

## TENURE Policy Research on Resources, Rights, and Equity

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### Key messages

- Secure tenure of land and natural resources is critical to ensuring the equitable, efficient, and sustainable production of food and resilient rural livelihoods.
- Over the past 50 years, research on land tenure and property rights has evolved substantially, deepening our understanding of the importance of resource tenure and of the range of tenure forms across societies, resources, and time.
- Tenure-related studies applying a diversity of disciplines and methods have shown the variety of tenure arrangements, relationships between tenure and behavior, and the effects of reforms.
- Research has highlighted the complex linkages between tenure security and governance, provided insights into the effects of tenure formalization and individualization, and contributed to devolution programs that transfer rights and responsibility over natural resources from the state to user groups.

- Both research and social movements continue to stress the importance of equity of property rights, including gender equality as well as the rights of Indigenous Peoples, minority ethnic groups, and other marginalized local communities, over natural resources.

Moving forward, research on land tenure and property rights should examine key decisive and structural factors that impede tenure security:

- **Rights for the socially marginalized.** Identify how to overcome impediments to tenure security for ethnic minorities, women, youth, and other marginalized groups, including through the use of disaggregated data to assess indicators, patterns of tenure (in)security and its consequences, and changes over time.
- **Rights and tenure across resources.** Determine the best ways to secure rights for water, minerals, and ecosystem services, as well as tenure across resource systems, including through research on existing mechanisms for collective action, promising innovations to overcome injustices, and new ways to conceptualize and operationalize tenure that stress linkages across resources.
- **Tenure under structural transformation of economies.** Examine how structural transformations, such as urbanization and livelihood diversification, affect tenure and its governance to identify threats and opportunities for equitable transitions, particularly in peri-urban areas and urban food systems.
- **Research to support action.** Identify opportunities for reciprocal collaboration and partnerships, including across disciplines, to ensure that research addresses key issues, yields comprehensive information, and is shared with relevant audiences.

**S**ecure tenure of land and natural resources is critical for ensuring equitable, efficient, and sustainable production of food and resilient rural livelihoods. Research on the importance of tenure of land and related natural resources has a long history in development research and policy. Over the past 50 years, IFPRI and other researchers and practitioners have engaged with diverse field contexts to expand our understanding of the different dimensions of tenure and of its role in food policy, rural development, land stewardship, natural resource governance, empowerment, and equity across different social groups.

In this chapter, we review foundational concepts and key lessons from research on tenure, before identifying priorities for further study, policy, and practice. Our focus is on low- and middle-income countries (LMICs).

## Foundational concepts

*Tenure* refers to the institutional relationships, defined through law or custom, related to natural resources. It determines who can use the resource, for how long, and under what conditions (FAO 2002), including the rights and obligations of the holders of these resources (Bruce 1998). Land tenure has received the most attention, but tenure concepts also apply to a wider set of resources including water, forests and trees, and marine and mineral resources (Bruns and Meinzen-Dick 2000; Fortmann and Bruce 1988; Meinzen-Dick and Pradhan 2002). *Property rights* over resources are enforceable claims to the benefits from the resources.

*Tenure security* refers to the likelihood that the resource holder's rights will be upheld (Sjaastad and Bromley 2000), including the breadth, duration (time span), and assurance (provability) of resource rights, and freedom from imposition or interference by outside sources (Place et al. 1994). Tenure security enables rights holders to reap the benefits of their investments, either through use or upon transfer to another holder (Chigbu et al. 2017; Place et al. 1994). Resource tenure systems influence decisions about investments (Chigbu et al. 2021; Robinson 2005); those without secure tenure over a resource such as land or trees have less incentive to make long-term investments in the resource because they are not assured that they will reap the returns. For those without long-term tenure, such as renters or women living in contexts where land is considered to belong primarily to men, making long-term investments may be prohibited. In these cases, actions such as planting trees or constructing buildings would be construed as placing too much claim on a resource (Fortmann and Bruce 1988; Fortmann and Rocheleau 1985; Lambrecht and Asare 2016).

Rights do not necessarily imply full ownership and sole authority to use or dispose of a resource. Different individuals, families, groups, and even the state often hold overlapping rights, and the many combinations of these rights are commonly referred to as “bundles of rights.” Rights are often categorized as *use rights*, which include the right to access, withdraw from, or exploit a resource for social and economic benefits, and *control* or *decision-making rights*, including the right to manage, exclude, and alienate (sell, lease, or subdivide) a resource (Meinzen-Dick et al. 2004; Schlager and Ostrom 1992). The complex interrelations between these rights and their holders—which together

constitute a “web of interests”—underscore that resource rights are fundamentally a social construct (Arnold 2007; Hodgson 2004; Meinzen-Dick and Mwangi 2009). It is therefore not only ownership—holding all rights—that matters, but also use and management rights, which influence and affect the sustainability of the resource and the distribution of benefits.

### **Tenure governance**

Rights over resources derive from many overlapping legal frameworks, a situation known as legal pluralism. While this has been widely recognized in the legal and anthropological literature, one of IFPRI’s contributions to understanding tenure has been to bring legal pluralism into economic analyses of policy (Meinzen-Dick and Pradhan 2002). To recognize rights in practice requires considering not only state-issued titles but also claims based on international treaties and law (particularly for Indigenous Peoples), religious law and practices, customary law, rules deriving from projects (for example, specifying who can take products from a forest), and rules made by user groups (especially for water, forests, and rangelands) (see Box 6.1) (Meinzen-Dick and Pradhan 2002). Customary systems consist of the norms, customs, traditions, and practices of a given community, all of which have been inherited from ancestors or developed locally and accepted, reinterpreted, developed, and enforced by local ethnic or Indigenous groups to govern local resource access and use (Alden Wily 2011).

The coexistence of these types of law does not mean that all are equal: each is only as strong as the institution that stands behind it, and that strength is contextual. State law is often strongest in urban areas, while the ability of the state to enforce rights or regulations in remote areas is often limited, and customary institutions may be stronger (Meinzen-Dick and Pradhan 2002). The response of citizens to these laws affects the success or failure of their implementation. The coexistence of customary, religious, and statutory arrangements is a prevalent feature of land tenure (von Benda-Beckmann and Turner 2018). For example, in Africa as much as 70 percent of the continent’s land is considered customary collective property, but less than 10 percent of this customary property is formally recognized in law (RRI 2023). This implies that the majority of the land under customary systems depends on social recognition.

### **Importance of tenure security and governance**

The complex linkages between tenure security and governance are illustrated in Figure 6.1, a framework used by the IFPRI-led CGIAR System-wide

### **BOX 6.1 Indigenous tenure governance**

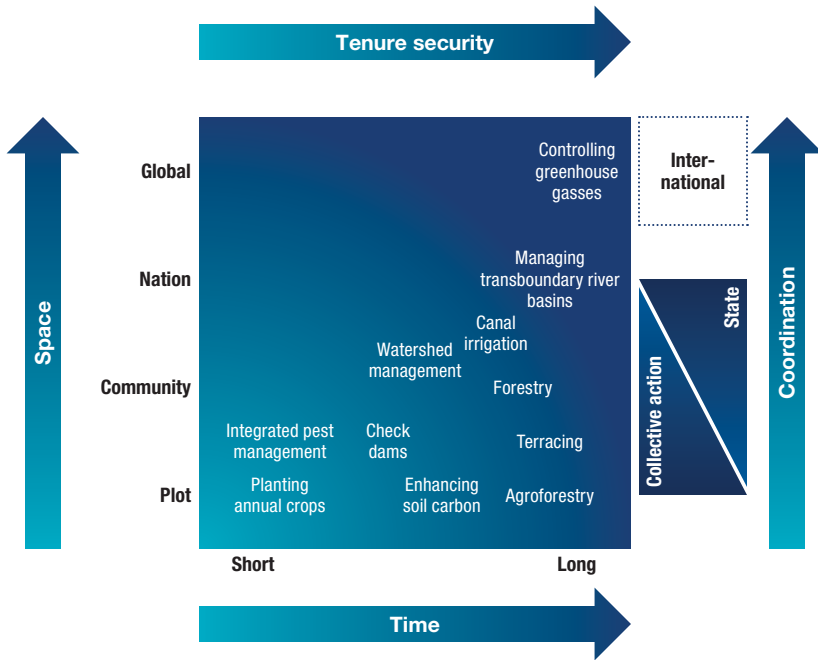
Collective rights are essential to the tenure governance systems of Indigenous Peoples (ILO Convention 169, Part II, Arts. 13–19). The concept of territory, rather than land, is often used in Indigenous claims over resources. *Territory* refers to timber and nontimber forest products, as well as other ecosystem goods and services generated at the territorial level, including intangible ones such as carbon sequestration and traditional knowledge. Territorial concepts are contrary to the compartmentalization of rights, an approach that is promoted through the formalization of land rights, among other means (Monterosso, Cronkleton, and Larson 2019).

