“Of course business was affected [by the pandemic]. A lot of people were left without work because they had to close [their businesses] and a lot went out of business.”*

Events such as the pandemic also has implications for the households who operate IGAs, as only 4.7 percent of these activities are affiliated with a business association and cannot rely on an association's help. Also, 84.3 percent of the IGAs sell their products or services to the final consumers, likely in their local communities, implying that they are not part of any value chain and are not connected to larger consumer markets. This is one area where LFP's work under component 3 may improve outcomes related to household income and poverty.

**TABLE 8: NON-FARM INCOME GENERATING ACTIVITIES (IGAs)**

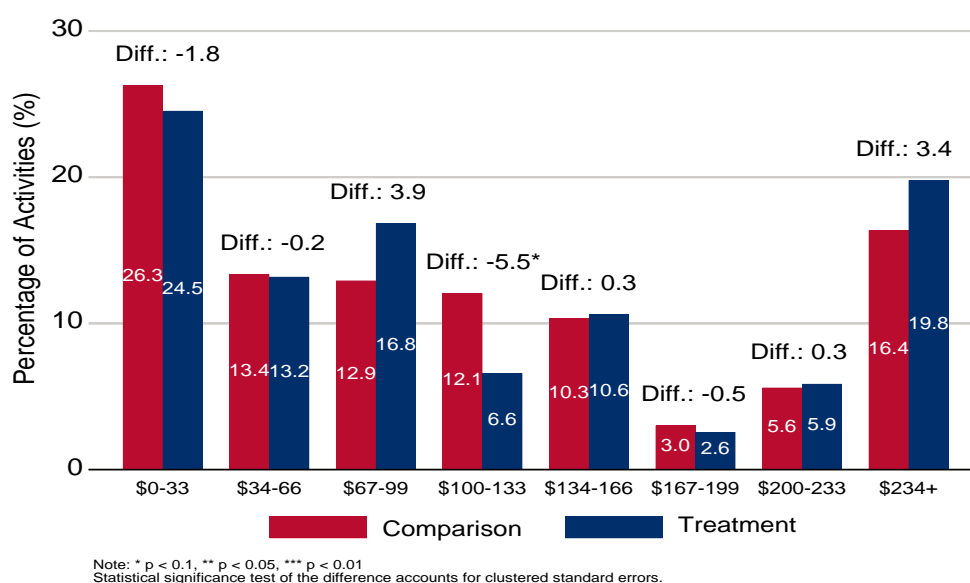
	Overall		Treatment Households		Comparison Households		
Outcome (over the past year)	N	Mean	N	Mean	N	Mean	Diff
Household engaged in non-agricultural IGA (% of households)	2961	16.6	1508	17.6	1453	15.6	2.1
IGA is located on household premise (% of IGAs)	532	49.8	243	50.9	289	48.6	2.3
IGA has been operating for 1 years or less (% of IGAs)	530	27.0	290	26.9	240	27.1	-0.2
IGA has been operating for 5 years or less (% of IGAs)	530	58.3	290	57.6	240	59.2	-1.6
IGA operated year-round in the past 12 months (% of IGAs)	532	55.1	288	54.2	244	56.2	-2.0
Sell products or services to final consumers (% of IGAs)	534	84.3	290	85.2	244	83.2	2.0
IGA affiliated with a business association (% of IGAs)	530	4.7	289	4.5	241	5.0	-0.5
Average monthly revenue from IGA (USD)	505	157.1	273	178.0	232	132.5	45.6

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

The average monthly revenue for the IGAs is \$157.1 USD (\$580,000 COP), including \$178.0 USD (\$657,000 COP) for activities carried out by households in treatment communities and \$132.5 USD (\$478,000 COP) for activities carried out by sampled comparison community households; this difference is not statistically significant. Figure 18 shows the percentages of treatment and comparison community household IGAs that generate revenues in different brackets. Among all activities, 53.7 percent bring in \$99 USD or less per month, 22.4 percent bring in \$100-199 USD, 5.7 percent bring in \$200-233 USD, and 18.2 percent bring in more than \$234 USD per month. This distribution is similar across sampled

households in treatment and comparison communities.

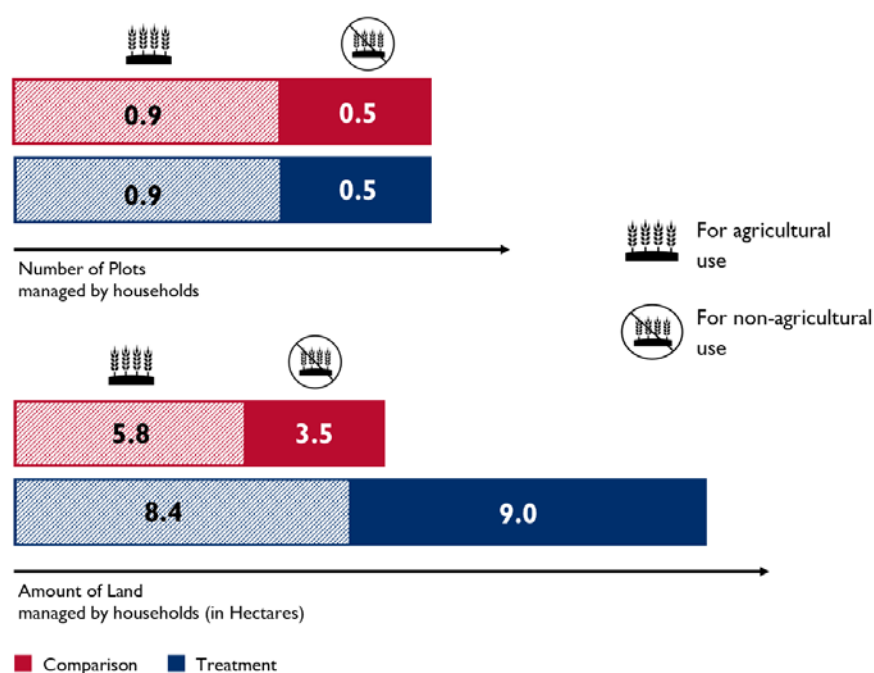
**FIGURE 18: INCOME FROM OFF-FARM INCOME GENERATING ACTIVITIES (IGAs)**



## FINDINGS 2: LAND USE AND AGRICULTURAL PRODUCTION

### LAND HOLDINGS

On average, sampled households in both treatment and comparison communities managed 1.4 plots under any tenancy regime, and used 0.9 plots for agricultural purposes (Figure 19). Across all plots managed by households under any tenancy regime, sampled households in treatment communities held an average of 17.4 hectares, versus 9.3 hectares for sampled comparison community households, though the difference is not statistically significant. Similarly, sampled households in treatment communities had an average of 8.4 hectares under agricultural use, compared to 5.8 hectares for sampled comparison community households, and again the difference is not statistically significant.

**FIGURE 19: NUMBER OF PLOTS AND AMOUNT OF LAND**

The average amount of land held and used for agriculture masks the highly unequal nature of land holdings in the survey regions, and the manner in which these inequalities favor those who already have formalized land titles. Despite the mean land holdings reported above, median land holdings are far lower; the median for total land holdings among sampled households in treatment is 1.5 hectares, and with a median of 1.0 hectares for land under agricultural use. Overall, 31.9 percent of all sampled households had less than 0.25 hectares, including 35.9 percent of those with no registered title to any plot, and 17.2 percent of those with at least one registered title<sup>41</sup>, representing a statistically significant difference (Table 9, row 1). Among all sampled households, 45.9 percent held one hectare or less (Table 9, rows 1-3), while 17.5 percent held more than ten hectares (Table 9, rows 7-8). This is confirmed in the qualitative data, where participants mentioned that the titling process was expensive, so land titles were more commonly held by wealthier, large landowners.

The issue of unequal land distributions came up frequently in the qualitative discussions with communities, with nearly every community mentioning that access to land was a significant problem for many families in the area, and that most people did not hold enough land to make a living from, while a small number of large landowners held the majority of the land. Qualitative discussions also highlighted that decades of armed conflict have made this problem worse, as many families sold their land for low prices during the worst years of the conflict, while others took advantage of the low prices to accumulate larger land holdings.

<sup>41</sup> Throughout this report, we compare households with no registered title to any plot and those with at least one registered title. For our purposes, "household with at least one registered title" is defined as households who say they have a land document for at least one plot owned by someone in the household, and where the household says that document is a registered title (*escritura pública*). Thus, the definition is based on household self-reporting of their tenure status.

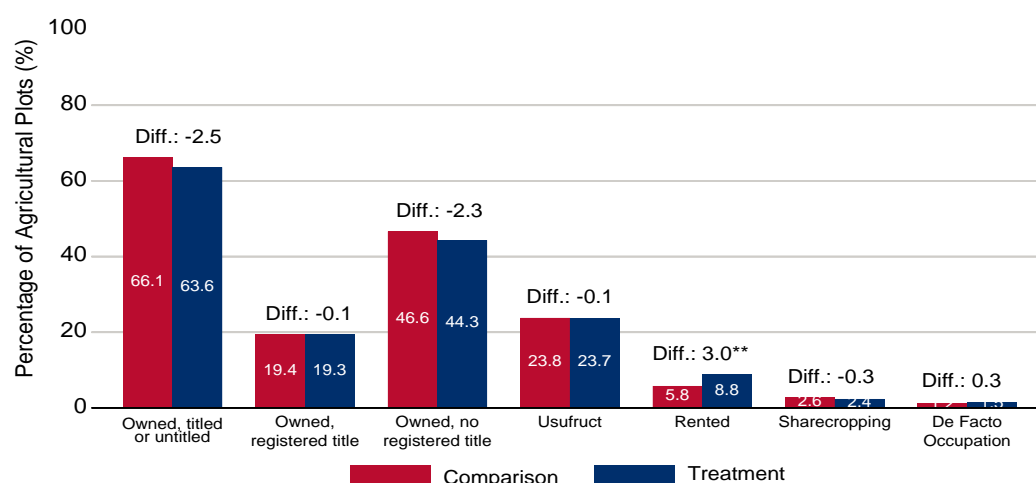
**TABLE 9: REGISTERED VS. NOT REGISTERED PLOTS BY LAND AMOUNT**

Total land held by household (ha)	Overall		Registered title to 1+ plot		No registered title to any plot		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
<0.25 ha	946	31.9	109	17.2	837	35.9	-18.6***
0.251-0.5	129	4.4	23	3.6	106	4.5	-0.9
0.51-1.0	286	9.6	33	5.2	253	10.8	-5.6***
1.1-3.0	572	19.3	86	13.6	486	20.8	-7.2***
3.1-5.0	225	7.6	66	10.4	159	6.8	3.6***
5.1-10.0	289	9.7	98	15.5	191	8.2	7.3***
10.1-20.0	220	7.4	91	14.4	129	5.5	8.9***
20.1 ha <	298	10.1	126	19.9	172	7.4	12.6***
Total	2965	100.0	632	100.0	2333	100.0	n/a

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Figure 20 shows the tenure status of agricultural plots in the study communities. Sampled households in treatment communities owned (whether titled or untitled) 63.6 percent of the plots they occupied for agricultural activities, compared to 66.1 percent of plots occupied by sampled comparison community households. However, households in treatment communities reported having formal, registered titles for only 19.3 percent of the plots; the corresponding number for sampled comparison community households was 19.4 percent. This suggests a large portion of plots lack a formal land title, and that a large portion of the households in the treatment communities will benefit from mass land formalization.

It should be noted that due to the difficulty of the land titling and formalization process in Colombia and changes in laws and entities responsible for titling over the years, there is significant confusion around what, exactly, constitutes a formal, registered title. This was confirmed in qualitative discussions in some communities where participants debated whether “title” and “deed” meant the same thing, and whether documents issued by now-defunct land agencies were still valid. While the figures reported above for owners with a registered title represent respondents who correctly provided the name of an official, registered title (*escritura publica*), it is possible that in some cases respondents may in fact possess some other, quasi-formal document, and that the true prevalence of formal titles is lower than what is reported here.

**FIGURE 20: TENURE STATUS OF AGRICULTURAL PLOTS**

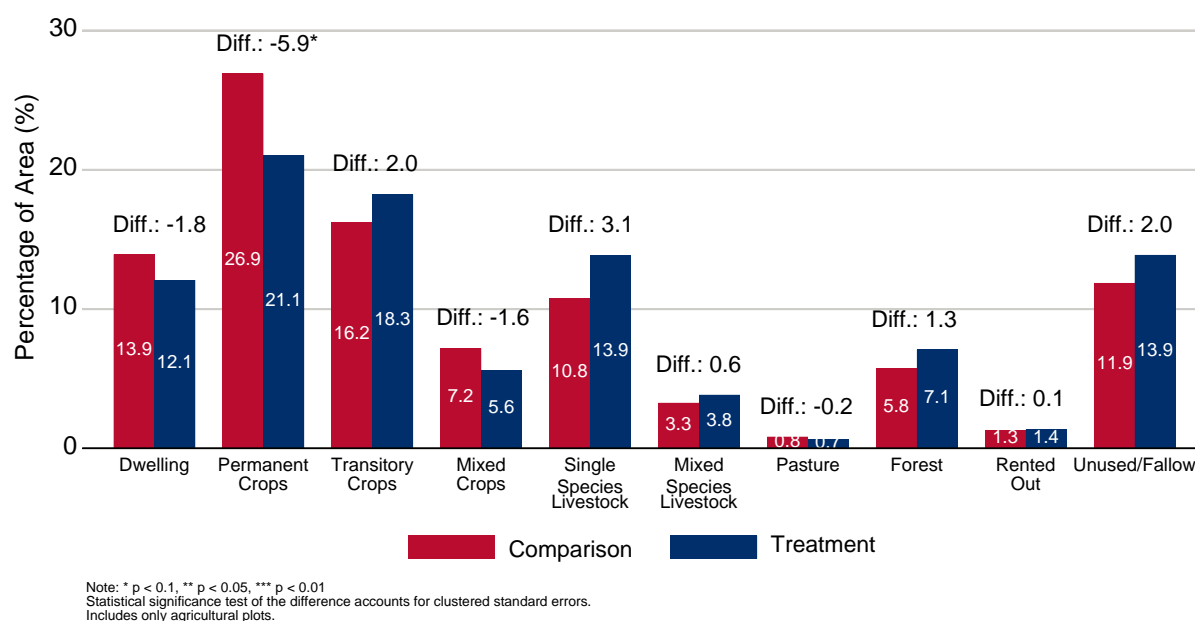
Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01  
Statistical significance test of the difference accounts for clustered standard errors.

After land ownership, usufruct rights<sup>42</sup> are the most common type of tenure; 23.7 percent plots occupied for agricultural activities by households in the treatment communities and 23.6 percent plots for those in the comparison communities were under usufruct rights (Figure 20). Renting is the third most common tenure regime in both treatment and comparison communities, while very few households describe themselves as sharecropping or occupying (i.e., squatting) land. In general, qualitative discussions suggested that in some regions, usufruct, rental, and sharecropping arrangements fit a community need where some have more land than they are able to put to productive use, and many have insufficient land to make a living from but insufficient resources to acquire more. Within this context, usufruct or sharecropping arrangements may be popular, as they allow the land to be put to use, while an otherwise landless farmer with no means to pay can either pay later to work the land now (e.g., through a sharecropping arrangement), or access land in exchange for providing a service to the landowner, such as hired labor on another plot the landowner owns or caring for the property of an absent landowner.

## LAND USE

Among plots controlled by sampled households in treatment communities, 65.0 percent were used for agricultural purposes, compared to 68.0 percent for those in comparison communities, a difference that is not statistically significant. Figure 21 shows the most important uses of agricultural plots for sampled households in treatment and comparison communities, as reported by the survey respondent. These were permanent crops (21.1 versus 26.9 percent of plot area, respectively), transitory crops (18.3 versus 16.2 percent of plot area, respectively), unused or fallow land (13.9 versus 11.9 percent of plot area, respectively), single species livestock (13.9 versus 10.8 percent of plot area, respectively), and dwelling (12.1 versus 13.9 percent of plot area, respectively).

**FIGURE 21: MOST IMPORTANT USES OF AGRICULTURAL PLOTS**



<sup>42</sup> In the Colombian context, “usufruct” refers to having permission from the landowner to live on the plot without payment. In most cases, the usufruct tenant would be an employee of the landowner who receives housing and a small plot as a benefit of employment, an employee caring for the land of an absentee landowner (and provided some land to cultivate for themselves), or tied to the landowner through a family relationship.

For plots where any part was left fallow or unused, respondents were asked the reason why the area was not being put to use. As presented in Table 10, primary reasons included lack of money to cultivate the land (57.7 percent of plots with unused land), to conserve the land (16.8 percent), lack of labor to work the land (11.3 percent), poor soil quality (10.4 percent), and because the land is in a period of rest (10.2 percent). Only 1.4 percent mentioned uncertainty of land ownership as the reason for leaving land unused. Thus, the provision of formal land titles may on its own resolve one barrier to productive land use for only a small proportion of households; however, titling may also spur increased development of unused land among a much greater proportion of households where lack of resources serves as the primary barrier to land development, if formal land titles also enable greater access to credit.

In qualitative discussions, respondents mentioned poor quality of the land (e.g., PH level, swampy land, overuse) and lack of resources as reasons for leaving land unused. Lack of resources for developing the land was also mentioned as a reason why land might then be rented or sharecropped out, or given in usufruct. Qualitative participants described the lack of resources for developing the land as essentially a mismatch, where some in the community may have more than enough land, but no ability to pay for labor or inputs.

**TABLE 10: REASONS FOR LEAVING LAND FALLOW OR UNUSED**

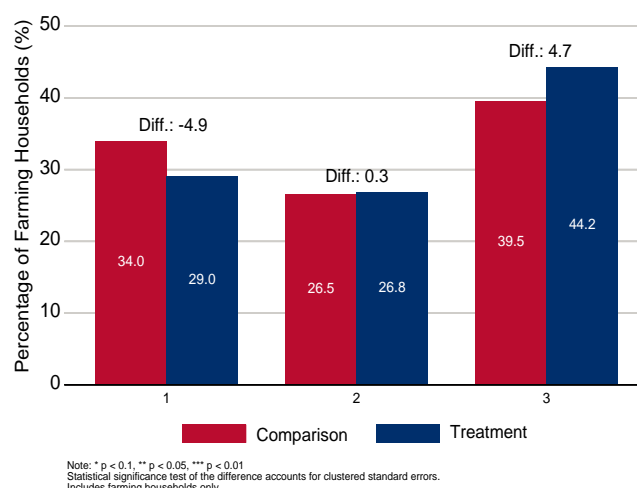
Reasons	Overall	
	Freq.	Pct. (%)
Lack of money	587	57.7
Poor soil quality	106	10.4
Lack of water	15	1.5
There is no one who works the land	115	11.3
Uncertainty due to safety conditions on the vereda	24	2.4
To conserve it or soil conservation	171	16.8
Uncertainty about land ownership	14	1.4
Because the land is in a period of rest	104	10.2
Topography	23	0.8
Other: which?	59	5.8
<b>Total</b>	<b>1017</b>	<b>100.0</b>

Note: This question was a multiple response question, so counts for individual items may not add up to the total number of respondents. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## CROPS PRODUCED

Sampled households in treatment and comparison areas are similar in terms of the number of crop and animals they derive livelihoods from. The survey asked households to list the three most important crops and animal species for the income of the household. As Figure 22 shows, among households engaged in agricultural activities, 29.0 percent of sampled households in treatment communities and 34.0 percent of those in comparison communities had only one crop or livestock activity; 26.8 percent of sampled households in treatment communities and 26.5 percent of comparison community households had two crop or livestock activities; and 44.2 percent of sampled households in treatment communities and 39.5 percent of those in comparison communities listed three crop or livestock activities.

**FIGURE 22: NUMBER OF CROP AND ANIMAL SPECIES PRODUCED PER HOUSEHOLD**



In terms of the most common crop or livestock species, sampled households in treatment and comparison communities are similar, with the exception of a statistically significant higher share of households in treatment communities cultivating cacao or raising cattle (Table 11). Overall, the most common crops or livestock produced by sampled households are plantain (33.8 percent), roots and tubers (32.8 percent), and poultry (27.9 percent). The commodities most frequently listed as the main income generating sources in the qualitative interviews are produced by a smaller share of households: coffee (18.2 percent), cattle (15.3 percent), and cacao (15.3 percent). While these commodities may be the primary economic drivers in specific regions, they are not equally important in all of the regions in this study. Additionally, these commodities require larger investments and quantities of land and are thus likely to be cultivated by a smaller group of landholders.

**TABLE 11: MOST COMMON CROPS AND LIVESTOCKS**

Commodity Category	Overall		Treatment		Comparison		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
<b>Roots &amp; Tubers</b>	774	32.8	404	35.0	370	30.7	4.3
<b>Plantain</b>	796	33.8	407	35.3	389	32.3	3.0
<b>Coffee</b>	428	18.2	168	14.6	260	21.6	-7.0
<b>Maize</b>	401	17.0	195	16.9	206	17.1	-0.2
<b>Fruits</b>	367	15.6	172	14.9	195	16.2	-1.3
<b>Cacao</b>	275	11.7	170	14.7	105	8.7	6.0*
<b>Cattle</b>	360	15.3	214	18.5	146	12.1	6.4**
<b>Poultry</b>	658	27.9	291	25.2	367	30.5	-5.3
<b>Fish, pigs, &amp; other livestock</b>	183	7.8	96	8.3	87	7.2	1.1
<b>Total farming households</b>	2358	100.0	1154	100.0	1204	100.0	n/a

Note: This question was a multiple response question, so counts for individual items may not add up to the total number of respondents. Figures include farming households only.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.



In qualitative discussions, participants described sophisticated processes for making land use and crop selection decisions, involving a study of market and input prices, time to harvest, and land and labor requirements. On this note, one community member in Fuente de Oro expressed that households were often too sensitive in how they responded to price fluctuations. As this participant put it,

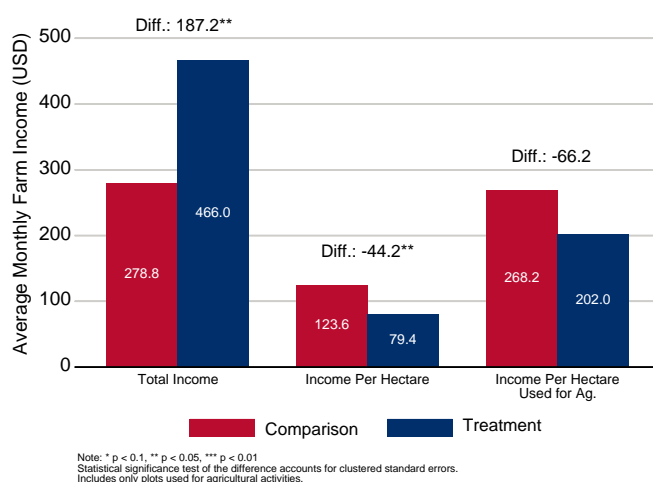
*“There’s a difficult situation for us campesinos, where we’re all playing a blind game of chicken with each other. Why? Because let’s say the price of yuca goes up a little, then everyone turns around and plants yuca. Now there’s a problem with too much supply, the price goes through the floor. Now, since everyone was planting yuca, maybe everyone stopped growing plantain, let’s say, so plantain gets expensive and everyone plants plantain, and we come back to the same problem.”* (Community member, Fuente de Oro)

Additionally, qualitative discussions suggested that more and more households are preferring livestock to crops. The reason relates to tenure security and a preference for more mobile investments. Under this interpretation, acquisitions of poultry, cattle, or small livestock might be seen more as investments than income generating activities, and households may prefer investments that are easier to take with them or sell if they have to leave the farm because of violence, a land restitution claim, or land tenure issue. As a focus group participant from San Juan Nepomuceno said: *“Every year, I used to sell my harvest, and the first thing I’d do, I’d buy an animal. If I needed a horse or donkey, I’d buy it, and if I needed a calf, a heifer, and that, fine. When I left [that farm], I had almost 15 animals. We had to abandon [the farm because of the violence].”* In the household survey, a small number of households (under 9 percent) reported starting new crops or livestock, but those that did, major and minor livestock was clearly the most popular choice.

