

RESEARCH BRIEF • MARCH 2024

Fallow Lengths and the Structure of Property Rights

Based on BFI Working Paper No. 2024-31, “[Fallow Lengths and the Structure of Property Rights](#),” by Etienne Le Rossignol, University of Namur; Sara Lowes, University of California San Diego; and Eduardo Montero, University of Chicago

Places where land needs to be fallowed for longer periods are more likely to have communal property rights, both historically and presently. World Bank land titling interventions are less effective in places with longer fallow requirements, and longer fallow periods are associated with less inequality, less conflict, and greater resilience to negative shocks.

While private property ownership is common in the contemporary West, most societies have historically held their land communally. Understanding what drives this variation in the structure of property rights over land is important for designing effective development policies. For example, formalizing land ownership through **titling** policies—historically one of the World Bank’s foundational approaches to economic development—may be less effective in places where private ownership is uncommon. In this paper, the authors study the structure of property rights over land, examining a potential ecological

determinant of the prevalence of communal land rights and exploring how communal land rights interact with development policy.

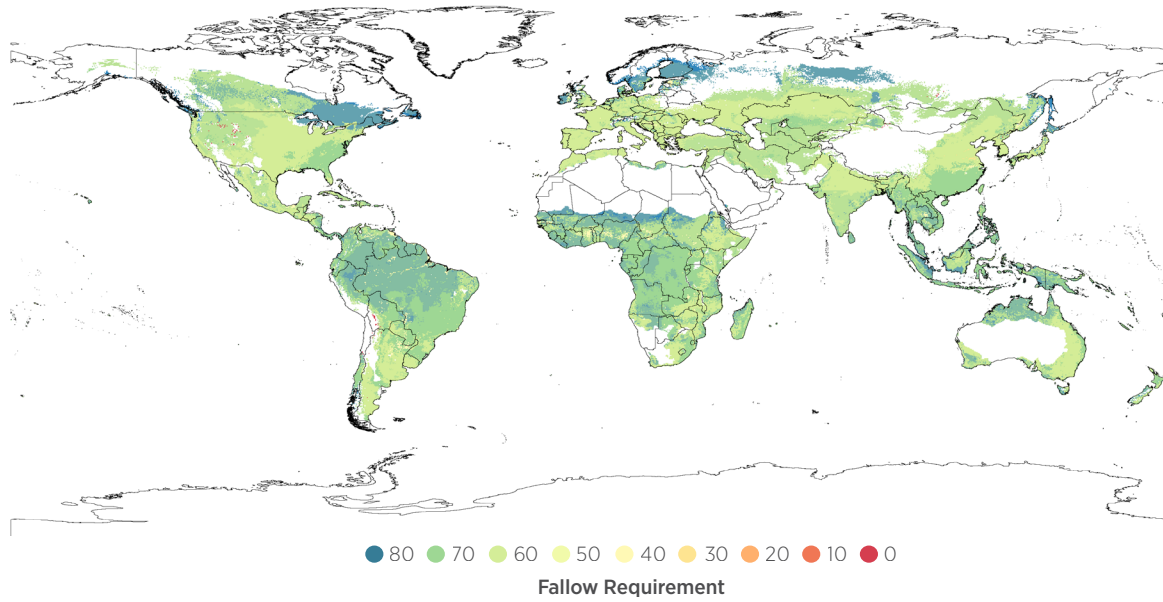
Building on earlier research, authors test the hypothesis that places where farmland requires more recovery time between harvests—a practice known as **fallowing**—are more likely to have communal land rights. The amount of time that land should be left fallow is a product of the primary crop grown, the types of inputs used (such as fertilizer), and features of the soil and climate. Prior research suggests that in societies

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Land titling: the legal process of officially recognizing and documenting the ownership rights of individuals or groups over parcels of land.

Fallow: when land is left unseeded or unharvested to restore its fertility (as opposed to being continually cultivated).

Figure 1 - Fallow Requirements Across the World



Note: The map presents the fallow requirement for each of .5-degree by .5-degree section of the globe. The fallow requirement for a crop is defined as the optimal percentage of time during the fallow-cropping cycle that land should be under fallow. Cells shaded in white represent regions where the land is not suitable for agriculture.

with longer fallow requirements, private property rights are less common because of the high cost of preventing outsiders from squatting on or cultivating land during a long fallow period.

