Diagnostic patterns of livelihood impacts of large-scale land acquisitions

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Abstract
Large-scale land acquisitions (LSLA) have altered land control and land rights in many developing and middle-income countries in recent years. While proponents conceive LSLAs as an opportunity for economic development, critics observed adverse impacts on rural livelihoods in target regions such as displacements, increased food insecurity, as well as physical and structural violence. Previous research on LSLA provides a rich source of descriptive, contextualized work (e.g. who is involved, how, why, where), normative essays (e.g. should LSLAs be considered as development opportunities or land grabs), and conceptual contributions (e.g. typologies of LSLA, formal economic models). Hence, current understanding of LSLAs is fragmented among the scientific community (with regard to particular cases, locations and concepts), contradictory (e.g. about impacts) and either case-specific or highly generic. The many varieties of LSLAs challenge the development of middle range theories that would explain how and why LSLAs affect rural livelihoods in different institutional, socio-economic and ecological contexts.

This study synthesizes the existing case study literature about LSLAs by adopting a systematic review methodology (structured literature selection, iterative coding, structured data analysis) to develop a diagnostic, politico-economic approach to LSLAs. Conceptually, we adopt Ostrom’s (2009) Social-Ecological-Systems (SES) framework.

The results show that adverse livelihood impacts can be traced to processes with immediate impacts (i.e. physical enclosure, asymmetric bargaining, selective marginalization and new risk exposure). These are supported by facilitating processes (i.e. illusion of marginal lands, vision of progressive change, elite benefits, individualizing communities, poor enforcement). We show how both process types can be traced to specific attributes of the considered social-ecological system (e.g. water externalities, specific knowledge and socioeconomic attributes of actors, political dependence). Moreover, we identify processes (e.g. protection of smallholder rights, selective benefits) and social-ecological conditions (e.g. state protection, forms of community organization, socio-economic attributes) that are conducive for safeguarding or advancing rural livelihoods in the context of LSLAs.

In conclusion, a diagnostic approach to LSLAs seems to advance cumulative learning across cases about the livelihood impacts of LSLAs. It can be used to trace adverse impacts to processes and structural attributes of social-ecological systems and to transfer insights about opportunities and best practices between cases.

Keywords:
Large-scale land acquisition; Institutional diagnostics; Diagnostic methods; Livelihood impacts.
1. Introduction

Large-scale land acquisitions (LSLA) have altered land control and land rights in many developing and middle-income countries in recent years. LSLAs are transactions of formal and informal property rights about farmland to corporate (business, non-profit and state) entities. Some conceived LSLAs as “development opportunity” (Cotula et al. 2009). Investments in agricultural land by domestic and foreign corporate investors are incentivized and enabled by many governments in the global South with reasons given about, for instance, increased agricultural productivity, employment and poverty alleviation. This meets increased demand from domestic and foreign corporate investors which is enticed by agrofuel policies, concerns over domestic food security as well as returns on, and security of, investments. In stark contrast, critiques have labeled LSLAs as “land grabbing”. They observe adverse impacts on rural livelihoods including violent and subtle forms of displacement, loss of cultural values, increased food insecurity and environmental degradation (Deininger 2011; Hall 2011; Cotula 2012; Messerli et al. 2013).

Research about LSLAs has provided many contextualized small-n case studies about the drivers, actors, strategies and impacts of LSLA (e.g. Beekman and Veldwisch 2012; Nolte 2014). It has provided conceptual contributions such as typologies of LSLAs (Borras and Franco 2012) and first formal economic models (e.g. Dessy et al. 2012).

To date, current understanding of the impacts of LSLAs is fragmented among the scientific community with regard to particular cases, locations, models and underlying concepts. It is contradictory as underpinned by different theoretical preconceptions and diverging claims and evidence. Moreover, knowledge is either claimed for specific cases – limiting recognition of recurring patterns – or in a highly generic way – limiting recognition of contextualized diversity that shapes the manifestations of LSLAs.

This article operationalizes an institutional diagnostics approach (Ostrom 2007; Cox 2012; Young 2013) to LSLAs. It posits that cumulative learning about LSLAs could be advanced by strengthening methods to diagnose the impacts and processes of LSLAs. This papers contributes to diagnostic methods through a synthesis of empirical case studies based on Ostrom’s Social-Ecological Systems framework that is used as an integrative language for specific theories, models and empirical findings (Ostrom 2009). The main research question of this study is, how and why do LSLAs yield adverse impacts on rural livelihoods, and how and why are positive impacts possible?

