

# Impacts of Rural Land Reform on Households in Burkina Faso

Heather Huntington, Kate Marple-Cantrell, and Paavani Arora

May 2023

## Abstract

This study presents the endline findings of the Millennium Challenge Corporation (MCC) Burkina Faso Rural Land Governance (RLG, 2009—2014) project evaluation. The RLG project focused on improving citizens' access to land administration services and land documentation and was implemented between 2009 and 2014 in 47 of Burkina Faso's 302 rural communes in two phases. Three rounds of data collection took place in this evaluation – in 2010, 2012, and 2021. The study includes a causal impact analysis for indicators that can be addressed rigorously, including: investment behavior on land (e.g., constructing buildings, planting permanent crops, improving irrigation infrastructures or electricity, investing in various agricultural inputs), use of collateralized credit for land improvements, fear of loss of land (e.g., because of government expropriation, lack of documents, or other villagers), total number of conflicts on land, general perception of land security (e.g., whether the individual fears the arrival of new populations to exploit the land for agricultural purposes), perception of inequality in access to land for women. The study also explores project effectiveness in reforming land laws and regulations, enacting sustainable operational changes in land governance, and the development, performance, and sustainability of new land administration institutions established by the project through a performance evaluation approach. The impact evaluation found no effects on perceptions of land tenure security, land conflict frequency and occurrence, producers' investment decisions, and incomes and livelihoods. In terms of impact results for subgroups, the evaluation found mixed and inconsistent results across outcome families; there is some evidence of a significant positive impact of the project on perceived tenure security for youth and large (top quintile) landholders, along with weakly significant negative effect on perceived tenure security for female and urban respondents. As such, the evaluation does not find improvements in land tenure or other outcomes for women due to the project activities.

**Key words:** Land administration, land conflict, tenure security, migration, women's land rights

# 1 Introduction

Over the past two decades, a growing number of land sector reforms have been undertaken to strengthen land rights, increase tenure security, and improve land governance. These efforts have largely been justified by the theoretical role of more secure tenure in motivating improvements in key development outcomes, such as food security and economic development.

Greater tenure security is expected to reduce conflicts (André and Platteau 1998) and enhance confidence in land values (Deininger and Chamorro 2004). Subsequent higher-level effects include larger and more efficient formal land and credit markets (Besley 1995; Feder 1985; Field and Torero 2006), improved resource governance (Bromley 1992; Hardin 1968; Ostrom et al. 1990), and increased long-term investment (Besley 1995; Goldstein and Udry 2008; Besley and Ghatak 2010) with productivity effects (Besley 1995; Besley and Ghatak 2010; Deininger, Ali, and Alemu 2011; Holden, Deininger, and Ghebru 2009). Functioning land administration systems are expected to provide secure, complete, and accurate records about land rights that support efficiency in land transfers and markets. Effective land governance and administration systems contribute to public sector financing, encourage the productive and sustainable use of land, and facilitate low-income groups' access to land and property (Bandeira, Sumpsi, and Falconi 2010; Zevenbergen, Vries, and Bennett 2015). Consequently, long-term positive impacts of securing land rights are expected to generate welfare effects (Soto 2001) and economic development (Acemoglu, Johnson, and Robinson 2001; Besley and Ghatak 2010).

There is a growing body of rigorous impact and performance evaluations focused on land sector outcomes. These impact evaluations have allowed the testing of key assumptions in the land theory of change. However, empirical evidence from rigorous impact evaluations remains limited on the impact and sustainability of land sector reforms (Lisher and Huntington 2021). Systematic reviews have highlighted significant evidence gaps and mixed empirical results and emphasized that the magnitude and significance of effects are context-dependent (Lawry et al. 2014; Higgins et al. 2018; Tseng et al. 2021). The efficiency and effectiveness of donor interventions to strengthen land administration services remain mixed (Burns et al. 2007; Mitchell, Clarke, and Baxter 2008; Zevenbergen, Vries, and Bennett 2015) and there is little rigorous analysis to date on the efficacy of this programming (Lisher 2018). There is especially a dearth of research available that compares the efficacy of land sector programming across different types of interventions, contexts, and land governance environments (Lisher and Huntington 2021). Finally, the limited number of studies with a sufficiently long exposure period has hindered attempts to explain the differential effects of land tenure interventions in Africa versus Latin America, Eastern Europe, or Asia (Lawry et al. 2014).

This paper presents the endline findings of the Burkina Faso Rural Land Governance (RLG, 2009—2014) project impact evaluation.<sup>1</sup>

---

1. The RLG endline impact evaluation is an independent follow-up evaluation conducted

This RLG project evaluation is a mixed-methods evaluation that includes impact and performance evaluation components, though this paper focuses on results of the impact analysis. The evaluation utilizes a comprehensive approach to examine outcomes and impacts across the land governance theory of change. To examine outcomes, the RLG evaluation draws upon main sources of primary and secondary data: household/individual/parcel surveys, high-resolution satellite imagery, village surveys, commune surveys, focus group discussions with village leaders and beneficiary households, and semi-structured interviews with key project and land sector stakeholders.

The RLG evaluation provides several research- and policy-relevant findings. It adds new evidence on the effectiveness of land sector reform and contributes to building the knowledge base in Africa across both rural and peri-urban/urban contexts, where there is an especially small number of empirical studies. The RLG evaluation provides evidence of the effect of sporadic registration/land administration strengthening reforms versus systematic titling; this complements the evidence from other similar MCC programs in Ghana and Benin. The evaluation also moves beyond household surveys to include land administration data and a wide range of qualitative interviews to capture a variety of perspectives across Burkina Faso’s land sector. The study includes a strong qualitative component and wives module to assess the gendered aspects of the program results. Finally, with an exposure period of over seven years, the evaluation promotes an understanding of long-term impacts and project sustainability. Longer exposure periods are necessary to provide an understanding of the sustainability of results and whether the absence of certain medium- and longer-term outcomes (such as land use change, productivity, livelihood effects, and land market activity) are due to insufficient time for the realization of benefits.

## 2 Background

Burkina Faso is a landlocked country in West Africa whose economy primarily relies on agricultural cultivation with cotton as the main cash crop, livestock production, and gold mining for export. Approximately 80 percent of Burkina Faso’s residents live in rural areas of the country (USAID 2017). Prior to MCC’s Burkina Faso compact, the country was subject to land policies dating back to the 1984 Agrarian and Land Reform law that vested ownership of all land in the state, did not allow sales of land, and denied recognition of customary rights to land. This policy sought to funnel land access through government-determined rules and weaken customary chiefs. Though it was still possible to obtain possession rights for the production of cash crops, farmers interpreted the law in practice to mean that “land belonged to whoever cultivated it regardless of customary rules” (USAID 2017, p. 10). An upward trend in conflicts coupled with de facto legal insecurity led to Burkina Faso’s adoption of the new Rural

---

by Cloudburst and funded by MCC. The evaluation results reflect the independent assessment of the authors, who have no identified conflicts of interest that would affect this analysis.

Land Policy in October 2007, followed by the new Rural Land Law in June 2009 (Elbow 2013).

In 2009, the Government of Burkina Faso entered into a compact with the Government of the United States, acting through MCC. The compact (\$480.9 million) was in effect from July 31, 2009, to July 31, 2014, and consisted of four projects: the Agriculture Development Project, the Roads Project, the Bright II Schools Project, and the RLG project, which was a \$58.2 million effort to implement major changes to rural land policy and law across Burkina Faso. This study focuses on impacts of the RLG project.

## 2.1 Intervention

The objective of the RLG project was to increase investment in land and rural productivity through improved land tenure security and land management. The RLG project focused on 47 of the country's 302 rural communes. This included a pilot phase with 17 communes and a second phase with 30 communes. There were three key groups of activities and outputs:

**Legal and procedural change and communication:** This activity supported the efforts of the Government of Burkina Faso to develop and implement improved rural land legislation and to develop, revise, and implement other legal and procedural frameworks. Following the passage of the new 2009 Rural Land Law, the primary aims of the RLG project were to support the Government of Burkina Faso to develop and implement improved land legislation (including the 2009 land law), reform administrative procedures to make them more accessible and user-friendly, and facilitate understanding to implement the 2009 land law.

**Institutional development and capacity-building:** The goal of this activity was to strengthen public sector entities providing land-related services at the national, regional, provincial, and local levels to effectively implement the laws and policies of the Government of Burkina Faso through the provision of training and improved information management systems. This involved supporting these entities in the following ways:

- Government land entity strategic planning and deconcentrating some government land administration functions from the national to the regional or provincial levels by developing an inter-institutional plan for modernizing the state entities that manage land. This included improved land registration and mapping services (including institutional modernization analyses, training, and capacity-building) and the purchase of equipment, imaging products, and surveying technology.
- Provision of geospatial and electronic registration infrastructure through developing cadaster tools (namely, permanent GPS stations), densifying the network of geodetic markers, and establishing a land information system.
- Support for the establishment of new land administration bodies via the construction or renovation of 47 rural commune administration build-

ings to provide offices for the decentralized municipal land services while serving as offices for other key local government functions, equipping commune-level Rural Land Service (Services Fonciers Ruraux; SFR) offices housed in those buildings, and training the newly recruited officials. Decentralization reforms within the 2009 Rural Land Law were included to increase rural access to land services by establishing new commune offices—the SFRs—to provide them. SFR offices exist under the mayor within the commune. The offices are responsible for preparing APFRs, registering the transfer of APFRs, preparing local land use plans (chartes foncières locales), and registering the results of conflict mediation efforts. The 2009 Rural Land Law also created new village-level land commissions (Commissions foncières villageoises; CFVs) that support SFR operations.

