Large–scale land acquisitions in sub–Saharan Africa

Determinants, processes and actors

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Contents

Acronyms

BMBF	Federal Ministry of Education and Research
BMZ	Federal Ministry for Economic Cooperation and Development
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
FGD	focus group discussion
GAEZ	Global Agro–Ecological Zones
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GIS	geographic information systems
GREAT	Groupe de Recherche en Économie Appliquée et Théorique
IIASA	International Institute for Applied Systems Analysis
LDPI	Land Deal Politics Initiative
LSLA	large–scale land acquisition
LULCC	land–use and land–cover change
NGO	non-governmental organization
OECD	Organisation for Economic Co–operation and Development
OLS	ordinary least squares
PPML	Poisson pseudo–maximum likelihood
UNCTAD	United Nations Conference on Trade and Development

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1 Introduction[1]

1.1 Motivation

> *'Dominion [the investor] came and took over our land with the promise of compensating us, which they never did. In fact, these people need to get saved because they are liars' (focus group discussion in Kenya, 2011 (FGD K5)).*

> *'Dominion reclaimed the land, they offered employment opportunities, sponsored students to go to school (…). They also taught youths some technical skills to get them into employment, they repaired the roads from Siaya–Kadenge–Yimbo (…). Dominion also brought electricity from Yimbo to Kadenge which we never dreamt of. They also improved the facilities in Ratuoro health centre' (focus group discussion in Kenya, 2011 (FGD K1)).*

> *'We are scared out of our minds. Actually very scared (…) because we don't have any papers [for the land]' (focus group discussion in Zambia, 2011 (FGD Z5)).*

These quotes from focus group discussions (FGDs) in Kenya and Zambia illustrate that large–scale land acquisitions (LSLAs) significantly affect the lives of rural populations in developing countries. While some participants in these FGDs make reference to the negative consequences of investors coming in, others praise the benefits they have brought to local communities. Perceptions about any given project can differ between individuals and between villages. In light of increased pressure on land, the weaknesses of land governance systems and poorly defined land rights become evident. This thesis is a contribution to the growing body of evidence about the nature and effects of LSLAs, particularly regarding the determinants of the investor's decision to acquire land, the processes surrounding the acquisition, and the actors shaping it.

Since the food price crisis of 2008, so–called 'land grabs' have dominated many newspaper articles and raised concerns among politicians in both the receiving and sending countries of such land investments, civil society, non-governmental organizations (NGOs) as well as the international community at large. The phenomenon of LSLAs is marked

[1] I wrote this dissertation within the scope of two research projects at the GIGA German Institute of Global and Area Studies, Institute of African Affairs, under the supervision of Jun.–Prof. Dr. Jann Lay: from 2010–2013 'Large–Scale Land Acquisitions and Sustainable Development' (funded by the Federal Ministry of Education and Research (BMBF)) and from 2013–2014 'Transparency, Dynamics and Impacts of Large–Scale Land Acquisitions: Global and Local Evidence' (funded by the Federal Ministry for Economic Cooperation and Development (BMZ)).

by emotional debates and a conspicuous lack of transparency and data, which makes it a challenging but highly relevant research topic.

The emotionality of the issue is reflected in the various terms that are used in relation to it: while the best–known term among the general public, 'land grabbing', tends to be avoided in scientific debates due to its negative connotations, a myriad of more or less neutral terms also exist. Choosing an appropriate term is no trivial task, as this decision reflects how one positions oneself in the wider debate. I have chosen to use what I consider to be the most neutral term, 'large–scale land acquisition (LSLA)', throughout this thesis. I use this term interchangeably with such appellations as land deals, land investments, land acquisitions or simply land projects.

But what do these terms mean; how can we define LSLAs? In essence, LSLAs are processes in which land is acquired through either sale, lease or concession. 'Large–scale' signifies areas to be used for commercial purposes and not a given geographical size. Acquisitions entail a transfer of usage rights, control or ownership of land and usually induce a change in its use. Often, land is converted from smallholder production, local community use or an important ecosystem service provision to commercial use (Land Matrix, 2014). While there are numerous different reasons why investors choose to acquire land—such as agriculture, mining, tourism or pure speculation—this thesis concentrates specifically on agricultural land deals. These deals are not only the most significant group among the acquisition objectives, they are also particularly sensitive as they target the agricultural sector in poor countries and are thought to have large effects on receiving countries.

Acquisitions of land as such are not a new phenomenon (Alden Wily, 2012; Peters, 2013; Woodhouse, 2012). Cotula (2013), for instance, identifies three historical waves of 'land grabs' in Africa that influence today's land governance there. This thesis deals with the most recent wave of LSLAs, for which the scale and scope of the phenomenon has changed and wherewith new actors have entered the scene (Cotula, 2013, p. 9; World Bank, 2010, pp. 50–51).

The introductory chapter proceeds with a literature review, presents the research questions of this dissertation, and then introduces the research design of the field research period. Following on, this thesis then features four independent chapters that each contribute to the literature introduced below. In particular, Chapter 2 conceptualises LSLAs for agriculture and places them in the context of foreign direct investment (FDI). It analyses how, against this backdrop, LSLAs are different to FDI in manufacturing. Chapters 3 and 4 then elucidate the processes surrounding and the actors shaping LSLAs. Chapter 5 puts specific focus on the consultation of local populations in the process of acquiring land. The dissertation concludes with a summary of key findings and some ideas for future research avenues.

1.2 State of the art

In recent years evidence on LSLAs has been growing. While NGOs dominated the debate in the first years of this phenomenon being studied, academia's input to that pursuit is

by now substantial. An interdisciplinary research community composed of researchers from eclectic academic backgrounds—for instance, Anthropology, Development Studies, Economics, Geography, Legal Studies, Political Sciences, and Sociology—has hitherto looked at different angles of the phenomenon.

In the following I will review the major strands of this emergent literature that are of particular importance to this thesis. All of these strands are interconnected.

Extent and nature of large-scale land acquisitions

After the food price crisis of 2008 the media soon picked up on the phenomenon of 'land grabbing' and the notion of it happening on an enormous scale came to dominate the headlines across the world. However, how many deals have actually been concluded, to what extent these deals have been implemented and where and by whom they have been brought into being remains unclear to this day.

Challenges of obtaining data[2]

The phenomenon of LSLAs is still marked by secrecy and official statistics with regard to it are virtually non–existent. Many negotiations take place behind closed doors in contexts of weak land governance systems, and those negotiating the deals often prefer not to disclose data to the general public. They can have a variety of reasons for this, ranging from corruption to business confidentiality.

Land acquisitions are, in addition, dynamic in nature which makes it difficult to keep track of evolving deals: the first time that a deal is mentioned is usually before a contract is signed. The size that is mentioned then is often inflated as compared to the size that is later stated in the actual contract. After a deal has been struck, keeping track of its implementation is extremely difficult as the area actually used for commercial production can change on a daily basis.

This results in patchy data that is likely to be biased. Most estimates are based on media sources, as a first point of entry. This leads to a bias in regional coverage: while relatively democratic countries are more likely to uphold the freedom of the press with committed journalists, autocratic regimes are less researched into. Some countries, meanwhile, receive particular international attention due to their global relevance. One prominent example is China, with its investments having attracted a lot of attention over the years. Hence the country's investments have appeared in a vast array of media sources. Thus, China often ranks first among investor countries—despite numerous deals having been abandoned long ago and hectare–sizes being exaggerated for many other deals (Bräutigam and Zhang, 2013).

Different estimates on the extent of the phenomenon have been floating around for a while now, with figures as high as 227 million hectares of land being involved (Oxfam, 2011)—roughly one quarter of the total area of China. While some scholars doubt the

[2] A good overview of the challenges faced in tracking land deals is provided by Locher and Sulle (2014) through the example of Tanzania.

usefulness of a global data base on LSLAs (Edelman, 2013; Oya, 2013), data availability and quality has improved considerably over the last few years (Cotula, 2013).

The most comprehensive initiative undertaken to systematically collect data is the Land Matrix Global Observatory, a global and independent project that monitors and collects data on large–scale land transactions in low– and medium–income countries. The Land Matrix database records intended, concluded or failed land acquisitions that have taken place since the year 2000 and covers those involving a geographical area of at least 200 hectares. These include acquisitions for agricultural and livestock production, timber extraction, carbon trading, renewable energy production and conservation in low– and middle–income countries.

Size

In the following, I will use Land Matrix data (as of 1 September 2014) on international land acquisitions[3] to assess the global scale and scope of the phenomenon. While keeping in mind that this data is likely to be biased, I believe it is still the most accurate estimate currently available, a view shared by many scholars and international organizations (Cotula, 2013; Cotula et al., 2014; Messerli et al., 2014; Rulli, Saviori, and D'Odorico, 2013; Schoneveld, 2014; Seaquist, Li Johansson, and Nicholas, 2014).

The Land Matrix reflects the dynamic nature of land acquisitions through two core variables: first, the 'negotiation status' tells us a) whether a deal has resulted in a *concluded* contract, b) whether it is *intended* in cases where an interest has been expressed but no contract has as yet been concluded, or c) whether the deal has outright *failed*. Second, the 'implementation status' tells us how far along a project is in terms of commercial production commencing. These dynamics are also reflected in different size variables: the *intended size* is the announced size (such as in a media report) before a contract is concluded, the *contract size* is the area given in the contract, and the *current size under production* is the area that is currently operational.

Table 1.1 presents the number of land deals with their respective area size according to their negotiation status. We can take note of a total of 983 concluded deals that amount to a total land size under contract of 37.3 million hectares, roughly the total territorial area of Germany. In addition the 'intended deals' number 186 cases, with an intended size of 14.8 million hectares. The huge discrepancy between intended size and size under contract, for instance 62.3 million hectares of intended and 37.3 million hectares of size under contract for all concluded deals, can be understood as a sign of likely future demand for land: we expect that LSLAs will continue to be important in the future. At the same time, we can expect the size of land that comes under contract to be much lower than the intended size. The last row shows, that 79 deals have failed, either during the negotiation stage or in the course of implementation. This figure is surprisingly low. I assume failed deals are underreported, rather than taking this as a sign for high success rates of land acquisitions.

[3]The Land Matrix also includes LSLAs by domestic investors. As foreign investors generally attract more attention than domestic investors, purely domestic deals are underrepresented. Hence, I chose to exclude them here. Nonetheless, domestic land acquisitions are assumed to be significant.

Table 1.1: International land acquisitions according to negotiation status

	Number of cases	Intended size (in million ha)	Size under contract (in million ha)
Concluded deals	983	62.3	37.3
Intended deals	186	14.8	n.a.
Failed deals	79	7.5	1.9

Source: Land Matrix (2014), data as of 1 September 2014.

Table 1.2 presents the 'implementation status', broken down into the different steps of implementing a project. First of all, we find 265 deals with no information available on their implementation status. This highlights the difficulties in obtaining such information. We can further determine that the majority of deals are currently in operation (503 deals), while a further 129 deals are in the startup phase. Only for 54 deals has the project not yet started. We can also take note of the 32 deals that were abandoned after a contract had been concluded. For those deals currently in operation, the table not only shows the land size under contract but also the amount under production, 4.1 million hectares. However, as discussed above (see page 3), deals constantly change, so this latter figure is to be taken with a grain of salt. Nonetheless, looking at older Land Matrix estimates, it appears that this figure has been increasing steadily over the last few years—for example, it stood at 1.7 million hectares in June 2013 (Althoff et al., 2013). Hence, the implementation of deals is ongoing.

Table 1.2: International land acquisitions according to implementation status

	Number of concluded deals	size under contract (mn ha)	current size under production (mn ha)
Project not started	54	2.8	n.a.
Startup phase (no production)	129	3.2	n.a.
In operation (production)	503	17.0	4.1
Project abandoned	32	1.4	n.a.
No information	265	13.0	n.a.
Total (deals or ha)	**983**	**37.3**	**4.1**

Source: Land Matrix (2014), data as of 1 September 2014.

Investors and target countries

Seaquist, Li Johansson, and Nicholas (2014) use network analysis to scrutinize involved countries, or as they put it '[to] describe the connectivity of the global acquisition system'. They find that 126 countries participate in the 'global land trade', but that there are very few countries that account for the majority of such acquisitions. Investors are

concentrated in the Global North and the emerging economies of Asia and the Middle East, and target countries are confined to the Global South and Eastern Europe. Anseeuw et al. (2012) come to similar conclusions but put an emphasis on sub–Saharan Africa as the main target region of land acquisitions. Schoneveld (2014, p. 7) focuses on land acquisitions in sub–Saharan Africa and concludes that most investments there originate with traditional investors from industrialized countries. Reflecting these trends, Table 1.3 shows the most recent Land Matrix ranking of top investor and target countries.

Table 1.3: Top 10 investor and target countries ranked by size under contract

Rank	Investor country	Target country
1	USA	Papua New Guinea
2	Malaysia	Indonesia
3	Singapore	South Sudan
4	United Arab Emirates	Democratic Republic of the Congo
5	Great Britain	Mozambique
6	India	Republic of the Congo
7	Saudi Arabia	Brazil
8	Netherlands	Ukraine
9	Hong Kong	Liberia
10	Republic of Korea	Sierra Leone

Source: Land Matrix (2014), data as of 1 September 2014.

Another distinguishing feature of land deals is the type of investor (see Table 1.4): most projects are private companies (428 cases), stock–exchange listed companies (262 cases) or investment funds (64 cases). Only few projects are semi state–owned (24 cases) or state–/government–owned companies (44 cases). Oftentimes, investors partner up with domestic or other international investors. Within the 983 concluded deals, there are 196 cases where more than one investor acquires land jointly.

Table 1.4: International land acquisitions according to type of investor

	Number of Deals	in 1,000 ha
Private company	428	16,907
Stock–exchange listed company	262	10,732
Individual entrepreneur	13	252
Investment fund	64	2,526
Semi state–owned company	24	360
State–/ government–owned	44	1,769
Other	5	488
No information	143	4,242
Total (deals or hectares)	983	37,276

Source: Land Matrix (2014), data as of 1 September 2014.

Messerli et al. (2014) point to the fact that specific local contexts need to be taken into account when studying LSLAs and link geo–referenced data on land deals with proxies for the socio–ecological characteristics of the land deal target contexts. Their results challenge the narrative that assumes land acquisitions target mainly idle land. In fact, they find that land deals hone in on specific areas within target countries: a) densely populated and easily accessible croplands; b) moderately accessible and moderately populated shrub– or grassland; and, c) remote and sparsely populated forestland. These findings support the hypothesis brought forward in many case studies that suggests LSLAs accentuate competition for land resulting in conflicts over it in developing countries because the areas targeted by investors are by no means idle.

To sum up briefly, obtaining precise data on LSLAs remains a major challenge. Starting with virtually no information, data availability and quality have, fortunately, improved over the last few years. The phenomenon is real, and the extent of it is considerable—even though first estimates thereof seem to have been exaggerated. Demand for agricultural land in low– and middle–income countries is high and is likely to remain so for the foreseeable future. The biggest challenge academics and policy makers face is to track the implementation of such projects. The little data that there is suggests that the implementation is slow—but nevertheless ongoing. Target regions of investments are located in Eastern Europe and the Global South, mainly in sub-Saharan Africa. Contrary to popular belief, the land targeted is not idle as close analysis on the local level shows.

Determinants

The Land Matrix provides some information on the different purposes behind land acquisitions: the majority of deals are targeted at food crop production (335 deals, together amounting to more than 9.4 million hectares), while agrofuels can be identified as the second–most important reason for investment involved in 190 deals and covering an area of almost 8 million hectares. As the Land Matrix focuses on land acquisitions *for agriculture* other sectors are underreported; however, it can identify forestry and tourism as additional drivers of land acquisitions (see Table 1.5).

The literature on the determinants of land acquisitions identifies factors that determine an investment decision. These factors can be viewed both in a broad and in a narrow sense: the broad sense concerns global developments that make acquisitions of land more attractive. The narrow sense concerns very specific factors that affect an investor's decision to acquire land, for instance host country characteristics.

In the broad sense, many authors mention that context conditions set the grounds for land acquisitions, for example a combination of globalisation, the liberalisation of land markets, and a worldwide boom in FDI have made sizeable land deals possible (Cotula et al., 2009; Zoomers, 2010).