## INCOME FROM AGRICULTURAL ACTIVITIES

Consistent with the fact that sampled households in the treatment communities own more land (result shown earlier), they earned more from their farm activities on all plots they owned. As shown in Figure 23, households in treatment communities earned \$466.0 USD (\$1.7 million COP) per month from all agricultural and livestock activities on their agricultural plots, compared to \$278.8 USD (\$1.0 million COP) for those in comparison communities, representing a statistically significant difference. However, they were not more productive—average income per hectare per month was \$79.4 USD (\$293,000 COP) among sampled households in treatment

**FIGURE 23: AGRICULTURAL INCOME AND PRODUCTIVITY**

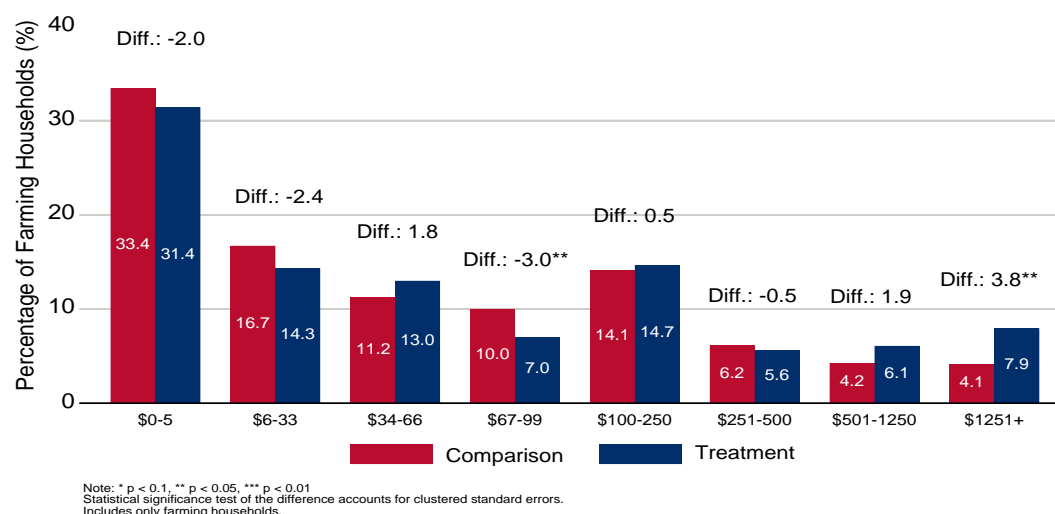


communities, compared to \$123.6 USD (\$456,000 COP) per hectare per month among comparison community households, and this difference is statistically significant. Finally, looking at income from land under cultivation, average income was \$202.0 USD (\$746,000 COP) per hectare per month among sampled households in treatment communities, compared to \$266.2 USD (\$983,000 COP) per hectare per month among comparison community households, and this difference is not significant.

Average farm income hides the large degree of inequality in the income distribution for households in these regions. As shown in Figure 24, nearly a third of farming households earn essentially nothing (i.e., between \$0 and \$5 USD per month) from agriculture, suggesting their agricultural activities are devoted

almost completely to domestic consumption. On the other hand, just 20.2 percent of sampled households in treatment communities and 14.7 percent of those in comparison communities earns \$250 USD or more per month.

**FIGURE 24: INCOME DISTRIBUTION FOR HOUSEHOLD AGRICULTURAL ACTIVITIES**



The above results are also supported by the fact that about a third of the farming household grow crops for subsistence only and do not sell any part of it—67.7 percent of sampled households in treatment communities and 62.7 percent in comparison communities sell any part of any crops they harvest, as seen in Figure 25. A similar pattern was also observed for livestock. Additionally, very few households process any of their crop harvest (18.0 percent of crop farming households in treatment communities, 15.7 percent of those in comparison communities) or products from animal (5.1 percent of animal raising households in treatment communities, 3.5 percent of those in comparison communities). None of these differences is statistically significant.

**FIGURE 25: SOURCES OF AGRICULTURAL REVENUE**

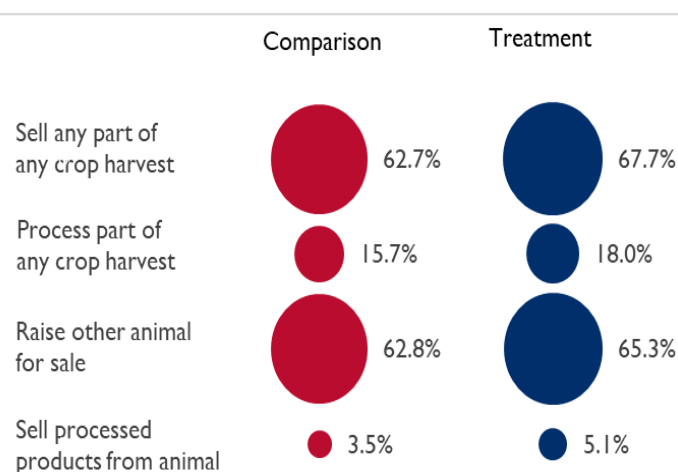
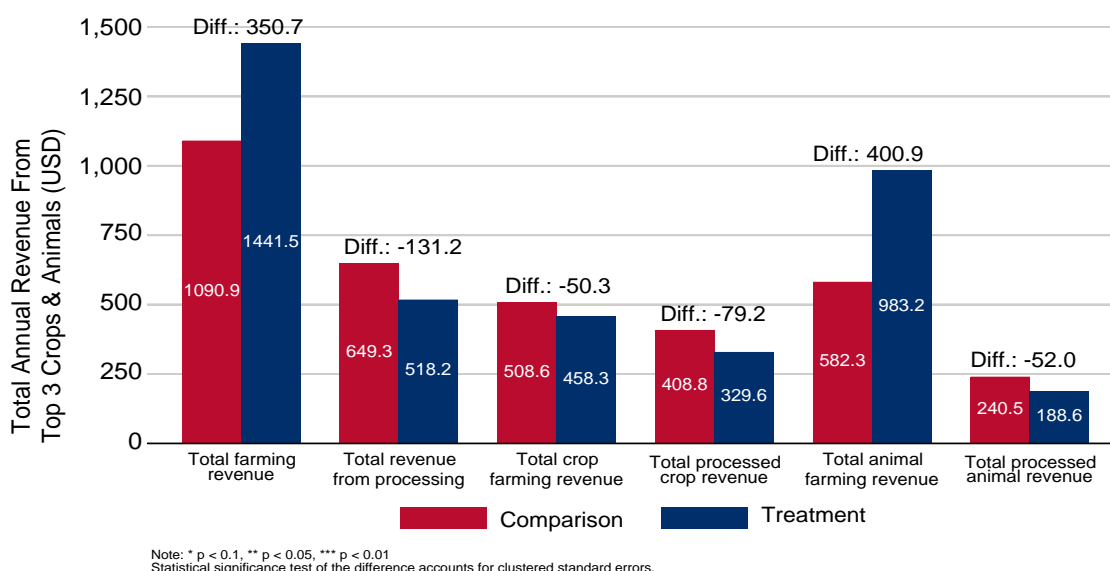


Figure 26 shows agricultural revenues over the 12-month period prior to the survey. Farming households among the sample in treatment communities generated a total of \$1,441.5 USD (\$5.3 million COP) from their top three crops or livestock species, compared to \$1,090.9 USD (\$4.0 million COP) among those in comparison communities. Average total revenue from crops was \$458.3 and \$508.6 USD (\$1.7 million and \$1.9 million COP) for households in treatment and comparison communities, respectively. Most of this revenue came from processed crops, yet less than 20 percent of crop farming households do any processing. This suggests that the vast majority of crop farming revenue is being generated by the relatively small share of households who do crop processing, which disproportionately includes coffee and cacao farmers. On the other hand, animal farming generated an average of \$983.2

USD (\$3.6 million COP) over the 12-month period before the survey for treatment community households compared to \$582.3 USD (\$2.1 million COP) for comparison community households. A smaller share of animal farming revenue comes from processing compared to crop farming.

**FIGURE 26: TOTAL REVENUE FROM AGRICULTURAL**



## PRODUCTIVE INVESTMENTS

Table 12 presents information on productive investments in land by study households in the 12 months before the survey, which is one area that LFP might have a positive impact on as the baseline results indicate, in line with LFP's theory of change, that households are indeed more likely to invest in lands they officially own. Among sampled households in treatment communities, 48.1 said they had made investments in any plot under their control compared to 42.1 percent of those in comparison communities. On average, sampled households in treatment communities made 0.7 investments valued at \$504.8 USD (\$1.9 million COP) compared to 0.5 in comparison communities valued at \$500.3 USD (\$1.88 million COP). Average investment value only among those who actually made land investments was \$1,067.5 USD (\$3.9 million COP) for sampled households in treatment communities compared to \$1,219.9 USD (\$4.5 million COP) among those in comparison communities. Among plots with permanent crops, sampled households in treatment communities had last planted permanent crops 3.4 years ago, on average, compared to 3.8 years for comparison community households.<sup>43</sup>

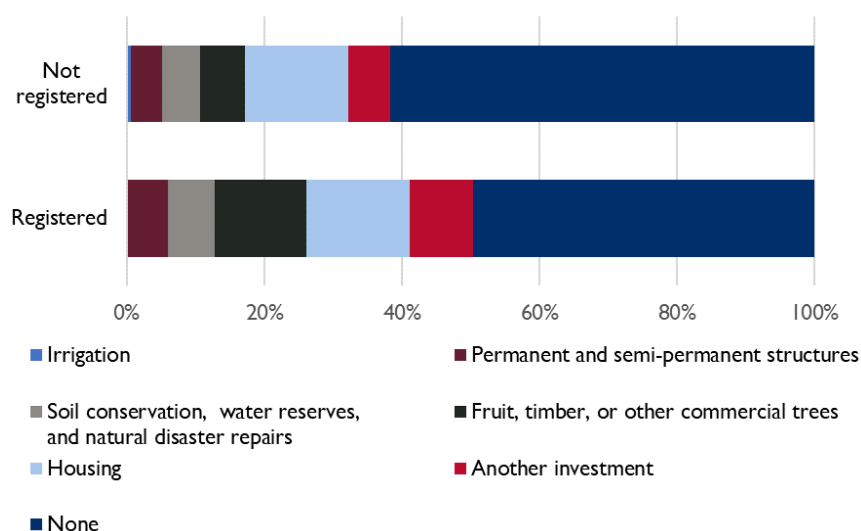
<sup>43</sup> Some permanent crops have a limited productive life, and need to be replanted periodically. While replanted crops may take time to reach maturity and peak productivity, representing a period where they are generating little or no income, replanting old plants whose peak productive years have passed is an important investment.

**TABLE 12: PRODUCTIVE INVESTMENT ON LAND IN PAST 12 MONTHS**

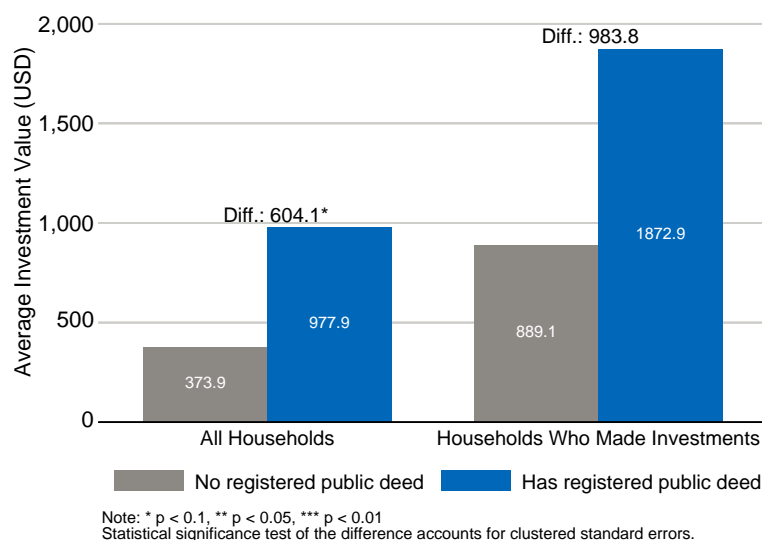
Outcome (over the past year)	Overall		Treatment Households		Comparison Households		Diff
	N	Mean	N	Mean	N	Mean	
Household made any investment (% of households)	2695	45.1	1512	48.1	1453	42.1	6.0**
Number of investments per household	2695	0.6	1512	0.7	1453	0.5	0.1***
Average investment, all households (USD)	2695	502.6	1512	504.8	1453	500.3	4.5
Average investment, only those who made an investment (USD)	1311	1136.7	715	1067.5	596	1219.8	-152.3
Year since last permanent crop planting, only those with permanent crops	1298	3.6	658	3.4	640	3.8	-0.4

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

The most common investments made, as shown in Figure 27, include investments in housing (15.7 percent of all plots), soil conservation, water reserves, and natural disaster repairs (6.0 percent), and fruit, timber, or other commercial trees (7.9 percent). It is important to note that plots with registered titles are more likely to have made any investment (46.9 percent) than those without a registered title (36.5 percent).





**FIGURE 27: INVESTMENT TYPES IN REGISTERED AND NON-REGISTERED PLOTS**

When comparing households with registered titles for at least one plot to those without a title, as shown in Figure 28, households with a title invested significantly more (\$977.9 USD) than those without (\$373.9 USD), on average. Further, the value of investments among households who did invest in their plots was greater, on average, among those with titles (\$1,872.9 USD) than those without (\$889.1 USD), though this difference is not statistically significant. Among plots where no investment was made, the most common reasons for not investing were a lack of resources (64.3 percent) and that it was not necessary to make investments (24.5 percent) as opposed to uncertainty about land ownership, which was cited by only 2.1 percent households (result not shown in a Table or Figure). The barriers to investment mentioned in the qualitative discussions paint a similar picture, where lack of access to capital is described as the main barrier. Though rarely mentioned in the household survey, security conditions were also mentioned as a reason for not making investments in the qualitative discussions. One community member in Convención described how being too ambitious could make someone a target for extortion and open them up to problems with others in the community.

**FIGURE 28: INVESTMENT AMOUNTS IN REGISTERED AND NON-REGISTERED PLOTS**

Finally, we look at plot values, including any buildings and other investments on the land, and livestock values as appraised by households themselves, in Figure 29. Changes in these self-reported values at endline would also be a proxy indicator for the impact of LfP on investments made on land (or at least on households' perceived value of the land). On average, plots under the control of sampled households in treatment communities were valued at \$18,662.4 USD (\$68.9 million COP), compared to \$13,807.9 USD (\$51.0 million COP) among plots controlled by sampled comparison community households. The average value of livestock owned by sampled households in treatment communities was \$1,452.5 USD (\$5.4 million COP), compared to \$877.0 USD (\$3.2 million COP) among those in comparison communities with farming activities. Cattle accounted for nearly all of this value, despite being an activity practiced by a minority of households with agricultural activities. Cattle accounted for \$1,307.9 USD (\$4.8 million COP) of the livestock owned by farming households in treatment communities, and \$806.7 USD (\$3.0 million COP) among farming households in comparison communities. However, qualitative interviews suggested that cattle ranchers may be quite different from other households, and skew towards larger landowners with more resources.

**FIGURE 29: PLOT AND LIVESTOCK VALUE**

				
	Plots	All livestock	Cattle	Poultry
Average Value (USD)	13,807.9	877.0	806.7	33.0
	18,662.4	1,452.5*	1,307.9	36.3

■ Comparison ■ Treatment

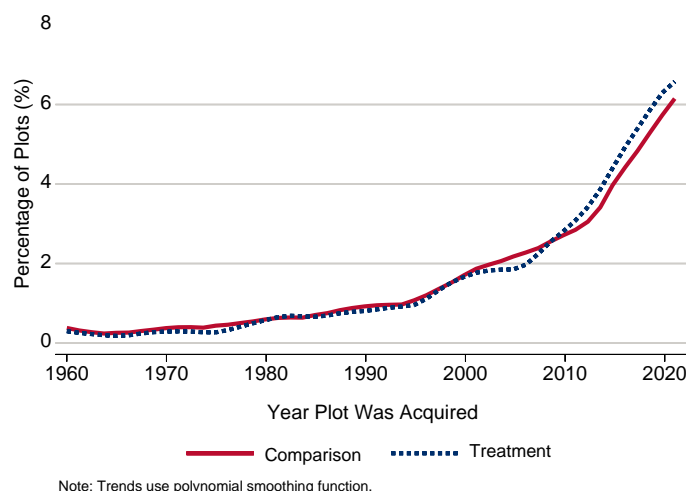
Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01  
Statistical significance test of the difference accounts for clustered standard errors.

## FINDINGS 3: LAND ACQUISITION AND TENURE SECURITY

### LAND ACQUISITION TREND AND MODE

Plots controlled by sampled households in both treatment and comparison communities were similar in terms of when they were acquired by households. Figure 30 shows the percentage of all plots acquired each year since 1960, by treatment status. For example, the figure shows that slightly under two percent of all plots currently held by sampled households in either treatment or comparison municipalities were acquired in 2000. Acquisition rates increase over the period, particularly after 2000, suggesting many plots held by households in the sample were relatively recent acquisitions. Half of all plots in the baseline sample were acquired in 2011 or later.

**FIGURE 30: LAND ACQUISITION TRENDS**



For plots owned by the respondent household (whether titled or untitled), respondents were asked how the plot was acquired. We present the results in Table 13 broken down by whether plots have a registered title or not.<sup>44</sup> Titled plots are significantly more likely to have been acquired through purchase (65.2 percent of titled plots vs. 46.5 percent of untitled plots), and significantly less likely to have been acquired through inheritance (27.6 percent of titled plot vs 40.5 percent of untitled plots). Over 88 percent of plots in the study areas were obtained via these two modes of land acquisition (purchase and inheritance).

**TABLE 13: MODE OF LAND ACQUISITION**

Mainly, how was the plot acquired?	Overall		Has registered title		No registered title		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
Purchase	1364	51.5	461	65.2	903	46.5	18.7***
Inheritance	982	37.1	195	27.6	787	40.5	-13.0***
Possession	35	1.3	8	1.1	27	1.4	-0.3
Titling Vacant Land	10	0.4	3	0.4	7	0.4	0.1
Occupied vacant lot	43	1.6	1	0.1	42	2.2	-2.0***
Special land program	111	4.2	27	3.8	84	4.3	-0.5
Land restitution	5	0.2	2	0.3	3	0.2	0.1
Agrarian reform program	4	0.2	2	0.3	2	0.1	0.2
Exchange/Gift	74	2.8	8	1.1	66	3.4	-2.3***
Other	20	0.8	0	0.0	20	1.0	-1.0***
<b>Total plots</b>	<b>2648</b>	<b>100.0</b>	<b>707</b>	<b>100.0</b>	<b>1941</b>	<b>100.0</b>	<b>n/a</b>

<sup>44</sup> This definition of "registered title" is defined at the plot level as the plot being owned by the interviewed household, and the household reporting they a registered title (*escritura pública*) for the plot. Thus, the definition is based on household self-reporting of their tenure status on the plot in question.

Note: This question was only asked for plots owned by the respondent household (whether titled or untitled).

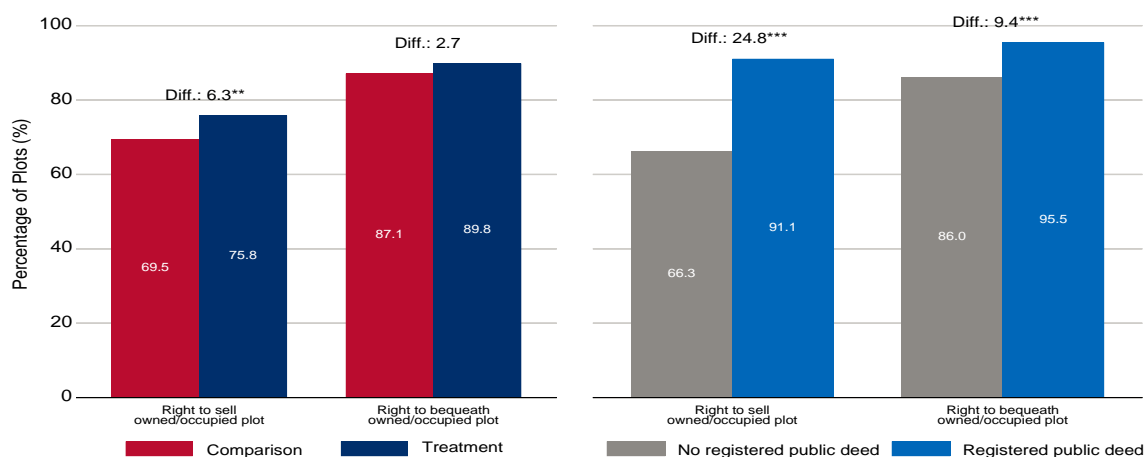
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## LAND RIGHTS

Given that purchase and inheritance are the two most common modes of land acquisition, we asked households who owned or occupied plots (i.e., excluding sharecropping, plots rented in or taken in usufruct) about their perceived land rights. As shown in Figure 31, sampled households in treatment communities said they had the right to sell the plot for 75.8 percent of plots, compared to 69.5 percent of plots for comparison community households, representing a statistically significant difference. A somewhat higher percentage (89.8 and 87.1 percent of owned or occupied plots in treatment and comparison communities, respectively) said they had the right to bequeath the plot.

We also examined perceived land rights by plots with and without formal titles. As expected, those with formal titles had statistically significantly stronger perceived land rights. Also, a higher percentage of those without a formal title (86.0 percent) said they have the right to bequeath compared to those who said they have the right to sell (66.3 percent). This discrepancy may reflect local customary norms where having a title is uncommon, together with the particular complexities of the Colombian land context. For example, in Sardinata one focus group participant said, “People don’t like to rent or sell. People here have a tradition, only [transferring land] within families and people you know...for security.” Another community leader in Convención said, “Convención is a red zone, a conflict zone. [You need] that permission document from the mayor’s office, where they certify that if you’re selling, you were selling of your own free will, nobody was forcing you.” In some other cases, the discrepancy between perceived rights to sell or bequeath land could be accounted for by ethnic communal territories where land cannot be sold. In any case, the findings at baseline imply that titling is likely to improve perceived land rights for those currently without a formal title.

**FIGURE 31: PERCEIVED LAND RIGHTS**



Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Statistical significance test of the difference accounts for clustered standard errors.

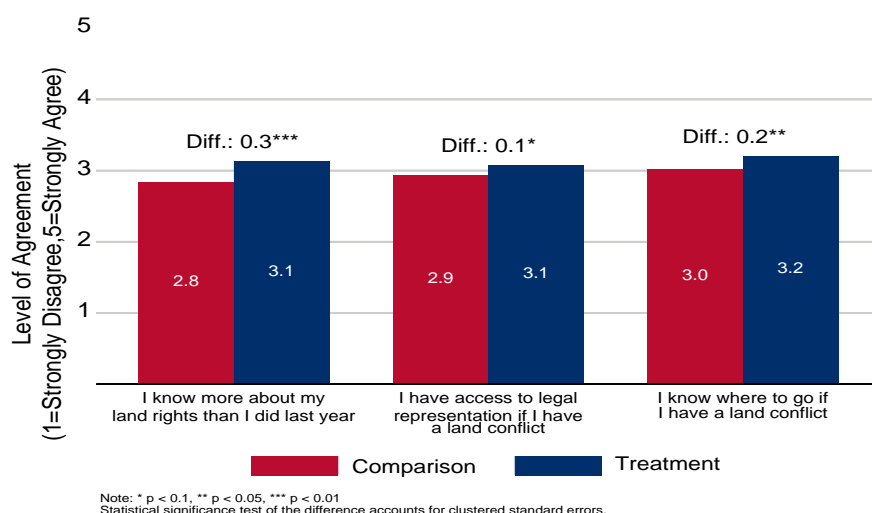
Includes plots owned or occupied by respondents only. Does not include plots rented in, or taken in usufruct or sharecropping.

