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EVALUATION OF THE COMMUNITY LAND PROTECTION PROGRAM (CLPP) IN LIBERIA

Baseline Impact Evaluation Report (January 2016)

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Prepared for the United States Agency for International Development, USAID Contract Number AID-OAA-TO-13-00019, Evaluation, Research and Communication (ERC) Task Order under Strengthening Tenure and Resource Rights (STARR) IQC No. AID-OAA-I-12-00030.

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JANUARY 2016

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CONTENTS

- CONTENTS i**
- ACKNOWLEDGEMENTS ii**
- ACRONYMS AND ABBREVIATIONS iii**
- 1.0 EXECUTIVE SUMMARY 1**
 - 1.1 BACKGROUND & PURPOSE..... 1
 - 1.2 MAIN FINDINGS..... 3
 - 1.3 CONCLUSION 7
- 2.0 BACKGROUND & RESEARCH MOTIVATION 9**
 - 2.1 PROJECT BACKGROUND AND EVALUATION OBJECTIVES 9
 - 2.2. CLPP INTERVENTION 13
- 3.0 EVALUATION DESIGN AND IMPLEMENTATION 15**
 - 3.1 EVALUATION AND STUDY DESIGN 15
 - 3.2 SURVEY QUESTIONNAIRE DESIGN 19
 - 3.3 BASELINE DATA COLLECTION..... 20
- 4.0 BASELINE CONDITIONS ON PROGRAM OUTCOMES 23**
 - 4.1 TENURE SECURITY AND PRODUCTIVITY FOR LAND AND NATURAL RESOURCES 23
 - 4.2 LEGAL EMPOWERMENT AND KNOWLEDGE 29
 - 4.3 LEADERSHIP ACCOUNTABILITY AND GOVERNANCE..... 30
 - 4.4 PARTICIPATION OF AND PROTECTION FOR WOMEN AND MINORITY GROUPS 34
- 5.0 BALANCE AND POWER 38**
 - 5.1 BALANCE..... 38
 - 5.2 POWER ANALYSIS..... 46
- 6.0 CONCLUSION 48**
- APPENDIX I—EXPANDED FINDINGS TABLES..... 49**
- REFERENCES..... 63**

ACKNOWLEDGEMENTS

The authors of this report would like to thank many individuals and organizations for guidance, expertise, and support throughout this evaluation. We would like to thank Rachael Knight and Vivek Maru of Namati, and Ali Kaba of the Sustainable Development Institute, who made this impact evaluation possible. We are especially grateful to Mercedes Stickler and Caleb Stevens of USAID's Office of Land Tenure and Resource Management for their leadership and direction. Of course, we extend our utmost gratitude to the local leaders and community members in Liberia for participating in this evaluation.

ACRONYMS AND ABBREVIATIONS

CLPP	Community Land Protection Program
DD	Difference-in-Differences
DFID	Department for International Development
ERC	Evaluation, Research, and Communication
FGD	Focus Group Discussions
GPS	Global Positioning System
IDLO	International Development Law Organization
IDRC	International Development Research Centre
IE	Impact Evaluations
IPA	Innovations for Poverty Action
KII	Key Informant Interview
LC	Land Commission
LTPR	Land Tenure and Property Rights
LTRM	Land Tenure and Resource Management
MOU	Memorandum of Understanding
RCT	Randomized Control Trial
SDI	Sustainable Development Institute
STARR	Strengthening Tenure and Resource Rights
UM	University of Michigan
USAID	United States Agency for International Development
USG	United States Government

I.0 EXECUTIVE SUMMARY

I.1 BACKGROUND & PURPOSE

This report presents results from the baseline data collection completed as part of an impact evaluation of the Community Land Protection Program (CLPP) in Liberia. Namati, the International Development Research Centre (IDRC), and USAID's Office of Land Tenure and Resource Management (LTRM) are jointly funding the evaluation. The CLPP is implemented by the Sustainable Development Institute of Liberia with the support of Namati. CLPP aims to assist communities with community land protection through legal empowerment, by-law development, governance strengthening, resource valuation, boundary mapping, and conflict resolution in Lofa, River Gee, and Maryland counties.

The increasing pressure on land and natural resources in the developing world and specifically in Africa motivates this project. In recent years, governments across Africa, Asia, and Latin America have been granting vast land concessions to national elites and foreign investors for agro-industrial enterprises and forestry and mineral exploitation. In addition, national elites and local community members are increasingly acquiring private ownership over previously customary land, which is well-documented in Zambia and reportedly occurring on a significant scale in Liberia (Jayne, T.S. et al., 2015).

According to the International Land Coalition, cross-referenced data from the Land Matrix project shows that between 2000 and 2011, the highest demand for land came from biofuel production, comprising 40% of the land area acquired worldwide, while 25% of land acquired was for the production of food crops, 3% for livestock production, and 5% for other non-food crops (Anseeuw, Wily, Cotula, & Taylor, 2011). In many cases, these land concessions have dispossessed rural communities and deprived them of access to natural resources vital to their economic livelihoods.

Communally-held land and natural resources provide an essential input into communities' social, political, and economic sustainability, as well as their basic survival and well-being. Many communities in Liberia and throughout the developing world use unwritten rules and norms to manage this community property. However, the lack of official documentation in these communities leaves them disadvantaged, as legal norms protect land rights based on the possession of valid written records. Although research has shown that in many contexts, common property institutions are the most efficient way to manage communal natural resources (e.g., Ostrom, 2007), in Liberia these institutions are under pressure from increased demand for land and natural resources from international and domestic investors and the national government. The combination of strong external demand and weak local governance (associated with poor transparency, corruption, and lack of legal awareness) puts communities at risk.

CLPP seeks to address the critical need of protecting community land and improving local resource governance for the overall benefit of the community. To achieve this goal, the program promotes an integrated community land protection model that supports communities to protect their lands and natural resources, as well as to leverage the community land documentation processes to strengthen intra-community governance and accountability.

Within the context of national land reform in Liberia, the CLPP seeks to support community-based structures in the following domains: (1) Community empowerment, including provision of legal education regarding rights and responsibilities in the context of decentralized land management; (2) Boundary harmonization and conflict resolution; and (3) Documentation and formalization of community natural resource governance structures.

The CLPP is intended to lead to both medium- and longer-term impacts. Medium-term impacts are within the time horizon of the impact evaluation (1-5 years), and longer-term impacts are five or more years in the future.

Medium-term outcomes include:

- Increased land and natural resource tenure security for community land;
- Increased legal knowledge and empowerment of community members and community leaders;
- Increased accountability of community leaders to community members and improvements in natural resource and land governance structures; and
- Increased participation and protections for the land rights of women and vulnerable groups.

Longer-term impacts/objectives include:

- Increased women's empowerment and participation in local governance structures both for land and natural resources, as well as in other areas of community governance;
- Increased dispute/conflict resolution capacity at the community and individual level;
- Increased land/natural resource productivity for community and household land/natural resources;
- Increased social cohesion at the community level;
- Reduced incidence of unsanctioned community land use or expropriation without fair compensation.

A rigorous impact evaluation was designed to provide evidence on the following policy questions:

- How does the documentation of community land and natural resource claims affect both land tenure security and community-level governance structures, including the impact on the protections for and participation of women and minority group members?
- To what extent does training, mentoring, and technical support help communities to document their land and to codify rules in order to protect their community land and natural resource claims?

This study addresses these questions primarily focusing on program impacts at the village level, which is generally the lowest level of community land management in the parts of Liberia included in the study. The Impact Evaluation of CLPP is designed to measure medium-term program outcomes, but it may also be able to detect changes in indicators of longer-term outcomes.

Due to logistical concerns, random assignment of program activities to different villages was not feasible. Instead, the study uses a Difference-in-Differences (DD) design that compares CLPP treatment areas to comparable control areas in the same counties. Both quantitative information (via a household survey with community leaders and community members) and qualitative information (via key informant interviews and focus groups) provide the data for this impact evaluation.

Due to the outbreak of the Ebola virus in Liberia in the second half of 2014, program implementation was put on hold in July 2014. However, improving conditions in Liberia suggest the project activities should resume in the first quarter of 2016. Baseline data collection took place from January through

April, 2014, and project activities had only been ongoing for a short period of time prior to the outbreak of Ebola. While not directly affecting project activities, Ebola posed important challenges to SDI's ability to implement the project and its future impact on Liberia remains to some extent unknown. The evaluation pre-analysis plan (forthcoming) will seek to identify outcomes and mechanisms that may trend differently because of the towns' different experiences with the virus.

TABLE 1.1—CLPP BASELINE DATA COLLECTION

		Total number of observations	Lofa	River Gee	Maryland
Survey Instrument	Community members (Household survey)	2100	816	953	331
	Community Leaders	209	54	107	48
	Community Diary	156	0	102	54
Qualitative data	Key Informant Interviews	29	7	12	10
	Focus groups	20	4	9	7

TABLE 1.2—CLPP HOUSEHOLD SURVEY SAMPLE CHARACTERISTICS

Total number of observations	Male Respondents	Female Respondents	Male-headed Households	Female-headed households
2100	868	830	868	248

I.2 MAIN FINDINGS

The findings presented in this report are based on data collected in the 79 communities included in the sample for the baseline household and leaders' survey. Qualitative data was collected in 9 of the 79 communities.¹

RELEVANCE OF THE COMMUNITY LAND PROTECTION PROGRAM

Although the baseline survey indicates that almost all communities surveyed report that there are rules that govern their community land and natural resources, only 45% of community members report that these rules or by-laws are written down (and the extent to the documentation remains an important avenue for future research). Unwritten rules and laws for governing and managing land and natural resources in the study area are not a problem in and of themselves. The flexibility of such unwritten rules, which represent evolved local solutions fit for a particular local context, can make them more equitable and more efficient than other governing mechanisms. However, external pressure on land, including the presence of multinational companies, as well as internal pressure from elite community members or traditional authorities, could pose a significant threat to the land and natural resources rights of communities operating under informal rules in the absence of adequate community engagement. Civil society began responding to this threat in 2009, seeking to assist community-based governance structures in Liberia to avoid natural resource and land exploitation by internal or external forces.

¹ Issues with the electronic data collection software caused data to be lost permanently for 11 communities in the household survey and the loss of all community diary survey data in Lofa County and nine communities in Maryland and River Gee counties. Survey implementation is discussed in further detail in Section 3.2.

Defining and measuring land tenure security can be a challenge given that a definition of what constitutes strong property rights is often context-specific (e.g., Berry, 2009). In the Liberian counties covered in this study, community members use and manage their land through structures that operate both at the individual and community level. As a result, the CLPP aims to support both individual and community-level components of land tenure security with a focus on creating transparent and equitable structures that manage communal resources.

Furthermore, most community land in the study area is not mapped or permanently demarcated. While the absence of maps did not necessarily pose a problem for communities in the past, baseline data shows increased pressure on natural resources and unresolved disputes both within and between communities that point to the need for greater land, boundary, and resource mapping. The process of determining the boundaries of community land and natural resources, as well as creating written rules and by-laws, is a relatively novel development in the communities included in this study. In addition, while knowledge of women's property rights is relatively high amongst women and men, and while women and minority groups do have historical protections under community land management regimes, in practice there are restrictions in some areas on the property rights of women and members of minority groups and the CLPP has the potential to create even greater protections for these groups and to increase the roles that such social groups play in land and natural resource management.

BASELINE CONDITIONS ON PROGRAM OUTCOMES

Baseline levels in these intended program outcome areas are presented below.

TENURE SECURITY

Baseline results suggest that respondents do not significantly fear encroachment or expropriation on their lands, even if they are not actively using these lands. However, uncertainty surrounding community boundaries is a persistent source of conflict with neighboring villages.

The survey data shows a duality of overlapping individual and communal land tenure arrangements in the study areas. The majority of community members report that decisions to plant cash crops are taken at the household level and that households feel that they are able to pass their land on to their children in the future; these are two factors that generally contribute to individual land tenure security. However, women were less likely to report fencing land in the past year and less likely to agree that their household has the right to map their land.

At the same time, 83% of community members stated they did not have the right to sell their land (because it is administered at the communal level), which is typical of the property rights conferred by Liberia's diverse communal land tenure systems. While the right to alienation of property is often hypothesized as very important to economic development in the economics literature (e.g., Deininger et al., 2003), some have argued that the inalienability (at least through sale) of customary land rights is a key feature that protects the rights of the community as a whole (Berry, 2009). Similarly, only 22% of respondents stated that they had the right to use their land as collateral for a loan. Although the use of land as collateral has also been hypothesized to play an important role in economic development, the limited empirical evidence to date suggests that this right may not be particularly effective in the absence of other supportive policies, such as credit availability and functioning input and output markets (Lawry et al., 2014).

Around half of the community members stated that community authorities with historical roles in community-level land management, including elders and the traditional custodian or landlord², are the most important authorities for land and natural resources in the community. Qualitative research supports this finding. Rural Liberians in the study area express pride in their natural resources and perceive them to be the legacy that they will leave to their descendants. For example, one community leader in Lofa stated: “We are praying that when our children wake up they will be able to see forest.” (February 14, 2014).

Despite this overall promising picture, quantitative data suggests there is some awareness of threats to tenure security, largely due to unresolved boundary disagreements with neighboring communities. Approximately one quarter (24%) of community members surveyed stated that it was likely that neighboring communities would encroach on their land in the future and almost half of community members (43%) stated that they could only identify some of the boundaries of their community land. Women are much less likely to state that they can identify all of the boundaries of their community land, pointing to gender disparities in participation in communal land management.

LEGAL EMPOWERMENT AND KNOWLEDGE

One of the first key components of CLPP is to increase communities’ legal knowledge about land rights and to improve their ability to use that knowledge to claim rights. To understand basic levels of legal knowledge prior to the start of the program, the baseline survey asked both leaders and community members several questions about legal land rights in Liberia. Somewhat surprisingly, a high proportion of both leaders and community members (around 70%) identified a woman’s legal right to inherit her husband’s property. However, on other measures of legal knowledge, community members were less aware of legal protections of their land rights. Forty-four percent stated that without a written document, the community did not “own” their communal lands. At the same time, 45% correctly stated that communal property rights were as secure as individual private property rights according to the new Land Rights Policy.³ These percentages are similar for men and for women, suggesting that, overall, communities could benefit from additional support to improve their legal knowledge, which may, in turn, help them to protect their land and natural resource rights.

LEADERSHIP ACCOUNTABILITY AND GOVERNANCE

Community institutions play an important role in natural resource management. One of the key goals of CLPP is to increase community leaders’ accountability to community members and to make the governance of land and natural resources more transparent. At the same time, the CLPP provides a link between community governance structures and (i) the codification of existing rules for natural resource governance and (ii) the future statutory protections of community land promised by the central government via the draft Land Rights Act that is anticipated to come before the Liberian government again in 2016.

Overall, baseline data show that while existing community governance structures are not very inclusive or democratic, community members nevertheless report relatively high levels of support for these

² Landlords are typically elders with specific real or imagined ties to first settlers or indigenous groups who created a particular community.

³ 43% of community members interviewed stated that without a written document, the community did not “own” their communal lands and 55% stated that it was the Government of Liberia that owned the community’s land and natural resources. In fact, Liberian land law is unclear on public ownership of land and surface resources and whether communities are required to have a written document (it should be noted that the creation of such documents should be provided for under the Land Rights Act that is before the Liberian government in 2016).

structures, whether they are community-based or managed by other authorities. For example, 67% of community members report that they find their leaders trusted and honest, though this percentage is higher in Maryland and River Gee Counties (85% and 78%, respectively). Interestingly, women report similar levels of satisfaction with local governance as men do, even though they have much lower participation rates. In addition, community members report that rules governing the use of communal land and natural resources are in place and are usually followed. Half (49%) of community leaders said that residents follow rules to manage community resources ‘most of the time’ or ‘always’.

Despite this relatively positive picture of community leadership, this local governance is not without shortcomings. For instance, approximately 31% percent of respondents stated that their leaders were involved in illegal activities regarding community property, including taking bribes. Nearly half of the community members reported that there is a natural resources and governance council in their community, which typically would present an opportunity for inclusive and transparent decision-making; however, only 3% of communities reported that this council actually took decisions about land and natural resources, including selling land. One-third of community members reported that their leaders were not open and did not consult with the community about decisions regarding land and natural resources. Only 18% of community members surveyed perceived that the decisions permitting outside investment or use of community land and natural resources were made to benefit the entire community, while 45% stated that these decisions were made to benefit elders or traditional landlords.

Similarly, while 71% of community members stated that they were satisfied with the rules that govern land and natural resources, a sizable proportion of community members also believe that the rules do not prevent problems with the misuse of community land. This mixed perception of rules suggests a fairly complex relationship between community members and the governance structures that will be further investigated during the evaluation. For example, half of the respondents stated that individuals or groups cut trees in excess of the rules, which suggests that existing monitoring and/or enforcement mechanisms may not be sufficient to address current demand for resources.

PARTICIPATION AND PROTECTION FOR WOMEN AND MINORITY GROUPS

An assumption of the CLPP is that women and minority groups would particularly benefit from an increase in their ability to protect and claim their property rights. In part, increased protection would stem from enhanced participation in decision-making at the community level, especially when it comes to the use of communal land and natural resources.

As noted above and contrary to prior assumptions, the baseline survey data show that within community-based natural resource management systems, both male and female respondents recognize women’s property rights. In response to a question about women’s land inheritance rights, respondents correctly identify that a widow has the right to inherit land from her husband. Qualitative research suggests that while this finding may reflect some social desirability bias, or the propensity of respondents to answer questions in a way that they perceive will please the interviewer, women’s property rights are also changing in rural communities. Changes include an increased recognition for women’s rights and reflect shifts in international norms, as well as the diffusion of the values underpinning the upcoming land reform legislation (Hartman et al., 2016).

While high response rates recognizing women’s property rights are cause for optimism, the data also suggest that women engage at lower rates than men in community land governance. Fewer women

report that they attend meetings about community land and natural resource governance and those who do attend participate less than men.

Members of minority groups also face an ambiguous situation with respect to property rights and participation in land governance. Thirty percent of community members identify either with a minority ethnic group in the regions covered in the study, a Muslim (the historic religious minority in Liberia), or as someone who is not born in the town where they were interviewed, which typically reduces their access to land. The qualitative data reveals a context-specific landscape for minorities to access property rights. In some towns minorities are granted property rights after a certain length of residency, while in other towns they may have to purchase the land from the community or they may never be permitted to own land. With respect to participation in communal life, in qualitative interviews some community residents and leaders state that all decisions about natural resource management are made by consensus, including minority group members. However, interviews with minority leaders suggest that this is not always the case. Minority leaders specifically complain that they do not have a role or a “voice” in land and natural resource management. One leader explained: “With all [we] are doing as community members, people of this town still consider [us] as strangers; most of the decisions are made without our input in the process.” Some tensions between ethnic groups and references to practices of providing different, and sometimes weaker, access to land for groups not identified as “first comers” in a particular area can be a source of pressure.⁴ Ethnic cleavages salient during Liberia’s 14-year civil conflict also sometimes map on to tensions over land (Sawyer, 2005). Like women, fewer members of minority groups report attending meetings about community land and natural resource management, and even fewer report participation in these meetings or in other aspects of community land governance.

