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The Relation between Large-Scale Land Acquisitions and Rural Households: Evidence from Ethiopia and Tanzania

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List of Abbreviations

ACHPR	African Charter on Human and Peoples' Rights
AISD	Agricultural Investment Support Directorate (Ethiopia)
CEM	Coarsened Exact Matching
CFS	Committee on World Food Security
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
DAG	Development Assistance Group
diff-in-diff	Difference in Difference
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FDRE	Federal Democratic Republic of Ethiopia
FPIC	Free, Prior and Informed Consent
GTP	Growth and Transformation Plan (Ethiopia)
IDS	Institute of Development Studies, University of Dar es Salaam (Tanzania)
IFAD	International Fund for Agricultural Development
ILC	International Land Coalition
ILO	International Labour Organization
LEAT	Lawyers Environmental Action Network (Tanzania)
LSLA	Large-Scale Land Acquisitions
LSMS-ISA	Living Standards Measurement Survey - Integrated Survey on Agriculture
MLHSD	Ministry of Land and Human Settlements Development (Tanzania)
MoFED	Ministry of Finance and Economic Development (Ethiopia)

MoA/MoARD	Ministry of Agriculture and Rural Development (Ethiopia)
NGO	Non-Governmental Organization
PASDEP	Plan for Accelerated and Sustained Development to End Poverty (Ethiopia)
PATE	Population Average Treatment Effect
PIF	Ethiopia's Agricultural Policy and Investment Framework
PRAI	Principles for Responsible Agricultural Investment that Respect Rights, Livelihoods and Resources
PSNP	Productive Safety Net Programme
RED	Renewable Energy Directive (UE)
RSB	Roundtable on Sustainable Biofuels
SAGCOT	Southern Agricultural Growth Corridor
SATE	Sample Average Treatment Effect
SATT	Sample Average Treatment Effect for the Treated
SNNP	Southern Nations, Nationalities, and People (Ethiopia)
SPILL	Strategic Plan for the Implementation of the Land Laws (Tanzania)
SSA	Sub-Saharan Africa
TIC	Tanzania Investment Centre
TNBC	Tanzania National Business Council
UNCTAD	United Nations Conference on Trade and Development
URT	United Republic of Tanzania
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

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1. Introduction

1.1. Background

The present study deals with the ways in which large-scale foreign land acquisitions (LSLA)[1] affect rural households. The nature of LSLA impact on rural development has proven a highly contentious question in both public discourse and academic literature. Less than ten years from the start of the current wave of LSLA, this book sources the body of available qualitative evidence and newly-published data to investigate this dynamic.

At the centre of the debate on land acquisitions are land rights. Competitive land deals with foreign investors can at times conflict with rural communities' traditional use of land and other natural resources. The importance of land rights as a tool for development, whether in the form of land acquisitions or communal land rights, inspires a law and economics approach of the subject.

The geographic concentration of LSLA in Sub-Saharan Africa (SSA) and the law and economics research approach, motivate the choice of a comparative analysis of LSLA impact on rural households in Ethiopia and Tanzania. The two countries have been equally successful in attracting land acquisitions, while adopting different regulatory frameworks for rural land rights and land acquisition deals.

1.1.1. The current land rush

The global food price crisis of 2007-2008 marked the beginning of what is frequently referred to as a new 'land rush', as countries from around the world looked for means to protect themselves from commodity price volatility (Anseeuw, Wily, Cotula, & Taylor, 2012; Deininger et al., 2011). At the same time, high energy prices led to an increased demand for biofuels which also contributed to the rise in international demand for cropland (FAO, 2013; Rahmato, 2011). Due to the scale of the phenomenon, the dynamics of this foreign land acquisition process have been the subject of considerable scholarly attention. Data published by the World Bank (WB) (Deininger et al., 2011) show how before 2008 the global demand for the acquisition of agricultural land amounted on average to 4 million hectares per year, while between 2008 and 2009 the demand rose to 56 million hectares.

[1] I will define large-scale foreign land acquisitions below in Section 1.3.1

1.1.2. LSLA as a global phenomenon

As it can be observed in **Figure 1**, the flow of land acquisitions worldwide has targeted disproportionately some parts of the world[2]. The spike in demand between 2008 and 2009 was concentrated for over 70% in Africa, with countries like Ethiopia reportedly transferring millions of hectares to foreign investors in the first few years since 2008 (Deininger et al., 2011).

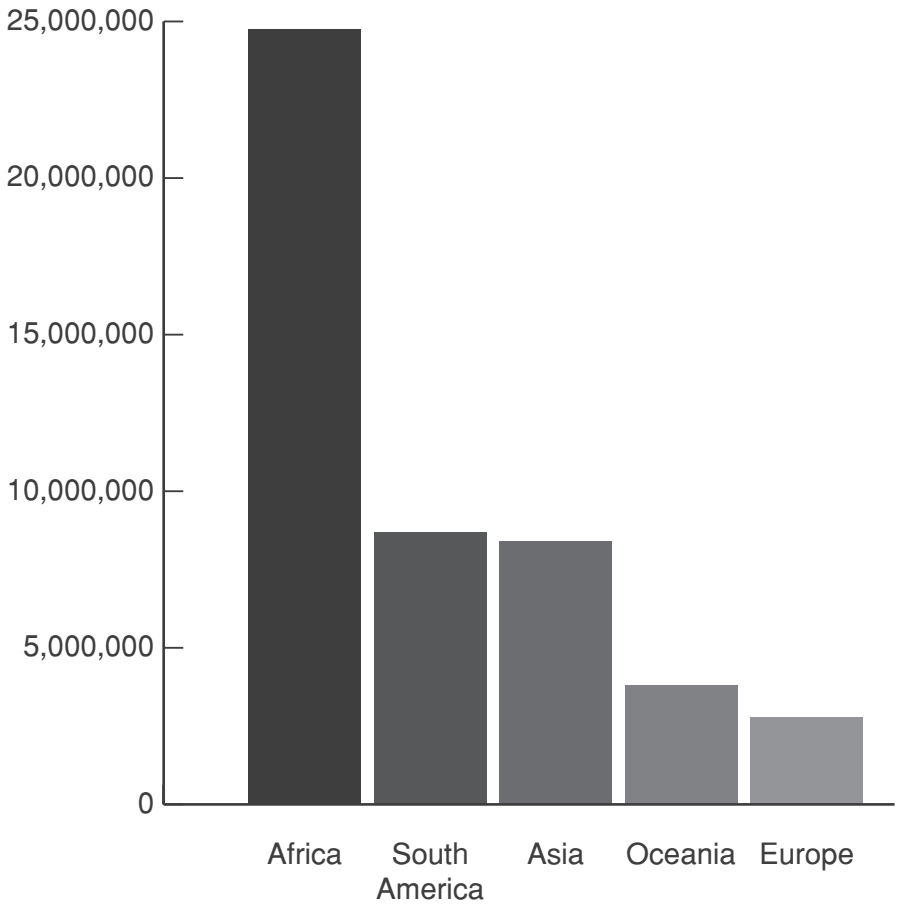

Figure 1 Contract size in hectares for concluded LSLA agreements by continent (source: Land Matrix, 2017)

One explanation for the reason why African countries have been targeted more than other developing countries is based on a WB study on the "sustainable and equitable benefits" of LSLA (Deininger et al., 2011), which regroups all the countries in the world in four categories, depending on land availability and its suitability for agricultural production. Under this study, countries in Western Europe are classified as "type one: little land for expansion, low yield gap", due to the limited land availability and highly productive agricultural system already in place. On the opposite side of the spectrum, "type four" countries, characterised by "large tracts of available land, but also a large portion of smallholders with very low productivity" (p. xxxvii), are described as offering great opportunities for agricultural investments, due to the high yield

[2] In Europe, most LSLAs are located in Romania and Ukraine, followed by Serbia, Bulgaria and Lithuania (Land Matrix, 2017)

gap in agricultural production. The breakdown of “type four” countries identifies “thirty two countries each with more than 3 million ha of land available which account for more than 90 percent of available land” (Deininger & Byerlee, 2012, p. 18).

Some believe that a main criterion for the choice of target countries for LSLA has been their weak regulatory frameworks (Häberli, 2012). A study by Schoneveld (2014) shows how only considering the regulatory framework is reductive, as in fact target countries for land acquisitions are chosen following a plurality of factors, including infrastructure, political and economic relations and economic incentives offered for the production of specific crops. Others argue that what drives LSLA is not so much the favourable conditions that are offered by different countries for the acquisition of land, but rather the economic interests of the investors’ countries of origin, including price volatility and declining resource access (De Schutter, 2011; Schoneveld, 2014). The fact that LSLA are mainly driven by foreign economic incentives, raises questions on the benefits that the target countries can expect. In particular, the export-oriented nature of many of the investments, the focus on biofuel production and the limited opportunities presented by the internal markets limit the economic contributions that LSLA can bring to the national economies of target countries (Schoneveld, 2014).

While the present study focuses on LSLA in Africa, the phenomenon is also observed and studied in other continents with similar concerns regarding the livelihood of rural populations. Adnan’s analysis (2013) of the government’s support to land acquisitions in Bangladesh, describes the loss of land access for rural communities. McCarthy, Vel, & Afiff (2012) address issues connected to the implementation of land acquisitions projects and the connected land transformation challenges taking place in Indonesia’s Outer Islands, while a similar issue is addressed by McKay & Colque (2016) regarding soy production in Bolivia.

1.1.3. The role of the law

Land rights have a central role in the land acquisition debate as land is the main resource around which the livelihood of most rural communities is built. With less than 10% of land in Sub-Saharan Africa subject to formal entitlement (Alden Wily, 2011b), most rural areas belong to the state, and rural populations occupy them under customary land systems, mostly characterised by communal property,

shared access to the resources and inalienability. Many of these populations have developed through a lengthy time an essential relationship with the land that they occupy (Chimhowu & Woodhouse, 2006; Karodia & Soni, 2014; Pritchard, Lesniewska, Lomax, Ozinga, & Morel, 2013). The lack of official recognition of traditional land tenure systems exposes rural populations to increasing risks of uncompensated displacement, as national governments set up legislation that favours LSLA as a valuable resource for economic growth (German, Schoneveld, & Mwangi, 2013).

By generating (potentially) overlapping land claims between investors and rural households, the current wave of LSLA has accelerated a debate on how rural communities' land rights should be regulated. As summarised by German, Schoneveld, & Mwangi (2011) the arguments in favour of the formalization of individual land rights are countered by those supporting traditional, communal land tenure systems. The first camp argues for the formalization of individual land rights as the best way to protect the interests of rural communities and to support tenure security. They argue that individual property rights lead to productivity-enhancing investments and to the efficient use of land and other natural resources. The other camp supports the traditional communal land tenure systems of rural communities, as the most inclusive tool which guarantees participation of all sections of the society and as the land management system that best evolves and adapts to meet the needs of rural communities. From an economic point of view, the debate on whether traditional forms of land rights are a barrier to a better performing agricultural sector is still ongoing, with Woodhouse arguing that "customary tenure acts neither as an obstacle to investment and increased productivity nor as an inalienable safety net for the poor" (Woodhouse, 2003, p. 1717).

The issue of the formalized vs traditional land tenure system for rural households is connected to what Meinzen-Dick and Pradhan (2002) discuss as the importance of understanding and protecting legal pluralism when it comes to property rights on natural resources. The authors argue that as long as there are no external claims based on different systems, the communal land management of the resources can guarantee the right use of the resources by the actors involved, based on the fact that all the actors can predict the way other actors will behave. The authors argue that instead of considering formalized, individual land rights as the only way to achieve efficiency, there is instead the need to "recognise the multiple and overlapping bases for claims", as changing social and power relations can shape the

distribution of rights, which are the product of “locality, history, changes in resource flow, ecology, cropping pattern, and social relationships, negotiation and disputing” (Meinzen-Dick and Pradhan, 2002, p. 8). Following this approach to land rights, the issue of LSLA impact on rural households can be considered as being based on the generation of overlapping claims to land and resource use rights. It is the problem of a formal title being issued by the government transferring to a private, foreign investor the right to occupy vast amounts of land while rural communities occupy or use the same land under their own system of land tenure.

In the national legislation of host countries, two main patterns can be observed which are currently shaping the relationship between LSLA and rural populations: land titling programmes aimed at strengthening land tenure rights, and rules encouraging the arrival of foreign land investors. Land titling initiatives are the regulatory tools put in place in several African countries in order to address the recognition of traditional land rights (Deininger, Ali, Holden, & Zevenbergen, 2008; Zevenbergen, Augustinus, Antonio, & Bennett, 2013). While it has been argued that the formalization of property rights is the key to economic development in sectors structured around informality (De Soto, 2000), land titling initiatives have faced several challenges, as they fall short of formalizing the traditional land rights systems around which rural communities are structured, recognising instead individual rights (Byamugisha, 2013).

An additional set of policy tools that is being put in place by African states aims at creating a favourable regulatory and fiscal environment for foreign investors interested in acquiring land. In recent years, such trend has been observed in several countries that have developed ad-hoc regulations for foreign LSLAs. Tanzania, Ethiopia, Madagascar, Sudan have implemented nominal rental fees, tax holidays, duty exemptions and other financial incentives, while in Ethiopia and Mali, the price for one hectare of land has been observed to range between 3 and 12 dollars (Vermeulen & Cotula, 2010).

1.2. LSLA and rural households

The new trend of land acquisitions by foreign investors in Africa can be considered either as a powerful tool for development or as a severe threat to the survival of rural communities. The polarizing debate over the impact of LSLA has involved many actors from international organizations, policy experts, academics and civil society organizations. As summarised by Rahmato (2011) three main approaches have shaped the academic and policy debate: a first group sees in land acquisitions a threat to rural households' livelihood and economy; a second group recognises the issues but is optimistic about the fact that with certain regulatory measures risks can be minimized and the effects of land acquisitions be mutually beneficial for both investors and target countries; a third group focuses more on the socio-political dynamics of land acquisitions in the host country, to the power relations and polarizing effect of land acquisitions.

From the perspective of host countries, there are multiple economic benefits that can derive from large-scale land acquisitions, such as employment creation, higher productivity, improved access to finance and markets for smallholders, technology transfer and enforcement of production standards (Gerlach & Liu, 2010). While the expected benefits from the perspective of central governments appear to be manifold, the impact of large-scale land acquisitions on rural development and in particular on rural populations is yet to be empirically proven (Anseeuw et al., 2012). On the other side of the spectrum, the mobilisation of non-governmental organizations, peasants movements and other experts has brought to the forefront some of the more critical aspects of LSLA, encouraging the development of new policy tools (Cotula, 2013).

The literature has so far been polarised on the subject of the positive and negative effects of large-scale land acquisitions, with a prominent part of the available literature labelling this phenomenon as 'land grabbing' (Benjaminsen & Bryceson, 2012; Borras, Hall, Scoones, White, & Wolford, 2011; Lavers, 2012; von Braun & Meinzen-Dick, 2009). This literature has largely come in the form of case studies, in no small part due to the scarcity of data (Gerlach & Liu, 2010; German et al., 2011; Schoneveld, German, & Nutako, 2011). At the same time, a growing body of literature has started testing quantitatively these effects, reaching contrasting results.