We also examined household perceived knowledge of their land rights and access to land conflict resolution resources (Figure 32). Respondents were asked to rate the degree to which they agreed or disagreed with each of three statements on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). For all three, respondents rated their level of agreement as approximately a 3, corresponding to a neutral stance. Sampled households in treatment communities rated their level of knowledge and access to legal resources slightly higher than those in comparison communities, and the differences are statistically



significant. Knowledge in treatment communities might be higher because of LfP's field presence as they prepare to implement component I. However, results indicate there is considerable room to improve household knowledge of land rights and conflict resolution options in the LfP implementation area.

**FIGURE 32: PERCEIVED KNOWLEDGE OF LAND RIGHTS**

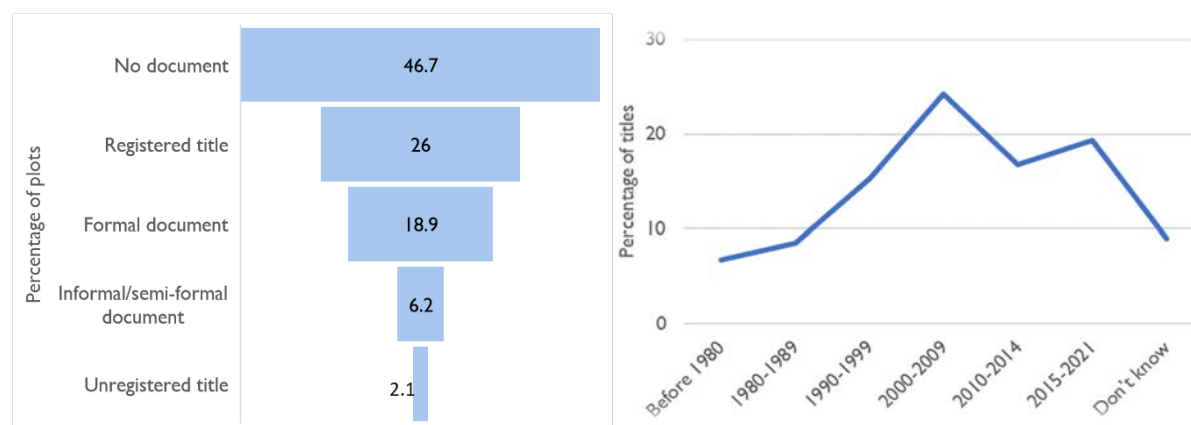


## LAND DOCUMENTATION

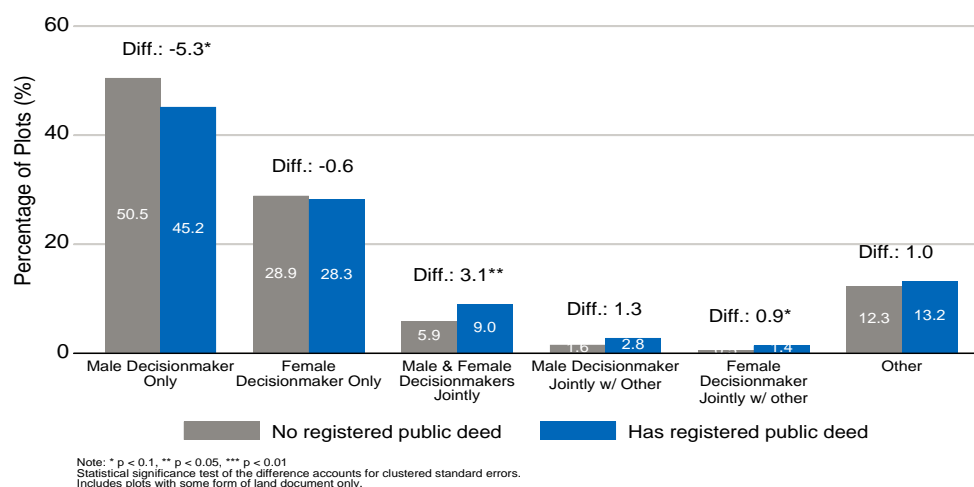
For each plot controlled by households in the sample, respondents were asked whether the household had any document to verify their right to occupancy, and the type of document held. The evaluation team consolidated documents into four categories: (1) registered title (*escritura publica*), comprising formal land titles registered in the land registry with the *Superintendencia de Notariado y Registro* (Superintendency of Notaries and Registry – SNR) and in the cadaster with IGAC; (2) unregistered titles, comprising formal land titles that have not been registered in the cadaster or with SNR; (3) other formal documents, including legal documents that are not formal titles, such as a will, written contract, or other document from one of the national land agencies; and (4) informal or semi-formal documents, such as a signed letter, extrajudicial statement, or verbal contract. Figure 33 shows that among all plots owned or under de facto occupation by respondents in the sample, 46.7 percent had no land document to verify the household's right to occupancy.<sup>45</sup> Documents held by households for plots owned or under de facto occupation included registered titles (26.0 percent), unregistered formal titles (2.1 percent), other formal documents (18.9 percent), and informal or semi-formal documents (6.2 percent).<sup>46</sup> For plots with legal titles, 19.3 percent have been obtained since 2015, 16.8 percent were obtained from 2010-2014, and 24.2 percent were obtained between 2000 and 2009, while 30.6 percent were obtained before 2000.

<sup>45</sup> Table A.G.2 in Annex G presents additional statistics by municipality.

<sup>46</sup> For plots under usufruct, rental, or sharecropping agreements, 97.6 percent of plots did not have any land document to show.

**FIGURE 33: LAND DOCUMENT TYPES AND TRENDS**

For plots with any type of land document, households were asked whose names appeared on the document. Figure 34 shows that regardless of whether the plot has a formal, registered land title or some other document, plots are mostly similar in terms of who appears on the document. However, male and female decisionmakers from a household are significantly more likely to be listed jointly on registered title (9.0 percent) than on other document (5.9 percent). The difference is mostly accounted for by a statistically significant greater share of plots with a document other than a registered title where the male decisionmaker is the sole person listed on the document. Qualitative data sheds some light on why this is; any past titling done by the *Instituto Colombiano de Reforma Agraria* (Colombian Institute for Agrarian Reform - INCORA) and *Instituto Colombia de Desarrollo Rural* (Colombian Institute of Rural Development – INCODER) included both male and female decisionmakers on the documents they issued. One finding in the figure that stands out is that it is far more common for either the male or female decisionmaker to be the sole person listed, than for the two to be listed together, regardless of the document type. This is likely because formal marriage is relatively uncommon among the sample and that people are hesitant to put their partner's name on a document when they are not formally married. Nonetheless, fewer female decisionmakers are listed by themselves than male decisionmakers on titles of any kind.

**FIGURE 34: MALE VS. FEMALE DECISIONMAKER NAME ON LAND TITLE**

For plots owned by respondents without any type of land document, they were asked their reasons for not formalizing their tenure status. As shown in Table 14, the most common reasons provided were

that it was not necessary (34.6 percent of plots) and that the household lacked the resources to formalize (29.8 percent). A large share (23.8 percent) also cited confusion or customs around the inheritance process for land. LfP should be particularly helpful for those who have not titled due to lack of resources, information, or the difficult judicial process. As LfP had already begun laying the groundwork for programming at the time of the baseline survey, some communities were already aware of this work and eagerly awaiting the benefits. As one community member from Fuente de Oro said:

*“USAID has taken a really important step in updating the documents for land titles because it has given us an opportunity not to have to spend so much money, it’s accelerated the processes, and we’re really grateful USAID has been an entity that has promoted the titling process, it’s accelerated it, and that’s a good thing.”* (Community Member, Fuente de Oro)

However, the large share of households that considers a formal land title to be unnecessary is also echoed in the qualitative data. In general, there does not appear to be a strong sentiment that a formal title provides additional protection against land conflict or displacement. With the exceptions of Tumaco and Coastal Nariño, most communities in the qualitative discussions claimed that forced displacement was a thing of the past, and that nowadays everyone in the community knows where plot boundaries are, and that expropriation is rare. In the absence of formal titles, communities have developed their own systems that include informal documents, authentication of informal documents at the police station, local knowledge and agreement amongst community members regarding land ownership, and selling or transferring land to only trusted community members. Additional reasons given by participants in qualitative discussions for not formalizing included avoiding taxes and having plots in areas that were not eligible for titling, such as those within forest reserves or areas at high risk for natural disasters.

**TABLE 14: REASONS FOR NOT FORMALIZING**

For what reasons have you not formalized or registered ownership of the land ?	No registered title	
	Freq.	Pct. (%)
Not Necessary	371	34.6
Lack of Info	125	11.7
Lack of Resources	319	29.8
Difficult Judicial Process	73	6.8
In Process	120	11.2
Collective/Ethnic Territory	55	5.1
Other	255	23.8
<b>Total Plots</b>	<b>1071</b>	<b>100.0</b>




Note: This question was a multiple response question, so counts for individual items may not add up to the total number of respondents. Question only asked for plots described by households as owned and untitled. Note this does not include plots that households described as being titled, but where some other type of document was provided when asked what type of document the household had for the plot.

Notwithstanding their interest in acquiring formalization documents, a large share of plots controlled by sampled households in treatment (81.6 percent) and comparison (78.6 percent) communities were physically demarcated in some way (difference not statistically significant).

Finally, Figure 35 shows the amount households pay or are willing to pay for land documents. For plots that had some type of land document, those with registered titles paid \$207.3 USD (\$765,000 COP) for their document, on average, compared to \$47.2 USD (\$174,000 COP) for those with some other form of documentation. For plots with no land documents, households stated they would be willing to pay \$54.2 USD (\$200,000 COP), on average, for plots owned or under de facto occupation, compared to \$14.2 USD (\$53,000 COP), on average, for plots taken in usufruct, rental, sharecropping, or other agreements. However, for 35.8 and 80.9 percent of owned/de facto occupation and usufruct/rental/other plots,

respectively, respondents said they would not be willing to pay any amount to obtain land documents. By providing all of the inputs necessary for the GoC to formalize each plots tenure status and issue documentation, LFP does not anticipate that plot owners will need to pay anything to obtain their titles.

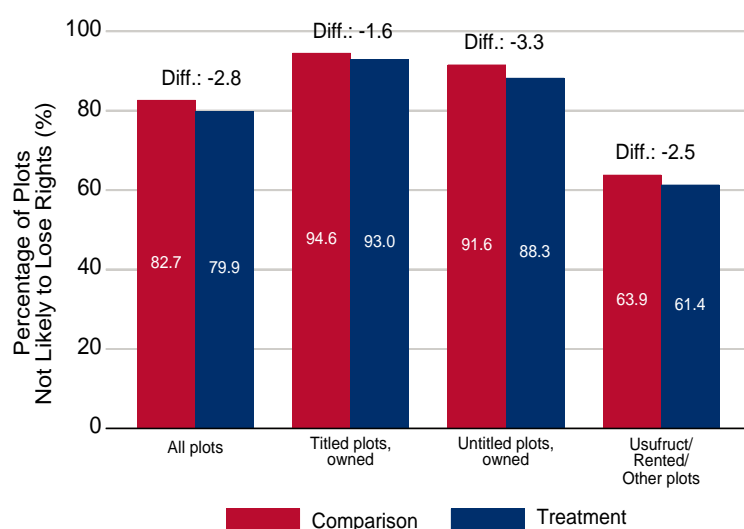
**FIGURE 35: AMOUNT PAID AND WILLINGNESS TO PAY FOR TITLE**

 Average amount Paid	 Amount willing to Pay	 Not willing to pay anything
Has registered public deed	For plots owned/de facto occupation	For plots owned/de facto occupation
<b>\$207.3</b>	<b>\$54.2</b>	<b>35.8%</b>
No registered public deed	For plots taken in usufruct/rental/sharecropping	For plots taken in usufruct/rental/sharecropping
<b>\$47.2</b>	<b>\$14.2</b>	<b>80.9%</b>

## TENURE SECURITY

For each plot, households were asked how likely it was that they would involuntarily lose ownership or use rights to the plot in the next five years (Figure 36).<sup>47</sup> Among all plots, respondents said they were either “not at all likely” or “somewhat unlikely” to lose rights for 79.9 percent of plots controlled by sampled households in treatment communities and 82.7 percent of plots controlled by sampled comparison community households. By this measure of perceived tenure security, sampled households in treatment communities consider approximately 16 percent of their plots to be tenure insecure.<sup>48</sup> The results also show that tenure security is notably higher for owned plots (whether titled or untitled) than those taken in usufruct, sharecropping, or rented in, while tenure security for titled plots is only slightly higher than for untitled plots that are owned. In other words, households express higher tenure insecurity for plots under usufruct, rental or sharecropping arrangements, although LFP’s interventions are not targeted to provide formal land documents for such agreements. There was no statistically significant difference in perceived tenure security between the treatment and the control community households.

**FIGURE 36: PERCEIVED TENURE SECURITY**



Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01  
Statistical significance test of the difference accounts for clustered standard errors.

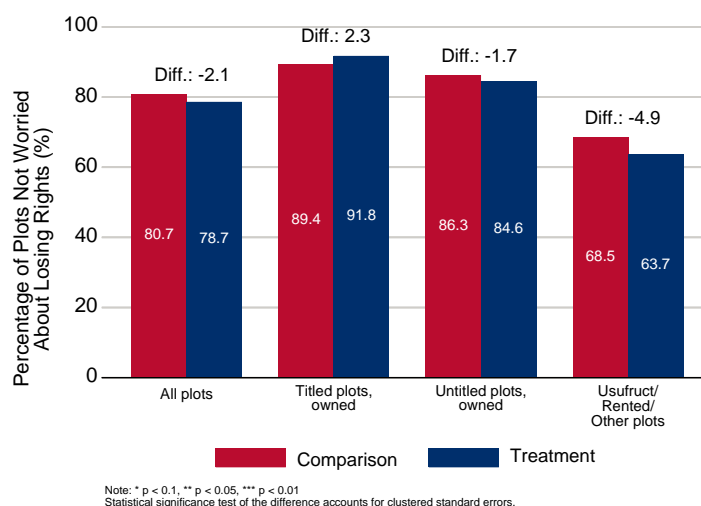
<sup>47</sup> Table A.G.3 in Annex G presents additional statistics by municipality.

<sup>48</sup> This excludes approximately four percent of plots where the respondent gave a neutral response to this question.

This is confirmed by qualitative discussions as well, where participants mostly viewed the possibility that their land would be taken from them as remote. To the extent that respondents viewed expropriation as a possibility, the sources of expropriation that were mentioned as relevant for landowners included having the land taken by the bank or government, while forced displacement was generally not regarded as a significant risk. Other sources of expropriation risk included having the land taken by squatters or renters who stop paying rent and refuse to leave, though these issues were only likely to impact a relatively small percentage of households who have large landholdings.

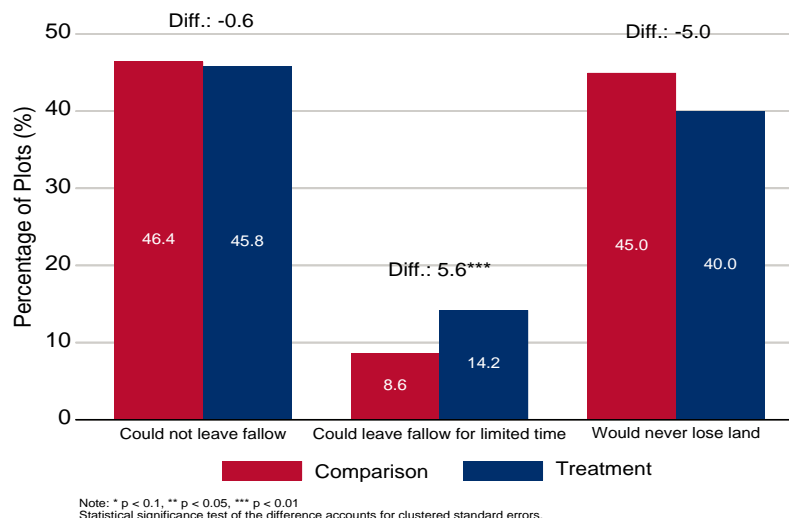
These findings are echoed in responses to another survey question where, for each plot, respondents were asked how worried they were that they might lose the right to use the plot within the next five years (Figure 37). Among sampled households in treatment communities, respondents said they were either “not worried” or “not at all worried” for 78.7 percent of plots, compared to 80.7 percent of plots for sampled comparison community households. Similar to the previous results, this measure of tenure security also suggests that tenure security is notably higher for owned plots (whether titled or untitled) than those taken in usufruct, sharecropping, or rented in, while tenure security for titled plots is only slightly higher than for untitled plots that are owned. Still, there is a notable proportion of owned plots (whether titled or not) for which respondents do express tenure insecurity via concern about potential loss of rights in future. There was no statistically significant difference in perceived tenure security between the treatment and the control community households

**FIGURE 37: WORRY ABOUT LOSING RIGHTS**



As a complementary measure of perceived tenure security, for each plot we also asked households how many years they could let the plot lay fallow or unused without being worried about losing the right to use the plot. The results are presented in Figure 38. While households said they were not worried about losing their rights for the vast majority of plots via the two tenure security measures presented above, nearly half said they could not leave their land fallow for any period without losing their use rights, including for

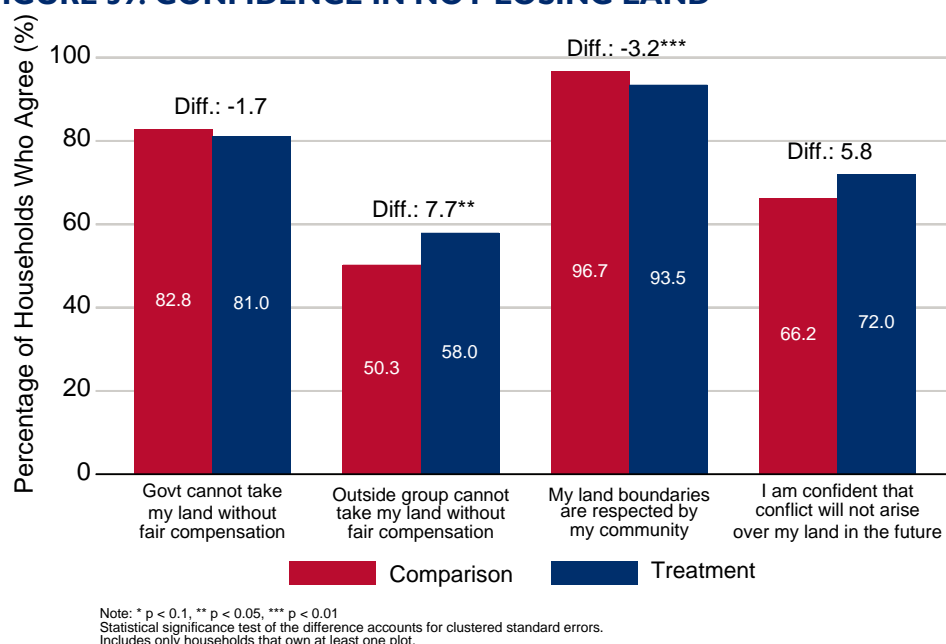
**FIGURE 38: ABILITY TO LEAVE LAND FALLOW**



45.8 percent of plots controlled by sampled households in treatment communities and 46.4 percent of those by sampled comparison community households. On the other hand, 14.2 percent of plots under control by sampled households in treatment communities could be left fallow or unused for some limited amount of time, compared to 8.6 percent of plots controlled by sampled comparison community households, which represents a statistically significant difference. Sampled households in treatment communities said they would never lose land rights to 40.0 percent of plots, regardless of how long they left them unused, compared to 45.0 of plots controlled by sampled comparison community households.

The results here, including the finding that households with formal titles are only marginally more tenure secure than those who own plots without titles, likely stem from two issues. First is the intense demand for land by households that are either landless or have insufficient land. Many households are already living on land that has been previously abandoned by former owners; this appears somewhat common and some communities seem to accept that leaving the area would mean forfeiting their land. As one community member in Caldonio said, *“Well at least in my community, as far as I know right now, nobody has been forcibly displaced. But like they say, if I leave here, if I leave the municipality or if I go to another municipality, that means losing my land.”* Similarly, in other discussions, renting out unused lands was described as important to make sure that *“it is not just left there”*, with the implication that this might expose the land to occupation by squatters. Second is the low incomes of many households and the extent to which some are indebted. Focus group participants listed debts to the bank as a significant source of insecurity; given improved access to loans for households with titled plots, this may be an issue that disproportionately affects households with formal titles. The implication may be that if an indebted household were to leave land fallow, they would be unable to repay their debts and therefore lose their land.

To examine perceived tenure security further, households were asked an additional three questions to assess their level of agreement with four statements about whether their land could be taken by the government or outside groups without fair compensation, whether others in the community respected their property rights, and whether they were confident conflict would not arise over their land in the future. The results presented in Figure 39 suggest that households perceive the greatest risk of having land taken from them by outside groups, which many households would interpret to mean “armed groups”, but could also include private companies, large landowners, or groups of squatters: just 58.0 percent of sampled households in treatment communities and 50.3 percent of those in comparison communities agreed with the statement that “outside groups cannot take my land without fair compensation”, representing a statistically significant difference. Households perceived less risk of encroachment from others in their community and the government.

**FIGURE 39: CONFIDENCE IN NOT LOSING LAND**

## LAND CONFLICTS AND DISPLACEMENT

Table 15 presents results on land disputes, conflicts, and displacements, which were relatively rare in the sampled communities. Just 2.5 percent of sampled households in treated municipalities reported having any land-related conflicts or disputes on any plot in the 12-month period before the survey, compared to 2.2 percent of sampled households in comparison communities.<sup>49</sup> Among sampled households in treatment communities, 3.1 percent reported losing land in the past 12 months due to natural disasters, forced displacements, or other reasons, compared to 4.7 percent of those in comparison communities.<sup>50</sup> Similarly, just 2.8 percent of sampled households in treatment communities and 3.1 percent of those in comparison communities said they had been threatened with eviction in the past 12 months.<sup>51</sup>

**TABLE 15: LAND DISPUTES, LOSS, AND EVICTION IN PAST 12 MONTHS**

Outcome (over the past year)	Overall		Treatment Households		Comparison Households		Diff
	N	Mean	N	Mean	N	Mean	
Has land-related disputes or conflicts (% of households)	2963	2.3	1510	2.5	1453	2.2	0.3
Lost land in past 12 month (% of households)	2959	3.9	1508	3.1	1451	4.7	-1.6
Threatened with eviction in past 12 month (% of households)	2963	2.9	1512	2.8	1451	3.1	-0.3

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

<sup>49</sup> Among households that experienced disputes, the most common sources of conflict were plot boundaries (30.4 percent of all households with disputes), inheritance (18.8 percent), and land titling (11.8 percent).

<sup>50</sup> Land loss was mostly caused by natural disaster (81.5 percent of households with any land loss), while forced displacement accounted for a smaller share (11.1 percent). Households who mentioned losing land due to forced displacement in the past year were highly concentrated in just a few municipalities: 19 of the 32 were located in Olaya Herrera, 4 were in Tumaco, and 3 each were in the Bajo Cauca municipalities of Zaragoza and Cáceres.