Overall, a majority of community members stated that the rules create a disadvantage for both members of minority groups and for women. These findings suggest that the emphasis within the CLPP on transparent, inclusive governance structures for communal land and natural resources could lead to increased representation and accountability in the communities included in the study.

1.3 CONCLUSION

Overall, the baseline data from the CLPP longitudinal impact evaluation suggests that the CLPP presents a timely intervention to support communities’ legal empowerment and improve tenure security and good governance. The data from the baseline survey confirm many of the fundamental assumptions about the potential for threats to community land and natural resource tenure security that motivate the CLPP. Although knowledge of women’s individual-level property rights is high and satisfaction with existing community governance institutions may be high in some respects, the baseline also suggests that there is a need to increase women’s actual participation in decision-making at the community level and to create more inclusive and transparent community land governance institutions. For minority groups, the data also suggest a need for increased protection and participation given Liberia’s history of ethnic conflict related to land and the lower rate of trust in leaders in the study’s most ethnically diverse county, Lofa. These complex dynamics must be taken into account to maximize the impact of program interventions.

The baseline data are also important for preparing for the next stages of the research. Preliminary analysis of the correlates of the key program outcomes will test assumptions made prior to the program

⁴ In the Liberia context, first-comers are real or imagined populations who created a community through original settlement. Ties to first-comers are markers of indigenous status and correlated with access to the local power structure.

that certain communities (smaller ones, for example, and those communities who score higher on measures of social cohesion) might have stronger natural resource governance. Taking these factors into account in future data collection and analysis will help ensure the most accurate analysis of the CLPP's development impact.

The remainder of this report is organized as follows: in Section Two, we provide background on the CLPP interventions and research motivation. In Section Three, we provide a brief description of the evaluation design and describe the design and implementation of the baseline survey; in Section Four, we provide descriptive statistics on the key outcomes of interest from the baseline survey; in Section Five, we check balance across treatment (phase 1) and comparison (phase 2) groups and provide an update to calculations of the study's power to detect program impact; and in Section Six, we provide a brief conclusion.

2.0 BACKGROUND & RESEARCH MOTIVATION

2.1 PROJECT BACKGROUND AND EVALUATION OBJECTIVES

Communally-held land and natural resources provide an essential input into communities' social, political, and economic sustainability, as well as their basic survival and well-being around the world. Many communities in Liberia and throughout the developing world use unwritten rules and norms to manage this community property. Communal property rights can be defined as an indigenous institution for acquiring, holding, using, and regulating land. It is often agrarian in nature in that it is rarely carried over into industrial economies.⁵

Much research in economics has focused on the transition from communally-held property rights regimes to centralized institutions that support individual property rights. De Soto made an influential argument (1990, 2001, 2003)⁶ that formal, enforceable real property rights are essential for investment and growth. Recent research has explored these relationships, often with a focus on the positive outcomes of formalizing property rights. In Ghana, formalization had impacts on using land as collateral and obtaining gains from trade, and in Buenos Aires, titles lead to increased human and capital investment (Besley, 1995; Galiani and Shargrodsky, 2010). Field (2003, 2007)⁷ used micro-level data from Peruvian slums to show the positive impact of formal property rights on a range of outcomes.



VILLAGE IN RIVER CESS COUNTY, LIBERIA.

However, not all studies find such a positive relationship between securing individual property rights and positive outcomes (Atwood, 1990; Pinckney

5 Customary land tenure can be defined as an endemic institution for acquiring, holding, using, and regulating land. It is often agrarian in nature in that it is rarely carried over into industrial economies. Customary land tenure regimes are customized to their specific context with two major commonalities: they operate within a bounded territory and the source of the authority comes from the community. The level of community involvement varies, with some customary regimes semi-feudal in nature at one end of the spectrum and more community based regimes at the other (Alden Wily, 2007).

6 de Soto (1990, 2001, 2003) popularized the view that secure (enforceable) property rights are key for economic development. Besley and Ghatak (2007) show formally that insecure property rights undermine investment and create obstacles to trade. The basic premise that secure property rights, often interpreted as property rights formalized through written laws similar to those found in the West, has been vigorously studied and promoted by development economists and large institutions such as the World Bank and International Monetary Fund (IMF).

7 Field (2003, 2007) found that programs aimed at providing women with formalized property rights through land titles in Peruvian slums led to an increase in household decision-making and a reduction in birth rates for women included in the program. Program beneficiaries also demonstrated a general shift in the labor market to work outside the home and a substitution of adult labor for child labor in the household.

and Kimuyu, 1994; Wilfarht, 2008). Ostrom (1990) shows that in many instances, community-based property rights may be the most efficient land and natural resource management system. Benjaminsen et al. (2009)⁸ and Peters (2004) argue that the formalization of property rights only lead to positive outcomes for select groups, often elites with a monopoly on information and force. Many also argue that customary rights regimes do not imply insecure property rights, simply that the community (as opposed to the individual) is the source of authority over property (Alden Wily, 2007). To date there has not been a rigorous quantitative study on the effects of supporting communities to document their community-based (as opposed to individual) land and natural resource rights (Lawry et al., 2014).

Land reform and evolving property rights regimes across the developing world increasingly taking place in an environment of resource scarcity and pressure on land and natural resources. In recent years, governments across Africa, Asia, and Latin America have been granting vast land concessions to national elites and foreign investors for agro-industrial enterprises and forestry and mineral exploitation. According to the International Land Coalition, cross-referenced data from the Land Matrix project shows that between 2000 and 2011 the highest demand for land came from biofuel production, comprising 40% of the land area acquired, while 25% of land acquired was for the production of food crops, 3% for livestock production, and 5% for other non-food crops (Anseeuw, Alden Wily, Cotula, & Taylor, 2011). In many cases, these land concessions have been found to dispossess rural communities and deprive them of access to natural resources vital to their livelihoods and economic survival. Even when communities welcome private investment, the investment may be undertaken in ways that lead to environmental degradation, human rights violations, loss of access to livelihoods, and inequity (Odhiambo, 2011; Cotula, 2009).⁹



PHOTO CREDIT—HEATHER HUNTINGTON

COMMUNITY MEETING ABOUT LEASING LAND TO AN INVESTOR, RIVERCESS COUNTY.

Contributing to such apprehension is the fact that official records of land acquisitions are often incomplete, local land governance institutions are weak or corrupt, and neglect of social and cultural norms and potential environmental impacts (i.e., subsurface and above-ground water use, soil fertility) is widespread (Deininger et al., 2011). Rural communities often have little power to contest such grants or advocate that they be granted on terms that support local prosperity and protect community interests, particularly when communities operate under informal, unrecognized law and/or have no formal legal title to their lands. In this context, strong legal protections for community lands and natural resources and the expedient implementation of clear, simple, and easy-to-follow legal processes

⁸ Lund 2009 focus her study on cases in Mali, Nigeria and South Africa where land reforms projects had unintended and often negative consequences.

⁹ For further information see Cotula, Lorenzo. 2009. Land Grab or Development Opportunity?: Agricultural Investment and International Land Deals in Africa. London; Rome: IIED; FAO; IFAD.

for the documentation of community-based land rights are necessary. In particular, efforts to protect common areas are critical, as common properties and community lands not currently under cultivation are often the first to be allocated to investors, claimed by elites, and appropriated for state development projects (Alden Wily, 2011).

Efforts to support communities to improve women's participation in decision-making and strengthen vulnerable groups' land rights are also needed. Increased land scarcity and the resulting competition for land exacerbate local power asymmetries and catalyze a breakdown in the community-based rules that govern the equitable use of communal land and natural resources — rules that in the past were a source of protection for the vulnerable. As a result, those with weaker land claims are increasingly losing land to local elites and land-grabbing relatives due to distress sales or boundary disputes with more powerful neighbors. Woodhouse (2003) notes, "When competition for land intensifies, the inclusive flexibility offered by customary rights can quickly become an uncharted terrain on which the least powerful are vulnerable to exclusion as a result of the manipulation of ambiguity by the powerful." As such, it is imperative that community land documentation processes require communities to address discriminatory or inequitable aspects of their land management practices and establish intra-community mechanisms to protect vulnerable groups' land claims.

Liberia provides an excellent opportunity to assist communities in protecting their rights because nascent land reforms provide a potential legal framework for protecting community land. Liberia's land tenure has historically been characterized by a complex (geographically diverse) system, that involves different rules for different geographic spaces in the country (with different levels of implementation) with a minority, urban-based elite, largely the descendants of freed slaves from the United States and the Caribbean, using a Western statutory system of land ownership based on individual titles along the coast, and the majority of indigenous Africans using community-based tenure systems, often based on collective ownership, in the inland rural areas. While there were multiple causes of Liberia's 14-year civil war, which ended in 2003, conflict over land and natural resource rights, and in particular a policy framework that permitted the state to transfer large areas of customary lands for private concessions and national parks, played a central role (USAID, 2010).

Critically, Liberia's new democratically-elected government has made a number of key reforms to the country's land tenure system that aim to address a number of the inequalities and grievances created by the previous policy framework. These include the passage of the 2009 Community Rights Law, which provides for community ownership of forest resources through: Community Forest Land¹⁰ authorized by the national forest agency; the creation of the Liberian Land Commission, also in 2009, whose mandate included the development of a comprehensive new national Land Rights Policy, which was adopted in 2013; and, most recently, the development of a draft Land Rights Act and other implementing legislation to realize the vision set forth in the Land Rights Policy (Toe and Stevens, 2014).

As Liberia's land reform process began in 2009, Namati¹¹, the International Development Law Organization (IDLO)¹² and The Sustainable Development Institute in Liberia (SDI)¹³ approached the Liberian Land Commission and requested permission to pilot an innovative community land

10 Forested or partially-forested land traditionally owned or used by communities for socio-cultural, economic and developmental purposes. The term is interchangeable with the term "community forest".

11 Namati is an international global network that works with local civil society organizations to develop and implement legal empowerment interventions.

12 IDLO is an intergovernmental organization with a joint focus on the rule of law and development.

13 SDI is a civil society organization in Liberia dedicated to protecting land, property and resource rights for Liberian citizens.

documentation process in River Cess County. The NGOs and the Land Commission signed an MOU that loosely laid out the various components of a community land protection movement in Liberia. As a result, SDI and Namati have been assisting rural communities to document and protect their land and resources according to the agreed process in the 2009 MOU, which now forms the core of the process set out in the draft Land Rights Act (Knight et al., 2012).

In a significant departure from the previous dual tenure system, the Land Rights Policy (referred to hereafter as the ‘Policy’) establishes four land tenure categories: *government land*, which is land used by the government for its operations; *private land*, which is land held in fee simple by an individual or legal entity; *customary land*, which is land held by a community in accordance with their historical practices and norms; and *public land*, which is a residual category of land that is expected to constitute the smallest area of Liberia’s land mass— “a dramatic turn of events in a country that has long-regarded nearly all land as public” (Toe and Stevens, 2014, p. 4). The Policy also provides for substantive and procedural protections for landholders whose rights are extinguished through expropriation and narrowly defines “public purpose” as it relates to expropriation. Perhaps most significantly, the Policy recognizes the full land ownership rights of communities in Liberia as equivalent to Private Land rights, regardless of whether the community has self-identified, established a legal entity, or holds a deed (Toe and Stevens, 2014).

Although parts of Liberia’s land mass have been documented through “a patchwork of deeds and other quasi-legal documents, called tribal certificates¹⁴,” there is no comprehensive and up-to-date information on the exact number of these documents, nor on the nature of rights they convey or the exact location of the claims held (Toe and Stevens, 2014, p. 5). An important remaining objective of the Land Commission has been the development and implementation of a methodology for documenting Community Land rights that has fed into the drafting of the Land Rights Act, which was submitted for review by the President in July, 2014.

In this context of land reform, the CLPP seeks to support community-based structures in the following: (1) Community empowerment, including provision of legal education regarding rights and responsibilities in the context of decentralized land management; (2) Boundary harmonization and conflict resolution, including: comprehensive mapping of community land and negotiation with neighbors (to define the limits of community land); and the (3) Documentation and formalization of community natural resource governance structures, including cataloguing, discussing, amending, adopting rules for community land and natural resource management, and electing an accountable governing body to manage community lands and natural resources.

To date, there has been no rigorous or quasi-experimental evaluation of a program of this kind. As such, this study will assess the impact of documenting communal land and natural resource rights and improving local resource governance, as well as investigate the longer-term impact on agricultural productivity.¹⁵ Previous research¹⁶ has focused on the economic impacts of individual land titling programs and the positive returns that these programs have for household-level economic development

¹⁴ A tribal certificate is the first step in the public land sale process that denotes the community’s consent to a purchaser’s acquisition of the land.

¹⁵ Baseline data collection focused on land tenure security (a key assumption of the program) and governance (an important near-to medium-term impact). Basic productivity data were collected, and further data will be collected at midline and endline.

¹⁶ For a review, see Galiani, Sebastian, and Ernesto Schargrotsky. “Property Rights for the Poor: Effects of Land Titling.” *Journal of Public Economics* 94, no. 9–10 (October 2010): 700–729. doi:10.1016/j.jpubeco.2010.06.002.

(Lawry et al., 2014). In contrast, this evaluation will explore the political, social, and economic impacts of protecting communal land. Outcomes will be evaluated at both the household and community level.

More generally, this evaluation has relevance for the broader question of the effectiveness skills building, training, and technical support interventions by outside actors. While CLPP aims to provide comprehensive support to communities so that they might protect their land, it does not provide specific material benefits in the form of cash loans or grants. As a result, this evaluation presents an additional test of the general hypothesis that “soft” interventions, such as the CLPP, can spur economic development.

2.2. CLPP INTERVENTION

Developed by international legal empowerment organization Namati, the *Community Land Protection Program (CLPP)* is a global program that seeks to empower communities to successfully protect their land rights, through the provision of legal services, land mapping and a documentation process. The program represents a three-year project that is funded by DFID; the work will be carried out in partnership with SDI.

CLPP builds on the lessons learned from the Community Land Titling Initiative, a project of the IDLO that identified how much and what kind of support communities need to successfully follow national laws to proactively document and protect their community lands. The Community Land Titling Initiative was conducted in Uganda, Mozambique and Liberia from 2009-2011, and the results of a pilot study of the Land Titling Initiative were used to inform the design of the program interventions for Namati’s *Community Land Protection Program*. In Liberia, the CLPP pilot in River Cess county provided interesting and much needed evidence to inform the Land Rights Policy development.

The program consists of three main components:

1. Community empowerment, including provision of legal education regarding rights and responsibilities in the context of decentralized land management;
2. Boundary harmonization and conflict resolution, including comprehensive mapping of community land, negotiation with neighbors (to define the limits of community land), and boundary demarcation and documentation (GPS/surveying, planting boundary trees, signing MOUs); and
3. Fostering good governance, including cataloguing, discussing, amending, and adopting rules for community land and natural resource management and electing a diverse, permanent, accountable governing body to manage community lands and natural resources.

Namati and SDI conceptualize the CLPP process as a conflict resolution and good governance exercise, in addition to the mapping and land registration. The overarching aim of a community land protection process is to stimulate a community-wide, democratic and fully participatory review of how to best manage and govern community lands and natural resources once title has been granted. This includes a specific goal to increase participation in local land governance by historically excluded groups, namely women and ethnic minorities.

General steps of the Community Land Protection Process:

1. **Legal education:** Legal education consists of the provision of legal education regarding community rights and responsibilities in the context of Liberia's emerging framework for land; a community visioning for the future exercise; a valuation exercise in which community members undertake a basic calculation of the replacement costs of their common resources; the election of a community wide coordinating committee, and the selection of community land mobilizers, who work closely with the NGOs to lead their communities through the community land protection process.
2. **Boundary harmonization with neighbors:** Boundary harmonization represents a three-step process including community mapping, boundary negotiation with neighbors, and boundary demarcation. The entire process of boundary harmonization process represents a phase of conflict resolution that requires internal and external agreement at each stage of mapping and demarcation. The demarcation steps include (a) Map-making (hand drawn sketch maps), (b) Tree planting, (c) MOU-signing ceremonies between neighboring communities/clans, and (d) GPS mapping/formal surveying.
3. **Establishing by-laws for community land administration:** By-law drafting represents an intervention to promote good governance. There is a four-part process for the drafting of by-laws/constitutions. First, a community meeting is organized and there is a community-wide "shouting out"/brainstorming of all existing norms and practices. Second, SDI works with the community to analyze the rules, taking into consideration rules that are in-line with or contradict national laws, as well as evolving community needs. This includes, for example, any customary norms that might discriminate against women and other vulnerable groups. CLPP works to bring local rules into alignment with national legislation. Third, second and third drafts of the by-laws are written following debate and discussion concerning any amendments, additions or deletions of rules. The final step in the process is formal adoption by full community consensus or super-majority vote.

This process is systematically designed to promote a culture of participatory local governance by promoting direct participation by community members in rule-making decisions previously made only by customary and state authorities. It enables the community to set up a community governing committee along with mechanisms, such as election and impeachment criteria, to hold local leaders accountable. Having written, vetted rules enables communities to establish guidelines and norms for land and natural resource management that are clear and known to all members of the community, as well as publicly known penalties for infractions. It is also designed to provide a mechanism for protecting the land and inheritance rights of women and other vulnerable groups.

Two additional important effects of the by-law process include the generation of a natural resource management plan and creation of rules to more closely control and monitor outsiders' use of land and natural resources. For natural resource management, this includes reviving or adding rules to promote sustainable hunting or fishing practices and the conservation of key forest resources, such as fuelwood and building materials. CLPP encourages the introduction or reinforcement of by-laws that ensure benefits and protections for communities during negotiations with investors.

These program interventions are being delivered at the community level over the course of 12-18 months, depending on community capacity and various socio-political factors that impact community progress, including the quality of community leadership, the degree of community cohesion, the incidence of land conflicts, and other factors. The entire community is involved in every step of the process. They are led by an elected, diverse "interim coordinating committee" that acts as a community mobilizer and is responsible for coordinating community efforts.