- Capacity-building to mediate land conflicts, including developing mechanisms for alternative land dispute resolution. The 2009 Rural Land Law encouraged parties to land conflicts to attempt to resolve these conflicts through mediation before initiating litigation. To facilitate this mediation, the 2009 law and a 2012 follow-up decree established village-level conflict resolution commissions (Commission de conciliation foncière villageoises; CCFVs) to facilitate mediation within 45 days, prepare a written document known as a procès-verbal describing the proceedings and the outcome (conflict resolved or not), and maintain records of village conflicts and mediation efforts. The RLG project provided capacity-building within the judicial system by training judges, lawyers, and associated personnel; the establishment and training of CCFVs that mediate land conflict and support SFRs; and training municipal officials, local village councils, and local land services personnel on land conflict mediation.

**Site-specific land tenure interventions:** This activity was intended to apply the improvements made through the legal change and institutional strengthening components via site-specific interventions designed to deliver practical benefits of these improvements to citizens. Specifically, the work under this activity was designed to improve land management in rural communes, provide support for conflict resolution efforts, and facilitate the registration of land rights to encourage the investment and use of land in a more productive manner. The activity involved the following efforts:

- Planning participatory land-use management in 17 Phase 1 communes and 30 Phase 2 communes, including training, mapping, operational costs, and the necessary assistance by regional and provincial institutions.
- Supporting capacity-building for registration of land rights and preparation of APFRs in the RLG’s 47 implementation communes from 2013–2014.

MCC hypothesized that the project would lead to important short-term outcomes, including an increase in tenure security, reduced conflict, and direct savings for citizens due to the reduced cost of land transactions and conflict.

More efficient and effective land administration and conflict resolution institutions, along with more secure property rights, would help to reduce the number of conflicts, as well as reduce the time and financial resources devoted to resolving conflicts. These direct savings combined with greater tenure security would subsequently translate to increased citizen investment in farm and land inputs.

Over time, MCC hoped that these gains would facilitate the realization of longer-term outcomes such as improved land allocation and management, increased productivity, and shifts in land use and livelihood patterns toward higher-value crops and non-agricultural activities. Following MCC's investment logic, the ultimate goal of the RLG project is to reduce poverty through economic growth and development.

The RLG project had two phases. Phase 1 consisted of project implementation in 17 rural communes during the first two years of compact implementation, as well as feasibility studies, modernization approaches, and plans for other potential institutional strengthening activities. Phase 1 also provided legal reform at the national level and institutional strengthening in 17 communes in years 1 and 2. Phase 2 provided similar activities in 30 additional communes, but there were limited national-level legislative activities since the main legislation changes were completed at the national level as part of Phase 1.

## 3 Methods and Materials

### 3.1 Evaluation Questions

The RLG endline impact evaluation addresses the following research questions:

- Impacts of project activities in Phase 1 and Phase 2 communes
  - What is the impact of the project on 1) perceptions of land tenure security; 2) the frequency and types of land conflicts; 3) producers' investment decisions (e.g., by increasing investment levels, encouraging farmers to make more fixed investments, etc.) that increase incomes; and 4) land use change?
  - Are improvements in land tenure and land conflict situations correlated with land productive investment and agricultural productivity?
  - Subgroup analysis: Did land tenure (and the other outcomes) for women improve as a result of the project activities? How did the RLG project overall affect women and are RLG impacts on women different from those on men?

### 3.2 Methodology

To address the evaluation questions, this evaluation utilizes a mixed-methods approach that includes impact and performance evaluation components, though this paper focuses on results of the causal impact analysis for indicators that can be addressed rigorously. The endline evaluation relies on the 47 treatment and

47 matched comparison communes—including 34 for Phase 1 (17 treatment and 17 comparison communes), as well as 30 treatment and 29 comparison communes in Phase 2—that were selected during the baseline Phase 1 and Phase 2 evaluation design. The primary data sources for the impact evaluation approach include household-, individual-, and parcel-level sources.<sup>2</sup> Table 1 summarizes the evaluation question, key outcomes, and data sources for the impact analysis.

Table 1: Summary of Evaluation Question, Key Outcomes, and Data Sources

<b>Evaluation Question</b>	<b>Key Outcomes</b>	<b>Data Sources</b>
Impacts of project activities in Phase 1 and Phase 2 communes	Perception of land tenure security	Semi-structured interviews (real estate developers, house and land intermediators/negotiators, credit unions, customary leaders, secretaries-general)
	Type of land conflicts and frequency	Surveys with commune-level stakeholders (SFR)
	Farmer/household investment (fixed investments)	Surveys with village-level stakeholders (CFV, CCFV, village chief, land chief, female leaders)
	Commercial investment	Records of APFR applications, issuance, land titles
	Land use change	Conflict records
	Agricultural income	High-resolution satellite imagery/geospatial data
	Overall household income	Household survey, wives module

### 3.3 Data Sources

#### 3.3.1 Primary Data

**Household Survey:** A household panel survey represents the primary data source for the impact evaluation. This includes information from the head of household and household field managers on outcomes at the household and field/parcel levels such as tenure security, land conflicts, and investment. Household surveys at endline took place in 50 Phase 1 and Phase 2 treatment and control communes where in-person data collection was possible; 42 baseline

2. The endline impact evaluation uses a quasi-experimental difference-in-differences design with matching to estimate the RLG impacts in Phase 1 and Phase 2 treatment areas, drawing from the prior independent impact evaluation of the RLG project designed by IMPAQ International and NORC at the University of Chicago.

communes were removed from the sample due to security concerns. The endline household surveys were collected as a panel, with household survey respondents from 2010 (Phase 1) and 2012 (Phase 1 and Phase 2) reinterviewed at endline.

Modules covered by household/individual/field data are:

- Tenure security (perception and sources).
- Conflict (reduced series).
- Knowledge/awareness (Rural Land Law, how to acquire APFRs).
- Demand for APFRs.
- Perceived benefits of APFRs.
- Challenges/barriers to APFRs.
- Confidence in land governance (customary vs. statutory system).
- Gender norms (their perceptions, what the neighbors think).
- Household decision-making.
- Key investment indicators.
- Overall assets and income.
- Tenure security (perception and sources).

**Village Surveys:** The team conducted village surveys with representatives of the CCFV and CFV, the village chief/representative, the land chief/representative, and a female leader/respected member of the community in all areas where village baseline data collection occurred, except for high-risk security communes and villages. These instruments included panel indicators repeated from data collection in 2010 (Phase 1) and 2012 (Phase 2), as well as endline-only indicators. Village surveys collected data on general population and infrastructure indicators, the incidence of land conflicts, land use and ownership arrangements, perceptions of tenure security at the village level, land administration, APFR demand, and land governance. Village surveys took place in 453 villages at endline.

**Commune Surveys:** Structured interviews at the commune level with SFR technicians provide information on topics including local land administration; land governance and administration in the commune; the functionality of SFRs, CFVs, and CCFVs; and demand, issuance, and processing times for APFRs. Similar to the village and household instruments, the commune questionnaire with an SFR representative used a revised version of the previous Phase 1 and Phase 2 commune questionnaire. The team conducted 45 commune SFR surveys via in-person interviews in RLG treatment and matched comparison communes. In 34 high-risk communes, the team administered an abbreviated version of the SFR survey remotely through phone calls with respondents.



### 3.3.2 Secondary Data

Digitized land administration data provides rich information on land transaction volumes and characteristics of individuals engaging in transactions in the project and post-project period. SFR offices provided researchers with the annual numbers of APFR applications received, APFRs issued and delivered, APFRs issued but not delivered, APFR applications rejected, transfers demanded, and transfers approved, as well as the type and number of land disputes. Additionally, up to 100 APFR applications were digitized in each SFR office the evaluation team visited (N=1,542). For offices that had received more than 100 APFR applications, 50 application records were digitized from the first year that the office operated (the year the office opened) and 50 APFR application records were digitized from 2021. The evaluation team requested statistics on APFR volume and digitized land administration records from communes the team visited in person that had received APFR applications and remotely from high-risk communes.

The evaluation team also collected any available information on village-level conflict registers. Planned administrative data collection at the provincial level was not possible due to political sensitivities (see the challenges and risks subsection for more information).

### 3.3.3 Qualitative Data

Focus group discussions were conducted with groups of beneficiary households and the members of CFVs and CCFVs in eight villages—four in control areas and four in treatment areas—with seven focus groups in each area, for a total of 56 focus group discussions

In-person semi-structured interviews were also conducted at two levels:

- To provide a comprehensive assessment of the land administration context, the team conducted three types of semi-structured interviews at the provincial level in each of the three selected treatment provinces: with the provincial director of taxes, real estate developers/investors, and housing and land intermediaries or negotiators.
- To understand commune-level implementation experiences and provide a comprehensive assessment of the land administration context, the team conducted semi-structured interviews at the commune level with the following: representatives of credit unions (six total), customary chiefs (or representatives) (six total), and secretaries-general (50 total).

### 3.3.4 Data Collection

CERFODES, a Burkinabe data collection firm, conducted the endline data collection in close cooperation with the evaluation team. To promote efficiencies in team training, qualitative data collection launched simultaneously with SFR structured interview and land administration data collection in January 2022.

Enumerators conducted all focus group discussions in pairs. Each focus group discussion had at least six participants and lasted approximately 100 minutes on average. The evaluation team recorded the audio of focus group discussions and semi-structured interviews on digital voice recorders (after obtaining permission from the participants to do so) and de-identified, transcribed, and then translated the audio recordings from French to English.