The paper is organized as follows. Section 2 describes the diagnostic approach to the study of LSLAs. Section 3 describes the methods and the analytical framework used in this study. Section 4 presents the results. Section 4.1 presents the four archetypical diagnostic patterns that trace adverse livelihood impacts of LSLAs to processes with immediate impact, facilitating processes and attributes of the social-ecological system in question. Section 4.2 describes the two revealed patterns that explain positive livelihood impacts. Section 5 discusses the results and concludes.
2. Institutional Diagnostics of Large-Scale Land Acquisitions

Institutional diagnostics depicts a research approach that analyzes human-environment interactions (HEI) (Young 2002) and social-ecological systems (SES) (Ostrom 2009) by, first, disentangling the essential features of specific problems in HEI and SES in a specific governance field and, second, by analyzing how institutional arrangements and institutional change match or do not match with particular problems (Ostrom 2007; Young 2008; Cox et al. 2010).

Three reasons motivate a diagnostic approach to the analysis of LSLAs developed here (Oberlack 2014). First, it reveals recurrent diagnostic patterns of adverse manifestations of LSLAs (see section 4.1). Second, knowledge about the adverse diagnostic patterns is used to specify risk factors that can be used for early detection of risks of adverse LSLAs and, hence, support preventive action. Third, the approach detects and shares opportunities and strategies to alleviate, prevent or overcome specific diagnoses of adverse LSLAs. This is based on an understanding of diagnostic patterns of positive manifestations of LSLAs.

Three main elements characterize the institutional diagnostics of LSLAs (Oberlack 2014). First, a diagnostic framework provides a set of variables to map LSLA situations in a common language. This study utilizes the SES framework (Ostrom 2009; McGinnis and Ostrom 2014) for this task. Second, archetypical diagnostic patterns depict recurrent patterns of interactions between actors that bring about adverse impacts of LSLAs on rural livelihoods. Third, opportunities capture conditions that enable actors to alleviate, prevent or overcome a specific adverse diagnostic pattern.

The institutional diagnostics of LSLAs are developed in the spirit of identifying archetypical patterns rather than generalizations that apply necessarily to all cases. Archetypes of LSLA are patterns shared by multiple cases but not necessarily all cases of LSLAs. One case, in turn, can comprise multiple archetypes (Eisenack 2012; Oberlack and Eisenack 2014). The archetypical character of diagnostic patterns of LSLAs is similar to diagnoses in medicine and clinical psychology: Diagnoses are patterns that account for a specific malady; a particular diagnosis does not apply to all humans on earth, while multiple diagnoses may apply to one person at the same time.

Moreover, a diagnostic approach seeks to identify institutions and institutional change strategies that match the essential features of a particular (governance) problem rather than identifying universal principles for a governance field (Ostrom 2007).

3. Method and analytical framework

3.1. Analytical framework

LSLAs are transactions of formal and informal property rights about farmland to corporate (business, non-profit and state) entities. The impacts of LSLAs are characterized through a set of outcome attributes that is developed inductively from the primary studies of this meta-analysis (see section 3.2). The normative terms “adverse” and “positive” impacts or manifestations are based on the assumed preferences of actors whose livelihoods are affected, for instance, loss of habitat, loss of control over land and natural resources and less secure sources of food are assumed adverse, whereas increased income from employment as laborers and increased security of livelihood sources are assumed to contribute positively to livelihoods.
This study utilizes Ostrom’s Social Ecological Systems (SES) Framework (Ostrom 2009; McGinnis and Ostrom 2014). As its conceptual groundwork. The SES framework explains outcomes of resource governance (e.g. impacts of LSLAs) as a result of the interaction among actors (e.g. the processes identified in sections 4.1 and 4.2). These interactions are rooted in attributes of the social-ecological system that are classified into four broad classes: resource system, resource unit, actors and governance system. The framework further directs attention to the broader political, social, economic and ecological context in which the focal SES is embedded. Figure 1 illustrates the SES framework.

