

IFPRI Discussion Paper 02096

December 2021

**Drivers and Consequences of Tenure Insecurity and Mechanisms for
Enhancing Tenure Security**

A Synthesis of CGIAR Research on Tenure Security (2013-2020)

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INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

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ABSTRACT

Research since the 1990s highlights the importance of tenure rights for sustainable natural resource management, and for alleviating poverty and enhancing nutrition and food security for the 3.14 billion rural inhabitants of less-developed countries who rely on forests and agriculture for their livelihoods. Which rights or combination of rights an individual, household, or community has affects whether they have access to land and resources, as well as how those can be used and for how long. Equally important is the degree to which landholders perceive their tenure to be secure. Landowners are more likely to engage in land and resource conservation if they perceive that the likelihood of losing their land or resource rights is low. Between 2013 and 2021, the CGIAR Research Program on Policies, Institutions, and Markets (PIM) supported researchers to explore the drivers of tenure insecurity and their consequences, as well as mechanisms that can enhance tenure security. Their work focused on rights held by individuals and households as well as collectively held rights. Studies found that tenure insecurity has a variety of negative consequences for natural resource management, agricultural productivity, and poverty reduction, but the sources of tenure insecurity differ for men and women, and for individual, household, and collective lands. Statutory recognition of customary rights, multistakeholder processes such as for land use planning, and organized social alliances such as Indigenous Peoples' groups have emerged as important mechanisms for securing rights or enhancing access to collectively held lands. Long-term partnerships, ongoing engagement, and training for multiple actors at multiple scales increases the likelihood of successful implementation of tenure reforms. Further research on tenure security can contribute to achieving the Sustainable Development Goals, especially by clarifying how customary tenure can provide security and how tenure affects decision-making in multistakeholder platforms.

Keywords: Land tenure, Women's land rights, Tenure security, Collective tenure, Forest rights

ACKNOWLEDGMENTS

This publication has been prepared as an output of the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by IFPRI and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI, PIM, or CGIAR.

ACRONYMS

CFE	Community forest enterprise
CIFOR	Center for International Forestry Research
CLD	Community Land Demarcation
FECOFUN	Federation of Community Forest Users Nepal
FLLC	First-level land certification
FTA	Forest, Trees and Agriculture
IAD	Institutional Analysis and Development
IFPRI	International Food Policy Research Institute
ILC	International Land Coalition
ILRI	International Livestock Research Institute
JVLUP	Joint village land use plan
LGAF	Land governance assessment framework
MELA	Monitoring and Evaluation of Land in Africa
MSP	Multistakeholder process
NES	National Engagement Strategies
NGO	Non-governmental organization
PIM	Policies, Institutions and Markets
PPA	Participatory Prospective Analysis
PRM	Participatory rangeland management
SDG	Sustainable Development Goal
SLLC	Second level land certification
VLUP	Village land use planning
WLE	Water, Land and Ecosystems

INTRODUCTION

Research since the 1990s highlights the importance of tenure rights for sustainable natural resource management, and, as a consequence, for alleviating poverty and enhancing nutrition and food security for the 3.14 billion rural inhabitants of less-developed countries who rely on forests and agriculture for their livelihoods (UN 2019). Tenure consists of “the social relations and institutions governing access to and use of land and resources” (Larson and Springer 2016:5). Tenure is often conceptualized as encompassing a bundle of rights, including rights of access, use, exclusion, management, and alienation (Schlager and Ostrom 1992). Which rights or combination of rights an individual, household, or community has affects whether they have access to land and resources, as well as how those can be used and for how long (Larson and Springer 2016). Equally important, however, is the secureness of tenure rights. Robinson et al. (2018:4) define tenure security as a “landholder’s confidence or belief (real or perceived) that agreed-upon rights...will be enforced and upheld by society more broadly”. Landowners who perceive that they run little risk of losing their land or resource rights and that they will, therefore, benefit from making investments in those resources, are more likely to engage in land and resource conservation (Robinson et al. 2018).

Between 2013 and 2021, the Policies, Institutions, and Markets Flagship program on Governance of Natural Resources supported applied research aimed at gaining a better understanding of the drivers and consequences of tenure insecurity, together with an understanding of how different mechanisms to address insecurity have worked out in practice. This research examined tenure security with respect to two major types of rights: those held by individuals or households and those held by collectivities. Studies that explored the cross-cutting issue of tenure security relative to women’s rights were integral to both focal areas. Research on and engagement with multi-stakeholder partnerships (MSPs), many of which seek to influence tenure reforms aimed at strengthening land and resource rights, complemented the work on tenure security and rights recognition or registration. In Myanmar (Suhardiman et al. 2019a), Laos (Suhardiman et al. 2019b), and Peru (Monterroso et al. 2017), political economy analysis provided a lens for understanding the political dynamics that impede efforts to enact and implement equitable and sustainable tenure reforms. A suite of conceptual, analytical, and training and educational tools were developed to deepen understandings of the consequences of tenure insecurity and provide social actors with the means to promote tenure reforms and ensure their implementation.

PIM-supported research and engagement on tenure security spanned three continents (Africa, Asia, and Latin America) and more than 25 countries. Researchers emphasized collaborative and participatory approaches, engaging partners from multiple sectors and levels of governance. This strengthened research and collective action capacity and built knowledge production networks in and between the countries where studies took place. Research teams prioritized long-term research-action partnerships aimed at influencing policy and social norms in ways that might result in greater tenure security for rural populations, including groups traditionally marginalized, such as women, youth, migrants, and pastoralists.

This report synthesizes the findings from and outcomes of this extensive body of work. Section 1 draws out key themes with respect to the drivers and consequences of tenure insecurity, as well as mechanisms for enhancing rural residents’ access to land and resources. We include examples of multi-stakeholder processes to emphasize the role that they have played, and likely will continue to play, as mechanisms for advancing tenure security reforms that expand and strengthen rural dwellers’ land and resource rights. Section 2 focuses on the tools that PIM-supported researchers have adapted or developed to improve understandings of the drivers and consequences of tenure insecurity, to assess tenure reform implementation, and build capacity of partner organizations to conduct tenure-related research and engagement. In the tools section, we devote attention to political economy analysis. Political economy warrants special attention because of its usefulness for identifying likely entry points for tenure reform

and reform accountability. Section 3 summarizes key themes emerging from PIM-supported research and engagement on tenure security, including the roles of different social actors; outcomes for poverty alleviation, food security, and nutrition; obstacles that will need to be overcome; and recommendations for reform implementation. This is followed by a short summary of future research directions and the conclusions.

TENURE INSECURITY: DRIVERS, CONSEQUENCES, AND MECHANISMS FOR ENHANCING TENURE SECURITY

This section summarizes research findings about the drivers and consequences of tenure insecurity, the types of mechanisms used to enhance tenure and the challenges that have been encountered in implementing tenure reforms. We begin with an overview of the findings for individual and household holdings (1.1-1.3), then describe what has been learned for collective holdings (1.4-1.5), and end with results specific to women's holdings (1.6).