### 3.4 Analysis Strategy

### 3.5 Difference-in-Differences Panel Analysis

The team employs a difference-in-differences approach to determine the causal effect of the RLG project on the impact indicators of interest at the household, village, and commune levels. Combining baseline and endline data collected for the treatment and matched comparison groups, the difference-in-differences model is estimated by using the following multivariate regression approach:

$$Outcome_{it} = \alpha + \beta \cdot T_i + \gamma \cdot F_t + \delta \cdot (T_i \cdot F_t) + \lambda \cdot X_{it} + \gamma_i + \epsilon_{it} \quad (1)$$

The left-hand side of the equation is the outcome variable of interest. The variables on the right-hand side include:

- A dummy variable T that is equal to 1 if the observation is in the treatment group and zero if otherwise. The estimate of  $\beta$  captures the treatment group effect.
- A dummy variable F that is equal to 1 in the follow-up year and zero in the baseline year. The estimate of  $\gamma$  captures the time effect.
- An interaction term (T · F) that is equal to 1 if the observation is in the treatment group and in the follow-up year, and zero otherwise (i.e., for comparison group members in both the baseline and follow-up years, and for the treatment group in the baseline year). The estimate of  $\delta$  captures the impact of the project on the outcome variable—this is the parameter of interest.
- A vector X of other relevant explanatory variables that may be related to the outcome of interest and will help control for baseline household characteristics. For household models, X includes the education, gender, and age of the household head. Including these explanatory variables reduces the amount of unexplained variation in the outcome variable, thereby increasing the accuracy of the parameter estimates. The estimate of  $\gamma$  captures how much variation in the outcome variable is explained by these other factors.
- Fixed effects  $\gamma_i$  as relevant given the level of analysis.

The error term is represented by  $\epsilon$  and is assumed to be normally distributed with mean zero.

All things being equal, positive parameter estimates indicate that the corresponding right-hand side variable is associated with an increase in the outcome measure. Likewise, negative parameter estimates indicate a negative association. The team uses t-tests to detect the statistical significance of the parameter estimates. Robust standard errors are clustered at the village level for the household-level analysis, to account for serial correlation in responses across households within the same geographic area, using Huber-White sandwiched standard errors.

### 3.6 Cross-Sectional Analysis

In addition to the main difference-in-differences panel analysis described above, the team utilized a cross-sectional approach to examine the effect of the RLG project on indicators of interest at the household and field levels for which the evaluation does not have baseline estimates. By comparing outcomes between the treatment and matched comparison groups at endline only, the team provides additional evidence of program effects for indicators including land governance, experience with the formal land administration system, gender norms, and knowledge and awareness of land rights. This cross-sectional model is estimated using the following multivariate regression approach:

$$Outcome(i) = \alpha + \beta T_i + \gamma X_i + \epsilon_i \quad (2)$$

The dummy variable F and the interaction term (T · F), along with their associated estimates, are no longer relevant for this specification given that the team has only one point in time. The estimate of  $\beta$  captures the group effect (treatment vs. control) and is the outcome of interest for this analysis. All other parameters are the same as those described above for equation (2). The approach to hypothesis testing and standard errors is the same as for equations (2).

The cross-sectional analysis estimates effects for the intent to treat. As with the difference-in-differences panel analysis, the team also looks at gender and other sub-group analyses as well as conducts matching to mitigate balance problems as relevant.

Finally, for any relevant contextual analysis that is supported by quantitative data, the team presents descriptive statistics and basic statistical tests of differences in means between treatment and control areas and pre- versus post-test results (where applicable).

### 3.7 Qualitative Analysis

The qualitative analysis involved reading and re-reading the transcripts of the exercises and carefully coding and grouping responses in a consistent manner according to similar or related pieces of information presented, allowing for a comparison of responses and identification of common themes and trends.

Multiple evaluation team members were trained to code the qualitative data. To ensure reliability, all team members coded an initial transcript and compared codes to identify and resolve discrepancies. Quotations were selected from the transcripts to illustrate the findings with simple, focused pieces of information representing key themes. This qualitative data analysis process allowed the evaluation team to organize and compare similar and related pieces of information in the qualitative data and to identify key themes and trends across the project area.

### 3.8 Challenges and Limitations

- **Physical Security Concerns:** In consultation with MCC, the evaluation team determined that 41 of the 92 planned study communes were not safe to visit in person due to security risks. In these locations, the evaluation team collected some commune data remotely by telephone (where possible). The evaluation team removed one additional commune and four additional villages from the in-person study sample during data collection due to new security concerns that arose in real time.
- **Political Instability:** The deteriorating security situation in Burkina Faso during quantitative data collection precipitated a successful coup d'état in the country in January 2022, just as the SFR survey, land administration record, focus group discussions, and semi-structured interview data collection activities were scheduled to launch. After a two-week hiatus to confirm that it was still safe to undertake these activities, the evaluation team was informed by MCC that planned interviews with government representatives at the province and national levels would not be possible due to political considerations.
- **Gender:** Some communities prevented women from talking about land issues, especially in the absence of their husbands.
- **Village Institutions:** In some villages, the CFV and CCFV land commissions were no longer functioning, and the evaluation team could not locate former members to interview.
- **Contamination:** Several land administration programs have taken place in control areas since the RLG project ended. This poses challenges for assessing attribution in a long-term follow-up evaluation. However, conducting a follow-up evaluation 7–8 years post-project does increase confidence that sufficient time has been allowed for expected outcomes to accrue. It also facilitates a rich exploration of the post-project sustainability of outputs and outcomes.

## 4 Findings

### 4.1 Access to Land Institutions

#### 4.1.1 Awareness of Land Institutions

**According to the commune and village leader survey data, SFRs, CFVs, and CCFVs are more widespread and established in RLG treatment areas.** Although these institutions are more prevalent in treatment areas, a significant number are also present in control areas. Village leaders reported the existence of SFR offices in 95 percent of treatment communes and 76 percent of control communes. There were also significant differences between the presence of CFVs and CCFVs in the treatment and control communes. In treatment communes, 85 percent of village leaders reported having CFVs and 73 percent of those respondents found them to be operational. In comparison, only 56 percent of village leaders in control communes reported having CFVs, 55 percent of which said their CFVs were operational. Similarly, 89 percent of village leaders in treatment areas reported having CCFVs, and 74 percent of these found them to be operational. In comparison areas, 60 percent of village leaders reported having CCFVs, with only 70 percent of those individuals classifying them as operational.

In terms of awareness of new land institutions at the household level, respondents in treatment sites are only slightly more likely to report that their commune has an SFR office, in comparison to control sites (77 percent treatment versus 71 percent control). There is not a notable descriptive difference between treatment and control household respondents on the question about whether the village has a CFV (66 percent of treatment versus 63 percent of control) or a CCFV (71 percent treatment versus 68 percent of control).

**Although descriptive and based on a small sample, there is some evidence that women in the treatment areas are more aware of land institutions and APFRs. This might indicate a more successful sensitization campaign with women by RLG and/or a higher level of functioning/engagement of these institutions in treatment areas.** Although a small sample size, this difference is magnified for female treatment respondents who are much more likely than their control counterparts to report the existence of an SFR in the commune (60 percent treatment versus 46 percent control). Again, for female respondents, there is a very large difference (although small N) between awareness of CFVs (48 percent of treatment versus 28 percent of control) and awareness of CCFVs (52 percent treatment versus 30 percent control).

Overall, the qualitative data suggest that the implementation of knowledge- and awareness-raising about the Rural Land Law was successful, but that key challenges in gaining acceptance and buy-in from all land decision-makers—especially traditional leaders—remain. Most of the customary chiefs in treatment areas are aware of the Government of Burkina Faso land reforms that the RLG project supported and could identify to some degree the Rural Land Law. Customary

chiefs sometimes spoke about feeling excluded and about the disrespect they felt toward traditional land institutions by the government, especially as it related to the commodification of land. This was seen as a limitation of the Government of Burkina Faso land reforms that the RLG project supported—and of the benefits or impact of the project.

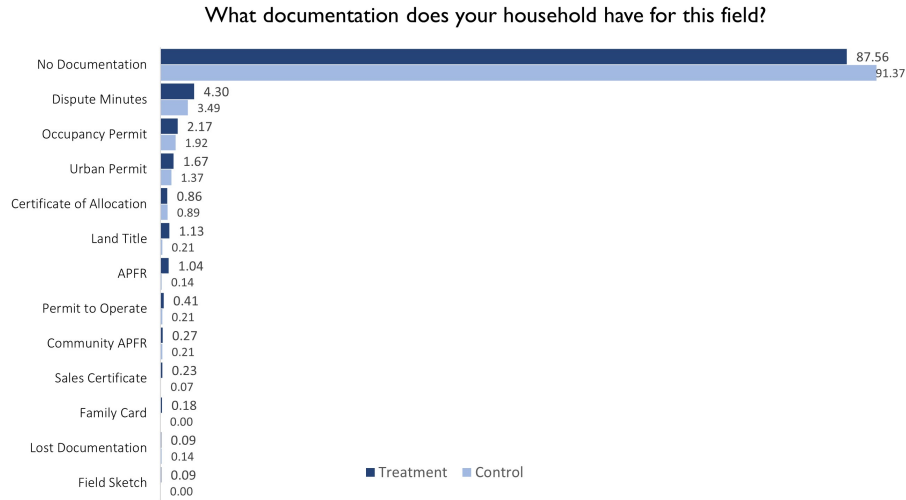
*When the government comes, it looks for mayors, CVDs, and councilors but does not look for traditional chiefs, although these people have been chosen by their political party.*

#### 4.1.2 Village Documentation and APFR Certificates

Since the opening of SFR offices, SFR land agents at the commune level reported that on average, the number of applications for first-time APFR certificates has increased. However, this consensus did not vary significantly across treatment and control groups.

**There is not a statistically significant difference in APFR documentation between treatment and control households. An examination of the village- and household-level data shows that most residents in treatment areas still do not have documentation for their land despite the project’s efforts, suggesting that project assumptions about induced demand for APFRs did not materialize.** Among treatment communes where APFRs are more widespread, village leaders report that only 4 percent of households per village have APFRs. In the household sample, APFRs are reported on a total of 70 fields in the treatment area and nine fields in the control area; only 7 percent of households have any form of documentation (informal or formal) (Figure 1).