Most studies paint a very dim picture when analysing the effect of foreign land acquisitions on different aspects of rural development. A few points are particularly recurrent in the literature. Given the multidisciplinary nature of the field under discussion, the cited studies are issued in a variety of academic fields, as well as by international organisations under the form of reports.

Corruption and expropriation are easily the two most cited effects of LSLA negatively affecting rural populations. The two are mostly referred to as connected elements of the same distributive issue: the land that is alienated to foreign investors was often previously occupied by rural populations under traditional land rights. The economic pressure on land is such that corruption affects the distributive choices made by national and especially local authorities.

A seminal report by Anseeuw et al., (2012) syntheses the findings of the global Commercial Pressures on Land research project, conducted by the International Land Coalition (ILC)[3], the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)[4] and more than 40 grassroots and civil society organisations. The report finds that land, resource rights and livelihood of rural communities are being put into jeopardy by the rise of land acquisitions. In particular, poor governance leaves rural populations bearing the costs of the new trend. The weak legal protection combined with insufficient action by local governments is found to lead to a high vulnerability of rural people to dispossession.

Similarly an early study by Cotula, Vermeulen, Leonard, & Keeley, (2009) addresses the issues of corruption and violation of land rights. The comprehensive report draws on a variety of data, obtained by the means a literature review, qualitative interviews with key informants internationally, national inventories of approved and proposed land acquisitions since 2004 in five African countries (Ethiopia, Ghana, Madagascar, Mali and Sudan), as well as qualitative case studies in Mozambique and Tanzania; a legal analysis is also carried out using applicable law and a small sample of land deals. The report is among the first to record the rising trend in land acquisitions by foreign investors. The results show a growing unofficial land market in which prices are not set and simplified contracts are not able to meet

[3] The International Land Coalition http://www.landcoalition.org/

[4] French Agricultural Research Center for International Development http://www.cirad.fr/en

the regulatory needs of a complex reality. The authors conclude that the lack of transparency and the difficulty in monitoring the transactions allow for corruption to grow in connection to the interests involved, to the detriment of rural populations.

Corruption and expropriation are finally the two main issues described in a study on the impact of LSLA on customary rights by German et al. (2013). The study, based on document consultation and on field research in Ghana, Mozambique, Tanzania and Ghana finds that customary rights to vast areas of land are lost, often permanently, with limited or no compensation for rural populations. The combination of commercial pressure on land and the shortcomings of legal systems that don't officially recognise rural land ownership to traditional farmers are found to lead to a widespread use of corruption and coercion by the authorities at the local level.

A second set of issues raised by the literature involves the use of natural resources, and in particular the impact that LSLA have on food production and water access. Conducting a detailed literature review in the field of food security, Robertson & Pinstrup-Andersen, (2010) highlight the risks associated with a situation in which countries that have the least food security in the world sell their agricultural land to foreign investors that are mainly interested in export. While the outcomes of land deals are found to be context specific, the authors stress the need for more consultation of national authorities with rural populations.

In an environmental science publication, Rulli, Saviori, & D'Odorico, (2013) use multiple sources on land acquisitions and calculate the associated amount of fresh water resources that are being transferred to foreign investors. They find that land acquisitions are occurring at alarming rates. Consequently, the calculated amount of water that is being transferred per capita is higher than what would be needed to improve food security and abate malnourishment in the concerned country. The authors highlight three characteristics that land-acquiring countries share: water scarcity; over-exploitation of agricultural land and high expenses for irrigation. The article predicts an increase in freshwater resources appropriation in the coming years.

1.3. Research question and aim of the study

The main research question is: what is the impact of large-scale foreign land acquisitions on rural households?

As each of the terms used in my research question can be defined in different ways and cover a myriad of different issues, in the next sections I define the content and boundaries of the terms of my research question. Defining what I refer to as the *impact* of LSLA on rural households, will lead to defining the four sub-questions of the present study.

1.3.1. Large-Scale land acquisitions

The general definition of LSLA that I follow in this study is the one adopted by the Land Matrix database (The Land Matrix Global Observatory, 2016), which refers to those investments targeting the use of farmland of more than 200 hectares of surface. The term *acquisition* does not refer only to the formal passage of the full bundle of property rights, but also includes long-term rental agreements and leases. While large scale land acquisition can be considered as a 'neutral' way to refer to the phenomenon, the critical literature uses instead the term "land grabs", which implies the violation of rural communities' land and resources rights.

The economic purpose of LSLA is mainly defined by the commercial production of crops and wood. The crop production can be destined to both food and non-food markets both at the national and international level. In particular, the demand for crop destined to the production of biofuels has driven in part the demand for land in the past few years. The sudden surge in demand for land by foreign investors initiated a trend which has evolved in the years and is still ongoing. The volatility of the international interest in farmland investment has been demonstrated in particular by the evolution of the demand for biofuels. Some of the largest foreign land acquisitions took place between 2008 and 2012, but as demand changed, after 2012 several investments were abandoned and the average number of hectares acquired fell drastically (Nolte, Chamberlain, & Giger, 2016). While some of the largest investments have failed, land acquisitions continue to date at a higher rate than before 2008, with an increasing involvement of investment funds (GRAIN, 2016).

The present research focuses on *foreign* investors acquiring land and does not include an analysis of the impact of large-scale land acquisitions by nationals of the host country. This is due to several considerations: firstly, national governments often have different regulatory tools for national and foreign land investors, and have been known to offer competitive legal and fiscal conditions to attract foreign land acquisitions; secondly, acquisitions by foreigners are connected to export-oriented production, as foreign land acquisitions are generally driven by the demand in foreign or international markets, which can represent a challenge in terms of food security and national agricultural and energetic needs; finally, I am interested in capturing the relationship between the global phenomenon of LSLA and land, labour and food access of rural communities at the local level.

1.3.2. Rural households

The present study focuses on the impact of LSLA on rural households. According to Deininger et al. (2011), with 75% of the world's poor living in rural areas, the improvement of smallholder agricultural productivity is "one of the highest development priorities in the world" (p. xiii), while the United Nations Conference on Trade and Development's Least Developed Countries Report 2015 states that "since the majority of the LDCs population live and work in rural areas, rural development is the main driver of poverty reduction and will be essential to achieving the Sustainable Development Goals in these countries" (p. III).

The present study takes rural *households* as unit of reference for discussing the impact of LSLA on rural development. The Living Standard Measurement Survey – Integrated Survey on Agriculture of the World Bank (LSMS-ISA), which will be used for the quantitative analysis of the fifth chapter, distinguishes between the definition of *family* and *household*, explaining how the first refers to "social relationships, blood descent, and marriage", while the second is used "to identify an economic unit" (Central Statistical Agency of Ethiopia & World Bank, 2011, p.7).

1.3.3. **The *impact* of LSLA on rural households**

In order to define what I refer to as the *impact* of LSLA, in the second chapter I take an economic approach to define four development indicators conceptualizing the wellbeing of rural households:

access to land and other natural resources; returns to land; returns to labour and price of agricultural goods. There is heated debate in policy and academic communities about the direction of influence of all four of these determinants of household's wellbeing. As the conceptual framework is re-proposed through the different chapters, it will help answering the four sub-questions.

The first sub-question is: what is the impact of LSLA on rural households' access to land and other natural resources? By access to land and other natural resources, I refer to the amount of land and other natural resources over which the household can be understood to have use or control rights. Some theories assume that the increased demand for land caused by LSLAs will drive an increase in the value of land and/or the evolution of more secure property rights systems (Deininger, 2011; Platteau, 1996). Such models predict that rural households gain more secure property rights over land which is more valuable. As a result, households can increase their wealth or income by selling or leasing out their property rights for more than they could have earned by working the land themselves.

Other theories make less positive predictions about the impact of LSLAs on the land under the control of rural households. Enclosure models predict that the increased value of agricultural land will prompt elites and/or the state to (explicitly or implicitly) expropriate the existing (possibly informal) property rights of rural households[5]. The consequent un- or under-compensated transfer of land and loss of access to natural resources results in a decrease in the welfare of rural households (De Schutter, 2011). The vast majority of available evidence supports this pessimistic view of the impact of LSLAs. Studies reporting undercompensated expropriation of land rights include Anseeuw et al., (2012), Cotula et al., (2009) and German et al., (2013).

The second sub-question is: what is the impact of LSLA on rural households' returns to land? LSLAs may increase the value of the land controlled by rural households because it brings with it infrastructural investments. Roads built by large investors may help lower transport costs to and from markets for rural households (Lavers, 2012). Similarly, processing centres built by large investors may also buy from

[5] Cohen and Weitzman (1975) were among the first authors to formalize the concept of enclosure into a theoretical model.

smallholders' output, allowing them access to valuable and previously unavailable export markets (Oya, 2012).

The third sub-question is: what is the impact of LSLA on rural households' returns to labour? This question includes the demand for, and returns to, household labour supply in both agricultural and non-agricultural sectors. LSLAs almost invariably bring an injection of capital and know-how to agricultural production. This leads to increased productivity per worker. If labour markets are functioning reasonably well, increased productivity per worker implies increased wages per worker. Thus, there is the potential for LSLAs to increase returns to labour supply for rural households. There are, however, reasons why this mechanism may not provide broad-based improvements in household incomes. The first is that the number of workers required per hectare may fall, in line with the increased productivity. Thus, it is possible that a few lucky workers are made better off, but most are made unemployed. Secondly, it is possible that the few remaining jobs on the land require different skills to those of the rural householders. In this case workers from outside the region (or even country) may benefit from the newly created jobs. Though most of the labour demand impacts of LSLAs can be expected in the agricultural sector, there may be some flow-on effects in other sectors. In particular, if LSLAs increase the incomes of at least some households in the area, then higher demand for other products and services may flow on to higher demand for labour in other sectors. Of course, if the impacts of LSLAs on returns to land and labour controlled by households are predominantly negative, there is a risk of lower demand for and returns to non-agricultural labour supply.

The fourth and final sub-question is: what is the impact of LSLA on the price of agricultural goods purchased by rural households? Here again it is difficult to make general predictions. If the LSLA produces goods consumed by the rural households, then the increased output should translate to lower prices and consequent benefits for the households. If (as is often the case) the LSLA is aimed at export production, then it will result in lower supply, and thus higher prices, of the food and other agricultural products consumed by poor rural households. LSLAs may also increase implicit prices by forcing rural households to buy things which they previously were able to harvest from surrounding ecosystems to which they had access rights. Products to which households lose access can include those supporting basic human needs of clean water, food (e.g. fish, shellfish and game, roots and fungi) and shelter (e.g.

timber, reed and grasses). These types of impacts on resource access are reported by Robertson & Pinstrup-Andersen, (2010), De Schutter, (2011), and Rulli et al., (2013).

1.3.4. Ethiopia and Tanzania

Several countries in Sub-Saharan Africa would constitute a valid choice for a comparative analysis of the impact of LSLA on rural households. The present study focuses on Ethiopia and Tanzania for several reasons that will be discussed in detail in the third chapter. As way of introduction, it should be noted here that the choice of the two countries is grounded in their success in attracting foreign large-scale land investors, in their regulatory and institutional land tenure systems as well as in data availability.

Regarding the first aspect, since the start of the current wave of LSLA, Ethiopia and Tanzania have been among the most targeted (Sassen, 2013) countries in Sub-Saharan Africa, which is by far the most targeted continent (Figure 1). The relevance of analysing the impact of LSLA in the two countries is evidenced by the large amount of case studies that have been carries out (see the analysis of chapter four for more details), as well as comparative studies between the two (Cotula et al., 2014; Cotula, Vermeulen, Mathieu, & Toulmin, 2011).

The second argument for choosing Ethiopia and Tanzania in the context of the present research concerns the central focus of the present study on land rights. While both countries have been successful in attracting large-scale land investments, their land rights and rural institutional settings are strikingly different: Ethiopia has a centrally-managed, state-owned land tenure system, which allows for land certifications to be issued but appears to provide limited guarantees to rural households' land rights in the areas that are the most affected by land investments; Tanzania is characterized by a decentralized land tenure system which clearly defines which land belongs to the state and which land belongs to the villages, who are mostly free to independently manage it at the community level.

The final point refers to the availability of data on rural development. Both countries are among the six countries in Sub-Saharan Africa to be selected for the World Bank household survey on rural development. The availability of the same survey for the two countries allows for a parallel analysis to be carried out in chapter five on the impact of LSLA on a set of key indicators of rural development.

1.4. Methodology

LSLA-related studies are at the crossroad of a multitude of academic disciplines. In this study, I adopt a multidisciplinary research approach which is founded on the law and economics perspective on property rights, as outlined in the second chapter. The comparative study of Tanzania and Ethiopia in chapters three to six is grounded in the analysis in the third chapter of the different historical, institutional and legal frameworks that characterize the two countries. The rigorous quantitative analysis in the fifth chapter provides new evidence on the subject of the impact of LSLA on rural households, and is informed by the policy and qualitative chapters that precede it. The data constraints characterizing this field of research, combined with the complexity of land related issues, support the choice of relying on different sources for the purpose of providing an accurate portrayal of the rural dynamics that LSLA influences.

1.4.1. Law and economics

The theoretical predictions in the second chapter, which serve as the base for the rest of the thesis, are grounded in the law and economics analysis of property rights. From a law and economics perspective, the lawful transfer of property or long-term rental of agricultural land to a foreign actor, in countries that have been seeking agricultural investments for decades, seems like a desirable outcome for economic development. In the traditional law and economics approach to property rights, the creation of a private property right carries a cost for establishing, monitoring and enforcing the right, that is only economically efficient to pay if it is lower than the gains that derive from individual and exclusive ownership (Demsetz, 1967). In the context of communal land ownership, the rise in commercial pressure on land, creating scarcity in the access to the resource, should spontaneously lead to the transformation of the rights from communal to private because of the change in incentives and the new gains that can be derived from the right. The creation of private rights, in this case in land, should prompt the creation of a land market, an increase in land-related investments and to the efficient allocation of resources (Demsetz, 1967; Johnson, 1972). If under the conditions of increased commercial pressure the transformation to private property does not happen, maintaining a communal land tenure system would be expected to cause an economically inefficient outcome (Johnson, 1972).

In the context of SSA, the traditional law and economics approach described above has been criticised for not taking into consideration the specific issues that affect land rights and land markets in Sub-Saharan Africa (Barrows & Roth, 1990; Platteau, 1996), which relate to the property rights structure, governance and market functioning. Häberli (2012) notes how in the context of Sub-Saharan Africa where most land is used under informal land tenure systems, the transfer of large parcels of land to foreign actors represents a threat to rural communities' land rights, due to corruption and regulatory failures. The complexity of defining and enforcing land rights in developing countries is also addressed by Buscaglia (1998), who notes how overlapping claims, unclear contractual obligations, corruption and ad hoc regulations contribute to insecurity in developing countries concerning property rights, which lead to higher transaction costs in the market place.

