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Emerging Research Needs and Policy Priorities for Advancing Land Tenure Security and Sustainable Development

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Significant Advances But Gaps Remain

The evidence on the importance of land tenure security (LTS) in sustainable development is increasingly clear: research continually highlights the critical role of tenure security in biodiversity conservation (Díaz et al., 2019; Erbaugh et al., 2020; Garnett et al., 2018), climate change mitigation and resilience (Intergovernmental Panel on Climate Change (IPCC), 2020), poverty reduction (Besley & Burgess, 2000; Deininger, 2003),

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M. Holland et al. (eds.), *Land Tenure Security and Sustainable Development*,

https://doi.org/10.1007/978-3-030-81881-4_15

women's empowerment (Meinzen-Dick et al., 2019; O'Sullivan, 2017), and many other topics. Recent systematic reviews (Fenske, 2011; Higgins et al., 2018; Lawry et al., 2017; Meinzen-Dick et al., 2019; O'Sullivan, 2017; Robinson et al., 2014; Tseng et al., 2021)—as well as the many chapters in this book—have highlighted the significant steps forward in our understanding of how LTS impacts environmental and human well-being outcomes, but these have also underscored significant research gaps that still remain. Perhaps the clearest message to emerge from decades of research on LTS is that the determining factors (contextual and otherwise) are complex and multilayered (Robinson et al., 2018; van Gelder, 2010), and that titling alone is not a panacea, nor likely a sufficient stand-alone strategy, for addressing tenure insecurity (Sjaastad & Cousins, 2009) (see also Chap. 11 in this volume). The complexity of tenure insecurity has been illustrated in many in-depth studies focusing on specific contexts or subpopulations (Holland et al., 2014, 2017; Naughton-Trevesa et al., 2011; Orellano et al., 2015). In short, historical injustices, failed attempts to remedy them, and policies designed to entice new migrants to areas, as well as other factors, all have contributed to a web of related but distinct factors driving tenure insecurity. Chapter 2 provides a succinct summary of the complicated and contentious history of land rights, and how LTS for much of the world today has been built on inequitable access and control of land, where elites have often held control over who gets rights to the land.

The landscape of stakeholders engaging on tenure security issues has also increased in recent decades. Environmental, civil society, and other non-governmental actors are playing an increasingly important role in raising awareness about, and, when possible, strengthening the tenure security of women, smallholder farmers, indigenous groups, and other subpopulations. Government actors at all levels also play a pivotal role in

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ensuring equitable and transparent LTS. Chapters 2 and 11 highlight the uneven role governments have had in securing tenure for their people, but nonetheless they occupy a critical position in determining how LTS is addressed. A primary challenge is that securing tenure tends to be a zero-sum game—that is, securing tenure for one group may come at the expense of another group (Adam, 2020; Natcher et al., 2009). Activists and civil groups (e.g., Chap. 12) also play a role in securing tenure across the world, as they raise awareness within and outside countries on land rights issues. A common challenge for all stakeholders, however, is that without rigorous evidence of the causes and consequences of LTS, uncertainty will cloud policy priorities and strategies. Research and policy must still make significant advances if efforts to secure tenure across the world are to be successful.

An Urgent Need to Expand the Breadth and Depth of Studies on LTS Impacts

A recent systematic review by Tseng et al. (2021) of more than one hundred studies found strong support for a positive relationship between LTS on human well-being outcomes, such as agricultural investments, increased credit, women's empowerment, and food security. For environmental outcomes, there is generally positive support for the effects of LTS on forest conditions or conservation investments. But context and nuance matter in the strength and direction of LTS' effect on human well-being and environmental outcomes. Critically, the strength and direction of LTS is influenced by the bundle of rights associated with a given tenure system and the myriad social, economic, political, and environmental factors (both internal and external to communities) that condition the *de facto* performance of such arrangements. For instance, Robinson et al. (2014) reviewed 118 cases and found tenure security is a necessary but insufficient condition for incentive-based forest policies. Additionally, if we accept LTS is a basic covenant of most sustainable social-ecological relationships, then the adequacy of associated arrangements (social, political, and economic institutions) in supporting positive social and

environmental outcomes becomes critical. Indeed, it is also these very factors that can directly influence perceived tenure security (van Gelder, 2010). As such, syntheses of existing evidence shed light on what we still *do not know* about the role LTS plays in environmental and human well-being outcomes, pointing to critical research directions needed to advance the design and implementation of evidence-informed policies around strengthening LTS.