3.0 EVALUATION DESIGN AND IMPLEMENTATION

3.1 EVALUATION AND STUDY DESIGN

The design of the impact evaluation (IE) was originally conceived during a workshop with the SDI and Namati in Uganda in March 2013.¹⁷ The original plan for the impact evaluation did not specify which regions of the country would be included in the CLPP because the Liberian Land Commission (LC) wanted to play a key role in selecting the programming areas. This collaborative process took several months and the list of the areas to be included in the study, including areas in Lofa County, was ready at the end of 2013. In January 2014, the principal investigators visited Liberia to set up the baseline survey. At that time, assessments of the towns and town clusters that would constitute the units of analysis for the IE were ongoing.

A key factor in both the program design and in the IE is working with the correct community land administration unit. In the areas of Liberia included in this study, community land is managed by different governance structures depending on context. In some cases, a single town has historically managed and used communal land and natural resources on their own. This is the result of a confluence of historical, geographic, demographic and political factors, including the history of settlement in Liberia, the ways that the central government interacted with different areas under customary tenure in the 20th century, and local customary governance mechanisms, which vary across Liberia (Sawyer, 2005). In others cases, however, towns in a given area are too small and thus, several towns in a cluster share the responsibility for managing and using communal land and natural resources.

Large towns in some cases and town clusters in others roughly correspond to the governance unit of a Clan, although there are exceptions. In Liberian history, Clans were a subunit of local or customary ethnic governance structures (known as “tribes” in local parlance). However, starting in the first half of the twentieth century, local chiefs who were part of this customary system became government employees. In many parts of rural Liberia, chiefs were essential to the collection of taxes and, as such, became representatives of the central government (Konneh, 1996; Sawyer, 2005). Areas of Liberia that did not historically have Clans were integrated into this system (e.g., Brown, 1982). As a result, this report refers to community-based, as opposed to customary, land management systems. Taking this diversity into account, SDI conducted a mapping “self-identification” exercise to determine which towns and town clusters were eligible for the program.

To qualify as a town/town cluster for inclusion in CLPP, community leaders had to identify the town or the cluster of towns as sharing communal land and natural resources (membership in the same clan, while often the case, was not a necessary condition).¹⁸ The units eligible for inclusion in the baseline

¹⁷ For detailed information about the design of the impact evaluation study, please see Appendix 2.

¹⁸ It is important to note that the term “town” is synonymous with “village” in Liberian English, so the towns included in the study can have very small population and/or lack other development that is commonly thought of as a definitional characteristic of a town in American English.

survey were either standalone towns or the largest town within the town cluster, which is typically the town of first (oldest) settlement¹⁹ whose governance structures control communal land management for the entire cluster of towns.

A rigorous impact evaluation was designed as an integral part of the CLPP to ascertain the extent to which the program’s objectives have been met. Specifically, the study seeks to provide evidence on the following policy questions:

1. How does the documentation of community land and natural resource claims affect both land tenure security and community-level governance structures, including the impact on the protections for and participation of women and minority group members?
2. To what extent does training, mentoring, and technical support help communities to document their land and to codify rules in order to protect their community land and natural resource claims?

This study addresses these questions by focusing primarily at the town/town cluster or clan level, which is generally the lowest level of community-based and indigenous land management in the areas of Liberia included in the research.

Given the logistical challenges of randomizing towns, a randomized control trial (RCT) or experimental design was not feasible for the CLPP IE.²⁰ The study therefore was originally designed to use a Difference-in-Differences (DD) design to determine the program’s impact. The DD approach represents the next best evaluation technique for analyzing the impact of the program using a rigorously defined counterfactual. In the context of the CLPP IE, a DD method would compare the changes in outcomes over time between 46 towns that are involved in CLPP (the treatment group) and 45 towns that are not involved in CLPP (the comparison group). This design approach would be used to approximate the counterfactual of what would have happened in the treatment communities if the program were not

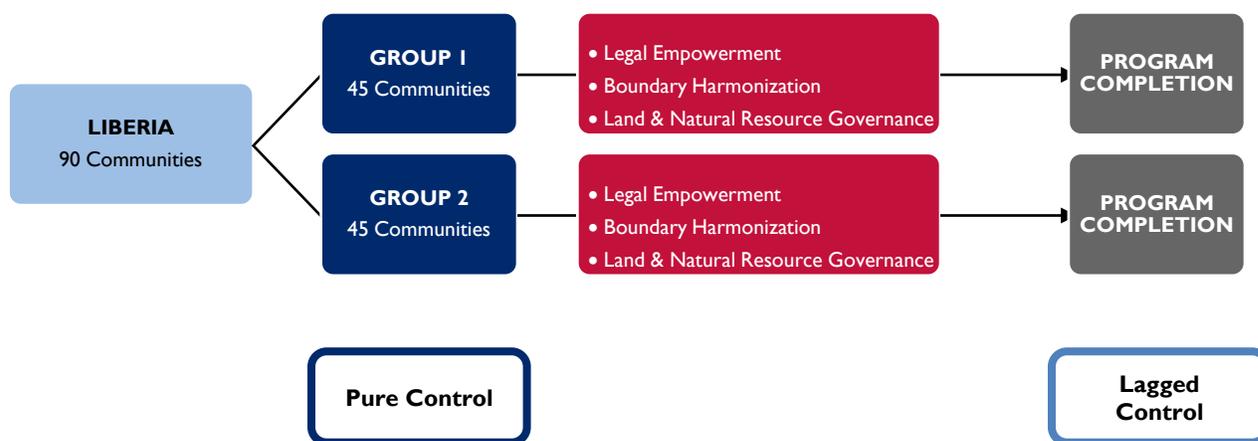


FIGURE 3.1. PROGRAM IMPLEMENTATION DESIGN

¹⁹ Satellite settlements subsequently grew out of these towns, starting as outposts/bases from which to harvest forest resources and crops from farther out, that eventually became towns of their own.

²⁰ The project and evaluation were initially designed as an RCT. However, given the travel time to reach communities in River Gee and Maryland—8 to 10 hours between communities through thick forest and over dirt roads—the CLPP implementation team decided that an RCT was not feasible.

implemented. As designed at the time of this report’s drafting, program implementation would be phased in over two years, with the first group of 46 towns receiving the program in year 1, and the remaining 45 towns receiving the program in year 2.

The DD method is a quasi-experimental design and one of the most frequently used methods for impact evaluation. Although there is an underlying design behind the data collection, DD relies on statistical corrections to ensure that the evaluation design is valid. DD is a strategy that uses data with a time and comparison group dimension to control for unobserved and observed fixed confounding factors. Thus, DD ultimately represents a data-driven method for evaluating the causal effect of a program. In theory, a well-designed DD method can be a powerful statistical tool to minimize selection bias between treatment and control groups.

As the name implies, two differences are examined in a DD design. The first difference controls for factors that are constant over time (fixed effects) in each group, since we are comparing that group to itself. The second difference captures outside time *varying* factors by measuring the before-and-after change in outcomes for a group that was not involved in CLPP but *was exposed to the same set of environmental conditions*.

For the CLPP IE, the DD method will be implemented as follows. The “first difference” in the DD method represents the before and after effect in the treatment group; this controls for factors that are constant over time for the CLPP treatment areas. The “second difference” represents the before and after difference in the control group to control for outside time-varying factors. Finally, the “first difference” is subtracted from the “second difference” to generate the estimate of the treatment effect.

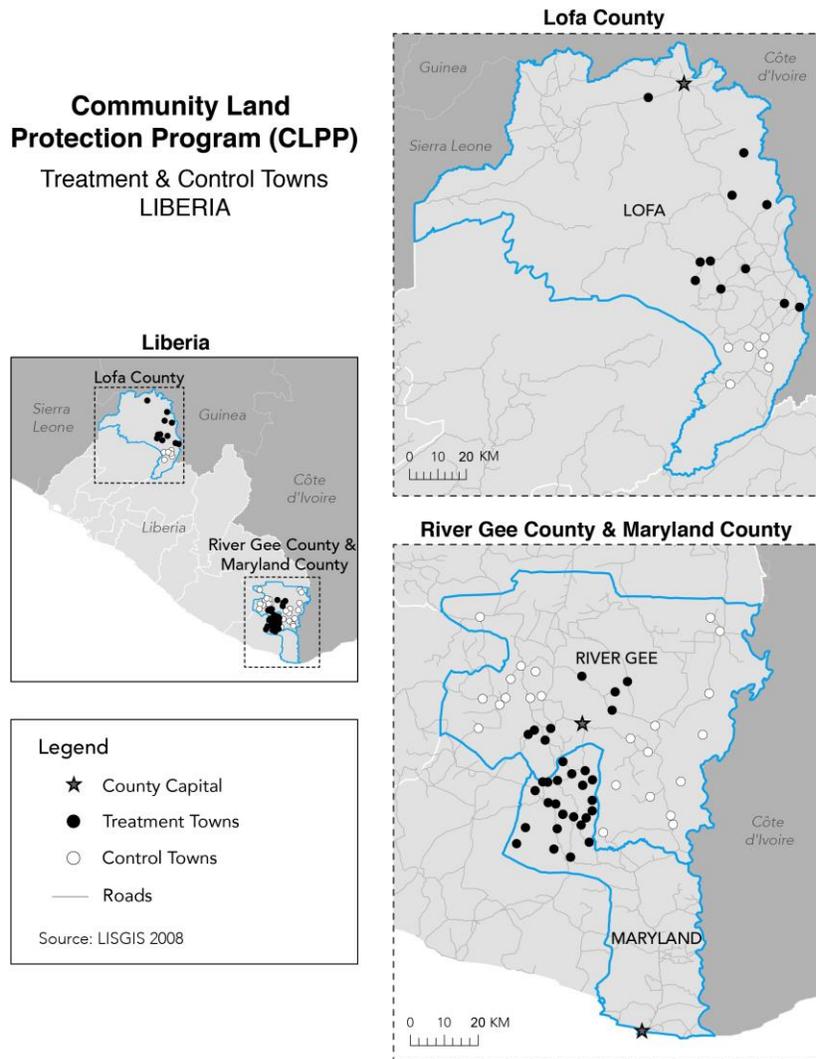
DD will allow us to take into account any differences between treatment and control groups that are constant over time. The strength of the method is that it controls time invariant observable and unobservable differences between treatment and control groups. The implication is that the treatment and comparison groups do not necessarily need to have the same pretreatment conditions. For DD to be valid, the control group must have been subject to changes in outcomes of interest that would have been experienced by CLPP sites in the absence of the program. In other words, the DD approach assumes that the control group follows a similar trajectory over time as the treatment group, in all relevant aspects other than treatment status, and that outcomes for either group are not systematically affected by additional stochastic or time-varying factors that affect only one of these groups.

Although an RCT was not feasible in this environment, treatment was assigned to towns randomly in Lofa county. In River Gee and Maryland counties, the CLPP program implementation team divided the counties into four blocks or “quadrants” of towns based on population/community size and feasible logistical plan for implementation.²¹ From these four quadrants, two were randomly selected as treatment areas and the other two became control areas. All randomization was completed in-country by the CLPP field team at SDI. This method was implemented to avoid the selection of towns that are closer to roads, thereby promoting a more rigorous evaluation design.

Prior to the rollout of CLPP activities, a baseline data collection for the evaluation was carried out in the towns targeted by the project in Lofa, River Gee, and Maryland Counties. This survey sought to gather information on the baseline conditions of key outcomes of interest and on other important contextual

21 One of these quadrants is located in Maryland: Maryland South Quadrant of Barrobo (borders River Gee and Grand Kru). Three quadrants are located in River Gee: the Center Quadrant (borders Ivory Coast and Grand Kru), the Northern-West Quadrant (borders Grand Gedeh and Sinoe), and the Eastern Quadrant (borders Ivory coast and Maryland).

factors that might interact with or influence the impact of CLPP. This report provides a brief description of research activities that were undertaken as part of the survey and summarizes the main empirical findings.



3.2 SURVEY QUESTIONNAIRE DESIGN

CLPP operates under the following assumptions:

IF	Communities acquire knowledge of their legal rights, receive training and support on how to access those rights, resolve disputes and boundary conflicts within their towns and with neighboring towns; and Communities agree on equitable and transparent community land and natural resource governance structures.
THEN	Communities should feel more confident in their land tenure security; Communities should be empowered to protect their rights to the community land; Women and minorities should enjoy better protection of their rights and greater levels of participation; and Community resources should be used more efficiently, leading to increased productivity and development.

The impacts of the CLPP can be divided into medium-term and longer-term outcomes:

Medium-term outcomes include:

- Increased land and natural resource tenure security for community land;
- Increased legal knowledge and empowerment of community members and community leaders;
- Increased accountability of community leaders to community members;
- Improvements in natural resource and land governance structures; and
- Increased participation and protections for the land rights of women and vulnerable groups.

Longer-term impacts/objectives include:

- Increased women's empowerment/ participation in local governance structures, both for land and natural resources and in other areas of community governance;
- Increased dispute/conflict resolution capacity at the community and individual level;
- Increased land/natural resource productivity for community and household land/natural resources;
- Increased social cohesion at the community level; and
- Reduced incidence of unsanctioned community land use or expropriation without fair compensation.

Medium-term impacts are within the time horizon of the impact evaluation (1-5 years), and longer-term impacts are five or more years in the future. The Impact Evaluation of CLPP is designed to measure medium-term program outcomes, but it may also be able to detect changes in indicators of longer-term outcomes. The pre-analysis plan for the evaluation (forthcoming) will include a more detailed technical discussion of indicators of these outcomes that the evaluation seeks to detect and the data source that will be used in each instance.

To assess whether and how community-level changes occur as a result of the CLPP intervention, the study collects four types of data: (1) household surveys and community leader surveys; (2) qualitative data, including key informant interviews (KII) and focus group discussions (FGD); (3) community-level data on conflict and natural resource usage;²² and (4) data gathered through SDI's own monitoring and evaluation system).

²² This instrument was initially designed as high-frequency data to be collected from communities regularly during the course of the program, but the delay in program implementation caused by the 2014 Ebola virus outbreak in West Africa hindered the realization of this data collection to date.

The household survey was designed to gather information about the socio-economic background conditions of households in the town, such as ethnicity, religion, education, and marital status. The household survey also gathered information on community structures and institutions, as well as on other important contextual factors, such as land tenure security and governance structures. Background and contextual information is crucial for two reasons. First, this information will be used to ensure that the treatment and control towns are similar enough to enable the construction of a comparable control group of observations from the households surveyed in the control towns (a key requirement for the quasi-experimental approach used in this study), and to gain information on the nature and extent of statistical adjustments that will be needed in order to achieve this. Second, these background and contextual factors often shape the performance of program interventions and their influence on the outcomes of interest. This information can help estimate program effects more precisely. Qualitative data from the FGD and KII also provide the context to help interpret the quantitative data and to understand potential heterogeneous treatment effects.

Prior to the baseline data collection, the research team extensively pre-tested the household survey instrument, as well as the qualitative data collection protocols, and used feedback from this pre-testing to refine the instruments.

3.3 BASELINE DATA COLLECTION

Researchers at University of Michigan (UM) and Yale University implemented the baseline survey in collaboration with Cloudburst Consulting Group, Inc.²³. The baseline field team consisted of 24 survey enumerators, 2 supervisors, and a field manager. In addition, two research assistants trained in qualitative research methods conducted the FGDs and KIIs.

The research team designed specific guidelines for selecting the sample of households and community leaders in the towns/town clusters. Based on power calculations at the design stage (see Appendix 2), it was determined that 15 households would be selected in each study village for the household survey, as well as 2-3 community leaders who would complete the leaders' survey and the community diary survey. These leaders included the youth, women, and minority leader (if applicable) for a community. Households for the household survey were randomly selected following a standard protocol that involved making a simple map of the community and selecting respondents based on the size of each "quarter" or neighborhood (for more details, see Appendix 2).

In each household, the enumerators interviewed the head of the household and the most "important" female, or the female who makes the most decisions. This population is of specific interest to the IE, because this population is most likely to be involved in community-level decision making around land and natural resource usage. Selection of community leaders was relatively straightforward, as each community leader, or town chief, was automatically eligible for an interview. In addition to the town chief, the enumerators were instructed to ask for the most senior female leader and the minority leader for inclusion in the survey. These leaders were selected because they provide important information on women and minority group rights and participation, two key outcomes of the IE.

After a respondent had been selected, they were asked to give informed consent by the enumerator. If they agreed to participate, the enumerator proceeded to ask the survey questions. If consent was not

²³ All proposed research activities and supporting materials were submitted to the University of Michigan's Institutional Review Board (IRB) on April 17, 2013 for review and clearance. The investigators were informed that the scope of the study implied it was exempt from IRB approval.

provided, the enumerator informed the supervisor for further instructions on selection of a replacement.

Informant interviews were conducted with local leaders such as the town chief, women's leader, youth leader, minority leader and/or hunter leader²⁴, where relevant, in communities chosen for qualitative data collection. Focus groups were conducted with women, youth and hunters, if applicable. These conversations took place in Liberian English and were audio recorded for transcription and analysis.

The Community Land Protection Program Impact Evaluation (CLPP IE) study began on January 30, 2014, with a 3-day training session for 24 enumerators. The training session was unfortunately concluded early because of a lack of start-up funds for the project (further details below). However, the field staff had previously received training in electronic data collection and qualitative research by Innovations for Poverty Action (IPA) prior to working with the CLPP IE. Moreover, the enumerators all had 1-2 years of experience working on similar research projects with IPA.

The CLPP IE Field Manager trained the enumerators on mobilization and randomization techniques, informed consent, and ethics, as well as interviewing techniques. The bulk of the training was spent on a detailed review of the household and leader surveys. The two qualitative researchers were trained separately on the qualitative protocol. The training session was followed by survey pretesting. On February 6, 2014, the field team visited a semi-rural community near the 15th Gate Plantation Road in Margibi County to conduct a skills test assessing their learning during the training.

On February 7 and 8, 2014, the team travelled to Zorzor, Lofa County to launch the research season. Following data collection in Lofa County, the team travelled to River Gee and Maryland Counties. Data collection concluded in River Gee and Maryland Counties on March 30th.