Since the start of the current wave of LSLA, the most optimistic projections on how foreign land acquisitions would affect rural households have built on the traditional law and economics approach on the welfare-enhancing properties of individual, formal land rights, in order to promote land investments as a powerful tool for development. Due to the highlighted issues relating to market functioning and institutional frameworks, the international agencies that first encouraged the development of LSLA deals have started advocating for regulatory tools to safeguard rural households' access to land (Cotula, 2013). The Voluntary Guidelines and other international policy initiatives which will be analysed in the third chapter, are the manifestation of the urgency to support states that welcome LSLAs, encouraging them to adopt policies safeguarding rural communities' food security and natural resources' conservation. As a consequence of these regulatory concerns, those promoting land acquisitions argue that in order for rural households to be positively affected by them, a system of clearly defined property rights must be in place, the rights must be properly enforced and a market for land rights developed. If these conditions are respected, the arrival of foreign investors will be beneficial for rural households, as it will open new interesting opportunities in terms of labour opportunities, farming, leasing, market access, infrastructures etc. (Deininger et al., 2011).

The aim of this study is to address the issue of the impact of LSLA from the perspective of the regulatory framework in place in Ethiopia and Tanzania. The second chapter introduces the main hypotheses on the impact of LSLA on rural households, which will highlight the importance of land rights and of the

institutional structure of the countries in which they take place. The third chapter explores the differences in the land tenure systems of two countries which have transferred large parcels of land to foreign actors. The fourth and fifth chapter test empirically the impact of different regulatory choices of Ethiopia and Tanzania on LSLA impact on rural households. By addressing the differences in the legal frameworks of two countries and their impact on rural development, this study belongs to the field of law and development. By comparing the impact of LSLA on rural households in two different countries, based on their laws, institutions and their historical evolution, the present study also applies the comparative law and economics approach to answering the research question.

1.4.2. Quantitative analysis

The fifth chapter combines data on large-scale foreign land acquisitions with WB household survey panel data for both Ethiopia and Tanzania, to provide much needed empirical evidence of the impact large-scale land acquisitions on rural households. The study employs doubly and triply-robust treatment effects estimation techniques to identify the impact of LSLAs on average household outcomes in the receiving areas[6].

The household data come from the WB's LSMS-ISA, a collaborative effort between the WB and the national statistical agencies of six African countries in order to collect nationally representative samples of rural households. As subsequent "waves" of survey data have been published in recent years, the present study is one of the first to employ LSMS-ISA data to the topic of LSLA. The Integrated Survey on Agriculture represents a major support to research on the link between agriculture and other income activities in African households (Central Statistical Agency of Ethiopia & WB, 2013) . In particular, the available data provide a multi-topic approach designed to improve the understanding of the links between agriculture, socioeconomic status and non-farm income activities.

The source of data on large-scale land acquisitions is the constantly updated Land Matrix Database, which collects information on land deals. It currently provides information on 48,907,238 hectares of

[6] Based on data availability, the analysis is conducted at the regional level for Ethiopia and at the district level for Tanzania.

land that have been the object of acquisition around the world[7]. In 2013 a debate was started among researchers in the field on the need for more careful and transparent use of information on land acquisitions (Anseeuw, Lay, Messerli, Giger, & Taylor, 2013; Edelman, 2013; Edelman, Oya, & Borras, 2013; Scoones, Hall, Borras, White, & Wolford, 2013). While I acknowledge the limitations of the dataset, I agree with several experts from the field that the fact that the dataset has undergone several revisions and that a growing number of deals has multiple sources as reference, with decreasing reliance on news reports (Cotula et al., 2014), qualifies the Land Matrix as the richest and most transparent source of information currently available on large-scale land acquisitions.

1.5. Relevance of the study

Combining quantitative and policy analysis with the review of qualitative evidence through a defined theoretical framework helps understanding the complexity of land dynamics that are shaping the impact of LSLA on rural households. The parallel analysis of Tanzania and Ethiopia through chapters 3-5 offers insights on which aspects of the two legal, institutional and social structure are the most relevant to answer the research question. Below are some of the ways in which my study contributes to the existing literature, helping to advance the dialogue on LSLA as an instrument for development.

By defining four development indicators, I provide a conceptual framework in which different theoretical approaches can be compared, as well as different research methods. By looking at the same four indicators of rural development through theoretical, qualitative and quantitative research lenses, the study contributes to understanding the complexity of the subject and the need for an organic approach to the question using all available sources of evidence. The parallel use of qualitative sources and quantitative analysis attempts at establishing a dialogue between the different research methods, which is needed when trying to understand the different dynamics at play.

[7] As reported on the website, http://www.landmatrix.org/en/, (accessed in July 2017)

After almost ten year since the start of the current wave of LSLA, the debate is crystallized between supporters of land acquisitions and fervent opponents. The debate has been fuelled by countless qualitative reports that have shed light on context-specific situations. As progress in the debate can benefit from increasingly generalizable observations, instead of providing new qualitative evidence this study contributes by analysing the available evidence for Ethiopia and Tanzania through a conceptual framework. The theoretical framework in the second chapter identifies key dynamics that should be looked at when analysing the impact of LSLA on rural households. The framework, combined with the background policy and institutional review of the third chapter, inform the analysis of the available qualitative evidence in the fourth chapter.

In the last few years there has been an important increase in the availability and quality of data on LSLA and rural development, which have allowed for quantitative literature to develop on the topic (Ali, Deininger, & Harris, 2015; Herrmann, 2017). Thanks to the growing reliability of the Land Matrix database and the recently published data from the Living Standards Measurement Survey – Integrated Survey on Agriculture (LSMS-ISA), the present study is able to contribute to the debate on the impact of land acquisitions on rural households, by providing new quantitative evidence, following the increasingly evidence-based approach to this field of research.

The comparative study between Ethiopia and Tanzania places regulatory frameworks for land tenure as well as development policies and institutional structures at the centre of the debate and tests their validity as tool for achieving development outcomes. Property rights constitute a key element for the success or failure of foreign land investments as a development tool. This research will look into the relationship between the formal legal system and traditional land rights, and will ultimately try to evaluate the effect that different rural land rights frameworks have on the success of land acquisitions as a development tool. The importance of conducting a multi-country analysis of LSLA, in particular with respect to the ways in which the national policy manages land tenure in rural areas as well as land acquisition deals, has been highlighted by several studies in recent years (Cotula et al., 2014; German et al., 2013).

This study contributes to understanding the ways in which the current wave of LSLA, which originated in the global markets for food and energy, affects the welfare of rural communities at the local level. By tackling the issues connected to LSLA from the global regulatory tools and development policies of major international organizations, to the effects of export-oriented agricultural production on food security in peripheral regions of Ethiopia, the study elaborates on the concept of opportunity cost of transferring land to foreign investors in areas that are afflicted by widespread food insecurity, as defined by the Special Rapporteur of the United Nations on the Right to Food (De Schutter, 2011).

1.6. Thesis outline

The second chapter introduces the efficiency/equity predictions for the impact of LSLA on rural households. Noting how a prominent approach in many international organizations predicts positive outcomes for LSLA as a tool for development in terms of both equity and efficiency, I illustrate how this approach is grounded in a law and economics approach to property rights. Continuing the discussion on the predictions on the impact of LSLA on rural households, I present some of the more critical approaches that challenge the idea that LSLA can be considered as a tool for development. The rest of the chapter presents the four development indicators that constitute the pillars of the rest of the study. For each of the four indicators (access to land, returns to land, returns to labour and price of agricultural goods) I first summarise the main challenges that rural households face (and have been facing for decades) which create barriers to development in that specific context. I then present both positive and negative predictions on how LSLA will affect specifically each indicator. Each section discusses the relevance of LSLA-related predictions in the context of the defined barriers to rural development. Before concluding the chapter, I underline the importance of the institutional structures and in particular the relationship between rural and state institutions, for overcoming the barriers to development and for LSLA to bring the expected benefits.

The third chapter builds on the conclusions of the previous chapter and provides an overview of the policy tools and institutional frameworks in which rural development and land acquisitions take place.

The first part of the chapter presents the main international law principles, voluntary guidelines and certification mechanisms which offer global regulatory frameworks to address the relationship between rural land rights, foreign LSLA and environmental conservation. The second part of the chapter looks at the tools that are specifically available in Africa on rural land rights and LSLA. I first describe the role of the African Court of Human and Peoples' Rights (ACHPR) as a stage for the protection of rural people against dispossession. The limited jurisdiction of both the regional human rights Commission and Court enforcing the ACHPER contributes to a context of generally-weak protection of traditional land rights in the continent (Murphy, 2012). The rest of the chapter introduces the historical background, institutional framework and policy tools which shape the relationship between LSLA and rural communities in Ethiopia and Tanzania. For each country, I focus specifically on rural communities' land rights, on the rules that apply to LSLA and on development policies that are shaping the way in which LSLA relate to local communities and natural resources. Understanding the regulatory framework and development policies that have been put in place respectively in Ethiopia and Tanzania helps identifying specific areas in the two countries, which have been designated to receive more land acquisitions and where rural communities are more vulnerable to the effects of LSLA.

The qualitative chapter provides information on the impact of LSLA on rural households in Ethiopia and Tanzania, by reviewing the relevant literature, media reports and NGO studies, as well as some country-specific sources. The availability of 17 LSLA contracts constitutes an additional source for Ethiopia. Regarding Tanzania, I complemented the available evidence with interviews to scholars and land experts that I carried out in Dar es Salaam in March 2017. The chapter is structured following the same four development indicators defined in chapter two: access to land, returns to land, returns to labour and price of agricultural goods. For each country, I analyse the relevant evidence on each indicator. Building on the understanding of the rural development challenges that the four indicators face, and on the differences between Ethiopia and Tanzania in terms of institutional and policy framework, this chapter answers the research question by looking at the available qualitative evidence for the two countries. The analysis carried out in the chapter points at the differences and similarities in the reports on the impact of LSLA between the two countries for the four indicators. The analysis of the institutional and policy framework of Ethiopia and Tanzania in the third chapter helps to understand some of the differences that transpire between the two countries. Some of the similarities between reports on

Ethiopia and Tanzania are also highlighted, showing how the formal property rights system is not the only element influencing the effect of LSLA on rural households.

Following the findings of chapter four, the fifth chapter addresses the impact of LSLA on the same four development indicators for rural households, employing quantitative methodology. Together with my co-author, we consulted the LSMS-ISA household survey data and selected several variables for each of the four development indicators. By using the global LSLA database of the Land Matrix, and the LSMS-ISA household survey which provides the same variables for both Ethiopia and Tanzania, we could carry out a similar analysis for the two countries using the difference-in-difference approach with coarsened exact matching. Some differences in data availability affected the choice of the robustness checks and the aggregation of the data. In the case of Ethiopia less information was available on the location of land acquisitions so we opted for a regional aggregation of the data, by focusing on the two regions in which the acquisitions were concentrated in the study period. Regarding Tanzania, more information was available and we could opt for district-level analysis. The additional survey wave for Tanzania allows for different robustness checks to be used and for a differentiation to be carried out between short and medium term effects.

Chapter six summarises the main findings of the different chapters and discusses the results in view of the observations made in chapters two and three. The chapter answers the research question and sub-questions, provides some final considerations and concludes.

2. LSLA and rural development: theoretical predictions

2.1. Introduction of the second chapter

Countless studies have addressed the issue of why the rural sector of low-income countries struggles to achieve the growth needed to address widespread food insecurity and poverty. Some theoretical approaches highlight the imperfections affecting the incentive structure and preventing market participation of rural households. Limited access to employment, inadequate physical assets, inadequate access to supply markets, low endowment of human capital, environmental degradation, lack of participation of the poor to development plans are some of the main issues allowing poverty and inequality to endure in rural areas of low income countries (Fields, 2000). Others find the institutional structure of developing countries inadequate to foster development from the base up, due to the lack of property rights enforcement, corruption and lack of inclusion in decision making.

The sudden rise in land acquisitions by foreign investors, driven by international food and energy markets (De Schutter, 2011), has led to a partial shift of the dedicated literature, from considering what would be needed to attract investments and foster growth (before 2008), to what is currently needed for LSLA to have a positive impact for rural development. Some experts, particularly within international organizations, have highlighted the potential of LSLA as an instrument to achieve economic growth, while others have focused on the threats that LSLA present for the livelihood of rural populations. The purpose of this chapter is to investigate the theoretical predictions on the impact of LSLA on rural households, considering the existing conditions that affect rural development.

The next section presents the four indicators that I use in my research to analyse the impact of LSLA on rural households. The following section introduces the main debate on distributive versus efficiency outcomes and the possible conversion of the two in the context of LSLA. Sections four to seven look at the four indicators. Section 8 concludes the chapter.

2.2. The four development indicators

In order to systematize the range of issues that are touched in this debate, in this chapter I define four pathways of influence of LSLA on rural households. The four indicators represent conceptually the

multifaceted nature of rural households' factors of production as well as the multiple ways in which LSLA can affect rural development. For each indicator, I define some of the main development challenges that pre-existed LSLA, as well as the ways in which LSLA can be expected to influence them. The question that I address in this chapter is the following: given the existing barriers to rural development, how does the current wave of LSLA impact rural households? The predictions of this chapter will then be tested empirically in chapters 4 and 5. Because of the shift in focus brought by LSLA to the rural development debate, I am mainly considering studies before 2008 for the issues affecting rural development, and the literature post-LSLA for the impact of land acquisitions within this context.

I take the economic approach to conceptualising the wellbeing of rural households in the target regions for large-scale land acquisitions. This economic wellbeing can be thought of as a function of how much of each factor of production the household has rights to, the (implicit or explicit) prices they can receive for those factors of production, and the (implicit or explicit) prices of goods and services they consume. In the case of rural households in developing countries, the main factors of production over which households have (explicit or implicit) rights are their own labour, and (potentially) some agricultural land. In some cases, use rights to natural resources including clean and productive aquatic and terrestrial ecosystems are even more important to wellbeing than those over agricultural land.

The above approach to conceptualising the determinants of rural household wellbeing suggests that in order to understand the impacts of large-scale land acquisitions on the economic wellbeing of local rural households we must, at a minimum, understand its impacts on:

- The amount of land and other natural resources over which the households can be understood to have use or control rights.
- The economic returns that can be gained per unit of land under the household's control.
- Demand for and returns to household labour supply in both agricultural and non-agricultural sectors.
- Prices of agricultural goods consumed by the household.

Even though the indicators are interconnected to each other, I attempt at disentangling the arguments on either side of the debate to see what the arguments are for each of our defined indicators. There is

heated debate in policy and academic communities about the direction of influence of all four of these determinants of household wellbeing.