Figure 1: Extent and Type of Documentation for Fields, According to Household Survey



#### 4.1.3 APFRs and Perceived Tenure Security

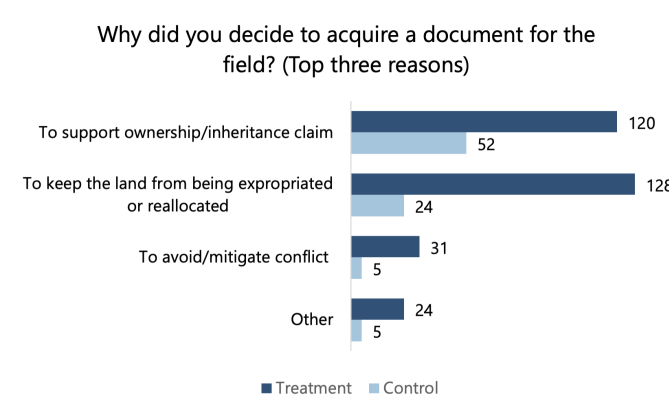
**APFRs are viewed as useful for documenting land rights.** For those who have documents, the main reasons cited are 1) to support ownership/inheritance claims (54 percent control, 29 percent treatment); 2) to keep the land from being expropriated or reallocated (32 percent control, 50 percent treatment); and 3) to avoid/mitigate conflict (7 percent control, 15 percent treatment).

Household descriptive statistics indicate that most respondents with APFRs (80 percent) have experienced benefits from having the document, and the majority of all respondents agree that APFRs reduce the risk of expropriation (Table 11). Indeed, the cross-sectional regression results show that, overall, household treatment respondents are 3 percentage points more likely to say that having an APFR reduces the risks of land expropriation (Figure 2). In contrast, although they are small-point estimates, natives (4 percentage points) and urban (3 percentage points) respondents in treatment areas are less likely than their comparison counterparts to report that APFRs reduce the risk of land expropriation.

In the qualitative data, although most focus group discussion respondents reported not having an APFR, many did agree that APFRs are an important part of securing tenure. One respondent explained:

*I can say that the APFRs that we have protect us a lot. With this, you are not afraid anymore, you can rent your land to whoever you want—the day you want your land back, you can do it without any problem. The APFR is a very important document. With the*

Figure 2: Reasons for Acquiring Field Documentation, According to Household Survey



*APFR, you can get a loan from the bank. . . when it comes to selling the land, it can be done without any problem.*

The qualitative data indicates that those who have APFRs view them as important for avoiding or securing against conflict and protecting against land grabs. Among focus group discussion respondents who have an APFR, the documents are cited as especially helpful in protecting land in the case of rentals. There are also anecdotal reports from the focus group discussions that APFRs have facilitated the use of their land as collateral for loans from banks or for easy liquidity in hard times.

#### 4.1.4 Challenges to Acquiring APFRs

**Respondents report key ongoing challenges to obtaining APFRs, limiting the reach of potential project benefits.** Household and focus group respondents were asked a series of questions focused on concerns and constraints related to formalization and APFRs. Treatment respondents report that the time and cost of obtaining official rights to a property is a big problem. Other constraints to pursuing an APFR include a lack of awareness of how to acquire the APFR, no need to transfer or conduct secondary transactions on land (inheritance/sale/mortgage), and no need for documentation to secure land rights. These challenges are expressed at similar levels across treatment and control groups. According to focus group respondents and village leaders, APFRs are not easy to access due to financial constraints and a lack of sufficient knowledge about how to get the APFR; indeed, village leaders reported a variety of challenges to acquiring an APFR, the most prevalent being that the process is too expensive (45 percent, 29) and that the process takes too much time (42 percent, 27). According to qualitative respondents with APFRs, the entirety of the APFR application process can take up to a minimum of six months and up



to a maximum of a few years.

*The APFR? Even if it costs 250,000 CFA francs, it is often very difficult. It is difficult for someone who has not attended school but for another educated person it seems a bit easy. I would like to ask if there would be any training to enlighten us on the procedure and steps of obtaining APFRs.*

Poor service delivery, delays with state authorities (including SFR), and lack of trust in the state also impede uptake according to respondents.

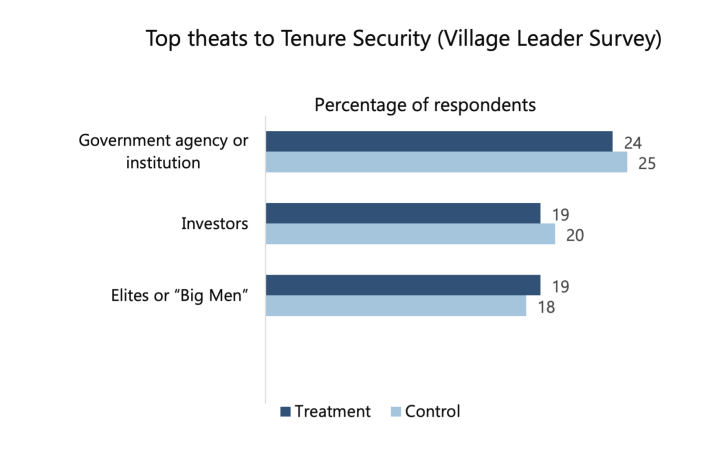
## 4.2 Risk to Realize Investment Returns

### 4.2.1 Perceived Tenure Security

#### **Poor perceived tenure security remains an issue in treatment areas.**

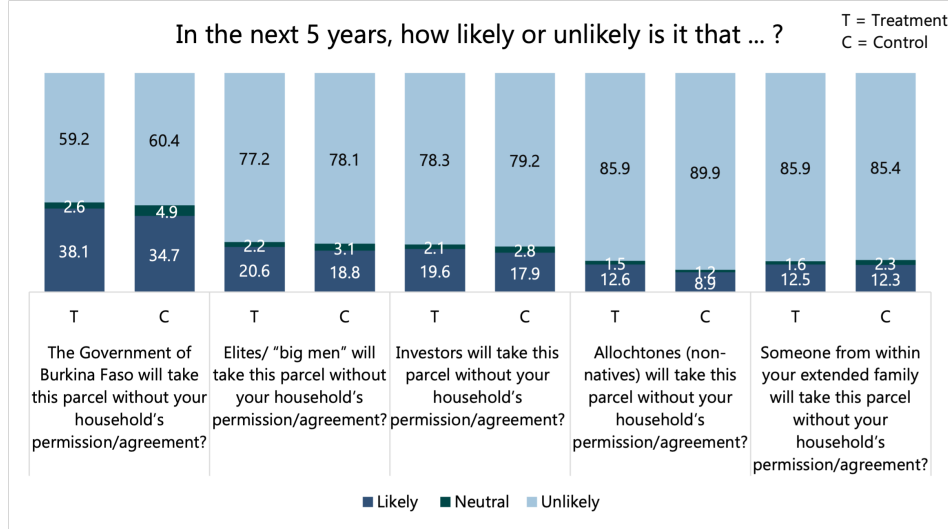
Across the entire study area, there is a high level of perceived tenure insecurity among household respondents and village leaders. The evaluation examined descriptive statistics for several different tenure security indicators. Depending on the indicator and source of tenure insecurity, up to 40 percent of respondents reported concern that they could lose use or access rights to land. Treatment and control village leaders and households report the same three primary threats to tenure security (Figure 3).

Figure 3: Sources of Tenure Insecurity, According to Village Leader Survey



Correspondingly, at the field level, the biggest sources of tenure insecurity for household respondents include the Government of Burkina Faso, elites, and investors (Figure 4). Concern about the government could be driven by several factors, including a context in which the government officially owned all land until very recently. Qualitative data indicate that respondents are concerned that the government can take land that does not have an APFR, and since a small number of households have an APFR, there is a high level of perceived tenure insecurity.

Figure 4: Sources of Tenure Insecurity, According to Household Survey



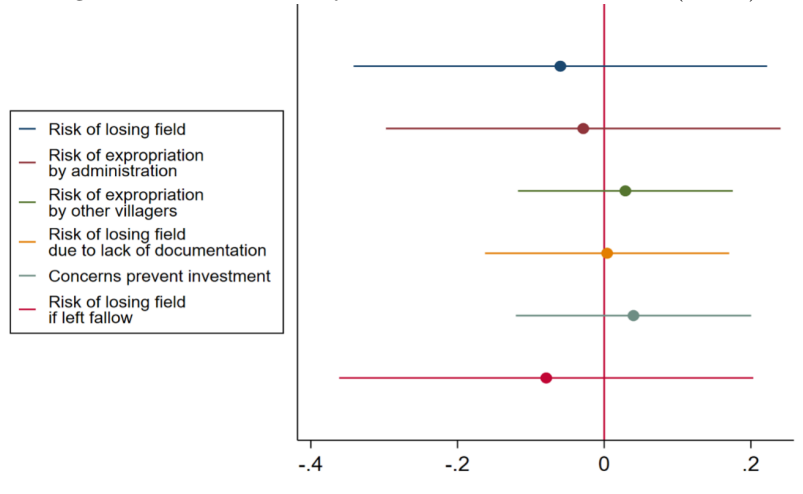
For the regression analysis, the panel regression indicators, which represent impact indicators, show no significant differences between treatment and control respondents on perceived tenure security, on average (Figure 5). The subgroup results for women, large-landholders, and urban respondents indicate no significant impacts for women and contrasting results for urban and large-landholders. Urban treatment respondents are 43.9 percentage points more likely to express concern about unauthorized land expropriation by the government administration for housing construction, whereas large-landholders in treatment areas are 32.3 percentage points less likely to be concerned that the government administration will expropriate their land.

The survey instruments also explored specific drivers of tenure insecurity through cross-sectional endline analysis (Figure 6). There are substantively small and weakly significant negative treatment effects. The cross-sectional regression results indicate negative treatment effects for the likelihood of losing use/access rights in the next five years (8.4 percentage points), as well as (weakly significant) concern about encroachment by neighboring communities (5.1 percentage points) and allochtones (non-natives) (5.6 percentage points).

The subgroup regression analysis of tenure security outcomes indicates that females in treatment areas are more concerned than their control counterparts with unauthorized land expropriation by investors (8.5 percentage points), neighboring communities (6.5 percentage points), and (weakly significant) allochtones (6.1 percentage points).