*Indigenous commons* refers both to resources claimed or held in possession by Indigenous Peoples at the territorial level, as well as the set of rules, including customary or traditional institutional arrangements, that promote collective action and define resource access, use, and control (Monterosso, Cronkleton, and Larson 2019). The state may or may not be recognized by these systems. Although governments claim ownership over water bodies and subterranean oil and mineral resources, Indigenous Peoples by custom consider these resources to be an integral part of their territories. Globally, communities and Indigenous Peoples are estimated to hold as much as 65 percent of all available land under customary tenure, but only 18 percent of this land has been formally recognized either as owned or designated for use by these groups (RRI 2023).

Program on Collective Action and Property Rights (CAPRI) to demonstrate the importance of tenure and governance institutions (Knox et al. 2002; Meinzen-Dick and Di Gregorio 2004). Time is mapped on the horizontal axis, from short term (within a season) to long term (decades or generations), and space on the vertical axis, spanning from a farm plot to a community, nation, or even global scale. This relational matrix has been widely used to consider whether tenure security or governance arrangements are likely to be important for the successful adoption of particular agricultural or natural resource management practices.

Practices such as planting a single plot with annual crops that give returns within a season are relatively straightforward, but those with longer time horizons or larger spatial scale, such as enhancing soil carbon or agroforestry, are more likely to be affected by tenure. Integrated pest management provides returns within a season but must be implemented across multiple farms. Thus, tenure security may not be a constraint, but coordination with other farmers is required. Practices like terracing, canal irrigation, watershed management,

**FIGURE 6.1** Role of tenure security and coordination in agricultural and natural resource management practices



**Source:** Modified from Meinzen-Dick and Di Gregorio (2004).

**Note:** Placement of particular practices on this graph is illustrative. Where any particular practice (such as canal irrigation) would be placed depends on the investment required and scale relative to individual farms and communities.

or forestry are likely to require attention to coordination as well as to tenure. Coordination functions can be conducted through collective action, especially at more localized levels, or by the state, especially at higher levels, or through some form of co-management. Because many of the practices associated with sustainable resource management have long time horizons, large spatial scale, or both, tenure security and coordination are key for sustainability.

## Tenure research: Evolution and impacts

Research on land tenure and property rights, along with policies and practices, has evolved substantially over the past half-century. Tenure-related studies have benefited from a diversity of disciplines and methods, which have shown the variety of tenure arrangements, relationships between tenure and behavior, and the effects of reforms. Many impact assessments have emphasized

causal findings from quantitative studies, such as randomized allocation or regression discontinuity of pilot programs. Yet, broader observational studies and qualitative methods have been equally key to understanding the nature of tenure and how it affects behavior.<sup>1</sup> Ethnographic and qualitative research at IFPRI has identified the diversity of local concepts, tenure arrangements, and changes over time; these, in turn, have helped to shape survey questions that are meaningful in local contexts, capturing nuances of gendered tenure, and also have some comparability across sites (Awanyo 2009; Lambrecht et al. 2023; Pradhan et al. 2019). There is an iterative process linking conceptual and empirical work, with conceptual frameworks providing guidance on what to look for or how to interpret empirical findings, while findings from the field challenge and inform frameworks for understanding tenure arrangements. For example, the application of a conceptual framework commissioned by the Research Consortium on Women's Land Rights (Doss and Meinzen-Dick 2020) showed that forest and land reforms in Indonesia, Peru, and Uganda led to important progress for women's tenure security in those countries (Monterroso, Larson et al. 2019).

### **Formalization and individualization of land tenure**

The evolutionary theory of land rights posits that with growing population pressures and market integration, land rights will evolve toward individualization and demand will increase for more formal tenure (Alchian and Demsetz 1973; Boserup 1965; Platteau 1996). Evidence from studies in Africa and Asia supports this theory, with findings showing that population increases led to the conversion of land to agriculture and individualization of rights under customary tenure systems (Otsuka and Place 2001). In these cases, the loss of forests and woodlands was partially offset by investments in tree crops and other agroforestry systems, which were facilitated by evolving tenure systems. Numerous land reforms have been piloted or scaled up to enhance individualization and formalization of property rights. Advocates have argued that individualization of land rights incentivizes production, while formalization provides greater assurance to rights holders, permits land to be used as collateral for credit, and allows rights holders to realize gains in land value by selling or leasing the land (De Soto 2000; Feder and Feeny 1991). At the end of the 1970s and early 1980s, property rights reforms in China and Viet Nam, moving from collective to individual land rights, were indeed associated with large

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1 For example, see de la O Campos et al. (2015), Kilic et al. (2020), Lambrecht et al. (2023), and Lambrecht and Asare (2016).

increases in agricultural productivity and widespread reduction in rural poverty (Rozell and Swinnen 2004). As a result, China's reforms have been heralded as "the biggest antipoverty program the world has ever seen" (McMillan 2003, 94).

Inevitably, there are limitations to such reforms, and in some contexts, they come with important trade-offs between equity and efficiency. Agricultural decollectivization efforts across former Soviet states were not equally successful, demonstrating the importance of the macroeconomic and enabling environment for materializing gains of individualization (see Chapter 20 on Central Asia) (Dudwick et al. 2007; Rozelle and Swinnen 2004). In Latin America, the formalization of rights has been central to discussions of agrarian reform and, more recently, in debates on the nationalization of subsoil resources and on regulation of water systems (Monterroso, Cronkleton, and Larson 2019). Some contend that applying Western legal concepts of formalization and privatization has negatively affected rights holders, including through elite capture benefiting the rich and powerful, the exclusion of women and Indigenous groups, and disruption of customary governance and land management systems.<sup>2</sup> The African Union Framework and Guidelines on Land Policy, for instance, notes the need to decolonize Western-centric land policy to improve Africa-focused tenure, based on local realities in the continent (AU et al. 2010). In Nicaragua and the Philippines, conflicts emerged from the formalization of Indigenous claims over their ancestral lands (Larson et al. 2015).

While it is beyond the scope of this chapter to summarize the growing literature on the impacts of land formalization, systematic reviews of quantitative and qualitative research offer insights into the effects of tenure interventions on productivity, income, investments, and well-being. A systematic review of 20 quantitative and 9 qualitative studies on land tenure certification interventions found substantial effects on productivity and income. These effects resulted from increased tenure security, rather than credit access; and impacts were stronger in Latin America and Asia than in Africa. Despite these positive effects, the qualitative studies revealed concerns over displacement, perceived insecurity, social conflict, and gender inequality (Dwyer 2015; Lawry et al. 2017). Another systematic review of 36 quantitative and 23 qualitative studies found strong evidence of investment effects from land tenure security. However, the evidence was less clear on productivity and income

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2 For example, see Benjaminsen et al. (2009), Cousins (2007), Meinzen-Dick and Mwangi (2009), Mwangi (2007), and Sjaastad and Bromley (2000).

effects, which may be related to the time necessary for tenure security to lead to these outcomes or the need for more support beyond tenure reforms (Higgins et al. 2018). The qualitative studies found that formalization programs did not always lead to stronger perceptions of tenure security, as we describe in the case of Myanmar in Box 6.2. In addition, certain groups were excluded, particularly women and poorer households, which was related, in some cases, to discrimination against women by the local land administration and social or financial barriers to women using the land productively.

### **BOX 6.2 Tenure insecurity and ambiguity of registered land in Myanmar**

Land rights in Myanmar have been shaped by different regimes ruling the country, which has resulted in layers of revoked and active laws that sometimes contradict one another (Lambrecht et al. 2024; Mark 2016). Moreover, certain parts of the country are subject to the dual authority of the central government and an ethnic political organization, thus necessitating farmers to navigate—at times opportunistically—competing legal systems and spaces (Suhardiman et al. 2021).