1.1 Drivers of tenure (in)security: Individual and household holdings

Studies examining tenure insecurity drivers for individual or household land in Ghana (Ghebru and Lambrecht 2017), Nigeria (Ghebru and Girmachew 2017), and Mozambique (Ghebru and Girmachew 2019) found that the primary drivers of tenure insecurity were urbanization and growing land markets. Other prominent tenure insecurity drivers included in-migration (Ghana and Mozambique) and increased economic development (Nigeria and Mozambique). In Ghana, Lambrecht (2016) found that customary norms that limit women's ability to inherit land were a driver of tenure insecurity for women. Indeed, perceptions of tenure insecurity differed by gender and social status, with women and migrants in all three countries being more likely than men or non-migrants to perceive their tenure as insecure. Ghebru's (2019) comparative study in Ethiopia, Malawi, Mozambique and Nigeria found that women's tenure rights tended to be less secure where demand for land was increasing, such as areas experiencing intense population pressure, land commodification and agricultural commercialization. In Uganda, Doss et al. (2014) documented the presence of internal sources of tenure insecurity, including tense landlord-tenant relationships, clan and family conflicts, and ethno-political tensions, as well as external sources, such as government expropriations and increased market demand for land.

The studies revealed important differences within and between households in the sources of tenure insecurity. In Mozambique, women considered collective risks (fear of land loss) to be a greater source of tenure insecurity, whereas men felt that individual tenure risks (fear of land disputes) were the greater source of insecurity (Ghebru and Girmachew 2019). In Nigeria, perceptions of risk of expropriation by the government were higher for women plot managers in male-headed households than for women plot managers in female-headed households (Ghebru and Girmachew 2017). Sources of tenure insecurity in Nigeria also varied depending on migrant status, position in household, proximity to urban centers, and the nature of land markets. Knowing the source of tenure insecurity matters for tenure reform efforts if tenure interventions and accompanying measures are to be tailored so that they solve the right problem.

1.2 Consequences of tenure (in)security: Individual and household holdings

In Tigray (Ethiopia), Ghebru and Holden (2015) found that agricultural productivity of households who both owned¹ and sharecropped in land was greater on the former than on the latter, with the latter presumably being less secure. However, the productivity for sharecropped land varied depending on whether the landlord was kin or non-kin, with productivity being higher on plots sharecropped from kin. The landlord's tenure security was an even more important factor affecting plot productivity. Tenants were less likely to invest labor and inputs in the plots they sharecropped if the owner was female or absent, both of whom tend to have less secure tenure.

Ghebru and Holden (2019) reported that landlords in Tigray were much less likely to be at risk of falling below the poverty line. This is especially consequential for women, since in Tigray, widows and divorced

¹ Technically farmers cannot own land in Ethiopia, since the State claims ownership of all lands. We (and the authors of the study) use the term owner to refer to persons holding long-term, heritable leases to cropland.

women must often rent out their land. Moreover, individuals with more secure access (i.e., landlords) were more likely to move out of poverty than tenants. Ghebru and Holden noted that Ethiopia's land laws, which restrict how long land can be sharecropped and the amount of land that can be sharecropped, may heighten tenure insecurity for landholders who lack the means to farm their land. As a result, there is less land available for tenants, making it difficult for landless and land-poor tenants to move out of poverty.

The positive impacts of greater tenure security in Ethiopia are not limited to Tigray. In a study covering four regions in Ethiopia, Quisumbing and Kumar (2014) found that households with land certificates in Ethiopia were more likely to make conservation investments. However, when the results were disaggregated by gender, the data showed that female-headed households invested less in soil and water conservation than male headed households. Quisumbing and Kumar attributed this gender gap to women having less knowledge about their land rights. They recommended setting up legal literacy campaigns to increase women's knowledge of their land rights so as to encourage women to make soil conservation investments that will improve their agricultural productivity.

Although limited, there is some evidence that greater tenure security of individual holdings may be positively associated with better health outcomes. Kosec and Shemyakina (2019) examined the impact of land privatization in the Krygyz Republic on health outcomes. Using data from national household surveys conducted before, during and after state and collective farms were privatized, they determined that privatization was associated with better nutrition for children, with children between the ages of one and five years old benefitting the most. These results suggest the need for further research on the links between tenure security and nutrition outcomes.

1.3 Mechanisms for securing rights and enhancing tenure security: Individual and household holdings

The majority of PIM-supported research on tenure security for individual and household holdings focused on countries in sub-Saharan Africa, where a number of countries have adopted rights registration as a mechanism for enhancing tenure security on agricultural land. These land registration programs, which rely on large amounts of donor funding are generally designed as "one-size-fits-all" solutions to tenure insecurity with procedures being identical throughout the country in which they are implemented. Land registration programs initially aimed to facilitate rural landholders' access to state-owned titles, but since the mid-1990s, attention has focused on documenting and registering existing landholder rights held under customary tenure systems.

PIM-supported studies found that the extent to which rights registration programs enhance tenure security in African contexts varies considerably. Ghebru and Kennedy (2019) reported that urban residents in Nigeria were willing to pay for land registration (i.e. Certificate of Occupancy), whereas rural residents felt that customary institutions provided adequate tenure security. They attributed the lack of interest in land registration to a centralized land administration system that is difficult for rural residents to access, coupled with a registration process that is overly complex, time-consuming, and subject to corruption. Moreover, the national government lacks the capacity to maintain the land registration system, calling into question the ability of rights registration to deliver tenure security over the long-term. Ghebru and Kennedy (2019) recommended that Nigeria adopt a flexible land registration program that registers lands in locations where demand for Certificates of Occupancy is high, such as peri-urban areas.

Land rights certification has been more successful in Ethiopia's highlands, where a low-cost, low-tech² land rights registration process known as first-level land certification (FLLC) was introduced in the late 1990s and early 2000s. The system, which provide long-term and heritable use rights to land proved successful at increasing tenure security for many landholders (Deininger et al. 2008). Likely a major

² Use of traditional methods for demarcating land and paper-based registration.

factor in this success was the extremely high level of tenure insecurity present in Ethiopia's highlands prior to the intervention. Second-level land certification (SLLC), which registers the same use rights as FLLC but uses digital technology for mapping parcels and registering rights, was introduced in 2013. SLLC had no impact on tenure security overall, but SLLC areas showed signs that more land was available as reflected in a decrease in distress rentals and an increase in sharecropping (Ghebru and Girmachew 2020). As in Nigeria, perceptions of tenure security were positively associated with possession of a SLLC in more urbanized areas, but were not affected in rural areas. These findings suggest that SLLC programs should target peri-urban areas, where positive effects are more likely to occur (Ghebru and Girmachew 2020).

Research by Ghebru (2019a) found that policy reforms aimed at increasing tenure security for women in Ethiopia, Malawi, Mozambique, and Nigeria have been weakly or unevenly implemented. Lack of effective implementation has decreased tenure security of women, migrants and poor landholders, groups that are more likely to have subsidiary and undocumented land rights. Factors contributing to limited reform implementation include inadequate financial and technical capacity on the part of local and national governments, as well as rent-seeking and corruption by elites and government officials. To reduce the risk of ineffective implementation, Ghebru (2019b) calls for policy reforms that are more closely aligned with local practices and administrative capacities.