![Figure 1: The Social-Ecological Systems (SES) framework (McGinnis and Ostrom 2014).](image)

### 3.2. Method

This study synthesizes empirical case studies of LSLAs by means of a meta-analytic procedure. As virtually all LSLA case studies use qualitative methods, a model-centered meta-analysis (MCMA) approach is used (Rudel 2008). MCMAs code the co-occurrence or relations between variables (“models”) that are empirically found in the primary studies. This is in contrast to quantitative meta-analyses which pool data or effect sizes – which are obviously unavailable from qualitative case studies. To retain and synthesize the detailed, empirically validated information for cumulative learning about LSLA, this study conducts an MCMA of case studies.

Figure 2 depicts the study protocol.
3.2.1. **Search and selection of primary research documents**

Primary studies are identified through keyword search in the literature bases Web of Science, Academic Search Premier and EconLit as well as cross-referencing. Table 1 shows the criteria for inclusion and exclusion of primary studies in the meta-analysis. In this conference paper we use a pre-sample of seven selected studies that comprise eleven cases from India, Laos, Ethiopia, Ghana, Mozambique and Zambia. They are pre-selected to cover a range of interactions, countries and continents, targeted land use types, as well as a mix of domestic and foreign corporate investors. They comprise Beekman and Veldwisch (2012), Borras et al. (2011), Kenney-Lazar (2012), Lavers (2012), Levien (2012), Nolte (2014) and Taabazuing et al. (2012).

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**Title and abstract review and full text reading**

- Thematic focus: Large-scale land acquisition (planned or implemented); previous land use as farmland by smallholders (e.g. settled smallholders, pastoralists, shifting cultivation).
- Results are based on original empirical evidence.
- Methods: the research process has been clearly documented; sources of evidence and theoretical preconceptions are clear and adequate; triangulation of evidence.
- Other thematic focus.
- Study does not provide original empirical evidence, e.g. reviews, conceptual papers.
- Limitations with regard to the methodical criteria.
3.2.2. Codebook development and iterative coding

The codebook is developed in a mixed deductive and inductive manner. The empirical findings of the primary studies are coded as manifestations of second- and third-tier variables of the SES framework. Each code specifies the co-occurrence of at least one SES variable, at least one interaction variable and at least one outcome variable. Through increasing the number of coded studies, a detailed typology of SES, interaction (process types) and outcome variables is developed inductively.

3.2.3. Analysis of data

Formal concept analysis (FCA) is used to analyze the data. FCA is an approach for qualitative knowledge representation and inference developed in mathematics (Ganter and Wille 1999). Based on an input table of objects and attributes, it organizes concepts in such a way that lower-tier concepts are logical implications of combinations of upper-tier items to which they are connected. The software Concept Explorer 1.3 is used. Two main concept lattices are produced, one for adverse and one for positive livelihood impacts of LSLAs. The concept lattices are analyzed by disentangling, first, which particular interaction (process) variables co-occur with adverse and positive impacts and, secondly, which co-occurring SES attributes have been reported.

4. Results

Section 4.1 presents the archetypical diagnostic patterns of adverse impacts of LSLAs on rural livelihoods. Section 4.2 reports the patterns for positive impacts of LSLAs on livelihoods.

4.1. Diagnosing adverse impacts of LSLAs on rural livelihoods

LSLA research has documented adverse impacts of LSLAs on rural livelihoods for numerous cases. Their context-specific manifestations include lost control over land and related natural resources such as soil, water and forests, lost income, lost habitat and cultural values, diminished social capital, increased food insecurity, adverse health impacts and death.

The meta-analysis shows that the adverse impacts can be traced to one or more of four archetypical proximate processes. In turn, the proximate processes are frequently driven by one or more facilitating processes. Finally, the analysis shows how both proximate and facilitating processes are rooted in specific attributes of the social-ecological system (SES) in question.
4.1.1. **Physical enclosure**

Boundaries of the resource system are redrawn through physical measures. Instances include the clearing of land that has been used by smallholders before, building fences or walls or through physical resettlement. Physical enclosure can imply loss of control over land and loss of other livelihood sources for smallholders. Figure 2 illustrates the facilitating processes and SES attributes of the physical enclosure pattern.