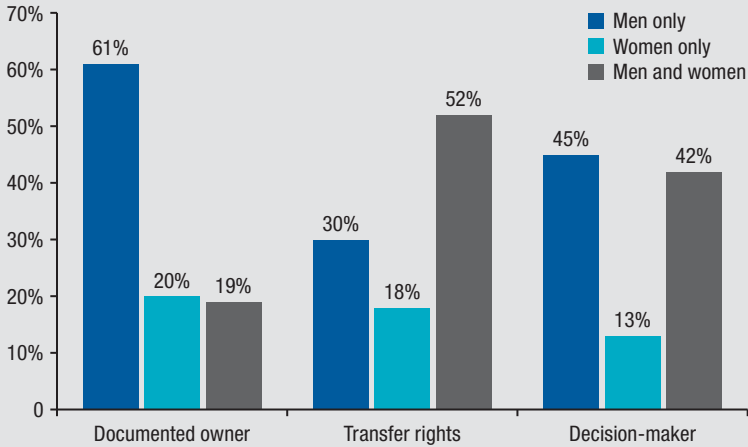
Under Myanmar’s constitution, all land and natural resources are considered state property. Before 2012, individuals were not legally permitted to buy or sell land, even though purchases and sales did occur in practice (Boutry and Allaverdian 2017). The 2012 Farmland Law made purchases, sales, or other forms of transfers of agricultural land parcels possible, provided the owner had a land use certificate for the parcel. Subsequently, Myanmar embarked on a hasty and incomplete effort to register agricultural parcels.

The process of land registration and certification did not unambiguously safeguard tenure security and sometimes stirred land disputes (Boutry and Allaverdian 2017; Oberndorf 2012; Thein et al. 2018). Furthermore, when combined with the Vacant, Fallow and Virgin Land Law, the land certification program provided a renewed legal foundation for widespread land expropriations, often from ethnic minorities or in conflict areas (Suhardiman et al. 2021). Nationwide, farmers held land use certificates for approximately 78 percent of all agricultural parcels. However, in the Hills and Mountain zone, home to most of the ethnic minority groups, only 41 percent of all agricultural parcels had land use certificates (Lambrecht et al. 2024).

IFPRI’s mixed-method research further exposed striking differences between *de jure* and *de facto* property rights within households, showing the importance of understanding legal pluralism in the implementation of reforms. Although at least 80 percent of documented parcels were reported

as registered in the name of one household member (usually a man), perceived transfer rights and decision-making over the land were much more often jointly held by men and women (Figure B6.1) (Lambrecht et al. 2023). Qualitative research showed that respondents usually considered property as jointly owned and prioritized household harmony over individual legal authority (Lambrecht et al. 2023). Future land policy should promote awareness about joint land titling while also implementing supportive measures to facilitate access to services linked to land documentation, and it should ensure tenure security for all ethnic groups.

**FIGURE B6.1** Land use rights (share of parcels)



**Source:** Lambrecht et al. (2023), estimates based on the 2015 Myanmar Poverty and Living Conditions Survey.

In a review of 117 studies estimating the impact of land tenure interventions on a range of human well-being outcomes, 82 percent found at least one positive outcome and 14 percent at least one negative outcome. Additionally, 73 percent of studies estimating environmental effects found positive outcomes and 15 percent negative outcomes (Tseng et al. 2020).

### Common property

While much of the economic literature and policy attention has centered on tenure in smallholder agriculture, there has also been considerable focus on the management of *common property*, that is, resources that are held and

managed collectively. IFPRI and CAPRI research has contributed to this primarily by studying water, rangelands, and forests, as well as by synthesizing lessons across different types of resources.<sup>3</sup> As noted in Figure 6.1, many natural resource management processes take place above the level of an individual farm. Some activities, such as landscape-level terracing to control water flows, can be accomplished through coordination across individual farms, but many others, such as those involving forests, rangelands, or water resources, are frequently managed as common property. In these cases, the use and management rights are vested in a collective, whether a social group, such as a tribe, or a formal organization, such as a forest users' group or water users' association.

Tenure security for these commons depends on how common property is recognized externally, as well as the effectiveness of governance arrangements within the groups in providing assurance that the resource will be shared equitably among members and over time. Organizations such as the International Association for the Study of the Commons and the CAPRI program fostered learning about tenure security across different resources. Studies of water rights highlighted the variable nature of property rights and the importance of identifying many different bases for claims on resources (Bruns and Meinzen-Dick 2000; Meinzen-Dick and Pradhan 2002), principles that also apply to land-based resources. Holding property together was identified as a way to strengthen the collective management of the commons (Coward 1990).

Growing evidence on effective community management of commons (Baland et al. 2007; Ostrom 2015), combined with studies on fiscal constraints and the deficiencies of state-managed common pool resources in the 1990s, led to a range of "devolution" programs that aimed to transfer responsibility over natural resources from the state to user groups. These programs, which spanned different sectors, were variously referred to as irrigation management transfer, joint forest management, fisheries co-management, and devolution of rangeland management. IFPRI contributed to studies of such reforms in irrigation, and the CAPRI program convened comparative analysis across resources (Meinzen-Dick et al. 1999). Many such programs sought to transfer responsibilities for resource management or maintenance from the government to communities, without the corresponding rights. Evidence of

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3 On water, see Bruns and Meinzen-Dick (2005), Bruns et al. (2005), Meinzen-Dick and Pradhan (2002), and Zwartveen and Meinzen-Dick (2001). On rangelands, see McCarthy (2004), Goodhue and McCarthy (2009), and Mwangi (2009). On forests, see Mwangi et al. (2011), and Tachibana and Adhikari (2009). On synthesized lessons, see Meinzen-Dick et al. (1997), Meinzen-Dick and Di Gregorio (2004), Meinzen-Dick et al. (2006), and Otsuka and Place (2001).

the importance of property rights held by communities led to the devolution of these rights from the state to communities (or, in many cases, restitution of rights customarily held by communities, which had been claimed by the state) (Meinzen-Dick et al. 1999). Such devolution programs had mixed success in improving environmental outcomes, highlighting the need to go beyond panaceas for resource governance (Meinzen-Dick 2007; Ostrom 2007) and engage more with the complex processes of adaptive co-management, whereby communities, government agencies, and others with interests in the resource collaboratively plan, negotiate, evaluate, and adapt plans as necessary (see also Chapter 15) (Colfer et al. 2022).

In Latin America, even as land administration projects prioritized the formalization of individual rights and the expanded colonization of large forest lands, social mobilization by Indigenous Peoples and Afro-descendant communities kept important land regions under collective tenure (Monterroso, Cronkleton, and Larson 2019). A large proportion of national territory has been formally recognized as either designated for or owned by Indigenous groups and local communities in Mexico (52 percent), Peru (35 percent), Colombia (34 percent), Brazil (23 percent), and Nicaragua (28 percent) (RRI 2023). Reforms in land and forest policy triggered changes in regulations, which redefined tenure rights to increase community access to Indigenous and traditional commons, especially forested regions, that had previously been claimed by governments (Ortega 2004). The modes of transfer and types of rights granted vary, from collective land and territorial titling to co-management schemes and concession contracts that recognize lesser or temporary rights (RRI 2023).

## **Equity**

While issues of efficiency of resource use and investment have been prominent in the literature on private property, and sustainability of resource management prominent in the literature on the commons, there has been major interest in equity of property rights across both bodies of work. In addition to gender equity in resource rights, a key aspect of equity relates to the rights over natural resources of Indigenous Peoples, minority ethnic groups, and other marginalized local communities over natural resources. Social equity concerns, historical justice, and potential equity–efficiency trade-offs were key considerations in the political economy of Asian land reforms and property rights reforms initiated in former communist regimes (Otsuka 2007; Swinnen 1999).