In contrast to the overall sample and results for women, there are positive treatment effects for perceived tenure security indicators among urban treat-

Figure 5: Tenure Security—Treatment Effect Results (Panel)



ment respondents and large landholders. Although weakly significant, the regression results indicate that urban treatment respondents express a lower level of concern about unauthorized expropriation by elites (14 percentage points), investors (11.5 percentage points), neighboring communities (10.5 percentage points), and allochtones (11.1 percentage points). Finally, there are also positive tenure security effects among large landholders in treatment areas; these respondents are less likely to be concerned that investors (9 percentage points) or the government (8.2 percentage points) will expropriate their land, or (weakly significant) that there is a risk of allochtones (8.2 percentage points) taking their land without authorization.

Focus group respondents highlight citizens' fear that land could be expropriated by the state or by mining companies. This is particularly notable in treatment areas where focus group discussions took place.

*There is fear even with the presence of our documents. We are afraid that the mining companies will come and take over our land and that of our neighbors.*

Others fear that wealthier individuals could use state systems to grab their land.

**The evaluation, further, found null effects for panel indicators about awareness of land rights in the study area.** This includes indicators for whether households have permission to plant trees or give, lend, sell, and rent land. These results are not statistically significant in the regression models, although the descriptive statistics for the panel indicators show that treatment respondents are slightly more likely to say that they do not have permission for each element of the bundle of rights compared to control respondents, including the right to give, lend, rent, and sell land (Figure 7).

Figure 6: Tenure Security—Treatment Effect Results (Cross-Sectional)

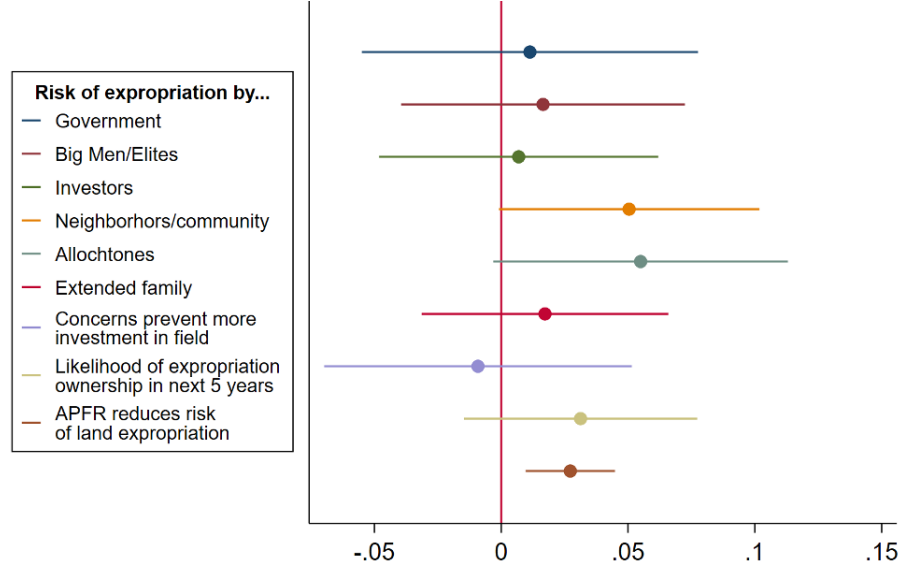
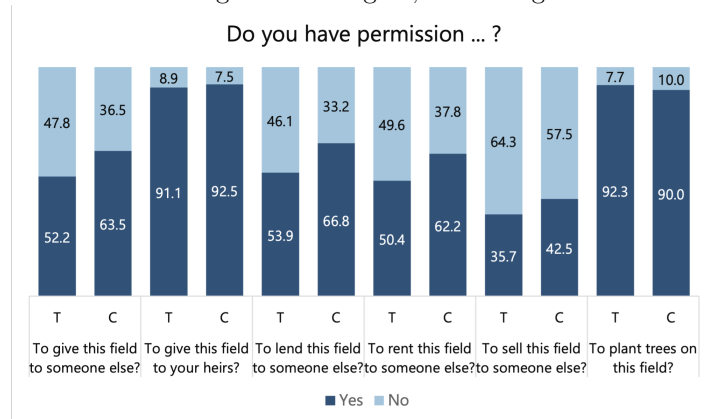
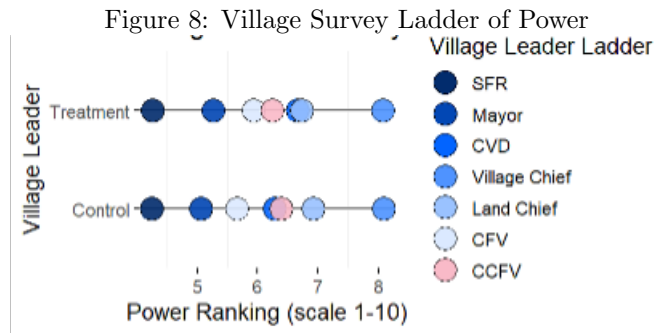


Figure 7: Understanding of Land Rights, According to Household Survey



## 4.2.2 Land Decision-Making

Figure 8 displays village leader responses to the “ladder of power” series<sup>3</sup>—with the higher the number on a scale from 1 to 10, the more important the decision-maker. According to village leaders, village chiefs had the highest recognized authority, followed by the land chief, the CVD, the CCFV, CFVs, mayors, and SFR offices. For each of these authorities, there was less than a point difference in ranking between treatment and control communes.



Overall, the rankings for household respondents (Figure 9) track with the village leader responses with village chiefs being the most important leaders, followed by land chiefs, CVDs, CCFVs, CFVs, mayors, and SFRs. Similarly, for female respondents, the SFR, CFV, and CCFV are the lowest-ranked decision-making authorities. Cross-sectional regression results indicate that there is not a statistically significant difference between treatment and control respondents for assessments of decision-making authority by SFRs, CFVs, and CCFVs.

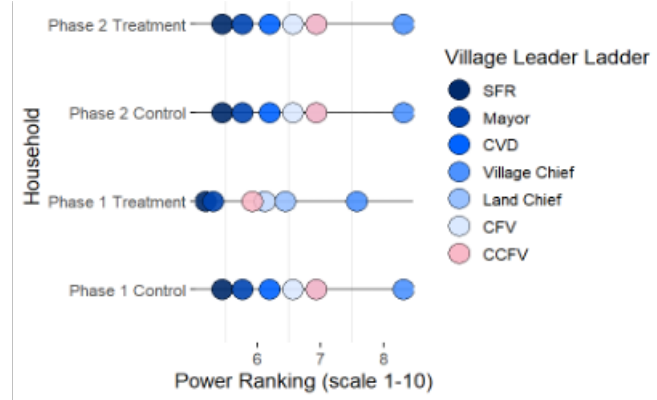
## 4.3 Investment

While the RLG project intended to increase individual investments on household land by lessening risks associated with an investment such as the loss of the use of land, there is no evidence of differences in productive investments by households to fields or housing structures due to the RLG project in the study area.

At the household level, the regression analysis examines a comprehensive set of productive land and non-productive housing investments. Figures 10 and 11 below present the regression findings. **There are no treatment effects for the investment indicators.** Investment by wives in their fields is incredibly low: 1 percent (20) of control wives and 3 percent (65) of treatment wives report

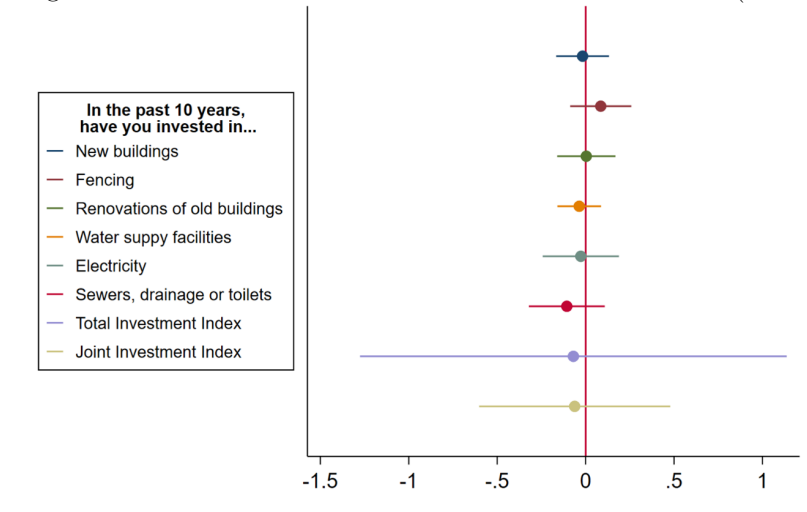
3. The text of this question was: This is a ladder of power from 1–10, the people at the top (10) of the ladder make lots of important decisions and the people at the bottom (1) of the ladder do not have any say. Some people can also be at the middle, meaning, sometimes, they are high up on the ladder and sometimes they are low down on the ladder. Where are the following on this ladder when it comes to making decisions about land use and management in this village?

Figure 9: Household Survey Ladder of Power



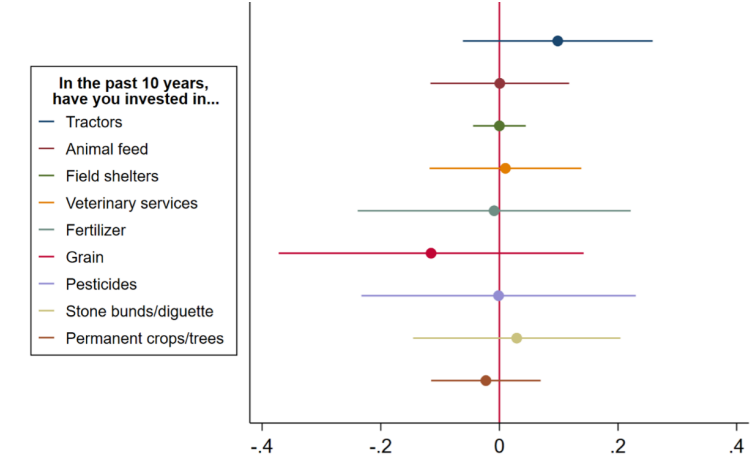
having made investments in the past 10 years. Only five control wives and 19 treatment wives report having conducted investments in their housing.