![Figure 2: Physical enclosure pattern.](image)

A range of facilitating processes support physical enclosure. First, an *illusion of marginal land* supports enclosure, if corporate investments in land and agriculture are enabled and incentivized by policies, public officials or international agencies on the basis of an argument of “unused or marginal land” which disregards existing land use practices of smallholders. The illusion of marginal land predestines conflicting claims about land between investors and smallholders. Three risk factors for such an illusion are identified. First, conscious or unconscious ignorance on the side of public officials about smallholder land use practices is risky, in particular if combined with low political weight of smallholders and/or high transaction costs of official land titling. The second risk factor for an illusion of marginal land can become possible due to unrecognized externalities of land use in one land parcel that are transmitted through waterways to other land parcels. Contamination of water or reduced water quantity on neighboring land parcels are cases in point.
In the second type of facilitating processes for physical enclosures, leaders or majorities of smallholder communities have approved the enclosures. Strategies which create a vision of progressive change to the benefit of smallholder communities and livelihoods have supported consent by communities and their leaders. This has become particularly possible, if a community has high levels of trust in the government and if physical relocation is not necessary for an LSLA. Similarly, prospects for agreement are enhanced, if an LSLA provides co-benefits for community leaders and/or formal government officials. Moreover, collective resistance by smallholders has been counteracted through designing LSLA projects in a way that it promises net benefits for selected, crucial members of smallholder communities (veto players).

Third, even in situations in which formal smallholder rights to land and to self-organize exist, physical enclosures have been possible due to poor enforcement mechanisms for formal rights. They have been based on the risk factors of limited legal knowledge on the side of smallholders, limited monitoring resources on the side of formal agencies and limited communication between authorities.

4.1.2. **Asymmetric bargaining**

Asymmetric bargaining depicts a pattern in which direction negotiations between investors and smallholders take place, but which are characterized by strong limits on the bundle of power by smallholders. Asymmetric bargaining limits the option of smallholders to veto against an unfavorable LSLA and the prospects in negotiating compensation.

![Asymmetric bargaining pattern](image)

Figure 3: Asymmetric bargaining pattern.

The asymmetries of bargaining power can be traced to various facilitating processes and SES attributes. First, with regard to actor attributes, if community authorities perceive themselves to have no control to influence foreign investment (limited self-efficacy), they may adopt a passive attitude. Second, governmental support for an investment secures legal, political and financial means for investor sides in bargains. Third, a strategy of timing negotiations after physical enclosures have been
implemented, often leaves smallholders with sole options to choose among an unfavorably negotiated contract or no compensation at all. Fourth, agenda-setting strategies that frame negotiations around questions of “how to” implement an LSLA – instead of “whether” the LSLA project gets smallholder approval at all – constrain the negotiated content effectively. Fifth, even if smallholder rights to land or to self-organize are formally recognized, poor enforcement mechanisms facilitate asymmetric bargaining as they do with physical enclosure (see 4.1.1).

4.1.3. Selective marginalization

Selective marginalization occurs when a subset of the affected smallholders experience social exclusion through dynamic decrease of their capitals as soon as the LSLA project is operational. For instance, this can occur if compensation is paid but used for consumptive purposes unraveling new precarious livelihood implications of lost land control in the medium to long term. Figure 4 illustrates this pattern.

![Figure 4: Selective marginalization pattern.](image)

The proximate process of selective marginalization can be based on the facilitating process of a selective illusion of marginal lands (cf. 4.1.1), i.e. if policies or public officials disregard existing land use practices of a subset of smallholders. For instance, Lavers (2012) documents how Ethiopian pastoralists experienced a trap of selective marginalization, whereas land claims of settled smallholders enjoyed governmental protection.

Selective marginalization has also been supported by high transaction costs of official land titling that make formal recognition of land rights for some smallholders unfeasible. However, missing land titles constrain the enforcement of compensation claims.

The final result in this regard is that the actor attributes of age (old), gender (women), skills for qualified labor (low skills), social networks (limited networks) and dependency on land (strong dependency) are decisive for shaping who is particularly vulnerable to lose in the dynamics of selective marginalization.
4.1.4. New risk exposure

The fourth pattern of proximate processes with immediate adverse impacts on rural livelihood is new risk exposure. It occurs if a LSLA is implemented and exposes smallholders to new livelihood risks that they have been unexposed to before. Important risks include new risks (e.g. about prices, quantities) at input and output markets and risks of LSLA project management failures. Both risk classes apply to outgrower schemes and LSLAs in which smallholders may work as employed labor. Figure 5 illustrates this pattern.

4.2. Diagnosing positive livelihood outcomes in the context of LSLAs

The included primary studies identified two main processes that support positive livelihood outcomes in the context of LSLAs. Figure 6 illustrates them.