Evidence suggests that the notion of separate state and customary tenure systems operating in parallel rather than interdependently fundamentally misrepresents the nature of legal pluralism in Africa (Boone 2019; Boué and Colin 2018; Chimhowu 2019). Instead, most African tenure systems are better conceptualized as "neocustomary" or hybrid systems that incorporate elements of state and customary approaches for allocating and securing tenure rights to land and resources (Chimhowu 2019). Some scholars have suggested that supporting these hybrid systems rather than imposing costly and ineffective western-inspired land registration systems might prove more effective at delivering tenure security to rural residents (Boué and Colin 2018; Valkonen 2018).

The presence of hybrid state-customary tenure systems was documented by PIM-supported researchers in Madagascar (Ranjatson et al. 2019). Like many African countries, Madagascar has enacted land reforms that encourage smallholders to obtain land certificates, which can be applied for through local land offices. Although much cheaper and less time consuming to obtain than state-issued titles, the cost of a land certificate is still beyond the financial capacity of most rural inhabitants. Meanwhile, communities have developed hybrid tenure systems which blend elements of customary and state systems, and which appear to provide adequate tenure security for many rural landholders (Boué and Colin 2018; Valkonen 2018). Ranjatson et al. (2019) suggest investigating locally-developed hybrid systems to identify their weaknesses with respect to providing equitable access to land and delivering tenure security. Once those weaknesses are identified, appropriate tenure or other policy and legal reforms, as well as relevant accompanying measures can be encouraged.

Ghebru et al. (2016) reached a similar conclusion in Ghana, where neither the state nor the customary systems delivered adequate tenure security to rural landholders. They described the state system as largely non-functional, yet their data showed that smallholders, particularly women and migrants, perceived customary rights to be less secure than market-based rights. They recommended targeting reforms at the customary systems, such as capacity-building of the customary land secretariats, in ways that would enhance tenure security for women and migrants. At the same time, they suggested limiting land rights certification to areas where land markets are very active, and where there is likely to be strong demand for land certificates. Lambrecht and Asare (2016) concurred, but cautioned that reform program developers need to recognize that considerable heterogeneity exists within Ghana's customary tenure systems. They emphasized the importance of developing more in-depth knowledge of what the different tenure systems look like so that tenure reforms can take into account those differences.

Legal aid programs, which are often implemented as an accompanying measure to land registration programs, are another mechanism used to improve tenure security for individual and household holdings. However, in a critique of Tanzania's Legal Aid Bill, Billings et al. (2014) noted that it is important to ensure that legal aid programs use appropriate standards for education and training that make it feasible to recruit paralegals, particularly women, in remote areas.

1.4 Drivers and Consequences of Tenure Insecurity: Collective holdings

A number of studies examined drivers and consequences of tenure insecurity for lands for which collective rights – either ownership or long-term use and/or management rights – had been recognized or devolved to communities. Among others, relevant research-engagement projects were implemented in Peru (Monterroso and Larson 2018a; 2018b), Uganda (Mshale 2019a; 2019b), Indonesia (Liswanti 2019), Kenya (Mukasa 2019), Nepal (Banjade et al. 2020), Colombia (Arango 2018; Velasquez-Ruiz 2018), and Tanzania (Dungamaro and Amos 2019; Kisambu et al. 2017). Other relevant studies included a comparative case study of conflict management in Peru, Uganda and Indonesia (Larson et al. 2019a); case studies documenting the outcomes of community forest enterprise development in Guatemala (Stoian et al. 2018) and Nepal (Sharma et al. 2020); a study of Mozambique's Community Land Demarcation program (Ghebru et al. 2015), and a comparative case study of community forest enterprises (CFEs) in Guatemala, Mexico and Nepal (Gynch et al. 2020). Major sources of tenure insecurity on collective holdings and their consequences identified through these studies are summarized in this section.

Lack of titles/rights recognition: The lack of statutory recognition of customary or collective rights to land was a source of tenure insecurity for collectively held lands in Peru (Monterroso et al. 2017), Colombia (Arango 2018; Velasquez-Ruiz 2018), Indonesia (Liswanti et al. 2019), Mozambique (Ghebru et al. 2015) and Uganda (Mshale et al. 2019b). Without such recognition, communities are in a weak legal position if the national government issues a logging or mining concession for the land in question, a situation that arises with some frequency in all of these countries.

Weak law enforcement: Weak enforcement of laws and policies by the state was commonly mentioned as a source of tenure insecurity. In Participatory Prospective Analysis (PPA) workshops in Uganda, participants indicated that weak enforcement led to land disputes between community members and more powerful outsiders (Mshale et al. 2019a, 2019b). Likewise, focus groups in Peru reported lack of enforcement on the part of government officials in cases of encroachment by outsiders as a source of insecurity, leading to villager-outsider conflicts (Larson et al. 2019). In Tanzania, a key issue was the lack of enforcement of the legal requirement to include grazing areas and livestock corridors in Village Land Use Planning (VLUP), a situation that resulted in mistrust between pastoralists and village leaders (Kisambu et al. 2017).

Lack of effectiveness of community land management committees: In many cases, limited management capacity and skills on the part of community land management committees was a source of tenure insecurity. Nongovernmental organizations (NGOs) have played a major role in addressing the capacity and skills gaps of such committees, but over the long run, reliance on NGOs poses a threat to the system's sustainability (Ghebru et al. 2015, Gynch et al. 2020).

Lack of awareness of rights: Community and user group members in many countries cited limited awareness of their statutory rights to land as a source of tenure insecurity for collective lands. For pastoralists in Tanzania, lack of knowledge about land rights placed them in a disadvantageous position vis-à-vis agriculturalists who encroached upon pastures and livestock watering sites (Dungumaro and Amos 2019). In Uganda, participants in PPA workshops mentioned lack of knowledge of their rights as a key force driving the inability of community members to actualize those rights (Mshale et al. 2019a, 2019b).

Lack of coordination across levels of governance and sectors: Tenure insecurity for collectively held lands was often linked to inconsistencies in government policies between sectors and between governance levels. Both of these contributed to a generalized lack of certainty among community members regarding what was or was not legally permitted in community forests. Uncertainty regarding the distribution of authorities and responsibilities at the subnational level was common in countries undergoing decentralization, leading to inconsistent implementation of policies and tensions between national and subnational governance entities (c.f. Mwita 2017; Monterroso and Larson 2018a).

Economic development and financial policies: In both rangeland and forest ecosystems, economic development policies that provide incentives for converting these ecosystems to agricultural land were a source of tenure insecurity for collectively held lands. In dryland areas of Tanzania (Dungamaro and Amos 2019) and Tunisia (Frija et al. 2019), such policies reduce access to grazing lands and watering sites, threatening the viability of pastoralist and agropastoralist livelihoods. In forested areas, such as the Peruvian Amazon (Montessoro et al. 2017) and Colombia (Ortiz-Guerrero et al. 2017), policies favoring agricultural development provide incentives for residents and outsiders alike to convert forested land to cropland, reducing community members' access to forest products and contributing to environmental degradation.