Figure 10: Household Investment—Treatment Effect Results (Panel)



The household survey results indicate that the use of land-based collateral is extremely rare. Only 55 fields are reported to have been used as loan collateral. None of the households engaged in credit- and loan-taking used an APFR as part of the process. There are no treatment effects for renting, borrowing, or lending land or for estimations of land values. Correspondingly, less than 2 percent of household respondents report that they rent out a field that they own, and there is not a statistically significant difference between treatment and control respondents.

Figure 11: Field Investment—Treatment Effect Results (Panel)



## 4.4 Land Conflict

### 4.4.1 Land Pressures

The household and village leader survey instruments included a module about land-related pressures. With the exception of inheritance problems, a greater percentage of village leaders were likely to agree that land pressures were an issue in treatment communes than in control communes (Figure 12). However, descriptive differences between treatment and control groups for land-pressure indicators drop off for many of these land-pressure indicators when examining the household-level data. The exception to this is that households in treatment communes are more likely to report that “restrictions on access to land with water for pasture for animal husbandry” are a “big problem” for their household (70.6 percent control versus 77.8 percent treatment). Treatment households are also more likely to report that land disputes are a big problem for the household (52 percent treatment and 45 percent control); this includes significant results between females in treatment versus control areas (51 percent treatment, 44 percent control). Overall, delays and costs for resolving a conflict are found to be more problematic in treatment areas (49 percent treatment versus 40 percent control).

Despite some differences between treatment and control descriptive statistics at the household level, the cross-sectional endline regression analysis for land-related pressures does not show a significant difference between treatment and control household respondents.

Figure 12: Sources of Land Pressure by Treatment Status, According to Village Leader Survey

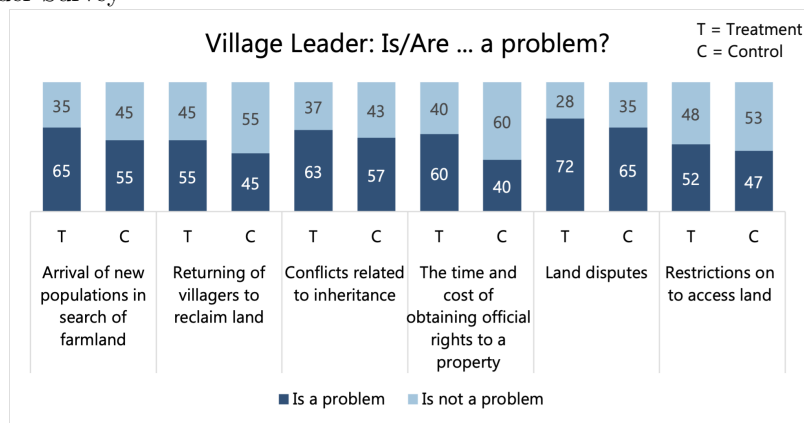


Table 2: Village Leaders Descriptive Statistics—Land Disputes

	All					Treatment					Control				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
Number of land disputes in the village over the past year	1.55	4.41	0	60	431	1.77	5.16	0	60	257	1.23	2.97	0	20	174

#### 4.4.2 Conflict Occurrence

According to data from village leaders, on average, there were fewer than two land disputes reported in villages over the past year (Table 2). There were slightly more land disputes reported on average in treatment communes in the past year (1.77 per village) than in control communes (1.23 per village).

**Despite almost half of households reporting that land disputes are a big problem at the household level, household and wives survey data indicates that conflicts over the past 10 years are rare and there is not a significant treatment effect.** The survey instrument asked if households had experienced any conflicts related to the field in the past 10 years (since 2011). Across all fields in the study sample, less than 3 percent of treatment household fields and less than 2 percent of control household fields reported experiencing a land-related conflict. There is not a statistically significant difference between treatment (3 percent, 211 fields) and control respondents (2 percent, 83 fields) (Figure 13).

For wives, out of the 151 fields that wives personally use or own, conflicts are reported on 7 fields in treatment areas; wives in control areas report that there have been no conflicts on the field in the past 10 years.

Among those who have experienced a conflict in the past 10 years, the average number of conflicts across the study area is 1.38, and 35 percent of respondents report that the conflict affected their productive activities on a field (Table 3). Where conflicts occur, they are driven by 1) animals trespassing to graze on someone else’s land, 2) boundaries between neighbors, and 3) inheritance.



Figure 13: Land Conflicts Reported on Fields, According to the Household Survey

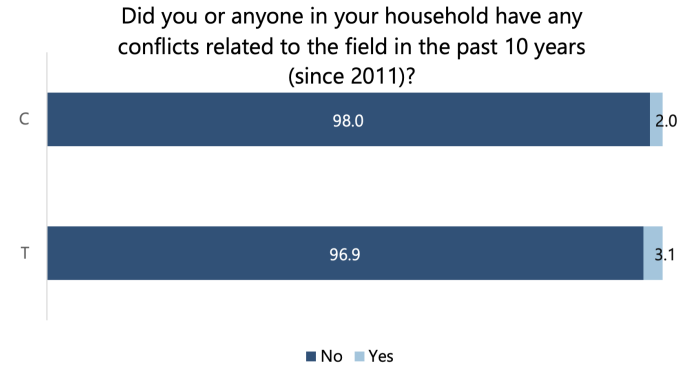


Table 3: Household Descriptive Statistics—Land Disputes

	All					Treatment					Control				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
Number of conflicts in the past 10 years	1.38	.92	1	12	262	1.41	1.01	1	12	184	1.31	.67	1	4	78
Conflict-affected activity on a field	.35	.48	0	1	266	.36	.48	0	1	187	.32	.47	0	1	79
Afraid of being in conflict with someone about the field	.19	.39	0	1	4143	.19	.39	0	1	2545	.18	.39	0	1	1598

Although actual conflict occurrence is low—in line with the high levels of reported land pressures discussed above—approximately 20 percent of respondents are afraid of being in conflict with someone about their field.

The regression results indicate null treatment results across the three indicators for conflict occurrence, frequency, and concern for future conflicts among the household sample.

The qualitative data sources help to clarify the quantitative conflict findings. According to focus group discussions, people have “heard” about violence occurring, and respondents mention the fear of terrorists, but there are no reported incidents of violence in the conflict of land disputes. Respondents attribute low levels of conflict to customary land allocation procedures and effective conflict resolution by chiefs and elders.

Across both treatment and control areas, the qualitative data highlights some anecdotal reports of land disputes where people refused to return land to the owners when the lease period was over or natives lent land to “foreigners” and their descendants argued over ownership. More prevalent in the focus group discussions was a lack of trust in state decisions and concern that the introduction of documentation generates disputes, in part because it provides wealthier households with a disadvantage for securing land rights—this includes treatment sites.

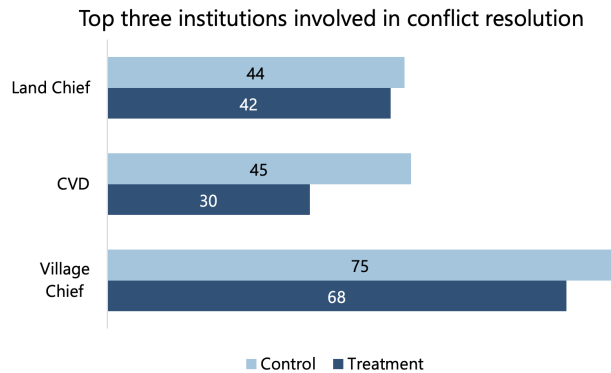
### 4.4.3 Conflict Resolution

The instruments asked a series of questions about which institutions were involved in conflict resolution. According to household respondents, the top three institutions involved in conflict resolution are: the village chief, the CVD, and the land chief (Figure 14). The CVD plays a much larger role in control areas.

**Traditional authorities continue to be key to the conflict resolution process across control and treatment areas.** The village chief is the most important decision-maker. Traditional customs are also still revered and feared, and decisions arrived at by the chiefs are trusted.

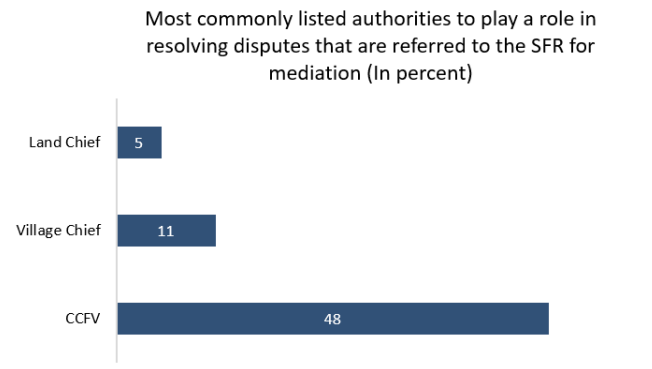
SFRs (7 percent treatment, 4 percent control), CFVs (12 percent treatment, 11 percent control), mayors (19 percent treatment, 15 percent control), and CCFVs (20 percent treatment, 21 percent control) play a less important role in conflict resolution. However, in some treatment areas, the CFV, CCFV, and SFR are playing an increasingly important role. Correspondingly, there is evidence of some erosion in the authority of traditional authorities—this trend is especially evident in treatment areas. In some villages, traditional authorities are not as respected as they used to be, and this has contributed to bottlenecks in conflict resolution. Courts and police are typically the last resort (i.e., when the local authorities fail to resolve a conflict between parties).