Different authors have in the years suggested different ways to conceptualize the inputs that are essential to achieve rural development. de Janvry and Sadoulet (2005) put land access at the top of the list of essential factors for rural households' development, but also illustrate how land access must be combined with a set of complementary inputs, without which secured land access cannot deliver economic growth. Among the complementary inputs, the authors list natural capital, human capital and working capital, but also institutions (credit, insurance, product and factor markets), public goods (infrastructure, market intelligence, research land registration, contract enforcement mechanisms) and policies supporting the productive use of the land. An alternative conceptualization of the key factors of rural households and their development potential is Bardhan's analysis of rural poor "as workers, as consumers and as recipients of public services or users of common property resources" (Bardhan, 2006, p. 1394).

Different models highlight the effects of transaction costs affecting rural households' participation in different rural markets. de Janvry, Fafchamps, & Sadoulet (1991) estimate the effect that food market and labour market failures have on the inelasticity of price incentives and the connected decision of rural households to rely principally on informal, household-based alternatives which have high efficiency costs. Reaching similar conclusions, Key, Sadoulet, & Janvry (2000) look at the impact of proportional and fixed transaction costs on the participation of rural households to supply markets as either sellers or buyers of agricultural products. They observe that fixed transaction costs restrain rural households from responding to market incentives, causing them to rely on self-sufficiency. Renkow, Hallstrom, & Karanja (2004) also develop a conceptual framework to estimate the impact of fixed transaction costs on agricultural market participation for rural households, stressing the need for public intervention to lower the costs associated with market exchange. Addressing specifically the question of the impact of LSLA on rural households, Kleemann & Thiele (2015) have more recently built a model where they identify two main factors that can affect rural households: the first are labour opportunities created by the investors' arrival, the second are the returns to land under households' control.

2.3. Efficiency, distribution and win-win

The polarizing nature of the debate on LSLA, together with the broad-spectrum definition of what constitutes rural development, allow for research on the topic to be carried out sourcing a variety of economic and political approaches. In this chapter I mainly focus on the arguments addressing the goals of efficiency and equity, their potential trade-off or compatibility and the discussion that has originated from different paths towards their achievement. As we will see in the breakdown of each of the four pathways, the theoretical arguments on the positive or negative impact of land acquisitions on rural households often mix efficiency and equity issues. The objective of this section is to highlight these different arguments within the broader debate on efficiency and equity in rural development.

2.3.1. Equity and efficiency in rural development

The economic trade-off between equity and efficiency goals has been a recurrent theme in the debate over rural development strategies. On the one hand, equity arguments support the redistribution of resources toward the poorer, more vulnerable members of the society. Such arguments are often met with concerns over the costs that developing countries have to bear for resources to be redistributed. On the other hand, efficiency goals aim at allocating resources towards the most efficient actors in the market in order to obtain economic growth, and are criticized by some for leaving the poorer members of society behind.

In recent decades, economic and policy studies on rural development have overcome the traditional trade-off between equity and efficiency goals, supporting instead a convergence of the two. At the heart of this new perspective is the realization that with 75% of the world's poor living in rural areas (Deininger et al., 2011) the focus on market growth for rural development cannot be separated from the priority of poverty alleviation (Bardhan, 1996). While there is ongoing consensus on the importance of the development of industrialization of the agricultural sector (Mwabu & Thorbecke, 2004), what appears to mark a difference in recent approaches is the inseparability of efficiency and equity goals in the pursuit of agricultural development (Mwabu & Thorbecke, 2004; Platteau, 1995). The new priority is then to combine agricultural industrialization with broad-based rural development in order to achieve sustained growth (Mcpherson, 2001). A proof of the interconnection between efficiency and equity goals in the

context of rural development is provided by Bardhan (1996), who notes how poverty can negatively affect investments and macro-economic efficiency by leading to higher crime rates and political instability; malnourishment can lower employability and affect the aggregate output of an economy; and the redistribution of property rights can improve efficiency of resource allocation in contracts affected by credit and insurance market failures.

2.3.2. LSLA and win-win

It is in continuation of this approach to equity and efficiency goals, that LSLAs have been introduced by international organizations and national legislators as a precious tool for rural development. Under certain conditions, it is argued that LSLA can support rural development by building social infrastructure, creating employment opportunities, improving market access, allowing for technology transfer to benefit local producers, and contributing to tax revenues locally or nationally (Deininger & Byerlee, 2012).

This approach to LSLA is underpinned by a set of theoretical predictions which have at their centre property rights: under the assumptions that rights are well defined, that the market functions competitively, and that information is accessible to all involved parties, the relationship between smallholders and investors can be welfare enhancing for all parties without need for a regulatory intervention. This is due to the fact that if land markets function competitively, land prices will reflect productive potential and market transactions will benefit land owners and investors. Where some of the conditions are not met, supporters of this approach encourage state intervention in order to strengthen the property rights system, the market functioning or the transparency among parties (Deininger, 2011).

Inherent to this approach is the argument that communal, informal land tenure systems are inefficient because, among others, they do not allow for the market to define the efficient allocation of resources and prevent land users from investing on their economic activity. As rural communities are mostly organized under shared, communal land tenure systems (Alden Wily, 2011b), this has been for decades linked to inefficient outcomes (Roth & Bruce, 1994). At the same time, the approach to private property as key for development has been challenged as following a “narrowly defined neo-classical model” (Barrows & Roth, 1990, p. 265) as well as overestimating the effects of private property while misunderstanding the dynamics that are at play in rural areas (Platteau, 1996).

There is also a 'chicken and egg' issue to be considered here. While in the past decades private property was promoted as the tool leading to land-based investments fostering economic growth, the current wave of foreign investments in agricultural land appear to have been guided by different considerations, including food price volatility and declining resource access in investors' countries of origin (De Schutter, 2011; Schoneveld, 2014). If LSLA have not been the product of local land tenure formalization processes but of external, global trends, it is relevant to ask how LSLA affects the process towards the formalization of land rights in the targeted countries.

2.3.3. The four development indicators and the equity/efficiency claims

The next sections of the present chapter will provide a more detailed discussion of the different claims on the effect of LSLA on the four defined development indicators. Before that, I would like to stress how the approach describing a doubly-positive effect of LSLA in terms of efficiency and equity objectives is countered in the literature by (separate) predictions of a negative effect for both outcomes.

Win-win approaches put land rights management at the centre of strategies leading to efficiency and equity outcomes in the context of land investments (de Janvry & Sadoulet, 2008; Deininger & Feder, 2001; Feder & Feeny, 1991). Looking at the four indicators defined in the introduction: (1) the potential loss in land access of rural households in favour of investors would be offset by the payment for the transfer and by the new opportunities that LSLA creates; (2) returns to land used by rural households would increase thanks to infrastructure building as well as knowledge and technology transfer from the investors; (3) LSLA would increase the returns to labour thanks to the training and new opportunities created; (4) the improvements in the previous three indicators would allow for an easier access to agricultural goods through the market.

Several authors' arguments on the other hand raise concerns on the impact of LSLA on rural development on grounds of both efficiency and equity outcomes. Starting from equity, concerns focus on the access of rural populations, and in particular of vulnerable sections of rural communities to land and other natural resources as these constitute the primary source for their survival. The returns to land used by rural households may suffer from unequal access to water sources. The labour opportunities created by LSLA could lead to migrant workers being preferred, leading to a further marginalisation of

indigenous communities (Bardhan, 1996). Finally, regarding the price of agricultural products, the export-oriented production of large-scale investors could endanger rural communities' access to food in areas that are often marked by food insecurity (De Schutter, 2011).

As seen, efficiency arguments connect the importance of land tenure security to investment-creation. This approach is challenged by Cotula (2013), who explains that LSLAs are a special category of investments that are not the product of the functioning of land markets. In the author's view, LSLA deals cannot be considered as a market transaction. On the contrary, they are driven by home and host state policies, and they are carried out in private negotiations leading to long-term leases with states or local authorities. In this context, land deals are often accompanied by a set of special conditions that differentiate LSLA from all other land tenure systems enforced in the country making them "anti-market". Other efficiency concerns on the access to land focus on the definition itself of what constitutes an efficient use of resources and for whom (Boserup, 1965). The sustainable use of land, water and other natural resources is also central to the efficiency of land acquisitions, as the depletion of natural resources would impede agricultural production in the long run.

While some criticisms are focussing on specific negative effects of the interaction of LSLA and rural households, others reject the concept of LSLA as a tool for rural development in its entirety as unattainable. Da Vià (2011) defines as "institutional framing" (p. 6) the effort made by international organizations to highlight LSLAs' potential for development. The author considers the reports of major international organizations engaged in development programmes as deceitful when describing the benefits that can be gained in terms of rural development as achievable and the risks posed to rural households as avoidable. What is behind the effort represented by win-win arguments is, in this author's view, the "attempt to re-legitimize a specific model of agricultural development brought about by three decades of neoliberalism" (Da Vià, 2011, p. 19).

Similarly, the UN Special Rapporteur on the Right to Food, De Schutter, defines as misleading the reports listing the conditions under which LSLA can be beneficial for rural households as (1) they underestimate the opportunity cost involved in limiting the most precious tools for poverty-alleviation, land and water access of rural households; (2) they overestimate the regulatory power of African states

for managing LSLA and (3) they tie local food-security in vulnerable countries to international markets (De Schutter, 2011).

2.4. Pathway (1) Access to land and natural resources

Access to land and other natural resources is the main source of rural households' livelihood. The management of resources access deeply affects rural development as it defines the agricultural output, it is the main tool for poverty alleviation, for the sustainable use of natural resources and it is a factor which can affect both governance and peace (de Janvry & Sadoulet, 2008).

The traditional way of managing land access in rural communities has generally been characterized by communal management within a group of farmers living in a defined territory. The types of cultivation practiced include shifting agriculture and other non-intensive, seasonal productions. The area defined under shared property is not only limited to the areas that are directly under households' use, but includes also rivers, forests which complement the farmers' production by providing essential food and medicines (Alden Wily, 2011b).

In the past few decades, the traditional land tenure systems of rural populations have been highlighted as one, if not the main, issue refraining rural areas from achieving economic growth. In 2012 the WB described the enormous potential for agricultural development in Africa, reporting that SSA countries were only producing 20% of their potential yield and that agricultural production could be expanded with great returns to areas with low productivity (Deininger & Byerlee, 2012). The underperformance of the rural sector of Sub-Saharan countries, combined with evaluations of under-use of the available natural resources, have led to growing pressure towards the formalization of land rights.

2.4.1. Private property and economic development

Theoretical arguments in favour of the privatisation of land rights as a tool for development have been a well-established academic approach for decades. The origins of this approach to property rights can be traced back to the foundational 1967 article "Towards a Theory of Property Rights" by Demsetz

(1967). The article argues that “the emergence of new property rights takes place in response to the desires of the interacting persons for adjustment to new benefit-cost possibilities” (Demsetz, 1967, p. 350), which derive from new technologies and new markets. Demsetz (1967) offers the example of land rights established by the Native Americans in the Labrador Peninsula as being directly connected to the creation of a fur market in the area. Before the establishment of a fur trade, hunting was free as demand for fur was low given it only needed to meet the needs of the local communities. As a consequence, the externalities caused by the free hunting were insignificant. Once a fur trade started, the value of fur rose and so did the hunting activity, raising the externalities of the open access system. A new system replaced soon the open access with a clearly defined system of family proprietorship of hunting grounds. The example of the development of fur trade among Native Americans appears to share many defining elements with the development of a land market in rural areas of developing countries. Both are linked to the rise in commercial value of a good, the scarcity derived by it and the consequent gain on internalization of externalities.

A similar conclusion is reached not so long after Demsetz by Johnson (1972) who explains that when population density is low, a communal land rights system is efficient, as the creation of private property rights would not generate a positive value for society given that the externalities would be too low to be efficiently internalized. On the other hand, when commercial pressure rises, efficiency is achieved by defining property rights clearly, by internalizing both costs and benefits and lastly by entering into contracts which are protected by an efficient enforcement system. Johnson argues that “positive value” should be considered narrowly as either wealth maximization or wealth increase. The author argues these are the only two factors that should be taken into account when choosing between different land tenure systems, specifically between Communal land, Landlord/tenant and Owner /cultivator relationships.

The need for the formalization of land access in rural areas has remained a strong argument in the field of development studies. It is believed to provide the best set of incentives to foster investments in agriculture leading to output and income growth (Deininger, 2003). Following the unforeseen spike in demand for land by foreign actors in developing countries, the arguments in favour of a successful impact of LSLA on rural populations have maintained the same approach on the need for the

formalization of the land tenure system. If formal land rights are established and a functioning land market is in place, the arrival of investors can lead to transfers of land rights, defined by market transactions, from rural households to the investors. As a functioning land market defines the amount of land owned by different actors, this would lead to the efficient allocation of resources in particular in cases where a more intensive agricultural system replaces traditional land uses (Deininger & Byerlee, 2012). In this context, even though some rural households would see a decrease in their access to land and other natural resources, the compensation that they would gain, combined with the new infrastructure and labour opportunities would offset the loss.

The same authors highlight the major challenges that LSLA pose in terms of distribution goals: (1) the "weak property rights and compensation rules" can potentially limit the functioning of land markets and lead to a less than efficient allocation of resources; (2) there are limitations in the capacity of national and local authorities "to process and manage" land acquisitions; (3) there might be investors' agricultural projects that "are not viable technically or inconsistent with local or national plans" and (4) LSLA may lead to "resource conflict with negative distributional and gender effects" (Deininger & Byerlee, 2012, p. 10). The study concludes that although the risks are severe and need to be addressed by the parties involved in land deals, they should not deter from the expansion of LSLA projects as their benefits are much greater.

2.4.2. Land use systems

The underlying issue that drives supporters of the current wave of LSLA is the fact that countries targeted for land acquisitions are characterized by vast amounts of underutilized land that is currently not supporting the development needs of the regions/countries in which they are located. What Deininger and Byerlee (2012) define as a "yield gap" (the difference between the agricultural output produced by current land users and what it could potentially produce) is high in areas where traditional agricultural systems practiced by rural households are in place. The study identified SSA countries as having the largest amount of high-yield gap in the world, meaning areas where the intensification of agricultural production would yield the highest returns (Da Via, 2011). Critics of the study have pointed

at the increased vulnerability of rural populations practicing traditional farming in areas defined as having a high-yield gap (Cotula et al., 2009; Da Via, 2011; De Schutter, 2011).

The concepts of land use and scarcity are generally targeted by critics as biased concepts. The central argument raised by the recent literature is that the top-down evaluation of efficient use of land and other natural resources does not represent the plurality of land uses that are practiced in rural SSA (Borras Jr. & Franco, 2010; Da Via, 2011). Instead, by limiting the analysis to productivity levels, such assessments dangerously overlook the existence of other types of resources use (De Schutter, 2011).