First, few studies have rigorously examined the effect of LTS on both human well-being *and* environmental outcomes simultaneously, making it difficult to understand potential tradeoffs or synergies. Tseng et al. (2021) found only 20% of 117 studies in their sample attempted to estimate the causal effect of LTS simultaneously for human well-being and environmental outcomes. Second, studies often lacked the time scales necessary to estimate long-run effects on environmental outcomes, raising questions about whether impacts from strengthening LTS have enduring positive effects on biodiversity and ecosystem services. Instead, studies frequently examined actions taken by landholders that could plausibly lead to improved environmental outcomes, such as investments in soil (Deininger et al., 2011) or forest conservation (Holland et al., 2017). While suggestive, it is often unclear how long those practices endure and thus lead to the desired outcomes. Third, there is a need to study the effects of LTS in a more diverse set of biomes. The majority of studies largely examined effects of LTS on tropical forests—perhaps one of the easiest to measure environmental change over longer time periods given the wide-scale availability of remotely sensed forest cover data (Hansen et al., 2013)—or on modified lands, such as farms. Grasslands, wetlands, deserts, and even dry forests need further study, as land use pressures can differ compared to forests and agricultural lands. Fourth, most rigorous studies are also concentrated in a few countries, and there is overrepresentation in Ethiopia and China which have unique land laws and administration systems, making comparison across these contexts challenging. Fifth, a large proportion of studies have evaluated the impacts of LTS on economic outcomes, while other areas of human well-being remain understudied.

Finally, more study is needed to evaluate how climate change, demographic transitions, migration, and other macro-factors affect LTS over

longer time horizons. Consider, for instance, that rural to urban migration continues to far outpace urban to rural migration (United Nations Department of Economic and Social Affairs, 2019), raising questions about who will own, live on, and manage rural lands in the future. Changes in family size may also have significant implications for how land is allocated: population growth in some parts of the world may intersect with inheritance laws, leading to smaller and smaller plots of land. For example, expected population growth in Sub-Saharan Africa may require dividing up already-small farms even further. Climate change further complicates these dynamics, rendering some lands uninhabitable and triggering temporary or even permanent displacement of people, leading to significant migration to areas more resilient to the effects of climate change. This may amplify land use pressures and risk food security in source or destination lands (as explored in Chap. 6).

From a policy perspective, rigorous studies have largely focused on evaluating the impacts of legal titling (as reviewed in Chap. 11), thus raising questions about the efficacy of other policy tools, or the effects of a combination of different efforts (e.g., combining titling, awareness raising, and capacity building). Tseng et al. (2021) identified significant research gaps for interventions that raise awareness about land rights and capacity building interventions (e.g., increasing administrative capacity of local governments). A serious practical, logistical, as well as research, challenge is that multiple stakeholders often champion different factors affecting LTS. For instance, an environmental non-governmental organization may work with a community and outside stakeholders to create land use plans, thus informally increasing recognition of community lands with those outside the community. At the same time, however, local authorities may provide private land titles to community lands, thus creating countervailing efforts that undermine the LTS of the community. Understanding factors that drive effective collaboration amongst stakeholders is crucial to achieve LTS for the target population.

There is also a need to study policy implementation because LTS policies can be complex. For instance, formalization of land ownership through legal titles may require raising awareness about titling efforts, systems to handle paperwork and administrative processes, identifying plots of land and resolving any conflicts over ownership, and resolving

any mismatches between customary rights that may conflict with the statutory system. The logistics, institutional capacity, and costs involved are not trivial (Notess et al., 2020). Along this pathway, numerous factors can create inefficiencies or policy implementation failures. If literacy is low, efforts to raise awareness may be hindered. There may be inequitable land ownership if local patriarchal systems are dominant, even in cases where national laws indicate women are allowed to own land. Community leaders and other officials must have the know-how, capacity, and legitimacy to resolve any conflicts over land ownership. Any mismatches in statutory and customary systems must also be resolved (e.g., how should community land be legally recognized if titles are only given to individuals?). Careful documentation and study of the various implementation challenges of policy efforts are needed to create robust policies that focus on equity in strengthening LTS.