Figure 14: Actors Involved in Conflict Resolution, According to the Household Survey



According to SFR agents, the three most commonly listed authorities to play a role in resolving disputes that are referred to the SFR for mediation are the CCFV, the village chief, and the land chief (Figure 15). Most SFR land agents believe that the CCFV is the most common institution involved in resolving disputes referred to the SFR for mediation, and that few conflicts go through a formal court system for resolution. In about 50 percent of SFR offices in the study area, CCFVs are performing according to their designated role, and sixty-three percent of respondents (19) reported that APFR certificates have made it easier for the SFR office to resolve land disputes.

Figure 15: Involved in Resolving Disputes Referred to SFR for Mediation



The efficacy of new land institutions is highly variable. Across both treatment and control villages, people fear that it is the rich and powerful who have sway over the decisions of state authorities. These authorities are also accused of usurping the power of the village chiefs. In some villages that have experienced land conflicts, new land institutions are accused of lacking sufficient knowledge about land boundaries and customs.

On the other hand, in both treatment and control villages where focus group discussions took place, formal authorities seem to play a decisive and trusted role in resolving disputes, including adding an additional layer of transparency to conflict proceedings.

#### 4.4.4 APFRs and Conflict Resolution

**At the village and household level, documents are used in a minority of cases during conflict resolution.** The documents presented during land conflict resolution can range from informal documentation (such as customary leader declarations and community testimony) to formal documents provided by the state (such as land titles, APFRs, urban permits, provisional titles, certificates of cadastral services, occupancy permits, etc.). **Overall, informal documents are more likely to be used, and there is greater use of documents in the treatment area, including APFRs.** In particular, the documents that were reported to be used most frequently during conflict resolution include written agreements or declarations from the customary leader (6 percent, 27 individuals), APFR certificates (7 percent, 31 individuals), and testimony from the community (24 percent, 109 individuals).

For each of these documents, a greater proportion of respondents reported using them in treatment communes than in control communes. Figure 16 shows that treatment respondents are more likely to use all types of formal land documentation during the conflict resolution process, especially APFRs and com-

Figure 16: Documents Presented During Land Conflict Resolution by Treatment Status, According to the Household Survey

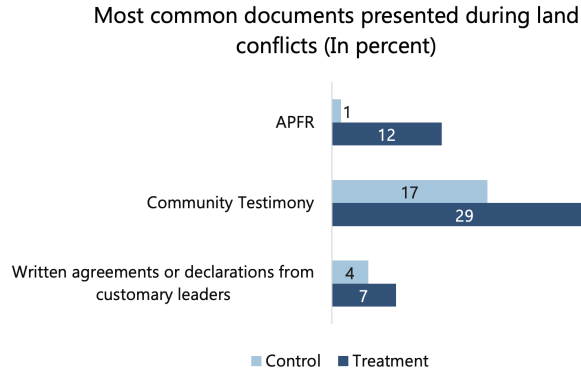
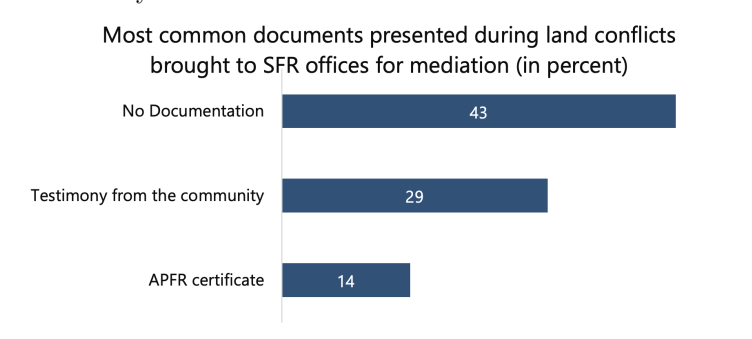


Figure 17: Documents Presented During Land Conflict Resolution, According to the SFR Survey



munity testimony.

In communes where conflicts were brought to the SFR for mediation, many respondents said that people do not present any documentation during the conflict resolution process, but some said they bring testimony from the community or an APFR certificate (Figure 17).

#### 4.5 Livelihoods

Over time, the RLG project expected that improvements to land allocation and management, along with increased investment, would augment agricultural productivity in treatment areas. To test this, the evaluation explores several livelihood indicators. Given the seven-year exposure period from the end of RLG, the evaluation team measured several household-level indicators including an asset index, land area, and housing changes.

The evaluation does not find statistically significant differences between

treatment and control groups for the household-level regression analysis on land-holdings, agricultural productivity, and assets.

To note, the evaluation lacked the funding to repeat a detailed parcel-level questionnaire at endline, though key questions related to agricultural productivity were repeated at endline. However, there were issues with the quality of baseline data that limited the study’s ability to conduct panel analysis on these indicators.

## 5 Discussion

The RLG project achieved most planned outputs, and progress on decentralization has generally been sustained post-project, though many of the entities that received support continue to face operational challenges.

The project was successful in establishing new land governance institutions such as commune-level Rural Land Service offices, village-level land commissions, and village-level conflict resolution commissions. These institutions continue to function and experience demand for land certificates, although this demand is low (on average) and appears to be more apparent among large landholders and peri-urban areas. Many, but not all, commune-level Rural Land Service offices are processing APFRs and conducting some work on conflict recordkeeping/mediation. However, commune-level Rural Land Service offices are not involved with the full range of land administration activities envisioned by the program (e.g., land use planning and mapping tasks).

There is qualitative and descriptive evidence that indicates the RLG’s communication outreach through a village-based information system was effective in promoting greater knowledge and awareness of legal reform, especially among village leaders. Although descriptive and based on a small sample, there is some evidence that women in the treatment areas are more aware of the new land institutions and APFRs. However, the major exception to this is the evaluation findings that more than half of male and female household respondents in treatment areas report that it is “not possible” for a husband to add his wife to an APFR; this incorrect understanding of the legal reform is expressed by a higher percentage of treatment compared to control household respondents.

As the household survey data shows that awareness of new land institutions is comparable between treatment and control household respondents, this does not indicate a performance issue with the RLG project, but instead indicates that the Government of Burkina Faso has been able to continue the expansion of the implementation of legal reform across the country, which was an RLG objective. Addressing the expansion of the implementation of legal reform across the country, this also has implications for the assessment of household effects—the expansion of the treatment into comparison areas reduces the ability to detect treatment effects. Further, the overall level of satisfaction with new land institutions is significantly higher in RLG areas. This could be explained by RLG having a more effective implementation model or the longer time frame for maturation—control communes had new land institutions established several years

after the RLG program. This provides an analysis of the higher satisfaction levels in RLG areas and suggests potential reasons for this difference.

As evidenced by the significant variation found in the functioning of these new institutions across communes, including in the processing and approvals of applications for APFRs, RLG project sustainability is uneven. Low demand for APFRs, inadequate resources for needs such as human resources and record-keeping, and challenges collaborating with other commune authorities represent the primary constraints faced by commune-level Rural Land Service offices.

As indicated in Findings Section 4.1, there are evidenced differences in awareness of land institutions and APFRs among women in treatment areas compared to control areas. This might indicate a more successful sensitization campaign with women by RLG and/or a higher level of functioning/engagement of these institutions in treatment areas.

There is evidence of increased APFR uptake across treatment communes, although the absolute number of households with APFRs is very low. In the household panel sample, with nearly 8,000 fields, there are only 70 fields with APFRs. While some APFRs were successfully issued to women during the project, there is clearly lower ongoing demand for APFRs from women as compared to men, as only about half of respondents across data sources believe that a woman may access an APFR either alone or through her husband.

Tenure insecurity is relatively high in the study area. Overall, the results indicate that tenure insecurity is associated with multiple individual-level characteristics (including the location of the land, the identity of the land user, and socio-economic status) and could come from several sources (including the government, private companies, or other individuals). As a result, the treatment led to mixed results on perceptions of tenure security across the treatment and control areas included in the research.

The analysis indicates a high level of confidence in land governance. This confidence, however, is directed to local customary land governance institutions, such as the village chief and land chief. Local customary land governance institutions - uch as the village chief, land chief, and elders - remain the most important decision-makers about all facets of land management, followed by local administrative bodies such as the CVD.

While there is increased APFR uptake and access to the formal system in treatment areas, there are no associated changes in land transactions and transfers or credit-taking and related investment. For investment impacts, the panel analysis indicates null findings for agricultural and housing indicators. Given the tenure security and governance findings, these results are not particularly surprising.

Land conflicts are relatively rare, and this finding has not changed since baseline data collection. Village-level conflict resolution commissions have continued to operate post-compact, and there has been a change in the number, frequency, and types of land conflicts raised to the commune-level Rural Land Service in treatment communes over time. However, the formal conflict resolution bodies (e.g., village-level conflict resolution commissions, Departmental Court, Hight Court) are not the main institutions/actors for resolving conflicts.

Village and land chiefs remain the primary actors involved in conflict resolution, and there is a high level of satisfaction with their management of conflict.

Although based on descriptive statistics, respondents in treatment areas are more likely to report concerns of future field conflict and land pressures facing their community compared to control respondents. However, the actual frequency of occurrences of conflict is low in the study area (3 percent of fields experiencing conflicts over the past 10 years for treatment households) and there are no measurable treatment effects for the household regression analysis on conflict occurrence.

Given the 7-year exposure period from the end of RLG, the study measured several household-level livelihood indicators, including an asset index, land area, and housing changes. There is no evidence of these long-term well-being improvements in treatment versus control areas.

## 6 Conclusion

The evaluation detects mixed treatment effects in the RLG's short-, medium-, and long-term outcomes and impacts along the theory of change. The impact evaluation found no effects on perceptions of land tenure security, land conflict frequency and occurrence, producers' investment decisions, and incomes and livelihoods. In terms of impact results for subgroups, the evaluation found mixed and inconsistent results across outcome families; there is some evidence of a significant positive impact of the project on perceived tenure security for youth and large (top quintile) landholders, along with weakly significant negative effect on perceived tenure security for female and urban respondents. As such, the evaluation does not find improvements in land tenure or other outcomes for women due to the project activities.