Delays in funding created significant problems for the research launch, which are reflected in delayed/reduced training time and also difficulties in securing transportation for the field team. These training problems had a direct impact on the loss of data during the first 3 days in the field. Due to programming and upload errors with the electronic data collection, over half of the quantitative data collected during the first week of the baseline project was lost. In particular, the loss of data was due to technical and connectivity difficulties using the Pendragon software – the electronic data collection platform used for the quantitative data collection – in exceptionally remote areas. This required a 'recollect' of the lost data in Lofa County, which was completed in mid-July 2014.²⁵

In addition to the conditions in Lofa county that required a 'recollecting' of data, another subset of data was lost due to an error in syncing data from the mobile phones to the field computer authorized by Pendragon to be the server for the electronic data (for proprietary reasons Pendragon only allows one computer to be authorized to serve this function). When this error was discovered, every attempt was made to recover the field laptop and re-sync the affected surveys, but this was unsuccessful and the data

24 In communities where hunting continues to an important source of livelihood (more common the Southeastern regions of Liberia, including River Gee and Maryland counties) hunters play a specific role in community governance and in particular in natural resource governance and access to forest resources. As a result, in communities where minority groups had smaller presences or did not have a designated leader, we interviewed the leader of the hunters is possible.

25 Due to lack of capacity in country to implement electronic data collection, paper surveys were used as a next-best alternative for the recollect of data in Lofa county. Paper data collection and entry pose a different set of challenges than electronic data entry. Paper surveys are more prone to errors than electronic surveys, and need careful review in the field to check for consistency and completeness. Despite assurances by the in-country team that the paper surveys matched the electronic instruments from the initial phase of data collection, small inconsistencies between the instruments led to the three problems: 1) some questions that were asked only to respondents during the recollect, 2) some questions with a slightly different format during the recollect (select one versus select multiple), and 3) some questions with a different set of answer choices than were presented to respondents during the initial phase of data collection.

had to be manually transferred from the mobile phones to the dataset. This last-resort effort allowed the evaluation team to recover some, but not all, of the data lost due to the syncing error. It is for this reason that data was lost for 11 communities.

Finally, in addition to the problems in Lofa that necessitated recollection of data and the lost data due to syncing failure, improper use of the Pendragon software for survey programming and data entry errors did result in incomplete observations, or surveys for which some data is missing. This includes 402 observations that lack information about respondent type and gender.

The research team does not anticipate the same degree of challenges for future waves of data collection. Future waves of data collection will ensure that the enumerators and Field Coordinator have an extended period of training for forthcoming rounds of data collection. Given the complications with Pendragon, the evaluation team will also switch to Open Data Kit software for subsequent data collection. In comparison to Pendragon, Open Data Kit provides a more user-friendly platform for programming and data management.

The statistics below are based on 79 towns/town clusters included in the baseline survey.

TABLE 3.1—CLPP BASELINE DATA COLLECTION

		Total # of observations	Lofa	River Gee	Maryland
Survey	Community members (Household survey)	2100	816	953	331
Instrument	Community Leaders	209	54	107	48
	Community Diary	156	0	102	54
Qualitative Data	Key Informant Interviews	29	7	12	10
	Focus groups	20	4	9	7

4.0 BASELINE CONDITIONS ON PROGRAM OUTCOMES

The quantitative survey data and the qualitative transcripts provide information on baseline levels of the outcomes that the CLPP seeks to influence in the medium-term time frame. Some information on longer-term outcomes and information is also currently available and additional information will be collected over time. In addition to the in-text tables, more extensive tables of baseline data are available in Appendix I.

4.1 TENURE SECURITY AND PRODUCTIVITY FOR LAND AND NATURAL RESOURCES

One of the most important impacts that the CLPP aims to achieve is to increase the tenure security for community land and natural resources. To assess this impact, the household survey asked a battery of questions that aimed to investigate the level of perceived tenure security for individually-held land and for communally-held land, the general state of the communally-held land and natural resources, and the experience that community members had with outside investors.

While land tenure security is a multifaceted construct that is context-specific and difficult to assess, the CLPP baseline survey asked several questions designed to estimate how secure community members felt in their rights to use, access, and control their natural resources. Questions addressed the use of communal and individual natural resources and land separately and it is important to note that in many communities, farmland and natural resources used mostly by one household are still considered a communal natural resource. These results are summarized in Table 4.1 (below).

TABLE 4.1—TENURE SECURITY

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Household possesses paper documentation for land	7%	2000	9%	244	7%	863
Household has built a fence in past year	18%	1998	10%	244	21%	863
Household leaves fields fallow	94%	1999	93%	244	95%	863
Household plans to leave fields fallows in future	94%	1996	95%	244	95%	862
Land is secure from encroachment	91%	2000	92%	244	92%	863
Household has right to decide who inherits their land	78%	1999	75%	244	81%	863
Household has right to plant rubber or fruit trees	88%	1992	83%	244	89%	862
Household has right to sell their land	17%	1999	19%	244	18%	863
Household has right to use land for collateral	22%	2000	21%	244	23%	863
Household has right to map their land	61%	1998	57%	244	67%	863

Source: CLPP IE household data

As discussed in more detail below, a large majority of community members state that they “own their land;” however, only 7% of community members possessed any documentation of their claim. This is

typical of the Liberian context, where formal and quasi-legal deeds, known as tribal certificates, cover only 30% of the land area (Toe and Stevens, 2014).²⁶ Eighty-eight percent of community members stated that they could plant cash crops or ‘live trees’ on their land, a practice that generally indicates and/or increases an individual household’s long-term claim on the land. Almost all community members (94%) stated that they had let their land lie fallow in the past, and a similar proportion stated that they had plans to let the land lie fallow in the future. These two measures are frequently used to assess confidence in access to land in the future even when a household is not actively using the land. Ninety-one percent of survey respondents feel that their land is secure from encroachment/people crossing over to use the land. These results suggest that the landholders interviewed do not significantly fear encroachment or expropriation on their lands, even if they are not actively using these lands.

At the same time, 83% of community members stated they did not have the right to sell their land (because it is administered at the communal level), which is typical of the property rights conferred by Liberia’s diverse communal land tenure systems. While the right to alienation of property is often hypothesized as very important to economic development in the economics literature (e.g., Deininger et al., 2003), some have argued that the inalienability (at least through sale) of customary land rights is a key feature that protects the rights of the community as a whole (Berry, 2009). Similarly, only 22% of respondents stated that they had the right to use their land as collateral for a loan. Although the use of land as collateral has been hypothesized to play an important role in economic development, the limited empirical evidence to date suggests that this right may not be particularly effective in the absence of other supportive policies, such as credit availability and functioning input and output markets (Lawry et al., 2014).

Respondents were more divided on whether they had the right to survey or map their land (an important step in the process of obtaining an individual land title under Liberian statutory law). While 67% of men report having this right, only 57% of women report being allowed this freedom. In addition, the data suggest relatively lower levels of investment in infrastructure at the time of the baseline, which is also typical for post-conflict settings. Few households (18%) reported adding fencing around part of their property in the past year, though men are more likely to have done so than women.

As shown in Table 4.2, 39% of community members stated that landlords/first settlers “owned” the land and natural resources in the community. Likewise, in a qualitative interview, a respondent explained that the quarter or neighborhood of the community settled first “had more rights over the land because they were the first settlers in this town,” (Interview, River Gee, March 14th, 2014). A focus group of youth described the same occurrence, explaining, “They [the first settlers] are the older quarter in the whole town, so when you want land, now that they are the one you can go to before you can get land... because they have the larger portion, so some people when they want land they can go to them,” (Maryland, March 3, 2014). This suggests the continued importance of traditional community-level governance structures for the communities included in this study.

²⁶ New tribal certificate data analysis by Mark Marquardt for other counties in Liberia shows that, while this figure may still be accurate nationally, no one knows for sure, and in some parts of the country (Bong County), tribal certificates cover an estimated 50% of the land area (unpublished).

TABLE 4.2—TENURE REGIME AND LAND KNOWLEDGE

	Percent	Obs	Percent if female	Number if Female	Percent if male	Number if Male
Community land owner: Government	9%	1832	8%	829	11%	865
Community land owner: Town chief	8%	1832	9%	829	5%	865
Community land owner: Governance Council	0%	1832	0%	829	1%	865
Community land owner: First settlers\Landlords	39%	1832	38%	829	36%	865
Community land owner: Community as a group	17%	1832	15%	829	20%	865
Community land owner: Elders	21%	1832	23%	829	23%	865
Community land owner: Paramount Chief	2%	1832	3%	829	2%	865
Community land owner: Other	3%	1832	3%	829	3%	865
Know all of the boundaries in the community	33%	1831	15%	829	50%	864
Know half of the boundaries in the community	10%	1831	10%	829	10%	864
Know some of the boundaries in the community	43%	1831	52%	829	35%	864
Know none of the boundaries in the community	13%	1831	20%	829	4%	864

Source: CLPP IE household data

While most respondents report knowing at least some of their community boundaries, the differences between men and women are distinct. Only 15% of women report knowing all community boundaries versus 50% of men. At the other end of the scale, 20% of women report knowing none of their communities' boundaries versus 4% of men.

Responses about who had decision-making power over community resources were more divided. These results are presented in Table 4.3. While about 41% of respondents stated that either the traditional landlord or the elders had decision-making authority, 20% stated that it was the Paramount chief or the town chief (an authority nominally employed by the Ministry of Internal Affairs, either elected or selected by the community), 10% stated that the central government in Monrovia held this authority, and 25% stated that it was held by the community as a whole. Differences between male and female respondents are again distinct. In particular, while 31% of men report that the whole community decides on investor land rights, only 20% of women report the same.

TABLE 4.3—LAND MANAGEMENT AUTHORITY

	Percent	Obs	Percent if female	Number of female	Percent if male	Number if male
Government decides investor land rights	10%	1832	7%	829	12%	865
Town chief or Paramount chief decides investor land rights	20%	1832	24%	829	15%	865
Land Governance Council decides investor land rights	1%	1832	1%	829	1%	865
First settlers or Landlord decides investor land rights	22%	1832	25%	829	18%	865
Whole community decides investor land rights	25%	1832	20%	829	31%	865
Elders decide investor land rights	19%	1832	20%	829	21%	865

Source: CLPP IE household data

Despite the results above that indicate a sense of security regarding long-term land claims, there is also evidence that some respondents fear encroachment and/or expropriation of their community land by neighbors and neighboring communities in the near future. Twenty-seven percent of community members reported that it was likely for neighbors within the community to cross boundaries and encroach on their land (Table 4.4) and 53% of survey respondents stated that it is likely that a neighboring community or community cluster might encroach on their community's land.

In contrast, smaller proportions of community members reported threats from elites and companies outside the community. It appears that the main concern is boundary disputes with neighboring communities but some survey respondents also indicated that it is possible that national or international elites could expropriate community land. While nearly a quarter of respondents stated that it was possible that elites or individuals from Monrovia would encroach on community land and 28% stated that outside investors or foreign companies could take or use community land without the permission of the community, only 4% and 7% of respondents, respectively, indicated that this event was likely. On this issue, there are no significant differences between male and female respondents.

TABLE 4.4—LAND SECURITY

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Likely that neighbors will take some of my household's land	28%	2034	25%	827	29%	865
Likely that a neighboring clan will take some of my community's land	25%	2035	26%	829	27%	864
Likely that elites will take some of my community's land	4%	2035	3%	828	3%	865
Likely that a corporation will take some of my community's land	7%	2033	7%	828	7%	864

Source: CLPP IE household data

LAND CONFLICTS

The prevalence of boundary conflicts in the study areas is notable in the qualitative communities, as almost every community described an ongoing, protracted land dispute. Traditional community governance structures are ill-equipped to deal with these situations and most communities have “carried” their complaint to the government or the courts (Interview, River Gee, February 21, 2014). In most cases, resolution of these issues is slow in coming, if it comes at all. Women in a focus group in River Gee explain, “We forward this complaint [county boundary dispute] to the government and they have been playing us low,” (Focus group, River Gee, February 18, 2014).

Traditional authorities often encourage community members to respect requests by the government not to plant crops on a disputed area, but informants report anxiety about leaving the disputed land fallow, especially if the other party in the dispute is perceived as not honoring the agreement. A chief in another community in River Gee states that while his community's land case is being resolved (sitting with the superintendent), if the people from the other community do not stop crossing the boundary line, then the people of his town will also go there and brush the land in order to make a claim to their space, so that everything is clear when the government “starts throwing history around” (Interview, River Gee, February 21, 2014).

As the above quote suggests, some of these issues are lingering contestations that emerged during or were exacerbated by Liberia's civil wars but part of this high incidence of land disagreements might also be linked to difficulties in identifying community land boundaries; almost half of community members (43%) stated that they could only identify some of the boundaries of their community land (Table 4.2). Given the overall limited availability of property rights documentation in the study communities, it is perhaps unsurprising that boundaries are unclear and community members fear encroachment.

INVESTOR RELATIONS

Table 4.5 shows descriptive statistics from community members interviewed indicating their knowledge and understanding of outside investment in their community. Community members report a range of activities in their communities, including logging and agribusiness activities, such as palm oil and cocoa cultivation.

TABLE 4.5—INVESTOR RELATIONS

	Percent ²⁷	Obs	Number if female	Percent if female	Number if male	Percent if male
Investors operate in the community	10%	2036	9%	829	7%	865
Involved in meetings with investors	48%	207	31%	77	73%	64
Community received benefits from investors	84%	586	86%	272	93%	248
Community experienced negative impacts from investors	20%	206	11%	76	20%	64
Investors changed community for the worse	11%	207	6%	77	9%	64
Investors changed community for the better	51%	207	51%	77	44%	64
Investment benefits go to government	9%	1803	10%	823	9%	855
Investment benefits go to the town chief	17%	1803	20%	823	14%	855
Investment benefits go to the paramount chief	4%	1803	4%	823	3%	855
Investment benefits go to the landlord	16%	1803	17%	823	14%	855
Investment benefits go to the elders	30%	1803	30%	823	31%	855
Investment benefits go to the Land Governance Council	3%	1803	3%	823	4%	855
Investment benefits go to all community members	18%	1803	14%	823	20%	855

Source: CLPP IE household data

Many communities where qualitative data were collected also reported the presence of individuals from outside the community who have negotiated arrangements with the surrounding community to extract forest products. In exchange for this use of communal land, these small-scale “investors” return a percentage of their proceeds to the communal treasury or a percentage of the product harvested (such as timber) to the town for use in improving public buildings and infrastructure.

Overall, qualitative interview and focus group respondents reported a larger presence of NGOs operating in their communities than of private investors, and participants in several towns indicated that investor presence was higher before the civil wars. Currently, one community in Maryland reported that a logging company was still operating in the area (Interview, Maryland, March 3, 2014), one community in River Gee confirmed the presence of a mining company (Focus Group, River Gee, February 18, 2014), and one community in Lofa reported a water infrastructure project in the beginning stages (Interview, Lofa, February 11, 2014).

In general, of the community members who reported that investors were active in their community, 48% stated that they had been involved in meetings about the development activity and 84% stated that they felt that the community was benefiting from the development of their natural resources. Notably, while 73% of men report being involved in these meetings, only 31% of women report the same. Likewise, a lower percent of women report that the community received benefits from the investors, though this difference is far less pronounced. The commonly cited concrete benefit was cash that

²⁷ Total percentage may be outside percentages disaggregated by male and female respondents because there are 402 observations for which gender information is missing.

investors paid to the community through rental fees, although many respondents stated that they did not know or did not wish to say what they felt the benefit to the community would be. From the qualitative data, a women’s focus group in River Gee County indicated that their town hall was built through an investor benefit, and they also received two cows from that investor (Focus Group, River Gee, February 21, 2014). In fact, a slightly lower percentage of women (11%) report negative impacts from investors (versus 20% of men).

However, community members also stated that there were significant negative consequences to outside investment. When asked about possible negative consequences, a majority of community members in communities where investors were present listed at least one. The two most common things that respondents stated were negatively affected by investors were sacred land or sacred groves in the forest (known in Liberian English as a sacred bush) and access to land for hunting. Despite these issues, community members remained evenly divided over whether things were better or worse in their community since the arrival of investors. When asked what they would do about an investor who violates a contract (written or oral) between themselves and the community, one youth leader in River Gee county stated: “We would... take the company and complain to the government and if nothing is done, then we (town people) would stop the company traditionally by hoisting the traditional flag,²⁸” (Interview, River Gee, March 11, 2014).

Indeed, one River Gee community previously had a logging company operating in the area, but the town asked the company to leave the area when they did not receive any community benefits from the arrangement (Interview, River Gee, March 18, 2014). Another community in Maryland also had an experience where a logging company refused to build a promised bridge, and the government got involved in the dispute, which ended when the company stopped work in the area (Interview, Maryland, March 15, 2014). Focus group respondents in the community describe the incident: "it [the episode] happened here [with] the logging company when they came... We told the people [from the company] they should build concrete bridges and our old people say, ‘oh let the people start hauling the log, we put stop to them certain time all their machine them we the traditional people we put it there.’ It was not able to work," (Focus Group, Maryland, March 15, 2014).

When asked about the productivity and general quality of natural resources, the responses were mixed. As shown in Table 4.6, about one-third to one-half of household survey respondents report some kind of negative environmental condition, from 29% affirming that the size of the forest has decreased in the past five years to 46% agreeing that the condition of their water has decreased in the past year.

TABLE 4.6—FOREST CONDITION

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Size of the forest has decreased in past 5 years	29%	1827	27%	739	25%	751
Density of the forest has decreased in past 5 years	30%	1830	28%	741	26%	752
Some types of trees that existed 5 years ago do not exist now	31%	429	25%	218	36%	211
Condition of the forest has decreased in past year	32%	1833	29%	742	27%	752
Condition of water has decreased in past year	46%	1833	45%	742	46%	753

Source: CLPP IE household data

²⁸ This is a reference to a traditional ceremony whereby the traditional authorities of the community would be called together to discuss the next steps for dealing with the issue facing the community.

In the qualitative data, some respondents indicated that their communally-held land provides important livelihood resources for logging, hunting, fishing, gold and diamond mining, palm oil extraction, and iron ore extraction. However, members of other communities where focus groups and interviews were conducted placed a higher value on crop cultivation, especially swamp rice, or had difficulty naming important natural resources without suggestions from enumerators. Almost half of the community members surveyed stated that there were certain species of tree that had stopped growing in the community in the past 5 years. Similarly, one community in the qualitative data indicated that their forest is “finishing” which the research team understood to mean declining (Focus group, Lofa, February 14, 2014).

4.2 LEGAL EMPOWERMENT AND KNOWLEDGE

According to CLPP program theory, community members’ level of legal knowledge and empowerment are important components in their ability to protect their land and natural resource tenure security and to use their resources productively. Tables 4.7 and 4.8 show baseline measures of legal knowledge for community members and community leaders, respectively.