An author to early address the subjective character of land use systems' evaluation is Boserup (1965) who challenges the concept of scarcity value as an oversimplified concept. She claims that the intensity of land use and consequently the scarcity of resources is a matter of perspective, and different intensities of land use can be found in different regions of the planet. For example, the difference between agricultural systems, such as long-fallow[8] and annual cropping carry different definitions of scarcity. Both Boserup and, more recently, researchers on LSLA (von Braun & Meinzen-Dick, 2009) have argued that a land of long-fallow agriculture could easily be classified by an external observer as being underexploited and abundant, while in fact the entirety of land available is under use according to the indigenous agricultural system.

The concept of scarcity being culturally-charged, and applied differently in different contexts, is directly connected to a set of criticisms that consider land acquisitions in developing countries as a new type of "enclosure". The term enclosure can be defined as the conversion of communally regulated land into one individually owned private property, under the control of a landlord who is external to the original community. Many of the ideas on which enclosure models are based can be traced back to the theory of primitive accumulation, elaborated by Marx in the first book of the Capital (1867) and also recently reconnected to Polanyi's The Great Transformation (Cotula, 2013; Polanyi, 1944). In the Capital, the enclosure movement describes the passage from a situation in which property rights are loosely defined and land use is more or less regulated by the peasant community, to a situation in which enclosures give the right to landlords to the land and the power to extract a greater surplus from it. What

[8] Farming system suitable for drylands which consists in leaving land uncultivated for one season.

differentiates Marx' analysis of the enclosure movement from others lies in the description of the destabilizing factor that triggers the movement. While others consider demographic growth or technological change as causes of the advancement of enclosures, Marx identifies the profit-seeking landlord as the destabilizing factor in his theory of primitive accumulation. Cohen and Weitzman (1975) were among the first authors to formalize the concept of enclosure into a theoretical model.

Several articles in recent years have adopted the enclosure terminology to describe the effect of land acquisitions on rural development (Ince, 2014; Makki & Geisler, 2011; McCarthy et al., 2012). Geisler for example (2012) critically analyses the common elements that are currently being used in what he defines as "terra nullius narratives" (p.15) to legitimize the acquisition of large parcels of land by foreign actors: under population, under-utilised land and labour, insubstantial title, lack of civilization. The author stresses how the western perception of land abundance in SSA is used to justify the arrival of foreign actors in contrast with the traditional land use and labour systems. By characterizing agricultural land used and/or occupied by rural communities, it is argued that these terms encourage the commercialization and commodification of the African rurality (Exner et al., 2015).

2.4.3. Land governance

Leaving aside the polarizing arguments on land uses, what appears to be key for the protection of rural households' land access in the current wave of LSLA is the governance of land transfers. As recognised by those supporting land acquisitions, the limited capacity of national and local institutions to manage and monitor investments, combined with the lack of transparency in the agreements and lack of involvement of the communities involved, poses a threat to the rural households' access to land and natural resources. The risks associated with absent or weak land governance include the rise in opportunistic behaviour of elites, the transfer of land that is essential for the livelihood of a community or low compensation for land transferred (Deininger & Byerlee, 2012).

It is from similar concerns of lack of (or partisan) governance of land rights that critical approaches to the current wave of land acquisitions have seen the day. Enclosure models predict that the choice of a profit-maximizing landlord to enclose land previously used communally by peasants, should lead to a

rise in land rent and to peasants' displacement (Cohen & Weitzman, 1975). Enclosure-type arguments have found much support in the qualitative literature on LSLA, where it has been noted that the problem of expropriation of customary rights is greatly compounded by the deployment of discretionary measures against natives of the host country, especially when the local administration is susceptible to corruption (Cotula et al., 2011; De Schutter, 2011). In these circumstances LSLAs causally decrease the de facto strength of the property rights of smallholders. The creation of a land market is expected to benefit larger land holders who own the necessary capital to the detriment of small farmers, who would not be able to afford increased land prices and would become increasingly vulnerable to distress sales (De Schutter, 2011).

2.5. Pathway (2) Returns to land controlled by rural households

This section addresses the question of how LSLA can affect the returns to land used and/or owned by rural households. Differently from the next section where I look at wage labour opportunities, here the focus is on self-employed farmers. Returns to land here include both the agricultural output that each household is able to obtain from their plot and the monetary returns from selling either the land or the agricultural surplus.

A series of constraints limit market participation for smallholders in the face of competition from big agribusinesses, such as infrastructure, access to credit and marketing and insurance opportunities as well as government regulations (Bardhan, 2005a). The argument that rural households in developing countries have unequal market access due to their specific characteristics is supported by several experts. Holden, Shiferaw, & Pender (2001), for example, list the unequal distribution of factors, the high transaction costs and imperfect information as causes of "market imperfections and non-separability of production and consumption in poor rural economies" (p. 54). Platteau (1996) describes at length the unequal access to market-generated opportunities in his critical assessment of the so-called evolutionary theory of property rights. For example, he illustrates how women in some rural communities are denied recognition of their traditional land rights because they are not considered as independent legal subjects. While some predict that LSLA can help bridge some of the existing gaps, others argue

that the changes brought by LSLA do not address the needs of rural households' production and can even represent a threat to the current situation.

2.5.1. Infrastructure/ non-natural capital

The conceptual framework defined by Renkow et al. (2004) illustrates that economic isolation due to lack of infrastructure represent fixed transaction costs restraining rural households from market integration. The authors conclude that infrastructure development would be a "potentially fruitful avenue for improving welfare of economically isolated rural households" (p. 351). As the importance of expanding rural households' opportunities in their own economic activity is central to the development discourse (Bardhan, 1996), the most broadly agreed benefit of LSLAs for rural households is perhaps the increase in non-natural capital available. LSLAs typically bring with them infrastructure investments, such as roads which can help lower transport costs to and from markets for rural households. Similarly, processing centres built by large investors may also buy from smallholders' output, allowing them access to valuable and previously unavailable markets (Lavers, 2012). Finally, human capital as well as input quality may be improved through extension and training associated with collaborating off-farm with large-scale investors (Oya, 2012)

2.5.2. Access to credit

Another expected positive impact of LSLA on rural households' welfare is the improved access to credit as predicted by traditional law and economics theories on property rights (Demsetz, 1967; Johnson, 1972). According to this approach, in a context of land abundance and informal land tenure, the increased commercial pressure on land caused by the arrival of foreign investors is expected to trigger the emergence of individual land rights, leading to the creation of a land market and achieving the efficient allocation of resources. In this context, individual, secured and freely-tradable property rights allow for land to acquire collateral value leading to a strong increase in credit access for land owners, as well as increased investments (Platteau, 1996).

2.5.3. Sustainable use of resources

Rural households' agricultural output can finally be affected by the investors' use of the available natural resources for their own production. Extensive use of available water sources and pesticides represent threats to nearby rural households' agricultural production, which mostly lacks irrigation systems and is dependent on rain and freshwater sources. The issue of resource use poses both a short-term concern relating to the equitable use of resources among the large and smallholders, and a long-term efficiency issue relating to the sustainable use of resources by all actors.

Critics of LSLA's impact on rural households have described the dangers of uncontrolled expansion of cropland through LSLA on the conservation of water and other natural resources (Blomley, Flintan, Nelson, & Roe, 2013; De Schutter, 2009), particularly when ecosystem services are not clearly defined during LSLA negotiations (Anseeuw et al., 2012). When this happens in areas with limited water resources, the foreign investors' short-term profit goals combined with a lack of understanding of local ecology can lead to resource depletion in the long-run (von Braun & Meinzen-Dick, 2009).

Deininger et al. (2011) stress the importance of investors being aware of such risks, claiming that sustainable social benefits can only be achieved "if they are not associated with environmental externalities or undesirable social and distributional changes within or beyond the immediate project area" (p. xii). While the responsibility of preventing such negative externalities lies first of all with the investor, regulatory frameworks defining environmental standards should be included in land deals, requiring investors to carry out environmental impact assessments. The effective monitoring of investors' activity should also be implemented and enforced (Deininger et al., 2011; von Braun & Meinzen-Dick, 2009).

2.6. Pathway (3) Access to labour

The functioning of labour markets is central to the analysis of rural areas' struggle to achieve economic growth (de Janvry et al., 1991; Deininger et al., 2011). In rural communities, barriers to labour opportunities on the demand side are due to customs relating to gender or age, to homogeneity in factor

endowments and in the labour needs, as well as to imperfect information (de Janvry et al., 1991; Holden et al., 2001) and lack of opportunistic behaviour within rural communities (Collier, 1989). On the supply side, labour markets are marked by high transaction costs and incomplete incentives which put family farming and households' non-paid labour in a position of disadvantage (de Janvry et al., 1991).

The presence of market failures in the labour market causes the reliance of rural workers on cultivating the household's land to the detriment of potentially more profitable labour opportunities. This leads to the non-separability of production and consumption decisions (Holden et al., 2001) as smallholders adjust to changes in prices and other external shocks by modifying the factors under their own control instead of responding to different incentives created by the market (de Janvry et al., 1991).

In this context, LSLA can radically change the dynamics of rural land markets, as they can potentially affect both land access and labour opportunities. In order for rural households to be positively affected by land acquisitions, a diminished access to land and other natural resources must be accompanied by increased/improved labour opportunities allowing workers to afford buying agricultural products.

2.6.1. Increased returns to labour

The optimistic, win-win approach lists among the biggest strengths of LSLA the creation (under certain conditions) of labour opportunities both on and off farm (Deininger, 2011). LSLAs almost invariably bring an injection of capital and know-how to agricultural production, leading to increased productivity per worker. If labour markets are functioning reasonably well, increased productivity per worker implies increased wages per worker. Thus, there is the potential for LSLAs to increase returns to labour supply for rural households.

Though most of the labour demand impacts of LSLAs can be expected in the agricultural sector, there may be some flow-on effects in other sectors. In particular, if LSLAs increase the incomes of at least some households in the area, then higher demand for other products and services may flow on to higher demand for labour in other sectors. Of course, if the impacts of LSLAs on returns to land and labour controlled by households are predominantly negative, there is a risk of lower demand for and returns to non-agricultural labour supply.

2.6.2. Increased vulnerability in market access

On the other hand, the decline in land use might expose rural populations to increased risks relating to changes in the labour market (de Janvry & Sadoulet, 2008) due to the reliance on self-subsistence farming mentioned at the beginning of the section. There are concerns relating in particular to the range of rural workers that will benefit from the labour opportunities created by LSLA. The risk of job opportunities being limited due to the mechanized agricultural system that investors might put in place, or the jobs being only available for limited periods in the year, are limitations that even the advocates for LSLA recognise (Deininger et al., 2011).

This is an expected outcome of the enclosure models, where the less labour-intensive agricultural production system is expected to lead to a net flow of labour out of agriculture (Cohen & Weitzman, 1975). This approach stems from the process of primitive accumulation (Marx, 1867) from which the more recent arguments of LSLA representing a new enclosure cycle (Ince, 2014; McCarthy et al., 2012; White, Borras Jr., Hall, Scoones, & Wolford, 2012) are based. One of the implications of the land expropriation process is the creation of a reserve of cheap labour willing to work on the newly-enclosed land (Benjaminsen & Bryceson, 2012). In this context, critics of the current wave of LSLA see the "proletarianitization" (Da Via, 2011) or "depesantization" (Akram-Lodhi, 2009) of the peasants who have lost their land.

2.6.3. Labour opportunities for rural minorities

An additional issue relating to returns to labour involves the arguments in favour of establishing quotas in rural contexts in order to protect labour opportunities of minorities. It is possible that the jobs created by LSLA may not be accessible to rural householders belonging to specific ethnic minorities, due to the required skills or to existing negative stereotypes. In this case workers from outside the region (or even country) may benefit from the newly created jobs. In rural contexts where minorities live, the potential preference of investors for migrant workers can pose a threat to the communities that are more directly affected by LSLA in terms of loss of land and natural resources (Deininger et al., 2011).

This is another issue where efficiency and equity arguments intersect because of the specificities of rural areas of developing countries. The standard efficiency arguments reject the possibility of establishing quotas because they lead to a distortion of allocation of labour between beneficiaries of the quotas and the others and alters the incentives for the acquisition of skills for those protected by the quotas (Bardhan, 1996).

On the other hand, Bardhan (1996) notes how in rural contexts where "group-specific dynamic externalities and social capital are important determinants of economic success (…), preferential policies can increase efficiency by changing the way workers are sorted across occupations and firms" (p. 1353). Quotas can further help in case negative stereotypes about a minority group are in place and signalling the ability to work is not enough, as hiring members of that group can help improving the incentives on the part of minority workers for skill acquisition (Coate & Loury, 1993 in P. K. Bardhan, 1996).

2.7. Pathway (4) Price of agricultural goods

Finally, there is the question of the impact of LSLAs on the price of agricultural products consumed by local rural households. Generally speaking, the impact of changes in agricultural production on market prices should depend on whether rural households are net buyers or net sellers of tradable goods (Bardhan, 2005a). While the situation varies depending on country-specific contexts, most of the world's poor are net buyers, which means that fluctuations in food prices represent an additional source of vulnerability for many poor rural households that rely heavily on food markets to integrate their own production (The World Bank, 2007, p. 122).

2.7.1. Rural markets for agricultural goods

De Janvry et al., (1991) identify the same market failures affecting rural households' access to labour as affecting their access to food markets. The inability to respond to price incentives and external shocks

leads smallholders to rely on subsistence agriculture and the sale of surplus food instead of cultivating cash crops which can yield higher returns.

The development of supply chains in poor rural areas is marked by a series of constraints due to the economic conditions of the local households. Poulton, Kydd, & Dorward (2006) describe the issues affecting poor rural areas and preventing the development of a supply chain, which can lead a growth in agricultural productivity to declining prices and willingness to invest:

> (…) Low total and monetary incomes for most people, with limited consumption and expenditures, a poorly developed monetary economy with a narrow base, and markets (for agricultural inputs, outputs and finance, consumer goods and services, etc.) which are relatively 'thin' (with small volumes traded, although for some items there may be very large numbers of people trading in very small volumes) and prone to large seasonal variability in demand and supply. These conditions normally co-exist with poor roads and telecommunications, poor information (particularly in agriculture, on prices, on new technologies, and on potential contracting partners), difficulties in enforcing impersonal contracts and widespread rent-seeking behaviour. (p. 245)

While some of these issues could be positively affected by the arrival of LSLA, such as limited monetary income and poor infrastructure, several other problems deal with institutional structure and governance, the responsibility of which lays with national and local authorities.

2.7.2. LSLA and agricultural goods

Given the constraints limiting the functioning of food markets in rural areas, the arrival of LSLA involves several considerations. First of all, the potential move from subsistence agriculture to wage work involves the shift from rural households' own production to dependence from the market for the purchase of agricultural goods. If the LSLA produces and distributes locally what is consumed by rural households, then the increased output should translate to lower prices and consequent benefits for the households. If (as is often the case) the LSLA is aimed at export production, then it will result in lower supply, and thus higher prices, of the food and other agricultural products consumed by poor rural households.

