

## Measuring the Unwritten: A Framework for Property Rights in Urban Informal Settlements

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In many low- and middle-income countries, up to 70% of urban land is held, transferred, and inherited outside the legal framework. In these contexts, property rights are not merely formal legal entitlements recorded in official registries, but rather “rules-in-use” (Ostrom 1990; Hodgson 2006): social norms and locally negotiated arrangements embedded within informal institutions and enforced by social expectations. These norms consist of *convergent expectations* within reference groups (Bicchieri 2006), meaning that compliance arises not from routine or coercion but from shared beliefs about what others do and what they consider appropriate.

This fundamental insight has profound implications for how we study property rights and design land policy. Yet, most empirical work continues to rely on a narrow approach focused on formalisation programmes — such as titling or leasehold reforms — and evaluates their impacts primarily on investment, access to credit, trust, or inequality (Field 2005; Galiani & Schargrodsky 2010). Such approaches neglect crucial questions: how social norms themselves provide tenure security; how conflicts are resolved locally; and how access to rights differs across social groups, such as women, migrants, or minorities (Manara & Regan 2025; Manara 2025). As a result, policies often clash with existing normative orders, leading to low uptake, resistance, or unintended outcomes.

This paper seeks to advance both the theoretical and empirical study of property rights in informal settlements by developing and piloting a new methodological framework and a diagnostic survey instrument. Our starting point is that property rights should be understood as a multidimensional institutional phenomenon, a *bundle of rights*, and a *socially constructed equilibrium* sustained by expectations, sanctions, and collective beliefs (Aoki, 2001).

The project advances measurement along four key dimensions.

First, we decompose property rights into a series of distinct entitlements — such as access, use, development, transfer, and rental — and examine each individually. Moreover, we differentiate by *object*: for example, the right to rent an entire dwelling may differ significantly from the right to rent a single room, with implications for gendered or intra-household power relations.

Second, we map normative boundaries: property rights are also defined by the incentives, disincentives, permissions, pressures, and sanctions that govern possible actions. Our questionnaire

measures these boundaries systematically, including *hypothetical* or *counterfactual* situations (i.e. actions not taken or taken differently), which are often invisible in conventional surveys.

A central innovation is to operationalise the idea that property norms are socially constructed — valid only within specific networks of reference. The questionnaire includes modules to measure empirical and normative expectations about property-related behaviours (e.g. renting to women or to people of a different ethnicity), both in the neighbourhood and among significant reference groups. These techniques, derived from experimental social norm research (Bicchieri and Xiao, 2009; Krupka and Weber, 2013), allow us to test whether behaviours are perceived as common and socially approved — a critical determinant of compliance.

Finally, we refine existing methods to measure *stability* (e.g. perceptions of tenure security, dispute frequency) and develop new questions to capture *consensus* (perceptions of functionality and fairness). A particularly innovative component aims to elicit *demand for institutional change* beyond traditional willingness-to-pay metrics, through choice experiments and trade-off scenarios (e.g. increases in functionality at the expense of fairness, and vice versa).

By combining these dimensions, the project moves beyond a “one-size-fits-all” approach and toward a nuanced empirical toolkit capable of mapping how property rights *actually work* in informal settlements — how they are structured, enforced, contested, and evaluated by those who live under them.

A further methodological innovation lies in our treatment of *data collection and analysis*. Recognising the risk of information loss in multilingual, linguistically heterogeneous contexts, we plan to experiment with artificial intelligence tools to process and classify open-ended survey responses. The aim is not to deploy AI as a ready-made solution but to test its potential and limitations for interpreting diverse local languages and non-standard expressions, thereby enhancing the inclusiveness and representativeness of the dataset.

The project is currently at the pilot stage. We are designing and testing the diagnostic survey in Dar es Salaam (Tanzania) and Accra (Ghana), two cities that illustrate distinct informal governance regimes: one shaped by elected local authorities operating under a statist property regime, the other by customary chieftaincies embedded in ethnic authority structures.

Our approach is explicitly interdisciplinary, integrating insights from law and economics, institutional economics, experimental social science, and urban studies. It is also explicitly policy-oriented: by producing granular, context-sensitive data on the “unwritten rules” of property, we aim to inform interventions that build on, rather than override, existing normative orders. The ultimate goal is to

help design policies that are more legitimate, equitable, and effective — policies that reflect how people actually experience, enforce, and imagine property rights.

By integrating experimental, behavioural, and institutional approaches, our work contributes to core debates in Law and Economics about the nature of property, the role of social norms, and the microfoundations of institutional change.

### ***References***

Aoki, M. (2001). *Toward a Comparative Institutional Analysis*. Cambridge, MA: MIT Press.

Bicchieri, C. (2006). *The Grammar of Society: The Nature and Dynamics of Social Norms*. Cambridge: Cambridge University Press.

Bicchieri, C., & Xiao, E. (2009). Do the right thing: But only if others do so. *Journal of Behavioral Decision Making*, 22(2), 191–208. <https://doi.org/10.1002/bdm.621>

Field, E. (2005). Property rights and investment in urban slums. *Journal of the European Economic Association*, 3(2–3), 279–290.

Galiani, S., & Schargrodsy, E. (2010). Property rights for the poor: Effects of land titling. *Journal of Public Economics*, 94(9–10), 700–729.

Hodgson, G. M. (2006). What are institutions? *Journal of Economic Issues*, 40(1), 1–25. <https://doi.org/10.1080/00213624.2006.11506879>

Krupka, E. L., & Weber, R. A. (2013). Identifying social norms using coordination games: Why does dictator game sharing vary? *Journal of the European Economic Association*, 11(3), 495–524. <https://doi.org/10.1111/jeea.12006>

Manara, M. (2025). Institutional transition: Social cohesion and demand for land titles in urban Tanzania. *World Development*, 185, 106799.

Manara, M., & Regan, T. (2025). Ask a local: Improving the public pricing of land titles in urban Tanzania. *The Review of Economics and Statistics*, 107(1), 188–203. [https://doi.org/10.1162/rest\\_a\\_01247](https://doi.org/10.1162/rest_a_01247)

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.