More work is also needed to evaluate how policies aiming to strengthen LTS may lead to uneven distributional impacts across contexts and for different groups of people. Women, Indigenous Peoples and traditional local communities (IPLCs), recent migrants, and other groups may often have less political and economic power to engage in processes that can, for instance, secure their land rights or resolve conflicts. Earlier chapters in this volume explore how LTS and policies affecting it can impact IPLCs (Chaps. 4 and 12) and women (Chap. 5) can be weakened or strengthened. Without an understanding of inequities that result from policy design and implementation, even well-intentioned efforts will fail to address these issues.

Methodologically, several issues must be advanced, although we focus on one aspect that has emerged in our review as especially important. While there have been significant conceptual advances for understanding LTS (Robinson et al., 2018; Simbizi et al., 2014; van Gelder, 2010)—namely that perceptions of LTS in particular are important—how LTS is measured in studies analyzing its effects remains fractured. Tseng et al. (2021) found little overlap in how LTS is measured, with an overwhelming number of studies measuring land rights, and only a few studies measured landholders' subjective perceptions. Land rights themselves can be complex to measure since, for example, *de jure* and *de facto* tenure regimes may include different or sometimes overlapping bundles of rights

(Chap. 3). Notably, studies that examine the effects of the same policy were found to use different measures of LTS, sometimes even when using the same dataset. How LTS is measured and evaluated in studies has implications for our understanding of the causes and consequences of LTS. An intervention that has been successfully implemented may have little effect on the population's perceived security, especially if overall incentives (whether from internal or external sources) do not change for the parties involved. Comparing results between studies may be difficult or impossible, and tracking progress on increasing LTS may be challenging if different actors are measuring LTS in their own way.

Testing New Policies to Accelerate Secure Tenure Across the World

Despite the increasing number of actors addressing tenure insecurity across the world, there is still a need to develop and test new interventions if LTS is to have its expected impact for advancing global sustainability goals, such as Sustainable Development Goal 1.4.2 and 5.a.1. Tseng et al. (2021) found policies aiming to strengthen LTS often involve several interventions implemented by multiple actors. But most interventions in this review stemmed from macro-economic policy directives and tended to be implemented through a top-down approach, with little or no input from the target population and community. Other efforts by the Tenure Facility, the Rights and Resources Initiative, and others are actively supporting bottom-up actions and may result in quite different outcomes and dynamics. A first step may be to invest in careful evaluations of these programs, distinguishing between their origins, and disentangling the marginal benefit of the various interventions in strengthening LTS. It is likely that factors, such as the legitimacy and trust of governments and community leaders that may be implementing the intervention, will influence the efficacy of the policy, and different combinations of policies could yield more promising outcomes.

Technological innovations provide a promising pathway for increasing the efficiency and transparency of land rights. For instance, the Cadasta

Foundation has been testing digital tools to create, manage, and store data on land rights and property boundaries. Blockchain-based land titles have been pilot tested in Georgia (Shang & Price, 2018) and elsewhere to overcome challenges of maintaining and updating reliable land registries. However, as technologies are tested and rolled out, it is critical to increase the capacity of landholders, as well as those seeking to own land, to understand laws and technological tools to ensure equitable access and use of such resources. To be clear, these technological improvements may help reduce logistical and administrative burdens, but the hard work of reconciling land disputes or other underlying social frictions that so often underlie the lack of clarity around land boundaries still remain. These are difficult barriers that must be addressed through conflict resolution, mediation, or restitution and compensation when appropriate.