Violent conflicts and land conflicts among user groups or communities: In Colombia, tenure insecurity for collectively held lands is a side effect of violent conflict linked to the decades-long drug wars. In one region, nearly half of the indigenous *resguardos*³ are located in the municipalities where drug war-related conflict was severe enough that many indigenous residents abandoned their land (Velasquez-Ruiz 2018). Once a peace agreement was finalized, the residents returned to their land only to find that peasant farmers had occupied much of their land. In Tanzania, an effort in one village to implement joint village land use planning, which would have provided the village with a Certificate of Customary Rights Occupancy, was stymied by conflict between pastoralists and agriculturalists over how much land should be set aside for grazing (Mwita et al. 2017).

Beliefs and social norms: Beliefs and social norms within communities are a source of tenure insecurity for women (Monterroso et al. 2019b), indigenous peoples (Zamora and Monterroso 2019) and pastoralists (Sulle and Mkama 2019). In Peru, participants in PPA workshops believed that neither the national or regional government places a priority on indigenous issues, an attitude which they felt was a contributing factor to the delays in implementing native community titling legislation (Monterroso et al. 2019a). In East Africa, pastoralists are often viewed by many agriculturalists with disdain, and by government officials as insufficiently modern. They rarely participate in village and district meetings, in part because of their mobility patterns, but also because meetings are often scheduled on market days when they are selling their livestock, or because they are intentionally ignored (Sulle and Mkama 2019). Moreover, women and pastoralists often are not well-represented in community forest management committees, and even if physically present, may not feel safe to give their opinion about management decisions (Sulle and Mkama 2019).

1.5 Mechanisms for securing rights and enhancing access: Collectively held lands

Since the 1990s, a variety of tenure and institutional reforms aimed at reducing tenure insecurity or increasing access to collectively held land and natural resources have been implemented in Africa, Asia,

³ *Resguardos* are defined in Colombia's Decree 2001 of 1988 as "a special legal and sociopolitical institution composed of one or more indigenous communities that enjoys the guarantees of private ownership through collective titling, is in possession of its territory, and is governed for its management and internal affairs by an autonomous organization protected by indigenous law and its own norms" (cited in Arango 2018).

and Latin America. Table 1 lists the collective tenure reforms that PIM-supported researchers have studied. Alongside tenure reforms, multistakeholder processes have become increasingly important as mechanisms for securing rights or enhancing access to collectively held lands. Organized social alliances, such as user group networks or indigenous peoples associations, and ad-hoc alliances among disparate social actors have also been instrumental in furthering tenure security enhancing reforms (c.f. Monterroso et al. 2017; Stoian et al. 2018; Gynch et al. 2020; Sharma et al. 2020).

Table 1. Types of collectively held lands studied by country

Study site locations	Type of collectively held land
Latin America	
Colombia	Multiple types of collective tenure, some with full recognition of rights, and others that allow for collective titling without recognizing ancestral rights
Guatemala	Community forest concessions on state land
Mexico	<i>Ejidos</i> and indigenous community forests
Peru	Native community titles
Africa	
Ethiopia	Participatory range management (PRM) and community forests
Kenya	Community forests
Mozambique	Community land demarcation (i.e. community land titling)
Namibia	Wildlife conservancies
Tanzania	Certificates of customary occupancy rights (CCOR)
Uganda	Multiple types of collective tenure (community use rights to state land, collaborative forest management, customary land with statutory recognition)
Asia	
Indonesia	Social forestry schemes (two types: (i) community forests and (ii) community plantation forests)
Nepal	Community forests

1.5.1 Rights recognition and strengthening

In some areas, benefits have materialized from tenure reforms aimed at strengthening rights to collectively held resources. Larson et al. (2019b) found that more than three-quarters of community members in Indonesia, Peru, and Uganda felt their rights to land and forests were secure since collective rights recognition, and were confident their rights would be enforced. Community owned forests and forests designated for community use by the state in these countries had similar outcomes for tenure security. However, when communities that had experienced tenure reforms were compared with control communities (i.e. whose lands were held under customary regimes that were not recognized statutorily), the results were mixed. In Mozambique, more than 90% of the communities included in a study of community land demarcation (CLD) outcomes experienced fewer land conflicts, both within and between communities, following the CLD process (Ghebru et al. 2015). Perceptions of tenure security were much higher in CLD communities than in non-CLD communities.

Many studies showed that the intended beneficiaries of reforms are often unable to exercise their newly recognized or granted rights. The drivers of tenure insecurity identified earlier in this section (i.e. weak law enforcement, lack of awareness of rights, limited coordination across sectors, land conflicts, and social norms) also typically hindered reform implementation. Two additional barriers to reform implementation were identified for collective tenure: (i) overly strict regulations together with complex bureaucratic procedures and (ii) bureaucratic practices and politics.

- **Overly strict regulations and complex bureaucratic procedures:** All of the collectively-held land studies identified onerous regulations and time-consuming bureaucratic procedures for

developing management or land-use plans and obtaining titles or certificates as sources of tenure insecurity. In Peru, more than 38 steps are required for indigenous communities to obtain title to their territories (Monterroso and Larson 2018a). In Nepal, regulations restricting commercial operations in community forests constrain the ability of community enterprises to obtain enough raw material at a low enough cost for wood product operations to be profitable (Sharma et al. 2020).

- **Bureaucratic practices and politics:** Research on reform implementation revealed that land and forest administration infrastructure was inadequate to effectuate reforms, particularly at the local level. In Peru, regional land administration offices have neither the budget nor the personnel with the skills necessary to do their jobs, and the lack of resources at the local government level is exacerbated by differences in regional and national priorities (Monterroso et al. 2019a). Tensions also exist in Peru between regional and national levels of governance as to who is responsible for implementation, an issue that has been exacerbated with decentralization coinciding with the renewed efforts to implement native community titling (Monterroso et al. 2019a). A similar situation exists in Tanzania where Village District Councils lack the resources and staff to undertake Village Land Use Planning (VLUP) (Mwita et al. 2017). In many cases, lack of clarity in government responsibilities was accompanied by a lack of transparency and accountability, creating governance conditions ripe for corruption.

1.5.2 Multistakeholder processes for tenure security enhancement

Multistakeholder processes are another mechanism with potential to enhance tenure security and expand access to resources, often through reducing conflicts over land or resources (Ratner et al. 2017a; 2017b; 2018). Multistakeholder processes bring diverse stakeholders together to achieve particular ends—whether it be managing conflict over resources, advocating for tenure reforms, ensuring that reforms are implemented as intended, or facilitating social learning—that could not be achieved by the same stakeholders acting independently (Ansell and Gash 2008). Most PIM-supported MSPs have included enhancing tenure security and ensuring equitable land and resource access among their objectives, whether through reducing conflicts, identifying pathways for securing tenure, or expanding participation in land use planning and management. In all cases, the MSPs facilitated learning among participants at multiple scales (i.e. individual, group, and network) with the objective of changing behavior and social relationships, a process known as social learning (Shelton et al. 2018). Two examples of MSPs established for land use planning and two examples of MSPs that are focused on identifying pathways for securing tenure and improving governance are described in this section.