In terms of positive impact of LSLA on agricultural prices, the improvements in infrastructure brought by LSLA could positively affect the distribution of tradable agricultural goods. Poor roads and infrastructure are one of the barriers highlighted by Poulton, Kydd, & Dorward (2006) as limiting the development of a supply chain. In their analysis of the issues relating to real income and food consumption in SSA, Diao, Dorosh and Rahman (2003) conclude that "one of the most important mechanisms to achieve significant increases in real incomes and food consumption is not productivity growth in agriculture, however, but reducing transaction costs through investments in marketing infrastructure, (roads and bridges, ports, storage facilities, electricity, etc.) and development of market institutions" (p. 63).

Secondly, if we consider the boom in land acquisitions by foreign actors as driven mainly by global dynamics (De Schutter, 2011) and not by national development agendas, we should consider the issue of a potential gap created by the development of industrial agricultural production plans for crops export, in areas where rural households see a decline in their access to land and other natural resources. Kleemann & Thiele (2015) note how the large-scale production of crops for biofuel may drive up food prices both globally and locally, affecting rural households' welfare. In this context, both rural households that have and have not lost land due to LSLA would be affected by a change in the price of agricultural goods. The first group is more heavily affected because they rely on the food market for a larger amount of goods, but smallholders who could keep their land are also affected due to them generally being net buyers of agricultural products.

Another effect, related to the previous one, is the increase in implicit prices of agricultural products, where rural households are forced to buy things which they previously were able to harvest from surrounding ecosystems to which they had access rights. Products to which households lose access can include those supporting basic human needs of clean water, food (e.g. fish, shellfish and game, roots and fungi) and shelter (e.g. timber, reed and grasses). These types of impacts on resource access are reported by Robertson & Pinstrup-Andersen (2010), De Schutter (2011), and Rulli, Saviori, & D'Odorico (2013).

2.8. The institutions, rural development and LSLA

The breakdown of the arguments in the four development indicators identified a series of issues that have the potential to prevent LSLA from achieving positive development impacts for rural households. Given the number of limitations listed that can impact the development indicators for rural households, an element that comes in play to correct those imperfections are institutions. With institutions, I refer to property rights, but also to social and political institutions, or as Bardhan (2005) puts it, all the "rules of structured social interaction" (p. 501) which in the western world have achieved "to constrain the participants, to reduce the uncertainty of social interaction, in general to prevent the transactions from being too costly and thus to allow the productivity gains of larger scale and improved technology to be realized" (p. 512). For the purpose of this discussion, the definition of institutions can further be expanded to include rural markets as a "special form of social institution" as it "(…) forms, operates or is organised within a context of property rights established by polity" (Mwabu & Thorbecke, 2004, p. i28).

The positive expectations, from both efficiency and equity perspectives, on the effect of land acquisitions on rural households, always depend on the fact that institutions work properly (Deininger, 2011; Deininger & Byerlee, 2012). The necessity of an adequate institutional structure for economic development has been stressed by several authors in the literature. Poulton et al. (2006) claim it has a higher relevance than any other improvement that can be brought through other means to rural development. The role of institutional structures as complementary input for economic development has also been stressed by de Janvry & Sadoulet (2005), who argue that its absence would render any changes in land access and use unable to achieve any positive result in terms of output and income. This implies that if market failures are observable, if corruption is recurrent, if knowledge of the laws is limited or unbalanced, neither efficiency nor equity benefits can be expected from LSLA.

If institutions are necessary for rural development, the question turns to the challenging definition of rural development (van der Ploeg et al., 2000) and to the objective that institutions should pursue. If, as Poulton et al. (2006) say, "the ultimate policy goal is the eradication of poverty, not the creation of efficient private commodity markets" (p. 255), then both local and national institutions should reflect the

government's effort to overcome market imperfections and support the creation of land markets (Deininger & Feder, 2001).

The institutional challenges that rural areas face are multiple. Low literacy and cultural norms refraining specific members of a community from accessing rights or opportunities, constitute examples of institutional barriers that have prevented economic development in rural areas of developing countries (Mwabu & Thorbecke, 2004). The provision of essential services such as health and education in rural areas is affected by institutional failures leading to bureaucratic obstacles, administrative barriers and corruption which further limit the already meagre amount of resources allocated to these services in rural communities (Bardhan, 2005a). The agricultural sector in SSA in particular has been discriminated against by policies and institutions "squeezing a significant agricultural surplus from agriculture" (p. i52) for the benefit of the central state and urban areas (Mwabu & Thorbecke, 2004). Missing or imperfect markets, as well as too-long marketing chains, where interactions at each link of the chain are built on trust and lead to dispersion of resources, do not allow for economic growth to happen (Mwabu & Thorbecke, 2004).

If rural development is limited by current institutional frameworks, institutional reforms are weakened by issues affecting the functioning of institutions themselves. Two of the main challenges to developing functioning institutional structures in developing countries are identified in the state's weak power to influence rural dynamics and/or its predatory behaviour (Bardhan, 2005b). Regarding the weak power of public authorities in rural areas, several authors have argued for the need to move towards a decentralized state (Bardhan, 2002; Collier, 2000; Mwabu & Thorbecke, 2004). Decentralization can lead to less corruption in the government as it exposes it to increased accountability from the people that are directly affected by the decision-making process (Bardhan, 2005a; Collier, 2000; Mwabu & Thorbecke, 2004). In particular, when it comes to government expenditure, corruption is reduced when expenditure is funded with local revenue (Collier, 2000). Bardhan (2002) agrees that decentralization leads to an improved system of checks and balances and adds that it helps to reduce the role of the state by encouraging competition between governmental agencies leading to efficient results. Other authors are more careful in identifying decentralization as the tool empowering local authorities, given

that the limited capacity of local institutions makes them more vulnerable to the influence of private interests (Agrawal & Ribot, 1999; Woodhouse, 2003).

The second issue concerns the arbitrary power of public authorities which are not always interested in operating in the best interest of rural populations. This issue is connected to the one on centralization, as the "high-corruption trap" (Collier, 2000, p. 200) represented by corruption is a product of limitations in the functioning of social institutions which exclude layers of society from exercising the needed scrutiny on public authorities (Collier, 2000; Mwabu & Thorbecke, 2004). A consequence of the arbitrary power of organizations managing the institutions (North, 1990) is that the relationship of the state with farmers becomes a defining factor for rural development. While ideally this relationship can have positive outcomes in a representative democracy where the state is committed to achieving the greater good, in the context of low-income countries non-democratic processes and/or the weak political representation of rural communities, it can lead to different outcomes (Thorbecke & Morrisson, 1989).

In such situations organizations holding power can choose, if it is in their interest, not to create the institutions that are needed for the development, in this case, of rural markets (North, 1990). Embracing North's institutional analysis, Paulton et al. (2006) argue that the only way for pro-poor market institutions to be created in rural areas is for the state to assume "a pro-active role that goes beyond the provision of classic public goods (infrastructure, agricultural research, contract enforcement, etc.)" (p. 273) and includes a wider range of stakeholders. Thorbecke & Morrisson (1989) also tackle the issue of institutions not being "scale neutral, but biased in favour of certain groups of farmers" (p. 1488). This happens for example when only larger farms own the collateral that is necessary for obtaining credit for agricultural development projects or are able to access the benefits of extension services (Thorbecke & Morrisson, 1989).

Poulton et al., (2006), suggest that a new institutional arrangement in the direction of broadening the base of stakeholders involved in rural development decisions would be needed to increase accountability for how institutions work. Such governance reform would allow the creation of missing agricultural markets, even though such change would be met with resistance from the previous institutional structure.

2.9. Conclusions of the second chapter

This chapter attempted to provide an overview of the challenges that rural households face through the development process and to see how LSLA can integrate such process. Before the start of the current wave of LSLA, a widespread consensus could be observed in the literature about the need for rural economies to encourage investment opportunities. The traditional, communal land rights under which rural households manage their land were seen as inadequate to provide the necessary set of incentives leading to increased investments in agriculture. The formalization of land rights was considered the key tool to achieve the efficient incentives structure that would lead to the efficient allocation of resources and to investments.

LSLA have in part changed the theoretical debate on the tools needed to foster economic development in rural areas. The rise in global interests in farmland in 2008 was mainly driven by global factors which had little to do with the incentive structure of rural land markets. Whether this phenomenon can be positive or negative for rural development is a subject that sees experts formulating contrasting projections.

In order to define the content of rural development, I identified four indicators: (1) access to land and other natural resources, (2) returns to land, (3) returns to labour and (4) price of agricultural goods. For each indicator, I briefly illustrated the issues that constitute barriers to economic development and the different hypotheses on how LSLA will affect them.

It became clear, by reviewing the literature, that the central issue on the impact of LSLA relates to the functioning of institutions in rural areas. The access to land and natural resources of rural households is protected if their rights to occupy and use land are recognised. Some argue that in the context of LSLA, the formalization of land rights has become a necessary condition for rural households to protect their access to land, allowing for negotiations to take place over the transfer and for compensation to be paid. Others see the special rules put in place to encourage the arrival of foreign investors as placing LSLA above any national land rights system in place, triggering an irreversible process leading towards the “depesantization” of rural areas in targeted developing countries.

Infrastructure development and resource depletion were identified as central elements shaping rural households' returns to land. The literature showed how rural households could benefit from the arrival of LSLA as they could lead to improved infrastructure and credit access. As pollution and depletion of natural resources can pose a threat to rural households' agricultural production, it was argued that environmental standards should be part of land acquisitions agreements and public authorities should monitor the investors' activity.

Given the limited access to job opportunities present in many rural areas of developing countries, households can benefit from the labour positions generated by the arrival of foreign land investors both on and off farm. For the new opportunities to benefit rural households, the working conditions should be monitored and the access of rural minorities should be protected. The seasonal character of part of the wage-work positions generated by LSLA as well as the low wages, combined with the increasing mechanisation of modern farms, are critical aspects of the new labour opportunities which may negatively affect rural workers' livelihood, especially when combined with loss in land access.

Finally, LSLA may contribute positively to the price of agricultural goods consumed by rural households, by developing infrastructure which facilitates the market access of suppliers and consumers. On the other hand, by focusing on export-oriented production or biofuels, LSLA may decrease the production of food crops and their availability at the local level. The loss in land and natural resources, combined with their transition from subsistence agriculture to wage work, increases the importance of agricultural products being available and affordable for rural populations.

In conclusion, a necessary step towards understanding how LSLA affects rural households is not only understanding, as Kleemann and Thiele (2015) note, "the conditions under which the land transaction itself is conducted" (p. 270), but also more generally the policy framework for rural development that is in place in those countries that are attracting the highest amount of foreign land acquisitions, including the relationship between state and rural communities. It is in line with this reasoning that the next chapter will explore the policy tools that regulate both land rights of rural communities and the acquisitions by foreign investors at the international, regional and national level.

The second part of the next chapter will focus on the institutional and regulatory framework of two countries, which have adopted different formal approaches on how to regulate LSLA and rural

households' rights, while being both successful in attracting foreign land investors. In view of the challenges and opportunities highlighted in this chapter, understanding the different policy choices made in the two countries will help understand the different outcomes that should be expected from the arrival of LSLA in rural communities. The following chapters will come back to the four development indicators and test empirically the impact of LSLA on rural households in Ethiopia and Tanzania.

3. Policy

3.1. Introduction of the third chapter

In the previous chapter I highlighted the challenges that LSLA face as a tool for rural development. One of the main takeaways of the analysis of the different theoretical arguments is that the institutional structure and policy tools which define local resources access and use, as well as the rules foreign investors are subject to, are major determinants of the impact of LSLA on rural households. The importance of the regulatory framework of developing countries is stressed by the critics of LSLA, who argue for the need of improved participatory tools to include rural communities in decisions that deeply affect them (Nolte & Voget-Kleschin, 2014), while they stress that the current land acquisition process is managed "over the heads of local people" (Vermeulen & Cotula, 2010).

In this chapter, I review the policy tools available for the management of land and natural resource use in the context of the current wave of land acquisitions. Due to the present study's focus, particular attention is given in this chapter to policy and regulatory tools that define the rights of either rural communities or investors when it comes to resource access, resource use, labour and trade of agricultural products. As the global phenomenon of LSLA lacks a comprehensive regulatory framework of reference, the relevant policy and regulatory tools are a combination of international and regional human rights principles, voluntary guidelines, codes of conduct and most importantly, national legislations and development policies.

I first turn to international policy tools for regulating land acquisitions and their impact on rural households. Lacking a specific body of reference at the international level, the set of rules that apply in the context of LSLA is composed of human rights principles and other principles of international law. In particular, the principle of free, prior and informed consent (FPIC) has been recognized by a range of international actors and civil society groups as the core right of rural populations in the protection of their land rights.

Other tools available to support states and investors in their management of LSLA are different guidelines drafted by international organizations. As seen in the second chapter, the World Bank and other international organizations engaged in rural development projects have been supporting LSLA as a "win-win" tool for rural development, provided that a series of principles are respected. The recognition

of local land rights, ensuring food security and protecting the environment are among the principles listed by different sets of such guidelines (FAO, 2012; FAO, IFAD, UNCTAD, & WB, 2010).

Civil society organizations and private companies have also put forward different tools for regulating LSLA, which have the potential to influence the impact that LSLA have on rural households' livelihood. A particularly powerful tool, due to the economic incentives that it involves, are certification schemes. Among the variety of internationally-defined sets of rules, the development of certification schemes by sectoral associations of agricultural producers have the potential to achieve more results in practice than most international policy tools.

At the regional level, SSA countries have been characterized by a series of national land tenure reforms, which failed to deliver the needed economic growth. While rural land rights remain weakly managed, the rising interest of foreign investors in rural farmland has been met by supportive legal initiatives in many African states. As each country decides how to handle the new economic opportunities presented by LSLA, the African Charter of Human and Peoples Rights (ACHPR) represents the only regional tool to touch upon land rights and the rights of indigenous populations, although with limited binding power.

The second half of the chapter focuses on the policy context of two African countries: Ethiopia and Tanzania. As the two countries are among the most targeted by LSLA in SSA, the striking differences in their policy and institutional contexts are an interesting terrain of analysis. The case of Ethiopia represents the choice for the centralized management of land rights. For decades, the federal state has been constitutionally recognised as the sole owner of the country's land and natural resources. This allows for national development policies to clearly define the areas in which LSLA should be concentrated and for land deals to be negotiated at the national level with no apparent sign of involvement of local institutions and communities. Tanzania's land laws on the other hand are among the most inclusive land management systems in SSA. The land rights of rural communities are protected by the national legislation and they are managed locally by village representatives. If foreign investors want to acquire land which belongs to a village, the process for negotiating the LSLA agreement necessarily involves the rural communities that are affected. As the second chapter identified property rights and the institutional structures as main determinants of how LSLA affect the livelihood of rural populations, the insights from the analysis of the policy and institutional context of these two countries

will provide a framework for understanding the similarities and differences in the qualitative evidence of the fourth chapter and the quantitative analysis of the fifth chapter.

The present chapter is structured as follows: in the next section I review the international policy tools that are applicable to LSLA; section three introduces the main elements characterizing land tenure systems and LSLA management in the African continent, with a particular focus on the ACHPR. Sections four and five respectively analyse the institutional and regulatory contexts of Ethiopia and Tanzania. Section six draws the main conclusions of the chapter.