The literature further mentions a number of global trends that drive land acquisitions: First, an increased demand for agricultural products. This demand is itself driven by

Table 1.5: International land acquisitions according to reason for investment

	Number of concluded deals	Concluded deals (mn ha)
Agriculture		
Food crops	335	9.4
Livestock	35	0.5
Agrofuels	190	8
Non-food agricultural commodities	132	1.7
Agriculture (unspecified)	108	3.4
Other than agriculture		
Forestry	96	8.3
Tourism	14	2.9
Other	25	1.7
No information	45	1.4

Source: Land Matrix (2014), data as of 1 September 2014

population and income growth, and by related changes in consumption patterns (World Bank, 2010, p. 7). Second, there is an increased demand for agrofuels that has been triggered by the policies being pursued in key consuming countries (World Bank, 2010, p. 7; Cotula et al., 2009, p. 5). Agrofuels also raise the profitability of the agricultural sector and make investments in it more lucrative (Zoomers, 2010). Third, the literature identifies the importance of the 'offshoring' or 'outsourcing' of agricultural production. In light of land– and water–scarcity and food security concerns, investors have chosen to commercially produce in land–abundant regions (hence, where land is typically cheaper)—where the scope for productivity growth is higher (World Bank, 2010, p. 7; Zoomers, 2010; Cotula et al., 2009, p. 4). This is true both for investors who produce for local markets and those who export their produce to locations overseas. Schoneveld (2014) finds that classical export crops are indeed sent abroad, but staple crops tend to be marketed locally.

Pinning down these determinants empirically (in the narrow sense) is difficult however. Arezki, Deininger, and Selod (2013) were among the first scholars to undertake an empirical study of the determinants of LSLAs. They focus on the push– and pull–factors that make investors choose a certain destination. Their analysis is based on data concerning bilateral investment relationships between host and investor countries. The authors use a gravity framework and test a number of host and investor characteristics as well as bilateral variables. Their findings suggest that the surveyed country's agro–ecological potential plays a prominent role in the decision to invest in it. While the business climate and the yield gap (a measure of agricultural productivity) are insignificant, weak tenure security is associated with an increased demand for land. They conclude that interest in land may be rather driven by speculation based on rising land

prices than by investment projects aimed at actual agricultural production. These findings are challenged by Schoneveld (2014) who claims that the overall situation worldwide is far too complex for us to make such generalizations. Analysing farmland investments in sub–Saharan Africa, he calls for analysis that takes into account differences across both regions and individual investment projects. He finds that most investments are targeted at classical export cash crops, particularly oilseed cultivation. The core drivers of this are the agrofuel demand in the European Union and favourable trade conditions for cash crops. Target countries are seen as attractive due to factors that are difficult to quantify, such as the historical, cultural, economic and political relations between the host and home country.

While many studies refer to LSLAs as 'investments' or 'FDI in land' (Cotula et al., 2009; Görgen et al., 2009; Wouterse et al., 2011), there has hitherto been no attempt to clarify the relationship between LSLAs and FDI, and hardly any effort made to draw on the FDI literature so as to study the determinants of LSLAs (the aforementioned study by Arezki, Deininger, and Selod (2013) is the exception). This thesis thus seeks to rectify this shortcoming in Chapter 2.

Processes and actors surrounding and shaping the land acquisition

In the following I elucidate how LSLAs happen and focus on the processes surrounding the actual land acquisition, as well as on the actors shaping it. As deals are often negotiated behind closed doors, the process remains a 'black box' to outsiders. The steps an investor has to go through and who negotiates the deals is opaque in many cases of LSLAs.

Processes of acquiring land take place within complex institutional frameworks. While the land governance systems are different in every country (Boone, 2014), some similarities across national borders can be identified. For instance, many sub–Saharan African countries share a similar heritage of a dual land tenure system with therein varying importance of customary land and informal governance mechanisms (German, Schoneveld, and Mwangi, 2013; Peters, 2013; Platteau, 1996; Toulmin, 2009). This often results in differences arising between de jure claims and de facto power when it comes to land administration (Lund and Boone, 2013).

The political economy literature provides explanations for the persistence of such de facto power (and related institutions)—despite inefficiencies resulting from it (North, 1990, pp. 92–104; Williamson, 2000). For instance, Acemoglu and Robinson (2008) explain why changes made to de jure political institutions may have no impact on economic or policy outcomes: if political institutions change, those in power offset these de jure changes by making investments in de facto political power.

Case studies provide first empirical insights into the 'black box' of land acquisition processes and provide detailed accounts of involved actors, power relations and the institutional backdrop. Acquiring land usually involves many different actors, and goes through many individual stages. While several sub–Saharan African countries have es-

tablished 'one–stop–shops' that facilitate the process for investors,[4] on the whole the process still remains a tedious and complicated one marked by competing land tenure systems and a lack of checks and balances (Cotula and Vermeulen, 2011; Cotula et al., 2009). Particularly, the involvement of local people through consultation and compensation is generally weak. Yet, this interaction is a crucial step in any land acquisition, one that may both increase benefits for local people and their acceptance of a land deal (Cotula and Vermeulen, 2011).

German, Schoneveld, and Mwangi (2013) provide a detailed comparative analysis of the processes surrounding land deals based on case study analyses from Ghana, Mozambique, Tanzania and Zambia. They focus on the protection of customary rights in the context of LSLAs and find that these rights have been lost in all four case study countries due to deficiencies in the design and enforcement of legal frameworks. These deficiencies are specifically: the rules governing the size, duration, and permanence of land acquisitions; the identifying of the land and negotiating of access; as well as a lack of proper consultation, compensation– and monitoring mechanisms.

Chapters 3, 4, and 5 (published as Nolte (2014), Nolte and Väth (forthcoming), and Nolte and Voget-Kleschin (2014)) contribute to the literature on processes and actors surrounding and shaping LSLAs in being among the first studies to provide insights into the 'black box' of LSLAs.

Welfare implications

Next, I review the literature on the welfare implications[5] of LSLAs. Typically, the occurrence of LSLAs implies a shift towards commercial agriculture.[6] They can hence be considered an external shock that almost certainly has repercussions on (poor) target countries, and particularly their rural populations.

Collier and Venables (2012) describe this shift in usage as a transition from a 'land–abundant, investor–scarce' to a 'land–scarce, investor–abundant' situation. They adopt a governance perspective and provide an economic framework that analyzes how governments can best meet the challenges of sharing the benefits of commercialization for society at large, and furthermore how they can initiate the transition towards a land–scarce, investor–abundant situation. The authors argue that currently agricultural productivity is extremely low, but that investments potentially increase that productivity. These investments can partly be provided by the government, but some need to come from private hands too. In the early stages, 'pioneer' investors are attracted by low land prices that allow them to benefit from future productivity increases on the land bought ('option value'). However, rigorous screening and contractual obligations to work the

[4] Many of these investment promotion agencies have been established in the course of donor–led liberalization policies (de Schutter, Swinnen, and Wouters, 2013, pp. 122–124).

[5] I chose to speak about welfare implications which is more precise than the broad term 'impacts' that is often used in the literature.

[6] This does not necessarily result in a conversion of small–scale agriculture to large–scale agriculture. There is a variety of institutional arrangements such as land rental or contract farming, that retain small–scale agriculture (World Bank, 2010, pp. 25–27).

land are indispensable requirements so as to avoid rapacious speculation.

Moving away from these conceptual principles, the actual welfare implications of land deals fuel the emotional debate on land grabbing like no other strand of the literature does. On the one hand, concerns over food security in the host countries and the expropriation of smallholders indicate the negative outcomes of LSLAs for the poor: they may cause low-income farmers to lose their livelihoods either through their outright displacement or through indirect channels of influence, such as the destruction of local markets or rising food and land prices (Cotula and Vermeulen, 2009; FAO, 2009; Songwe and Deininger, 2009). On the other hand, the agricultural sector is heavily underfinanced (Adesina, 2010) and investments are thus unlikely to be carried out through official development assistance or by the target countries themselves. As such, private investments could be a great opportunity for the poor to improve their situation. In addition, these investments may involve positive spillovers either within the agricultural sector or through backward and forward linkages to the rest of the national economy. Even though these effects are heavily debated, we still know very little about them. The reasons for this are rooted in a number conceptual and methodological challenges that I will lay out in the following.

First, many studies set out to analyze the welfare implications of LSLAs without further specification. It is important to be precise, and thus to ask *who* is affected by LSLAs—as their welfare implications can have an effect on the local, the national, and/or the global level (FAO, 2013, pp. 323–331), and can work differently across different groups of stakeholders. For instance Väth (2013), based on a case study in Ghana, points to the fact that outcomes turn out very differently across different social groups: neighbouring villages realize mixed outcomes linked to land loss, infrastructure improvements and employment creation; communities further afield are rather negatively affected by the investment as they are too far away from it to experience any positive spillovers; outgrowers, meanwhile, are identified as the real winners from the investment.

Second, we need to identify the *transmission channels* through which welfare implications take effect. While the empirical literature on FDI (specifically in manufacturing) considers spillovers to be one of the main transmission channels of FDI on domestic firms (Javorcik, 2004), there is little evidence on transmission channels of land deals. The proof that currently exists stems exclusively from case studies. For instance, the World Bank (2010, pp. 45–50) formulates hypotheses on transmission channels derived from 19 case studies on individual projects in seven countries. They find that investments can affect local livelihoods and food security by generating jobs, providing social services, increasing knowledge and improving the asset base of local populations through the financial compensation awarded. A good overview of the transmission channels is provided by Kleemann and Thiele (2014), who develop a theoretical model on welfare implications that bases its assumptions on the available case study evidence. They analyze the different transmission channels of LSLAs that affect rural populations. In particular, they take displacements and compensation, employment effects, spillover effects and changes in food prices into account. They posit that in a staple food crop scenario welfare implications are likely to be negative, due to falling wage and rising food prices. For labour intensive crops, the chances for positive welfare implications occurring are higher

if spillover effects materialize—for instance through contract farming schemes. They conclude that so far hardly any evidence exists either way, and as such more empirical studies are needed to investigate welfare implications and productivity effects.

Third, we need to clarify which exact time horizon we have in mind: Do we consider medium– or long–term impacts, or do we look only at the immediate impacts of the land acquisition—for instance in the form of compensation or displacement? Making this distinction is crucial, as welfare implications differ according to the maturity of a project. For instance infrastructure is usually constructed in the implementation stage of a project, during which time many jobs accrue; an operational, mature project, meanwhile, typically provides less employment opportunities. Most studies touching upon welfare implications are based on case studies and furthermore only consider the short–term perspective , for instance FAO (2013) and Schoneveld, German, and Nutakor (2011).

In the literature, a balanced assessment of the welfare implications of investment projects from a medium– to long–term perspective is missing because such an approach throws up many methodological challenges. Medium– to long–term welfare implications can only be assessed after several years of project's operation. With a large number of rather young projects currently being found around the globe, protracted welfare implications have simply not yet materialized. Moreover, it is hard to find a counterfactual case to compare the developments in the project area in question with, in other words a comparable area that has not been affected by a LSLA.

Hence, there have hitherto been few attempts to assess long–term welfare implications of LSLAs. One exception is Mujenja and Wonani (2012), who analyse two Zambian investment projects dating back to the 1970s and 1980s—hence, ventures set up in a very different context as compared to that of today—and find positive outcomes therefrom due to job creation and increased household incomes.

Moreover, hardly any quantitative assessments of welfare implications exists. One exception—however, also based only on a single case study—is a study by Väth and Kirk (2014). They use a quasi–natural experiment and compare outgrower farmers to independent oil palm growers in the vicinity of a large–scale oil palm investment project in Ghana. They find that LSLAs may be beneficial for those who participate in contract farming. Moreover, Väth, Gobien, and Kirk (2014) find that contract farming increases the subjective well–being of outgrowers.

So far, no cross–country quantitative assessment—meaning one not based on a case study—has been undertaken. Hence, as of now, assessments on welfare implications remain tied to specific case studies, and thus general conclusions cannot be drawn at present.

This thesis contributes to the literature on welfare implications in Chapters 3 and 4 in that it contributes to the transmission channels thereof. It provides preliminary ideas for future research on this strand of the literature in Chapter 6.

1.3 Research questions

Above, I identified the numerous gaps in the literature that this dissertation seeks to address. First, there is a lack of conceptually understanding of the relationship between FDI and LSLAs, as well as the similarity of or difference in their determinants. Moreover, so far there have been only a few studies that have empirically tested the determinants of LSLAs (in the narrow sense). Hence, Chapter 2 asks:

> *What is the relationship between LSLAs for agriculture and FDI?*
> *To what degree are the determinants driving LSLAs similar or different to those of FDI?*

To address these questions, Chapter 2 employs a cross–country analysis based on a gravity model.

Second, there is currently only a very limited understanding of the processes surrounding and the actors shaping land acquisitions. This holds true in particular for consultations with local communities. Moreover, as things stand we do not know much about the welfare implications of LSLAs in agriculture nor the latter's transmission channels. These gaps are addressed in Chapters 3, 4, and 5, based on case studies conducted in Ghana, Kenya, Mali and Zambia.

More specifically, Chapter 3 concentrates on the implementation of LSLAs in Ghana and Kenya and asks:

> *How are land deals implemented (in Ghana and in Kenya)?*

Chapter 4 similarly focuses on the implementation of LSLAs within the Zambian land governance system and looks into the role different actors play. The chapter asks:

> *How are land deals implemented within the Zambian land governance system?*
> *How does land change hands, who is involved in these negotiations and what roles do different actors play herein?*
> *How are local land users affected by LSLAs?*

Chapter 5 concentrates on consultations of local communities, and asks:

> *How are local communities involved in the process of LSLAs?*
> *How can consultations be evaluated?*
> *How do voluntary guidelines and private governance instruments compare to de jure and de facto consultation in Mali?*

To study LSLAs in–depth, this dissertation combines qualitative and quantitative empirical research methods. The various chapters of this dissertation each use different research methods and draw on alternate data sources. This combination of methods is required to do justice to the complex phenomenon of LSLAs but is quite unique and hence a singularity of this dissertation.

1.4 Research design of field research

In the following, I present and discuss the primary data (which provides the foundations for Chapters 3, 4 and 5) that I gathered during the field research. Chapter 2 uses data from the Land Matrix Global Observatory and the United Nations Conference on Trade and Development (UNCTAD) which is described in detail in section 2.3 of the chapter.

I conducted field research in two stages: first, I undertook a scoping trip, and second, I collected data. The aim of the scoping trip (conducted from October to December 2010, with about two weeks spent in each of the four countries) was to verify that the chosen countries were suitable for such field research and to prepare for the second stage, data collection. This included identifying several cases of land investment for the follow–up study. The aim of the second stage, the actual data collection, was to research the processes happening on the ground. Research was conducted about six weeks in each country: between February and March 2011 in Zambia, between September and October 2011 in Kenya, and between October and November 2011 in Mali. At the same time, data was collected in Ghana by one of my co–authors, Susanne Väth (October and November 2011).

Case selection

I use an embedded case study research design (Yin, 2002, pp. 42–46): As a first unit of analysis, I studied countries in which land investments took place. Within the case study countries, I looked at single investment cases. However, the level of detail in which I studied these is not consistent across the different chapters due to the variations in study settings; for example in Ghana and Kenya access to the investment cases was sufficiently good to allow a detailed case study, while this was not possible in Mali and Zambia.

First of all, I selected case study countries only from within sub–Saharan Africa. This region is (and has been) considered the main target of LSLAs (Land Matrix, 2014). When I first started this thesis, virtually no data was available on the scale and scope of the phenomenon. Hence, as part of the pre–selection of cases, I researched countries for which reports on land acquisitions were available, sourced through the NGO GRAIN's webpage at `http://farmlandgrab.org` which publishes news reports on land acquisitions. For the actual selection, I aimed at obtaining insights into LSLAs from different countries, particularly on the processes surrounding those deals and on the actors shaping them. Thus, I chose countries in different regions of Africa: Ghana and Mali in West Africa, Kenya in East Africa, and Zambia in Southern Africa.[7]

Second, the selection of investment cases (see Table 1.6) within the case study countries

[7]Please note that I did not adhere in the selection process to such concepts as the most different or most similar design (Seawright and Gerring, 2008). I elected instead for different stand–alone country case studies. I only conduct a direct comparison in the case of Ghana and Kenya (see Chapter 3). In looking at all these individual studies across different regional settings, common patterns on the processes surrounding and actors involved in land deals emerge. I hence provide such a generalized set of findings in Chapter 6.

was based on the available research opportunities in each respective country: in Ghana and Kenya, I decided to concentrate on one investment project with importance in the region, whereas in Mali I chose to concentrate on investments within the most sought–after investment region. In Zambia, in turn, I visited three different investments projects in three different regions to get an overall understanding of the phenomenon.

Table 1.6: Investment cases in case study countries

Investment project	Region	Country
Ghana Oil Palm Development	Kwaebibirem District	Ghana
Dominion Farms	Bondo and Siaya District	Kenya
N–Sukala	Office du Niger	Mali
Malibya	Office du Niger	Mali
Sosumar	Office du Niger	Mali
Amajuba Farms	Mkushi	Zambia
Johnken Estates	Chisamba	Zambia
China–Zambia–Friendship Farm	Lusaka West	Zambia

Obviously, the sampling of these investment cases is not representative of the whole population of investment projects, as I did not have a complete population to choose from. Furthermore, due to the sensitive nature of the topic being investigated, the possibility to undertake research was dependent on the accessibility of these projects—however, the sampling was never meant to be representative. Rather, these cases serve as an in–depth illustration of actual processes and as a starting point to generate testable hypotheses. Only in the cases of Ghana and Kenya, did I study individual investment projects in close detail. These can be considered crucial 'pathway cases' from which to elucidate core causal mechanisms (Gerring, 2007).