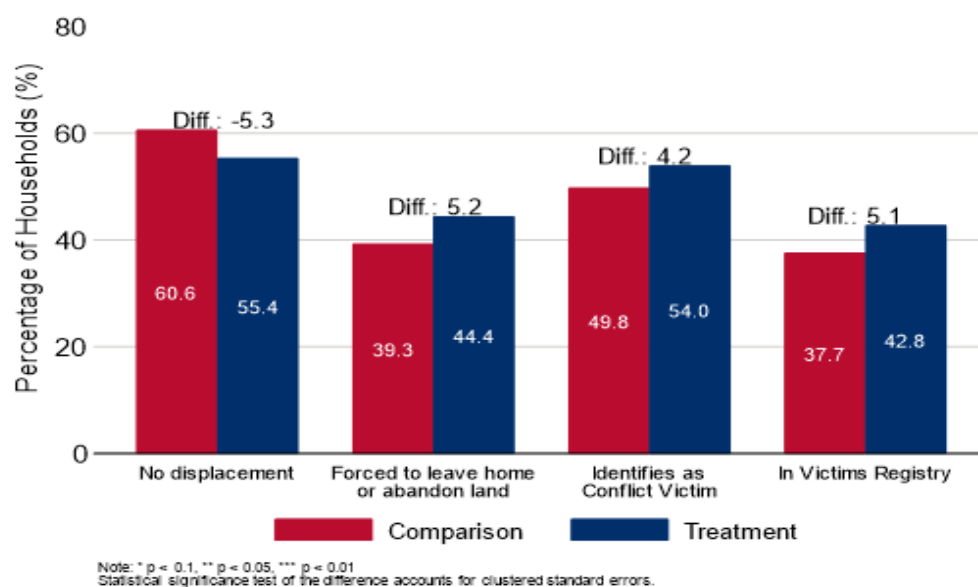
<sup>51</sup> The most common source of eviction threat was armed groups and it is highly spatially concentrated: of the 52 households that mentioned being threatened with eviction by armed groups in the past year, 22 were in Olaya Herrera, 10 were in Tumaco, 7 were in Cáceres, and 3 were in Zaragoza.



Although the level of conflicts and displacement reported in the last 12 months were low, Colombia has seen massive internal migration due to forced displacement over decades of conflict, particularly affecting rural populations, though numbers have trended down in recent years. According to World Bank data from the Internal Displacement Monitoring Centre, 106 thousand Colombians were newly forcibly displaced due to conflict in 2020;<sup>52</sup> approximately 7 million Colombians, or around 15 percent of the country's population, have been displaced since the beginning of the conflict in the 1960s (UNHCR, 2015). Within this context, families or individuals may be forced to leave home in the past due to threats from armed groups (e.g., due to community leadership positions, refusal to cooperate, or threats of forced recruitment), or have their land stolen by armed groups; they may also be victimized in other ways, including the targeted assassination of a family member, permanent injury from an accident with a landmine or other unexploded ordinance, or face sexual violence.

Among sampled households in treatment communities, 55.4 percent said no one in their household had ever experienced forced displacement, while 44.4 percent said they had either had to leave home or abandon their land at some point in the past due to threats from armed groups; 54.0 percent of households identified as victims of the armed conflict, and 42.8 percent said they were registered in the National Victims Registry, which is necessary for receiving the government benefits directed to conflict victims (Figure 40). These figures are significantly higher than the national averages and reflect the greater degree to which the conflict has impacted these municipalities. Sampled households in treatment communities report slightly higher levels of victimization than those in comparison communities, though none of the differences is statistically significant.

**FIGURE 40: HOUSEHOLDS WITH ANY MEMBERS WHO ARE CONFLICT VICTIMS**



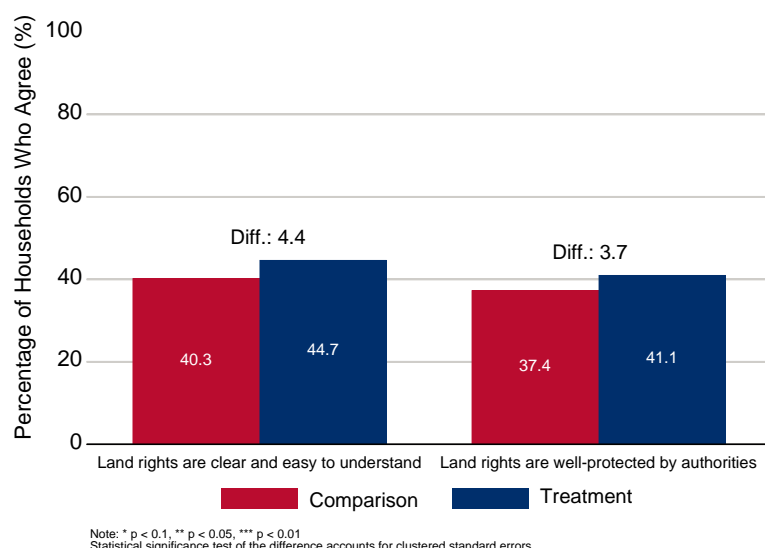
## LAND GOVERNANCE AND LAND MARKET ACTIVITY

To assess households' land governance perceptions, respondents were read two statements and asked about their level of agreement. As shown in Figure 41, 44.7 percent of sampled households in treatment communities and 40.3 percent of those in comparison communities agreed with the statement "Land rights are clear and easy to understand". A similar share, 41.1 and 37.4 percent, respectively, agreed

<sup>52</sup> <https://data.worldbank.org/indicator/VC.IDP.TOCV?locations=CO>

with the statement “Land rights are well-protected by authorities”. Differences between sampled households in treatment and control communities were not statistically significant.

**FIGURE 41: HOUSEHOLD PERCEPTION OF LAND GOVERNANCE**



We assess land market activities among sampled households in Table 16. Among all sampled households, 1.9 percent purchased any land in the municipality they were surveyed in during the 12-month period before the survey, including 2.1 and 1.7 percent of sampled households in treatment and comparison communities, respectively. Among those who purchased land, the mean amount of land purchased was 9.5 hectares. However, the distribution is highly unequal, with a median purchase of just 0.08 hectares. The unequal land distribution is also reflected in the percentage of households who had usufruct, rental, or sharecropping agreements. Among sampled households in treatment communities, 41.4 percent had usufruct, rental, or sharecropping agreements to occupy land belonging to someone else, while just 6.7 percent gave out land their households owned to someone else under such an agreement; numbers for the comparison community households were similar (41.8 and 5.4 percent, respectively).

**TABLE 16: LAND MARKET ACTIVITY**

Outcome (over the past year)	Overall		Treatment Households		Comparison Households		Diff
	N	Mean	N	Mean	N	Mean	
Bought land in municipality in past 12 months (% of households)	2962	1.9	1509	2.1	1453	1.7	0.5
Taken at least 1 plot in usufruct, rent, or sharecropping in past 12 months (% of households)	2965	41.6	1512	41.4	1453	41.8	-0.4
Given at least 1 plot in usufruct, rent, or sharecropping in past 12 months (% of households)	2965	6.0	1512	6.7	1453	5.4	1.3

Note: \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Given that the land rental market is more active than the land buying/selling market, we look further into the plots that sampled households accessed via rental agreements (Table 17). The average area rented was 2.7 hectares, with a large, statistically significant difference between plots used for agricultural purposes (5.5 hectares) and those that are not (0.1 hectares). Similarly, the average household renting a plot paid \$650.1 USD (\$2.4 million COP per month), including \$1,338.3 USD (\$4.9 million COP) for agricultural plots and \$46.8 USD (\$200,000 COP) for non-agricultural plots, on

average. Rental price was higher per hectare for non-agricultural plots, \$567.2 USD (\$2.1 million COP) per hectare per month, compared to \$248.5 USD (\$900,000 COP) for agricultural plots, likely reflecting the fact that non-agricultural plots are more likely to be located in *centros poblados*, where prices may be higher than dispersed rural areas.

**TABLE 17: LAND RENTAL MARKET CHARACTERISTICS**

	All plots rented		Rented agricultural plots		Rented non-agricultural plots		Diff.
	Mean	SD	Mean	SD	Mean	SD	
Plot area (ha)	2.7	13.1	5.5	18.5	0.1	0.3	5.4***
Rental price per month (USD)	650.1	12,385.5	1,338.3	1,8121.7	46.8	33.5	1291.5
Rental price per month per hectare (USD)*	253.8	674.6	248.5	599.1	567.2	2465.6	-318.7***
Total number of plots	417		199		218		417

Note: Includes plots taken in rent only. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

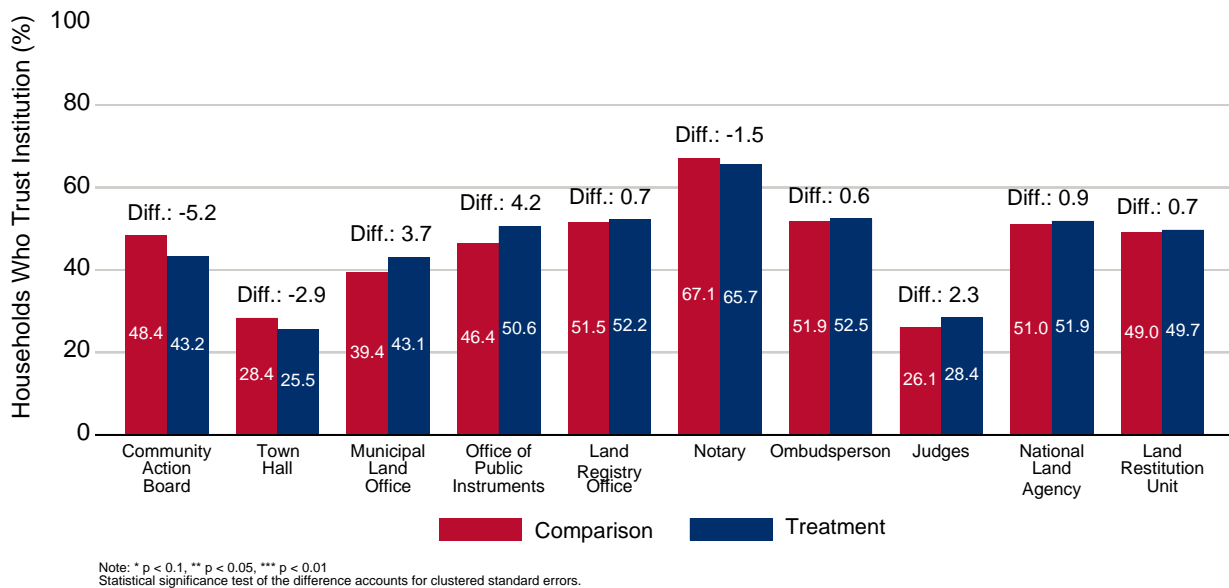
\*Rental price per month per hectare is weighted by plot area.

## FINDINGS 4: PUBLIC SERVICE DELIVERY, PUBLIC-PRIVATE PARTNERSHIPS, AND ILLICIT CROP SUBSTITUTION

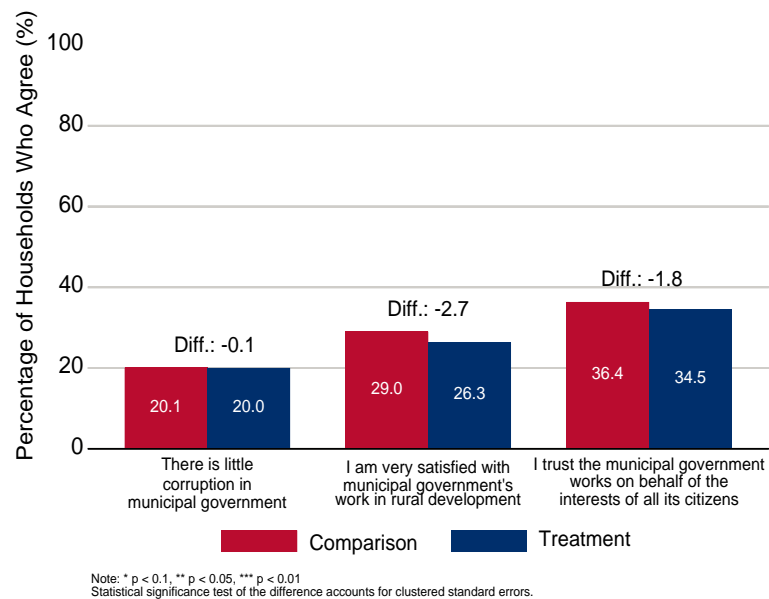
### TRUST IN INSTITUTIONS

The survey asked respondents to rate the degree to which they trusted various local and national government institutions. In general, levels of trust in most institutions are low (Figure 42). The lowest levels of trust were expressed for judges, with just 28.4 percent of sampled households in treatment communities saying they trust judges. Similarly, low levels of trust were seen for local institutions—trust for local Community Action Board (*Junta de Acción Comunal*), town hall (*Alcaldía Municipal*), and the Municipal Land Office (*Oficina Municipal de Tierras*) was 43.2, 25.5, and 43.1 percent, respectively, among sampled treatment community households. Numbers were similar for comparison community households. Levels of trust were highest for notaries, representing the only institution where the percentage of households expressing trust is notably above 50 percent.

It is important to note that a substantial portion of households felt they were not familiar enough with many institutions to form an opinion. Specifically, respondents expressed high levels of unfamiliarity with the Municipal Land Office, Office of Public Instruments (*Oficina de Instrumentos Públicos*), Land Registry Office (*Oficina de Catastro*), National Land Agency (*Agencia Nacional de Tierras*), and Land Restitution Unit (*Unidad Restitución de Tierras*).

**FIGURE 42: TRUST IN LOCAL AND NATIONAL GOVERNMENT INSTITUTIONS**

Trust in municipal government was also low as shown in Figure 43. Respondents were given three statements about the municipal government and were asked about the extent to which they agreed with those statements. Just 20.0 percent of sampled households in treatment communities agreed with the statement “*There is little corruption in the municipal government*”. Similarly, just 26.3 percent and 34.5 percent of sampled households in treatment communities agreed with the statements “*I am very satisfied with the municipal government’s work in rural development*” and “*I trust the municipal government works on behalf of the interests of all its citizens*”, respectively.

**FIGURE 43: TRUST IN MUNICIPAL GOVERNMENT**

The qualitative data provides additional insight into these low levels of trust and satisfaction with both local and national government. Common themes from the group discussions and interviews with community leaders are that (1) local government is unable to resolve local conflicts, (2) the national government is actively against them, (3) lack of available land leads people to want the government to make land available and trust erodes when it fails to do so, (4) there is frustration stemming from a perceived lack of results from the 2016 peace accords, and (5) isolation, changing policies and institutions, and poor communication create a situation where many feel totally abandoned. Below, we detail specific findings from the qualitative data on sentiments regarding specific government entities relating to land.

*Trust in national land offices (INCORA, INCODER, ANT)*

Patchwork policies and changing laws and institutions have not been properly communicated to communities and have created a situation where households do not know what is happening at the national level, eroding trust. The name of the national agency responsible for land titling has changed multiple times in recent years, from the INCORA, to the INCODER, to the ANT, creating confusion. The story of one focus group participant in Ortega, whose family had benefitted from a titling initiative under the now-defunct INCORA, is informative: “You’d go to the bank, and no, it wouldn’t work there either. They wouldn’t take [the land document from INCORA]... They say INCORA doesn’t exist anymore... Who knows if that’s true.” The importance of the problem here is echoed by a PNIS official when asked if there is corruption in the land titling process in Colombia:

*“I think there is [corruption in the land administration system]. That changing, like of the institutions’ names, of changing from one entity to another, from one name to another, or one reform to another. In a certain sense it seeks to hide something in this process and in some way you lose the work that has been started [under a past institution], and that becomes a form of corruption... It affects the process that the families use for interacting with the government, right? When you finally identify how to do the administrative process to get a title, a change comes and that brings a new way to get that title, and so if that happens on repeated occasions, well, there’s never going to be a standard for how to get a title, because every entity is demanding something different”. (PNIS official)*

These problems are compounded in remote communities where access even to local government offices is limited. In one group discussion in La Macarena, with a community that clearly falls within the borders of La Macarena according to all materials reviewed by the evaluation team, focus group respondents expressed frustration that they did not even know to which municipality or department they belonged. The group was hostile to the idea that their community belonged to La Macarena and the department of Meta, whose municipal and departmental capitals are substantially further away and more difficult to access than a municipality in the neighboring department of Caquetá.

However, some discussion participants across multiple communities mentioned previous titling efforts by the INCORA or INCODER in positive terms. Importantly, these were described as efforts somewhat similar in nature to LFP, where the agencies brought the titling process directly to the communities. The main issue here, however, is that it is not always clear if these titles were officially registered in the land cadaster with IGAC and land registry with SNR to make them completely formal, and that changes in policies and land use planning can present barriers if families attempt to register those titles later on. Additionally, even if the land was formally titled by INCORA or INCODER, the qualitative data suggests that some of the original title holders have died and the land has been inherited, which puts the new owner back under informal status if the inheritance is not properly registered.

*Trust in land restitution process (URT)*

Discussion participants had mixed views regarding Colombia’s land restitution process, carried out by the URT. Overall, the process is described in positive terms by those who have benefitted from it and in negative terms by those who perceive themselves to have lost from the process. In terms of specific challenges that URT and the land restitution process faces regarding confidence and trust, the most common themes are that the process lacks transparency, is being taken advantage of by people perceived to be undeserving of the benefits, is sometimes carried out without the input of all parties involved, and is insufficiently deferential to community leaders.

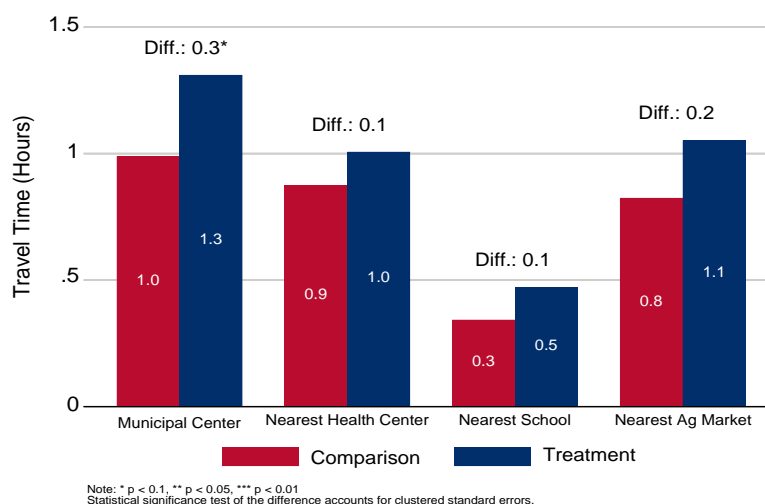
However, multiple respondents expressed support and gratitude for the land restitution process. For example, a focus group participant in San Juan Nepomuceno attributed the little that his family had today to the land restitution process. Similarly, a community leader in Ataco said that many in the area had

been able to reclaim their land through the process and receive land titles. But, participants in several discussions mentioned former community residents who they felt had legitimately sold land as many as 30 years ago, are now attempting to get that land back through the restitution process, after the plot in question had changed hands multiple times. Still others complained that when the URT comes to do plot studies, it takes plot measurements even if one of the interested parties is not present, and does not always seek the input of all neighbors when determining plot boundaries.

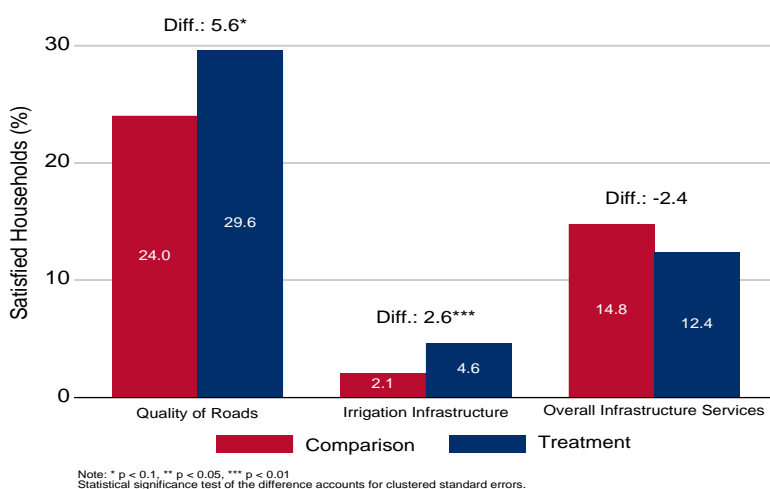
## PUBLIC SERVICE DELIVERY

In addition to trust in local and national government, the survey also examined household access to and satisfaction with public services. Figure 44 shows average travel time to access different services. On average, sampled households in both treatment and comparison communities live about an hour away from the administrative center of the municipality, the nearest health center, and the nearest agricultural market, which can be defined as reasonably accessible in the Colombian context. The nearest school was accessible within a half hour or less distance.

**FIGURE 44: ACCESS TO LOCAL SERVICES**



**FIGURE 45: SATISFACTION WITH LOCAL SERVICES**



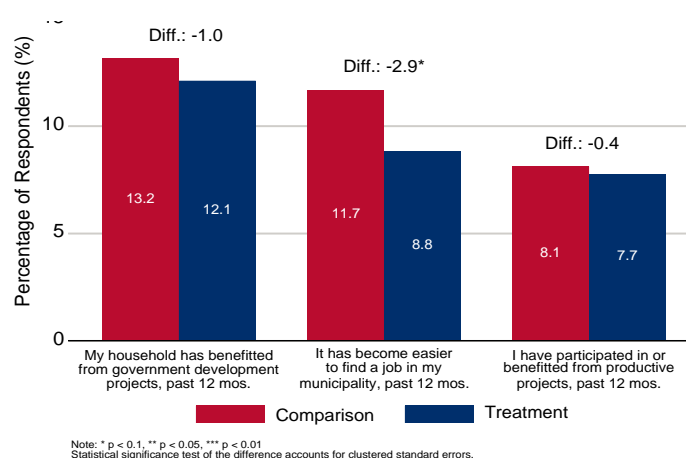
On the other hand, sampled households reported low levels of satisfaction with local service delivery as shown in Figure 45. Households were asked to rate their levels of satisfaction, on a scale from 1 (Very Dissatisfied) to 5 (Very Satisfied), in the quality of their municipality's roads, irrigation infrastructure, and overall infrastructure services. Among sampled households in treatment communities, 29.6 percent said they were either satisfied or very satisfied with the quality of the municipality's roads, compared to 24.0 percent of

those in comparison communities. Satisfaction in irrigation infrastructure was far lower: just 4.6 percent of sampled households in treatment communities and 2.1 percent of those in comparison communities said they were satisfied or very satisfied with the quality of irrigation infrastructure in their municipality. For satisfaction with overall infrastructure services, 12.4 percent and 14.8 percent of sampled households in treatment and comparison communities, respectively, were at least satisfied.

## PUBLIC-PRIVATE PARTNERSHIPS

Component 3 of the LFP activity will help strengthen economic development and create enabling environment for licit economic activities through strategic public-private partnership. At baseline, we looked at household participation in development projects in general. As shown in Figure 46, very few benefitted from government development projects or participated in other productive projects (12.1 percent and 8.8 percent of sampled households in treatment communities, respectively). Also, a very low percentage of households agreed that it had become easier to find a job in the municipality in the past 12 months (8.8 percent and 11.7 percent of treatment and comparison community households, respectively). These low numbers implies that there are lot of room for providing households with opportunities to participate in productive economic development projects.

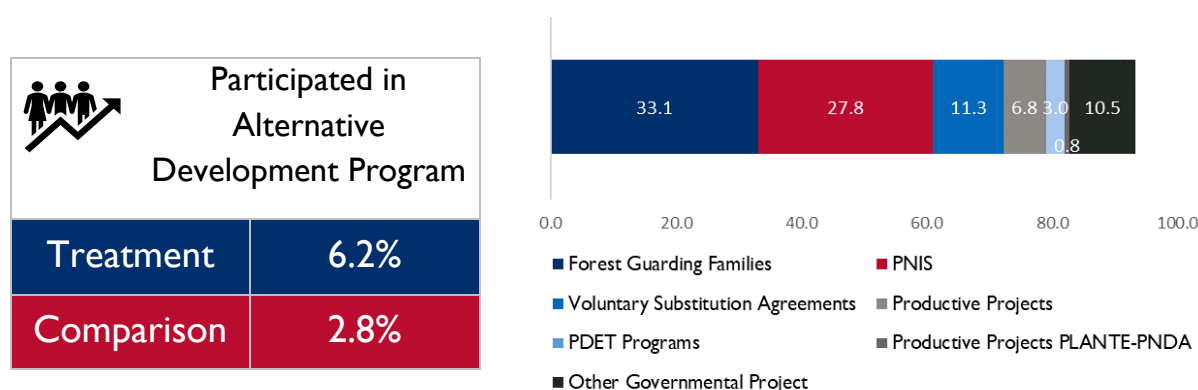
**FIGURE 46: PARTICIPATION IN PUBLIC AND PRIVATE PROJECTS**



## PARTICIPATION IN ALTERNATIVE DEVELOPMENT PROGRAMS

Alternative development programs are rural development programs designed to reduce the presence of illicit crops by offering a variety of incentives. Overall, 6.2 percent of sampled households in treatment communities said they had ever benefitted from alternative development programs, compared to 2.8 percent of those in comparison communities, representing a statistically significant difference (Figure 47). As expected, due to the concentration of coca in specific areas, participation in alternative development programs is spatially concentrated. Among all sampled households, the areas with highest participation in alternative development programs are Tumaco and coastal Nariño (16.8 percent), Bajo Cauca (12.5 percent), Meta (3.5 percent), and Catatumbo (2.7 percent). Among all households who said they had benefitted from alternative development programs, the most common programs were Forest Guarding Families (33.1 percent), followed by PNIS (27.8 percent), and Voluntary Substitution Agreements (11.3 percent).