3.2. International policy tools – global governance

The global dimension of LSLA has led to an international debate on which rules should generally be applied to all land investments by foreign actors. Similarly to other global phenomena such as foreign direct investments, the importance of defining world-wide rules is based on the one hand on the international nature of such investments, and on the other hand on the importance of promoting adequate standards of protection for rural communities in weakly-regulated developing countries.

Different authors have called for the creation of a code of conduct as an institutional arrangement for both host governments and investors in order to achieve the previously-mentioned "win-win" outcomes with LSLA. von Braun and Meinzen-Dick (2009) defined the core principles that should be included in such framework, including: (1) "transparency in negotiations"; (2) "respect for existing land rights, including customary and common property rights"; (3) "sharing of benefits"; (4) "environmental sustainability" and (5) "adherence to national trade policies" (p. 2).

3.2.1. Principles of international law

3.2.1.1. Free prior and informed consent

"Free prior and informed consent" (FPIC) is believed to be the main principle defining a "global normative standards for consultation consent and recompense" (Vermeulen & Cotula, 2010, p. 913) that should

be applied in the context of transfers of land. The principle is part of the 2007 UN Declaration on the Rights of Indigenous people (UN General Assembly, 2007), which at article 10 states that: “Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return”. FPIC applies to all transfers involving land and other natural resources which are owned, occupied or used under traditional land rights. It requires for all relevant information to be provided to the affected communities, in order for them to take an informed decision. The information and all relevant negotiations should take place before any measure has been taken by the authorities or external private actors, towards the land transfer. Indigenous people should give their consent through their own representatives, without any pressure or coercion being exercised on them (German et al., 2013).

While the initial formulation of FPIC was limited to the protection of the land rights of indigenous peoples, the principle has been incorporated in some of the main (non-binding) regulatory frameworks on LSLA, and it has been extended to protect the rights of all rural communities (De Schutter, 2009; FAO, 2012). In particular, the Food and Agriculture Organization of the United Nations (FAO) has issued a technical guide (FAO, 2014) addressed to all stakeholders involved in respecting and applying the principle of free prior and informed consent, the respect of which is also included in their Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (Seufert, 2013), which will be discussed later in this chapter. The principle has attracted considerable support from both international organizations and NGOs, which have often used FPIC to denounce the exclusion of rural communities from LSLA negotiations leading to smallholders’ loss of land access (Franco, 2014).

While the widespread endorsement of the FPIC makes it the most referenced international standard on how to manage land transfers in rural areas, the principle has seen limited practical applications. Vermeulen and Cotula (2010) observe that, besides limited cases, most African countries have not yet incorporated the content of article 10 in their legislation. The most recent analytical report from the biggest database on LSLA shows how, among the hundreds of land deals for which they have

information, only in 14 cases the land transfer took place with the free prior and informed consent of the affected communities (Nolte et al., 2016).

3.2.1.2. Other principles of international law

The start in mid 2008 of the current wave of land acquisitions triggered by the international food price crises spurred international organizations to issue guidelines on how to tackle the new phenomenon. The Special Rapporteur on the right to food appointed by the Human Rights Council of the UN was the first to issue a set of rules for both states and investors on how to protect rural populations. Considering LSLA as a potential threat to rural households' right to food, Olivier de Schutter turned to international human rights law to identify a set of core principles that investors and host states should observe before, during and after the large-scale land deals (De Schutter, 2009).

The set of principles is based mainly on the right to self-determination, the right to development and the right to food. Notably, principle iii extends the requirement of free prior and informed consent to all rural communities, not limiting it to indigenous populations (Claeys & Vanloqueren, 2013).

Table 1 De Schutter's core international law principles

i. Transparency in negotiations and evaluation by the host state of the opportunity cost involved in relation to long-term needs of rural populations affected.
ii. All land transfers should happen with the free, prior and informed consent of the local communities concerned. This principle should be all the more important in case of indigenous populations as they are in a weaker, marginalized position. Forced evictions should be carried out only in absence of alternatives, and only "when they are in accordance with the locally applicable legislation, when they are justified as necessary for the general welfare, and when they are accompanied by adequate compensation and alternative resettlement or access to productive land". Legal remedies should in any case always be available to affected communities.
iii. States should adopt legislation protecting the rights of rural households, defining the cases and the procedures for changes in land use or evictions to legally take place. States should promote collective land registration to increase protection of land rights.
iv. Revenues should be re-invested in the development of local populations.
v. Host states and investors should establish and promote farming systems that are sufficiently labour intensive to contribute to employment creation. Labour-intensive modes of production can be highly productive per hectare. Investment agreements should contribute to the fullest extent possible to reinforcing local livelihood options and in particular provide access to a living wage for the local population involved, which is a key component of the human right to food.
vi. Host states and investors should act in order to protect the environment, with particular focus on soil depletion, freshwater access and climate change.

vii. Investors' obligations should be clearly stated and enforceable with defined sanctions by the host state. Agreed commitments should be monitored with assessments taking place at defined intervals.

viii. In order to limit food access' dependence from international markets, LSLA deals should include a clause requiring for a defined minimum percentage of agricultural output to be distributed on the local market

ix. Investment impact assessments on food access should be carried out during negotiations with specific focus on: (a) local employment and incomes, disaggregated by gender and, where applicable, by ethnic group ; (b) access to productive resources of the local communities, including pastoralists or itinerant farmers ; (c) the arrival of new technologies and investments in infrastructure ; (d) the environment, including soil depletion, the use of water resources and genetic erosion; (e) access, availability and adequacy of food.

x. Indigenous peoples have been granted specific forms of protection of their rights on land under international law. States shall consult and cooperate in good faith with the indigenous peoples concerned in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

xi. Human and labour rights should be granted to wage workers consistent with the applicable International Labour Organization (ILO) instruments, safeguarding in particular their food and water access.

It is interesting to note how, in the highly politicized environment surrounding the LSLA debate, the core human rights principles of the Special Rapporteur have so far had a limited impact, as they did not receive endorsements by states due to their high requirements, and were also criticized by civil society for legitimizing land acquisitions and opening to win-win possibilities in case the principles would be observed (Claeys & Vanloqueren, 2013).

3.2.2. Guidelines from international organizations

Several international organizations have issued guidelines and declarations that apply to the context of large-scale land acquisitions. While in the next sections I focus on two sets of principles which have been drafted specifically to address issues raising with LSLA, there are other important tools that are particularly relevant when addressing the development indicators analysed in the previous chapter. As mentioned above, the ILO instruments on labour standards, such as the Social Policy Convention (No. 117) focusing on fostering social progress in the context of economic development, are relevant for rural households' access to labour in the context of LSLA. The ILO has also addressed issues relating to land access in Part II of the Indigenous and Tribal Peoples Convention (No. 169), asking for states to

recognize and protect the land rights of indigenous people, including at Article 14.1 the territories "which they have traditionally had access for their subsistence and traditional activities".

3.2.2.1. The principles for responsible investment

Following the rise in LSLA and the international attention on the topic, in early 2010 FAO, the International Fund for Agricultural Development (IFAD), the United Nations Conference on Trade and Development (UNCTAD) and the WB, in consultation with other international agencies, published the Principles for Responsible Agricultural Investment that Respect Rights, Livelihoods and Resources (PRAI). The PRAI (FAO et al., 2010) are based on observations from a 20-country WB study (Deininger et al., 2011), as well as from projects from the other agencies involved. They have been endorsed by the G8, and the G20 included them in their Seoul Development Consensus for Shared Growth (G20, 2010).

Table 2 The Principles for Responsible Investment

i. Existing rights to land and associated natural resources are recognized and respected.
ii. Investments do not jeopardize food security but rather strengthen it.
iii. Processes for accessing land and other resources and then making associated investments are transparent, monitored, and ensure accountability by all stakeholders, within a proper business, legal, and regulatory environment.
iv. All those materially affected are consulted, and agreements from consultations are recorded and enforced.
v. Investors ensure that projects respect the rule of law, reflect industry best practice, are viable economically, and result in durable shared value.
vi. Investments generate desirable social and distributional impacts and do not increase vulnerability
vii. Environmental impacts due to a project are quantified and measures taken to encourage sustainable resource use while minimizing the risk/magnitude of negative impacts and mitigating them.

The seven principles are reflective of the observations highlighted in the previous chapter on what the key issues are that need to be addressed in order to achieve a situation that is both profitable for the investors and does not threaten – but rather improve - the livelihood of rural populations. Each principle is followed by a breakdown of its content, focusing in particular on their relevance and the actions that can be taken for their respect. While the PRAI highlight the importance of LSLA for agricultural

development, the breakdown of each principle sheds a light on all the potential threats that LSLA may pose to rural households and the environment, suggesting ways to address those dangers.

A number of vocal criticisms have been directed towards the PRAI, challenging its adequacy in dealing with broader rural development issues, as it is mainly focused on minimizing the risks of LSLA for rural households and the environment. Olivier De Schutter, author of the core set of international human rights principles for LSLA, defined the PRAI "a checklist of how to destroy the global peasantry responsibly" (De Schutter, 2011, p. 275). The fact that the specific content of the principles was only discussed within the Group of Eight was also challenged during the 37th session of the Committee on Food security, by the Group of 77 as well as by civil society organizations (Stephens, 2013).

The nature of the Principles as "self-regulatory policy advice" (The Global Campaign for Agrarian Reform Land Research Action Network, 2010, p. 7) has also been the subject of criticism. A group of NGOs including La Via Campesina, FIAN International, the Land Research and Action Network and Grain published a document titled "Why we oppose the Principles for Responsible Agricultural Investment" (The Global Campaign for Agrarian Reform Land Research Action Network, 2010), which claimed that the PRAI have been intentionally formulated to be inadequate to protect against human rights and international law violations threatened by LSLA policies. Similarly, Stephens (Stephens, 2013) notes the contrast between the Principles encouraging industry-led, voluntary forms of governance, lacking legal enforcement, and the severity of the risks involved in the bad management of LSLA deals, which were highlighted in the WB background study.

3.2.2.2. The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests

An example of an inclusive drafting process which successfully combined the different voices of national, international and civil society actors is represented by the FAOs Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (FAO, 2012). Their goal is to "contribute to the global and national efforts towards the eradication of hunger and poverty" with a focus on "the overarching goal of achieving food security and the progressive realization of the right to adequate food in the context of national food security" (FAO, 2012, p. iv).

The content of the Voluntary Guidelines is the product of three years of regional consultations across all continents which was finally approved within the framework of the Committee on World Food Security (CFS). State representatives and civil society organizations took part in the negotiations, while the Office of the High Commissioner for Human Rights, the World Bank and IFAD provided technical support (McKeon, 2013). Differently from other similar initiatives, the participation of all the different actors earned the Voluntary Guidelines high legitimacy and political weight worldwide (Seufert, 2013).

Focusing on states' governance of land and natural resources, the content of the Voluntary Guidelines is, as the name suggests, not binding. Still, they importantly provide the states, who are the main recipients of the guidelines, with guidance on how to improve public action in the form of legislation and targeted programmes, but also by introducing roundtables with stakeholders. A monitoring mechanism is also provided through reporting by the CFS on states' voluntary compliance.

As the Voluntary Guidelines are relevant for all resource use management, they do not specifically address the question of how to regulate LSLAs, but provide a comprehensive framework which is also applicable to land acquisitions. This broader focus which puts the food security for marginalized communities at the core of national policies, has been particularly well received by the same civil society organizations which criticized the PRAI (The Global Campaign for Agrarian Reform & Land Research Action Network, 2010). An additional strength of the voluntary guidelines, which has been highlighted in the literature , is that they provide states with much-needed interpretation and guidance on how to apply international human rights principles which are relevant in the context of land and natural resources' governance as they reference existing, binding principles of international law (which the PRAI fail to do) (Seufert, 2013; The Global Campaign for Agrarian Reform & Land Research Action Network, 2010).

3.2.3. Certification schemes

Additional sets of rules promoted by private entities include codes of conduct adopted by specific investment and agricultural production sectors, the observance of which grants the issuing of a certifications to producers. Such initiatives are in line with "win-win" objectives, as certifications bring an added value to producers which incentivizes their compliance (Nolte & Voget-Kleschin, 2014). Two of the most ambitious and rigorous examples of such initiatives, in terms of recognition of land and

resource rights, are the Principles of the Roundtable on Sustainable Biofuel and the Bonsucro Standard (Fortin & Richardson, 2013; Nolte & Voget-Kleschin, 2014), both of which have been integrated by the European Union in its 2009 Renewable Energy Directive (RED).

The Roundtable on Sustainable Biofuels (RSB), a multi-stakeholder platform has put together a set of Principles & Criteria for the Sustainable Biofuel Production (RSB, 2010), including principles for the respect of relevant national and international law norms, for transparent negotiations, human rights and labour rights, environmental sustainability and food security. The observance of the Standard is attached to a certification scheme

Similarly, Bonsucro, a global multi-stakeholder initiative for sugarcane production, issued in 2015 a Production Standard (Bonsucro, 2015) applicable worldwide to sugarcane producers. The Standard is aimed at improving social, economic and environmental sustainability through the identification of 16 "core indicators" starting from legality and human and labour rights as defined by ILO labour conventions and continuing with conservation principles, monitoring and principles aimed at increasing productive efficiency. The Standard is accompanied by a Certification System which issues a certification to those parties in the sugar sector that observe the principles. In order to monitor the continuous observance of the principles, the certified parties are subject to audits. Although the participation to the certification process is voluntary, the monitoring that is attached to the issuing of certification makes the Bonsucro initiative a best practice in the field of regulating LSLA (Fortin & Richardson, 2013; Nolte & Voget-Kleschin, 2014).

While certifications represent for some a valuable effort to circumvent inadequate national legislation, others are suspicious of the private interests involved in their drafting and implementation. The promotion of such global certification initiatives was reportedly subject of debate in the drafting phase for both the PRAI and Voluntary guidelines, but in both cases they were finally excluded from the final documents (Fortin & Richardson, 2013). The analysis of both certification schemes by Fortin and Richardson (2013), leads the authors to the conclusion that the value of such initiatives might have less to do with their ability "to enforce standards than their (partially realised) role in enabling scrutiny" (p. 155) over the conduct of large-scale producers, which is something missing for the other international policy tools that have been analysed.

3.3. LSLA and property rights in Africa

3.3.1. Customary rights in the African continent

During the current wave of land acquisitions, SSA countries have been among the most targeted in the world (Anseeuw et al., 2012; Deininger et al., 2011; Schoneveld, 2014). The success of SSA countries in attracting land investments has been connected by many in the literature to the specific context of land rights management (Alden Wily, 2011b; German et al., 2013; Locher, 2016). In the region, the majority of the population lives in rural areas, with only 12% of the farmers practicing settled cultivation and less than 10% of land registered under formal land rights (Alden Wily, 2011b). Rural communities mostly use and occupy the land under customary rights, which are often shaped by colonial heritage, and were then re-proposed with minor changes by the new national governments after independence (Alden Wily, 2011b; Peters, 2013).