Data sources

In order to capture both the de jure and the de facto situation I used different data sources: I set out to collect as many *legal documents, reports and other forms of written evidence* on the laws concerning land tenure as possible. To complement those de jure documents with information on the de facto situation, I also collected some primary data (see Table 1.7).

Table 1.7: Primary data sources

Country	Expert interviews	FGDs
Ghana[8]	33	12
Kenya	25	8
Mali	25	6
Zambia	34	9

Concerning the primary data, I first conducted *semi–standardized interviews*[9] to gather more information on both the de facto and de jure situation. I held these interviews in the respective capital cities (as land governance is highly centralized in these countries), as well as in the vicinity of certain investment projects.

As a sampling strategy I used the following approach: From my scoping trip, I had a clear idea of the different stakeholders involved in land acquisitions (such as governmental actors on the national and local levels and civil society). From each of these groups I contacted several relevant stakeholders, and they then referred me to other interviewees ('snowball sampling')(Berg, 2007, p. 33). I prepared the interview guidelines that I would use as a basis for the interviews[10]. All interviews started with a narrative question ('Could you tell me how you are involved with large–scale land acquisitions?'[11]), and would then touch upon important steps in the land acquisition process. These guidelines were adjusted to different stakeholders (for example a judge would need to be asked different questions to someone from civil society). During the research process they were continuously altered as I learnt about relevant aspects that I had previously not taken into account. I initially set out to record interviews, however, I soon realized that this was not feasible. The research topic is quite a delicate one, and especially politicians did not want to be recorded. Some interviewees even asked me not to take any notes. Accordingly, my data for interviews is protocols.[12]

Second, I conducted *FGDs* in selected investment regions.[13] The FGDs provide insights into what happens on the ground de facto (as opposed to what is stipulated in the laws) and into what perceptions local land users have. FGDs are particularly useful to investigate phenomenoa that have not been studied, very well. They have certain advantages that make them a great complement to the other data sources that I use: First, in contrast to interviews FGDs allow interaction between participants and can thereby elucidate group opinions, offer contextual insights and trigger spontaneous responses. Second, from a practical standpoint, they are an efficient way of collecting data from a large number of individuals (Bloor, 2001, p. 17; Berg, 2007, pp. 116–117).

I conducted all FGDs together with a local team that spoke the relevant local language. I trained two people to moderate such discussions. During these, one of them would moderate and the other would take notes and operate a voice recorder.[14] I remained discreetly present in the background. The groups were meant to be equal in terms of

[8] All data from Ghana was collected by Susanne Väth.

[9] For a detailed overview on semi–standardized interviews, please refer to Berg (2007, pp. 70–110).

[10] In Zambia, a project colleague, Setareh Stephan, joined me for two weeks. She was present during most of the interviews. In Kenya, I conducted the whole field research with my co–author, Susanne Väth. She was present during (almost) all interviews and focus group discussions.

[11] Prior to this question I defined what I understood by 'large–scale land acquisition' so that interviewees and I were referring to the same concept.

[12] I took notes during the interview and then typed them the same day. In Kenya and Zambia most interviews were done in a team of two, with one person doing the interview and the other taking notes. In Mali, I was doing interviews and taking notes at the same time.

[13] For a more detailed overview on FGDs, please refer to (Bloor, 2001; Berg, 2007, pp. 111–132).

[14] I always asked for consent before starting the recording and assured participants that I would keep their identity secret. Except one case, the groups never opposeed the recording.

hierarchy. In rural Africa, it is inevitable that people know each other so I decided to use 'pre–existing groups' (such as village communities, cooperatives) that also facilitated the assembling of groups (Bloor, 2001, pp. 22–24). As to the sampling of participants, I had to take into account the fact that each country has different social hierarchies. Generally speaking, my research team and I approached some form of higher level of authority who then in turn referred us to village authorities. The latter would then assemble the participants. For instance, in Kenya and Zambia we approached agricultural extension officers. In Mali we approached mayors with a letter of recommendation who then signed this letter and sent us to village elders.

In each investment region we intended (and managed most times) to hold discussions with groups of different wealth levels (such as landless farmers/poorer people versus smallholders who own their own plots of land/medium income individuals versus richer people),[15] and with employees of investment projects with different qualifications (permanent versus casual employees).[16] Each group set out to have between seven and 15 participants, both men and women. The FGDs started with a narrative question ('We would ask you to discuss how wellbeing[17] in your community has developed during the last 30 years'.) which was designed to reveal how the communities themselves perceive the investment projects and to obtain some initial unbiased thoughts on the projects. Only after this entry discussion did the moderator ask specific questions on how the investors had announced themselves and entered the country. At the end, I asked the participants what they considered to be the main impacts of the investment on their lives, after which they had to rate (positive, neutral, negative) some specific impact options the moderator provided them with. The data for FGDs is transcriptions in English and French (translated from the respective local languages by one of the moderators).

Examples of guidelines for expert interviews (see page 69) and FGDs (see page 71) as well as the transcription rules (see page 75) can be found in the Appendix.

Analysis

The data feeds the papers presented in Chapters 4, 3 and 5 in two ways: a) as an additional source of information (particularly on de facto processes), and b) as anecdotal evidence that helps to deepen my narrative. I use the software MaxQDA for content analysis (Berg, 2007, pp. 238–267). This means in particular: First, I went through all texts and used an open coding scheme. Put differently, I looked for common patterns in the data. These evolving codes were very broad in the beginning and were narrowed down over time. For instance, one code was 'the process of acquiring land' with the

[15] This varied in the different countries. For instance, in Zambia, it was rather easy to distinguish between landless farmers and smallholders, in Kenya, there were no 'landless' farmers but people had no difficulty in self–selecting themselves into different groups according to their wealth level.

[16] Each of the Chapter 2, 3, and 5 includes a section 'additional material' that lists all FGDs conducted in the respective country.

[17] The discussion on well–being was illustrated with a timeline that was drawn on a blackboard for every participant to see. The moderator marked important events the group mentioned. The higher the moderator placed the event on the blackboard, the more this event was linked to an increase in well–being. Please refer to the Appendix, Page 72 for a sketch.

subcodes 'consultation', 'contracts', 'actors', 'leases', 'displacements' and so on. 'Actors', of course, would have again subcodes.

Second, based on these codes, I organized the data. For instance, I identified the steps that are important in the process of land acquisition. Through this procedure, I found very different foci emerge in the analyses of the three chapters—for example, the Malian data was particularly revealing on aspects of consultation.

In the last step, I interpreted—or put differently, *made sense* of—the data. For instance, to analyze the role of chiefs in the acquisition process, I would then look at the different descriptions given in the text passages that I had marked with the code 'chief'. I looked at who said what in which context (interview or FGD), and then see if these statements were consistent or contradictory. For instance, if several interviewees stated the same facts I had greater confidence in the data. If statements contradicted each other, I rather doubted the data's reliability.

Potential biases

Case selection, sampling, data collection and analysis introduce some potential biases that I briefly want to comment on.

First, the countries and investment projects chosen might be very distinctive ones. Since I am not using a formal comparison design here, this is not a great problem as long as I keep in mind that my findings are potentially restricted to these cases alone and if so that they cannot be generalized.

Second, the sampling of interviewees and focus group participants can introduce biases. My findings depend to a large extent on who it was that I interviewed. This is particularly problematic for the FGDs with project employees, as the groups were assembled by the investors themselves. Their employees might have painted a rather rosy picture of circumstances on the ground so as not to upset their boss. However I held FGDs with different groups and undertook many individual interviews, and hence believe that these choices led to a rather balanced sampling. Most core findings are consistent across different FGDs and interviews. Moreover, I assured all interviewees that their data would be kept confidential and hence believe that most people were telling their story straight.

Third, the data collection process itself can also introduce biases. The role of the interviewer (or moderator), the interaction between interviewee and interviewer (or group and moderator) and the way in which the interviewer (or moderator) poses questions have important implications for the data that is obtained (Berg, 2007, p. 84). For instance, a government official in the capital might be surprised to find that the researcher is young and female, and may thus rather tell funny stories than earnestly answer questions. In other cases, respondents might try to please the interviewer and tell her what they think she wants to hear. In my case this might have been aggravated by the fact that I was obviously foreign to the different study regions (Desai and Potter, 2006, pp. 34–43). For instance, the presence of a white person in an African rural area often raises hopes of aid money being received. Hence, respondents might strategically tell me about the negative impacts of investment projects in hope of receiving more aid. This

is a common problem in qualitative research, which I try to address as best as possible (which is why, for example, I stayed at the back during FGDs).

Fourth, the data analysis process may have biased my findings, as interpreting text involves a number of pitfalls: For instance, it is important to see text passages in the context of the interview or discussion from which they are derived. Otherwise, one risks overrating an aspect that is later devalued or even stating the opposite of what a participant actually originally meant. Moreover, the questions of how much weight should be given to individual claims and how to handle contradictory ones are difficult to answer—the researchers can introduce biases if they inadvertently overvalue individual claims and play down any contradictions (Berg, 2007, pp. 258–259).

I certainly cannot deny that all these potential biases still exist here, despite having kept them in mind throughout the study process. These biases thus have to be considered when reflecting on the general overall patterns and results identified in this thesis.

Additional Material

Focus group discussions

K1, Youth group, Kadenge, 22.09.2011.
K5, Rich farmers, Kadenge, 27.09.2011.
Z5, Smallholder farmers, Nyama, 26.03.2011.

2 The relationship between foreign large-scale land acquisitions in developing countries and agricultural foreign direct investment

Kerstin Nolte & Jann Lay

Abstract[1]

This paper conceptualizes large–scale land acquisitions (LSLAs) and puts them in the context of foreign direct investment (FDI). We scrutinize from a theoretical point of view whether the determinants of such land–based agricultural investments are different from those of FDI in the manufacturing sector. We then empirically examine these determinants using data from the Land Matrix Global Observatory and United Nations Conference on Trade and Development (UNCTAD). We find that LSLAs are a specific but important subset of FDI. Our findings suggest that resource–seeking objectives and institutions play an important role in land–based agricultural investments, while market–seeking objectives are negligible. However, the data at hand is insufficient to draw robust conclusions from the empirical analysis. Our major contribution thus lies in the conceptual ideas.

2.1 Introduction

The increasing global interest in agricultural land has attracted considerable attention in recent years. Yet little focus has been put on conceptually understanding how large–scale land acquisitions (LSLAs) for agriculture fit within the global context of foreign direct investment (FDI). Evidence on the drivers and implications of the phenomenon is still scarce, and the findings are so far inconclusive. Some broad patterns in international

[1]We wish to thank the participants of seminars at the Institute of the World Economy Kiel and the University of Göttingen, as well as the attendees of the CSAE conference in Oxford (2014) and the IAMO Forum in Halle (2014). We further thank our colleagues from the Land Matrix Global Observatory Partnership for their constructive and close cooperation over the years. We are grateful to have received funding from the Federal Ministry for Economic Cooperation and Development (BMZ) within the project 'Transparency, dynamics and impacts of large–scale land acquisitions (LSLAs): Global and local evidence'.

LSLAs for agriculture have been revealed by the analysis of the actors involved in these transactions. Seaquist, Li Johansson, and Nicholas (2014) find that most countries participate in the 'global land trade' but that only a few countries account for the majority of acquisitions. Investors are from the Global North and the emerging economies of Asia and the Middle East—typically countries with relatively little cultivable land and with high–tech agricultural sectors—while target countries are located in the Global South and Eastern Europe—countries that are relatively well endowed with cultivable land but have low agricultural productivity. These observations lend support to the hypothesis that some sort of 'agricultural outsourcing' to resource–rich but low–production countries may be at work.

Empirical results on the determinants of FDI rely almost exclusively on data on foreign investments in industry and services. FDI in natural resource sectors or agriculture, however, is rarely studied (a few exceptions are Aleksynska and Havrylchyk (2013), Asiedu and Lien (2011), and Hajzler (2014)). To the best of our knowledge, hardly any previous empirical studies have looked at FDI in agricultural land. An exception is the study by Arezki, Deininger, and Selod (2013), that analyses the determinants of land–based investments using a gravity framework. The study confirms the prominent role of the agro–ecological potential of target countries. Also, while the impact of the business climate is negligible, weak tenure security is associated with increased demand for land. The authors conclude that the insignificance of the yield gap and the importance of weak land governance suggest that interest in land may be driven more by speculation about rising land prices than by actual investment projects aiming to undertake agricultural production.

Hence, there are good reasons to hypothesize that the importance of some determinants may be different for FDI in agriculture. LSLAs can be viewed as an indication of a new trend in FDI—targeted at the agricultural sectors in developing countries—as well as a transformation of global agriculture towards commercial investments. While agriculture is declining in importance in terms of its contribution to the global value added, it is still the main livelihood for the world's poor. In principle, land–based agricultural investment may contribute to higher agricultural productivity in receiving countries and possibly involve positive spillovers, either within the agricultural sector or through backward and forward linkages to the rest of the economy. Conceptualizing land–based agricultural investment, understanding its determinants, and examining whether they resemble those of FDI in manufacturing hence generates interesting insights from both an international and a development economics perspective. This paper has two foci: First, it conceptualizes LSLAs for agriculture and puts them in the context of FDI. From a theoretical point of view, we analyse whether the determinants of LSLAs for agriculture are different from those of FDI. Second, using data from the Land Matrix Global Observatory and United Nations Conference on Trade and Development (UNCTAD), we expand on the analysis of Arezki, Deininger, and Selod (2013) and empirically examine the determinants of land–based agricultural investment.

The remainder of the paper proceeds as follows: section 2.2 assesses the relationship between LSLAs for agriculture and FDI; section 2.3 presents the research design; section 2.4 provides econometric results; and section 2.5 discusses the findings and concludes the paper.

2.2 LSLAs for agriculture and FDI

2.2.1 Conceptual clarification

Foreign land–based agricultural investments can be described as purchases or leases of land for the production of agricultural commodities. The Organisation for Economic Co–operation and Development (OECD) defines FDI, in turn, as an investment project in which a direct investor has interest in an enterprise that is resident in an economy other than that of the direct investor. Moreover, the objective of FDI is to establish a lasting interest that involves a long–term relationship between investor and enterprise and a significant degree of influence on the management of the enterprise (OECD, 2009, p. 48).

To scrutinize whether the OECD definition applies to LSLAs for agriculture, we examine the available data. Generally speaking, FDI has been on the rise in those countries that are targets of LSLAs, especially since approximately 2004, and the primary sector has played a major role in this rise (UNCTAD, 2014). However, official FDI statistics are not usually broken down by sector (FAO, 2013);[2] we hence use data from the Land Matrix Global Observatory as of 1 September 2014. Because the total number of LSLAs is not known, the Land Matrix can be considered to be a sample of LSLAs. It records transactions that entail a transfer of rights to use, control or own land through sale, lease or concession; that cover 200 hectares or more; that are targeted at low– and middle–income countries; and that have been concluded since the year 2000. The Land Matrix data is inherently biased, and most of these biases are introduced by the use of media reports as a source. This results in certain regions, investors, or sectors being overrepresented while others are neglected.

In line with our study focus and in order to remove some biases, this study uses a subset of the whole Land Matrix database. We limit our sample to agricultural deals involving at least one foreign investor. This sample includes a total of 744 deals, of which 570 investments have only one investor and 150 cases have multiple investors (131 with two and 19 with three).[3]

The largest share of investors is made up of private companies (300), followed by stock–exchange listed companies (220), state– and government–owned companies (39), investment funds (42), semi–state–owned companies (24), and individual entrepreneurs (9). The majority of cases operate on leased land (365 of the 472 for which we have this information); the remaining cases are outright purchases. The duration of the lease contracts varies: Of 178 reported cases, 163 are for 25 years or longer. Forty are for 50

[2]UNCTADStat has data on inward and outward flows of FDI but this data is not broken down by sector. Data from the OECD has inflows and outflows broken down by sector but only covers OECD countries. Especially for outward flows, data is missing for reasons of 'confidentiality' or 'secondary confidentiality'. Most promising is the data from the International Trade Centre, which provides global FDI data broken down by sector for inward and outward flows for the years 2009 to 2012 (though 2012 is extremely patchy). However, closer investigation shows that the data is too patchy to identify any trends.

[3]There are always cases that miss pieces of information. For example, here 24 cases have no information on the number of investors involved in the project.

years, 41 for 70 years, and 17 for 99 years. The OECD further distinguishes between four different types of investment: purchase/sale of existing equity in the form of mergers and acquisitions, greenfield investments, extension of capital (additional new investments), and financial restructuring (OECD, 2009, p. 87). Examining who formerly owned the land can provide a suggestion as to the type of investment. Most of the land was formerly owned by the state (90), followed by private owners (smallholders or large–scale farms, 77 cases), and communities (34).