TABLE 4.7—LEGAL KNOWLEDGE I

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Respondent correctly identifies women's inheritance rights	78%	2022	78%	825	76%	862
Community does not own customary land without documentation	44%	2025	43%	826	45%	862
Government owns forest resources on community land	54%	2021	53%	826	50%	862
Customary land rights are as protected as private land	45%	2023	45%	825	44%	862

Source: CLPP IE household data

A high proportion of community members indicate that they understand women’s inheritance rights but the legal knowledge specifically relating to community land and natural resource rights is mixed. This is consistent across genders. To gauge their knowledge of women’s land rights, respondents were presented with a possible case involving a widow. Anecdotal evidence suggested that in many cases, widows are denied the right to inherit their husband’s property. However, 78% of survey respondents stated that the woman in the case had the right to inherit her husband’s property.

HYPOTHETICAL SCENARIO INVOLVING A WIDOW USED IN THE BASELINE HOUSEHOLD SURVEY

Emmanuel is a 38-year-old farmer. He is married to Rebecca and they have 3 children. Emmanuel has just died and now his older brother George says that Rebecca should marry him so that the land the couple has should remain in George's family. Rebecca has so far refused to marry George. She tells him she prefers not to marry now, but instead to farm what was her and Emmanuel's land. Who should inherit the land in this scenario?

On the subject of community property rights, respondents were divided. Forty-four percent stated that without a written document, the community did not “own” their communal lands. At the same time, 45% correctly stated that communal property rights were as secure as individual private property rights

according to the new Land Rights Policy. Fifty-four percent stated that the Government of Liberia owns the community’s land and natural resources. Given the current interpretations of Liberian law, it is the community and not the government of Liberia that owns a community’s land and natural resource.²⁹ These finding suggest that additional legal knowledge through CLPP could help community members more effectively claim their rights.

Similar to community members, 70% of leaders correctly identified a woman’s right to inherit property from her husband, despite the prior assumption that women’s rights are vulnerable in the rural counties included in the study. Nevertheless, leaders also exhibit gaps in their knowledge. Only 22% of leaders correctly reported that it was not necessary for a community to have a written document to have rights over their land and 32% reported that the government actually owned the natural resources on community land. Furthermore, a majority of the leaders in the survey (53%) stated that they thought community-based ownership was weaker than statutory ownership. Given the current interpretations of Liberian law that communities do indeed own their communal lands and natural resources, these findings underscore the value of additional awareness-raising among leaders in the study areas.

TABLE 4.8—LEGAL KNOWLEDGE II

	Percent	Obs
Respondent correctly identifies women's inheritance rights	70%	206
Community does not own customary land without documentation	22%	206
Government owns forest resources on community land	32%	206
Customary land rights are as protected as private land	47%	206

Source: CLPP IE household data

4.3 LEADERSHIP ACCOUNTABILITY AND GOVERNANCE

Part of the goal of the CLPP is to increase the quality of the community-level governance of land and natural resources. To understand the impact that the program might have on community resource governance, we measure the current state of community governance structures, including the existing community-level institutions and perceptions of these structures at the community level, as well as the rules that govern community land management in communities included in the study.

At baseline, prior to the start of CLPP, there are a range of different structures that support governance of land and natural resources in the communities. In some communities, a system that could create opportunities for collaborative natural resource management, such as council that focuses on natural resources and land issues, already exists. In other communities, leaders make decisions with less consistent input from community members. A key aspect of CLPP is supporting structures that consistently solicit community participation on natural resource and land issues.

Overall, while these governance structures are not very inclusive or democratically-run, community members show relatively high levels of support. In addition, community members report that rules governing the use of communal land and natural resources are in place and are usually followed.

²⁹This confusion is understandable, given that there is a long history of ambiguity in Liberia’s civil law concerning land, and even some the fact that the Community Rights Law is often interpreted in three distinct ways: 1) through its passage community land/forest ownership comes into existence, even without establishment of a Community Forest; 2) only once the Forestry Development Authority establishes a Community Forest does the community own the forest (and even then, not the land); or 3) establishment of a Community Forest vests the community with ownership over the land and forest.

Nevertheless, sizeable proportions of community members still report that community leaders do not always act in their community’s best interest.

Table 4.9 provides a baseline measure of the prevalence of natural resource governance councils. Forty-nine percent of community members report that their community has a community land governance council. Only 12% of community members reported that these councils were elected, whereas 59% of respondents reported that elders and traditional authorities chose the council members themselves. For community elected councils, 48% of men report participating in the election versus 16% of women. However, when it came to assessing the power of these committees to make decisions, respondents considered them less effective compared to other authorities in the community, ranking their ability to make important decisions lower, on average, than every other local actor (4.8, SD=4.3), including women and youth.³⁰

TABLE 4.9—ACCOUNTABILITY AND GOVERNANCE I

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Village has a natural resource governance council	49%	1808	45%	824	52%	857
If council, Traditional authorities chose council members	59%	883	62%	367	57%	449
If council, Community vote chose council members	12%	883	8%	367	13%	449
If council, Community consensus chose council members	25%	883	22%	367	28%	449
If council, Participated in election of council members	34%	883	16%	368	48%	448

Source: CLPP IE household data

Table 4.10 summarizes the self-reported involvement of community members in making their desires known to local leaders and holding leaders accountable when they act contrary to those desires. Overall, community members feel that they can provide input and feedback to leaders and about half of respondents (56%) even feel that it is possible to remove a local leader who is not serving community interests. Regardless of the governance structure, 87% of community members stated that they let their leaders know when they did something that went against the interests of the community.

TABLE 4.10—ACCOUNTABILITY AND GOVERNANCE II

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Community members tell leaders what to do	89%	1804	87%	823	91%	855
Community members tell leaders when they act against community interests	87%	1804	86%	823	89%	855
Community members remove leaders that act against community interests	56%	1804	54%	823	59%	855

Source: CLPP IE household data

Even though community members do have avenues to communicate with leaders, a picture of a largely representative system of governance emerges from the qualitative data. The Town Chief, elders, Youth Leader and Women’s Leader generally discuss issues behind closed doors, but they do also hold

³⁰ Household survey respondents were asked about the relative power of different individuals and groups in the community, such as the Town Chief, the Land Governance Council, elders, women, and youth, on a scale where 10 represents the most power to make important decisions and 1 represents the least.

meetings to present issues to the community for discussion. An interview respondent in Lofa explains, “Our father[s] them has authority they sit and make the decision they understand one another see how best they can make [it],” (Interview, Lofa, February 14, 2014). Focus group respondents in Maryland describe a similar picture: “The fact here [is] the youth [and] the women wing we have; we all... got to hang head and take decision [with] everybody,” (Focus group, Maryland, March 3, 2014).

Nevertheless, community members generally reported high levels of satisfaction with leaders (79%), as shown in Table 4.11. Sixty-seven percent of community members reported that they trusted their community leaders, though this percentage is higher in Maryland and River Gee Counties (85% and 78%, respectively). Additionally, 67% reported that they feel their community leaders are capable of conserving their natural resources. This contrasts slightly with the qualitative data, where respondents hesitated to discuss any situations where the community had expressed displeasure to their leaders, or even affirm that such episodes had occurred. This discrepancy is likely attributable to the desire to present a united image of the village to outsiders, such as the qualitative enumerators. It could also be attributable to social desirability bias in the focus groups, having elders present during the group discussions, or respondents believing that their answers would travel back to their leaders through word of mouth.

TABLE 4.11—ACCOUNTABILITY AND GOVERNANCE III

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Satisfied with how community leaders manage land	79%	1803	80%	822	79%	855
Community leaders are trusted and honest	67%	1804	66%	823	67%	855
Community leaders conserve and protect the community	67%	1803	64%	823	66%	855
Community leaders monitor and punish rule-breakers	70%	1804	67%	823	71%	855
Community leaders do not work hard	30%	1804	32%	823	31%	855
Community leaders take bribes or participate in illegal forest activities	31%	1804	32%	823	33%	855
Community leaders act in secret	33%	1804	37%	823	32%	855
Community leaders do not consult the community about important land decisions	32%	1802	34%	823	32%	855

Source: CLPP IE household data

Despite the relatively positive picture of community leadership, only 18% of community members surveyed perceived that the decisions permitting outside investment in or use of community land and natural resources were made in order to benefit the entire community. Rather, 46% stated that these decisions were made to benefit elders or traditional landlords (Table 4.5). Thirty-two percent of community members interviewed reported that their community leaders were not open and did not consult with the community about decisions regarding land and natural resources. Thirty-one percent of respondents stated that their leaders were involved in illegal activities regarding community property, including taking bribes. This data suggests that the emphasis within CLPP on transparent, inclusive governance of communal land and natural resources could lead to positive change in the communities included in the study.

LAND RULES

One enduring aspect of daily life that is governed by traditional authorities is local rules about land use and management. Table 4.12 provides baseline measures of existing rules and norms that cover land and natural resource usage. Overall, while a majority of community members stated that the rules were in force and that they found the rules to be fair, community members nevertheless agreed that the rules disadvantaged some groups.

TABLE 4.12— COMMUNITY RULES

	Percent	Obs	Percent if female	Number if female	Percent if male	Number if male
Community has written bylaws	46%	2032	40%	826	40%	863
Respondent involved in making bylaws	32%	2030	20%	826	41%	861
Satisfied with land rules	72%	2031	65%	828	71%	862
Community leaders collect fees from outsider's use of land or resources	59%	1802	56%	822	61%	854
If fees collected, knows how fees are spent	73%	1062	66%	458	80%	520
Community members cut too much wood from the forest	24%	2030	27%	827	27%	861
Satisfied with enforcement of land rules	67%	2033	62%	828	68%	862
Community members are punished for breaking land rules	88%	2027	87%	827	85%	859
Land rules are fair	68%	2030	62%	827	67%	860
Women are disadvantaged by land rules	60%	2031	56%	828	62%	860
Minorities are disadvantaged by land rules	57%	2030	55%	828	61%	860

Source: CLPP IE household data

From the qualitative data it is apparent that all or almost all communities have rules governing land and resource use in the community. About half of the community members from the household survey reported that they were aware of written rules (as opposed to oral, or unwritten, rules) governing the use of community land and natural resources; this was constant across genders. Half (49%) of community leaders said that residents follow rules to manage community resources 'most of the time' or 'always'.

Some rules governing control of natural resources attempt to prevent overuse or pollution of the resource, while others establish a procedure for granting use rights to outsiders. Regardless of whether rules are written or oral, they typically involve restrictions on outsiders hunting without the community's approval, using chemicals to fish in the river, and hunters killing certain game, including antelope, leopard, and other animals, (Interview, River Gee, March 9th, 2014). Preventing pollution of the community water source is a key concern and most communities also do not allow people to wear shoes into their drinking water source. For example, a respondent in a women's focus group explains, "you talked about water, the water that is there before you reach to the waterside there they get the palm branch that where you stopping your slipper, you can't put your slipper in the [water] because we drinking the water that one of the laws there," (Focus Group, River Gee, March 12, 2014). Another community in Lofa has set specific times for fishing.

Punishment for rule breaking is usually a fine. A focus group with women in River Gee County explained their rules, saying: "Oral rules protecting the land and the natural resources. All of these have equal punishment and fine with each violation of the rule," (Interview, River Gee, February 21, 2014). Fines

almost always involve paying rice and other foodstuffs for a communal meal that is cooked on the spot. They may also include a monetary contribution that is held in the communal town treasury until the community encounters a suitable purpose for dispensing the money. Because sanctions are enacted and enforced by local traditional authorities rather than the Liberian government, punishment may also include corporal punishment. Public whipping in the center of town as a punishment for stealing was mentioned in one community where qualitative data was collected.

Around 72% of household survey respondents said that they were satisfied with their community's rules, 67% stated they were satisfied with the enforcement of the rules, and 68% reported that they perceived the rules to be fair. Eighty-eight percent of respondents stated that people were punished for violating the rules at least sometimes. In general, women are less satisfied than men with land rules, enforcement of land rules, and fairness of land rules; however, the differences are not large.

At the same time, community members believe that the rules do not always prevent problems with the misuse of community land and that rules disadvantage certain groups. Twenty-four percent stated that they observed individuals or groups cutting trees in excess of the rules. Fifty-five percent stated that the rules create a disadvantage for members of minority groups, and 60% stated that the rules create a disadvantage for women. Fifty-nine percent of community members reported that community leaders collect funds (in the forms of mostly informal fines, taxes, or other duties) from individuals using the communal land but 23% of respondents who were aware that money was collected did not know how it was spent. Overall, this suggests that while community members support their community-level governance structures, there is room to improve these structures and make them more accountable and transparent.

4.4 PARTICIPATION OF AND PROTECTION FOR WOMEN AND MINORITY GROUPS

CLPP aims to change not only governance structures from the top down, but also the way that individual community members participate in the governance of their communal land and natural resources from the bottom up. To evaluate this, the household survey collected information about an individual's perception of his or her own participation in community-based governance structures. Analyzing participation data by sex and minority group status provided insight into how membership in specific social groups affects an individual's level of participation.

The survey suggests that there is wide variation in community members' participation in communal land and natural resource governance. Fifty-three percent of all community members interviewed stated that they at least sometimes attended meetings about community land and natural resource management and 89% of those that attended said that they participated at least some of the time.

Participants described their participation in a range of ways, from presenting issues to discussing a specific topic, to monitoring the implementation of a decision. The data suggest, however, that while a sizable group of community members does participate in the daily management of community land and natural resources, the majority of community members do not. Still, about 56% of community members stated that they felt that leaders had taken their input into account in decisions.

TABLE 4.13—VOICE AND PARTICIPATION: OVERALL SAMPLE

	Percent/Mean	Obs
Meetings about land management took place	80%	2112
Number of land related meetings held in past year	2.24	2112
Often attend land meetings	26%	1591
Rarely or never attend land meetings	37%	1591
Participate in land meetings	89%	1352
My opinions about land management are considered	56%	2003
Participate in making land management rules	37%	2016
Participate in monitoring land management rules	36%	2019
Participate in resolving land management conflicts	39%	1591
Government decides to sell/lease land	8%	2021
Town chief or Paramount chief decides to sell/lease land	22%	2021
First settlers or Landlord decides to sell/lease land	25%	2021
Elders decides to sell/lease land	22%	2021
Land Governance Council decides to sell/lease land	4%	2021
Whole village together decides to sell/lease land	19%	2021

Source: CLPP IE household data

GENDER

As discussed above, a key goal of the CLPP is to increase participation for women in community land and natural resource governance. The baseline data indicate that while some aspects of women’s rights are well understood, women participate in community governance institutions at lower levels than men. Thirty-eight percent of women interviewed during the baseline survey stated that they attended meetings about community natural resource and land management at least some of the time, compared with 67% of men. The qualitative data support these findings. For example, a woman leader from a town in Maryland County said that “When the decisions are made, I am not called,” (Interview, Maryland, March 14, 2014). However, it appears that although women attend meetings much less frequently than men, when women do attend meetings they are likely to participate. Of those respondents who have attended a meeting, 96% of men stated that they participated in a community meeting and 84% of women stated that they actually spoke or otherwise were active during a meeting. Moreover, while less than one fifth of women stated that they helped to create rules, to manage conflicts, and to monitor the implementation of rules, around 50% of men stated that they engaged in these activities. This suggests that there is room to improve women’s participation and voice in community land and natural resource management.

TABLE 4.14—VOICE AND PARTICIPATION: MALE AND FEMALE

	Percent/ Mean	Obs	Mean if female	Mean if male
Meetings about land management took place	80%	2112	77%	81%
Number of land related meetings held in past year	2.24	2112	1.72	2.39
Often attend land meetings	26%	1591	12%	37%
Rarely or never attend land meetings	37%	1591	48%	25%
Participate in land meetings	89%	1352	84%	96%
My opinions about land management are considered	56%	2003	43%	65%
Participate in making land management rules	37%	2016	18%	51%
Participate in monitoring land management rules	36%	2019	22%	47%
Participate in resolving land management conflicts	39%	1591	26%	50%
Government decides to sell/lease land	8%	2021	7%	9%
Town chief or Paramount chief decides to sell/lease land	22%	2021	26%	18%
First settlers or Landlord decides to sell/lease land	25%	2021	24%	22%
Elders decides to sell/lease land	22%	2021	24%	26%
Land Governance Council decides to sell/lease land	4%	2021	4%	5%
Whole village together decides to sell/lease land	19%	2021	14%	20%

Source: CLPP IE household data

ETHNIC MINORITIES

The baseline data show a complex picture for minority groups. Around 30% of community members identify with a minority ethnic group in the regions covered in the study. In general, minority group members participate less than the average across the communities included in the baseline. Minorities are less likely to often attend land meetings, participate in meetings, or monitor the implementation of rules.

In qualitative interviews, some community residents and leaders state that all decisions about natural resource management are made by consensus, including minority group members interviewed. However, interviews with other minority leaders suggest that this is not always the case. Minority leaders specifically complained that they do not have a role or a “voice” in land and natural resource management. In a qualitative interview in Lofa County, one leader explained: “With all [we] are doing as community members, people of this town still considering [us] as strangers, most of the decisions are made without our input in the process,” (February 14, 2014). A FGD respondent who identified as a member of a minority group stated: “If a there’s an issue, [leaders] have general meetings and sometimes they invite them, the minority people, and other times they don’t invite them,” (February 14, 2014). When asked about why this is the case, a community member who participated in a minority FGD explained: “Now after this war everybody eye opened,” (February 14, 2014). The effects of the war are clearly manifest in land issues when qualitative respondents describe instances where they abandoned property during wartime and have been unable to return since. In Lofa one minority interviewee lamented, “We are born citizen in this town here. The only thing that hurting us in this town here is about the land problem. Our father them was here. They born us here. When the war came they left. When we came back now the place our father use[d] to make their farm to grow food we don’t have nothing now,” (February 14, 2014). The reference to the role of the Liberian civil war and the lingering strains in relationships between different groups underlines how tensions over land management are interrelated with ethnic differences.