1.5.2.1 Participatory land planning and management

Participatory Rangeland Management

In Ethiopia, ILRI researchers affiliated with PIM5 assessed the impact of Participatory Range Management (PRM) on rangeland management and tenure security in two pastoral regions during 2017 and 2018 (Flintan et al. 2019). They examined two distinct forms of PRM: an early form, and a later form whose implementers had had the opportunity to learn from and improve upon the earlier project. The initial PRM project used kebele boundaries as the rangeland management unit, and assisted communities in establishing associations with formal legal standing as the community-level governance units. The later PRM project used the full extent of each community's customary rangelands as the management unit, which covered a much larger area than one kebele. They worked with communities to revise and strengthen existing customary governance institutions rather than creating a new institution. In both projects, a multistakeholder pastoralist forum was established at the zonal level to address conflicts, provide input into rangeland governance decisions, and serve as a forum where pastoralists' concerns could be discussed with government representatives from multiple administrative levels.

Respondents reported that both projects had improved livestock health, range conditions, livelihoods and tenure security over rangelands. However, the long-term sustainability of PRM is not assured, as the process remains separate from government planning processes, and there is no legal framework specifically aimed at supporting PRM, thus making it unlikely that local governments will include it in their budgets (Flintan et al. 2019). A land-use planning approach known as Woreda Participatory Land-Use Planning (WPLUP) is being piloted by the Ethiopia's Ministry of Agriculture to address the need for embedding rangeland management into governmental structures (Ministry of Agriculture 2018).

Joint Village Land Use Planning

Although MSPs can be helpful for conflict management, if key stakeholders are excluded, they can exacerbate existing conflicts or catalyze latent ones. This was illustrated in several examples from Tanzania. In an action-research project piloting the use of joint village land use planning (JVLUP), a state-recognized process in which villages work out how to manage shared commons, negotiations at one site collapsed due to conflicts between agriculturalists and pastoralists over the size of grazing areas (Mwita et al. 2017). At the other site, a joint grazing committee was formed to create a resource use plan, after which they submitted an application for a Certificate of Customary Rights Occupancy. Although meant to be inclusive, in practice village elites dominated the decision-making. Many villagers were unfamiliar with joint land use planning and became frustrated with the length of time it took to complete the process. The scaling out of JVLUP to other areas is in question since neither the local nor the national government have budgeted to support more plans, and replication is dependent on the availability of donor and NGO funding (Mwita et al. 2017).

1.5.2.2 Identifying pathways for securing tenure and improving governance

Participatory Prospective Analysis

As part of the Center for International Forestry Research's (CIFOR) Global Comparative Study on Forest Tenure Reforms, researchers piloted Participatory Prospective Analysis, a multistakeholder futures scenario building and action plan development process, in Peru (Zamora and Monterroso 2019), Colombia (Ortiz-Gerrero et al. 2018), Nepal (Banjade et al. 2020), Indonesia (Liswanti et al. 2019), Uganda (Mshale et al. 2019a, 2019b), and Kenya (Mukasa et al. 2019b; Tibalazika et al. 2019). PPA consists of three stages, all of which take place in participatory workshops (Bourgeois et al. 2017). During the first stage, participants develop a list of the 'forces of change' that result in tenure insecurity, and then identify the driving forces of tenure insecurity. In the second stage, participants consider how the different driving forces might change over time, and then develop a set of plausible scenarios for what the future might look like. In the third stage, participants analyze pathways to the possible scenarios, and then identify actions to forestall the negative futures, and to enhance tenure security. The PPA workshops proved successful at engaging a diversity of social actors in the development of a list of driving forces, creation of narratives for multiple possible futures, and identification of potential pathways for improving tenure security. Clear differences emerged among different actors (e.g. NGOs, government, community leaders) over how tenure security can be achieved, illustrating the utility of PPA as a tool that enables a diversity of perspectives to emerge.

Bayesian Belief Network Analysis

In Tunisia, Frija et al. (2019) applied Bayesian Belief Network Analysis to model the causality pathways for achieving good rangeland governance. Factor weights in the model are varied to compare how different scenarios affect the probability of achieving good governance for different land tenure categories (e.g. private, collectively owned, and public lands used collectively by many tribes) and levels of previous infrastructure investment. Frija et al. organized workshops to develop the network structure, identify relevant governance indicators, and assign weights to the indicators. Through these workshops, data was collected from farmers as well as government representatives. Additional stakeholder workshops were held to validate and discuss the findings, a step that proved to be critical for fine-tuning the research

questions and hypotheses. Farmer association management performance, and the relationship between the associations and land management councils, were the two factors that most strongly influenced rangeland governance, followed by tenure type and investment category. Freja et al. concluded that it is feasible to improve rangeland governance for collective land if investments are made in expanding the reach and organizational capacity of farmer associations and land management councils. Data from the workshops informed the design of Tunisia's pastoral code reforms (Werner et al. 2018). The model is part of a larger toolkit for rangeland restoration that the International Union for the Conservation of Nature (IUCN) intends to pilot in Egypt and Jordan.

1.6 Women's land rights and tenure (in)security: Cross-cutting research

PIM has supported an extensive series of studies on tenure security issues specific to women in multiple contexts and at various stages in their life cycle (c.f. Billings et al. 2014; Quisumbing and Kumar 2014; Pradhan et al. 2019). A detailed discussion of women's tenure security is beyond the scope of this synthesis. We focus here on the conceptual framework Doss and Meinzen-Dick (2020) developed to facilitate the identification of entry points for strengthening women's land rights, and a real-world application of the framework to the study of tenure reforms in Uganda, Peru, and Indonesia.

Doss and Meinzen-Dick (2020) proposed a framework with four components: (1) the context in which women's land rights exist; (2) threats and opportunities to women's rights, (3) the 'action arena', consisting of the social actors who can affect women's tenure security together with the resources available to those actors; and (4) the desired outcome, which is enhanced land tenure security for women. Collecting data on each component, and examining how the components interact, enables researchers and practitioners to more easily identify where and which types of tenure reforms or accompanying measures are most likely to strengthen women's land rights. The framework encourages researchers and practitioners to consider the range of factors and actors that can affect women's rights, enhancing the likelihood that factors requiring social change, as well as those that can be addressed by legal and policy reforms, will be identified through the analysis.

Monterroso et al. (2019b) tested Doss and Meinzen-Dick's framework in a mixed methods comparative case study of how the outcomes of community forest reforms in Uganda, Peru and Indonesia differed by gender. They looked at three types of reforms: (i) state lands designated for community use (Indonesia and Uganda); (ii) state lands designated for company use (Indonesia); and (iii) recognition of community ownership rights (Peru and Uganda). In all three countries, gender equity was inadequately incorporated into legal frameworks, women had limited roles in decision making, and forest management committees did a poor job of incorporating women's concerns when developing forest use and management rules.

Monterroso et al. concluded that achieving gender equity in community forest tenure reforms requires explicitly specifying that women are subjects of the reform. They emphasized the importance of incorporating language in reforms that lays out explicit guidance for how to incorporate women's concerns when implementing reforms. Moreover, they argued that involving women in decision-making fora is insufficient for gender parity; women also need to take an active role in conflict resolution and extension services need to be structured so that they meet women's needs. A weakness of many community forest reforms is that monitoring and evaluation systems often have not measured the impacts along gender lines, suggesting a need for making gender-differentiated evaluations standard practice.