We can conclude that LSLAs for agriculture conform to the OECD definition given above because (a) a direct investor—be it a private company, a stock–exchange listed company or an investment fund—has interest in an enterprise abroad. Moreover, (b) the duration of the contracts is long–lasting which suggests a long–term relationship. A look at the former owners indicates that the majority of LSLA cases are greenfield investments (land not formerly used for commercial agriculture) but that we also have a few mergers and acquisitions. Thus, we hold that LSLAs are a specific form of FDI or, more precisely, a subset of agricultural FDI.

To make one qualification, we cannot exclude speculation in our sample. Despite a signed contract, concluded deals may not yet have gone into production.[4] In these cases, land may have been leased or purchased merely as an asset in the expectation of rising land prices—that is, for speculative reasons—and speculative land acquisitions do not qualify as FDI.

2.2.2 Theory

From a theoretical stance, FDI flows are determined by two major decisions firms take: first, profit–maximizing multinational firms seek low–cost production locations, and second, these firms assess whether it is worthwhile to internalize production abroad through FDI or whether it makes sense to trade with a foreign producer (Dunning, 1998, 2009).

While the locational choice has been stressed in the traditional literature, the internalization aspect has gained attention in the more recent literature. The decision to internalize is driven by a variety of factors.

First, in light of new developments in the world economy, the literature on FDI has put the *organizational choice* of individual firms at the forefront (Helpman, 2006). This choice depends to a large extent on firm–specific factors, such as productivity and intangible assets (for example, technologies, managerial skills, brands, etc.), and can hence only be tested empirically based on firm–level data.

[4]Land deals are dynamic in nature and are constantly changing. The Land Matrix uses two variables to describe the status of a deal: the negotiation status and the implementation status. The negotiation status includes 'intended', 'concluded' and 'failed' deals, and we only use concluded deals. The implementation status further distinguishes between 'project not started', 'start–up phase (no production)', 'in operation (production)' and 'project abandoned'. It is important to understand that it is very difficult to follow the implementation of a project. In our sample, a large share of deals have started the project: 418 out of 716 deals (77 in 'start–up phase' and 341 'in operation'). For a further 222 cases there is no information on the implementation status. It is not clear whether these cases are speculation or whether they are already producing.

Second, the *governance of international transactions* plays an important role. Incomplete contracts—for example, with regard to the protection of intellectual property rights—can be overcome by internalizing market transactions (Antràs, 2005).

Third, *trade barriers* influence the decision to enter a foreign market through FDI. While trade barriers in manufacturing have been reduced to a minimum under agreements such as the General Agreement on Tariffs and Trade (GATT), trade restrictions remain commonplace in agriculture (Dennis and Iscan, 2011; Josling et al., 2010).

Fourth, *market failures* may explain why firms decide to set up a subsidiary through FDI: For instance, input and factor markets in the rural areas of poor target countries are highly imperfect. Capital markets are underdeveloped, the supply of technical inputs like fertilizer is limited, and even labour markets are sometimes hardly existent (Josling et al., 2010; Sexton, 1990). This explains the lack of target–country suppliers who could, in theory, be contracted and licensed to export the desired product. Investors can overcome these input and factor imperfections. However, trade or FDI in such contexts involves high transportation and initial investment costs—for example, for roads and irrigation (Dethier and Effenberger, 2012; Dorward et al., 2004). Where states fail to provide basic infrastructure, these costs have to be borne fully by the investor. This implies that investors wish to secure the returns on these investments, which, in turn, partly explains why production is internalized (Collier and Venables, 2012).

Finally, *institutions and policies* have been stressed as important determinants of a firm's decision to internalize. For instance, Busse and Hefeker (2007) analyse the linkages between political risk, institutions, and FDI inflows in developing countries. Their cross–country data confirms the importance of political risk and institutional indicators for investment decisions. Similarly, Gastanaga, Nugent, and Pashamova (1998) study the effect of host–country policies on FDI flows for 49 less–developed countries. Pooled cross–section and time–series data reveals that institutional characteristics have significant effects on FDI. In particular, the authors identify detrimental effects resulting from corruption and the negative linear influence of corporate tax rates. Wei (2000) also identifies negative effects of corruption and taxes on FDI. More recently, the notion of 'institutional distance' has gained in importance. The idea is that investors who are used to poor institutional settings are also more likely to invest in these places. Thus, it is not only the institutions in host countries that affect FDI, but also the respective differences and similarities between institutions in the host and investor countries (Abdioglu, Khurshed, and Stathopoulos, 2013; Aleksynska and Havrylchyk, 2013; Bénassy-Quéré, Coupet, and Mayer, 2007; Cuervo-Cazurra, 2006).

These theoretical arguments have typically been developed with an implicit focus on manufacturing, but they apply to other industries, in principle, as well. However, the weight of certain (groups of) determinants may well differ between manufacturing and agricultural FDI. In the following, we thus present four reasons why we believe that FDI in agriculture may be driven by different determinants.

First, investments in land and agriculture are related to the politically sensitive areas of food and energy supply. Governments all over the world are concerned about food prices and food supplies, particularly in poorer countries (Cotula et al., 2009). The

increasing use of agricultural produce for the production of energy is adding to these concerns (Dauvergne and Neville, 2009). Governments may hence strategically secure access to resources for agricultural production, either directly or by supporting the foreign operations of domestic firms. In the context of foreign land investment, it is not uncommon to find state–owned investors, particularly from the Middle East. In addition, in the target country the state typically 'owns' the land that is being bought or leased by the investor (Cotula et al., 2009). Ultimately, if the strategic considerations of ensuring food and energy supplies in investor countries are the main motivation of FDI, market–seeking objectives should be less important.

Second, land *and* water are very specific production inputs. While some production factors, in particular labour with specific skills and capital, are mobile, this is not the case for (some) natural resources. In addition, land and water can hardly be substituted in most agricultural production. Demand for agricultural products is growing due to rapid population growth, increasing incomes, and environmental factors such as land degradation and desertification (Lambin and Meyfroidt, 2011; World Bank, 2010; Zoomers, 2010). Accordingly, land (and water) resources are increasingly being put under pressure on a global scale. In sum, the immobility and non–substitutability of land and water resources and their growing scarcity leads us to assume that for agricultural FDI the choice of production location is largely driven by resource–seeking factors.

Third, low land prices are likely to attract FDI (Collier and Venables, 2012). The (relative) abundance of the immobile factor land in certain countries and input market failures (particularly frequent in rural areas in developing countries) imply that land productivity and hence land prices are low. Land productivity is indeed much lower in large areas of sub–Saharan Africa (Adesina, 2010) and may be a pull–factor for investors who expect high returns on their investment by increasing the productivity of the acquired land. In many instances, however, investors acquire land that is not yet under agricultural production, particularly forests and shrub– and grasslands (Messerli et al., 2014). Here, low prices may partly fail to reflect either the value generated from communal uses or ecological functions that are not internalized by proper institutions. In fact, institutional failure, specifically the lack of marketable land rights, allows governments to use their legal authority to assign 'underutilized' land to investors for low prices. Low prices for land also give rise to speculation (Collier and Venables, 2012).

Fourth, the importance of institutions and policies, as discussed above, certainly also holds for agricultural FDI, but some peculiarities are noteworthy. Acquisitions of land take place within a highly complicated land–administration system and a politicized environment (Boone, 2014). The distinguishing characteristic of agricultural investments vis–à–vis non–agricultural investments is that the former involve the acquisition of land as a key input factor—typically through a long–term lease contract. While the acquisition of capital (or greenfield investment activities) on the part of foreign investors is usually subject to an important array of formal rules and requirements, the acquisition of land (especially in low– and middle–income countries) takes place under land governance systems characterized by land use rights that are often vaguely defined through overlapping formal and informal rules (Lund, 2006). Investors may hence be tempted to take advantage of ambiguous rules and, for example, acquire land for prices well below

the market value. We also expect institutional distance to play a role. For instance, investors from countries with well–functioning institutions and an open press may be more likely to respond to public pressure and opinion (or anticipate this opinion and behave differently in the first place). Firms from such places may also be more likely to submit themselves to investment principles and guidelines. Investors from corrupt countries are more likely to invest in corrupt target countries.

These four departures from the determinants of FDI in manufacturing do not imply that agricultural FDI is entirely different. We expect factors that influence trade and information costs to matter equally for agricultural FDI, specifically geographical distance, common official language, and former colonial relationship. However, we also expect some differences—for example, that resource–seeking factors play a more pronounced role while market–seeking factors are less important. We assume that target countries with inefficient agricultural production are likely to be targeted, and that institutions play a major role in investment decisions. Below, we derive testable hypotheses (see section 2.3.2).

2.3 Empirical approach

2.3.1 Data

In our empirical analysis of the determinants of LSLAs for agriculture uses, we use Land Matrix data to construct our dependent variable. To describe our data set, we introduce some simple notation. Let y_{ij} be the sum (in hectares) of all land acquired by investors from country j (hereafter referred to as investor country) in country i (hereafter target or host country) with $i = \{1, .., P\}$ where P is the number of low– and middle–income countries in the world. Then, all land acquired in country i, Y_i, will be the sum of land acquired by investors from all countries of the world $j = \{1, .., C\}$ with C being the number of countries in the world. We only consider international investments; domestic investment y_{jj} is assumed to be zero.

$$Y_i = \sum_j y_{ij}$$

As a robustness check, we also consider the number of investment projects n_{ij} of investor country i in target country j, with N_i representing the total number of investment projects in target country i.

We construct two data sets: First, a unilateral data set of Y_i with $i = \{1, .., P\}$, which considers all low– and middle–income countries. To examine whether the determinants of these specific international transactions resemble those of FDI in manufacturing, we also include UNCTAD data on FDI flows, FDI_i, from 2000 to 2013 for low– and middle–income countries.[5] The unilateral data set contains 145 observations, of which 70 are non–zero. In total, there are 820 land deals with a total size of 22.9 million hectares.

[5]Unfortunately, this data is not available for bilateral flows; it only covers receiving (or sending) countries.

For the unilateral data set, we estimate (I) the total hectare size of land acquisitions in country i, and (II) FDI flows from 2000 to 2013 in low– and middle–income countries $i = \{1, .., P\}$ for a set of country characteristics X_i.

$$Y_i = \alpha_0 + \alpha_1 X_i + \varepsilon_i \tag{I}$$

$$FDI_i = \alpha_0 + \alpha_1 X_i + \varepsilon_i \tag{II}$$

Second, we construct a bilateral data set of y_{ij} with $i = \{1, .., P\}$ and $j = \{1, .., C\}$ (and n_{ij} with $i = \{1, .., P\}$ and $j = 1, .., C$). We hence consider all investor country–host country pairs, excluding the possibility of land being acquired in high–income countries. The data set ultimately consists of $30,806$ possible investor country–host country combinations[6] and includes 146 possible target countries, of which 70 actually are the targets of investment, and 212 possible investor countries, of which 61 countries actually do invest.

For the bilateral data set, we employ gravity model specifications that are widely used in empirical analyses of bilateral trade flows and FDI. More recently, gravity equations have been backed up by theoretical explanations.[7] For instance, Anderson and van Wincoop (2003) suggest including multilateral resistance terms to account for the relative attractiveness of host and investor countries. The propensity to trade (and the propensity to invest abroad) is determined not only by the respective countries but also by all other potential trading partners.

We regress pairs of land acquisitions y_{ij} with $i = \{1, .., P\}$ and $j = \{1, .., C\}$ using a set of variables from target country X_i, investor country X_j, and characteristics of pair X_{ij} as well as an error term ε_{ij}.

$$y_{ij} = \alpha_0 + \alpha_1 X_i + a_2 X_j + a_3 X_{ij} + \varepsilon_{ij} \tag{III}$$

2.3.2 Hypotheses

The Land Matrix data is complemented with explanatory variables that test hypotheses based on the theoretical considerations introduced in section 2.2.2.[8] All explanatory variables are taken from the year 2000, the same year the Land Matrix started counting LSLAs.

- To test whether **traditional determinants of trade and FDI** play a role for

[6] $146 * 212 = 30,952$. When we delete the 146 domestic pairs, we end up with $30,806$ possible combinations. We construct our list from the World Bank list of economies as of July 2013. However, in the regressions, we lose a large share of these possible combinations due to limited data availability for the independent variables. Please see Table 2.11 in the Appendix for a list of host and investor countries.

[7] See Anderson and Wincoop (2004) and Salvatici (2013) for an overview.

[8] A full list of explanatory variables and their sources can be found in the Appendix 2.12.

LSLAs for agriculture, we include common official language, colonial relationship, and weighted geographical distance between two economies.

- To test the claim that **investments in agriculture seek to deal with imbalances in food supply** in their country of origin, we include net agricultural imports per capita. Positive values indicate that a country imports agricultural commodities; negative values indicate that it exports. Reporting this indicator in per capita values accounts for the size of an economy.

- We also assume that **market–seeking factors are negligible**. Hence, we include gross domestic product (GDP) as a proxy for market size, and GDP per capita to capture the purchasing power.

- To test whether **investments are resource–seeking**, we include the following variables: To measure land endowments, we include the agricultural area per capita as well as a measure for the potentially available land (in per cent) derived from the added percentage of forest land and grassland and woodland[9] (based on data available on the Global Agro–Ecological Zones (GAEZ) webpage, operated by the Food and Agriculture Organization of the United Nations (FAO) and the International Institute for Applied Systems Analysis (IIASA)). Moreover, we include water availability, based on the total actual renewable water resources per capita according to FAO Aquastat.

- To test the claim that **investors are attracted by low agricultural productivity in target countries**, we include agricultural productivity, measured as the net production value for agriculture per 100 hectares of permanent crops (FAO).

- Lastly, we assume that the **institutional quality of host countries has ambiguous effects** on LSLA. To measure institutional quality generally, we use the control of corruption rank from the World Governance Indicators. To measure specific institutions, we include the following: to capture the business environment, we include data from the Doing Business survey; as a specific measure of land governance, we include the land tenure insecurity index; to measure protection of property rights, we include the property rights indicator from the Heritage Foundation. However, for these specific institutional variables, data is only available for a limited sample of countries. Hence, we take up these variables only in the robustness checks in section 2.4.3.

Finally, we include the distance to the equator and the population density as control variables. To control for agglomeration effects, we further include a variable that counts all the projects in a host country and all the projects of an investor. If a country already hosts investment projects, other investors might follow suit. Moreover, we include regional dummies for host countries and investors, with Northern Europe as the reference

[9] We do not consider forests and grassland and woodland to be readily available for agriculture, and we acknowledge that these areas do fulfill important ecosystem services. We use this indicator as a proxy to indicate potential for agricultural expansion.

group. In order to account for multilateral resistance, we include fixed effects for each host and investor country.[10]

2.3.3 Descriptive statistics

Dependent variable

In examining the descriptive statistics of the dependent variable, the sum of all land acquired, of both the unilateral and the bilateral data set, we find that out of the total, 80 observations are zero (30,483 in the bilateral case); hence, there are only 66 non–zero observations (323 in the bilateral case). The sum of all land acquired varies across the observations: most observations are rather small in size, but we also find 44 host–investor pairs with deals between 50,000 and 100,000 hectares and even 53 pairs with deals amounting to over 100,000 hectares (see Table 2.1). Hence, we have an excess of zeros in our data set.

Moreover, when we look at the variance and the mean of the cumulative hectare size, the data suggests there is overdispersion (Table 2.2).

Considering the number of projects (see Table 2.3), a similar picture emerges: while most observations have only a few projects, some have a large number (for example, 113 as the maximum number for the unilateral data set and 45 as the maximum for the bilateral data set).

Hence, we find that our dependent variable, the sum of all land acquired, is skewed to the right (excess of zeros) and overdispersed (variance is greater than the mean). This has important implications for data analysis.

[10] We tested a great number of specifications with different variables. Those variables that did not make it into the final specification are listed in table 2.12 in the Appendix.

Table 2.1: Sum of all land acquired per host country (Y_i) and per host–target pair (y_{ij})

(Y_i)/ (y_{ij})	0	200 to 1,000	1,001 to 5,000	5,001 to 10,000	10,001 to 20,000	20,001 to 50,000	50,001 to 100,000	more than 100,000	Total
Unilateral	80	2	9	6	2	4	5	38	146
Bilateral	30,483	28	65	41	36	56	44	53	30,806

Please note that for some deals the information on hectare size is missing. This explains why we have more zero observations here than in table 2.3.

Table 2.2: Summary statistics on the sum of all land acquired per host country (Y_i) and per host–target pair (y_{ij})

	Obser–vations	Mean	Std. Dev.	Min	Max	Variance (in mn)
Unilateral	66	341,678	571,077	220	3,426,762	326,000
Bilateral	326	70,384	155,273	200	800,000	24,100

Includes only non–zero observations. Please note that for some deals the information on hectare size is missing. This explains why we have fewer non–zero observations here.