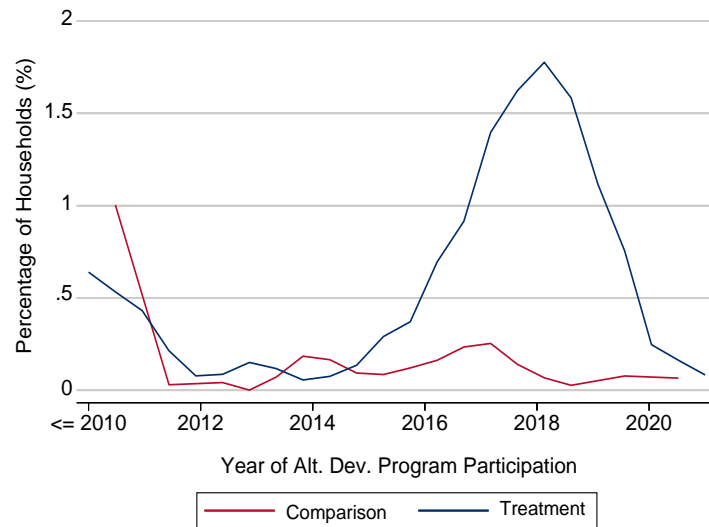
**FIGURE 47: PARTICIPATION IN ALTERNATIVE DEVELOPMENT PROGRAMS**





The trends in terms of the percentage of households participating in alternative development programs in treatment and comparison communities were roughly parallel between 2010 and 2015 (Figure 48). Starting around 2016, the trends diverged, with participation in treatment communities far surpassing that in comparison communities. This is due in part to key features of the LfP program design, as municipalities were selected in concert with the GoC's development plans, and an important consideration was selecting municipalities that aligned with the geographies where PNIS is working. The evaluation team will be able to correct for some of these differences later on, during the household-level matching process (see Balance and Power section of the report).

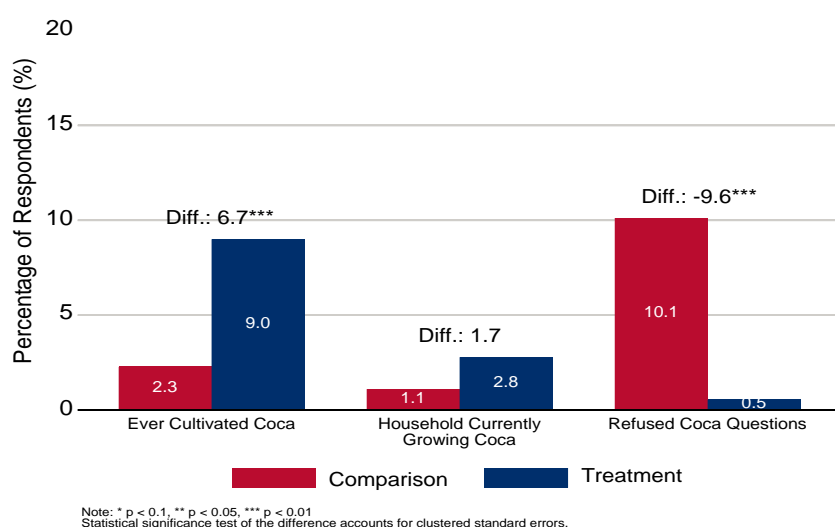
**FIGURE 48: PARTICIPATION TRENDS IN ALTERNATIVE DEVELOPMENT PROGRAMS**



## ILLICIT CROP CULTIVATION

Figure 49 shows results regarding household participation in illicit crop production. Among sampled households in treatment communities, 9.0 percent admitted to ever having cultivated coca, compared to 2.3 percent of those in comparison communities and this difference is statistically significant. A somewhat lower share of sampled households in treatment communities, 2.8 percent, admitted to growing coca currently, compared to 1.2 percent of those in comparison communities. Although not shown here, sampled households in treatment communities said they had 1.4 hectares under cultivation among those households currently cultivating coca, on average, compared to 1.0 hectares for sampled comparison community households.

**FIGURE 49: PARTICIPATION IN ILLICIT CROP PRODUCTION**

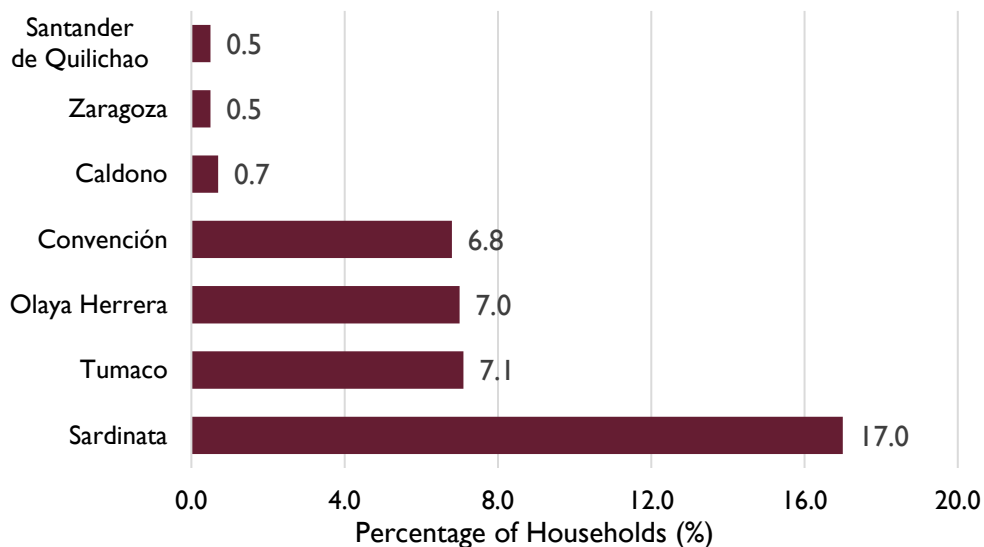


The sensitive nature of these questions presented a security issue in the comparison municipality of Olaya Herrera, where teams were warned by community leaders not to ask questions on coca. As such, the data was able to identify coca growing households in Olaya Herrera among those who volunteered coca as one of their most important crops in the crop roster section of the survey; for those who did not openly admit to this in the crop roster section, the coca growing status of the remaining households in Olaya Herrera is simply marked as “refused”. This accounts for the much larger share of refusals to the coca questions among sampled comparison community households (10.1 percent), compared to the share among sampled households in treatment communities (0.5 percent).

It is important to note that security conditions during baseline data collection prevented enumerator teams from accessing a small number of communities in coca-growing municipalities in the baseline sample. This in turn may have introduced some bias in the baseline estimates for coca cultivation in certain municipalities. For example, coca growing areas in Cáceres are known to be located in the south of the municipality, but none of the eight communities in the baseline sample in this area could be accessed due to local security conditions. As a result, all baseline observations in Cáceres come from the northern and central areas of the municipality, where coca may not be present. These dynamics were present in other coca-growing municipalities, as well, and likely imply that our figures are lower-end estimates of the true prevalence of coca cultivation in sampled municipalities.

There is substantial regional variation in where coca is grown, with Catatumbo and Tumaco and coastal Nariño accounting for the vast majority of coca growing households in the sample (Figure 50). In Sardinata, 17.0 percent of sampled households admitted to currently growing coca, compared to 7.1 percent in Tumaco, 7.0 percent in Olaya Herrera, and 6.8 percent in Convención. A small number of other municipalities were expected to have coca-growing households but were found to have either no or very few households that admitted to growing coca when asked, including Cáceres (0.0 percent), Caldono (0.7 percent), La Macarena (0.0 percent), Zaragoza (0.5 percent), and Santander de Quilichao (0.5 percent). This may be explained by issues related to security and access to coca cultivating areas. Notes from enumerators during the household survey, along with information from qualitative discussions, suggest that the true prevalence may be even higher than reported in Tumaco, Olaya Herrera, Convención, and Sardinata, but that some respondents became distrustful when coca was mentioned in the survey.

**FIGURE 50: ILLICIT CROP PRODUCTION, BY REGION**



The qualitative discussions suggest a number of reasons for why households grow coca: (1) a feeling that there is nothing else to make a living from; (2) lack of market access for other crops; (3) the relatively reliable prices and short harvest cycles; (4) higher productivity (yield per hectare) of coca making it attractive for farmers with small amount of land. Through its focus on developing value chains through PPPs, LfP seeks to address issues 1 and 2 directly, making participation in licit economic activities more attractive. However, the qualitative results suggest that issues 3 and 4 could continue to present a problem for crop substitution efforts. Due to the instability of prices and longer harvest periods for the most popular alternative crops, numerous respondents expressed that they needed to grow coca in order to subsidize the cultivation of crops like cacao and coffee. Furthermore, even if LfP is able to address other issues, the lack of available land is likely to remain a key driver of illicit crop cultivation, as households will face strong incentives to maximize their profits on the little land they have, or to encroach onto vacant public lands and national parks. As described by one quantitative enumerator in their field notes while working in a community in Sardinata, “[In this part of the municipality] everyone is cultivating coca. Each farm has its own laboratory or processor, or “cambuche” as they call it, to process the leaf and convert it to base [paste], whose current value is around \$2,000 pesos per gram of base. Each hectare yields between 5,000 and 6,000 grams of base every two months.” This calculates to approximately \$10 million COP (\$2,709 USD) per hectare, every two months, a sum that is similar to those reported in qualitative interviews in Tumaco by respondents who reported earning \$10-20 million COP (\$2,709-5,418 USD) every two months before substituting their coca.

#### *Issues with programs for combatting illicit crops*

Community members understood that coca brings violence and crime into their communities. Yet coca growing was consistently described in the qualitative discussions as the only option for a lucrative, stable income source; multiple respondents in different municipalities mentioned that it allowed them to send their children to university, when no other crop would have allowed them to. Many even said there is no way they could cultivate legal crops without the stable income provided by coca, so coca is what allows them to grow coffee or cacao. Qualitative discussion participants have expressed frustration with a lack of government presence and transparency, and participants in multiple discussions in coca-growing communities claimed that the government’s only concern was to show a military presence and eliminate illicit crops, which are their main form of livelihood. It was clear that for some, years of militarization of their communities, criminalization of their main source of livelihood, and promises that never come to fruition have resulted in a hostile stance towards the government in Bogota. Thus, a common sentiment that runs through the discussions in coca-growing communities is that the government is more concerned with eliminating coca than promoting their wellbeing. As described by a respondent in Cáceres:

*The United States gives Colombia millions of dollars in assistance to combat illicit crops. [But] combatting illicit crops means looking for alternatives...It’s no secret to anybody and that’s why a lot of congressional representatives in the United States are asking to reduce what they keep sending to Colombia [for fighting illicit crops], because it’s being badly invested. And I for one hope they do, because it will get rid of corruption. They’re just using it to oppress the people...like fumigation, right? Aerial spraying, it’s been demonstrated by the global health organizations and all that, that it affects human beings. Here in Colombia [they say] “No, no...we’re going to fumigate, come what may.” Big mistake...It affects other crops...They killed a bunch of maize...and even [human] health...Here there have been people with rashes. Rashes - they broke out all over and everything...and respiratory problems. So that means there’s a lot of things that need to change. (Respondent, Cáceres)*

As an alternative to aerial spraying, the Colombian government is currently targeting specific coca-growing municipalities, many of which overlap with the LfP municipalities, through the PNIS program, which was created from the 2016 peace process and provides regular payments and technical assistance to coca-growing households in exchange for substituting their illicit crops. However, a related issue

mentioned in the qualitative discussions is that participants felt the government was not upholding its promises to pay families for not cultivating coca through PNIS, and that the payments were insufficient. This aligns with other reporting on PNIS, which indicates the GoC originally signed community-level agreements in coca-growing areas, including all farmers in selected communities, and then abandoned these agreements in favor of farmer-level agreements. This change imposed new requirements for participation and excluded around half of the original 188,000 farmers included in the original agreements, some of whom had already pulled up their coca crops by the time the change was announced.<sup>53</sup> Particularly in Tumaco, participants in the group KIs with community leaders expressed that the PNIS substitution program was insufficient, the government was not consistently making payments, and that people were being asked to show a land title or meet other requirements in order to receive payments, which had not originally been part of the communities' understanding for how payments would work. As one respondent in Tumaco put it,

*The agreement was every two months [a payment would be made] and they took three or four months of arguing after each person already had [eliminated] their crops, [after] the communities put so much energy into the planting, and now to pay them \$2 million [COP] with so much controversy! [The families aren't being paid] because of problems with the SISBEN, problems with the land, problems with land tenancy, [they can only be recipients] as long as they are husband and wife, as long as they are a nuclear family. That wasn't the agreement. It was understood that everyone who had illicit crops [could access the program with] no problems, [because] this was to meet the needs of the community, and the community upheld its end of the bargain. (Respondent, Tumaco)*

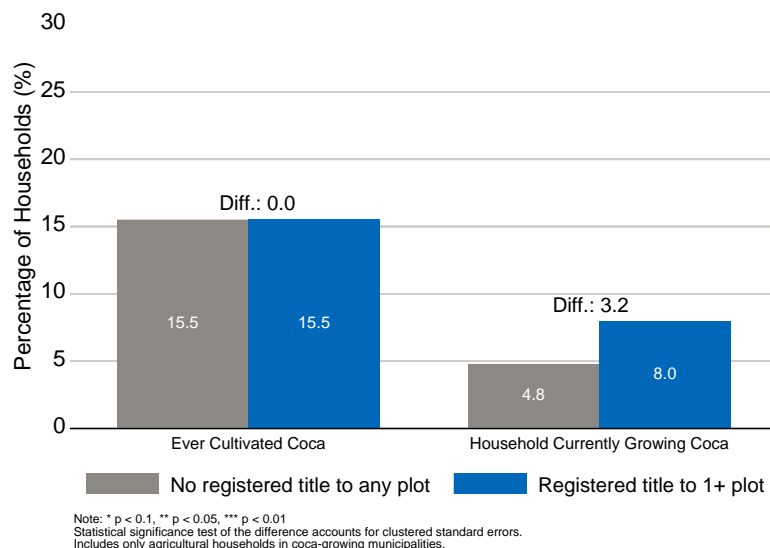
## CHARACTERISTICS OF COCA-GROWING HOUSEHOLDS

It is important to recognize “coca-growing” in our context refers only to households who openly admitted to growing coca in the survey, and results may suffer from issues related to self-reporting, low overall levels of prevalence, high refusal rates for coca questions, and issues with access to coca growing communities in some municipalities described above.

Additionally, predisposal to admitting to coca cultivation may be influenced by participation in crop substitution programs, which in turn could be correlated with household characteristics in ways that generate bias in the results. Results should therefore be treated with some caution, particularly when comparing the prevalence between groups. The IE team believes the best use of these results is for establishing lower end estimates of prevalence of illicit crop

cultivation among households in coca growing municipalities with specific characteristics. With these

**FIGURE 51: COCA CULTIVATION, BY LAND TITLE**



<sup>53</sup> <https://www.crisisgroup.org/latin-america-caribbean/andes/colombia/87-deeply-rooted-coca-eradication-and-violence-colombia>

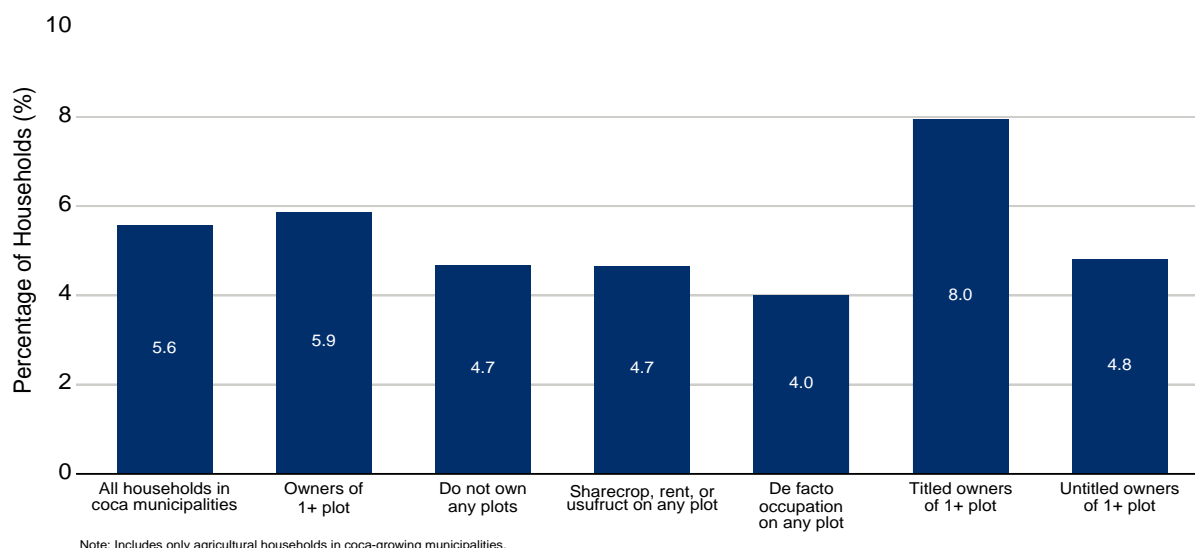
limitations in mind, we net restrict the sample to only households engaged in agriculture in coca-growing municipalities (Cáceres, Zaragoza, Caldon, Santander de Quilichao, Convención, Sardinata, Tumaco, Olaya Herrera, Puerto Lleras, and La Macarena) to look at the characteristics of coca-growing households (Figure 51).

Among this group, the lower-end estimate for the percentage of households that have ever cultivated coca is similar regardless of whether or not the household has a registered title to any plot. For both households with and without registered titles, 15.5 percent admitted to ever having cultivated coca. On the other hand, 8.0 percent of agricultural households with at least one registered plot title in coca growing municipalities admitted to currently cultivating coca, compared to 4.8 percent of those without any registered title, though this difference is not statistically significant. Again considering the issues mentioned above, the best interpretation of these results is that, among households in coca-growing municipalities, at least 8.0 percent of agricultural households with at least one registered plot title are currently cultivating coca, compared to at least 4.8 percent of those without a registered title to any plot, though the true prevalence for either group could be higher.

Figure 52 shows the percentage of households that admit to currently cultivating coca in coca growing municipalities, disaggregated by household tenure type. Our lower end estimate for prevalence of current coca cultivation is 5.9 percent among all households who own at least one plot (including 8.0 percent of those with at least one title, and 4.8 percent of those without), compared to 4.7 percent of those who do not own any plot. Somewhat surprisingly, the reported prevalence of coca growing is lowest among households who are occupying land without permission (4.0 percent), although the theory of change suggests that we should expect prevalence to be highest among this group, due to the more insecure nature of their property rights. However, it is possible that households are disproportionately inclined to underreport coca cultivation on plots they do not own. An additional possibility is that interactions with crop substitution programs may account for the relationship between coca and formal titles. For example, it is the evaluation team's understanding that PNIS may require documentation of land ownership in order to participate; this could provide a potential reason for why households with titles are more open to admitting cultivation in PNIS municipalities (since GoC is already aware of their relationship with illicit crops as part of their PNIS participation), or have perversely led some households with titles to begin cultivating coca in order to take advantage of benefits under PNIS.

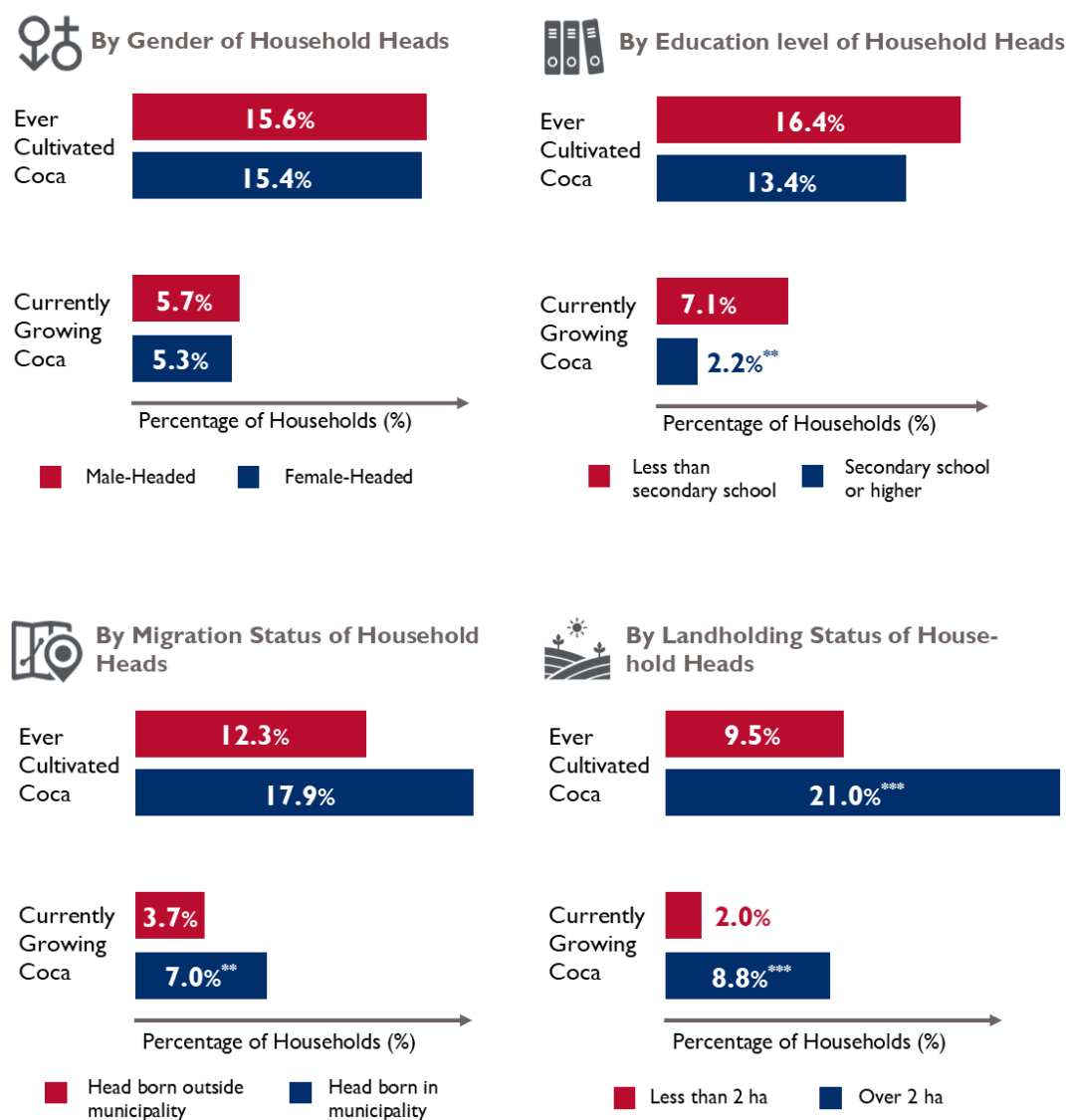
It should be noted that in qualitative interviews, multiple PNIS officials mentioned their belief that it was uncommon to find coca growing on titled plots. On the other hand, community members and leaders who participated in qualitative discussions were more mixed on this point, with multiple participants across different regions stating a belief that titling would not impact coca production. In the end, opinions in qualitative discussions for why titling would or would not be effective at reducing coca came down to beliefs about whether or not households would perceive a credible risk of expropriation or have alternative means of earning a livelihood.