Monterroso et al.'s study showed that legal recognition of women's rights does not guarantee that women will be able to exercise those rights, a conclusion that is supported by other scholars (Quisumbing and Kumar 2014). It is therefore critical to identify and take into account other entry points that affect how women participate and benefit from tenure reforms. Suggested remedies include: programs that build the capacity of women to participate more extensively in formalization processes; and gender awareness training for government officials, NGOs and communities (Monterroso et al. 2019b).

TOOLS FOR ASSESSING TENURE SECURITY AND REFORM IMPLEMENTATION

PIM-supported researchers collaborated with a variety of partner organizations to develop, refine and/or adapt a number of tools useful for assessing tenure security, enhancing reform implementation accountability, or both. The tools fall into four categories: conceptual frameworks; sets of indicators; training or educational tools, such as guides, manuals, and datasets; and analytical approaches.

2.1 Conceptual frameworks

Selected examples of conceptual frameworks developed with PIM support are described in Table 2. Most of the frameworks are designed to assess the socio-political systems in which tenure systems are embedded, and permit identification of system elements which pose constraints to enhancing tenure security and pinpoint where within the system reform efforts should be targeted. Examples of how these frameworks can be used are described in Section 1.6 (women's rights analysis framework) and Box 1 (MELA framework).

Table 2. Conceptual frameworks for assessing tenure security and identifying entry points for reforms

Framework	Description	Application
Framework for monitoring and evaluation of land for Africa (Ghebru 2017)	Adaption of World Bank's Land Governance Assessment Framework for use in monitoring progress on land governance in Africa. Modified by adding indicators to measure progress on land rights for women, pastoralists and other vulnerable groups.	Applied in 4 African countries
Framework for women's rights analysis (Doss and Meinzen-Dick 2020)	Describes the key elements that affect women's tenure security and how those elements interact. Enables the identification of points where it is feasible to expand or strengthen women's rights. Draws on the Institutional Analysis and Development (IAD) framework.	Applied to PIM5-supported study of how women have been affected by community forest reforms in Peru, Uganda and Indonesia (Monterroso et al. 2019b)
Tenure diagnostic for Forest Landscape Restoration (FLR) assessments (McLain et al. 2018a)	Rights actualization model for identifying where tenure is likely to favor or inhibit adoption of FLR interventions, and what types of tenure and governance reforms are needed to support large-scale restoration. Draws on the IAD framework.	Informed PIM5/GIZ-supported research on tenure and FLR in Madagascar
5Capitals-G (Stoian and Rodas 2018)	Gender-responsive adaptation of the 5Capitals toolkit, which assesses the poverty impacts of value chain development. <i>Assesses gender differences in asset endowments of household and collective enterprises, and identifies constraints on women linked to cultural norms and values.</i>	<i>Piloted on forest concession enterprises and members in Guatemala by PIM5-supported researchers and partners</i>
Framework for assessing the enabling environment for community forest enterprises (CFEs) (Sharma et al. 2020)	Diagnostic tool for assessing whether an enabling environment is present for CFEs and identifying intervention points for improving the likelihood of success. Draws on Baynes et al.'s (2015) framework of five success factors for community forestry.	Developed and piloted in Nepal by PIM5-supported researchers and partners
Community forest enterprise investment readiness pathway (Gynch et al. 2020)	Conceptual framework linking community forest rights devolution to financial investments and environmental and social outcomes.	Developed but not yet applied
Learning measurement framework (Shelton et al. 2018)	Tool for guiding efforts to measure whether learning takes place in participatory processes, as well as whether participation in such processes leads to behavioral change at individual, group and societal levels.	Developed but not yet applied

Box 1 - Monitoring and Evaluation of Land in Africa

The Monitoring and Evaluation of Land in Africa (MELA) project was a PIM-supported activity in which new indicators were developed with the intention that they be applied broadly. The MELA framework was developed in response to the African Union's 2009 Declaration on Land Issues and Challenges in Africa, which called for member countries to put into place systems for tracking progress in their land governance commitments. Eleven African countries are piloting the framework. Project participants opted to use the World Bank's Land Governance Assessment Framework (LGAF) as a starting point and then incorporated a dozen additional indicators tailored to fit the African context.

The custom indicators consist of quantitative measures that will allow participating countries to measure progress toward ensuring that women, indigenous peoples, pastoralists and other vulnerable groups have rights to land in practice, as well as in law, and to assess the extent to which landholders perceive that they have tenure security. Working groups have been established in each country to further customize the generalized MELA framework so that it captures the information participants deem appropriate for their country's context. Members of the working groups serve as 'champions' for the framework, with the expectation that their involvement will increase the likelihood that the framework will be applied.

2.2 Indicators

Indicators are useful tools for measuring progress toward a set of goals. Indicators figured prominently in the MELA framework project described in Box 1, in which a PIM-supported researcher worked with national monitoring and evaluation teams in Africa to adapt the World Bank's Land Governance Assessment Framework (LGAF) indicators to each country's context (Ghebru 2017). As with the MSP projects, a participatory approach was used to develop the indicators for the MELA project. Stakeholder participation in indicator development helped create a sense of ownership at the national-level and ensured that indicators were locally relevant (Ghebru 2017).

2.3 Training and educational tools

Building capacity among social actors from multiple sectors and levels of governance to conduct research on the drivers and consequences of tenure security and the effectiveness of tenure reform implementation is a key pillar in the theory of change underlying the PIM program's work on tenure. Toward that end, PIM-supported researchers have developed an extensive set of training and educational materials to complement field research and engagement activities. These materials run the gamut from participatory land use and management planning manuals, to step-by-step guides for Peruvian native communities seeking to acquire native community titles, to collective action games.

2.4 Political economy analysis: Identifying winners and losers in tenure reform

The political economy of a country or region greatly influences how the costs and benefits of tenure reforms are distributed (Resnick 2021). Political economy analysis can help researchers and policy makers identify the potential winners and losers of particular political choices and assess how those choices are likely to affect development interventions. Political economy analyses are thus useful for: (1) assessing the feasibility of policy reforms or institutional changes, (2) understanding why some reforms are not implemented or have unintended consequences, and (3) identifying leverage points for policy change and the types of support that are needed to enable reform implementation (Resnick 2021).

Using political economy analysis, Suhardiman et al. (2019b) found that within villages in highland areas of Laos, tensions exist between families with long-standing claims to land and relative newcomers who are required to gain access to land through the first-occupant families. These tensions have led to gaps between national and village-level land-use planning objectives. Suhardiman et al. (2019b) argue that

these gaps persist because they benefit local community elites and government officials at multiple levels. At the same time, farmers and communities resist those aspects of national land laws and land-use plans that inhibit their ability to farm upland areas, notably the prohibition on swidden agriculture which jeopardizes their food security.

Monterroso et al. (2017) used a political economy lens to trace the trajectory of reforms affecting land and forest tenure for indigenous peoples in the Peruvian Amazon. By examining the political context underlying regulatory changes and their outcomes, they showed that a number of laws have significantly affected indigenous tenure rights, whether intentionally or not. Rights recognition efforts began in the early 1970s and gained momentum during the 1980s and 1990s as social movements supporting indigenous rights became more influential. However, it wasn't until the late 2000s, after several violent confrontations occurred between government representatives and indigenous peoples, that broad public support emerged for implementing the reforms that strengthened indigenous collective rights, and progress toward native community titling improved.