Table 2.3: Number of projects per host country (N_i) and per host–target pair (n_{ij})

$(N_i)/(n_{ij})$	0	1	2	3	4	5	6–10	11–20	> 21	Total
Unilateral	76	18	6	8	7	3	9	9	10	146
Bilateral	30,469	216	53	14	18	7	21	4	4	30,806

Independent variable

Table 2.4 displays the means of the independent variables for host–investor country pairs and different groups of countries: potential host countries (146), those that actually become a host (70), potential investors (212), and those that actually do invest (64).[11]

Looking at the host–investor country pairs, we find that the mean distance between two countries is more than 8,000 km. Seventeen per cent of all pairs share a common official language; only one per cent have a past colonial relationship. Actual host countries are closest to the equator and exhibit higher GDPs but lower GDPs per capita than potential host countries. They are marked by relatively low population densities, despite the fact that they are populous relative to potential hosts. While the agricultural area per capita in host countries is a bit lower than that in potential host countries, there is more potentially available land (77 per cent). The water availability is lower than in the group

[11] Please note, that we do not report 'all countries' in our sample, as this is identical to all potential investors: the group of potential investors includes all potential host countries.

of potential hosts but higher than for actual investors. Actual host countries are net exporters of commodities and are marked by low agricultural productivity. Moreover, actual hosts (and for that matter, potential hosts) perform badly in terms of institutions: their control of corruption rank is low (36).

Actual investors can be described as the richest group of countries, in terms of both GDP and GDP per capita. They have large populations and are densely populated. While in absolute terms the agricultural area per capita is rather high, the share that is available is lower than that in the other groups of countries (66.8 per cent). In terms of water, actual investors are water scarce in comparison but the most productive in terms of agricultural productivity and the least corrupt according to the control of corruption rank.

These descriptive statistics thus lend support to some of the hypotheses formulated above and to be tested in the following section: Resource endowments differ between hosts and investors. Investors are particularly water scarce, and hosts have the largest share of land available for agricultural production. With low values for GDP, GDP per capita, and population, actual host countries do not satisfy the typical market–seeking objectives. Differences between agricultural productivity are also pronounced, and the institutional indicator hints at low institutional quality in host countries.

Table 2.4: Descriptive statistics independent variables

	Pair	
	Mean	Number of observations
Distance	8,331	26,656
Common official language (% of all pairs)	0.17	26,656
Former colonial relationship (% of all pairs)	0.01	26,656

	Potential hosts #146		**Actual hosts** #70		**Potential investors** #212		**Actual investors** #64	
	Mean	Number of observations	Mean	Number of observations	Mean	Number of observations	Mean	Number of observations
Distance from equator (in degrees of latitude)[12]	22	120	17	68	26	156	31	56
GDP (in bn. internat. $)	55.6	134	94.1	68	205	192	588	63
GDP per capita	4,341	129	3,639	66	10,807	178	18,786	62
Population density (per km^2)	113	144	81	69	351	210	325	64
Population (in mn)	35	145	63	70	29	211	75	64
Agricultural area (in 1,000 ha) per capita	1.86	139	1.82	68	1.62	200	1.2	63
Land potentially available for agriculture (%)	73	129	77	69	71	179	67	60
Water (m^3) per ha agricultural area	44,300	124	34,900	68	47,500	173	32,700	61
Net agricultural imports per capita (in USD)	30	136	–10	69	90	191	50	62
Agricultural productivity (output per area in 1,000 internat. $)	18,160	138	15,083	69	50,384	191	77,781	63
Control of Corruption rank	36	138	36	68	49	192	61	64
Number of deals (investor)					4.35	212	14.21	64
Number of deals (host)	6.33	146	13.2	70				

[12]Each degree of latitude is approximately 111 kilometers apart.

2.4 Econometric results

In this section, we first run regressions for the unilateral data set, and then for the bilateral data set. Finally, we implement several robustness checks.

2.4.1 Results of unilateral regressions

We start off with a simple ordinary least squares (OLS) regression (robust standard errors), and then use a tobit regression to better handle censoring in the land acquisition data. We refrain from using a two–step model such as the Heckmann selection model as we assume that the same set of variables determines whether a country is selected as a recipient and how much land is acquired. Hence, we lack a meaningful exclusion restriction.

Coefficients cannot be interpreted directly in the context of a nonlinear tobit model. For the land acquisitions data, we hence report marginal effects on the expected value, conditional on being uncensored, $E(Y_i|X_i)$, in Table 2.5 (Williams, 2012). We calculate them at the mean of the respective covariates.[13] For the FDI data, we report OLS results as the FDI data has no censoring problem. For both regressions, we use a logarithmic transformation of the dependent variables. In order not to lose zero observations, we add 1 to our dependent variable before we transform it: $log(Y_i + 1)$ and $log(FDI_i + 1)$. OLS results for the land acquisition data set is reported in table 2.8 in the Appendix.

In the following, we use two different specifications: The first specification includes classical market–seeking objectives and regional dummies. The next specification adds a number of explanatory variables. Comparing the results with these different dependent variables allows us to assess whether the determinants of land–based agricultural FDI are indeed different from those of traditional forms of FDI.

First, concerning market–seeking factors, we do find similar effects for GDP for land acquisitions (the two columns on the left) and FDI (the two columns on the right): GDP is positive and strongly significant in both cases but the effect is larger for land acquisitions (a 1 per cent increase in GDP results in a 1.53 per cent increase in the sum of all land acquired—or in a 0.69 per cent increase in FDI). GDP per capita is negative (–1.86) and strongly significant for land acquisitions, for the FDI data set the sign changes in the two specifications. The most pronounced difference is in the net agricultural imports: while net agricultural imports turn out negative with a high magnitude for land acquisition data (an increase of $1,000$ USD per capita is associated with a 5.92 per cent decrease in the sum of all land acquired), it is positive for FDI data. Hence, receivers of land investments seem to be exporters, while receivers of FDI seem to be importers.[14]

[13] We use Stata 11's margin command to calculate the marginal effects. Marginal effects can be interpreted as elasticities when the dependent and independent variables are in logs. We get semi–elasticities when the independent variables is in levels.

[14] We can rule out reverse causality as we use values for agricultural imports from 2000 and only start counting projects from 2000 onwards.

Second, we find no differences in terms of resources and agricultural productivity: Both samples yield positive effects for the agricultural area and water (but the magnitude is larger in the land acquisition sample; for example, a 1 per cent increase in the agricultural area (water resources) per capita results in a 0.79 (1.02) per cent increase in the sum of all land acquired and a 0.62 (0.47) per cent increase in FDI). The share of land available is negative in both cases—but with small coefficients. Third, agricultural productivity and institutions yield positive effects in both cases but are only statistically significant in the FDI data set.

Table 2.5: Estimation for log cumulative hectare size and for log FDI flows

	Tobit: Marginal effects at the means Dependent variable: $log(Y_i + 1)$		OLS Dependent variable: $log(FDI_i + 1)$	
	(I)	(II)	(I)	(II)
log_GDP	1.532***	1.008***	0.691***	0.924***
	(0.271)	(0.164)	(0.102)	(0.0859)
log_GDP_pc	-1.862***	-0.890**	0.160	-0.534*
	(0.611)	(0.402)	(0.205)	(0.273)
net_agric_imports_pc		-5.925*		2.285
		(3.588)		(2.005)
log_agric_area_pc		0.792**		0.621***
		(0.377)		(0.211)
share_available_land		-0.0162		-0.00812
		(0.0206)		(0.0110)
log_water_resources		1.023***		0.472**
		(0.233)		(0.199)
log_agric_productivity		0.228		0.318
		(0.230)		(0.226)
corruption		0.000220		0.0252**
		(0.0118)		(0.0118)
Controls	YES	YES	YES	YES
Regional Dummies	YES	YES	YES	YES
Observations	108	104	108	104
Censored obs.	49	46		
R^2			0.578	0.657
$pseudoR^2$	0.199	0.244		

Controls included but not reported: Population density and log distance to the equator.
** $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

These results at large are inconclusive, so we turn towards the bilateral data set, which allows us to increase our number of observations considerably. Unfortunately, we can no longer compare land acquisitions to FDI as data on bilateral FDI flows is not available for a large set of countries.

2.4.2 Results of bilateral regressions

For the bilateral data set, we use a gravity model specification. A testable gravity equation is achieved by taking logarithms from both sides of the multiplicative form of the gravity model (Burger, Oort, and Linders, 2009). In the traditional literature, OLS is

used to estimate these log–normal gravity specifications, leading to three major problems: the logarithmic transformation creates a bias, the homoscedasticity assumption is violated, and the dependent variable contains observations with the value of zero. Although gravitational force can never be zero, trade between two economies may simply be non–existent. Zeros could also stem from rounding errors or missing values (see Burger, Oort, and Linders (2009) for a more detailed discussion). Santos Silva and Tenreyro (2006, 2011) propose employing Poisson estimators, which can handle heteroscedasticity and which are considered a 'promising workhorse for the estimation of gravity equations'. They suggest using a Poisson pseudo–maximum likelihood (PPML) estimator. This approach has some critics (Martínez-Zarzoso, 2013) but is generally approved of (e.g. Arezki, Deininger, and Selod (2013) and Arvis and Shepherd (2013)).

We follow the literature and use a PPML estimator,[15] thereby addressing the problems of zero–inflation and overdispersion. But we also test other models in section 2.4.3 as a robustness check. To test the adequacy of the model, we employ a RESET test, as suggested by Santos Silva and Tenreyro (2006). The test checks the significance of an additional regressor. P–values are reported at the bottom of Table 2.6, low values suggest to reject the hypothesis that the model is correctly specified.

PPML allows us to use the dependent variable, the sum of all land acquired, without logarithmic transformation. We divide it by $1,000$.[16] We use three different specifications: The first specification tests a simple gravity equation with market–seeking objectives, bilateral variables, and regional dummies. The next specification adds a number of explanatory variables, and the third specification includes investor and host–country fixed effects to account for multilateral resistance terms (Anderson and van Wincoop, 2003).

Table 2.6: Pseudo-Poisson Maximum Likelihood Estimation

	Dependent variable: $y_{ij}/1000$		
	(I)	(II)	(III)
log_distance	-1.083***	-1.237***	-1.385***
	(0.153)	(0.147)	(0.182)
common_language	1.310***	1.486***	1.302***
	(0.303)	(0.373)	(0.367)
former_colony	0.230	0.019	0.258
	(0.507)	(0.543)	(0.491)
log_GDP_h	0.294**	0.578***	
	(0.150)	(0.133)	
log_GDP_i	0.440***	0.564***	
	(0.110)	(0.118)	
log_GDP_pc_h	-0.784*	-1.080***	
	(0.415)	(0.343)	
log_GDP_pc_i	0.750***	0.441**	
	(0.185)	(0.199)	
net_agric_imports_pc_h		-2.346	
		(3.199)	

[15] Implemented in Stata through their user-written ppml–command.

[16] Coefficients of logged variables can be interpreted as elasticities, coefficients of non–logged variables as semi–elasticities.

net_agric_imports_pc_i		-1.485	
		(0.984)	
log_agric_area_pc_h		1.265***	
		(0.311)	
log_agric_area_pc_i		-0.233	
		(0.207)	
share_available_land_h		-0.029**	
		(0.014)	
share_available_land_i		0.019	
		(0.017)	
log_water_resources_h		0.817***	
		(0.191)	
log_water_resources_i		-0.013	
		(0.143)	
log_agric_productivity_h		-0.125	
		(0.153)	
log_agric_productivity_i		0.038	
		(0.153)	
corruption_h		0.011	
		(0.010)	
corruption_i		0.006	
		(0.012)	
Controls	YES	YES	YES
Regional Dummies	YES	YES	
Host–/Investor–country fixed effects			YES
Observations	14700	14214	26520
R^2	0.398	0.440	0.461
RESET test p–value	0.0704	0.0271	·

Controls included but not reported: Population density, log distance to the equator, number of deals.
We use the 'keep' option in Stata to override the default to drop observations.
RESET test in specification (III) could not be performed ('constraint dropped'.
** $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

First, we can assert that the bilateral variables yield the expected results: distance has negative effects (for example, a 1 per cent increase in distance reduces the sum of all land acquired by 1.08/1.24/1.39 per cent, a slightly higher amount than in estimates by Santos Silva and Tenreyro: –0.776 for PPML), and a common official language, and a former colonial relationship are conducive to the size of land acquired.

Second, whether these investments follow marketing–seeking objectives is rather unclear: while GDP, a proxy for market size, is statistically significant and positive for host countries (a 1 per cent increase is related to a 0.29 per cent increase in the sum of all land acquired), GDP per capita is negative; hence, market size seems to play a role while the purchasing power certainly cannot be identified as a main driver. For investors, we find positive effects for both, GDP and GDP per capita. For net agricultural imports, we find strong negative impacts for host countries (an increase of $1,000$ USD per capita results in a 2.35 per cent decrease in the sum of all land acquired). Hence, being an exporter seems to be conducive to receiving investments.

Third, the resource variables support the hypothesis that the resources of target countries are important: For host countries, we do find positive statistically significant effects for the agricultural area, and water resources while the share of land available for agriculture is statistically significant and negative. The same variables are a little less clear for investor countries.

Fourth, looking at agricultural productivity, we find no significant results; negative in the case of host countries and positive in the case of investor countries. High productivity on the part of target countries is hence associated with lower areas of acquired land.

Fifth, we find generally positive effects of institutions measured through the control of corruption rank. For example, if the rank of host country increases by one, the sum of all land acquired increases by 0.011 per cent.

We further find negative effects for population density and the distance from the equator—for both investors and host countries—and positive agglomeration effects, measured through the number of investments, of investors, and of host countries.

2.4.3 Robustness checks

To check the robustness of our results for the bilateral data set, we run a simple OLS (see Table 2.9 in the Appendix) using the same specification as for the PPML estimator. As in the unilateral regressions, we use a logarithmic transformation of the cumulative hectare size, $log(y_{ij} + 1)$. The results are generally consistent with the results presented above but the size of effects is much less for OLS coefficients.

Moreover, we use the same specification with count data: our dependent variable is the number of investments projects n_{ij} of investor country i in target country j. We started off with a Poisson regression, then used a negative binomial model. AIC and BIC criteria and the likelihood ratio test confirm that the negative binomial specification fits better with our data. We then settled on a zero–inflated[17] negative binomial regression as proposed by Burger, Oort, and Linders (2009); the Vuong statistics confirm that this model is better than the normal form (see bottom row in Table 2.10 in the Appendix). All results are generally consistent with the results presented above.

[17] Zero–inflated models assume that zeros are generated by two distinct processes, which makes sense both from a methodological and a theoretical point of view if one expects many zeros to be missing values. Zero–inflated models assume two latent groups: a group that is always zero (i.e. never has the chance to have an investment) and a group that has a probability greater than zero to have positive counts (i.e. there is a chance to have investments). Zero–inflated models first estimate a logit regression that indicates how variables influence the 'always–zero–group', and a negative binomial regression/Poisson for those in the 'not-always-zero-group' (Long and Freese, 2001). We display only the results from the 'not always zero group' (see Table 2.10 in the Appendix).

Table 2.7: Pseudo–poisson maximum likelihood estimation with additional institutional variables for cumulative hectare size

	Dependent variable: y_{ij}	
	(IV)	(V)
Political_Institutions_h	0.115	
	(0.386)	
Political_Institutions_i	0.979**	
	(0.459)	
property_rights_h	-0.029	
	(0.020)	
property_rights_i	-0.036*	
	(0.019)	
Protecting_Inv_Rank2012_h	0.011***	0.011**
	(0.004)	(0.005)
Protecting_Inv_Rank2012_i	-0.005	-0.004
	(0.006)	(0.007)
Land_Tenure_Insecurity_h		1.045**
		(0.420)
Land_Tenure_Insecurity_i		-0.424
		(0.359)
d_corruption_h		-0.174
		(0.712)
d_corruption_i		-1.059*
		(0.578)
d_corruption_pair		1.131*
		(0.587)
Controls	YES	YES
Regional Dummies	YES	YES
Observations	7905	8265
R^2	0.696	0.682

Controls included but not reported: Population density, log distance to the equator, and number of deals.
We use the 'keep' option in Stata to override the default to drop observations.
** $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

Furthermore, we include more variables to measure institutions. We use specification II of the former model but leave out the control of corruption rank and instead use a number of institutional variables as indicated in Table 2.7. The political institutions indicator is an alternative measure for the general institutional quality. It turns out, as expected, to be positive for host countries and investor countries. The property rights indicator turns out positive for host countries, against our expectation. The sign for land tenure insecurity of host countries is positive and statistically significant, which suggests that insecure land tenure is beneficial to land acquisitions. The dummies that mark corrupt host and investor countries are negative (and statistically significant). Interestingly, the dummy for both corrupt host and corrupt investor countries is positive and significant.