Distributional issues of land policy reached another critical point after large-scale biofuel production and the 2007–2008 world food price crisis

triggered interest in land acquisitions for agriculture. Multinational companies and sovereign wealth funds of countries dependent on large-scale food imports, as well as national elites who saw opportunities for profit (Borras et al. 2010, 2011; Jayne et al. 2016; von Braun and Meinzen-Dick 2009), sought to purchase or lease large tracts of land formally under government ownership. These outside investors—whether international or national elites—often promised to invest in improving the productivity of seemingly unused land with corresponding water resources. In most cases, the land targeted was under customary tenure and used by local communities in a variety of ways. Protests by civil society organizations and studies of large-scale land deals indicated that in many cases, the investors did not engage in full consultations and obtain the consent of communities, or they failed to carry through with their promised investments and did not ultimately yield higher productivity or profits than previous land uses.<sup>4</sup> Indigenous Peoples, ethnic minorities, and women were particularly likely to have been bypassed in any negotiations, thereby losing their customary property rights.

IFPRI was among the first organizations to call for an internationally enforceable code of conduct on large-scale land acquisitions in 2009 (von Braun and Meinzen-Dick 2009). The UN Special Rapporteur for the Right to Food issued a set of core principles and measures to address the human rights challenges of such large-scale land acquisitions (De Schutter 2009). IFPRI and more than 40 other organizations participated in a collaborative research project led by the International Land Coalition, which brought together perspectives from research, civil society, and intergovernmental organizations involved in land policy (Anseeuw 2012). This contributed to several international consultations convened by the Committee on Food Security and other organizations, which ultimately led to the development of the Voluntary Guidelines on the Responsible Governance of Tenure (VGGTs) (FAO 2012) and the Guiding Principles on Large Scale Land Based Investments in Africa (AU et al. 2014). Waning of the global food price crisis and improvements in land governance in a number of countries reduced outside demand for land acquisitions for food and biofuels after 2013. However, because the VGGTs remain voluntary, with limited enforcement, large-scale land acquisitions such as for palm oil production, carbon offsets, and green energy production have continued with inadequate consultation of local communities, and remain a serious threat to tenure security, especially for community lands (IPES-Food 2024; Lay et al. 2024).

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<sup>4</sup> Examples include Behrman et al. (2012), Cotula et al. (2009), Nnoko-Mewanu (2016), Schoneveld et al. (2011); and Wisborg (2014).

## INDIGENOUS PEOPLES

A key aspect of equity relates to the resource rights of Indigenous Peoples, minority ethnic groups, and other marginalized local communities. The 2007 UN Declaration on the Rights of Indigenous Peoples states that the collective right “to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired constitute(s) the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world” and requires the free, prior, and informed consent (FPIC) of Indigenous Peoples for any actions that would affect their lands, territories, or rights. Nevertheless, because the majority of Indigenous lands and territories are not formally recognized by the state (RRI 2023), and the customs of ethnic minorities differ from majority ethnic groups in their country, these resources are particularly vulnerable to expropriation, and the process of obtaining formal recognition of collective lands is more challenging than for companies to acquire formal rights over such lands (Notess et al. 2018).

## WOMEN

Providing property rights at the household level is not enough to ensure key development outcomes: women’s rights to land and other assets are important for many of these outcomes, including women’s empowerment, technology adoption, government services, consumption, and food security.<sup>5</sup> Yet women often face barriers to tenure security, including from both customary and official norms and practices, such as inheritance regimes.<sup>6</sup> IFPRI research has played an important part in highlighting limitations on women’s land and resource rights, and it has also been critical in countering misleading narratives—such as that women own only 1, 2, or 5 percent of the land in LMICs (Doss et al. 2014; Doss et al. 2015)—and in providing more nuanced understandings of women’s land rights across the life cycle (Lambrecht 2016; Pradhan et al. 2019).

While many formalization programs excluded women and marginalized groups (Askew and Odgaard 2019; Joireman 2008; Lastarria-Cornhiel 1997), several governments leveraged their formalization reforms to enhance equity, especially gender equality, and redress gender-discriminatory customs (Aldashev et al. 2012; Deere and Leon 2003). Well-known examples include Rwanda’s land tenure regularization and Ethiopia’s first-level land registration,

5 For the range of this work, see Agarwal (1994), Doss 2006; Haddad et al. (1997), Meinzen-Dick et al. (2014), Meinzen-Dick et al. (2019), Panda and Agarwal (2005), Peterman et al. (2011), and Quisumbing and Maluccio (2003).

6 This work includes Lastarria-Cornhiel (1997), Meinzen-Dick et al. (1997), Andersson Djurfeldt (2020), and Morgan et al. (2023).

which endeavored to include women in the registration process, such as through ensuring joint registration of husband's and wife's names, along with reforms to the family code that gave women stronger rights.

Impact assessments of Rwanda's pilot program showed mixed results: legally married women had their rights documented and secured, but those in informal marriages experienced an erosion of their rights. Investment in soil conservation increased, especially by female-headed households who previously had been the most tenure insecure (Ayalew Ali et al. 2014; Lawry et al. 2023). Five years after the completion of Rwanda's registration process, however, researchers found an increase in informal land transfers and reductions in equity gains in land rights (Ayalew Ali et al. 2021). These findings indicate significant challenges in sustaining long-term objectives if they are not aligned with local incentives and customs.

In Ethiopia, studies found near-universal registration of land among both male- and female-headed households. Beyond having registered rights, knowledge of land rights affected the adoption of long-term investments in the land (Deininger et al. 2008; Kumar and Quisumbing 2015). Female landholders were more likely to rent out land if they had a certificate and thus had more opportunities to earn income from the land (Holden et al. 2011).

Because legislative reforms alone are often insufficient to secure women's land rights in practice, programs such as community-based legal aid are needed to increase women's knowledge of land rights. IFPRI research showed that the effectiveness of such programs is conditioned by social context (Mueller et al. 2018). In many countries, women's rights to land remain highly contested, especially in cases of divorce or widowhood.

## YOUTH

Land rights for youth is a key issue in countries with high rates of population growth. As people live longer, land inheritance is delayed, especially as compared to decades ago, and unclaimed land is difficult to find outside of sparsely populated areas that are typically unfavorable for cultivation. Increasing land values make it difficult for young people to buy land, and as a result, many youth migrate out of rural areas (Amare et al. 2024; Kosec et al. 2018). As this challenge has received more attention, there has been keen interest in understanding how rental markets—which require much less capital—can provide youth with access to land, while still protecting the rights of the elderly, such as widows who depend on the land for their livelihoods. Studies in Africa show rental markets can transfer land from land-rich households to land-poor households, but the extent to which youth benefit is mixed,

depending on transaction costs and the security of tenure for land owners (Deininger et al. 2017; Jin and Jayne 2013; Ricker-Gilbert and Chamberlin 2018). However, providing long-term security for tenants remain an issue that must be addressed to ensure investments in land's long-term sustainability.

## **Looking ahead**

Given the social, economic, and political importance of land and resource tenure, there is a continuing need for research on tenure formalization, management of the commons, efficiency, and equity, among other topics. As IFPRI's work advances, there is a need to address persistent and emerging questions that can provide research-informed policy solutions for reducing poverty and hunger in developing countries. A fundamental research question remains: What are decisive and structural factors that impede tenure security? This leads to four more specific questions: How can we overcome the impediments to tenure security for the socially marginalized? What are the best ways to secure tenure beyond land, and across other resources? How can tenure be governed in an environment undergoing a structural transformation of economies and/or governance modalities, such as decentralization? Last, what opportunities exist for research to support action? We highlight select issues that address these questions and merit additional attention.

## **Securing rights for the socially marginalized**

While research has shown the importance of tenure security for ethnic minorities, women, and youth—as well as highlighting the many normative and structural factors that restrict their control over land and other resources—there is an ongoing need for evidence on how to overcome these barriers and provide secure rights for these groups. For women and youth, this requires attention to inheritance systems as well as land. Closer attention to personal and structural conditions, both formal and informal, can improve our understanding of additional transformative approaches needed to accompany legal tenure reforms (Morgan et al. 2023). The inclusion of a module on property rights, documentation, and tenure security for land and dwellings in the Women's Empowerment Metric for National Statistical Systems (WEMNS) developed by IFPRI will allow for disaggregating these measures by gender, age, and ethnicity, as well as linking them to agricultural or other data on outcomes as this module is rolled out in nationally representative surveys (Seymour et al. 2024). Such data will be valuable for identifying indicators, patterns of land tenure (in)security and its consequences, as well as changes over time or in response to reforms.