The Laos and Peru studies illustrate that tenure and governance reforms cannot be achieved solely through changes in law and policy. Analyses of how social actors relate to each other in terms of power and social standing can uncover how proposed reforms are likely to affect more powerful social actors and, if they are negatively affected, whether they are likely to resist or undermine reform implementation. Steps can then be taken to head off resistance or bolster the reforms against attempts to undermine them.

KEY THEMES AND REFLECTIONS

3.1 Roles of different actors

Eight years of PIM-supported research on tenure security and related governance issues has contributed toward deeper understandings of the roles that different social actors play in furthering tenure reforms that expand and secure access to land and resources for rural populations. Table 3 lists just some of the roles that different social actors play in strengthening tenure security. Key takeaways are that developing and implementing reforms that will result in broad-based and equitable gains in tenure security requires engaging a broad array of social actors and negotiating the power imbalances that inevitably exist. Tools such as political economy analysis can usefully be deployed to understand the power dynamics within the action space, identify the motivations of different social actors, and determine who can influence what elements of the tenure and governance system.

3.2 Tenure insecurity and impacts on poverty, food security, and nutrition

Tenure insecurity outcomes found across the studies included social conflict and loss of access to livelihood resources, both of which are likely to negatively affect poverty, nutrition, and food security. As described in Section 2, less secure tenure was associated with lower agricultural productivity (Ghebru and Holden 2015), higher levels of poverty (Ghebru and Holden 2019), and less investment in land conservation measures (Quisumbing and Kumar 2014) in Ethiopia. Less insecure tenure was also associated with poorer nutrition for young children in the Kyrgyz Republic (Kosec and Shemyakina 2019). On the flip side, PIM-supported research in Ethiopia showed that increasing tenure security

Table 3. Social actors and their roles

Social actors	Roles
Community leaders and members	Advocate for (or in some cases against) policy reforms; likely to be more effective when communities join forces to establish user group networks, such as the Federation of Community Forest Users in Nepal (FECOFUN) and Guatemala's ACOFOP (Community Forest Association of Péten) and social movements, such as those initiated by indigenous peoples in Peru and Colombia; communities also carry out land and resource allocation, management and conflict resolution functions
Governments (multiple scales)	Establish new policies and laws that (potentially) strengthen tenure security, reform implementation, backstopping communities as they seek to enforce their rules; service delivery: extension, technical assistance; conflict management and resolution when local systems can't resolve conflicts
Donor agencies	Provide large amounts of funding and technical assistance to governments, NGOs, research institutions, and contractors; place pressure on governments to implement reforms (though in some cases these efforts are misguided); convene national, regional, and international dialogue forums to advance tenure security
Nongovernmental organizations (NGOs) (operating at multiple scales)	Typically function as brokers between national and sub-national governments and rural inhabitants; often function as advocates for (or in some cases against) reforms; invest in social network expansion by linking groups together; provide funding and a variety of services to communities including extension services, conflict resolution and management, legal aid, etc.
Research institutions	Identify gaps in knowledge about tenure systems, develop conceptual and practical tools for advancing knowledge about tenure security; collect and analyze data; develop training, educational materials, and other knowledge products; provide training and opportunities for learning; convene knowledge sharing forums; may function as brokers and network builders linking various social actors with each other
Private sector firms	Provide financing for community forestry in some countries; may advocate for (or in some cases against) reforms; provide support for market-based approaches to strengthening rights (i.e., certification processes for forest products); develop and implement voluntary guidelines for respecting land rights in supply chains

through participatory rangeland management resulted in better ecological conditions, which in turn was associated with improved livestock condition and improved health of community members (Flintan et al. 2019). Likewise, Hellin et al. (2018) reported improvements in food security among farmers in Guatemala following the establishment of a protected area to which the local community had co-management rights. Multistakeholder processes that have reduced conflicts and improved resource management have yielded improved fisheries conditions (e.g. Ratner et al. 2017, 2018), and community-based marine protected areas were found to have better outcomes for fish populations than protected areas managed by national governments, in large part because the former were more effective at rule enforcement (McLain et al. 2018b). Recent work by Larson et al. (2019b) found that agricultural income was higher in communities where collective tenure reforms had been implemented compared with control communities. However, the results for food security were mixed, and reform regimes did not show a statistically significant difference with the control group. However, over all food insecurity was high. Larson et al. concluded that the key lesson for tenure reform is that there is a need to give livelihood considerations greater attention in tenure reforms. Reviewing the evidence on how women's land tenure security can contribute to poverty reduction, Meinzen-Dick et al. (2019) found that women's land rights contributes to empowerment, natural resource management, and food security, but weaker evidence on contributions to access to credit, technology adoption, and agricultural productivity. Overall, the evidence suggests that the relationship between tenure security and poverty alleviation, food security, and nutrition is complex, and further research is needed to better define the relationship between these variables.

3.3 Obstacles to tenure reforms and reform implementation

In section 2, we identified a number of obstacles to tenure reforms and implementation of those reforms. We briefly describe five obstacles that are likely to be encountered in many contexts.

- Powerful elites with entrenched interests in retaining the status quo are arguably the biggest obstacle to tenure reforms in many countries. Possible avenues for shifting the power balance to a point where reforms are possible include supporting the development of social movements and user group networks or convening broad-based policy action-oriented multistakeholder processes modeled after the International Land Coalition's National Engagement Strategy (Ratner et al. 2019).
- It is one thing to develop tenure reform policies and laws, and quite another thing to implement those reforms. Many of the tenure reforms studied were beyond the capacity of national and sub-national governments to implement. This held true for reforms that affected collective tenure as well as those aimed at increasing tenure security and access to individual/household land. This argues for giving greater consideration to "bottom-up" tenure reform approaches that focus on reform from within customary or hybrid systems rather than imposing land administration systems that are both culturally inappropriate and unlikely to be sustained over the long run.
- Gaps often exist between the theory and practice of policy and legal reforms. Existing power imbalances within communities, between communities and government officials, and between different levels and sectors of government, contribute to and exacerbate those gaps. Studies supported by PIM as well as others clearly show that legal and policy changes are insufficient; social norms and bureaucratic cultures also need to be changed, especially if women and indigenous peoples are to benefit from tenure and governance reforms.
- State laws that provide protections for women's rights to land within marriage or consensual unions and equitable inheritance rights for wives and girl children are associated with more favorable outcomes for women's tenure security. However, in many areas customary norms that limit women's land rights still prevail. In such areas, tenure reforms are unlikely to benefit women without accompanying measures, such as legal rights awareness campaigns and women's empowerment programs. Such programs need to also need to include men in

awareness-raising efforts, as well as training in women's rights for judges and others responsible for resolving land disputes in customary tenure systems.