Hence, the claim of institutional distance is supported.

As the sample size is small and as most results remain insignificant, the conclusions that can be drawn from these regressions are limited. With this in mind, we cautiously take these results as an indication that the effect of institutions might indeed be ambiguous: general institutional quality and investor protection seem to be conducive to land acquisitions, while poor land tenure is not problematic. Moreover, corrupt countries generally yield negative results, but the effect is positive if both countries are corrupt.

2.5 Discussion and conclusion

This paper has contributed to the existing literature in two key regards. First, we have clarified the relationship between LSLAs for agriculture and FDI. We have argued that LSLAs are a specific form of FDI—namely, land–based agricultural FDI. By shedding light on the determinants of FDI in the manufacturing sector, we have developed hypotheses regarding how the determinants of FDI in manufacturing and of land–based agricultural FDI are similar and how they differ. Land–based agricultural FDI is—like any other form of FDI—driven by the desire to find a low–cost production location and the choice to internalize production. Thus, most determinants of FDI in manufacturing can be transferred to our specific form of FDI—for example, a common language or the distance between economies.

However, we also assume that there are several reasons why land–based agricultural FDI is different. Firstly, securing access to food and energy resources is thought to play a major role in such FDI, while market–seeking factors are negligible. Secondly, land and water endowments are salient, as these immobile inputs cannot be substituted. The importance of these resources has even grown in recent years as pressure on land and water has increased. Thirdly, in many developing countries land prices are low due to low agricultural productivity or due to prices that fail to reflect the value of the land. This in turn attracts large numbers of investors, amongst them speculators. Fourthly, land acquisitions take place under land governance systems with vaguely defined and overlapping land rights. Investors might thus be tempted to take advantage of this situation. Corrupt investors are expected to invest in corrupt environments.

Second, we have tested these hypotheses empirically based on Land Matrix and UNCTAD data. We estimated a tobit regression with a sample of unilateral data, which we compared to FDI data. Then we used a PPML estimator for a bilateral data set. With regard to strategic considerations, market size and purchasing power cannot be identified as key drivers of land acquisitions. We have further found that for host countries it is detrimental to be a per–capita food importer. This suggests that investors favour countries with experience in commodity exports. We have determined that land and water resources indeed play an important role for investment decisions. The findings on agricultural productivity remain unclear, and the results on institutions are largely insignificant. Generally, we have identified positive signs for the control of corruption rank and hence conclude that the general institutional quality is important. We have included some further variables in the robustness check and have found some

support for the claim that institutions are ambiguous: while the protection of investors is important, poor land tenure is not problematic.

Guided by these initial empirical tests of our hypotheses, more empirical studies should be conducted, using more accurate data. However, with the data at hand we cannot present more robust empirical results, for a number of reasons: First of all, our data cannot distinguish cases of speculation from implemented projects. While we have information on concluded contracts, we have little information about what happens on the land after a contract has been concluded. In addition, we do not find clear results for agricultural productivity, our proxy for low land prices. Hence, it is difficult to distinguish investors, who are attracted by low land prices and the opportunity of high returns on their investment, from speculators, who take advantage of land prices that are too low. Second, like any macro study, we neglect regional disparities within the same country. We assume that this is a more pronounced problem in agriculture than in manufacturing. To give an example, an investor seeks land in a water–scarce country but targets a water–abundant region. Water would be a major determinant that would not be captured in our estimations. Similarly, based on georeferenced sub–Saharan African land deals, Schoneveld (2014) calls for an analysis that takes into account differences across regions and individual investment projects. Third, to test our hypotheses we would need strong variables on institutions; these are not available for a large set of countries. Fourth, in order to scrutinize determinants of agricultural FDI in comparison to those of general FDI, comparable data sets for both land acquisitions and FDI are necessary.

Data sources

Institutional Profiles Database. http://www.cepii.fr/institutions/EN/ipd.asp (visited on 30/10/2013).
FAO Aquastat. http://www.fao.org/nr/water/aquastat/data/ (visited on 09/11/2013).
FAOStat. http://faostat3.fao.org/faostat-gateway/go/to/home/E (visited on 30/10/2013).
FAO. GAEZ. http://www.fao.org/nr/gaez/en/ (visited on 30/10/2013).
Kaufmann, D., Kraay, A., Mastruzzi, M.. World Governance Indicators. http://govindicators.org (visited on 30/10/2013).
Laitin, D.D., Moortgat, J., Robinson, A.L. (2012). Geographic axes and the persistence of cultural diversity. Proceedings of the National Academy of Sciences 109 (26), 10263–10268. http://www.pnas.org/lookup/suppl/doi:10.1073/pnas.1205338109/-/DCSupplemental/sd01.xlsx (visited on 30/06/2014).
Land Matrix. International Land Coalition (ILC), Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Centre for Development and Environment (CDE),German Institute for Global and Area Studies (GIGA) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). http://landmatrix.org/ (visited on 01/09/2014).
OECD.Stat Extracts. http://stats.oecd.org/ (visited on 23/06/2014).
The Heritage Foundation. http://www.heritage.org/index/property-rights (visited on 10/12/201).

Appendix

Additional regression results

Unilateral results

Table 2.8: OLS (unilateral)

	Dependent variable: $log(Y_i + 1)$	
	(I)	(II)
log_GDP	1.001***	1.116***
	(0.160)	(0.192)
log_GDP_pc	-1.420***	-1.239**
	(0.481)	(0.565)
net_agric_imports_pc		-1.712
		(4.761)
log_agric_area_pc		0.610
		(0.381)
share_available_land		-0.00547
		(0.0205)
log_water_resources		0.932***
		(0.244)
log_agric_productivity		0.161
		(0.333)
corruption		0.00372
		(0.0201)
Controls	YES	YES
Regional Dummies	YES	YES
Observations	108	104
R^2	0.546	0.606

*Controls included but not reported: Population density and log distance to the equator. * $p <$ 0.1, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

Bilateral results: Hectare size

Table 2.9: OLS (bilateral)

	Dependent variable: $log(y_{ij} + 1)$		
	(I)	(II)	(III)
net_agric_imports_pc_h		0.146	
		(0.171)	
net_agric_imports_pc_i		0.044	
		(0.090)	
log_agric_area_pc_h		0.056***	
		(0.018)	
log_agric_area_pc_i		0.021	
		(0.018)	
share_available_land_h		-0.001	
		(0.001)	
share_available_land_i		0.000	

		(0.001)	
log_water_resources_h		0.041***	
		(0.012)	
log_water_resources_i		0.005	
		(0.009)	
log_agric_productivity_h		-0.027*	
		(0.014)	
log_agric_productivity_i		-0.010	
		(0.015)	
corruption_h		-0.000	
		(0.001)	
corruption_i		0.000	
		(0.001)	
Controls	YES	YES	YES
Regional Dummies	YES	YES	
Host–/Investor–country fixed effects			YES
Observations	14700	14214	26520
R^2	0.117	0.121	0.107

*Controls included but not reported: Population density, log distance to the equator, and number of deals. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

Bilateral results: Count model

Table 2.10: Zero–inflated negative binomial model

	Dependent variable: n_{ij}	
	(I)	(II)
log_distance	-0.1167	-0.0602
	(0.3697)	(0.2962)
common_language	1.0749***	0.6264
	(0.3258)	(0.4806)
former_colony	-0.1445	-0.0966
	(0.3433)	(0.9063)
log_GDP_h	0.0006	-0.0020
	(0.1369)	(0.1856)
log_GDP_i	-0.0053	-0.0021
	(0.2031)	(0.1489)
log_GDP_pc_h	-0.0268	-0.0147
	(0.3434)	(0.3781)
log_GDP_pc_i	-0.0374	-0.0200
	(0.4402)	(0.4456)
net_agric_imports_pc_h		-3.1340
		(1.9524)
net_agric_imports_pc_i		0.8685
		(0.6706)
log_agric_area_pc_h		-0.1994
		(0.3180)
log_agric_area_pc_i		-0.0201
		(0.5925)
share_available_land_h		0.0005

		(0.0114)
share_available_land_i		-0.0043
		(0.0209)
log_water_resources_h		0.0022
		(0.1948)
log_water_resources_i		-0.0050
		(0.1995)
log_agric_productivity_h		0.0077
		(0.1529)
log_agric_productivity_i		-0.0062
		(0.2784)
corruption_h		0.0037
		(0.0128)
corruption_i		-0.0027
		(0.0196)
Controls	YES	YES
Regional Dummies	YES	YES
N	14700	14214
Vuong (z)	5.28	5.49
AIC	2368.86	2285.78
BIC	2938.53	3026.86

*Controls included but not reported: Population density, log distance to the equator, and number of deals. The third specification with importer and host–country fixed effects is not calculated due to convergence problems. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.*

Host– and investor countries

Table 2.11: Frequency of host/investor observations in gravity model, by country[18]

Iso3c Country Codes	Country	Investor[19]		Host[20]	
		n > 0	n = 0	n > 0	n = 0
ABW	Aruba	0	136		
AFG	Afghanistan	0	135	0	195
AGO	Angola	0	135	9	186
ALB	Albania	0	135	0	195
AND	Andorra	0	136		
ARE	United Arab Emirates	14	122		
ARG	Argentina	4	131	21	174
ARM	Armenia	0	135	0	195
ATG	Antigua and Barbuda	0	135	0	195
AUS	Australia	4	132		
AUT	Austria	3	133		
AZE	Azerbaijan	0	135	0	195
BDI	Burundi	0	135	0	195
BEL	Belgium	13	123		
BEN	Benin	0	135	2	193
BFA	Burkina Faso	0	135	2	193
BGD	Bangladesh	0	135	2	193
BGR	Bulgaria	0	135	0	195
BHR	Bahrain	4	132		
BHS	Bahamas	0	136		
BIH	Bosnia and Herzegovina	0	135	0	195
BLR	Belarus	0	135	0	195
BLZ	Belize	0	135	0	195
BMU	Bermuda	0	136		
BOL	Bolivia	0	135	3	192
BRA	Brazil	6	129	16	179
BRB	Barbados	0	136		
BRN	Brunei	0	136		
BTN	Bhutan	0	135	0	195
BWA	Botswana	0	135	0	195
CAF	Central African Republic	0	135	1	194
CAN	Canada	23	113		
CHE	Switzerland	5	131		
CHL	Chile	0	135	2	193
CHN	China	80	55	7	188
CIV	Cote d'Ivoire	3	132	8	187
CMR	Cameroon	0	135	7	188
COD	Democratic Republic of the Congo	0	135	8	187
COG	Congo	0	135	4	191
COL	Colombia	0	135	10	185
COM	Comoros	0	135	0	195
CPV	Cape Verde	1	134	0	195
CRI	Costa Rica	0	135	1	194
CUB	Cuba	0	135	0	195
CYM	Cayman Islands	0	136		
CYP	Cyprus	0	136		
CZE	Czech Republic	0	136		
DEU	Germany	10	126		
DJI	Djibouti	3	132	0	195

DMA	Dominica	0	135	0	195
DNK	Denmark	9	127		
DOM	Dominican Republic	0	135	0	195
DZA	Algeria	1	134	0	195
ECU	Ecuador	0	135	0	195
EGY	Egypt	4	131	6	189
ERI	Eritrea	0	135	0	195
ESP	Spain	7	129		
EST	Estonia	0	136		
ETH	Ethiopia	0	135	66	129
FIN	Finland	0	136		
FJI	Fiji	0	135	0	195
FRA	France	32	104		
FRO	Faroe Islands	0	136		
FSM	Micronesia	0	135	0	195
GAB	Gabon	0	135	4	191
GBR	United Kingdom	97	39		
GEO	Georgia	0	135	1	194
GHA	Ghana	0	135	25	170
GIN	Guinea	0	135	5	190
GMB	Gambia	0	135	1	194
GNB	Guinea-Bissau	0	135	0	195
GNQ	Equatorial Guinea	0	136		
GRC	Greece	0	136		
GRD	Grenada	0	135	0	195
GRL	Greenland	0	136		
GTM	Guatemala	0	135	2	193
GUY	Guyana	0	135	0	195
HKG	Hong Kong	18	118		
HND	Honduras	0	135	1	194
HRV	Croatia	0	136		
HTI	Haiti	0	135	0	195
HUN	Hungary	1	135		
IDN	Indonesia	1	134	133	62
IND	India	38	97	5	190
IRL	Ireland	0	136		
IRN	Iran	1	134	0	195
IRQ	Iraq	0	135	0	195
ISL	Iceland	0	136		
ISR	Israel	7	129		
ITA	Italy	19	117		
JAM	Jamaica	0	135	1	194
JOR	Jordan	0	135	0	195
JPN	Japan	11	125		
KAZ	Kazakhstan	0	135	2	193
KEN	Kenya	5	130	4	191
KGZ	Kyrgyz Republic	0	135	0	195
KHM	Cambodia	2	133	84	111
KIR	Kiribati	0	135	0	195
KNA	Saint Kitts and Nevis	0	135	0	195
KOR	South Korea	16	120		
KWT	Kuwait	3	133		

LAO	Laos	0	135	41	154
LBN	Lebanon	0	135	0	195
LBR	Liberia	0	135	11	184
LBY	Libya	4	131	0	195
LCA	Saint Lucia	0	135	0	195
LKA	Sri Lanka	10	125	1	194
LSO	Lesotho	0	135	0	195
LTU	Lithuania	0	135	2	193
LUX	Luxembourg	5	131		
LVA	Latvia	0	136		
MAR	Morocco	0	135	2	193
MDA	Moldova	0	135	0	195
MDG	Madagascar	0	135	10	185
MDV	Maldives	0	135	0	195
MEX	Mexico	0	135	1	194
MHL	Marshall Islands	0	135	0	195
MKD	Macedonia	0	135	0	195
MLI	Mali	0	135	13	182
MLT	Malta	0	136		
MMR	Myanmar	0	135	1	194
MNG	Mongolia	2	133	0	195
MNP	mnp	0	136		
MOZ	Mozambique	0	135	53	142
MRT	Mauritania	0	135	1	194
MUS	Mauritius	6	129	1	194
MWI	Malawi	0	135	2	193
MYS	Malaysia	80	55	9	186
NAM	Namibia	0	135	2	193
NCL	New Caledonia	0	136		
NER	Niger	2	133	0	195
NGA	Nigeria	3	132	14	181
NIC	Nicaragua	0	135	0	195
NLD	Netherlands	15	121		
NOR	Norway	5	131		
NPL	Nepal	0	135	0	195
NZL	New Zealand	2	134		
OMN	Oman	0	136		
PAK	Pakistan	1	134	4	191
PAN	Panama	0	135	0	195
PER	Peru	0	135	0	195
PHL	Philippines	0	135	24	171
PLW	Palau	0	135	0	195
PNG	Papua New Guinea	0	135	27	168
POL	Poland	0	136		
PRI	Puerto Rico	0	136		
PRK	North Korea	0	135	0	195
PRT	Portugal	11	125		
PRY	Paraguay	0	135	4	191
PYF	French Polynesia	0	136		
QAT	Qatar	2	134		
RUS	Russia	0	135	6	189
RWA	Rwanda	0	135	2	193

SAU	Saudi Arabia	23	113		
SDN	Sudan	0	135	16	179
SEN	Senegal	0	135	13	182
SGP	Singapore	43	93		
SLB	Solomon Islands	0	135	0	195
SLE	Sierra Leone	0	135	15	180
SLV	El Salvador	0	135	0	195
SMR	San Marino	0	136		
SOM	Somalia	0	135	0	195
STP	Sao Tome and Principe	0	135	0	195
SUR	Suriname	0	135	0	195
SVK	Slovak Republic	0	136		
SVN	Slovenia	0	136		
SWE	Sweden	7	129		
SWZ	Swaziland	0	135	1	194
SYC	Seychelles	0	135	0	195
SYR	Syria	0	135	0	195
TCA	Turks and Caicos Islands	0	136		
TCD	Chad	0	135	0	195
TGO	Togo	0	135	0	195
THA	Thailand	21	114	1	194
TJK	Tajikistan	0	135	0	195
TKM	Turkmenistan	0	135	0	195
TON	Tonga	0	135	0	195
TTO	Trinidad and Tobago	0	136		
TUN	Tunisia	0	135	0	195
TUR	Turkey	7	128	1	194
TUV	Tuvalu	0	135	0	195
TZA	Tanzania	0	135	26	169
UGA	Uganda	0	135	7	188
UKR	Ukraine	0	135	4	191
URY	Uruguay	0	135	35	160
USA	United States	60	76		
UZB	Uzbekistan	0	135	0	195
VCT	Saint Vincent and the Grenadines	0	135	0	195
VEN	Venezuela	0	135	0	195
VNM	Vietnam	42	93	3	192
VUT	Vanuatu	0	135	0	195
WSM	Samoa	0	135	0	195
YEM	Yemen	0	135	0	195
ZAF	South Africa	21	114	0	195
ZMB	Zambia	0	135	20	175
ZWE	Zimbabwe	5	130	2	193

[18]We only display those countries that have information on independent variables and are thus included in our regressions. Specification III has the most observation (26,520), which is why we take all those countries, that specification III uses, to display, here.