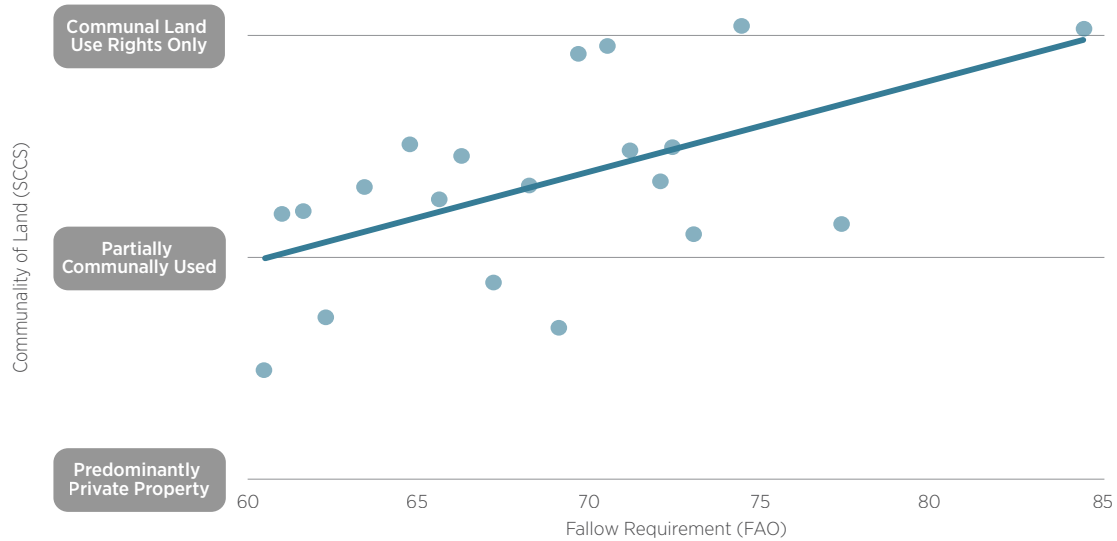
The authors use data from the Food and Agriculture Organization of the United Nations to construct global fallow requirements for grid cells at a spatial resolution of 0.5 degree latitude by 0.5 longitude degree grid cells (each approximately 100 km² in area). The fallow requirement represents the share of time during the fallow-cropping cycle that land should be left fallow. For example, a fallow requirement of 75% means that land cultivated for 5 years should be left fallow for 15. The authors compare their global fallow requirements to a rich set of ethnographic and ecological data to systematically explore the relationship between fallow length and communal land rights. They also study how longer fallow requirements affect land titling reforms and examine mechanisms that may explain the persistence of communal property rights. The authors find the following:

- Places where land needs to be fallowed for longer periods are more likely to have communal property rights, both historically and presently. There is a positive and statistically significant relationship between fallow requirements

and the presence of communal land rights, suggesting that fallowing constraints were an important factor determining how communities organized land ownership.

- Traditional leaders are more likely to play a role in the allocation of land in places with longer fallow requirements.
- Land titling projects are significantly less successful in places with longer fallow requirements, suggesting that when there is a mismatch between underlying institutions and development policies, the policies may be less successful.
- Longer fallow requirements are associated with less wealth inequality, particularly in settings with low state capacity.
- Conflict, including land-related conflict, is less common in places with longer fallow requirements. This is especially true in settings with low state capacity, which suggests that communal land rights may be better able to reduce conflict in settings where states are weak and ineffective at enforcing private land rights.
- Communal land rights appear to reduce the incidence of conflict in the wake of negative rainfall shocks. While there tends to be more

Figure 1 • Fallow Requirements and Communal Land Rights



Note: This graph illustrates the relationship between fallow requirements (horizontal axis) and the communality of land rights (vertical axis), showing a trend where land with longer fallow requirements is more likely to be held communally.

land-related conflict in years with negative rainfall shocks, places with longer fallow requirements show a muted effect.

This research provides novel evidence on how ecological factors influence the structure of property rights over land, and how these differences in property rights affect economic development. The authors reveal how underlying institutions and cultural norms regarding land rights are important determinants of the success of land titling reforms, and highlight the potential for mismatch between development policies and the underlying institutional and cultural context. Their work underscores the importance of tailoring development policies to local land rights.

READ THE WORKING PAPER

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