TABLE 4.15—VOICE AND PARTICIPATION: ETHNIC MINORITIES

	Percent/ Mean	Total Obs	Mean if minority	Minority Obs
Meetings about land management took place	80%	2112	78%	614
Number of land related meetings held in past year	2.24	2112	1.91	614
Often attend land meetings	26%	1591	18%	476
Rarely or never attend land meetings	37%	1591	44%	476
Participate in land meetings	89%	1352	84%	370
My opinions about land management are considered	56%	2003	48%	611
Participate in making land management rules	37%	2016	24%	614
Participate in monitoring land management rules	36%	2019	26%	614
Participate in resolving land management conflicts	39%	1591	27%	476
Government decides to sell/lease land	8%	2021	9%	614
Town chief or Paramount chief decides to sell/lease land	22%	2021	21%	614
First settlers or Landlord decides to sell/lease land	25%	2021	23%	614
Elders decides to sell/lease land	22%	2021	26%	614
Land Governance Council decides to sell/lease land	4%	2021	4%	614
Whole village together decides to sell/lease land	19%	2021	17%	614

Source: CLPP IE household data

5.0 BALANCE AND POWER

5.1 BALANCE

TREATMENT AND CONTROL

We use two approaches to check for balance across treatment and control groups on a set of anticipated household level covariates and outcome indicators. First, linear models were run using clustered standard errors at the town level to account for the loss of independence between observations in the same community. To indicate balance, the outcome indicators listed in Tables 5.1 and 5.2 below were regressed on a treatment dummy. In each model the dependent variable is our outcome of interest, and the independent variable is treatment status. A non-significant treatment effect is used as an indicator that the variable is balanced across treatment and control observations. A significant treatment effect indicates that there is a statistically significant difference in the value of the variable between treatment and control groups, and the variable is thus imbalanced. Individuals within a village may have similar responses, which can bias standard errors downward by effectively reducing the amount of information gained for each respondent within a village. This bias can increase the probability of a Type I (false positive) error. To account for the non-independence of observations within a village (measured by intraclass correlation) we include clustered standard errors in our standard error calculations. The primary advantage of this hypothesis-based approach is that it enables the inclusion of controls or design variables (e.g., village or strata fixed effects), although some scholars also view it cautiously as a reliable means to assess balance, primarily because significance rests to some extent on the sample properties and size (Imai et al., 2008).

Secondly, and as an additional check, we calculate the standardized difference in means for each variable across treatment and control groups, and report the standardized percent bias as a measure of balance (Austin, 2009). Under this approach, variables with an absolute percent bias $\leq 25\%$ are considered balanced (Stuart, 2010). Together, both approaches indicate good overlap in means and distributions for these variables across both the treatment and control pool of observations and do not suggest major balance concerns with the baseline data. We highlight that at this pre-analysis and pre-matching stage, the primary role of a balance check on the baseline data is to confirm that there is good overlap across the baseline treatment and control observations on key covariates and anticipated outcomes, such that we have confidence there is good potential to construct a strong and similar comparison group from the control pool of observations at the analysis stage.

Table 5.1³¹ shows that there is little difference between the communities when it comes to both socio-economic characteristics and social cohesion as captured using standard measures levels of trust within

31 To interpret the results of the balance and subgroup regression tables, the constant is the value of the Y (here, the variable in question) when X equals zero (here, treatment status), so in this case the constant is the value of the variable for the control group. The treatment column indicates how much the value of Y (the variable) changes when X moves from 0 to 1 (control to treatment) and in what direction. If the sign of the treatment effect is positive, then the value for the treatment group is higher, and if the sign is negative the value for the treatment group is lower. The p-value tells you whether the estimated relationship is statistically significant, or probably not due to chance. Critical values for the p-values are generally set to three different "alpha levels," .01, .05, and .1. If a p-value is below the alpha level of .1, it means the effects are statistically significant and an asterisk is printed next to the value on the table. Found in parenthesis next to the coefficient, the standard error (SE) is an estimate of the standard deviation of an average; here it represents the amount of uncertainty in the

the community. The Treatment column tells us the estimated effect being in the treatment group has on the variable of interest. The Constant column estimates the average value regardless of treatment status. The asterisks in these columns indicate that the estimate is significantly different from zero at a given level of confidence. The SE columns give the average difference between observations, and our estimate. Finally, R² is the percentage of variation of our variable of interest, explained by the linear model.

Given that we compare the treatment and control communities across a wide range of background attributes and impact areas, we would expect to see some areas where these groups are significantly different but, for the most part, we expect to find that the Treatment Estimate is low and not statistically significant, implying there is little difference between treatment and control. We do see a slight difference in the number of trees between groups and Table 5.2 also indicates that members of the treatment group are more likely to let land lay fallow. Nevertheless, findings overall suggest that individuals in the two groups are similar in terms of their socio-economic profiles and have similar relationships with other community members.

TABLE 5.1—TREATMENT AND CONTROL BALANCE

	Treatment		Constant		Number of Observations	% Bias
	Variable Estimate	Variable SE	Constant Estimate	Constant SE		
Socioeconomic Measures						
Main income source: Farming cash crops	-0.013	(0.023)	0.124	(0.014)	1362	-11.2%
Number of chickens and pigs	0.328	(0.619)	6.044	(0.400)	1225	2.0%
Number of trees	-289.21 **	(139.289)	770.53	(126.054)	1255	-17.9%
Number of bicycles, motorcycles, cars	0.458	(0.526)	0.172	(0.032)	1214	-9.5%
Number of durable goods	0.030	(0.639)	6.567	(0.379)	1233	-13.7%
Social Cohesion						
Community members can be trusted	0.017	(0.028)	0.795	(0.019)	2012	3.3%
People here will take advantage of you	-0.049	(0.034)	0.478	(0.025)	2012	-9.8%
Laundry can be safely left alone to dry	0.039	(0.033)	0.825	(0.028)	1991	0

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

Table 5.2 compares treatment and control communities across the three major outcome areas including land tenure security, legal knowledge, and participation. In this analysis, we seem some differences between treatment and control communities, although nothing too systematic that it cannot be controlled for during the quantitative estimates of impact. For example, community members do not generally have higher levels of land and natural resource tenure security in treatment communities, with the exception that those in treatment communities are less wary of others taking their land. There appear to be no significant differences between legal knowledge and local government participation

estimate of a coefficient. It can be thought of as a measure of the precision with which the regression coefficient is measured, so the smaller the SE value, the more precisely the model is able to estimate the coefficient.

between these groups. Drawing on the standardized difference in means, one indicator that is less balanced (though still below 25% bias) is the reported number of land meetings held in the past year.

TABLE 5.2—TREATMENT AND CONTROL BALANCE, CONTINUED

	Treatment		Constant		Number of Observations	% Bias
	Variable Estimate	Variable SE	Constant Estimate	Constant SE		
Land Tenure Security						
There are investors in the community	-0.038	(0.047)	0.121	(0.034)	1983	5.9%
Household has right to plant, map land, choose inheritor	0.022	(0.019)	0.747	(0.015)	1983	6.1%
Household has right to sell land and use land as collateral	0.015	(0.027)	0.187	(0.019)	1978	4.6%
Land is secure from encroachment	-0.009	(0.054)	4.393	(0.042)	1973	2.4%
Forest and water conditions are worse	0.016	(0.032)	0.600	(0.026)	1813	-6.9%
Know all boundaries in the community	0.057	(0.044)	0.299	(0.031)	1802	12.2%
Possible that those in the community will take land	-0.119 *	(0.064)	1.516	(0.050)	2017	-4.3%
Legal Knowledge						
Respondent correctly identifies women's inheritance rights	-0.018	(0.033)	0.797	(0.022)	1994	-4.3%
Community does not own customary land without paper deed	-0.006	(0.027)	0.440	(0.018)	2006	-2.5%
Customary land rights are as protected as private land	0.030	(0.042)	0.437	(0.032)	2004	4.6%
Participation						
Women are disadvantaged by land rules	0.014	(0.041)	0.338	(0.031)	2010	2.1%
Village has a natural resource council	-0.038	(0.047)	0.567	(0.036)	1615	-7.6%
Number of land related meetings held in past year	0.258	(0.239)	2.081	(0.161)	1420	20.9%
Often attend land meetings	0.041	(0.041)	0.279	(0.031)	1351	13.2%
My opinions about land management are considered	0.011	(0.029)	0.207	(0.019)	1984	1.2%
Participate in making and enforcing land rules	-0.020	(0.016)	0.111	(0.012)	2002	-3.7%
Leaders are honest	-0.035	(0.069)	0.624	(0.050)	1799	-5.2%

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

SUBGROUP ANALYSIS

Regressions models were also generated for key indicators variables on subgroups included in the study. As in the balance regressions, we used a linear model which calculates within-community fixed effects to create more accurate estimates.

GENDER OF RESPONDENT AND HOUSEHOLD HEAD

Similar to the previous tables, Tables 5.3 and 5.4 report differences between female-headed households (or female respondents for individual-level questions) and male-headed households. Likewise, Tables 5.5 and 5.6 report these differences for youth-headed households, and Tables 5.7 and 5.8 for minority-headed households. In general, we do not expect these tables to show balance, as these traditionally disadvantaged subgroups often have very different lived experiences than other community members.

Tables 5.3 indicates that women are far less likely to have the same income sources as men (or any income at all). Female-headed households also have fewer animals and trees, though there is no significant difference with respect to other assets. Female respondents also place less trust in other community members.

TABLE 5.3—GENDER BALANCE

	Female		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Socioeconomic Measures					
Main income source: Farming cash crops	-0.059 ***	(0.017)	0.143	(0.017)	1228
Number of chickens and pigs	-1.681 ***	(0.593)	6.710	(0.388)	1085
Number of trees	-535.414 ***	(79.683)	712.87	(79.563)	1083
Number of bicycles, motorcycles, cars	-0.020	(0.054)	0.135	(0.030)	1074
Number of durable goods	-0.740	(0.785)	6.861	(0.410)	1089
Social Cohesion					
Community members can be trusted	-0.022	(0.018)	0.820	(0.018)	1689
People here will take advantage of you	0.040 *	(0.023)	0.436	(0.021)	1689
Laundry can be safely left alone to dry	-0.009	(0.014)	0.863	(0.017)	1667

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

The results in Table 5.4 tell a similar story. Female household heads have fewer land rights, and are less likely to have added fencing or irrigation to their land. This is consistent with Table 5.3 indicating a lower chance of farming as a main income source. Women do value land security more than male respondents, though they are far less likely to participate in land management meetings.

TABLE 5.4—GENDER BALANCE, CONTINUED

	Female		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Land Tenure Security					
There are investors in the community	0.020 *	(0.011)	0.075	(0.019)	1667
Household has right to plant, map land, choose inheritor	-0.078 ***	(0.025)	0.794	(0.011)	1105
Household has right to sell land and use land as collateral	-0.004	(0.027)	0.203	(0.018)	1103
Land is secure from encroachment	-0.103 *	(0.063)	4.442	(0.032)	1097
Forest and water conditions are worse	-0.031	(0.022)	0.631	(0.021)	1490
Know all boundaries in the community	-0.347 ***	(0.024)	0.503	(0.030)	1670
Possible that those in the community will take land	-0.088 *	(0.050)	1.460	(0.041)	1111
Legal Knowledge					
Respondent correctly identifies women's inheritance rights	0.001	(0.018)	0.770	(0.019)	1674
Community does not own customary land without paper deed	0.002	(0.024)	0.453	(0.022)	1684
Customary land rights are as protected as private land	-0.026	(0.023)	0.476	(0.027)	1684
Participation					
Women are disadvantaged by land rules	0.019	(0.020)	0.351	(0.029)	1683
Village has a natural resource council	-0.004	(0.023)	0.542	(0.025)	1509
Number of land related meetings held in past year	-0.665 ***	(0.131)	2.383	(0.122)	1159
Often attend land meetings	-0.270 ***	(0.032)	0.425	(0.034)	1109
My opinions about land management are considered	-0.235 ***	(0.028)	0.332	(0.028)	1676
Participate in making and enforcing land rules	-0.124 ***	(0.016)	0.160	(0.015)	1683
Leaders are honest	-0.043 **	(0.020)	0.616	(0.039)	1675

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

AGE OF RESPONDENT AND HOUSEHOLD HEAD

Table 5.5 reports somewhat similar findings for youth respondents and youth-headed households (age 35 and under). Youth respondents are more likely to make their money trading goods, perhaps indicating less access to land for farming, and less likely to have salaried jobs. As with female respondents, youth respondents place less trust in other community members.

TABLE 5.5—YOUTH AND NON-YOUTH BALANCE

	Youth		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Socioeconomic Measures					
Main income source: Farming cash crops	-0.025	(0.016)	0.123	(0.014)	1226
Number of chickens and pigs	-0.369	(0.607)	6.258	(0.381)	1136
Number of trees	-139.179 *	(84.426)	602.544	(70.290)	1166
Number of bicycles, motorcycles, cars	-0.341	(0.394)	0.502	(0.389)	1126
Number of durable goods	-0.603	(0.626)	6.690	(0.405)	1144
Social Cohesion					
Community members can be trusted	-0.037	(0.025)	0.822	(0.017)	1687
People here will take advantage of you	0.046	(0.030)	0.439	(0.022)	1687
Laundry can be safely left alone to dry	-0.020	(0.024)	0.865	(0.017)	1665

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

Table 5.6 indicates that youth-headed households have less land security and fewer land rights. Interestingly, youth respondents are more likely to perceive land rules as being more unfair to the poor than to women. Youth respondents also have far less attendance and participation in community meetings and possibly as a result, are more prone to see leaders as ineffective and dishonest.

TABLE 5.6—YOUTH AND NON-YOUTH BALANCE, CONTINUED

	Youth		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Land Tenure Security					
There are investors in the community	0.029	(0.026)	0.450	(0.019)	1491
Household has right to plant, map land, choose inheritor	-0.169 ***	(0.023)	0.395	(0.023)	1668
Household has right to sell land and use land as collateral	-0.030	(0.039)	1.461	(0.037)	1691
Land is secure from encroachment	-0.169 ***	(0.023)	0.395	(0.023)	1668
Forest and water conditions are worse	-0.030	(0.039)	1.461	(0.037)	1691
Know all boundaries in the community	-0.169 ***	(0.023)	0.395	(0.023)	1668
Possible that those in the community will take land	-0.030	(0.039)	1.461	(0.037)	1691
Legal Knowledge					
Respondent correctly identifies women's inheritance rights	0.023	(0.025)	0.762	(0.019)	1672
Community does not own customary land without paper deed	0.063 **	(0.026)	0.432	(0.017)	1682
Customary land rights are as protected as private land	0.091 ***	(0.024)	0.431	(0.025)	1682
Participation					
Women are disadvantaged by land rules	0.053 *	(0.028)	0.342	(0.026)	1681
Village has a natural resource council	-0.028	(0.027)	0.550	(0.025)	1508
Number of land related meetings held in past year	-0.120	(0.126)	2.151	(0.109)	1157
Often attend land meetings	-0.154 ***	(0.026)	0.354	(0.027)	1107
My opinions about land management are considered	-0.134 ***	(0.016)	0.265	(0.018)	1674
Participate in making and enforcing land rules	-0.099 ***	(0.011)	0.135	(0.011)	1681
Leaders are honest	-0.104 ***	(0.031)	0.631	(0.035)	1673

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

ETHNIC MINORITIES

As seen in Table 5.7, minority respondents and minority households share some characteristics with youth. They are more likely to be traders and less likely to have salaried jobs. They are also more likely to believe that others in the community will take advantage of them.

TABLE 5.7—MINORITY AND NON-MINORITY BALANCE

	Minority		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Socioeconomic Measures					
Main income source: Farming cash crops	-0.005	(0.014)	0.119	(0.013)	1362
Number of chickens and pigs	-0.140	(0.482)	6.244	(0.320)	1225
Number of trees	-115.495	(121.455)	654.84	(84.271)	1255
Number of bicycles, motorcycles, cars	-0.322	(0.358)	0.483	(0.355)	1214
Number of durable goods	-0.254	(0.554)	6.647	(0.398)	1233
Social Cohesion					
Community members can be trusted	-0.017	(0.020)	0.809	(0.017)	2012
People here will take advantage of you	0.070 ***	(0.025)	0.431	(0.020)	2012
Laundry can be safely left alone to dry	0.034 *	(0.020)	0.836	(0.020)	1991

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

Table 5.8 indicates that minority households have fewer land rights, though they are less likely to believe that others in the community will take their land. While minority respondents are less likely to participate in community land meetings, there is no significant difference in distrust (or trust) in leaders' effectiveness and honesty.

TABLE 5.8—MINORITY AND NON-MINORITY BALANCE, CONTINUED

	Minority		Constant		Number of Observations
	Variable Estimate	Variable SE	Constant Estimate	Constant SE	
Land Tenure Security					
There are investors in the community	0.029	(0.026)	0.450	(0.019)	1491
Household has right to plant, map land, choose inheritor	-0.038	(0.081)	0.686	(0.071)	1215
Household has right to sell land and use land as collateral	-0.054 ***	(0.017)	0.767	(0.010)	1983
Land is secure from encroachment	-0.014	(0.013)	0.958	(0.006)	1952
Forest and water conditions are worse	-0.073	(0.067)	4.400	(0.027)	1973
Know all boundaries in the community	-0.042 *	(0.025)	0.573	(0.017)	1816
Possible that those in the community will take land	-0.180 ***	(0.032)	0.388	(0.031)	1802
Legal Knowledge					
Respondent correctly identifies women's inheritance rights	-0.024	(0.020)	0.795	(0.018)	1994
Community does not own customary land without paper deed	0.046 **	(0.021)	0.423	(0.015)	2006
Customary land rights are as protected as private land	-0.026	(0.027)	0.461	(0.022)	2004
Participation					
Women are disadvantaged by land rules	0.026	(0.028)	0.338	(0.021)	2010
Village has a natural resource council	-0.025	(0.026)	0.555	(0.024)	1615
Number of land related meetings held in past year	-0.432 ***	(0.163)	2.338	(0.137)	1420
Often attend land meetings	-0.125 ***	(0.029)	0.337	(0.024)	1351
My opinions about land management are considered	-0.098 ***	(0.021)	0.243	(0.018)	1984
Participate in making and enforcing land rules	-0.060 ***	(0.012)	0.119	(0.010)	2002
Leaders are honest	0.021	(0.027)	0.598	(0.036)	1799

Source: CLPP IE Household Survey.

31 observations removed due to lack of community data.

*p < 0.1, **p < 0.05, ***p < 0.0 Standard errors in parentheses.

5.2 POWER ANALYSIS

In this section, we update the power calculations for this evaluation by calculating Intra-class correlation (ICC) values directly from the sample for several key covariates and anticipated outcome indicators and revise the power analyses accordingly³². At the IE design stage, we necessarily conducted the power analyses, using approximated ICC values in the absence of actual data. Please refer to Appendix 2 for more detail on the initial calculations. Using the updated ICC values, we have a stronger sense of the program effect size that the study is powered to detect across different anticipated outcome indicators, reported in table 5.9.

Our sample has 2,100 respondents in the household survey across 79 communities, with approximately 40 communities in each arm of the study. More detail can be seen in Table 5.9. Using these ICC values,

³² This was completed using Optimal Design software.

we have updated our expected MDES for key indicator variables. The resulting MDES and estimated detectable effect sizes (which also take into account how variable the responses for each outcome are at baseline) suggest the evaluation is powered to detect medium to large scale program impacts, depending on the indicator.