The RLG program theory of change hypothesized that formal institutions, knowledge and outreach, and documentation would spur improved tenure security, increased citizen awareness of their rights on land, reduced conflict, and confidence in the land governance system. These improvements were expected to lead to improved land markets and increased land and property investment. Long-term effects included higher levels of agricultural productivity and improved livelihood indicators.

The regression analysis did not find the expected project impacts on household- and field-level indicators. For the panel regression indicators, which represent measures of impact, there are null effects for perceptions of land tenure security, land conflict frequency and occurrence, producers' investment decisions, land markets, and incomes and livelihoods. Given these results, the evaluation does not find evidence that the RLG program motivated measurable impacts in tenure security, conflict incidence, and productive land investment in the study area.

The subgroup regression analysis shows some significant but mixed results. These indicate a handful of indicators that show a mix of negative and positive treatment effects for female and urban treatment respondents. The evaluation

finds the most consistent story of positive treatment effects for large landholders. Overall, the subgroup regression analysis does not indicate that RLG had a significant positive impact on women's property rights and empowerment outcomes. The quantitative results for land pressure, perceived tenure security, and land rights among women indicate the potential for unintended negative treatment effects and require additional analysis.

During implementation, the RLG project identified that women face additional practical barriers to obtaining APFRs and sought to address them, but the project and its theory of change did not explicitly account for, or seek to change, the deeply embedded social norms enforcing the domination of land governance by men. Future activities could explore initiatives to directly address these restrictive norms through interventions designed according to social behavior change principles. Strategies that could be explored to provide ongoing influence to changing norms include involving Burkina Faso's ministry in charge of the advancement of women and gender, continued awareness-raising and sensitization on gender issues with citizens and customary leaders, encouraging and supporting the appointment and development of female members of local land management bodies, and engaging in continuous monitoring and evaluation of gender issues in the land sector at all levels.

A key assumption of the RLG program was that RLG and legal reform would induce demand for voluntary land documentation (APFRs). While APFR application trends are positive, both during and after the project, demand for this documentation falls well short of expectations. Integrating systematic titling interventions into legal and institutional reform efforts will increase citizen access to documentation. Formalization through voluntary APFR applications might not be a sustainable approach for Burkina Faso, especially given the potential for unintended negative consequences around land speculation and women's rights; adding a systematic registration component to land reform in Burkina Faso could help minimize/remove constraints to obtaining APFRs for those who may lack the information or resources to spontaneously apply for APFRs. Additionally, in the subset of communes where endline data was captured, project assumptions of rising incidence of land conflict and ineffective traditional conflict resolution actors were not borne out, though there have been some conflict hot spots.

RLG focused on building and equipping the formal land administration system, while the envisioned role of customary leaders within the new system remained undefined. Without a clear institutional oversight structure and sufficient ongoing training and operational resources, the evaluation finds large variations in the performance of commune-level Rural Land Service offices to effectively collaborate with the local administration and customary authorities. Similar to gender gaps, this was an area that might not have received sufficient attention in the program logic. Future activities should consider a more hybrid approach that involves deeper engagement with customary systems.



## References

- Acemoglu, Daron, Simon Johnson, and James A Robinson. 2001. "The colonial origins of comparative development: An empirical investigation." *The American Economic Review* (Nashville) 91, no. 5 (December): 1369–1401. <https://login.proxy.lib.duke.edu/login?url=https://www.proquest.com/scholarly-journals/colonial-origins-comparative-development/docview/233039300/se-2?accountid=10598>.
- André, C, and J. P. Platteau. 1998. "Land relations under unbearable stress: Rwanda caught in the Malthusian trap." *Journal of Economic Behavior and Organization* (Amsterdam) 34, no. 1 (February): 1. <https://login.proxy.lib.duke.edu/login?url=https://www.proquest.com/scholarly-journals/land-relations-under-unbearable-stress-rwanda/docview/1839819944/se-2?accountid=10598>.
- Bandeira, Pablo, José María Sumpsi, and Cesar Falconi. 2010. "Evaluating land administration systems: A comparative method with an application to Peru and Honduras." *Forest transitions Wind power planning, landscapes and publics, Land Use Policy* 27 (2): 351–363. ISSN: 0264-8377. <https://doi.org/https://doi.org/10.1016/j.landusepol.2009.04.005>. <https://www.sciencedirect.com/science/article/pii/S0264837709000556>.
- Besley, Timothy. 1995. "Property Rights and Investment Incentives: Theory and Evidence from Ghana." *Journal of Political Economy* 103 (5): 903–937.
- Besley, Timothy J., and Maitreesh Ghatak. 2010. "Property rights and economic development." In *The Handbook of Development Economics*, vol. 5. Accessed April 27, 2015.
- Bromley, Daniel W. 1992. "The commons, common property, and environmental policy." *Environmental and Resource Economics* 2 (1): 1–17. <https://doi.org/10.1007/BF00324686>. <https://doi.org/10.1007/BF00324686>.
- Burns, Tony, Chris Grant, Kevin Nettle, Anne-Marie Brits, and Kate Rickersey. 2007. "Land administration reform: indicators of success and future challenges." *Agric. Rural Dev. Discuss. Paper* 37 (January).
- Deininger, K., D. A. Ali, and T. Alemu. 2011. "Impacts of Land Certification on Tenure Security, Investment, and Land Market Participation: Evidence from Ethiopia." *Land Economics* 87 (2): 312–334.
- Deininger, Klaus W., and Juan Sebastian Chamorro. 2004. "Investment and equity effects of land regularisation: the case of Nicaragua." *Agricultural Economics* (<https://doi-org.proxy.lib.duke.edu/10.1111/j.1574-0862.2004.tb00180.x>) 30:101–116.

- Elbow, Kent. 2013. *Burkina Faso's Ambitious Experiment in Participatory Land Reform*. Focus on Land Brief. <http://www.focusonland.com/countries/burkina-faso-ambitious-experiment-in-participatory-land-tenure-reform/>.
- Feder, Gershon. 1985. "The relation between farm size and farm productivity: The role of family labor, supervision and credit constraints." *Journal of Development Economics* 18 (2): 297–313. ISSN: 0304-3878. [https://doi.org/https://doi.org/10.1016/0304-3878\(85\)90059-8](https://doi.org/https://doi.org/10.1016/0304-3878(85)90059-8). <https://www.sciencedirect.com/science/article/pii/0304387885900598>.
- Field, Erica, and Maximo Torero. 2006. "Do Property Titles Increase Credit Access Among the Urban Poor? Evidence from a Nationwide Titling Program."
- Goldstein, Markus, and Christopher Udry. 2008. "The profits of power: Land rights and agricultural investment in Ghana." *Journal of political Economy* 116 (6): 981–1022. <http://www.journals.uchicago.edu/doi/abs/10.1086/595561>.
- Hardin, Garrett. 1968. "Mapping the effectiveness of nature-based solutions for climate change adaptation." *Science* 162 (3859): 1243–1248. <https://doi.org/https://dx.doi.org/10.1126/science.162.3859.1243>.
- Higgins, Daniel, Tim Balint, Harold Livingsage, and Paul Winters. 2018. "Investigating the impacts of increased rural land tenure security: A systematic review of the evidence." *Journal of Rural Studies* 61:34–62. ISSN: 0743-0167. <https://doi.org/https://doi.org/10.1016/j.jrurstud.2018.05.001>. <https://www.sciencedirect.com/science/article/pii/S0743016717300426>.
- Holden, S. T., K. Deininger, and H. Ghebru. 2009. "Impacts of Low-Cost Land Certification on Investment and Productivity." *American Journal of Agricultural Economics* 91 (2): 359–373.
- Lawry, Steven, Cyrus Samii, Ruth Hall, Aaron Leopold, Donna Hornby, and Farai Mtero. 2014. *The impact of land property rights interventions on investment and agricultural productivity in developing countries*. Technical report. The Campbell Collaboration, January. Accessed September 5, 2017. <https://doi.org/10.4073/csr.2014.1>. <https://campbellcollaboration.org/library/property-rights-interventions-investment-agriculture.html>.
- Lisher, Jennifer. 2018. "Guidelines for Impact Evaluation of Land Tenure and Governance Interventions." Land and Poverty Conference. Washington, D.C.: World Bank.
- Lisher, Jennifer, and Heather Huntington. 2021. *Land Sector Impact Evaluations: Africa Flagship Report*. Technical report. World Bank Africa Region & Development Research Group.

- Mitchell, David, Matthew Clarke, and James Baxter. 2008. "Evaluating land administration projects in developing countries." *Land Use Policy* 25 (4): 464–473. ISSN: 0264-8377. <https://doi.org/https://doi.org/10.1016/j.landusepol.2007.10.004>. <https://www.sciencedirect.com/science/article/pii/S0264837707000841>.
- Ostrom, E., Cambridge University Press, R. Calvert, and T. Eggertsson. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Political Economy of Institutions and Decisions. Cambridge University Press. ISBN: 9780521405997. <https://books.google.com/books?id=4xg6oUobMz4C>.
- Soto, Hernando de. 2001. "Dead capital and the poor." *Sais Review* 21 (1): 13–43. <https://muse.jhu.edu/article/30523/summary>.
- Tseng, Tzu-Wei Joy, Brian E. Robinson, Marc F. Bellemare, Ariel BenYishay, Allen Blackman, Timothy Boucher, Malcolm Childress, et al. 2021. "Influence of land tenure interventions on human well-being and environmental outcomes." *Nature Sustainability* 4 (3): 242–251. <https://doi.org/10.1038/s41893-020-00648-5>. <https://doi.org/10.1038/s41893-020-00648-5>.
- USAID. 2017. *Burkina Faso Land Tenure Country Profile*. Technical report. <https://www.land-links.org/country-profile/burkina-faso/>.
- Zevenbergen, Jaap, Walter de Vries, and Rohan Mark Bennett, eds. 2015. *Advances in Responsible Land Administration*. <https://doi-org.proxy.lib.duke.edu/10.1201/b18988>: CRC Press.