4.2.1. Selective benefits of LSLAs

A process of selective benefits denotes a mechanism through which a subset of affected smallholders benefits from an LSLA such as through increasing their income as labor workers or in outgrower schemes or through increased security of livelihood sources in previously volatile conditions. As identified in the selective marginalization process, the factors of age (young), skills (required skills), existing social networks (large social capital), dependence upon land (limited) account for the likelihood of benefiting from an LSLA. Moreover, smallholders whose living conditions are extremely precarious in the status quo may gain benefits already from small improvements of livelihoods (e.g. previously landless laborers who find employment in an LSLA scheme).
4.2.2. Protection of smallholder rights

Cases have been documented in which status quo smallholder rights have been protected in contests between smallholder communities and investors groups. Protection of smallholder rights has been achieved through three distinct patterns. First, selective state protection enabled the protection of smallholder rights for those sub-groups of smallholders in a country that are politically important for public officials. However, this often implies a selective marginalization pattern for politically less important smallholders. Second, community-based resistance against an LSLA has been organized by some smallholder communities. The likelihood for community-based resistance increases, if community leaders expect significant negative impacts of LSLAs (e.g. based on experiences of neighboring communities); if leaders are trusted by their communities; and if leaders are resisting in forceful manner. Third, NGO-supported resistance refers to community resistance that is supported by non-governmental organizations (NGOs), for instance through legal support or strategic political-economic support to counter the unused/marginal lands argument. All three patterns can increase the likelihood for the cancelling a planned LSLA or for designing it in beneficial ways for previous land users.
5. Discussion and conclusion

This paper has analyzed the processes and attributes of social-ecological systems that give rise to varying impacts of large-scale land acquisitions (LSLA) by means of a meta-analysis of case-study evidence. It proposes four proximate processes that give rise to adverse impacts such as lost control over land and related resources such as water, soil and forests, lost habitat, income or food security. The diagnostic patterns of physical enclosure, asymmetric bargaining, selective marginalization, and new risk exposure are sufficient to account for the empirical explanations of adverse livelihood impacts of LSLAs. They are rooted in a set of facilitating processes, i.e. illusion of marginal lands, vision of progressive change, elite benefits, individualizing communities, poor enforcement. The paper analyzes how these processes are rooted in specific attributes of social-ecological systems (SES).

These SES attributes identified in the four adverse diagnostic patterns can be seen as risk factors for early detection of risks of adverse livelihood impacts of LSLAs. With respect to actor attributes, such risk analysis may seek to identify legal knowledge of community leaders; community trust in government; perceived self-efficacy of community leaders for shaping LSLAs; smallholder skills for various land use practices; age; gender; degree to which smallholders depend on land and a particular land arrangement; degrees of social capital of community members; and political importance of smallholders for the relevant policymakers. With respect to institutional attributes of the focal SES, risk analysis may assess the size of transaction costs and legal implications of land titling; communication between various public authorities; and enforcement of formal smallholder rights. With respect to the resource system and resource units, biophysical externalities of land use (e.g. upstream-downstream effects through waterways) as well as the necessity of physical relocation for an LSLA are relevant risk factors. With respect to the broader context in which the considered social-ecological-system is embedded, perceptions by public officials of smallholder land use as well as the extent of political and institutionalized government support for foreign investments are relevant factors for risk assessments.

In conclusion, a diagnostic approach to LSLAs seems to advance cumulative learning across cases about the livelihood impacts of LSLAs. First, a diagnostic framework provides a set of variables to map contextualized LSLA situations in a common language. The challenge of tailoring the definitions of the framework variables is one of specifying them in such a way that their number is as parsimonious as possible while ensuring that the framework acknowledges all results of the underlying primary studies. Hence, the diagnostic framework can identify the niche of particular models or cases of LSLA and embed the niches in a bigger picture. Second, diagnostic patterns posit relations between the variables of a framework (Ostrom 2008). The diagnostic patterns identified here in sections 4.1 and 4.2 trace the adverse and positive impacts of LSLAs to underlying processes and attributes of SES. They synthesize empirical case study results to identify repeated patterns in LSLA situations. On the basis of taking stock of current knowledge about LSLA, this may provide directions for future research. A particularly important field for future research would be to identify specific opportunities that match with the specific diagnoses so as to enhance understanding how significant, adverse implications of LSLAs on smallholder livelihoods may be alleviated.
References