Thus, we highlight again that the results are best interpreted as lower-end estimates, and note that the degree of underreporting could be correlated with tenure type. Because of this, the results do not necessarily mean that the true prevalence of coca cultivation is higher among households with titles. Nor do the results automatically imply that households with titles are growing coca on plots with titles. This survey did not ask respondents the location of the coca, due to the sensitivity of the issue. The coca that households admitted to growing could be located on a titled or untitled plot managed by the household, or potentially even on a piece of land in a nearby park or forest reserve not formally managed or claimed by the household.

**FIGURE 52: REPORTED COCA CULTIVATION, BY TENURE TYPE**

The qualitative discussions further illuminate the type of households that might grow coca, and where the coca is grown. In Caldone, Sardinata, and Convención, coca was typically described in qualitative discussions as being cultivated on land that belonged to individual households. The land was also sometimes described as having at least semi-formal ownership status, for which households were paying taxes and had some type of ownership documents, as opposed to vacant lands or national parks. In a coca-growing community in Caldone, focus group participants felt that most land in their community had already been titled, though due to the complexity of the formalization process it is not always clear if their understanding of the term meets the formal legal standard for a title. Further, coca farms were described as small to medium-sized, and a focus group participant in Caldone said that “*the biggest farms, at most would be 10 hectares...and they’re planted with illicit crops, but it’s not like all 10 hectares are planted with illicit crops.*” In Sardinata, a PNIS official confirmed that there are large farms with coca and described their formalization status as “in limbo”, appearing to conflict somewhat with how households and communities themselves describe these plots. On the other hand, coca cultivation in Tumaco and La Macarena was mostly described as taking place on vacant public lands, national parks, or privately-owned land that had been abandoned and then occupied by squatters.

Figure 53 presents basic characteristics of households who grow coca. As above, these estimates are best interpreted as lower-end estimates, with the understanding that households with certain characteristics may be more or less predisposed to underreporting. Households were approximately equally likely to admit to ever having cultivated coca or currently be cultivating coca regardless of the gender of the household head. Those with less than a secondary education were significantly more likely to admit to currently cultivating coca (7.1 percent) than those with a secondary education or higher (2.2 percent). Households were also significantly more likely to admit to currently cultivating coca if the household head was born in the municipality (7.0 percent) than if the head was born outside the municipality (3.7 percent). Finally, households controlling two or more hectares were significantly more likely to admit to cultivating coca (8.8 percent) than those controlling less than two hectares (2.0 percent). This is a somewhat surprising result as smallholders are expected to be engaged in coca cultivation more than large landholders. However, it is possible that small landholders underreport on coca cultivation for fear of expropriation—it is possible that they perceive that it is easier to expropriate land from small landholders as opposed to large, likely socially powerful landholders. It is also likely that small landholders do not grow coca on their own land but venture into protected areas, parks, and forest reserves to cultivate coca.

**FIGURE 53: CHARACTERISTICS OF COCA-GROWING HOUSEHOLD**

Most officials who were interviewed stated that they felt land formalization would be effective at reducing coca cultivation on titled lands and felt that it would be more effective than alternative development programs. One PNIS officer stated,

*“Believe me, people aren’t going to risk it, losing their property to expropriation [once their land is titled]... Beyond me saying to them ‘Come, I’ll give you a productive project for you to tear up your illicit crop’, I think it weighs heavier for me to say, ‘starting today, this land is yours, figure out how to make it produce and get out of the illicit economy, because if you continue [growing illicit crops] they’ll be coming for you’.” (PNIS Official)*

An additional risk described by this official is that even if LfP is successful at getting families to reduce coca cultivation on their own land, illegal armed groups may compensate for this decrease in production



on private land by increasing cultivation on protected public lands. It is unclear what households will do if faced with a risk of expropriation on one side, and violent threats from armed groups on the other. In general, focus group discussions and group KIs with community leaders did not mention facing threats from armed groups as a primary reason for cultivating coca, focusing instead on the economic reasons. However, one PNIS official described the challenges of pressures from armed groups, and the fact that land with illicit crops cannot be titled, as a major challenge for LFP.

*A fundamental requirement to be able to formalize is that there aren't any illicit crops on the plot. And those illicit crops a lot of times are a consequence of that pressure the armed groups exercise in the area. So those groups don't allow families to substitute or eradicate illicit crops and that then is a big difficulty that not just USAID faces, but all of us who have a presence in the area. (PNIS official)*

## FINDINGS 5: WOMEN'S EMPOWERMENT

The household survey was primarily directed at the household head. However, a subset of questions were asked separately to both the household head and the primary decisionmaker of the opposite gender. For example, if the household head was male, this set of questions was asked to both the male household head, and then again to primary adult female decisionmaker in the household. Generally, the relationship between the primary adult male and female decisionmakers in the sample is conjugal, though in some cases it was parent-child, siblings, or some other relationship.

### WOMEN AND LAND TENURE

Figure 54 shows the share of household members who appear on land documents, separately for men and women. Among all household members aged 18 or older, 20.8 percent of men and 16.9 percent of women appear on any land document; the difference is statistically significant. The gap between men and women grows when looking at only primary male and female decisionmakers; 31.3 percent of primary male decisionmakers appear on any land document, compared to 22.3 percent of primary female decisionmakers. The percentage of household members who appear on a formal, registered title is lower, while the gender gap for registered titles is somewhat narrower. Among all household members aged 18 or older, 10.4 and 8.9 percent of men and women, respectively, appear on a registered title. This compares to 15.5 and 11.5 percent, respectively, for primary male and female decisionmakers. Thus, the data shows a modest, statistically significant advantage for men in terms of who appears on land documents, which narrows but remains statistically significant when focusing only on registered titles.

**FIGURE 54: HOUSEHOLD MEMBERS ON LAND DOCUMENTS, BY GENDER**

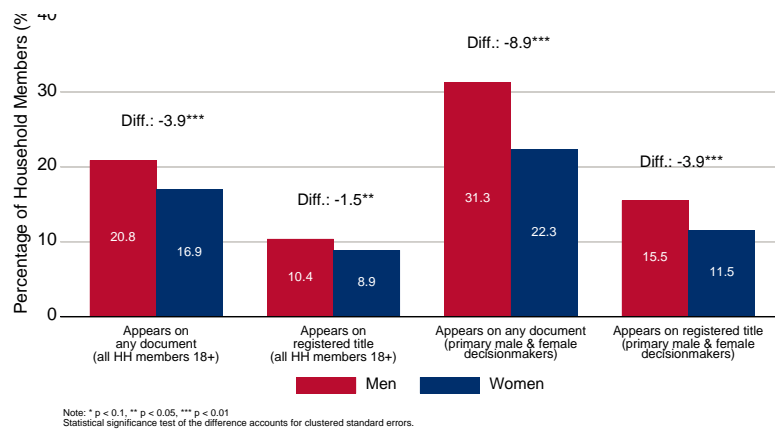
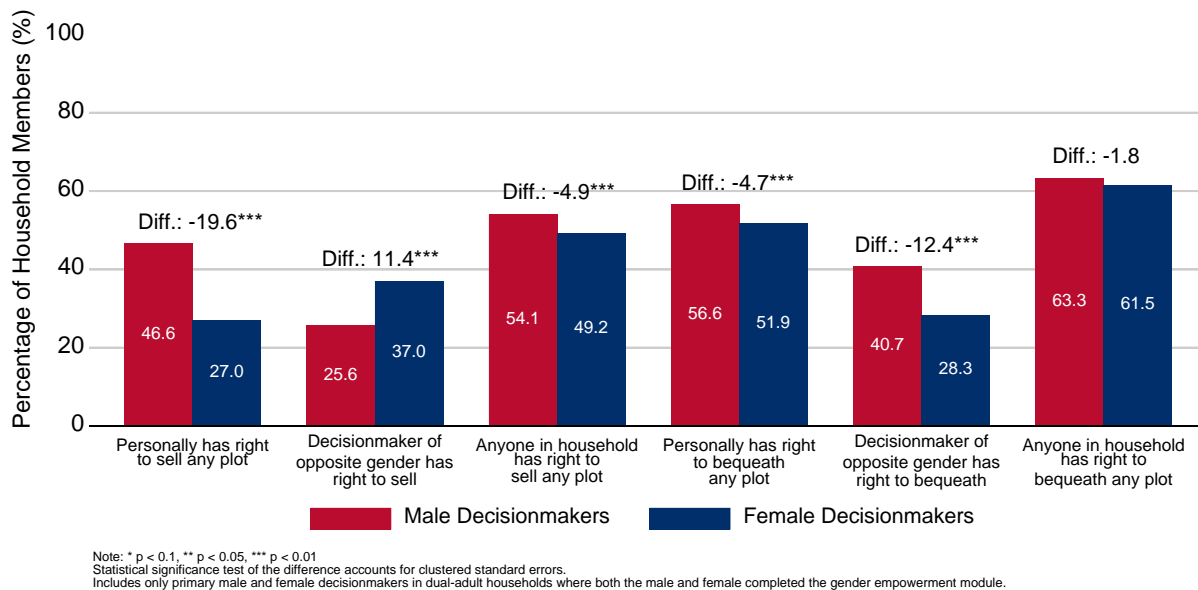


Figure 55 shows the perceptions of primary male and female decisionmakers with respect to who in the household has the right to sell or bequeath land. Here, we narrow the scope of the analysis to include only households with both an adult male and female decisionmaker, where both completed the questions in the gender empowerment module. Male decisionmakers were significantly more likely to

describe themselves as having the right to sell any plot, while female decisionmakers were significantly more likely to say the decisionmaker of the opposite gender had the right to sell. These results suggest that, in general, primary adult male and female decisionmakers have a shared understanding of who has a right to sell land, and that this consistently favors the male decisionmaker.

While the difference between male and female decisionmakers retains a statistically significant advantage for men in terms of who describes themselves as personally having the right to bequeath land, the gap closes substantially compared to the gender gap for right to selling land. It is also interesting to note that while respondents appear to have a similar understanding of who has the right to sell land, the same is not true of their understanding of who has the right to bequeath; 40.7 percent of male decisionmakers said the female decisionmaker in the household had a right to bequeath land, while just 28.3 percent of female decisionmakers said the male decisionmaker had the same right. It is also notable that the share of female decisionmakers who say they personally have the right to bequeath (51.9 percent) is much larger than the share who say they have the right to sell (27.0 percent).

**FIGURE 55: PERCEPTIONS OF RIGHT TO SELL AND BEQUEATH LAND**



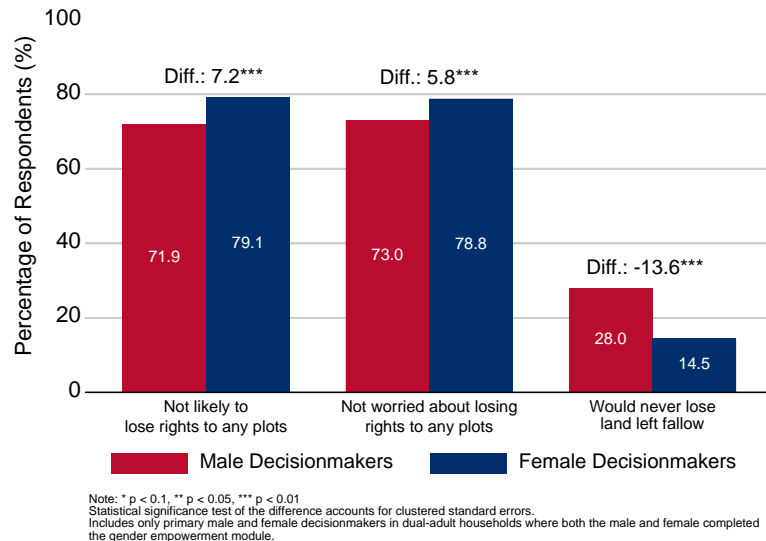
One explanation for these differences could be that men are more likely to have children with multiple women, and that this may impact how women think about the question of inheritance rights. This was mentioned in qualitative discussions as being problematic and impacting women in particular. For example, in one group discussion in Zaragoza, participants described how land titles and wills were uncommon, while the frequency of informal marriages and, in particular, men with multiple families, create problems for inheritance. As one participant in Zaragoza said, “Well, it’s normal if they have children, and even more if there are children outside the marriage, or whatever type of union they have, well it’s normal for the children to leave the women landless. They leave them with nothing.” This was also described as being relatively common by a community leader in Convención, who suggested that this may even happen with the male partner’s consent. As this community leader described it:

*That’s one of the problems that’s occurred, when the man is the only one on the title. There’s been cases where the man leaves the inheritance to a son, and the wife is left out. And he can do it, because he [sold the land to the son] while he was still living. The only way to stop it is for the wife to realize what’s happening and she goes and says, ‘sorry, I’m the wife and I don’t allow this transaction.’ But if he did it behind her back... (Community Leader, Convención).*

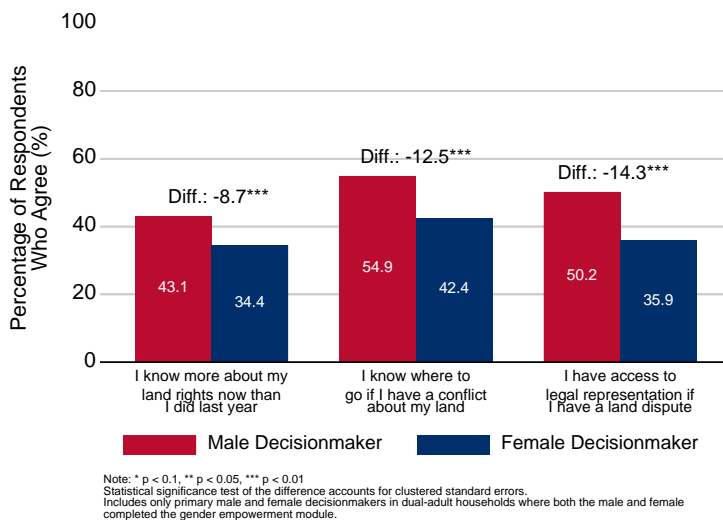
An additional set of three questions probed for respondents' perceptions on their tenure security. The primary male and female decisionmakers in each household, regardless of household tenure type, were asked about the perceived likelihood that the household would involuntarily lose ownership or use rights to any plot within the next five years, how worried the respondent was that the household would involuntarily lose use rights to any plot within the next five years, and how long the household could leave its land fallow without worrying about losing use rights. Narrowing the scope of the analysis to only dual-

adult households where both the primary male and female decisionmakers responded, the results presented in Figure 56 paint a somewhat mixed picture of tenure security perceptions by gender. Female decisionmakers were significantly more likely to say the household was not likely to lose its rights to any plot within the next five years (79.1 percent of females, 71.9 percent of males), and to say they were not worried about the household losing its rights to any plot over the same time period (78.8 percent of females, 73.0 percent of males). On the other hand, male decisionmakers were significantly more likely to say the household could leave its land fallow indefinitely and would never lose its land use rights (28.0 percent of males, 14.5 percent of females).

**FIGURE 56: PERCEPTIONS OF TENURE SECURITY**



**FIGURE 57: ACCESS TO LEGAL RESOURCES FOR LAND DISPUTES**



On the other hand, responses from male decisionmakers suggest a clear advantage over female decisionmakers in terms of their perceived knowledge of land rights and access to resources in the event of a land conflict, as shown in Figure 57. Respondents were asked the extent to which they agreed with three statements. A statistically significant greater share of male decisionmakers (43.1 percent) agreed with the statement “I know more about my land rights now than I did last year”, compared to female decisionmakers (34.4 percent). Similarly, a significantly greater share of male decisionmakers (54.9 percent) agreed with the statement “I know where to go if I have a conflict about

my land” than female decisionmakers (42.4 percent), while 50.2 percent of male decisionmakers agreed with the statement “I have access to legal representation if I have a land dispute”, compared to 35.9 percent of female decisionmakers.

Male and female decisionmakers were asked whether they believed there was any advantage to having a property title or land document. Responses are shown in Table 18. Nearly all (98.1 and 98.0 percent of male and female decisionmakers, respectively) said there was an advantage to having such a document. In general, male and female decisionmakers appear similar in how they view these advantages, with the main differences being a somewhat larger, statistically significant share of male decisionmakers (15.2 percent, compared to 9.3 percent of female decisionmakers) saying the most important advantage is access to loans, and a somewhat larger, statistically significant share of female decisionmakers (32.1 percent, compared to 27.9 percent of male decisionmakers) who say the most important advantage is tenure security.

**TABLE 18: ADVANTAGES OF LAND DOCUMENTATION**

What do you think is the most important advantage of having documentation?	Overall		Female Decisionmaker		Male Decisionmaker		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
No advantage	27	1.9	14	2.0	13	1.9	0.2
Increased Property Value	49	3.6	27	4.0	22	3.2	0.8
Access to loans	166	12.3	62	9.3	104	15.2	-5.9***
Tenure security	406	30.0	215	32.1	191	27.9	4.2**
Proof of ownership	549	40.6	273	40.8	276	40.4	0.5
Other	183	13.5	92	13.8	91	13.3	0.4
Total	1353	100.0	669	100.0	684	100.0	n/a

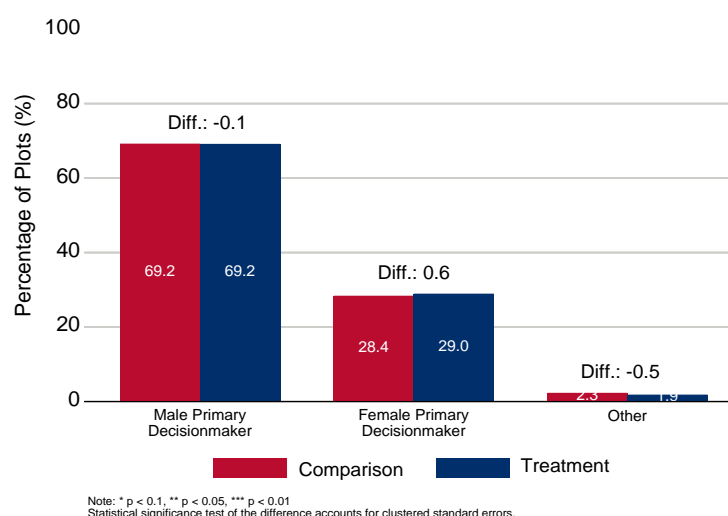
\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Note: Includes only respondents in dual-adult households where both the male and female decisionmaker responded to the gender empowerment module.

## PARTICIPATION IN PRODUCTIVE ACTIVITIES AND ECONOMIC DECISIONS

Figure 58 shows the percentage of plots where the primary household member responsible for the plot is the primary male or primary female decisionmaker, or someone else. Among all plots belonging to sampled households, 69.2 percent were under the primary responsibility of the primary male decisionmaker in both treatment and comparison communities; female primary decisionmakers were the main person responsible for 29.0 and 28.4 percent of all plots in treatment and comparison communities, respectively. This reflects a theme from the qualitative discussions, where the most common means through which women acquire land is inheritance, and in general participants felt it was rare, though perhaps not unheard of, that women purchase land. At the same time, even when women do acquire land through inheritance, qualitative discussions suggested at times they may not feel comfortable managing the land on their own, which some participants said may lead them to sell the land. Community leaders in Convención described this in the following terms, which may also reflect existing gender biases around women's land ownership:

**FIGURE 58: PLOT RESPONSIBILITY**

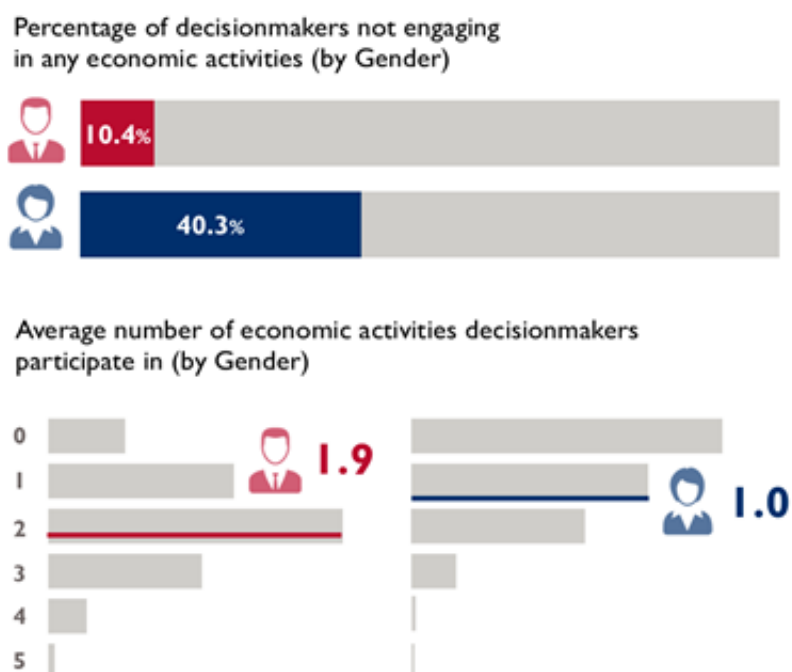


Community Leader 1: “If [women] are left land [through inheritance], it's easy [to inherit land]. If they leave it to you. But that they leave you land is complicated...Because there's machismo...No, and it also happens...sometimes they have the possibility to become, well, women who can manage a farm. But unfortunately, when the moment comes to divide up the inheritance, and it's like they don't feel capable or what they do is sell...So like always the man is running things because of that.”

Community Leader 2: “For example...my grandfather had land. He died and my grandmother, too. They divided up the inheritance between five men and three women. But of the three women, two were already mothers and were living away, and the other well, that was my mom....[The women] practically gave away the inheritance.” (Group KII, Convención)

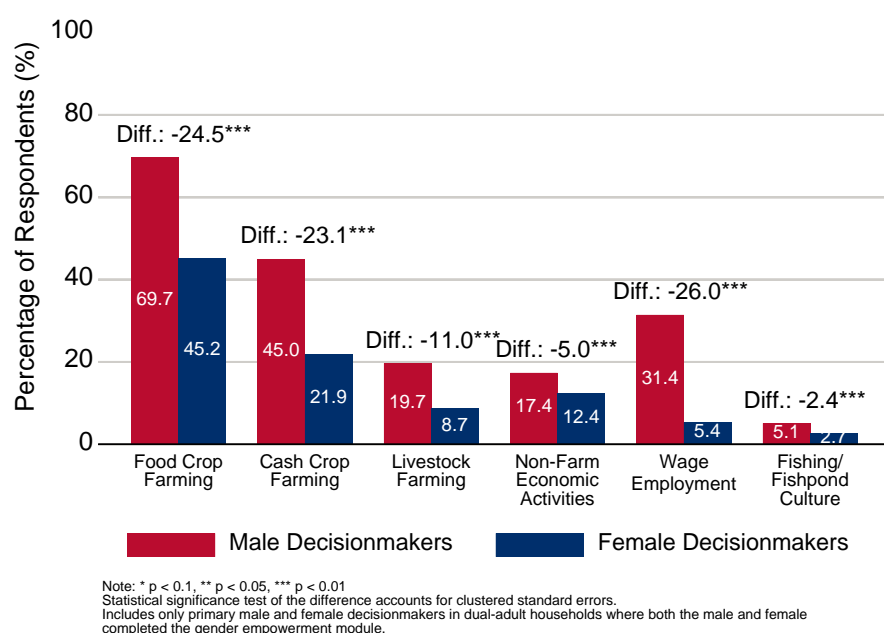
In general, these differences reflect a context where female decisionmakers are far less engaged in agricultural and other economic activities than their male counterparts. The survey asked male and female decisionmakers about whether they participated in each of six income generating activities, including food crop farming, cash crop farming, livestock farming, non-farm economic activities, wage employment, and fishing or fishpond culture. Narrowing the scope of the analysis to include only dual-adult households where both the male and female responded, Figure 59 shows 40.3 percent of all female decisionmakers indicated they participated in none of the six activities, compared to 10.4 percent of male decisionmakers. On average, female decisionmakers participated in 1.0 activities, compared to 1.9 activities for male decisionmakers.