## Rights and tenure across resources

**Water rights.** Water rights can be subject to many types of competing interests: rivers that span countries and regions can put upstream users in conflict with downstream users, aquifers can set current users against future users, and wherever water scarcity is felt, farmers compete with other users. Climate change increases the difficulty in predicting and securing water supplies. These competing interests in water create challenges for governance, from the local to the global level, to develop and enforce policies and regulations, with continual review and revision necessary as water resources change over time (see also Chapter 5). The unique characteristics of water as fugitive, shared, and vital to life make it problematic to apply conventional (land-based) concepts of property rights, but there is growing policy interest in how to secure water tenure as a basis for both equity and investment (FAO 2002). This calls for detailed research documenting existing water tenure and collective action mechanisms, as well as action research with governments and communities to adapt water tenure to strengthen security and equity (Hodgson et al. 2024).

**Mineral rights.** Mineral rights have often been claimed by the state or separated from land rights. Power differentials between mining companies and communities, along with environmental degradation, cause conflicts in many countries. Such tensions are increasing as demand and support for the transition to renewable energy lead to more extraction of key minerals. Pressure to secure access to deposits of these often rare minerals has also sparked concerns over new waves of land displacement. Many of these deposits are found in Indigenous Peoples' territories, with a global inventory of energy transition minerals finding that 54 percent of projects are located on or near Indigenous Peoples' lands (Owen et al. 2022). Political economy research on the processes of negotiation and implementation (or cancellation) of such mining projects can help address the power dynamics in negotiations and FPIC processes, as well as identify promising innovations to overcome injustices.

**Rights to ecosystem services.** Climate change and biodiversity loss have turned attention to ecosystem services. The rising use of payment for ecosystem services (PES) as an incentive mechanism to encourage carbon sequestration or biodiversity conservation creates both opportunities and risks, especially for communities in forests or areas of high biodiversity. Legal frameworks are needed to determine how such remunerations can be shared. Currently, communities without recognized land ownership are often bypassed by PES mechanisms; those who do participate often must forfeit their local management rights to comply with external regulations. A review of 31 LMIC countries found that carbon rights are explicitly defined

in 9 countries, but only 3 recognize community rights to carbon on collective lands (RRI 2021). Collaborative research on mechanisms to recognize and reward local stewardship of commons and other lands with high ecosystem services (Sandhu et al. 2023), as is being conducted in India under the Promise of Commons initiative, can help shape new PES mechanisms that are more equitable and effective (Lawry 2024).

**Tenure across resource systems.** Although most tenure-related reforms have been carried out separately for agricultural lands, forests, rangelands, marine resources, fisheries, and water, the biophysical and social interconnections among these systems call for better understanding of tenure across resources. Concepts of community territorial governance and landscape management may help overcome resource compartmentalization. Collaborative research with Indigenous groups may provide new ways to conceptualize and operationalize tenure that stress linkages across resources—and users.

### **Tenure under structural transformation of economies**

While agricultural land and associated natural resources continue to be central to rural livelihoods, urbanization and diversification of livelihoods change tenure relationships. Alternative employment opportunities can reduce dependence on farmland and resources. Rising land values near cities and roads can create opportunities for those with secure tenure to profit, but they also create potential for “land grabs” and displacement for those without secure, documented tenure and knowledge of the formal legal system. Empirical research on these processes is needed to identify threats and opportunities for equitable transitions, particularly in peri-urban areas and in urban food systems.

### **Opportunities for research to support action**

Research has made many valuable contributions to tenure policy, programs, and investments, as well as to action by civil society. Key examples include research by IFPRI and others on the importance of women’s land rights leading to advocacy by women’s organizations and more policy provisions for women’s land rights; research on large-scale land acquisitions harming communities with customary rights that informs processes leading to the formulation and implementation of international and national policies on land acquisitions; and research on the importance of collective tenure leading to innovations in securing pastoralists’ and communities’ tenure (Knight et al. 2012; Sulle 2021). Some of these achievements were enabled by planned coordination and collaboration among researchers and policymakers, donors, and civil society groups, such as at the annual Land Conference hosted by

the World Bank, the International Land Coalition, and the African Union Land Policy Center. Given the central role of resource tenure in agricultural performance, environmental management, gender equality, and livelihoods for youth, reciprocal communication and ongoing partnerships are needed between researchers and practitioners to ensure that research addresses key issues and is shared with relevant audiences. Partnerships with governments, donors, project implementers, and civil society can increase the relevance and uptake of research findings, but researchers need to remain reflexive about their positionality in the research.

Greater collaboration between different disciplines would yield more-comprehensive information for decision-makers. These efforts should combine qualitative studies with analyses based on surveys, remote sensing, and administrative data, with samples suitable for causal impact assessments, as well as legal analysis and political economy research to address power issues (see Chapter 15).

Competition over land and water resources is a source of conflict, and conflict can increase tenure insecurity by displacing populations and destroying official records as well as social histories of tenure (Ratner et al. 2013). Thus, including tenure assessments and addressing resource conflicts can play an important role in action research on fragile and conflict-affected contexts (see Chapter 13) (Bruch et al. 2016; Ratner et al. 2017).

The past 50 years of research have deepened our understanding of the importance of resource tenure and broadened our understanding of the range of tenure forms across societies, resources, and time. The fundamental importance of resource tenure for economic development, environmental sustainability, equity, and identity calls for continued research and innovation in this field.

## References

- Agarwal, B. 1994. *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge, UK: Cambridge University Press.
- Alchian, A., and H. Demsetz. 1973. "The Property Right Paradigm." *Journal of Economic History* 33 (1): 16–27.
- Aldashev, G., I. Chaara, J-P. Platteau, and Z. Wahhaj. 2012. "Using the Law to Change the Custom." *Journal of Development Economics* 97 (2): 182–200.
- Alden Wily, L. 2011. *The Tragedy of Public Lands: Understanding the Fate of the Commons under Global Commercial Pressure*. Rome: International Land Coalition.

- Amare, M., H. Ghebru, G. Mavrotas, and A. Ogunniyi. 2024. "The Role of Land Inheritance in Youth Migration and Employment Choices: Evidence from Rural Nigeria." *European Journal of Development Research* 36 (1): 135–160.
- Andersson Djurfeldt, A. 2020. "Gendered Land Rights, Legal Reform and Social Norms in the Context of Land Fragmentation: A Review of the Literature for Kenya, Rwanda and Uganda." *Land Use Policy* 90: 104305.
- Anseeuw, W., L. Alden Wily, L. Cotula, and M. Taylor. 2012. *Land Rights and the Rush for Land. Findings of the Global Commercial Pressures on Land Research Project*. Rome: International Land Coalition.
- Arnold, C.A. 2007. "The Reconstitution of Property: Property as a Web of Interests." *Harvard Environmental Law Review* 26 (2).
- Askw, K., and R. Odgaard. 2019. "Deeds and Misdeeds: Land Titling and Women's Rights in Tanzania." *New Left Review* 118: 68–85.
- AU (African Union), AfDB (African Development Bank), and UNECA (Economic Commission for Africa). 2010. *Framework and Guidelines on Land Policy in Africa*. Addis Ababa: AUC-ECA-AfDB Consortium.
- AU, AfDB, and UNECA. 2014. *Guiding Principles on Large Scale Land Based Investments in Africa*. Addis Ababa: UNECA.
- Awanyo, L. 2009. "Exploring the Connections: Land Tenure, Social Identities, and Agrobiodiversity Practices in Ghana." *Geografiska Annaler: Series B, Human Geography* 91 (2): 137–155.
- Ayalew Ali, D., K. Deininger, and M. Goldstein. 2014. "Environmental and Gender Impacts of Land Tenure Regularization in Africa: Pilot Evidence from Rwanda." *Journal of Development Economics* 110: 262–275.
- Ayalew Ali, D., K. Deininger, G. Mahofa, and R. Nyakulama. 2021. "Sustaining Land Registration Benefits by Addressing the Challenges of Reversion to Informality in Rwanda." *Land Use Policy* 110: 104317.
- Baland, J.-M., J.-P. Platteau, and M. Olson. 2007. *Halting Degradation of Natural Resources: Is There a Role for Rural Communities?* Rome: Food and Agriculture Organization of the United Nations.
- Behrman, J., R. Meinzen-Dick, and A. Quisumbing. 2012. "The Gender Implications of Large-Scale Land Deals." *Journal of Peasant Studies* 39 (1): 49–79.
- Benjaminsen, T.A., S. Holden, C. Lund, and E. Sjaastad. 2009. "Formalisation of Land Rights: Some Empirical Evidence from Mali, Niger and South Africa." *Land Use Policy* 26 (1): 28–35.
- Borras, S.M., R. Hall, I. Scoones, B. White, and W. Wolford. 2011. "Towards a Better Understanding of Global Land Grabbing: An Editorial Introduction." *Journal of Peasant Studies* 38 (2): 209–216.