[19]Investor countries include all countries of the world, according to the World Bank list of economies as of July 2013. As we keep high-income countries, we have more countries as possible investors than we have as possible targets.

[20]Host countries include all countries except high-income countries according to the World Bank.

Explanatory variables

Table 2.12: Definition of explanatory variables and source

	Variable coded	Explanation	Source	Year
		Main specification		
Weighted distance	*log_distance*	Weighted distance between host and investor.	CEPII	n.a.
Common official language	*common_language*	Host and investor have a common official language	CEPI	n.a.
Colony	*former_colony*	Former colonial relationship between host and investor.	CEPII	n.a.
GDP	*log_GDP*	GDP (absolute) in internat. $ constant 2005 PPP in 2000	WDI	2000
GDP per capita	*log_GDP_pc*	GDP/population	WDI	2000
Population, total	*log_population*	Population	WDI	2000
Net agricultural products imports per capita	*net_agric_imports_pc*	(Agricultural Products, Total Import Value (1000 US$) in 2000 – Agricultural Products, Total Export Value (1000 US$) in 2000)/Pop2000	FAOStat	2000
Agricultural area (in 1000 ha) per capita	*log_agric_area_pc*	Agricultural area/ Population	FAOStat/ WDI	2000
Land potentially available for agriculture (in per cent)	*share_available_land*	forest land grassland & woodland	GAEZ/ FAO	n.a.
Water resources per capita	*log_water_resources*	Total annual actual renewable water resources per capita (m^3/year per inhabitant)	FAO Aquastat	
Agricultural productivity	*log_agric_productivity*	Net production value for agriculture, in constant 2004-2006 1000 international $ divided by area for permanent crops in 100 ha	FAO	2000
Control of corruption	*corruption*	Rank between 1 and 183.	WGI	2000
Population Density	*Population_density*	Population per total land area in km^2.	WDI	2000
Distance from equator	*log_distance_equator*	Distance from equator (in degree of latitudes)	Laitin et al. 2012	n.a.
Number of deals	*n_deals*	Number of deals the host/ investor has in total	Land Matrix	2000-2014

Additional institutional variables (robustness checks)				
Political institutions	*Political_institutions*	Scaled between 1 (low functioning of political institutions) and 4 (high functioning).	IPD	2012
Property rights	*property_rights*	Rank between 0 and 100	Heritage foundation	2000
Land tenure security	*Land_tenure_security*	Scaled between 1 (low insecurity) and 4 (high insecurity).	IPD	2012
Investor protection	*Protecting_Investors_Rank*	Rank between 1 and 183.	Doing Business Survey	2012
Corruption dummy	*d_corruption*	Dummy that turns one if host and/or investor country has a control of corruption rank below 34.	WGI	2000

Explanatory variables not included
Active population in agriculture as a share of working-age population and average years of schooling to test labour endowments.
Gini index of land concentration.
Institutional alternatives: different variables from the World Governance Indicators including an indicator calculated through principal component analysis and the Doing Business survey.
Phone lines (in 2000) to control for infrastructure.
Rate of urbanization as a control for development.
Regional trade agreements.
Share of area below a yield gap of 40 per cent (inefficient) and the share of area above a yield gap of 70 per cent (efficient) as an alternative measure for agricultural productivity.

3 Interplay of land governance and large–scale agricultural investment: evidence from Ghana and Kenya [1]

Kerstin Nolte & Susanne Johanna Väth

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Abstract

This comparative analysis examines how large–scale agricultural land acquisitions are implemented in Ghana and Kenya, using embedded case studies of two specific investment projects. We find that insufficiencies in these countries' land governance systems are partly caused by discrepancies between de jure and de facto procedures and that powerful actors tend to operate in the legal grey areas. These actors determine the implementation of projects to a large extent. Displacement and compensation are highly emotive issues that exacerbate tensions around the investment. We also find that large–scale land acquisitions (LSLAs) have a feedback effect on the land governance system, which suggests that LSLAs can be drivers of institutional change. We suggest there may be a window of opportunity here to reform these land governance systems.

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4 Large–scale agricultural investments under poor land governance in Zambia

Kerstin Nolte

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Abstract[1]

This paper looks at how large–scale land acquisitions made by foreign investors in Zambia are implemented. It scrutinizes both the steps that an investor has to go through in order to attain land within the Zambian land governance system as well as the actors shaping the acquisition process. As the most important formal change introduced to the Zambian land governance system, the Lands Act 1995, paved the way for foreign investments in land. The new actor 'investor' on the other hand has emerged as a result of rising prizes for food and non–food commodities. The study finds that the enforcement of formal rules in the process of acquiring land is currently weak and largely determined by a number of actors: while investors, local authorities and government officials have strong leverage, local land users are excluded from the process. If the process of transformations of customary land into state land continues, land administration will be inevitably shifted toward statutory jurisdiction. As a result, local chiefs will lose their discretionary power thereby further marginalizing local land users. As it stands, welfare implications are chiefly down to the individual actors. However, it is only the government that can issue a guarantee that local land users will also benefit from land acquisition.

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5 Consultation in large–scale land acquisitions: an evaluation of three cases in Mali[1]

Kerstin Nolte & Lieske Voget–Kleschin

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Abstract

Consultation is widely recognized as an important aspect of fair land deals; however, in terms of tangible instructions, this aspect remains unspecific. We develop a framework for consultation in the case of land acquisitions and analyse proposals for consultation contained in voluntary guidelines and private governance instruments as well as de jure and—by way of three case studies—de facto consultative processes in Mali. We acknowledge that consultations take place in complicated settings of power relations that determine the aims of consultation. In countries with serious background injustice, regulatory changes that alleviate these inequities are necessary before implementing land acquisitions.

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6 Synthesis and future research

6.1 Contribution of this thesis

This dissertation contributes to the literature by providing evidence on the rising global phenomenon of investments in land through in–depth insights obtained from a cross–country study as well as from three case–studies based in sub–Saharan Africa.

In particular, Chapter 2 expands on the analysis of Arezki, Deininger, and Selod (2013) and contributes to the literature on the *determinants* of large–scale land acquisitions (LSLAs) in two regards: First, it conceptualizes LSLAs for agriculture and puts them in the context of foreign direct investments (FDIs). On the basis of this conceptualisation, we theoretically analyse whether the determinants of LSLAs for agriculture are different to those from FDI in manufacturing. We found that LSLAs for agriculture can be considered a specific subset of FDI as they conform to the Organisation for Economic Co–operation and Development (OECD) definition of FDI: a direct investor—be it a private company, a stock–exchange listed company or an investment fund—has interest in an enterprise abroad, and the contract duration exceeds 25 years or more in most cases which suggests a long–term relationship. However, we proposed four departures that explain why the determinants of FDI in agriculture are different from FDI in manuracturing. Second, using data from the Land Matrix Global Observatory and UNCTAD we empirically examined the determinants of land–based agricultural investments vis–à–vis FDI. The results demonstrate that LSLAs are governed by determinants similar to FDI in manufacturing, yet the weight of these differs. For instance, resource–seeking factors play a more pronounced role for investment decisions. Moreover, institutions and policies are of particular importance to investors. As land acquisitions take place within land governance systems having vaguely defined and often overlapping land rights, the effects of institutions are ambiguous rather than clear–cut. Hence, the chapters that follow the second one each shed more light on different land governance systems across sub–Saharan Africa.

Chapters 3 and 4 mainly contribute to the literature on the *processes* surrounding land acquisitions and provide insights into the transmission channels through which LSLAs have *welfare implications*. Chapter 3 compares two investment cases in Ghana and Kenya, while Chapter 4 conducts a country case study of Zambia. Results suggest that in all three countries, the land governance systems are not prepared to handle the increased influx of investors in agricultural land. Weaknesses in the land governance system are exposed by LSLAs. The discrepancy between de jure and de facto land administration is salient. Weak de facto rules and their poor enforcement give powerful actors a distinct role in the acquisition process. Chapter 4 takes a closer look at the

involved *actors*. Traditional and government authorities as well as investors negotiate land deals and determine how they are to be implemented. Local land users are often neglected in the process. Power relations between actors can change. For instance, the ongoing transformation from customary to state land results in a gradual shift in power ownership from traditional to government authorities.

The influential role of certain actors also leads to diverse welfare implications: whether an investment turns out to be of overall benefit depends on those negotiating the deal. Chapters 3 and 4 provide initial insights into the underlying transmission channels: access to land, compensation, food and input prices, food security, employment, infrastructure improvements (for example roads, electricity supply, health services, and school facilities), environmental impacts and technological spillovers (lending of equipment versus the fencing–off of farms). Moreover, Chapter 3 gives detailed examples of displacement and compensation in the two cases studied, finding these to be highly emotive issues. Perceptions about welfare implications change over time and are extremely subjective.Tensions over land can be exacerbated in the course of the project's implementation, hence the adequate consultation and inclusion of local communities in the process is of the utmost importance.

Both chapters find that LSLAs can have repercussions for the land governance system. Chapter 3 concludes that discontent with the current situation can fuel institutional change, in both customary and statutory rules. Hence, in such situations a window of opportunity can open up to reform the institutional framework.

Chapter 5 takes up the finding from the two preceding chapters that adequate *consultation* is crucial, and looks in greater detail at this specific step in the acquisition process specifically on the basis of a case study from Mali. Even though consultation is perceived to be important, tangible instructions for how to undertake it are shown to be currently lacking. This chapter hence contributes to the literature on LSLAs in developing a framework for the analysis of related consultations. Our framework departs from Chambers' (2005) 'ladders of participation', and includes the dimensions of degree of influence as well as degree of inclusion. We use this framework to assess voluntary guidelines, private governance instruments as well as de jure and de facto consultation in Mali. The findings from this assessment are not surprising: voluntary guidelines have the highest standards for consultation, de jure and de facto consultation differ while de facto consultation often performs the worst.

My case studies discuss the importance of power relations and the roles that different actors play *within* target countries. Putting these insights into a broader context and reflecting on policy implications brings into question power relations and the roles different actors play, also on the global level.

Chapters 3 and 4 illustrate how the land governance systems in Ghana, Kenya and Zambia are not prepared to handle the influx of LSLAs. There are indeed many shortcomings in the land governance systems of target countries, such as the poor enforcement of formal rules and a concentration of power in the hands of only a few actors. Such malfunctioning land governance systems are often identified as the major impediment to take advantage of the increased interest in the agricultural sector in developing countries.

Yet, only national governments can provide a functioning institutional framework.

Consequently, LSLAs also elucidate the limits that the international community faces in the governance of LSLAs. If national governments fail to provide functioning institutional frameworks for LSLAs, the international community can do very little to remedy the situation. This reality becomes evident, for instance, in Chapter 5: even though there are voluntary guidelines which are issued by the international community and include provisions for consultations, such consultations are tied to national legislation and—in terms of effectiveness—tend to remain well below the targets of these guidelines.

At the same time, there is an imbalance between investors and target country governments in terms of negotiation capacity which is problematic: some governments from developing countries, particularly from sub–Saharan Africa, are ill–equipped to negotiate contracts with international corporations. This raises questions about the capacity of governments from developing countries to accommodate international investors and again brings into question how these governments could be supported by the international community.

As the preceding chapters have highlighted LSLAs are occurrences that trigger change in institutions, as they have significant effects on land governance systems. This reality represents a window of opportunity to reform national land administration. National governments—who are often underfunded and understaffed—can—with the support of the international community, if needed—now take advantage of this window of opportunity and act in improving the institutional framework governing land acquisitions. The support of the international community should extend to legal advice being given on how to craft mutually beneficial contracts between target country governments and investors.

In sum, providing a functioning institutional framework lies primarily in the responsibility of target country governments; however, the international community can provide support to these.

In this context, private companies are often portrayed as a solution to malfunctioning governments who have hitherto failed to provide basic infrastructure. And, indeed, the investors of the case studies presented in chapter 3 have committed to providing basic infrastructure, from roads and electricity supply to investments in hospitals and schools. At the same time, there is obviously a risk associated with private companies becoming too powerful. For instance, smallholder farmers in Zambia complained about commercial investors who flood markets and drive down prizes.

Moreover, the level of responsibility of private companies investing in the world's poorest regions is called into question. First and foremost, such companies pursue commercial gains and as such the making of altruistic investments in rural infrastructure are highly unlikely. Even the initial investments to set up a project that need to be made by the investor are perceived to be too high. Thus, many governments, including those of the world's poorest countries provide investment incentives, such as tax exemption schemes. Nonetheless, Kleemann et al. (2013) argue that investors who decide to enter countries with unjust institutional backgrounds that privilege certain actors ('background injustice') take a particular responsibility.

Private companies should hence aim at utilizing inclusive business models. Projects are

more likely to be sustainable if they are accepted by the local communities, as Chapter 5 demonstrates. This requires both prior consultation and constant and ongoing involvement throughout every step of the project's implementation and production phase. Chapter 3 elucidates how many projects lose support over the years, despite the initial enthusiasm for them on the part of the local population. As Väth and Kirk (2014) have shown, contract farming might be a viable solution to the issue of how to include local farmers during the production phase.

Finally, I highlight the importance of transparency in LSLAs. Many cases of LSLAs remain opaque, and the challenges of obtaining unbiased data is far from being solved. Academia and non-governmental organizations (NGOs) should hence continue their efforts to increase such transparency. Insights from research and projects such as the Land Matrix Global Observatory are important means to move towards a more balanced and objective debate.

6.2 Future areas of research

LSLAs reflect rising interest in the agricultural sector worldwide. As Chapter 2 shows they are a specific form of FDI but work differently to FDI in manufacturing. Hence, we are still in an early stage of fully understanding how land acquisitions function and how they actually take effect. Nonetheless, knowledge about these questions continues to grow and today we understand the phenomenon of LSLAs much better than we did even a few years ago. Based on this emerging knowledge, the debate needs to rationalize and thus move away from perpetuating stereotypes of either greedy land grabbers or well–meaning investors and acknowledge instead ongoing and evolving developments. Many of the debates today are still preoccupied with the ethical question of whether we even *want* LSLAs to take place or not. I argue it is now time to expand on these debates. LSLAs are taking place whether we like it or not. Social–science and land–use and land–cover change (LULCC) research should thus henceforth focus more on the wider implications of LSLAs than on their right to occur in the first place.

At the same time, data availability and quality have improved in recent years—even though scholars still face serious information constraints. A major bottleneck remains data on the exact locations of LSLAs. However, data in this regard is also improving at two ends of the spectrum: data on LSLAs is increasing, particularly with regards to spatial data (Messerli et al., 2014). Moreover satellite images are now able to cover greater area sizes (for example, the Landsat–8 satellite, which started broadcasting in 2013), while geographic information systems (GIS)–technology is advancing in terms of land–use classification (Griffiths et al., 2013; Yan and Roy, 2014).

These improvements in data availability and quality allow us to use different methodologies for the study of LSLAs. I assume the following aspects will become important in terms of methodology: Studies based on quantitative data are an important next step towards better understanding the phenomenon of LSLAs. Case–studies based on qualitative methods—including the ones presented in the different chapters of this thesis—were an important first step by which to provide insights into a phenomenon marked by se-

crecy. These types of cases will continue to play a certain role, especially with concern to understanding the processes and perceptions surrounding land acquisitions. In addition, analyses henceforth need to be 'localized'. Regional disparities *within* countries need to be taken into account in future, as cross–country studies ultimately have only limited explanatory power. In this regard, the use of satellite images and GIS will significantly improve the analysis of LSLAs.

Based on insights derived from my own research discussed above, I identify three crucial areas deserving closer academic attention: First, rising interest in the agricultural sector worldwide is putting those countries that traditionally do not receive much FDI on the agenda of investors. Thus, the question of what financial flows these investments in land induce and how they in turn change the face of agriculture arises. We are currently witnessing the advancing commercialization of agriculture, a development that extends to developing countries as well. Old debates—such as those about optimal farm–size (Deininger, 2011; Deininger and Byerlee, 2012), the role of smallholder agriculture in food production (Jayne et al., 2014) as well as the implications of growing commercialization for the world commodity market—need to be revived in light of these developments.

Second, LSLAs are drivers of LULCCs (Foley et al., 2005). For instance, this is exemplified by the many cases of rainforest conversion into pasture in Latin America and the large–scale plantations in Southeast Asia (Lambin and Meyfroidt, 2011; Morton et al., 2006). However, the role that large–scale agricultural activities play in driving LULCCs has still not been sufficiently explored to date. Future research should thus consider the role that commercial agriculture plays in such LULCCs.

