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Land tenure reforms, tenure security and food security in poor agrarian economies: Causal linkages and research gaps

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ABSTRACT

This paper reviews the literature to identify the relationship between tenure security and food security. The literatures on tenure issues and food security issues are not well connected and the scientific evidence on the causal links between tenure security and food security is very limited. The paper explores the conceptual linkages between land tenure reforms, tenure security and food security and illustrates how these vary across diverse contexts. The paper then reviews the limited number of high quality studies that contribute to a causal chain analysis between tenure security and food security and identifies important research gaps.

1. Introduction

Land tenure and food security have traditionally been two separate areas of research (Maxwell and Wiebe, 1999). Land tenure research is itself a vast and complex area due to the large variation and complexity of land tenure systems, which has contributed to the specialization of land tenure researchers. We see a similar tendency in the food security literature. In this paper we assess how tenure security and land tenure reforms affect and are affected by household food security. We claim that increasing land scarcity in the world and particularly in poor countries facing high climate risks, enhance the policy relevance of the links between access to land, tenure security and food security (Godfray et al., 2010; Lambin and Meyfroidt, 2011; Holden and Otsuka, 2014). Spatially dispersed food production, poor infrastructure, high transportation costs, and perishable food contribute to pervasive imperfections in input and food markets in agrarian based and land scarce economies where ownership and access to land still are important determinants of household food security. Smallholder production and shrinking farm sizes characterize many such countries and a growing share of smallholders are net buyers of food. Urban transformation render uncertain tenure rights on agricultural lands near urban centers where competition for land is high.

The purpose of this paper is to assess the complex linkages between tenure security and food security through a literature review to identify the state of knowledge and key research needs. A general conceptual framework is followed by more detailed alternative causal mechanisms. Their relevance varies across different empirical settings illustrating important dimensions of the highly complex relations. The tenure and food security literatures are largely separate fields of inquiry and there are few examples of integrated comprehensive[1] impact studies in the world. The lack of high quality impact studies is a more general phenomenon in the land tenure literature as illustrated by the systematic review undertaken by Lawry et al. (2014) of the relationship between land tenure reforms, investment and agricultural productivity in developing countries. After examining 27,600 studies they ended up with only 20 of these giving reliable impact assessments. These 20 studies covered only four countries in Asia; Cambodia, China, India and Vietnam. Out of 10 studies in Africa, five were in Ethiopia, the other countries in Africa being Madagascar, Malawi, Rwanda and Zambia, demonstrating the limited coverage even for the

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[1] By comprehensive we here mean a comprehensive impact assessment that establishes a causal relationship between tenure security and food security.

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continent with the highest number of studies. Only Nicaragua and Peru were included from Latin-America. Many of the included studies were not nationally representative, further limiting the geographical coverage and giving very good reasons for being cautious about generalizing the findings.

Furthermore, for the purpose of this paper, the link between land productivity and food security can also be complex and most of the high quality studies identified by Lawry et al. do not make this link explicit. Ideally, we should have studies with randomized treatments applied in different contexts and then traced the underlying mechanisms of change from tenure security (treatment) to food security (effect). Our sad state of affairs is far from this. However, we also argue in favor of the view of Deaton (2010) that a structural approach is needed that pays due attention to the underlying structural mechanisms of change as randomization alone is no guarantee for generalizable knowledge. Complex contextual variations will always require careful interpretation. The consequence for this study is then that we examine the limited quantitative evidence which has satisfactory controls for endogeneity of treatment, and identify alternative causal mechanisms based on the variation in complex realities as areas in need for future research.

We use Ethiopia as an exceptional case, based on the availability of relevant high quality studies but acknowledge the limited external validity of the findings there for other parts of Africa. Ethiopia's tenure system is more similar to that of China and Vietnam than that in the rest of Africa.