- Borras, S.M., P. McMichael, and I. Scoones. 2010. "The Politics of Biofuels, Land and Agrarian Change: Editors' Introduction." *Journal of Peasant Studies* 37 (4): 575–592.
- Boserup, E. 1965. *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure*. London: George Allen and Unwin.
- Boutry, M., and C. Allaverdian. 2017. *Land Tenure in Rural Lowland Myanmar: From Historical Perspectives to Contemporary Realities in the Dry Zone and the Delta*. Of Lives and Land Myanmar Series. Nogent sur Marnes, France: GRET.
- Bruce, J.W. 1988. *Review of Tenure Terminology*. Tenure Brief 1. Madison, WI: University of Wisconsin Land Tenure Center.
- Bruch, C., C. Muffett, S. Nichols, eds. 2016. *Governance, Natural Resources and Post-Conflict Peacebuilding*. New York: Routledge.
- Bruns, B., and R. Meinzen-Dick, eds. 2000. *Negotiating Water Rights*. London: Intermediate Technology Press.
- Bruns, B., C. Ringler, and R.S. Meinzen-Dick, eds. 2005. *Water Rights Reform: Lessons for Institutional Design*. Washington, DC: IFPRI.
- Chigbu, U.E., M.R. Mabakeng, and A. Chilombo. 2021. "Strengthening Tenure and Resource Rights for Land Restoration." UNCCD Global Land Outlook Working Paper. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany.
- Chigbu, U.E., A. Schopf, W.T. de Vries, F. Masum, S. Mabikke, D. Antonio, and J. Espinoza. 2017. "Combining Land-Use Planning and Tenure Security: A Tenure Responsive Land-Use Planning Approach for Developing Countries." *Journal of Environmental Planning and Management* 60 (9): 1622–1639.
- Colfer, C.J.P., R. Prabhu, and A.M. Larson, eds. 2022. *Adaptive Collaborative Management in Forest Landscapes: Villagers, Bureaucrats and Civil Society*. Abingdon, UK: Taylor & Francis.
- Cotula, L., S. Vermeulen, R. Leonard, and J. Keeley, eds. 2009. *Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa*. London: International Institute for Environment and Development.
- Cousins, B. 2007. "More Than Socially Embedded: The Distinctive Character of 'Communal Tenure' Regimes in South Africa and Its Implications for Land Policy." *Journal of Agrarian Change* 7 (3): 281–315.
- Coward, E. 1990. "Property Rights and Network Order: The Case of Irrigation Works in the Western Himalayas." *Human Organization* 49 (1): 78–88.
- Deere, C.D., and M. Leon. 2003. "The Gender Asset Gap: Land in Latin America." *World Development* 31 (6): 925–947.

- Deininger, K., D. Ayalew Ali, S. Holden, and J. Zevenbergen. 2008. "Rural Land Certification in Ethiopia: Process, Initial Impact, and Implications for Other African Countries." *World Development* 36 (10): 1786–1812.
- Deininger, K., S. Savastano, and F. Xia. 2017. "Smallholders' Land Access in Sub-Saharan Africa: A New Landscape?" *Food Policy* 67: 78–92.
- de la O Campos, A.P., N. Warring, C. Brunelli, C. Doss, and C. Kieran. 2015. *Gender and Land Statistics: Recent Developments in FAO's Gender and Land Rights Database*. Rome: FAO.
- De Schutter, O. 2009. *Large-Scale Land Acquisitions and Leases: A Set of Core Principles and Measures to Address the Human Rights Challenge*. Geneva: Office of the United Nations High Commissioner for Human Rights.
- De Soto, H. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. New York: Basic Books.
- Doss, C. 2006. "The Effects of Intrahousehold Property Ownership on Expenditure Patterns in Ghana." *Journal of African Economies* 15 (1): 149–180.
- Doss, C., C. Kovarik, A. Peterman, A. Quisumbing, and M. van den Bold. 2015. "Gender Inequalities in Ownership and Control of Land in Africa: Myth and Reality." *Agricultural Economics* 46 (3): 403–434.
- Doss, C., and R.S. Meinzen-Dick. 2020. "Land Tenure Security for Women: A Conceptual Framework." *Land Use Policy* 99: 105080.
- Doss, C., R.S. Meinzen-Dick, and A. Bomuhangi. 2014. "Who Owns the Land? Perspectives from Rural Ugandans and Implications for Large-Scale Land Acquisitions." *Feminist Economics* 20 (1): 76–100.
- Dudwick, N., K. Fock, and D. Sedik. 2007. "Land Reform and Farm Restructuring in Transition Countries: The Experience of Bulgaria, Moldova, Azerbaijan, and Kazakhstan." World Bank Working Papers. World Bank, Washington, DC.
- Dwyer, M.B. 2015. "The Formalization Fix? Land Titling, Land Concessions and the Politics of Spatial Transparency in Cambodia." *Journal of Peasant Studies* 42 (5): 903–928.
- FAO (Food and Agriculture Organization of the United Nations). 2002. *Land Tenure and Rural Development*. FAO Land Tenure Series 3. Rome.
- FAO. 2012. *Voluntary Guidelines on the Responsible Governance of Tenure of Land Fisheries and Forests in the Context of National Food Security*. Rome.
- Feder, G., and D. Feeny. 1991. "Land Tenure and Property Rights: Theory and Implications for Development Policy." *World Bank Economic Review* 5 (1): 135–153.
- Fortmann, L., and J.W. Bruce. 1988. *Whose Trees? Proprietary Dimensions of Forestry*. Boulder, CO: Westview Press.

- Fortmann, L., and D. Rocheleau. 1985. *Women and Agroforestry: Four Myths and Three Case Studies*. Nairobi: International Centre for Research on Agroforestry (ICRAF).
- Goodhue, R.E., and N. McCarthy. 2009. "Traditional Property Rights, Common Property, and Mobility in Semi-Arid African Pastoralist Systems." *Environment and Development Economics* 14 (1): 29–50.
- Haddad, L.J., J. Hoddinott, and H. Alderman, eds. 1997. *Intrahousehold Resource Allocation in Developing Countries: Models, Methods, and Policy*. Baltimore: Johns Hopkins University.
- Higgins, D., T. Balint, H. Livingsage, and P. Winters. 2018. "Investigating the Impacts of Increased Rural Land Tenure Security: A Systematic Review of the Evidence." *Journal of Rural Studies* 61: 34–62.
- Hodgson, S. 2004. *Land and Water—the Rights Interface*. FAO Legal Papers Online 36. Rome: FAO.
- Hodgson, S., A.-K. Rothe, S. Espinosa Flor, J. Troell, and B. Kiersch. 2024. *Water Tenure Assessment*. Rome: FAO.
- Holden, S.T., K. Deininger, and H. Ghebru. 2011. "Tenure Insecurity, Gender, Low-Cost Land Certification and Land Rental Market Participation in Ethiopia." *Journal of Development Studies* 47 (1): 31–47.
- IPES-Food (International Panel of Experts on Sustainable Food Systems). 2024. *Land Squeeze: What Is Driving Unprecedented Pressures on Global Farmland and What Can Be Done to Achieve Equitable Access to Land?*
- Jayne, T.S., J. Chamberlin, L. Traub, et al. 2016. "Africa's Changing Farm Size Distribution Patterns: The Rise of Medium-Scale Farms." *Agricultural Economics* 47 (S1): 197–214.
- Jin, S., and T.S. Jayne. 2013. "Land Rental Markets in Kenya: Implications for Efficiency, Equity, Household Income, and Poverty." *Land Economics* 89 (2): 246–271.
- Joireman, S.F. 2008. "The Mystery of Capital Formation in Sub-Saharan Africa: Women, Property Rights and Customary Law." *World Development* 36 (7): 1233–1246.
- Kilic, T., C. Doss, and C. Kieran. 2020. "Measuring Ownership, Control, and Use of Assets." World Bank Policy Research Working Paper No. 8146. World Bank, Washington, DC.
- Knight, R.S., J. Adoko, T. Auma, A. Kaba, A. Salomao, S. Siakor, and I. Tankar. 2012. *Protecting Community Lands and Resources: Evidence from Liberia, Mozambique and Uganda*. Washington, DC: Namati.
- Knox, A., R. Meinzen-Dick, and P. Hazell. 2002. "Property Rights, Collective Action, and Technologies for Natural Resource Management: A Conceptual Framework." In *Innovation in Natural Resource Management: The Role of Property Rights and Collective Action in Developing Countries*, eds. R. Meinzen-Dick, A. Knox, F. Place, and B. Swallow, 12–44. Baltimore: Johns Hopkins University.