- Economic development policies that favor large-scale conversion of forests to agriculture or plantations are sometimes the most important counterforces challenging the implementation of reforms that favor collective tenure rights to land and forests. When seeking reforms, it is essential to identify policies in sectors outside land administration or natural resources that might have perverse effects on reform implementation, and work toward creating policies that are complementary rather than conflicting. However, given the strong influence that agricultural development interests exert on national economies, harmonizing conflicting sectoral policies is likely to encounter resistance by powerful elites, and strategies aimed at shifting the balance of power in favor of smallholders, forest dwellers, and pastoralists will likely need to be deployed.

Box 2 - University-level forestry curriculum changes (Peru)

PIM5 and the Forestry Department of the National Agrarian University La Molina in Peru partnered on a study of land and forest tenure security of indigenous communities. The outcomes included increased knowledge and greater research capacity of university staff on tenure, gender and indigenous issues. Another important outcome was a change in the Forest Engineer curriculum to include a mandatory social science concentration. The Forestry Department organized a three-day international congress in Lima, in collaboration with CIFOR in June 2018. A lead university researcher reported that participating had led her to change her teaching and add a new course on ethnoecology. Integrating such training into university-level forestry curriculum will have positive long-term consequences for improved land management, as it fills a knowledge and skills gap that has been documented by PIM5 researchers as posing a barrier to native titling reform implementation. Another outcome was that more than 500 community members participated in trainings on tenure rights, and each of the 22 villages participating in the study received a book summarizing the findings from their community. This fills a gap in community-level awareness of their tenure rights.

3.4 Key lessons for effective tenure reform implementation

Long-term partnerships are the keys to uptake: PIM's achievements with respect to enhancing tenure security have come about through long-term, sustained partnerships with national and sub-national governments, civil society, non-governmental organizations, and donor agencies. Implementing reforms that enhance tenure security requires building awareness of the importance of tenure and governance, expanding the number and types of social actors engaged in tenure reform and reform implementation, building trust among that expanding network of partners, and building the capacity of partners so that they are better able to adopt or adapt the tools developed through applied research.

Ongoing engagement and training for multiple actors at multiple scales increases the likelihood of successful reform implementation: The importance of ongoing engagement of and provision of training to a diverse set of social actors operating at multiple scales cannot be over-stressed. Engaging a broad set of social actors will bring diverse perspectives, values, skills, and knowledge to the table, and enhance the likelihood of buy-in at a scale that is sufficiently broad as to increase the likelihood of long-term success.

Training materials and programs in support of reform implementation are likely to be more effective if they are co-produced by researchers working in collaboration with the social actors meant to benefit from them. Box 2 describes an example of what a co-produced training program on tenure, gender, and indigenous issues can look like.

Interventions tailored to local contexts are more likely to have positive tenure outcomes: The individual/household tenure studies found that tenure insecurity tended to concentrate in areas close to cities, in places where there are large populations of in-migrants, and in regions where agriculture has

become commercialized. In more rural areas, where demand for land is relatively low, local tenure systems—whether customary or hybrid systems—appear to be delivering adequate tenure security for many community members. In light of this finding, rights registration efforts might productively focus on areas where land is in high demand. However, given that most African countries lack the capacity to administer land registration programs, particularly at a national scale, it is questionable how much security land certificates will provide in the long run in many areas. An alternative approach that warrants further investigation and testing is the strengthening of existing customary or locally-developed hybrid tenure systems. However, because tenure security is typically much weaker for some groups, notably women, youth, migrants, and pastoralists, mechanisms for improving security for marginalized groups, such as legal aid and empowerment programs and broad-based legal awareness raising initiatives, will need to be integrated into such approaches.

Strengthen private sector connections: Infusing PIM5 research findings among private sector actors has proved challenging, perhaps because researchers' connections with the private sector, particularly large firms or industry associations, are much less strong than with other actors. Given the strong role that private sector actors play in the politics and economics of land and natural resource governance, it is worth investigating approaches for engaging private sector actors in ways that will enhance, rather than undermine, less powerful actors' tenure security and participation in governance. Engagement of the private sector will likely become increasingly important for reform implementation as community forest and rangeland enterprises mature, and the need for private sector investment expands (Gynch et al. 2020).

RESEARCH DIRECTIONS

We suggest three focal areas for tenure security research aimed at informing efforts to achieve Sustainable Development Goals related to natural resource management, food security and nutrition, and poverty alleviation.

1) Investigate when, where, and for whom customary tenure systems provide security for lands held by individuals and households.

Identify and test mechanisms for enhancing the ability of these systems to provide tenure security in ways that are inclusive and equitable. This may require identifying culturally sensitive ways to change social norms, as well as harmonizing key elements of state and customary law.

2) Explore how the structure, composition, and format of decision-making processes of multi-stakeholder platforms influence decisions that affect tenure security.

In these explorations, it will be important to bring to bear tools for identifying entry points to policy reform and reform implementation accountability, such as political economy analysis and participatory prospective analysis (PPA).

3) Invest in transformational socio-ecological research and engagement.

Meeting the SDGs will require implementing restoration projects on a very large scale, as well as the engagement of multiple actors, sectors, and disciplines. What is called for then is a long term investment in research and engagement that emphasizes transdisciplinary approaches. PIM5-support work during 2013-2021 provides several promising models for what such investments might look like on the ground. Model projects include the participatory rangeland management work in Tanzania, Ethiopia, and Tunisia, and the Promise of the Commons initiative in India (see Box 3). Over the long term, these projects have the potential to produce positive ecological outcomes as well as improvements in livelihoods.

Box 3 - Promise of the Commons initiative (India)

PIM5 has built on long-term collaboration between International Food Policy Research Institute (IFPRI) and Foundation for Ecological Security in India to strengthen tenure and governance of the commons. This has been expanded under the Promise of Commons initiative, which seeks to identify ways for expanding the area of common property restored or enhanced in India from 5 million to 20 million acres over five years. The Promise of Commons includes over 80 partner organizations in India, as well as IFPRI, Center for International Forestry Research, World Agroforestry Centre, Bioversity International, and International Livestock Research Institute, as well as collaboration with The CGIAR Research . In addition to helping communities to secure rights to the commons, the Initiative draws on PIM-supported guidance on inclusive facilitation processes, multistakeholder platforms, and use of resources management games as tools for experiential learning, which have been developed by PIM and the CGIAR Research Program on Policies, Institutions, and Markets.

CONCLUSION

Research supported through PIM's Flagship 5 has added substantively to the body of scientific knowledge about tenure and governance. Importantly, it has also helped advance policy reforms that improve access and tenure security of land and natural resources, promoted more inclusive and equitable decision making, and supported more equitable and sustainable use of resources in Africa, Latin America and Asia. It has accomplished this by strengthening the capacity of and empowering a variety of actors, including government, donors, civil society organizations, nongovernmental organizations, community authorities and community members, to engage in tenure and governance research and implementation on their own. The body of knowledge about tenure systems, and particularly about when and how tenure rights serve as incentives (or disincentives) to investment in conservation practices, developed through PIM-supported applied research and engagement between 2013 and 2021 is invaluable in contexts where scaling out of conservation practices over large areas is of paramount importance. This will be particularly important for initiatives such as Forest Landscape Restoration, which require collaboration between multiple actors and sectors operating at multiple governance and ecological scales.

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