TABLE 5.9—POWER ANALYSIS SUMMARY

	μ	%	σ	mean N per cluster ³³	ICC	MDES	Estimated detectable effect for CLPP	
							Point Change	Percent Change
Number of meetings about land	2.36	NA	2.31	10.7	0.10	0.40	0.92	39%
Number of days of community work/month	2.19	NA	2.13	13.9	0.10	0.37	0.79	36%
Number of group meetings attended in past month	2.11	NA	2.04	12.5	0.04	0.32	0.65	31%
Most community members are trustworthy (scale 1-5)	3.96	NA	1.04	14.2	0.06	0.33	0.34	33%
There are investors in this community	NA	9.57%	NA	14.1	0.23	0.49	NA	49%
Likelihood an outside investor will take land (scale 1-5)	NA	47.43%	NA	14.6	0.10	0.37	NA	37%
Likelihood a neighbor will take land (scale 1-5)	NA	40.31%	NA	14.6	0.07	0.34	NA	34%
Respondent correctly identifies women's land rights	1.51	NA	0.93	14.2	0.08	0.35	0.33	35%
A community does not own land without a paper deed (scale 1-5)	2.25	NA	1.49	14.3	0.11	0.38	0.57	38%
Land rules are fair (scale 1-5)	NA	7.77%	NA	14.6	0.08	0.35	NA	35%
Satisfied with leaders (scale 1-5)	2.81	NA	1.51	14.2	0.03	0.29	0.44	29%
Condition of forest is declining/improving/constant (scale 0-2)	3.65	NA	1.48	14.2	0.38	0.60	0.89	60%
Condition of water is declining/improving/constant (scale 0-2)	3.66	NA	1.32	14.2	0.39	0.60	0.79	60%
Community has written by-laws or rules	1.5	NA	1.30	13.8	0.13	0.40	0.52	40%
Community has a Land Governance Council	0.95	NA	1.14	14	0.04	0.30	0.34	30%
Community members tell leaders what to do (scale 1-5)	NA	48.06%	NA	13.6	0.41	0.62	NA	62%
Community members warn leaders (scale 1-5)	NA	54.17%	NA	12	0.10	0.38	NA	38%

³³ Each community has an average of 15 households (Min 1, Max 30, Median 15). The mean n per cluster varies by variable because of missing data in some surveys. Only one observation per household was included in power calculations.

6.0 CONCLUSION

Overall, the baseline data from the CLPP longitudinal impact evaluation suggests that the CLPP presents a timely intervention to support communities' legal empowerment and improve tenure security and good governance. The data from the baseline survey confirm many of the fundamental assumptions about the status of community land and natural resource tenure security that motivate the CLPP.

First, the data suggest a mixed picture of tenure security. On the one hand, individuals engage in practices (such as letting their fields lie fallow) that suggest relatively high tenure security. On the other hand, community members state that that conflict with other communities, with neighbors in their own communities, and with outsiders (with the government and outside investors) are a real challenge. This suggests that while community-based institutions provided flexible natural resource and land tenure security in the past, new challenges could require that systems adapt, perhaps with support of programs such as the CLPP. This is particularly true in the context of changing land policy in Liberia.

Second, the data on governance support these findings. Community members seem relatively satisfied with their governance structures and a majority of community members find their community leaders trustworthy and honest. Yet, at the same time, respondents report that leaders engage in actions (including taking bribes) that could undermine their ability to protect community land. The data suggest that it could be possible to build on the positive relationships between community members and their leaders that do exist while seeking to increase the possibility for more transparent and accountable governance.

Third, the data suggest that while legal knowledge on certain topics (such as women's inheritance rights) may be higher than expected in some areas, there is more variation in understanding of the land law. This is not surprising given the recent evolution of Liberia's national land policy and it suggests an important role that the CLPP can play in educating rural communities included in the program.

Finally, the baseline also suggests that there is a need to increase women's actual participation in decision-making at the community level and to create more inclusive and transparent community land governance institutions. For minority groups, the baseline suggests a need for increased protection and participation given Liberia's history of conflict along ethnic lines.

The baseline data are also important for preparing for the next stages of the research. Tests of balance between communities that will receive the program in phase 1 compared with phase 2 suggest a relatively balanced sample on background attributes, such as the socio-economic profile of community members and levels of social cohesion. Across measures of potential outcomes, the sample is also well balanced. Ongoing data collection in conjunction with SDI's monitoring and evaluation efforts should allow the IE to be well placed for the next stages of the research.

APPENDIX I—EXPANDED FINDINGS TABLES

TABLE 1—TENURE SECURITY	50
TABLE 2—TENURE REGIME AND LAND MANAGEMENT	50
TABLE 3—INVESTOR RELATIONS	51
TABLE 4—LEGAL KNOWLEDGE I	51
TABLE 5—LEGAL KNOWLEDGE II	51
TABLE 6—ACCOUNTABILITY AND GOVERNANCE	52
TABLE 7— COMMUNITY RULES	52
TABLE 8—VOICE AND PARTICIPATION: OVERALL SAMPLE	53
TABLE 9—VOICE AND PARTICIPATION: MALE AND FEMALE	54
TABLE 10—VOICE AND PARTICIPATION: ETHNIC MINORITIES	55
TABLE 11— BALANCE ANALYSIS	55
TABLE 12— BALANCE ANALYSIS (CONT.)	56
TABLE 13— SUBGROUP ANALYSIS: FEMALE RESPONDENTS AND FEMALE-HEADED HOUSEHOLDS	57
TABLE 14—SUBGROUP ANALYSIS: FEMALE RESPONDENTS AND FEMALE HEADED HOUSEHOLDS (CONT.)	58
TABLE 15—SUBGROUP ANALYSIS: YOUTH RESPONDENTS AND YOUTH HEADED HOUSEHOLDS	59
TABLE 16—SUBGROUP ANALYSIS: YOUTH RESPONDENTS AND YOUTH HEADED HOUSEHOLDS (CONT.)	60
TABLE 17—SUBGROUP ANALYSIS: MINORITY RESPONDENTS AND MINORITY HEADED HOUSEHOLDS	61
TABLE 18—SUBGROUP ANALYSIS: MINORITY RESPONDENTS AND MINORITY HEADED HOUSEHOLDS (CONT.)	62

TABLE 1—TENURE SECURITY

	Mean	Obs	Mean if female	Mean if male
Household possesses paper documentation for land	0.07	2000	0.09	0.07
Household has built a fence in past year	0.18	1998	0.10	0.21
Household has added irrigation in past year	0.03	1996	0.03	0.02
Household leaves fields fallow	0.94	1999	0.93	0.95
Household plans to leave fields fallows in future	0.94	1996	0.95	0.95
Land is secure from encroachment	0.91	2000	0.96	0.92
Household has right to decide who inherits their land	0.78	1999	0.75	0.81
Household has right to plant rubber or fruit trees	0.88	1992	0.83	0.89
Household has right to sell their land	0.17	1999	0.19	0.18
Household has right to use land for collateral	0.22	2000	0.21	0.23
Household has right to map their land	0.61	1998	0.57	0.67
Would chose a paying job now over land security in future	0.38	1846	0.43	0.48
Would choose land security in the future over a paying job now	0.49	1846	0.57	0.51

TABLE 2—TENURE REGIME AND LAND MANAGEMENT

	Mean	Obs	Mean if female	Mean if male
Community land owner: Government	0.09	1832	0.08	0.11
Community land owner: Town chief	0.08	1832	0.09	0.05
Community land owner: Governance Council	0.00	1832	0.00	0.01
Community land owner: First settlers	0.39	1832	0.38	0.36
Community land owner: Community as a group	0.17	1832	0.15	0.20
Community land owner: Elders	0.21	1832	0.23	0.23
Community land owner: Paramount Chief	0.02	1832	0.03	0.02
Community land owner: Other	0.03	1832	0.03	0.03
Know all of the boundaries in the community	0.33	1831	0.15	0.50
Know half of the boundaries in the community	0.10	1831	0.10	0.10
Know some of the boundaries in the community	0.43	1831	0.52	0.35
Know none of the boundaries in the community	0.13	1831	0.20	0.04
Government decides investor land rights	0.10	1832	0.07	0.12
Town chief decides investor land rights	0.19	1832	0.23	0.13
Land Governance Council decides investor land rights	0.01	1832	0.01	0.01
First settlers decide investor land rights	0.03	1832	0.04	0.02
Whole community decides investor land rights	0.25	1832	0.20	0.31
Landlord decides investor land rights	0.19	1832	0.21	0.16
Elders decides investor land rights	0.19	1832	0.20	0.21
Paramount chief decides investor land rights	0.01	1832	0.01	0.02

TABLE 3—INVESTOR RELATIONS

	Mean	Obs	Mean if female	Mean if male
Investors operate in the community	0.10	2036	0.09	0.07
If investors, involved in meetings with investors	0.48	207	0.31	0.73
If investors, community received benefits from investors	0.84	586	0.86	0.93
If investors, community has written contract with investors	0.69	72	0.60	0.73
If investors, community experienced negative impacts from investors	0.20	206	0.11	0.20
If investors, investors changed community for the worst	0.11	207	0.06	0.09
If investors, no change to community	0.38	207	0.42	0.45
If investors, community changed for the better	0.51	207	0.51	0.44
Possible that neighbors will take some of my land	0.50	2034	0.48	0.50
Possible that elites will take some of my land	0.24	2035	0.25	0.21
Possible that a neighboring clan will take some of my land	0.52	2035	0.55	0.52
Possible that a corporation will take some of my land	0.28	2033	0.31	0.29
Investment benefits go to government	0.09	1803	0.10	0.09
Investment benefits go to the town chief	0.17	1803	0.20	0.14
Investment benefits go to the paramount chief	0.04	1803	0.04	0.03
Investment benefits go to the landlord	0.16	1803	0.17	0.14
Investment benefits go to the elders	0.30	1803	0.30	0.31
Investment benefits go to the Land Governance Council	0.03	1803	0.03	0.04
Investment benefits go to all community members	0.18	1803	0.14	0.20
Investment benefits go to women	0.01	1803	0.01	0.01
Investment benefits go to youth	0.02	1803	0.01	0.03
Investment benefits go to someone else	0.00	1803	0.00	0.00
Size of the forest has decreased in past 5 years	0.29	1827	0.27	0.25
Density of the forest has decreased in past 5 years	0.30	1830	0.28	0.26
Some types of trees that existed 5 years ago do not exist now	0.31	429	0.25	0.36
Condition of the forest has decreased in past year	0.32	1833	0.29	0.27
Condition of water has decreased in past year	0.46	1833	0.45	0.45

TABLE 4—LEGAL KNOWLEDGE I

	Mean	Obs	Mean if female	Mean if male
Respondent correctly identifies women's inheritance rights	0.78	2022	0.76	0.76
Community does not own customary land without documentation	0.44	2025	0.45	0.45
Government owns forest resources on community land	0.54	2021	0.51	0.55
Customary land rights are as protected as private land	0.45	2023	0.45	0.48

Source: CLPP IE household data

TABLE 5—LEGAL KNOWLEDGE II

	Mean	Obs
Respondent correctly identifies women's inheritance rights	0.70	206
Community does not own customary land without documentation	0.22	206
Government owns forest resources on community land	0.32	206
Customary land rights are as protected as private land	0.47	206

Source: CLPP IE community leader data

TABLE 6—ACCOUNTABILITY AND GOVERNANCE

	Mean	Obs	Mean if female	Mean if male
Village has a natural resource governance council	0.49	1808	0.45	0.52
If council, Traditional authorities chose council members	0.59	883	0.62	0.57
If council, Community vote chose council members	0.12	883	0.08	0.13
If council, Community consensus chose council members	0.25	883	0.22	0.28
If council, Participated in election of council members	0.34	883	0.16	0.48
Community members tell leaders what to do	0.89	1804	0.87	0.91
Community members tell leaders when they act against community interests	0.87	1804	0.86	0.89
Community members remove leaders that act against community interests	0.56	1804	0.54	0.59
Satisfied with how community leaders manage land	0.64	1803	0.70	0.59
Community leaders are trusted and honest	0.67	1804	0.66	0.67
Community leaders conserve and protect the community	0.67	1803	0.64	0.66
Community leaders monitor and punish rule-breakers	0.70	1804	0.67	0.71
Community leaders do not work hard	0.30	1804	0.32	0.31
Community leaders take bribes or participate in illegal forest activities	0.31	1804	0.32	0.33
Community leaders act in secret	0.33	1804	0.37	0.32
Community leaders do not consult the community about important land decisions	0.32	0.32	0.32	0.32

TABLE 7— COMMUNITY RULES

	Mean	Obs	Mean if female	Mean if male
Community has written bylaws	0.46	2032	0.40	0.40
Respondent involved in making bylaws	0.32	2030	0.20	0.41
Satisfied with land rules	0.72	2031	0.65	0.71
Community leaders collect fees from outsider's use of land or resources	0.59	1802	0.56	0.61
If fees collected, knows how fees are spent	0.73	1062	0.66	0.80
Community members cut too much wood from the forest	0.24	2030	0.27	0.27
Satisfied with enforcement of land rules	0.67	2033	0.62	0.68
Community members are punished for breaking land rules	0.88	2027	0.87	0.86
Land rules are fair	0.68	2030	0.62	0.67
Women are disadvantaged by land rules	0.34	2031	0.37	0.35
Poor people are disadvantaged by land rules	0.31	2030	0.31	0.32
Outsiders are disadvantaged by land rules	0.34	2030	0.35	0.34

TABLE 8—VOICE AND PARTICIPATION: OVERALL SAMPLE

	Mean	Obs
Meetings about land management took place	0.80	2112
Number of land related meetings held in past year	2.24	2112
Often attend land meetings	0.26	1591
Rarely or never attend land meetings	0.37	1591
Not interested in attending land meetings	0.08	1079
Land meetings not useful / have no influence	0.15	1079
Did not know about the land meetings	0.22	1079
Too busy to attend land meetings	0.01	1079
Don't understand the issues	0.03	1079
Too old/sick	0.03	1079
Meeting at an inconvenient location	0.03	1079
Did not attend for other reasons	0.10	1079
Participate in land meetings	0.89	1352
My opinions about land management are considered	0.56	2003
My opinions about timber/logging are considered	0.55	2002
Participate in making land management rules	0.37	2016
Participate in monitoring land management rules	0.36	2019
Participate in resolving land management conflicts	0.39	1591
Gvt decides to sell/lease land	0.08	2021
Town chief decides to sell/lease land	0.20	2021
Paramount chief decides to sell/lease land	0.02	2021
First settlers decide to sell/lease land	0.10	2021
Landlord decides to sell/lease land	0.15	2021
Elders decides to sell/lease land	0.22	2021
Land Governance Council decides to sell/lease land	0.04	2021
Whole village together decides to sell/lease land	0.19	2021

TABLE 9—VOICE AND PARTICIPATION: MALE AND FEMALE

	Mean	Obs	Mean if female	Mean if male
Meetings about land management took place	0.80	2112	0.77	0.81
Number of land related meetings held in past year	2.24	2112	1.72	2.39
Often attend land meetings	0.26	1591	0.12	0.37
Rarely or never attend land meetings	0.37	1591	0.48	0.25
Not interested in attending land meetings	0.08	1079	0.10	0.03
Land meetings not useful / have no influence	0.15	1079	0.16	0.11
Did not know about the land meetings	0.22	1079	0.21	0.25
Too busy to attend land meetings	0.01	1079	0.01	0.00
Don't understand the issues	0.03	1079	0.03	0.02
Too old/sick	0.03	1079	0.03	0.04
Meeting at an inconvenient location	0.03	1079	0.03	0.03
Did not attend for other reasons	0.10	1079	0.12	0.05
Participate in land meetings	0.89	1352	0.84	0.96
My opinions about land management are considered	0.56	2003	0.43	0.65
My opinions about timber/logging are considered	0.55	2002	0.43	0.63
Participate in making land management rules	0.37	2016	0.18	0.51
Participate in monitoring land management rules	0.36	2019	0.22	0.47
Participate in resolving land management conflicts	0.39	1591	0.26	0.50
Gvt decides to sell/lease land	0.08	2021	0.07	0.09
Town chief decides to sell/lease land	0.20	2021	0.24	0.15
Paramount chief decides to sell/lease land	0.02	2021	0.02	0.03
First settlers decide to sell/lease land	0.10	2021	0.12	0.11
Landlord decides to sell/lease land	0.15	2021	0.12	0.11
Elders decides to sell/lease land	0.22	2021	0.24	0.26
Land Governance Council decides to sell/lease land	0.04	2021	0.04	0.05
Whole village together decides to sell/lease land	0.19	2021	0.14	0.20

TABLE 10—VOICE AND PARTICIPATION: ETHNIC MINORITIES

	Mean	Obs	Mean if minority	Number if minority
Meetings about land management took place	0.80	2112	0.78	614
Number of land related meetings held in past year	2.24	2112	1.91	614
Often attend land meetings	0.26	1591	0.18	476
Rarely or never attend land meetings	0.37	1591	0.44	476
Not interested in attending land meetings	0.08	1079	0.08	379
Land meetings not useful / have no influence	0.15	1079	0.10	379
Did not know about the land meetings	0.22	1079	0.23	379
Too busy to attend land meetings	0.01	1079	0.01	379
Don't understand the issues	0.03	1079	0.02	379
Too old/sick	0.03	1079	0.03	379
Meeting at an inconvenient location	0.03	1079	0.03	379
Did not attend for other reasons	0.10	1079	0.12	379
Participate in land meetings	0.89	1352	0.84	370
My opinions about land management are considered	0.56	2003	0.48	611
My opinions about timber/logging are considered	0.55	2002	0.47	610
Participate in making land management rules	0.37	2016	0.24	614
Participate in monitoring land management rules	0.36	2019	0.26	614
Participate in resolving land management conflicts	0.39	1591	0.27	476
Gvt decides to sell/lease land	0.08	2021	0.09	614
Town chief decides to sell/lease land	0.20	2021	0.19	614
Paramount chief decides to sell/lease land	0.02	2021	0.02	614
First settlers decide to sell/lease land	0.10	2021	0.10	614
Landlord decides to sell/lease land	0.15	2021	0.13	614
Elders decides to sell/lease land	0.22	2021	0.26	614
Land Governance Council decides to sell/lease land	0.04	2021	0.04	614
Whole village together decides to sell/lease land	0.19	2021	0.17	614

TABLE 11— BALANCE ANALYSIS

Variable	Treatment Estimate	Treatment SE	Constant Estimate	Constant SE	Number of Observations	R ²
Socioeconomic Measures						
Main income source: Farming cash crops	-0.013	0.023	0.124 ***	0.014	1362	0.000
Main income source: Petty trade	-0.030	0.019	0.087 ***	0.016	1362	0.003
Main income source: Salaried job	0.001	0.014	0.048 ***	0.009	1362	0.000
Main income source: Alluvial mining	0.005	0.016	0.035 ***	0.010	1362	0.000
Main income source: Other	-0.005	0.009	0.025 ***	0.007	1362	0.000
Number of chickens and pigs	0.328	0.619	6.044 ***	0.400	1225	0.000
Number of trees	-289.210 **	139.289	770.530 ***	126.054	1255	0.006
Number of bicycles, motorcycles, cars	0.458	0.526	0.172 ***	0.032	1214	0.001
Number of durable goods	0.030	0.639	6.567 ***	0.379	1233	0.000
Social Cohesion						
Community members can be trusted	0.017	0.028	0.795 ***	0.019	2012	0.000
Community members are willing to help needed	-0.047	0.064	0.749 ***	0.045	2009	0.003
People here will take advantage of you	-0.049	0.034	0.478 ***	0.025	2012	0.002
Laundry can be safely left alone to dry	0.039	0.033	0.825 ***	0.028	1991	0.003

TABLE 12— BALANCE ANALYSIS (CONT.)