- Kosec, K., H. Ghebru, B. Holtmeyer, V. Mueller, and E. Schmidt. 2018. "The Effect of Land Access on Youth Employment and Migration Decisions: Evidence from Rural Ethiopia." *American Journal of Agricultural Economics* 100 (3): 931–954.
- Kumar, N., and A.R. Quisumbing. 2015. "Policy Reform Toward Gender Equality in Ethiopia: Little by Little the Egg Begins to Walk." *World Development* 67: 406–423.
- Lambrecht, I.B. 2016. "As a Husband I Will Love, Lead, and Provide.' Gendered Access to Land in Ghana." *World Development* 88: 188–200.
- Lambrecht, I.B., and S. Asare. 2016. "The Complexity of Local Tenure Systems: A Smallholders' Perspective on Tenure in Ghana." *Land Use Policy* 58: 251–263.
- Lambrecht, I.B., B. Belton, P. Fang, B. Minten, and P.T. Naing. 2024. "Agricultural Land: Inequality and Insecurity." In *Myanmar's Agrifood System: Historical Development, Recent Shocks, Future Opportunities*. Washington, DC: IFPRI.
- Lambrecht, I.B., K. Mahrt, N.L.K. Synt, H.E. Win, and K.Z. Win. 2023. "Gender Gaps in Land Rights: Explaining Different Measures and Why Households Differ in Myanmar." *Agricultural Economics* 54 (5): 728–741.
- Larson, A.M., P.J. Cronkleton, and J.M. Pulhin. 2015. "Formalizing Indigenous Commons: The Role of 'Authority' in the Formation of Territories in Nicaragua, Bolivia, and the Philippines." *World Development* 70: 228–238.
- Lastarria-Cornhiel, S. 1997. "Impact of Privatization on Gender and Property Rights in Africa." *World Development* 25 (8): 1317–1333.
- Lawry, S. 2024. "Community Forest Stewards: Managers, Not Labourers." *Forest News*, July 17.
- Lawry, S., R. McLain, M. Rugadya, G. Alvarado, and T. Heidenrich. 2023. *Land Tenure Reform in Sub-Saharan Africa: Interventions in Benin, Ethiopia, Rwanda, and Zimbabwe*, 1st ed. London: Routledge.
- Lawry, S., C. Samii, R. Hall, A. Leopold, D. Hornby, and F. Mtero. 2017. "The Impact of Land Property Rights Interventions on Investment and Agricultural Productivity in Developing Countries: A Systematic Review." *Journal of Development Effectiveness* 9 (1): 61–81.
- Lay, J., W. Anseuw, S. Eckert, I. Flachsbarth, C. Kubitzka, K. Nolte, and M. Gigeret. 2024. *Taking Stock of the Global Land Rush: Few Development Benefits, Many Human and Environmental Risks. Analytical Report III*. Bern: University of Bern.
- Mark, S. 2016. "Are the Odds of Justice 'Stacked' Against Them? Challenges and Opportunities for Securing Land Claims by Smallholder Farmers in Myanmar." *Critical Asian Studies* 48 (3): 443–460.
- McCarthy, N. 2004. *Managing Resources in Erratic Environments: An Analysis of Pastoralist Systems in Ethiopia, Niger and Burkina Faso*. Research Report 135. Washington, DC: IFPRI.

- McMillan, J. 2003. *Reinventing the Bazaar: A Natural History of Markets*, 1st ed. New York: W.W. Norton.
- Meinzen-Dick, R.S. 2007. "Beyond Panaceas in Water Institutions." *PNAS* 104 (39): 15200–15205.
- Meinzen-Dick, R.S., and M. Di Gregorio, eds. 2004. *Collective Action and Property Rights for Sustainable Development*. 2020 Focus Brief 11. Washington, DC: IFPRI.
- Meinzen-Dick, R.S., L.R. Brown, H.S. Feldstein, and A.R. Quisumbing. 1997. "Gender, Property Rights, and Natural Resources." *World Development* 25 (8): 1303–1315.
- Meinzen-Dick, R.S., N. Johnson, A.R. Quisumbing, et al. 2014. "The Gender Asset Gap and Its Implications for Agricultural and Rural Development." In *Gender in Agriculture and Food Security: Closing the Knowledge Gap*, eds. A.R. Quisumbing, R. Meinzen-Dick, T.L. Raney, A. Croppenstedt, J.A. Behrman, and A. Peterman, 91–115. Dordrecht, Netherlands: Springer and FAO.
- Meinzen-Dick, R.S., A. Knox, and M. Di Gregorio, eds. 1999. *Collective Action, Property Rights, and Devolution of Natural Resource Management: Exchange of Knowledge and Implications for Policy*. Feldafing, Germany: Zentralstelle für Ernährung und Landwirtschaft.
- Meinzen-Dick, R.S., and E. Mwangi. 2009. "Cutting the Web of Interests." 26 (1): 36–43.
- Meinzen-Dick, R.S., E. Mwangi, and S. Dohrn. 2006. *Securing the Commons*. CAPRI Policy Brief 4. Washington, DC: IFPRI.
- Meinzen-Dick, R.S., and R. Pradhan. 2002. "Legal Pluralism and Dynamic Property Rights." CAPRI Working Paper 22. IFPRI, Washington, DC.
- Meinzen-Dick, R., R. Pradhan, and M. Di Gregorio. 2004. "Understanding Property Rights." In *Collective Action and Property Rights for Sustainable Development*, eds. R.S. Meinzen-Dick and M. Di Gregorio. 2020 Focus Brief 11. Washington, DC: IFPRI.
- Meinzen-Dick, R.S., A. Quisumbing, C. Doss, and S. Theis. 2019. "Women's Land Rights as a Pathway to Poverty Reduction: Framework and Review of Available Evidence." *Agricultural Systems* 172: 72–82.
- Morgan, M., A.M. Larson, S. Trautman, E. Garner, M. Elias, and R. Meinzen-Dick. 2023. *Gender Transformative Approaches to Strengthen Women's Land and Resource Rights*. Bogor, Indonesia: Centre for International Forestry Research (CIFOR); Nairobi: World Agroforestry (ICRAF) and International Fund for Agricultural Development (IFAD).
- Monterroso, I., P. Cronkleton, and A.M. Larson. 2019. "Commons, Indigenous Rights, and Governance." In *Routledge Handbook of the Study of the Commons*, eds. B. Hudson, J. Rosenbloom, and D. Cole, 1st ed., 376–339. New York: Routledge.