**FIGURE 59: PARTICIPATION IN ECONOMIC ACTIVITIES**



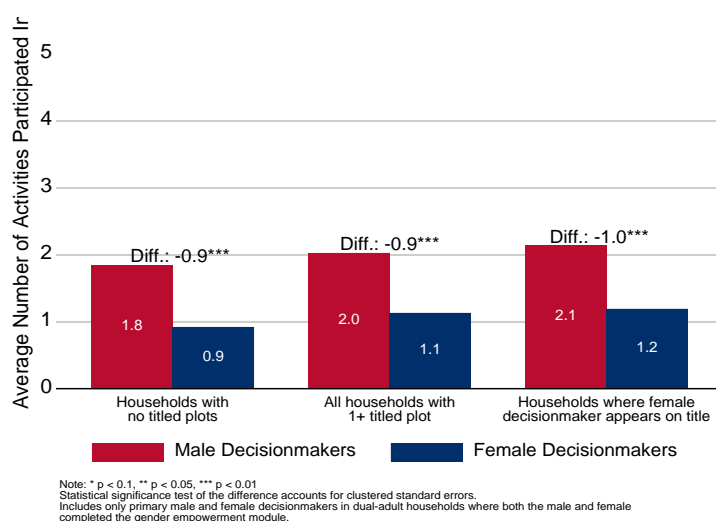
The data allows us to examine which of the six activities present the largest gender gaps in terms of participation, shown in Figure 60. While participation is higher for men and the gender gap is statistically significant for all six activities, three activities stand out as having particularly large gender gaps: wage employment, food crop farming (although this is still the most common activity that women participate in), and cash crop farming. The narrowest gender gaps were found for fishing, where participation was low overall, and for non-farm economic activities. The qualitative data suggests that many of these non-farm economic activities are done within the home, such as artisan goods, hair styling, and preparation of food products, and therefore may be more accessible to some women who may be more confined in their activities outside the home. Similarly, qualitative discussions suggest another common activity conducted by women throughout the different regions in the survey is raising minor livestock, particularly poultry.<sup>54</sup>

**FIGURE 60: TYPES OF ECONOMIC ACTIVITIES**



The data suggests a slight increase in women's economic participation correlated with formal title status, and a further increase correlated with the female decisionmaker appearing on the title. However, increased men's economic participation is also correlated with these land title characteristics, meaning that the gender gap between male and female decisionmakers in terms of economic participation does not close. This is shown in Figure 61, which suggests that land titles alone may not be sufficient to close the gender gap in economic participation. Among households with no titled plots, male decisionmakers participated in 1.8 activities, on average, compared to 0.9 activities for female decisionmakers. For households with at least one titled plot, male decisionmakers participated in 2.0 activities, on average, compared to 1.1 activities for female decisionmakers, representing a slight increase for both genders over households with no titled plots. For households where the female decisionmaker appears on a title for at least one plot, male decisionmakers participated in 2.1 activities, on average, compared to 1.2 activities for female decisionmakers, representing a slight increase for both genders over all households with at least one titled plot.

<sup>54</sup> The results suggest poultry raising was not captured in the economic activity questions. Although "livestock farming" is one of the economic activity categories, the question from the A-WEAL instrument does not explicitly specify the inclusion of chickens. Thus, "livestock" may simply suggest cattle to most respondents, particularly given the Spanish translation.

**FIGURE 61: NUMBER OF ECONOMIC ACTIVITIES, BY TENURE STATUS**

For respondents who participated in each activity, they were asked who in the household usually makes decisions regarding the activity, and the amount of input they themselves had in making decisions about the activity. The results in Table 19 shows that although the vast majority of respondents who participated in each activity felt they had some input into decisions on the activity, male decisionmakers consistently indicated having more input into decisions than female decisionmakers, with differences that were sometimes statistically significant. The largest differences are found for cash crop farming, fishing, and food crop farming. For example, 98.4 percent of male decisionmakers who participated in cash crop farming felt they had at least some input into cash crop farming decisions, compared to 85.1 percent of female decisionmakers who participated in cash crop farming. These results indicate that in addition to facing barriers in participating in economic activities, women who do participate in these activities face additional barriers in decisionmaking.

**TABLE 19: INPUT IN DECISIONMAKING**

Respondent has some input in decisions on activity	Overall		Female Decisionmakers		Male Decisionmakers		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
Food crop farming	775	96.0	293	92.1	482	98.6	-6.4***
Cash crop farming	440	94.0	131	85.1	309	98.4	-13.3***
Livestock raising	185	94.4	55	91.7	130	95.6	-3.9
Non-farm activity	200	95.7	81	93.1	119	97.5	-4.4
Wage & salary employment	249	97.3	37	100.0	212	96.8	3.2**
Fishing	52	94.5	16	84.2	36	100.0	-15.8*

Note: Percentages are calculated over the number of respondents who participated in each activity only. Includes only respondents in dual-adult households where both the primary male and female decisionmaker responded to the gender empowerment module.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

We gain further insight on this point from an additional set of questions asking respondents who participated in each activity about the extent to which they could make their own decisions on the activity if they wanted to. Again, the results in Table 20 show consistent advantages for male decisionmakers, with differences that are often statistically significant. The largest gender gaps are found for cash crop farming (31.6 percentage-point gap, favoring males), food crop farming (18.0 percentage-point gap, favoring males), and livestock raising (17.4 percentage-point gap, favoring males).



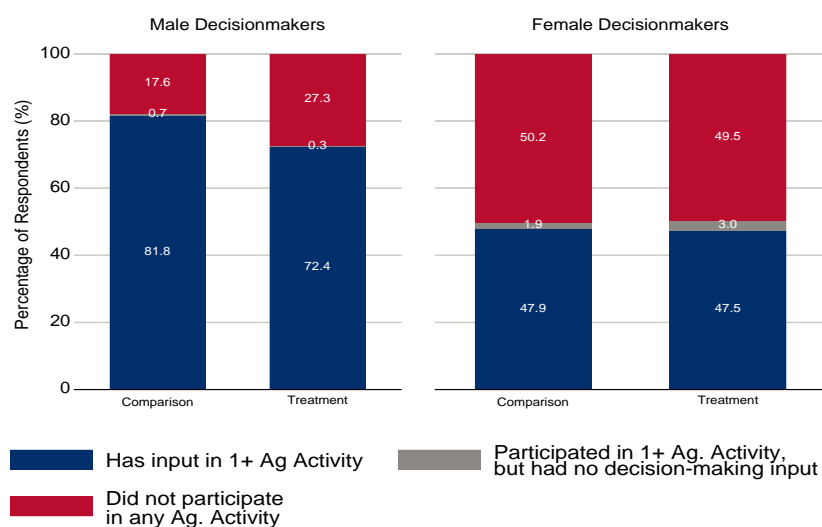
**TABLE 20: ABILITY TO MAKE OWN DECISION**

Respondent feels they can make their own decisions if they wanted to on activity	Overall		Female Decisionmakers		Male Decisionmakers		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
Food crop farming	686	85.5	235	74.6	451	92.6	-18.0***
Cash crop farming	389	84.2	95	62.9	294	94.5	-31.6***
Livestock raising	159	82.8	41	70.7	118	88.1	-17.4***
Non-farm activity	184	88.5	70	81.4	114	93.4	-12.0**
Wage & salary employment	223	88.1	34	91.9	189	87.5	4.4
Fishing	48	87.3	15	78.9	33	91.7	-12.7

Note: Percentages are calculated over the number of respondents who participated in each activity only. Includes only respondents in dual-adult households where both the primary male and female decisionmaker responded to the gender empowerment module.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

The evaluation team next constructed an indicator of empowerment in productive decisions, using the template provided by the Abbreviated Womens Empowerment in Agriculture Index (A-WEAI)<sup>55</sup>. Specifically, “empowered” status for productive decisions is defined as having sole or joint decisionmaking power over at least one agricultural activity (i.e., food crop farming, cash crop farming, livestock, or fisheries) or being able to make their own decisions on at least one of these activities if they wanted to. This allows us to classify respondents into one of three categories: participating and having input in at least one agricultural activity, participating in at least one agricultural activity but having no decisionmaking power, and not participating in any agricultural activities. The results in Figure 62 show that for both treatment and comparison communities, a substantially greater share of male decisionmakers have empowerment status in agricultural productive decisions, while treatment and comparison communities are similar in terms of the level of empowerment for each gender. For both male and female decisionmakers, the results suggest that participation is a much greater barrier to empowerment than decisionmaking; in other words, focusing on increasing participation may do more for empowerment than changes in the decisionmaking processes amongst those who already participate in these activities.

**FIGURE 62: EMPOWERMENT IN PRODUCTIVE DECISIONS**

<sup>55</sup> For more information, see A-WEAI documentation: <https://weai.ifpri.info/versions/a-weai/>

These findings are echoed in the qualitative discussions. Although some discussion participants felt women faced no particular barriers to participating in agriculture, women were more commonly described as having decision-making power over small gardens around the home's patio, raising chickens and small livestock, and other activities that could be done within or near the home, such as a home-based business. Participants also suggested that decision-making power over a plot usually lays with whoever the plot belongs to, which may more commonly be a man, but could be a woman, or a man and woman jointly. Such respondents generally felt that the extent to which a woman would participate would vary from family to family, depending mostly on the interest and experience of the woman. For example, one female GD participant in Cáceres said, *"For our crop, I made the decision on my own and he helped me when we were getting started, but not anymore, because he has his own crop over there on another side [of the plot]."* However, even in cases where the woman appeared on a land title, some qualitative discussions described men as typically being responsible for decisions on land use, farming, and raising large livestock. As a community leader from Convención said, *"Let's put it like this. The title can be in the woman's name, but the man is the one who decides and he does what he wants."*

## CONTROL OVER INCOME

Male and female decisionmakers were asked an additional set of questions about decisions on income from different economic activities, as well as decisions on major and minor household expenditures. This allowed the team to calculate an additional component of empowerment under the A-WEAI, which examines control over income. This component defines "empowered" status as having control over income from at least one economic activity, or feeling they can make their own decisions on non-farm activities, wage and salary employment, or major household expenditures. The results are shown in Table 21.

**TABLE 21: CONTROL OVER INCOME FROM DIFFERENT SOURCES**

Income Decisionmaking Area	Overall		Female Decisionmakers		Male Decisionmakers		Diff.
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
Has some input in decisions about income from food crop farming	655	96.8	238	93.7	417	98.6	-4.9***
Has some input in decisions about income from cash crop farming	431	95.4	127	87.0	304	99.3	-12.4***
Has some input in decisions about income from livestock raising	169	96.6	51	96.2	118	96.7	-0.5
Has some input in decisions about income from non-farm activity	198	95.2	80	93.0	118	96.7	-3.7
Has some input in decisions about income from wage & salary employment	244	98.0	37	100.0	207	97.6	2.4**
Has some input in decisions about income from fishing	40	95.2	12	85.7	28	100.0	-14.3
Can make own decisions on non-farm activities	184	88.5	70	81.4	114	93.4	-12.0**
Can make own decisions on wage & salary employment	223	88.1	34	91.9	189	87.5	4.4
Can make own decisions on major household expenditures	1122	81.6	501	73.7	621	89.4	-15.7***

Note: Questions only asked to respondents who participated in these activities, with the exception of major and minor household expenditures which were asked to all respondents. Includes only respondents in dual-adult households where both the primary male and female decisionmaker responded to the gender empowerment module.

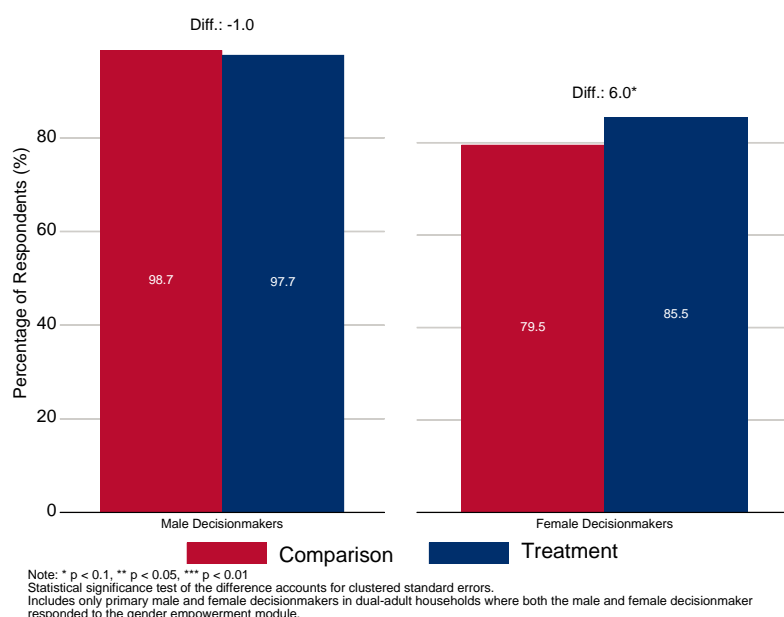
\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Among male and female decisionmakers who participated in the six economic activities, decisionmaking on income consistently favored men, with gender gaps that were often statistically significant. The largest gender gaps were seen for fishing (14.3 percentage-points), cash crop farming (12.4 percentage-points), and food crop farming (4.9 percentage-points). Similarly, a significantly larger share of male

decisionmakers compared to female decisionmakers described themselves as able to make their own decisions on non-farm activities (93.4 and 81.4 percent, respectively) and major household expenditures (89.4 and 73.7 percent, respectively). These results suggest that major household expenditures provide the greatest contribution to women's empowerment in control over income, particularly given the low levels of participation for women in most other economic activities.

Constructing the control over use of income empowerment indicator, the results show that in both treatment and comparison communities, male decisionmakers show a substantially higher level of empowerment on this dimension. The results, shown in Figure 63, suggest that men are near universally empowered on control over income use, and while most women are empowered on this dimension, there is still have room for improvement. Male decisionmakers show similar levels of empowerment across treatment and comparison communities, while female decisionmakers in treatment communities show a slightly higher level of empowerment than those in comparison communities; these differences will be accounted for in the impact analysis through statistical matching and they do not pose an issue for the validity of the impact estimates (see the power and balance section of the report).

**FIGURE 63: EMPOWERMENT IN CONTROL OVER INCOME**



## ASSET OWNERSHIP

Male and female decisionmakers were asked about whether anyone in their household owned a series of items, and whether they themselves owned any of the item either solely or jointly. The results in Table 22 show there are significant gender differences across multiple items. For example, a significantly greater share of male decisionmakers personally owned agricultural land, large livestock, fishing equipment, mechanized and non-mechanized farm equipment, housing, and transportation, while a significantly greater share of female decisionmakers personally owned small livestock, poultry, non-farm business equipment, and large and small consumer durables. No differences were seen across genders for cell phone and non-agricultural land ownership.

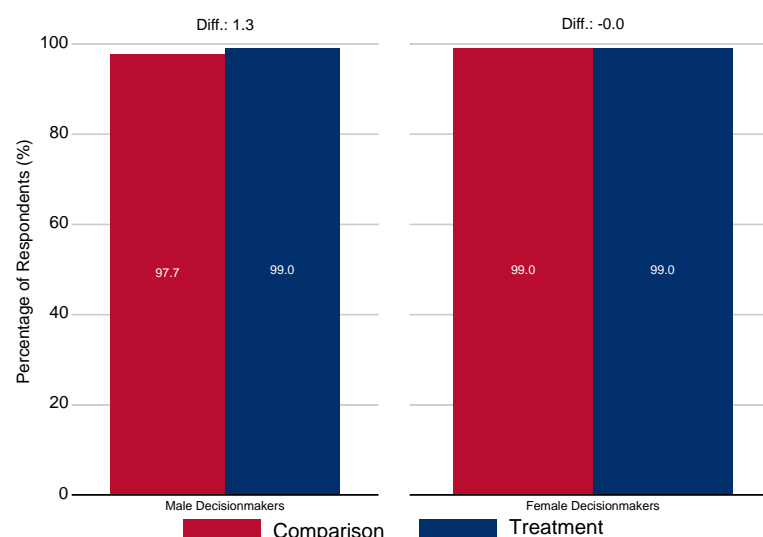
**TABLE 22: ASSET OWNERSHIP**

Personally owns any of item	Overall		Female Decisionmakers		Male Decisionmakers		Diff
	Freq.	Pct. (%)	Freq.	Pct. (%)	Freq.	Pct. (%)	
Agricultural Land	694	49.4	308	43.9	386	54.9	-11.0***
Large Livestock	225	16.0	92	13.1	133	18.9	-5.88**
Small Livestock	256	18.2	135	19.2	121	17.2	2.0**
Poultry	804	57.2	461	65.6	343	48.8	16.8***
Fish pond/equipment	51	3.6	21	3.0	30	4.3	-1.3**
Non-mechanized Farm Equipment	562	40.0	211	30.0	351	50.0	-20.0***
Mechanized Farm Equipment	62	4.4	22	3.1	40	5.7	-2.6***
Non-Farm Business Equipment	86	6.1	53	7.5	33	4.7	2.9***
House	690	49.1	336	47.8	354	50.4	-2.6*
Large Consumer Durables	1028	73.1	525	74.7	503	71.6	3.1**
Small Consumer Durables (e.g. radio, cookware)	1278	90.9	659	93.7	619	88.1	5.7***
Cell Phone	1255	89.3	635	90.3	620	88.2	2.1
Non-Agricultural Land	64	4.6	31	4.4	33	4.7	-0.3
Transportation	582	41.4	227	32.3	355	50.6	-18.3***
Total	1406	100.0	703	100.0	703	100.0	n/a

Note: This question was a multiple response question, so counts for individual items may not add up to the total number of respondents. Includes only primary male and female decisionmakers in dual-adult households where both the male and female decisionmaker responded to the gender empowerment module.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

These questions allowed the evaluation team to follow the A-WEAI template to construct an indicator of empowerment in asset ownership. This indicator classifies each of the items as either large or small, and defines empowerment in asset ownership as owning at least one large or two small assets either alone or jointly. The results in Figure 64 show that empowerment in asset ownership is near universal for both male and female decisionmakers. While empowerment in asset ownership is higher for female decisionmakers, the

**FIGURE 64: EMPOWERMENT IN ASSET OWNERSHIP**

Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Statistical significance test of the difference accounts for clustered standard errors. Includes only primary male and female decisionmakers in dual-adult households where both the male and female completed the gender empowerment module.

difference is small and statistically insignificant. The results also show that both male and female decisionmakers are similar in terms of asset ownership across both treatment and comparison communities (Figure 64). These results are unexpected, and suggest the definition of empowerment based on these particular assets may be too coarse or ill-suited for this implementation context.

## ACCESS TO CREDIT

Gender-based differences in access to credit is examined by looking at all loans described by the primary survey respondent and identifying which household members the loan is attributed to. This is shown in the first panel of Table 23. Overall, 6.7 percent of all male household members aged 18 or older and 6.1 percent of female household members over 18 took out any loan over the 12-month period before the survey; the difference is not statistically significant. The gender gap increases slightly and becomes statistically significant when the analysis is restricted to primary male and female decisionmakers; 9.6 percent of male decisionmakers and 7.7 percent of female decisionmakers took a loan over the period.

Although the gender gap in the share of household members who took loans is small, the gap is much larger when looking at average loan amounts, as shown in the second panel of Table 23. Among all household members aged 18 or older who took loans, males took an average of \$2,676.5 USD (\$9.9 million COP), compared to an average of \$1,517.4 USD (\$5.6 million COP) for female adults who took loans. The gender gap grows modestly when restricting the analysis to primary male and female decisionmakers. On average, male decisionmakers who took loans obtained \$2,753.1 USD (\$10.2 million COP) in loans over the 12-month period before the survey, compared to \$1,546.9 USD (\$5.7 million COP) for female decisionmakers who took loans.

**TABLE 23: ACCESS TO CREDIT, BY GENDER**

Outcome or Covariate	Overall		Women		Men		Diff.
	N	Mean	N	Mean	N	Mean	
Percent who took loans (%)							
Household Members 18+	7402	6.4	3485	6.1	3909	6.7	-0.6
Primary Decisionmakers	4924	8.7	2443	7.7	2481	9.6	-2.0 ***
Average amount borrowed (USD)							
Household Members 18+ Who Took Loans	475	2154.5	213	1517.4	261	2676.5	-1159.1 **
Primary Decisionmakers Who Took Loans	426	2223.6	187	1546.9	239	2753.1	-1206.2 **
Loan Source (% of Household Members Who Accessed Loans) <sup>a</sup>							
Agrarian Bank	477	27.9	213	24.9	261	30.3	-5.4
Other Banks	477	34.4	213	37.1	261	32.2	4.9
Cooperative	477	12.6	213	16.0	261	9.6	6.4 **
Gota a gota (informal lender)	477	10.5	213	11.7	261	9.6	2.2
Family / Friends / Employer	477	9.6	213	6.6	261	12.3	-5.7 *
Other	477	8.6	213	8.0	261	9.2	-1.2
Loan Use (% of Household Members Who Accessed Loans) <sup>a</sup>							
Agriculture/Livestock	475	40.0	211	31.3	261	46.7	-15.5 ***
Purchase Land	475	2.5	211	1.9	261	3.1	-1.2
Buy/Improve Housing	475	12.8	211	14.7	261	11.1	3.6
Business Investment	475	13.9	211	19.0	261	10.0	9.0 ***
Household Expenses	475	14.7	211	15.2	261	14.6	0.6
Other	475	21.1	211	23.2	261	19.5	3.7

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

Note: Statistical significance tests account for clustered standard errors.

<sup>a</sup> This question was a multiple response question, so percentages may not add up to 100. Calculated for all respondents who took loans.

Overall, male and female household members who accessed loans appear similar in terms of loan sources. This is shown in the third panel of Table 23. The most important differences are a somewhat higher share of loans to women coming from cooperatives (16.0 percent, 9.6 percent of loans to men), and a higher share of loans to men coming from family, friends, or employers (12.3 percent, 6.6 percent of loans to women). While a greater share of loans to men came from the agrarian bank, this is balanced out by a greater share of loans to women coming from other banks, meaning that a similar share of loans to women (62.0 percent) and men (62.5 percent) came from any formal bank.

Loans to men and women were also mostly similar in terms of the loan use, shown in the final panel of Table 23. The main differences were that a greater share of loans to men (46.7 percent) were used for agricultural or livestock purposes than loans to women (31.3 percent), and a greater share of loans to women were used for business investments (19.0 percent) than loans to men (10.0 percent).

## BALANCE AND POWER

The evaluation team used the baseline data to revisit statistical assumptions related to the methodology proposed for this evaluation. As has been discussed throughout the report, results presented are for a group of randomly sampled households from communities in municipalities where the LfP intervention is taking place, along with a group of randomly sampled households from comparison communities that were statistically matched to the intervention communities. In terms of our methodology, the report describes results after the first two steps of the matching process—the municipal-level and the community-level matching. In general, the results in this report have suggested that the treatment and comparison sample are indeed similar, with the exception of a few important statistically significant differences. To further improve the comparability of the treatment and comparison groups, we conducted the third step of the matching at the household level using household characteristics from the baseline data employing entropy balancing. After implementing this household-level matching, the evaluation team conducted balance tests to examine and confirm the comparability of sampled households in treatment and comparison communities for the matched comparison component of the evaluation design. This is important for strengthening the validity and precision of the impact estimates at endline. In addition, the evaluation team re-ran power calculations from the evaluation design report, using the parameters obtained from the baseline data. This updated power analysis using actual baseline data from the LfP implementation area enabled the team to re-confirm that the evaluation has sufficient statistical power to detect the impact of LfP on key outcomes of interest, and across the range of effect sizes that the team anticipated during the evaluation design stage.