Variable	Treatment Estimate	Treatment SE	Constant Estimate	Constant SE	Number of Observations	R ²
Land Tenure Security						
There are investors in the community	-0.038	0.047	0.121 ***	0.034	1983	0.004
Number of Radios Owned	0.119	0.107	0.616 ***	0.038	1215	0.001
Household has right to plant, map land, choose inheritor	0.022	0.019	0.747 ***	0.015	1983	0.001
Household has right to sell land, and use land as collateral	0.015	0.027	0.187 ***	0.019	1978	0.000
Household has added fencing or irrigation in the past year	0.004	0.017	0.103 ***	0.012	1982	0.000
Household currently leaves fields fallow	0.021 *	0.013	0.941 ***	0.010	1966	0.002
Household plans to leaves fields fallows in future	0.026 **	0.012	0.942 ***	0.010	1952	0.004
Land is secure from encroachment	-0.009	0.054	4.393 ***	0.042	1973	0.000
Forest and water conditions are worse	0.016	0.032	0.600 ***	0.026	1813	0.000
Trees are disappearing	-0.056 *	0.031	0.519 ***	0.021	1694	0.003
Would prefer a job now, over future land security	-0.045	0.030	0.462 ***	0.023	1816	0.002
Would choose land security in the future over a job now	0.045	0.030	0.538 ***	0.023	1816	0.002
Know all boundaries in the community	0.057	0.044	0.299 ***	0.031	1802	0.004
Possible that those in the community will take land	-0.119 *	0.064	1.516 ***	0.050	2017	0.007
Legal Knowledge						
Respondent correctly identifies women's inheritance rights	-0.018	0.033	0.797 ***	0.022	1994	0.000
Community does not own cust. land without paper deed	-0.006	0.027	0.440 ***	0.018	2006	0.000
Government owns forest resources on community land	0.001	0.032	0.536 ***	0.021	2004	0.000
Customary land rights are as protected as private land	0.030	0.042	0.437 ***	0.032	2004	0.001
Participation						
Women are disadvantaged by land rules	0.014	0.041	0.338 ***	0.031	2010	0.000
Poor people are disadvantaged by land rules	0.005	0.045	0.306 ***	0.034	2009	0.000
Village has a natural resource council	-0.038	0.047	0.567 ***	0.036	1615	0.001
Number of land related meetings held in past year	0.258	0.239	2.081 ***	0.161	1420	0.002
Often attend land meetings	0.041	0.041	0.279 ***	0.031	1351	0.002
Rarely or never attend land meetings	-0.056	0.042	0.461 ***	0.032	1351	0.003
My opinions about land management are considered	0.011	0.029	0.207 ***	0.019	1984	0.000
Participate in making and enforcing land rules	-0.020	0.016	0.111 ***	0.012	2002	0.002
Land Governance Council decides to sell/lease land	0.008	0.013	0.032 ***	0.008	1992	0.000
Leaders are effective	-0.029	0.071	0.698 ***	0.049	1800	0.001
Leaders are honest	-0.035	0.069	0.624 ***	0.050	1799	0.002

TABLE 13— SUBGROUP ANALYSIS: FEMALE RESPONDENTS AND FEMALE-HEADED HOUSEHOLDS

Variable	Female Estimate	Female SE	Constant Estimate	Constant SE	Number of Observations	R ²
Socioeconomic Measures						
Main income source: Farming cash crops	-0.059 ***	0.017	0.143 ***	0.017	1228	0.008
Main income source: Petty trade	0.094 ***	0.017	0.029 ***	0.006	1228	0.032
Main income source: Salaried job	-0.072 ***	0.013	0.082 ***	0.013	1228	0.028
Main income source: Alluvial mining	-0.069 ***	0.015	0.073 ***	0.016	1228	0.031
Main income source: Other	0.000	0.008	0.020 ***	0.006	1228	0.000
Number of chickens and pigs	-1.681 ***	0.593	6.710 ***	0.388	1085	0.006
Number of trees	-535.414 ***	79.683	712.874 ***	79.563	1083	0.017
Number of bicycles, motorcycles, cars	-0.020	0.054	0.135 ***	0.030	1074	0.000
Number of durable goods	-0.740	0.785	6.861 ***	0.410	1089	0.001
Social Cohesion						
Community members can be trusted	-0.022	0.018	0.820 ***	0.018	1689	0.001
Community members are willing to help needed	-0.068 ***	0.017	0.728 ***	0.042	1688	0.005
People here will take advantage of you	0.040 *	0.023	0.436 ***	0.021	1689	0.002
Laundry can be safely left alone to dry	-0.009	0.014	0.863 ***	0.017	1667	0.000

TABLE 14—SUBGROUP ANALYSIS: FEMALE RESPONDENTS AND FEMALE HEADED HOUSEHOLDS (CONT.)

Variable	Female Estimate	Female SE	Constant Estimate	Constant SE	Number of Observations	R ²
Land Tenure Security						
There are investors in the community	0.020 *	0.011	0.075 ***	0.019	1667	0.001
Number of Radios Owned	-0.261 **	0.125	0.767 ***	0.078	1073	0.003
Household has right to plant, map land, choose inheritor	-0.078 ***	0.025	0.794 ***	0.011	1105	0.011
Household has right to sell land, and use land as collateral	-0.004	0.027	0.203 ***	0.018	1103	0.000
Household has added fencing or irrigation in the past year	-0.047 ***	0.014	0.113 ***	0.011	1104	0.009
Household currently leaves fields fallow	-0.010	0.015	0.960 ***	0.007	1095	0.000
Household plans to leaves fields fallows in future	0.002	0.012	0.965 ***	0.006	1090	0.000
Land is secure from encroachment	-0.103 *	0.063	4.442 ***	0.032	1097	0.003
Forest and water conditions are worse	-0.031	0.022	0.631 ***	0.021	1490	0.001
Trees are disappearing	-0.025	0.023	0.505 ***	0.019	1398	0.001
Would prefer a job now, over future land security	-0.057 **	0.023	0.489 ***	0.020	1493	0.003
Would choose land security in the future over a job now	0.057 **	0.023	0.511 ***	0.020	1493	0.003
Know all boundaries in the community	-0.347 ***	0.024	0.503 ***	0.030	1670	0.135
Possible that those in the community will take land	-0.088 *	0.050	1.460 ***	0.041	1111	0.003
Possible that investors will take some of my land	0.014	0.022	0.071 ***	0.011	1108	0.001
Legal Knowledge						
Respondent correctly identifies women's inheritance rights	0.001	0.018	0.770 ***	0.019	1674	0.000
Community does not own cust. land without paper deed	0.002	0.024	0.453 ***	0.022	1684	0.000
Government owns forest resources on community land	-0.045 *	0.026	0.551 ***	0.024	1686	0.002
Customary land rights are as protected as private land	-0.026	0.023	0.476 ***	0.027	1684	0.001
Participation						
Women are disadvantaged by land rules	0.019	0.020	0.351 ***	0.029	1683	0.000
Poor people are disadvantaged by land rules	-0.008	0.020	0.322 ***	0.028	1683	0.000
Village has a natural resource council	-0.004	0.023	0.542 ***	0.025	1509	0.000
Number of land related meetings held in past year	-0.665 ***	0.131	2.383 ***	0.122	1159	0.022
Often attend land meetings	-0.270 ***	0.032	0.425 ***	0.034	1109	0.085
Rarely or never attend land meetings	0.331 ***	0.035	0.284 ***	0.032	1109	0.111
My opinions about land management are considered	-0.235 ***	0.028	0.332 ***	0.028	1676	0.092
Participate in making and enforcing land rules	-0.124 ***	0.016	0.160 ***	0.015	1683	0.061
Land Governance Council decides to sell/lease land	-0.015	0.011	0.050 ***	0.011	1673	0.001
Leaders are effective	-0.024	0.015	0.679 ***	0.041	1676	0.001
Leaders are honest	-0.043 **	0.020	0.616 ***	0.039	1675	0.002

TABLE 15—SUBGROUP ANALYSIS: YOUTH RESPONDENTS AND YOUTH HEADED HOUSEHOLDS

Variable	Youth Estimate	Youth SE	Constant Estimate	Constant SE	Number of Observations	R ²
Socioeconomic Measures						
Main income source: Farming cash crops	-0.025	0.016	0.123 ***	0.014	1226	0.001
Main income source: Petty trade	0.053 ***	0.019	0.058 ***	0.011	1226	0.009
Main income source: Salaried job	-0.062 ***	0.011	0.067 ***	0.010	1226	0.018
Main income source: Alluvial mining	0.026 *	0.014	0.032 ***	0.008	1226	0.004
Main income source: Other	0.001	0.008	0.020 ***	0.005	1226	0.000
Number of chickens and pigs	-0.369	0.607	6.258 ***	0.381	1136	0.000
Number of trees	-139.179 *	84.426	602.544 ***	70.290	1166	0.001
Number of bicycles, motorcycles, cars	-0.341	0.394	0.502	0.389	1126	0.000
Number of durable goods	-0.603	0.626	6.690 ***	0.405	1144	0.001
Social Cohesion						
Community members can be trusted	-0.037	0.025	0.822 ***	0.017	1687	0.002
Community members are willing to help needed	-0.098 ***	0.029	0.729 ***	0.040	1686	0.010
People here will take advantage of you	0.046	0.030	0.439 ***	0.022	1687	0.002
Laundry can be safely left alone to dry	-0.020	0.024	0.865 ***	0.017	1665	0.001

TABLE 16—SUBGROUP ANALYSIS: YOUTH RESPONDENTS AND YOUTH HEADED HOUSEHOLDS (CONT.)

Variable	Youth Estimate	Youth SE	Constant Estimate	Constant SE	Number of Observations	R ²
Land Tenure Security						
There are investors in the community	0.029	0.026	0.450 ***	0.019	1491	0.001
Number of Radios Owned	-0.029	0.026	0.550 ***	0.019	1491	0.001
Household has right to plant, map land, choose inheritor	-0.169 ***	0.023	0.395 ***	0.023	1668	0.029
Household has right to sell land, and use land as collateral	-0.030	0.039	1.461 ***	0.037	1691	0.000
Household has added fencing or irrigation in the past year	-0.003	0.018	0.072 ***	0.010	1686	0.000
Household currently leaves fields fallow	0.029	0.026	0.450 ***	0.019	1491	0.001
Household plans to leaves fields fallows in future	-0.029	0.026	0.550 ***	0.019	1491	0.001
Land is secure from encroachment	-0.169 ***	0.023	0.395 ***	0.023	1668	0.029
Forest and water conditions are worse	-0.030	0.039	1.461 ***	0.037	1691	0.000
Trees are disappearing	-0.003	0.018	0.072 ***	0.010	1686	0.000
Would prefer a job now, over future land security	0.029	0.026	0.450 ***	0.019	1491	0.001
Would choose land security in the future over a job now	-0.029	0.026	0.550 ***	0.019	1491	0.001
Know all boundaries in the community	-0.169 ***	0.023	0.395 ***	0.023	1668	0.029
Possible that those in the community will take land	-0.030	0.039	1.461 ***	0.037	1691	0.000
Possible that investors will take some of my land	-0.003	0.018	0.072 ***	0.010	1686	0.000
Legal Knowledge						
Respondent correctly identifies women's inheritance rights	0.023	0.025	0.762 ***	0.019	1672	0.001
Community does not own cust land without paper deed	0.063 **	0.026	0.432 ***	0.017	1682	0.004
Government owns forest resources on community land	0.025	0.028	0.520 ***	0.020	1684	0.001
Customary land rights are as protected as private land	0.091 ***	0.024	0.431 ***	0.025	1682	0.008
Participation						
Women are disadvantaged by land rules	0.053 *	0.028	0.342 ***	0.026	1681	0.003
Poor people are disadvantaged by land rules	0.054 **	0.025	0.299 ***	0.026	1681	0.003
Village has a natural resource council	-0.028	0.027	0.550 ***	0.025	1508	0.001
Number of land related meetings held in past year	-0.120	0.126	2.151 ***	0.109	1157	0.001
Often attend land meetings	-0.154 ***	0.026	0.354 ***	0.027	1107	0.024
Rarely or never attend land meetings	0.142 ***	0.036	0.388 ***	0.023	1107	0.018
My opinions about land management are considered	-0.134 ***	0.016	0.265 ***	0.018	1674	0.027
Participate in making and enforcing land rules	-0.099 ***	0.011	0.135 ***	0.011	1681	0.036
Land Governance Council decides to sell/lease land	0.003	0.011	0.042 ***	0.008	1671	0.000
Leaders are effective	-0.119 ***	0.029	0.710 ***	0.037	1674	0.019
Leaders are honest	-0.104 ***	0.031	0.631 ***	0.035	1673	0.012

TABLE 17—SUBGROUP ANALYSIS: MINORITY RESPONDENTS AND MINORITY HEADED HOUSEHOLDS

Variable	Minority Estimate	Minority SE	Constant Estimate	Constant SE	Number of Observations	R ²
Socioeconomic Measures						
Main income source: Farming cash crops	-0.005	0.014	0.119 ***	0.013	1362	0.000
Main income source: Petty trade	0.070 ***	0.020	0.049 ***	0.007	1362	0.016
Main income source: Salaried job	-0.031 ***	0.012	0.059 ***	0.010	1362	0.005
Main income source: Alluvial mining	0.015	0.011	0.032 ***	0.007	1362	0.001
Main income source: Other	-0.002	0.008	0.023 ***	0.006	1362	0.000
Number of chickens and pigs	-0.140	0.482	6.244 ***	0.320	1225	0.000
Number of trees	-115.495	121.455	654.844 ***	84.271	1255	0.001
Number of bicycles, motorcycles, cars	-0.322	0.358	0.483	0.355	1214	0.000
Number of durable goods	-0.254	0.554	6.647 ***	0.398	1233	0.000
Social Cohesion						
Community members can be trusted	-0.017	0.020	0.809 ***	0.017	2012	0.000
Community members are willing to help needed	-0.010	0.024	0.728 ***	0.032	2009	0.000
People here will take advantage of you	0.070 ***	0.025	0.431 ***	0.020	2012	0.004
Laundry can be safely left alone to dry	0.034 *	0.020	0.836 ***	0.020	1991	0.002

TABLE 18—SUBGROUP ANALYSIS: MINORITY RESPONDENTS AND MINORITY HEADED HOUSEHOLDS (CONT.)

Variable	Minority Estimate	Minority SE	Constant Estimate	Constant SE	Number of Observations	R ²
Land Tenure Security						
There are investors in the community	0.029	0.026	0.450 ***	0.019	1491	0.001
Number of Radios Owned	-0.010	0.029	0.104 ***	0.025	1983	0.000
Household has right to plant, map land, choose inheritor	-0.038	0.081	0.686 ***	0.071	1215	0.000
Household has right to sell land, and use land as collateral	-0.054 ***	0.017	0.767 ***	0.010	1983	0.004
Household has added fencing or irrigation in the past year	-0.007	0.022	0.196 ***	0.014	1978	0.000
Household currently leaves fields fallow	-0.034 ***	0.013	0.111 ***	0.009	1982	0.004
Household plans to leaves fields fallows in future	-0.036 **	0.015	0.958 ***	0.006	1966	0.004
Land is secure from encroachment	-0.014	0.013	0.958 ***	0.006	1952	0.001
Forest and water conditions are worse	-0.073	0.067	4.400 ***	0.027	1973	0.001
Trees are disappearing	0.027	0.025	0.600 ***	0.018	1813	0.001
Would prefer a job now, over future land security	-0.020	0.030	0.497 ***	0.019	1694	0.000
Would choose land security in the future over a job now	0.042 *	0.025	0.427 ***	0.017	1816	0.002
Know all boundaries in the community	-0.042 *	0.025	0.573 ***	0.017	1816	0.002
Possible that those in the community will take land	-0.180 ***	0.032	0.388 ***	0.031	1802	0.033
Possible that investors will take some of my land	-0.071 *	0.041	1.465 ***	0.034	2017	0.001
Legal Knowledge						
Respondent correctly identifies women's inheritance rights	-0.024	0.020	0.795 ***	0.018	1994	0.001
Community does not own cust. land without paper deed	0.046 **	0.021	0.423 ***	0.015	2006	0.002
Government owns forest resources on community land	0.021	0.029	0.530 ***	0.018	2004	0.000
Customary land rights are as protected as private land	-0.026	0.027	0.461 ***	0.022	2004	0.001
Participation						
Women are disadvantaged by land rules	0.026	0.028	0.338 ***	0.021	2010	0.001
Poor people are disadvantaged by land rules	-0.035	0.025	0.319 ***	0.022	2009	0.001
Village has a natural resource council	-0.025	0.026	0.555 ***	0.024	1615	0.001
Number of land related meetings held in past year	-0.432 ***	0.163	2.338 ***	0.137	1420	0.004
Often attend land meetings	-0.125 ***	0.029	0.337 ***	0.024	1351	0.015
Rarely or never attend land meetings	0.140 ***	0.034	0.391 ***	0.024	1351	0.016
My opinions about land management are considered	-0.098 ***	0.021	0.243 ***	0.018	1984	0.014
Participate in making and enforcing land rules	-0.060 ***	0.012	0.119 ***	0.010	2002	0.012
Land Governance Council decides to sell/lease land	0.002	0.008	0.035 ***	0.006	1992	0.000
Leaders are effective	0.020	0.024	0.675 ***	0.036	1800	0.001
Leaders are honest	0.021	0.027	0.598 ***	0.036	1799	0.000

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