- Monterroso, I., A.M. Larson, N. Liswanti, and Z. Cruz-Berga. 2019. *Mobilizing Change for Women within Collective Tenure Regimes*. Washington, DC: Research Consortium on Women's Land Rights.
- Mueller, V., L. Billings, T. Mogue, A. Peterman, and A. Wineman. 2018. "Filling the Legal Void? Impacts of a Community-Based Legal Aid Program on Women's Land-Related Knowledge, Attitudes, and Practices." *Oxford Development Studies* 46 (4): 453–469.
- Mwangi, E. 2007. "Subdividing the Commons: Distributional Conflict in the Transition from Collective to Individual Property Rights in Kenya's Maasailand." *World Development* 35 (5): 815–834.
- Mwangi, E. 2009. "Property Rights and Governance of Africa's Rangelands: A Policy Overview." *Natural Resources Forum* 33 (2): 160–170.
- Mwangi, E., R.S. Meinzen-Dick, and Y. Sun. 2011. "Gender and Sustainable Forest Management in East Africa and Latin America." *Ecology and Society* 16 (1): 17.
- Nnoko-Mewanu, J.M. 2016. "Who Is Not at the Table: Land Deal Negotiations in Southwestern Cameroon." PhD Thesis, Iowa State University, Ames.
- Notess, L., P.G. Veit, I. Monterroso, et al. 2018. *The Scramble for Land Rights: Reducing Inequity between Communities and Companies*. Washington, DC: World Resources Institute.
- Oberndorf, R. 2012. *Legal Review of Recently Enacted Farmland Law and Vacant, Fallow and Virgin Lands Management Law Improving the Legal and Policy Frameworks Relating to Land Management in Myanmar*. Yangon, Myanmar: Land Core Group, Food Security Working Group.
- Ortega, R.R. 2004. *Models for Recognizing Indigenous Land Rights in Latin America*. Biodiversity Series 99. Washington, DC: World Bank.
- Ostrom, E. 2007. "A Diagnostic Approach for Going Beyond Panaceas." *PNAS* 104 (39): 15181–15187.
- Ostrom, E. 2015. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.
- Otsuka, K. 2007. "Efficiency and Equity Effects of Land Markets." In *Handbook of Agricultural Economics*, vol. 3, eds. R. Evanson and P. Pingali, 2671–2703. Amsterdam: Elsevier.
- Otsuka, K., and F. Place, eds. 2001. *Land Tenure and Natural Resource Management: A Comparative Study of Agrarian Communities in Asia and Africa*. Baltimore: Johns Hopkins University Press.
- Owen, J.R., A.M. Lechner, J. Harris, R. Zhang, and É. Lèbre. 2022. "Energy Transition Minerals and Their Intersection with Land-Connected Peoples." *Nature Sustainability* 6 (2): 203–211.
- Panda, P., and B. Agarwal. 2005. "Marital Violence, Human Development and Women's Property Status in India." *World Development* 33 (5): 823–850.

- Peterman, A., A. Quisumbing, J. Behrman, and E. Nkonya. 2011. "Understanding the Complexities Surrounding Gender Differences in Agricultural Productivity in Nigeria and Uganda." *Journal of Development Studies* 47 (10): 1482–1509.
- Place, F., M. Roth, and P. Hazell. 1994. "Land Tenure Security and Agricultural Performance in Africa: Overview of Research Methodology." In *Searching for Land Tenure Security in Africa*, eds. J.W. Bruce and S.E. Migot-Adholla, 15–39. Washington, DC: World Bank.
- Platteau, J.P. 1996. "The Evolutionary Theory of Land Rights as Applied to Sub-Saharan Africa: A Critical Assessment." *Development and Change* 27 (1): 29–86.
- Pradhan, R., R. Meinzen-Dick, and S. Theis. 2019. "Property Rights, Intersectionality, and Women's Empowerment in Nepal." *Journal of Rural Studies* 70: 26–35.
- Quisumbing, A.R., and J.A. Maluccio. 2003. "Resources at Marriage and Intrahousehold Allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa." *Oxford Bulletin of Economics and Statistics* 65 (3): 283–327.
- Ratner, B.D., R. Meinzen-Dick, J. Hellin, et al. 2017. "Addressing Conflict through Collective Action in Natural Resource Management." *International Journal of the Commons* 11 (2): 877–906.
- Ratner, B.D., R. Meinzen-Dick, C. May, and E. Haglund. 2013. "Resource Conflict, Collective Action, and Resilience: An Analytical Framework." *International Journal of the Commons* 7 (1): 183–208.
- Ricker-Gilbert, J., and J. Chamberlin. 2018. "Transaction Costs, Land Rental Markets, and Their Impact on Youth Access to Agriculture in Tanzania." *Land Economics* 94 (4): 541–555.
- Robinson, E.J.Z. 2005. "Reassessing the Interaction between Investment and Tenure Uncertainty." *Environment and Development Economics* 10 (2): 143–157.
- Rozelle, S., and J.F.M. Swinnen. 2004. "Success and Failure of Reform: Insights from the Transition of Agriculture." *Journal of Economic Literature* 42 (2): 404–56.
- RRI (Rights and Resources Initiative). 2021. *Status of Legal Recognition of Indigenous Peoples, Local Communities' and Afro-Descendant Peoples' Rights to Carbon Stored in Tropical Lands and Forests*. Washington, DC.
- RRI. 2023. *Who Owns the World's Land? Global State of Indigenous, Afro-Descendent, and Local Community Land Rights Recognition from 2015–2020*, 2nd ed. Washington, DC.
- Sandhu, H., W. Zhang, R. Meinzen-Dick, et al. 2023. "Valuing Ecosystem Services Provided by Land Commons in India: Implications for Research and Policy." *Environmental Research Letters* 18 (1): 013001.
- Schlager, E., and E. Ostrom. 1992. "Property-Rights Regimes and Natural Resources: A Conceptual Analysis." *Land Economics* 68 (3): 249–262.

- Schoneveld, G.C., L.A. German, and E. Nutakor. 2011. "Land-Based Investments for Rural Development? A Grounded Analysis of the Local Impacts of Biofuel Feedstock Plantations in Ghana." *Ecology and Society* 16 (4): 10.
- Seymour, G., J. Heckert, A. Quisumbing, et al. 2024. "Measuring Women's Empowerment in National Surveys: Development of the Women's Empowerment Metric for National Statistical Systems (WEMNS)." IFPRI Discussion Paper 2254. IFPRI, Washington, DC.
- Sjaastad, E., and D.W. Bromley. 2000. "The Prejudices of Property Rights: On Individualism, Specificity, and Security in Property Regimes." *Development Policy Review* 18 (4): 365–389.
- Suhardiman, D., J. Bright, and C. Palmano. 2021. "The Politics of Legal Pluralism in the Shaping of Spatial Power in Myanmar's Land Governance." *Journal of Peasant Studies* 48 (2): 411–435.
- Sulle, E. 2021. *Qualitative Outcome Study: The Contribution of the CGIAR Research Program on Livestock to Land Use Planning Processes in Ethiopia, Kenya and Tanzania*. Nairobi: International Livestock Research Institute.
- Swinnen, J.F.M. 1999. "The Political Economy of Land Reform Choices in Central and Eastern Europe." *Economics of Transition* 7 (3): 637–664.
- Tachibana, T., and S. Adhikari. 2009. "Does Community-Based Management Improve Natural Resource Condition? Evidence from the Forests in Nepal." *Land Economics* 85 (1): 107–31.
- Thein, U.S., J.C. Diepart, U.H. Moe, and C. Allaverdian. 2018. *Large-Scale Land Acquisitions for Agricultural Development in Myanmar: A Review of Past and Current Processes*. MRLG Thematic Study Series 9. Vientiane, Laos: Mekong Region Land Governance.
- Tseng, T.-W.J., B.E. Robinson, M.F. Bellemare, et al. 2020. "Influence of Land Tenure Interventions on Human Well-Being and Environmental Outcomes." *Nature Sustainability* 4 (3): 242–251.
- von Benda-Beckmann, K., and B. Turner. 2018. "Legal Pluralism, Social Theory, and the State." *Journal of Legal Pluralism and Unofficial Law* 50 (3): 255–274.
- von Braun, J., and R. Meinzen-Dick. 2009. *'Land Grabbing' by Foreign Investors in Developing Countries: Risks and Opportunities*. IFPRI Policy Brief 13. Washington, DC: IFPRI.
- Wisborg, P. 2014. "Transnational Land Deals and Gender Equality: Utilitarian and Human Rights Approaches." *Feminist Economics* 20 (1): 24–51.
- Zwarteveen, M., and R. Meinzen-Dick. 2001. "Gender and Property Rights in the Commons: Examples of Water Rights in South Asia." *Agriculture and Human Values* 18 (1): 11–25.