Third, a major challenge to development economists is the analysis of the welfare implications of LSLAs. As discussed in Chapter 1.2, studying welfare implications is methodologically challenging and hence hardly any systematic evidence on welfare implications of LSLAs exists at present. I assume that the question of how target countries, and particularly local communities, are affected by LSLAs will most likely increase in importance in the coming years with the ongoing implementation of commercial projects. Key to this is the fact that a shift occurring from smallholder agriculture to commercial agriculture obviously significantly affects local communities.

Since welfare implications of LSLAs are subject of heavy debates and of particular interest to development economics, I will now provide some preliminary ideas about how they could be more precisely analysed on the basis of more sophisticated data. I chose here to narrow down the analysis of welfare implications to the spillover effects experienced by communities adjacent to a LSLA—these effects are strongest in, but by no means confined to, neighbouring communities, and as such multiplier effects across communities are likely. In terms of transmission channels, we could use case study evidence as a point of departure to assess what spillover effects are to be expected. One challenge that I mentioned earlier was the importance of determining the precise time horizon to be considered, as such implications may well differ across the timespan of a project. Hence ideally welfare implications are studied over time, for example based on several waves of household survey data. Another crucial aspect is to know where exactly LSLA deals take place *and* operate. The Land Matrix does provide quite a good overview

of such deals; however, most of these lack exact locations. Moreover, for many of these projects we lack information on their actual implementation. Obviously, spillover effects only occur for those projects that are operational. One feasible alternative to Land Matrix data would be the use of information derived from satellite imagery and GIS classification for large–scale agricultural areas.

The combination of household surveys over a longer time–span and an inventory of operational farms would enable us to use a differences–in–differences design combined with matching techniques. We could identify the geographical areas in which commercial farms operate (treatment area) and counterfactuals, those areas in which no commercial farms are present (control area). Depending on the survey data, we could then assess the impact of commercial farms on local households, for example in terms of income, employment, food security, productivity, and/or fertilizer use.

As has been shown, this dissertation has endeveaoured to answer some key questions which have resulted from the rise in LSLAs in recent years. It does this with a unique methodological approach, combining a quantitative cross–country study with qualitative case studies based on data collected during in–depth field research in sub–Saharan Africa. These are just the first steps in trying to understand this practice—which has extensive economic, political and social repercussions. Further research, including what has just been outlined and incorporating better data, will need to be undertaken in order to address this so we can further enhance our understanding of LSLAs.

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Appendix

Questionnaire[1]

1.	**GENERAL INFORMATION ON AGRICULTURAL INVESTMENTS**
1.1	Have you heard of any agricultural investments in your country/region? How many? Can you provide examples?
1.2	Would you say your country/ region is an important target of agricultural investments?
1.3	Who does account for the majority of agricultural investments (domestic/ foreign; public/private)? Does it make a difference who the investor is (private/state, regional/non-regional, origin (China, Arab countries)?
1.4	Since when are foreign investors interested in agriculture in your country/ region? Are there certain triggers?
1.5	Does the government encourage investors to come to Kenya/this region? Has it always been this way, or were there any recent changes in the government's attitude towards investors?
2.	**CONTEXT CONDITIONS: LAND, FARMERS, LEGAL FRAMEWORK**
2.1	Does the national law contain any relevant provision applicable to land deals, such as environmental or social/labour standards, obligation of investors to reimburse the local community in case of displacement?
2.2	What are relevant laws with regard to foreign investments and land, labour and environmental laws, bilateral investment treaties, general investment regulations (i.e. registration etc.), rules for compensation, land acts?
2.3	How did the referendum of 2010 affect agricultural investments by foreigners?
2.4	Have there been disputes about land reforms in the last decade? What were the main conflicting parties/positions? Have they been resolved with the referendum?
2.5	How far along is the land legislation according to constitutional obligations?
2.6	How are customary and traditional land rights respected, and have there been any conflicts between these rights of local people and investor's rights? Are customary laws recognized in the constitution?
2.7	Is there a land registry office? How is it organized? (Do you have one in your region?)

[1]This is an example of a questionnaire I used. This one was used in Kenya. In the other countries, I used a similar questionnaire but adapted it to the local context. Please note, that this is only a guideline. Depending on the expertise and patience of interviewees, I would leave out certain questions.

2.8 Do you know of conflicts, cases of fraud in land titles or other disputes? How does it incorporate customary law and traditional non-formal land rights? How big is the percentage of land cases in court? How much time does it require to resolve a land dispute in court?

2.9 Who owns most of the land (the government, private owners, communities)?

2.10 Is it easy to obtain land? Who can sell land? How do you get a land title or a lease? How secure is tenure?

2.11 Is there a lot of idle arable land in Kenya/ your area?

2.12 What type of land is targeted by investors (public, community, private)?

2.13 How big is the percentage of land acquired by foreign and domestic investors?

2.14 Do you have information on land prices and land price changes in the last decade?

2.15 How is land farmed in Kenya/ this region (e.g. smallholder, commercial, region-specific crops, average farm-size)? Is there untapped potential in the agricultural sector?

2.16 Which crops are mainly grown (by investors/ by smallholders)? Will they be used as food or biomass/biofuel, feedstock?

2.17 Where are the agricultural products processed? Where are they sold (domestic, export, both (what percentage))?

2.18 What are the biggest problems of farmers in Kenya/ this region (e.g. lack of land, lack of water, poor market access, no fertilizer, improved seeds)? How can these problems be addressed?

2.19 Are you aware of land disputes between investors and the local population? If yes, which measurements are undertaken to solve this conflict? Who is acting?

3. NEGOTIATION PHASE

3.1 If an investor wants to acquire land in Kenya/this region, which steps does he have to follow?

3.1.1.1 On public Land

3.1.1.2 On Community Land

3.1.1.3 On Private Land

3.2 Which Kenyan authorities are involved in the process?

3.3 What is the role of chiefs/ traditional authorities?

3.4 Who is involved in the negotiation process (e.g. investor, central/district/local government, which ministries, chief, civil society)? Who decides?

3.5	Who knows of land acquisition before an official contract is signed, is it publicly announced? How is the local population informed? Is there time for discussion? How do local people react?
3.6	Is there an official investment treaty between foreign governments and Kenya that governs such investment activities?
3.7	Does the government give any incentives to investors, such as reduced taxes, infrastructure?
3.8	Do contracts involve any obligations on the investor's side, such as compensatory payments, infrastructure/social investment, environmental/social impact assessments?
3.9	Do investors actually conduct an Environmental Management Plan/Agreement? Social Impact Assessment? If yes, who initiates it? Are EMP's regulary conducted?
3.10	Do investors purchase or lease land (purchase, lease from an official agency, lease from local land-user, no land transfer)? What is the time frame of leases?
3.11	Who do investors pay (government, former owner, chief)? How do they pay – monthly, annually, for how long (annual ground rent, royalties)? Do investors usually hold an official land title?
3.12	What water rights are allocated to investors? (extraction of ground water, surface water)
3.13	Does the government have the capacity to monitor or enforce provisions of the contract?
3.14	Does the government try to monitor or enforce provisions of the contract?
3.15	How do you perceive corruption in conjunction with land deals and investments?
3.16	Do you think that agricultural investments have a positive or negative influence on your country / on the local population in the target region?

Guideline for focus group discussions[2]

1. **Welcome**

   Welcome address (thank you for coming, asking for participation, introduction of the team etc.).

   We work for the German Institute of Global and Area Studies (GIGA), a research institute in Germany which is supported by the University of Nairobi for this project. All information provided is strictly for academic purposes and will be used in a research project.

   Before we start, let me explain the procedure: We would very much like to record the discussion. This will help us to remember its content and make sure that we do not miss any of the issues you have mentioned and the ideas you share with us. Details of the discussion and your names will be kept strictly confidential – so please feel free to express your opinions. I ask you to speak loudly and that only one person speaks at a time. Please respect the others' opinions.

2. **Introduction round**

   As a first step, we should introduce ourselves. Please tell us your name, what you do, and how long you have been living in this area *(this is very important!).* My colleague will prepare nametags to help us remember your names.

3. **Wellbeing in the Community**

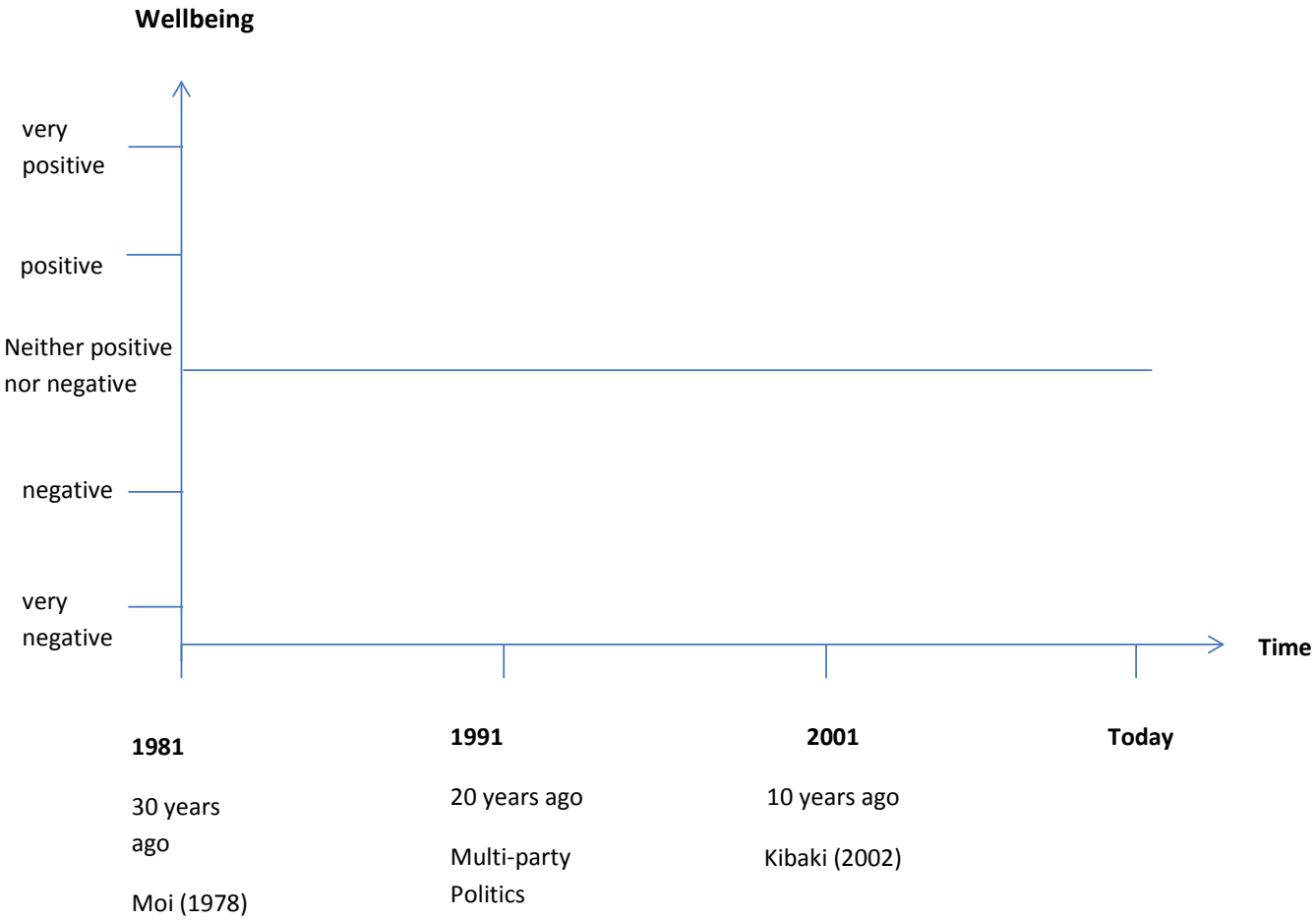
   Now, we would like to know how wellbeing in the community developed within the last 30 years.

   We would kindly ask you to discuss how wellbeing in your community has developed during the last 30 years. My colleague is going to draw a line which shows the development of wellbeing. You should mention how the overall wellbeing of your community was at a certain time, and how it changed. Please start with the past (*mention important points of reference, e.g. when Kibaki became president, so that all refer to the same time*) and slowly work your way through to today's time. We would highly appreciate if all of you participate. Please tell us your opinion. If you disagree with anything what is said by a fellow community member, do let us know and explain why you do so. Please mention important events which influenced wellbeing and let us know in which way these events influenced your community (positive or negative). Events could be anything which affected the lives of the people living in this area, e.g. a drought, an increase in prices, political events, aid programs etc.

   (Please take enough time to explain this and make sure that people understand what you ask them to do.

   Please do NOT mention Dominion Farms. At this stage, we do not want people to know that we are particularly interested in this investment.)

[2]This is an example of a guideline used during focus group discussions for groups of farmers (with instructions for the moderator in *italics*). For groups of employees, my research team and I used a slightly different version. This guideline was used in Kenya. In the other countries, we used a similar guideline but adapted it to the local context.



Thank you for this insight into wellbeing of your community. The following discussion will concentrate on the investment by Dominion Farms.

4. Negotiation Process

Question	Probe Question	Key Topics of Interest
• What were you doing before the farm started operating?	• Where you living here before? • What did you do for living? / Did you do farming? • Did you own land? (Do you still own land?) • Did anything change?	Situation before investors came – changes due to the investor?
• How did you first learn about the investment?	• Who informed you about the investment? • Do you know the investor personally? • Did you talk to him/ meet him before the investment? • What did you think about the investment in the first place? • What were you told about the investment? Did things develop the way you were told? • How did the investors communicate with you (when they first came/today)?	Involvement of population in the negotiation process. Information of the local population.
• What were the immediate implications of the investment?	• Did you or anyone you know lose land? • What kind of land (farm land, community land…)? • What did these people do? • Were you/they compensated? • Were compensations sufficient?	Displacements and Compensations
• What is the most important effect of the investor on your community today?	• What is positive? • What is negative?	Ideas on impacts

5. Investor's influence on the community

How does the investor's presence affect life in the community today?

Use pen and paper and make people fill out the following chart in discussion (moderator asks people to agree on a number and then fills it out):
The assessment is based on the following criteria: 0= no influence; 1= low influence; 2= medium influence; 3=strong influence; 4= very strong influence; "-"in case of negative influence.

	Influence of Investment on….
General Quality of Life	
• Family Income	
• Agricultural Output	
• Health	
• Employment Situation	
Access to Resources	
• Agricultural Land	
• Water (for agric. Use)	
• Markets	
• Transport	
• Food/ Prices of food	
• Seeds/ Fertilizer	
Knowledge/ Technology	
• Agricultural Techniques (e.g. irrigation)	
• Use of Technology (e.g. machinery)	
• Schooling	
Risks	
• Conflicts over land	
• Displacements	

6. Closure

Before we close I would like to ask everybody to give a final statement on what he/she thinks about the investment. Thank you etc……

Transcription rules

Please, make sure you include every small note, reaction or little sentences which are thrown in by any of the participants of the focus group discussions.

If there are special ways of saying something in Luo/Kisuaheli (including proverbs or sayings), please write them down in English in the exact way they are spoken and give an explanation in brackets in the following way: *(expl.: explanation on how to understand the respective sentence/word)*

If there are any questions, please mail to: kerstin.nolte@giga-hamburg.de . If necessary, I will also be able to call you and talk about questions / difficulties on the phone.

<hm, text>	= start and end of an overlap, which means that two or more participants speak at the same time.
<I want to mention…	= direct continuation of speaking, but speaker changes
Yes-yes	= fast continuation of speaking, words are very close together/ doubling of words
(3)	= break, duration in seconds
(.)	= short stop in talk, short break
Yeees	= word is lengthened, the more vowels are used, the more the spoken word was stretched
<u>No</u>	= emphasize
No	= volume
;	= decreasing intonation
?	= increasing intonation
Clear-	= quit, drop
(whatever)	= insecurity in transcription, e.g. because speaker is not clearly understood
( )	= speech is not understood, blurred. The length of the bracket reflects the duration of the unclear talking
[clears throat]	= comments on para-verbal, non-verbal or external events (outside discussion)
…	= left out passages in transcript
@text@	= text is spoken while laughing
@(.)@	= short laughter
@(3)@	= 3 seconds of laughter
°text°	= text within the marks spoken in a very low voice

Example

MR: Hm (.) now, let us begin the discussion (.) I would first like to ask you how you and other people learn about the investment by the Chinese.

(4)

Am: yes (.) I want to talk about the farm, when they first told us about it, hm, I thought it would be a good thing. I would get a job and also my wife. But now, (4) I have to say some people are not so happy about it.

Bm: <mh, yes this is what everyone thinks [nods with his head]>

Am: but now it turns out they don't pay us the wages (.) I don't know where they are putting our money but we cannot pay the money for our children to go to school. But we work hard.

Cm: <**yes,** they are cheating us poor people we work but they don't pay >

Am: maybe we will never get our money.

[insecure laughter and making a zsch-sound with his mouth]