### BALANCE TESTS

The evaluation team examined normalized differences in baseline means on key outcome variables and covariates to assess balance between sampled households in treatment and comparison communities. The selected variables spanned a wide range of outcome categories and covariates of interest for the evaluation. The normalized difference statistic falls below 0.25 for nearly all of the variables tested, indicating adequate balance.<sup>56</sup> The evaluation team also used entropy-balancing as a form of matching to improve comparability of treatment and comparison groups using the baseline data and confirm the ability to mitigate observable bias through matching. The aim of pre-processing the data via entropy-weighting is to improve covariate balance between the treatment and comparison groups, so that the comparison group has a more similar distribution to the sampled households in treatment communities on observed characteristics that may influence outcomes. This helps to overcome the confounding effects of potential selection bias, particularly in terms of communities selected for the intervention and

<sup>56</sup> An absolute value of 0.25 or less indicates strong balance.

household self-selection into participation into program activities. The process uses methods developed by Hainmuller (2012) and was conducted to achieve balance on treatment and comparison group means.

To test this at baseline, the evaluation team matched on a set of household-level characteristics that relate to key demographic traits or outcome indicators. The household-level covariates included a wide range of variables, as listed in Annex H. The results confirmed the ability to achieve balance on several key covariates and baseline values of outcomes across the samples. In other words, households in the comparison group form a viable pool to serve as a counterfactual for sampled households in treatment communities, to measure the effects of the LfP intervention as planned through the evaluation.

The table in Annex H presents means for the overall sample, the treatment sample, and the comparison sample (before entropy balancing), along with means for the matched comparison sample (after entropy balancing). The difference columns show the difference in means between the comparison means and the mean for the treatment sample, along with the statistical significance of the difference. The table shows a good degree of balance before entropy balancing, and an excellent degree of balance after entropy balancing. Across more than 100 key household traits and variables related to different outcome indicators, exceptionally few show statistically significant differences between the treatment sample and the matched comparison sample. Even among variables where the difference between the treatment sample and unmatched comparison is not statistically significant, nearly all show improvement in balance after entropy balancing.

However, the one important area where balance is not achieved is on coca cultivation. Unfortunately, this was inevitable due to the security problems experienced in comparison coca municipalities, in particular in Olaya Herrera where enumerators were forbidden by community leaders from asking questions about coca in all communities in the municipality. The consequence is that a statistically significant greater share of sampled households in treatment communities say they have ever benefitted from alternative development programs and have ever grown coca, and a larger, statistically insignificant portion of these households admit to currently growing coca. Because of the high rate of refusals to the coca questions in Olaya Herrera, the true prevalence of coca cultivation among the comparison sample (both matched and unmatched) is almost certainly higher than what is reported and may be more similar to the treatment sample than what is reported here. The main implication of this for the IE is that the endline statistical analysis may either over or underestimate the impact of LfP on cocoa cultivation, depending on the trajectories of coca cultivation in the treatment and comparison municipalities between baseline and endline. The evaluation team should supplement the analysis at endline with secondary data and targeted qualitative information, where possible, to help mitigate this limitation.

## POWER CALCULATIONS

The evaluation team also used the baseline sample to update the power calculations for the IE. These results are shown in Table 24. Compared to power expectations at the IE design stage, the updated calculations confirmed that the evaluation remains well-powered to detect many key outcomes of interest. Table 24 presents illustrative minimum detectable impact (MDI) calculations for selected outcomes. MDIs indicate the smallest impact for a given outcome that we are able to detect given the impact evaluation design, sample size, and a number of other parameters such as the confidence level of the hypothesis test (95 percent), the level of power (80 percent)<sup>57</sup>, and the amount of variation in the outcome explained by the covariates included in the regression analysis (30 percent). We first calculated the minimum detectable effect size (MDES) for the LfP intervention, which is expressed in terms of standard deviation units (same across all outcomes). We then calculated the MDI for each outcome by

<sup>57</sup> “Confidence level of the hypothesis test” refers to how confident we can be that a difference is the result of a true difference between two groups, and not the result of random variation in the data (i.e., how confident we can be that we do not have a false positive). “Level of power” refers to how confident we can be that we will detect a difference between two groups, if such a difference exists (i.e., how confident we can be that we do not have a false negative).

multiplying the MDES with the baseline standard deviation of the given outcome. The smaller the MDES, the larger the power of the design.

The reduction in the evaluation survey sample size from the planned 3,000 households across 200 communities to the achieved 2,965 households across 192 communities resulted in a small increase in the MDES over what was anticipated at evaluation design, from 0.213 to 0.218. The evaluation therefore remains well-powered to detect medium-scale changes to outcomes as a result of LfP's land formalization and related interventions. This MDES value implies that if the change to a given outcome as a result of LfP is smaller than 0.218 standard deviations from the mean at baseline, the IE statistical analysis will not be able to detect that change. In other words, the statistical analysis treats very small changes that may have resulted from LfP the same as if there was no impact at all from LfP. This is not a concern for most outcomes, given the magnitude of USAID's investment in LfP, since we make the assumption that no impacts will be viewed similarly as very small impacts from a policy point of view.

In terms of individual outcomes of interest, the evaluation is powered to detect changes ranging from 10-156 percent of the baseline mean for key outcomes related to LfP's theory of change, depending on the outcome. This is mostly in line with the MDIs estimated at evaluation design, which ranged from 19-80 percent of the anticipated baseline means for most outcomes assessed at that stage. For example, for perceived land tenure security (percent of households who reported that they are not likely to lose rights to any plot in the next 5 years), the IE is powered to detect a 9.15 percentage-point or greater change from the baseline proportion of tenure secure households, which was 77 percent. Similarly, the IE is powered to detect an 8.9 percentage-point or greater increase in the proportion of households with a registered title to at least one plot, over the baseline sample average of 21.3 percent. The updated MDIs for many of the outcomes assessed in Table 24 are in line with results from prior land sector evaluations, which suggests they are in the range of impacts that can feasibly be achieved through a program such as LfP. For example, a 7.9 percentage point increase in households who receive credit appears achievable, particularly given the heavy emphasis of qualitative interview participants on the importance of formal titles for receiving credit and the existing gaps between need for credit and credit access detailed earlier in this report.

However, the estimated MDI is now substantially higher for revenue from agricultural activities, at 91 percent of the baseline value (instead of 41 percent as estimated in the EDR), mostly due to the extremely unequal distribution of revenue in the baseline sample. In practical terms, this means that LfP will need to achieve large improvements to household income from agriculture across a substantial portion of implementation households (or a nearly doubling, on average) for the evaluation to detect a statistically significant impact on this outcome.

The MDI is also substantially higher for prevalence of coca cultivation, at 154 percent of the baseline value, owing to the very low prevalence of coca reported via survey respondents at baseline.<sup>58</sup> The updated MDI suggests the evaluation is powered to detect a three percentage-point difference in the proportion of households that cultivate coca. However, because only 2.0 percent of households admitted to cultivating coca at baseline, in practice it will likely be nearly impossible for the evaluation to detect an impact on coca that is attributable to LfP, through the statistical impact analysis.<sup>59</sup> As a result, the IE is effectively no longer powered to detect the impacts of LfP on coca cultivation prevalence from the quantitative household survey data. See the recommendations section below for discussion on potential mitigation options for this through supplemental secondary data sources and analysis.

<sup>58</sup> Prevalence is only slightly higher, at 3.9 percent, when taking only coca-growing municipalities into consideration, but the corresponding reduction in sample size completely wipes out the improvements in MDI that stem from the higher prevalence in this sample.

<sup>59</sup> The scenarios under which this might be possible seem very unlikely practice, such as the LfP intervention leading to no change or an even further reduction in the already low proportion of households that cultivate coca, while communities in comparison areas experience a large increase in coca production in the absence of an intervention like LfP.



**TABLE 24: MINIMUM DETECTABLE IMPACTS FOR SELECTED OUTCOMES**

Analysis unit	Outcome	Baseline values <sup>a</sup>		Source	Sample size	Full Sample		
		mean	SD			MDES <sup>b</sup>	MDI <sup>c</sup> (in units of outcome)	MDI (% change from mean) <sup>d</sup>
Household	Perceived tenure security (% who are not likely to lose rights to any plot, next 5 years)	77.0	42.1	Baseline	2965	0.218	9.15	11.9%
Household	Has registered title to at least one plot (%)	21.3	40.9	Baseline	2965	0.218	8.93	42%
Household	Access to credit - Received credit last year (%)	15.6	36.3	Baseline	2965	0.218	7.91	51%
Household	Probability of Poverty at National Poverty Line (%)	45.0	21.5	Baseline	2965	0.218	4.69	10%
Household	Monthly Income from Agricultural Activities (USD)	372.3	1526.1	Baseline	2174	0.223	340.57	91%
Household	Household Cultivates Coca (%) <sup>e</sup>	2.0	13.9	Baseline	2965	0.218	3.01	154%

## Notes:

- Baseline means and standard deviations are calculated from the evaluation baseline data.
- MDES=Minimum detectable effect size, expressed in standard deviation units;  
Calculations assumed a confidence level of 95 percent, two-tailed tests, 80 percent power, 10 percent non-response rate, 15 percent correlations between outcome across baseline and follow-up surveys, and that covariates explain 30 percent of the variation in outcome.
- MDI=Minimum detectable impact, expressed in units of outcome.
- Percent change is relative to baseline mean.
- Restricting the power calculation for this variable to only the communities in coca-growing municipalities yields an MDES of 0.315, and an MDI of 6.1 and 156%, in units of outcome and percent change from mean, respectively. These statistics are calculated using a sample size (n=1507), mean (3.9), and SD (19.4) for that sub-sample.

## CONCLUSIONS

### IMPLICATIONS OF BASELINE FINDINGS FOR LFP THEORY OF CHANGE AND PROGRAMMING

It is important to recognize certain limitations of the baseline study, including the sensitive nature of some questions regarding illicit crop cultivation and threats from armed groups, which can affect the reliability of responses or respondent willingness to respond. An additional limitation could stem from the apparently low level of understanding of the legal and institutional landscape around land titling, which may mean households' self-reported land tenure status at baseline is not always accurate. However, several of the baseline findings support the LFP programming logic and elements of the intended theory of change, while some findings call attention to issues that may present challenges for LFP's intended objectives, and/or require adaptive programming to address as implementation progresses.

Key areas of support include:

*Scope to greatly improve the proportion of households with formalized land rights, and LFP's programming emphasis on strengthening the culture of formalization over time among the target population also appears to be highly relevant.* Results support the programming logic that most households are currently untitled (for example, among sampled households in LFP communities, 22.0 percent of households reporting having a registered title to any plot). In qualitative discussions, respondents also expressed widespread approval for previous titling efforts by now-defunct land agencies INCORA and INCODER, which speaks to the extent to which communities are likely to welcome the efforts of LFP. However, these discussions also suggested that these plots can slip back into informal tenure status when land is inherited from a titled owner who dies, because the inheritor does not always go through the process of formalizing the inheritance. This highlights the importance of accompanying land formalization with efforts to create a culture of formalization so that LFP's efforts are not undone over time.

*Linkages between titling and credit, and potential improvements to agricultural productivity.* Results support the theory of change that providing land titles may improve access to credit for those unable to obtain loans. Among all sampled households in treatment communities, 25.8 said they had need of credit in the past 12 months, while just 17.2 were able to obtain it. Improved access to credit was consistently mentioned in qualitative discussions as the most important benefit of having a formal title, and this sentiment is echoed in the quantitative data. A tangential benefit of improving access to formal credit is that it may also reduce households' reliance on informal *gota a gota* lenders connected to organized crime, which account for 14.6 percent of all loans. In addition, the baseline found that around 12 percent of land on plots with agricultural activities is currently left unused, while a lack of resources to develop the land was mentioned as the primary reason for this for 57.7 percent of these plots. If titles do increase landholder's ability to obtain loans, or the size of loans they obtain, then this in turn could lead to improved agricultural productivity for those with sufficient land.

*Linkages between formalized titling, strengthening women's land rights and women's empowerment.* Results support the programming logic that women are currently less likely to appear on any land document or on a formal title. The findings also support the possibility that including women on land titles may improve their tenure security, particularly in the context of land inheritance. However, low levels of formal marriage could present a challenge to including both partners on land titles. Although Colombian law recognizes the property rights of individuals in common law marriages, couples need to make a formal declaration that they are living together. LFP is working to assist couples with this step as it works to advance joint titling. LFP's gender-sensitive titling approach also aims to teach women about their property rights and how to navigate the legal system around land transactions and disputes. Results also

support the programming logic with respect to a gap in agricultural empowerment between men and women. However, the results only weakly support the theory of change that including women on land titles will improve their participation in agriculture. Comparing agricultural participation and control over decision-making at baseline between women who are included on titles and those who are not, the advantages for titled women are clear but relatively small. The failure of the instrument to adequately capture activities related to small livestock and poultry, which many women engage in, could contribute to this and can be rectified at endline. Still, the nature of women's activities suggests that the benefits to women from inclusion on land titles could come more strongly on other outcomes, such as in improved access to credit for starting or growing a small business, which in turn may also serve as an important driver of their empowerment.

The baseline findings provide less support for the following TOC elements, while highlighting some key issues that underscore certain challenges for LfP's intended programming:

*Results suggest some challenges to the theory of change that land titles will lead to widespread improvements in tenure security, given findings from baseline related to sources of tenure insecurity, experience with prior formalization efforts, and eligibility for titling.* In general, measures of tenure security were relatively high at baseline, land disputes were uncommon, and there was little difference in tenure security between titled and untitled households who owned land. The biggest differences were seen between those who owned land and those who did not. Although such households are not the focus of LfP's intervention, LfP may want to consider how these less secure households may be impacted by the intervention. In general, tenure security was also not commonly listed as a benefit of obtaining a title, and nearly half of owners without titles said they had not formalized because they saw no reason to, or because they preferred staying informal, perhaps to avoid taxes. This may suggest a role for LfP in communicating potential benefits of formalization to eligible households. The results do provide some evidence that having a formal title reduces forced displacement, but does not completely prevent it. Some communities appear to have developed their own informal systems for land governance in the absence of State presence, and findings also suggest that holding a land title may not address some common sources of tenure insecurity, such as land expropriation by armed groups. Debt was another commonly cited cause of tenure insecurity in qualitative discussions, and tenure insecurity from debt could actually increase if the program leads to a rise in credit seeking among newly titled households.

*Colombia's highly unequal land distribution may pose a challenge for the program to leverage land titles into improved livelihoods, as baseline findings suggest that many households have insufficient land to earn a living from even if these holdings are formalized. The benefits of formalization could then also accrue disproportionately to a smaller share of households that have medium to large land holdings..* Among all households with no registered title to any plot, 37.0 percent do not own any land and only have land access through usufruct or rental agreements, while an additional 21.5 percent own 0.5 hectares or less. Thus, many households may be dependent on improvements in wage employment or starting or growing their own businesses to improve their livelihoods, as they may not have enough land to facilitate substantial improvements to income from agricultural activities, even with land titles and improved access to credit.

*Low levels of satisfaction with local service delivery and infrastructure present both a challenge and an opportunity for LFP programming. The program's focus on local service delivery and infrastructure as part of its activities appears well-placed in this respect, but the current status quo does present a substantial challenge given that market access will be needed to improve livelihoods and trust in the government infrastructure will be needed to support formal transactions.* Over half of all respondents were not familiar enough with the Municipal Land Office to have any opinion, while of those who were familiar with the institution, only around 40 percent said they were satisfied with its services. While this suggests some challenges to LfP's theory of change for Component 2, it may also provide an opportunity for LfP to substantially move the needle on public perception if it can successfully strengthen land administration capacity at the municipal

level.

*Land restitution is contentious.* Qualitative discussions highlighted a desire for increased transparency, assurances that all parties involved could be present for plot studies, and for the process to include the input of neighbors. Given that the cadaster updates will serve as an input to the land restitution process, potential challenges of accelerated land restitution for LfP include the possibility of increased social tension.

*Trust in government is low, particularly in coca-growing areas.* Coca substitution is at a fragile point. Communities perceive the government to be against them, appear increasingly skeptical towards PNIS efforts, and suspect the government will resume aerial spraying. Changes to PNIS agreements and requirements for participation appear to be a main cause of skepticism. Some of these new program requirements may impede on LfP's ability to achieve impacts in coca-growing municipalities. For example, it is the evaluation team's understanding that households with salaried employment are ineligible for PNIS benefits, which could limit the impacts LfP might expect to achieve on increasing private sector employment opportunities and income from off-farm activities. Endline data collection should look at the size and duration of PNIS subsidies, and households' rates of success at signing up for PNIS.

*To be effective at reducing coca cultivation, LfP will likely need to be accompanied by a credible threat of expropriation and viable alternative livelihoods.* Results suggest that not all households currently growing coca are untitled. And, while LfP may be effective at reducing coca cultivation on land that is newly titled, it is less clear whether it will be able to reduce cultivation on lands that remain untitled, such as plots inside of national parks. Indeed, it is reasonable to expect that reduced coca supply from titled plots could drive up prices, increasing the incentive to push into the agricultural frontier to grow coca on vacant public land, protected reserves, and national parks. This could be particularly true if the government resumes aerial fumigation, given that protected lands cannot be sprayed.

*LfP's success at reducing coca cultivation will depend on additional factors outside its control.* As PNIS is already operating substitution programs, LfP's success at reducing coca cultivation may depend on the timing of alternative development projects. LfP's Component 3 for developing value chains and PPPs assumes PNIS and the GoC will be able to provide sufficient interim transitional support to these households until Component 3 can be implemented, though in practice this interim support is outside of LfP's manageable interest. Additionally, LfP's interventions are not designed to address the demand side of the illicit crop problem, and it is unclear whether the program can be effective at reducing coca cultivation without a reduction in demand. As long as the returns on coca cultivation remain high, even road construction, value chain development, and the creation of PPPs may not be sufficient to encourage a sufficient proportion of households to move away from coca to be able to detect an impact.

## **RECOMMENDATIONS FOR SUBSEQUENT DATA COLLECTION FOR THE IE**

The baseline data collection experience and findings also highlight some key issues that will be important to address for the endline data collection round:

- *Supplemental strategies to strengthen the evaluation's reporting on changes to coca production,* including an expanded focus on this in the qualitative data collection, and potential use of supplemental geospatial data to inform on coca expansion. The baseline results strongly suggest that households underreport their participation in coca production, and the resulting low frequency of participation in the baseline data means that the evaluation will very likely have insufficient statistical power to detect changes on this via the statistical impact analysis. To gain additional insights at endline on LfP's influence on this, the evaluation team recommends: (1)

prioritizing targeted qualitative data collection on this issue as part of the endline qualitative data collection effort; (2) considering possibilities to use supplemental geospatial data on coca production from satellite imagery or related sources, such as data from the UNODC; and (3) incorporating questions at endline asking about coca production in 2021 to try to recover the data that could not be obtained from specific comparison geographies. Satellite data from UNODC likely provides the best opportunity for continuing with a quantitative evaluation of LfP's impacts on coca cultivation, as it would provide more units for analysis and improve statistical power. Targeted GDs and KIs at endline may provide a route to understand patterns and reasons for change on this as it relates to LfP's activities, especially if it is paired with satellite data that can help identify if LfP may be associated with spillover effects on coca production, such as expansion on to protected lands. The evaluation team notes that coca production was sensitive for discussion in the qualitative effort at baseline, as anticipated. At endline, the evaluation team might also consider adding one-on-one discussions with community leaders if they are willing to do so.

- *Expanded role for qualitative data collection at endline*, to strengthen the ability to interpret endline results. This should particularly focus on expanding the number of group discussions, holding gender-segregated discussions, and expanding coverage on issues related to women's land rights, tenure security and empowerment. It should also aim to help inform on potential differences in trends across the diverse regional contexts where LfP operates. Baseline findings highlight the strong role that qualitative data is likely to play at endline to help interpret results, including for gender disaggregated results and on particular issues related to women's land rights, tenure security and empowerment. In addition, given the diverse regional contexts where LfP is operating, this data collection should be disaggregated by region and aim to be substantive enough within each region to allow for trends to be distinguished across regions. This implies a larger qualitative data collection effort than was undertaken at baseline, and also conducting gender-segregated group discussions, both of which have time and budget implications for the endline component of the evaluation. USAID is encouraged to prioritize this at endline, in addition to the substantive quantitative data collection effort, to strengthen the evaluation's ability to identify reasons for observed impacts at endline and drivers of potential variation across different regions of LfP implementation.
- *Suggested modifications to endline survey instrument and qualitative data collection*:
  - Given confusion from respondents at baseline on what constitutes a land title, enumerators should include a picture of an *escritura publica* at endline and add a question to the household survey that asks respondents to confirm if they have this document. Respondents could also be asked to show enumerators the document that they do have, to ensure it is coded correctly on the survey.
  - Modifications to the endline survey instrument and enumerator training to improve reporting on the A-WEAI section of the wives module on whether women engage in poultry raising as a component of livestock activities. This could include adding a note at the start of the module noting that poultry farming should be considered a type of livestock activity for the purpose of the survey, and/or adding follow-up probing questions in that module on poultry activities specifically. The baseline results suggest that women's engagement in poultry raising may be under-reported at baseline because of confusion over whether this was considered to be part of livestock activities or a separate category.

- Targeted work to shorten the endline survey instrument where possible. Key areas where some efficiencies can be gained are on level of detail collected about loans, and some details on the crop roster.
  - A more targeted focus for the qualitative discussions on women's empowerment issues, including on issues related to land inheritance, farm management and tenure security, to enable greater interpretation of household survey data on the same. Similarly, qualitative discussions and household surveys at endline should add questions related to areas LFP programming is working to address, including formal declarations of common law marriage and gender-based support for land rights.
  - Ensure questions are included in the qualitative and quantitative instruments to look beyond access to credit, and examine the quality of credit obtained. Households may obtain loans from informal sources, illicit groups, or predatory lenders charging extortionate interest rates. Questions should go beyond simply asking about whether or not credit was obtained.
- *Ensuring at least 6 months lead time for endline data collection and evaluation team procurement*, to ensure sufficient time to plan and engage in the data collection preparations with the endline firm. This is especially important given the challenging security context in the LFP implementation and comparison communities for this evaluation. The baseline data collection effort highlighted the challenging security context in the LFP implementation areas, but also demonstrated that high quality data collection is achievable, particularly with careful planning and outreach on the part of the data firm. As was the case for baseline, the endline evaluation team must have sufficient time to plan and engage in data collection preparation with the endline data firm to ensure security logistics, plan for contingencies and ultimately collect high quality data. The implication for USAID is to procure the endline work with sufficient lead time before the data collection in the field is intended to take place, so that the endline evaluation team and data firm have enough time to work through the substantial logistics and security challenges for this data collection (in addition to the typical work required for the endline data collection itself). In our experience, this means USAID should aim to have both the evaluation team and data firm on board at least 6 months before the intended start of endline data collection in the field. A time period greater than 6 months may be required if coordination with other USAID data collection efforts is envisioned at endline, as was the case for the baseline data collection.
  - *If only one additional round of data collection will be possible for the evaluation, consider timing that endline data collection to take place at least 8-10 months after distribution of land documentation to households.* This would enable measurement of short-term outcomes and impacts of the LFP activity. If feasible, a second round of data collection some 2-4 years after all components of the activity have been completed would enable measurement of longer-term impacts.
  - *Data firm procurement via the Mission's MEL activity.* The independently-procured data firm for the data collection at baseline, through the Mission's MEL activity, worked well for this evaluation and can be replicated in subsequent data collection rounds.
  - *Maintain the same community definitions used at baseline.* GoC may change maps over time, but subsequent data collection activities and rounds of analysis should continue to use the community definitions from baseline data collection. These community definitions considered the diverging official cartographies from DANE and IGAC, how LFP would use these cartographies to conduct its activities, and the realities of how fieldwork would need to be conducted.

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