Section two provides a simple general conceptual framework. Section three elaborates more on various land tenure reforms and highlights the role of tenure security in these reforms. Section four assesses the links between tenure security, investment and productivity. Sections five and six look at the links between climate risks, shocks, consumption and nutrition before we discuss land and land markets as a safety net in a world with increasing migration and conclude based on this.

2. General conceptual framework

It is the links from tenure security to food security that are of primary interest although the reverse link can also potentially be important. Furthermore, we assume that the links between tenure security and food security are of interest only when factor and output markets function poorly.[2]

We start with the general conceptual framework expanded from Holden et al. (2013), see Fig. 1. There are two main sources of tenure risk (insecure property rights); encroachment and land grabbing by private operators, and expropriation and redistribution by the state.

The rights of holders of land can broadly be divided in three types of rights; user rights, mortgaging rights and transfer rights. These can further be disaggregated for each of these three main categories of rights e.g. into a bundle of transfer rights related to sales and rental rights and restrictions on these that affect how well land markets work. This again affects who produce on the land, whether they produce for home consumption or for the market and how this affects food security of owners and users of land as well as the supply of food through the market. Stronger user rights to land are likely to enhance investment and thereby land productivity. If food is the main output and the producer is a smallholder partly producing for home consumption and partly for the market, strengthened user rights are likely to enhance her/his food security. If land can be used as collateral to access credit for investment on the land this can further enhance land productivity and possibly food security. On the other hand, if investment returns are risky, taking credit for investment may also increase the risk of producers, especially in risky environments characterized by covariate risk and missing insurance markets. Using land as collateral may not be a good solution for poor smallholders living in such risky environments as distress sales and foreclosures may be the outcome.

We may divide tenure reforms in two broad categories[3]; a) redistributive reforms that typically have aimed for more egalitarian distribution of land in environments with initial unequal land distribution; and b) tenure security enhancing reforms that have aimed to strengthen the rights of holders and thus enhance investment, productivity and transfer of land. The first approach emphasizes creating tenure security by providing land to the land-poor, aiming to enhance their self-sufficiency in food. The second approach emphasizes security of property rights to strengthen market development and economic growth that can provide food security through alternative livelihoods outside agriculture. There has been a shift from the first type of reforms to the second type of reforms but the first type is still relevant in some poor agrarian economies and economies characterized by very skewed land distributions, increasing landlessness and unemployment. The two broad approaches may also be combined. The complexity and variation of empirical contexts and dynamics of change imply, however, that this highly stylized contextual framework is insufficient for a comprehensive assessment of links between tenure reforms, tenure security and food security. We therefore expand the exploration of such causal chains in the following parts of the paper.

Changes in tenure security over time for individuals or households may depend on natural experiments in the form of policy interventions, direct exposure to encroachment or expropriation, but also information about the exposure of others can affect the perceived risks of individuals or households. For analytical purposes it is important to identify such time-varying sources and measures of tenure security that can help identify its impacts on food security while controlling for unobservable individual or household characteristics and endogeneity of tenure security.

One may focus on food security at aggregate (national) level or at household/individual level. Sen's (1981) entitlement approach focuses on access to food but also the ability to utilize food. The concepts *vulnerability* and *poverty* are related to food insecurity. Vulnerability may be defined as the inability to protect oneself against shocks. Food insecurity may also be seen as part of a wider concept of livelihood insecurity. Poor people spend a large share of their income on food. The inability to smooth consumption over time, including food consumption, shows the close relationship between vulnerability and food insecurity. One definition of food security is "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 1996). In this perspective food security is about access, vulnerability, and sustainability. Vulnerability also depends on the ability to cope when exposed to shocks and the types of coping strategies that are available. The complexity of defining food insecurity also makes its measurement empirically challenging but we do not have space to go into that here.

[2] Well-functioning labor markets with wage incomes that satisfy basic needs otherwise provide food security.

[3] We come back to a more disaggregated set of land tenure reforms in the next section and how they relate to tenure security.