Moving Forward, Quickly

From their inception, the sustainable development goals (SDGs) established an ambitious set of global goals to be achieved by 2030. Nearly half of the SDGs rely—directly or indirectly—on strengthening LTS, highlighting the urgent need to accelerate efforts to strengthen LTS across the world if we are to advance development outcomes, preserve nature, and mitigate and adapt to the effects of climate change. There are several areas for immediate collaboration and action.

First, wishful thinking and assumptions about what works and what does not work should be avoided and replaced with evidence-informed decision-making. More research is generally needed to uncover causal mechanisms and the factors that mediate the efficacy of particular policies and programs, but the research must be rigorous, done at larger scales, and examine LTS effects on both human well-being and environmental outcomes over longer time horizons. Second, more work is needed to examine the implementation of various policies. Third, more work should focus on gathering landholder perceptions about interventions—ranging from their design, their implementation, and the effects on the outcomes they care about. Finally, greater collaboration and information sharing is necessary. A diverse and vast set of stakeholders are now working to strengthen LTS, and they must be willing and open to share

information about the challenges that emerge, when policies fail, when policies succeed, and report on unintended consequences. A critical step may be to unify measurement across independent researchers so that studies can be compared across contexts and over time, including urban and rural contexts. Sustained and collaborative dialogue between practitioners, rights-holders, and researchers working on LTS issues is imperative. Cross-fertilization, sharing of information, and joint data collection and analysis among practitioners and rights-holders is critical, especially with those based in the Global South. This knowledge can inform policy and practice *in situ*, especially by rights-holder organizations that are leading efforts for the recognition of their tenure rights.

Recent work indicates practitioners and researchers working on LTS seemingly characterize LTS differently (Masuda et al., 2020), suggesting information exchange between researchers and practitioners may be limited. Efforts should also continue to encourage peer-to-peer learning within and among practitioner groups. More attention on the questions and issues that communities and rights-holders face could also better inform the next generation of policies. This could include feedback on perceived outcomes, what works (and does not) in implementing land tenure interventions, understanding how tenure reforms can be accelerated, and how external actors and resources can best support those processes.

It is also necessary to bridge research, practice, and policy across disciplines, fields, and sectors. The land system science community has focused on landscape-scale changes in land and human well-being outcomes, often with a lens on governance. Discourse in that field is beginning to explore the importance of land rights within a general land governance perspective, but sometimes without explicitly talking about *land tenure security*. Different use of terms results in a lack of dialogue between these realms of research and practice (McSweeney & Coomes, 2020).

Another key to improving research, practice, and policy is in understanding the connections between LTS issues for rural communities and urban populations. This seems especially important with rising cases of conflicts, economic migration, agro-industrial land acquisitions, and climate change. Our understanding of the concept of LTS and the factors that support it could change substantively over the coming decades. As we understand more about the dynamics of rural-urban migration, in

particular its bi-directional and cyclical characteristics, we see these as areas of work that should be further integrated.

Policymakers and funders should invest more, over longer time periods, to understand and disseminate what policy mechanisms are most likely to be successful. They should also be open to experimenting with new tools—whether they are technical or behavioral nudge interventions—and strongly signal to implementing actors that failure is expected but should also be openly shared and remedied. Generally, these actors have enormous influence in shaping the conversation around the set of actions that are taken, and can dictate where and what will be done through their funding decisions. Donors, multilateral institutions, and development institutions have invested comparatively little money until now in LTS while acknowledging that most of their desired development outcomes hinge on the realization of LTS at scale. There is growing awareness of this disconnect, as demonstrated by initiatives like the World Bank's Forest Carbon Partnership Fund and increasing public discussions around these issues. To this end, initiatives to build multilateral funding and support are critical. One example being led by the Rights and Resources Initiative is a new global initiative called Path to Scale that aims to raise global ambition and funding in support of LTS. Support is being provided by donors such as the Foreign, Commonwealth & Development Office of the UK (FCDO—formerly DFID), the German Federal Ministry for Economic Cooperation and Development (BMZ), and the Swedish Institute for Development Assistance (SIDA), and private foundations. Still, much more needs to happen, especially in terms of getting technical and financial resources to community actors and leaders directly.

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