In the 60s and 70s the attempts to increase the national agricultural production led many states to reform their land rights systems, aiming in particular at the formalization of customary rights, which were considered less conducive to economic growth than formal property rights. The failure of those policies led in the past 20 years to a new wave of policy reforms, this time targeting poverty alleviation through agricultural production, with a new focus on transparency and accountability in the land management process (Peters, 2013).

3.3.2. Weak land rights and the state

After decades of attempts at reforming the national land tenure systems, the debate on whether traditional forms of land rights are a barrier to a better performing agricultural sector is still ongoing (Peters, 2013; Woodhouse, 2003). As land reforms have failed to achieve the expected development of the agricultural sector, the interest of foreign companies for large-scale agricultural investments in rural areas of African countries has been met with policy efforts by African governments to encourage the arrival of LSLA. While rural areas remain overall characterised by a system of weak local land and natural resources rights (Alden Wily, 2011b; German et al., 2013), governments have approved measures aimed at creating a competitive regulatory and financial environment for foreign investors,

including the creation of tailored types of land use rights for foreign actors and special fiscal rules. Such involvement of host governments in support of foreign investors has been described by Alden Wily as leading to an "expansion in definition of what constitutes public interest to cover private purpose" (Alden Wily, 2011a, p. 9).

The weak recognition of customary land rights and the policies put in place by African states to encourage the arrival of foreign investors have been identified as the two main "enablers" from the policy point of view, of the current wave of LSLA in SSA (Alden Wily, 2011a). At the root of these two factors is the relationship, explored already at the end of the previous chapter, between the state and rural communities. This relationship is defined, in Cotula's words (2007) by the "significant power asymmetries characterising relations between foreign investors, the host state and local resource users affected by investment projects" (p. 1), leading African states to alienate land that is not theirs to give in the first place, as it is "more legitimately the property of their rural citizens" (Alden Wily, 2011a, p. 2). The conclusion reached by Cotula, Alden Wily and other critics of the current approach of the state to LSLA, is that the legal empowerment of rural populations, would be beneficial to all actors involved in rural development. The improved recognition of local land and natural resources rights would allow to avoid overlapping claims, secure the access of rural communities to resources that are essential for their livelihood and support the sustainable use of natural resources (Cotula, 2007).

3.3.3. The African Charter on Human and Peoples rights

A regional human rights tool that touches upon some of the issues raised by LSLA is the African Charter on Human and Peoples Rights (ACHPR, 1986). In particular, Article 14 of the ACHPR states that "The right to property shall be guaranteed. It may only be encroached upon in the interest of public need or in the general interest of the community and in accordance with the provisions of appropriate laws". In 2010 the ACHPR Commission issued the Principles and Guidelines on Economic, Social and Cultural Rights in the ACHPR (ACHPR, 2010) which provide non-binding guidelines for states to follow the principles of the Charter, including the right to food and the right to property, would also be applicable in the context of LSLA. Unfortunately, as Cotula (2007) observes, "the ACHPR does not explicitly require

payment of compensation for takings of property – it merely refers to the "provisions of appropriate laws" (p. 32).

A field in which the ACHPR has been actively applied is that of the rights of indigenous peoples, which often involve land-related claims. In 2000, the ACHPR Commission established a Working Group on Indigenous Populations/Communities[11] which in 2003 published a report (ACHPR, 2005) which, while providing a narrow definition of indigenous peoples[12], importantly highlighted the challenges faced by indigenous groups in Africa, in particular in connection with marginalization and dispossession (Pentassuglia, 2011). The ACHPR has also been applied in some landmark decisions, dealing in particular with the land rights of indigenous people. Most notably, in the 2009 ruling on the Endorois people v. Kenya the ACHPR Commission ruled that violating communal land rights of indigenous people is against both human rights principles and economic development goals (Murphy, 2012; Pritchard et al., 2013).

An additional limitation of the ACHPR relates to the binding power of its decisions. The Charter, ratified by all 54 members of the African Union, has been applied until 2006 through non-binding decisions of the ACHPR Commission, which remains to date "the highest operating judicial body on the African continent" (Murphy, 2012, p. 166). Since 2006, the ACHPR Court can issue binding decisions for the 24 states that have ratified the Protocol establishing the Court (ACHPR, 1997)[13]. Applications to the Court can be submitted by the African Commission or by African intergovernmental organizations. Only seven states have made the declaration according to article 34.6 of the Protocol (ACHPR, 1997), accepting the jurisdiction of the Court to receive cases made by NGOs and individuals: Burkina Faso, Côte d'Ivoire, Ghana, Malawi, Mali, Rwanda and Tanzania.

If we consider the range of customary land rights and rural communities participation in land tenure decisions in the context of SSA, Ethiopia and Tanzania are placed at the two extremes of the spectrum.

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[11] http://www.achpr.org/mechanisms/indigenous-populations/ (accessed in July 2017)

[12] The Report defined as indigenous peoples only the 25 million hunter-gatherer and pastoral societies, which excludes some 95% of the rural communities practicing traditional land tenure systems from being supported by the UN Declaration on the Rights of Indigenous Peoples (Alden Wily, 2011a)

[13]To date, 25 states have signed but not ratified the Protocol (incl. Ethiopia) while 5 have neither signed nor ratified it. source: http://www.achpr.org/instruments/court-establishment/ratification/ (accessed in July 2017)

Tanzania is one of the few African countries to both accept applications to the ACHPR Court by individuals and to have at least in part incorporated the content of FPIC in its national legislation (Vermeulen & Cotula, 2010). In Ethiopia, the customary land rights of rural communities have been extinguished (Alden Wily, 2011b) and the country has not yet ratified the Protocol establishing the ACHPR court. Although the two countries are separated by such obvious differences in their regulatory frameworks, they are comparable in their success in attracting LSLA from abroad. The next two sections provide more detailed insights on their respective policy and institutional structure.

3.4. Ethiopia

Ethiopia has been one of the major recipients of foreign LSLAs over the last decade[14] and a central stage for the debate on its impact on rural populations (Cotula et al., 2011; Horne & Mousseau, 2011; Lavers, 2012).

3.4.1. National policy on rural land and agriculture

The current regulatory context which has enabled the arrival of land acquisitions is the product of decades of centralized land tenure management. Before 1975, the imperial regime had led to a deeply unequal system managed by "absentee landlords", afflicted by insecurity and underutilized land (Deininger & Jin, 2006). In 1975 the rise to power of Derg, a Marixst military committee, led to the abolishment of the previous system and to the nationalization of all land and natural resources. A consequence of the nationalization was the free redistribution of land to farmers in their places of residence, with specific requirements on the type of land use (Horne & Mousseau, 2011).

The Constitution of the Federal Democratic Republic of Ethiopia in 1987 codified the de facto state monopoly of both rural and urban land, as well as natural resources. By declaring the land belonging to

[14] According to the Land Matrix Database, as of June 2017 Ethiopia is the fifth country in SSA for foreign large-scale land acquisitions, if we consider the contract size of available concluded land agreements

the state and the people of Ethiopia, the government took upon itself the responsibility to ensure that the land distribution would rightfully happen. Unfortunately, the lack of state investments and the discretionary power of the authorities in redistribution choices maintained a week agricultural system suffering from degradation and water scarcity (Deininger & Jin, 2006).

The rise to power of a new government in 1991 led to the adoption of the current Constitution of the Federal Democratic Republic of Ethiopia (FDRE, 1995) which essentially maintained the previous approach to land policy. The 1995 constitution affirmed once again the right to ownership of land and natural resources as exclusively vested "in the state and the peoples of Ethiopia" (art. 40.3). This measure was meant to continue protecting the right to the use of land of farmers and pastoralists, as it recognized the right of each Ethiopian farmer to receive free inheritable use rights to a piece of land (Article 40.4) as well as the right to free land for grazing and cultivation of pastoralist communities (Article 40.5).

In 2005 the Rural Land Administration and Use Proclamation (FDRE, 2005) clarified the relationship between state and rural communities regarding the ownership and use of rural land. Under article 2.4, the Proclamation defines as "land holding" the land use by peasants, semi-pastoralists and pastoralists, granting them the right "to use rural land for the purpose of agriculture and natural resource development, lease and bequeath to members of [the] family or other lawful heirs, and includes the right to acquire property produced on [their] Land thereon by [their] labor or capital and to sale, exchange and bequeath same". Article 5.3 further recognises the national government as the sole owner of rural land, granting it the power to change communal land holding into private holdings "as may be necessary", which some argue is in violation of article 40 of the constitution that vests the ownership "in the State and the People of Ethiopia" (Stebek, 2011).

While maintaining the main elements of the previous land tenure system, the new government initiated a decentralization process for the land management system (Deininger & Jin, 2006). In 1997 a federal proclamation allowed each region to individually regulate local land policies, leading to a diversification of situations within the country (Deininger et al., 2008). This allowed in particular for land titling programmes to be implemented since 1998 in the main regions in Ethiopia. Such programmes led to the creation of local registers which would keep track of occupation of land and would facilitate - among

other things - its transfer and inheritance (Deininger et al., 2008). The cited article from 2008 provides thorough information on the titling programmes in Tigray, Amhara, Oromia and the Southern Nations, Nationalities and People's Region (SNNP), while mentioned that no land titling had been implemented in the peripheral lowland regions of Benishangul-Gumuz or Gambella as of 2011 (Horne & Mousseau, 2011).

3.4.2. Agricultural development and LSLA policy in Ethiopia

Over the last decade, Ethiopia has been one of the major recipients of foreign LSLAs (Figure 2), and both the management and the impact of large-scale foreign land deals have been a contentious topic in the literature (Cotula et al., 2011; Horne & Mousseau, 2011; Lavers, 2012). Differently from other countries, where land deals are reflective of local negotiations and are driven by investors' demand, in Ethiopia size and location of land acquisitions are defined by the federal government's plans for agricultural development, as set in national policies (Lavers, 2012; Moreda & Spoor, 2015).

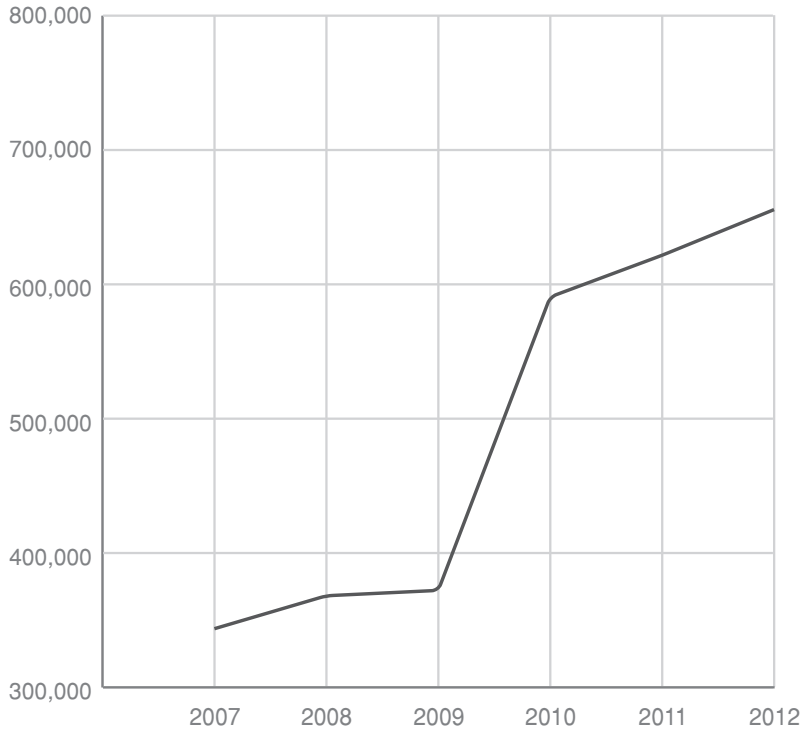

Figure 2 Contract size in hectares for concluded foreign LSLA deals in Ethiopia since 2007 (source: Land Matrix, 2017)

The constitutional provisions on state ownership of land and natural resources have been seen by some authors as instrumental for the centralized management of LSLA deals. While their initial intention was to grant land access to farmers and pastoralist communities through the means of government redistributions, the provisions on rural land tenure under article 40 allow national and regional authorities to be the only actors entitled to negotiate land acquisitions. Article 5.4 of the Rural Land Administration

and Use Proclamation expands the constitutional provision to include the case of a private investor interested in acquiring land: “Subject to giving priority to peasant farmers/semi pastoralists and pastoralist: a) Private investors that engage in agricultural development activities shall have the right to use rural land in accordance with the investment policies and laws at federal and regional levels; b) Governmental and non-governmental organizations and social and economic institutions shall have the right to use rural land in line with their development objectives”. As we will see, in the context of LSLA investors’ agricultural development activities and governmental development objectives often overlap.

Since 2005, the adoption by the Ministry of Finance and Economic Development (MoFED) of five-year plans (MoFED, 2006, 2010) for growth and poverty eradication marked a differentiation in terms of strategies pursued for the development of the agricultural sector in different areas of the country (Moreda & Spoor, 2015). In the highlands the government committed to supporting the development of a market-driven production of high-value crops by smallholder farmers, while in the peripheral lowlands the plans encouraged the development of large-scale agricultural projects by private investors, as the government identified in these areas the availability of “abundant extensive land” (MoFED, 2010, p. 25). The second part of the plan, aiming at encouraging the development of private investments in the lowlands, led to the establishment in 2009 of an Agricultural Investment Support Directorate (AISD) which centralises all processes related to lease agreements in emerging regions for areas greater than 5000 hectares, while more established regions manage land investments independently (Lavers, 2012). AISD identified around 4.8 million hectares of land as conducive for commercial agriculture in four administrative regions: Gambella; Benishangul-Gumuz; SNNP; and the Afar region (Makki, 2012). The centralization of land acquisition processes, combined with competitive land prices and tax exemptions for both national and foreign investors in less-populated regions, have led Ethiopia to become a competitive actor in the new so-called “land rush” (Arezki, Deininger, & Selod, 2013; Deininger et al., 2011).

The 2010 Agricultural Sector Policy and Investment Framework (PIF) of the Ministry of Agriculture (MoARD, 2010) sets as priority number one for agricultural development and key goal of poverty eradication the support to smallholder production, which should pass from “purely subsistence farming” to “semi-subsistence/semi-commercial”. The policy specifies that the potential for smallholder production as a tool of poverty eradication lies in the highland, especially around settled areas, where

the land is already 100% cultivated. It is stressed how in this part of the country the support to infrastructural development and market access can allow for a sustainable commercialisation of smallholder farmers to take place. On the other hand, point 70 of the framework identifies in the mid-altitude and lowlands "large areas of land which are not used for crop production" (p.17) and where large-scale investments are more attractive than small scale farming, because of the need for extensive agricultural production systems. The plan for the development of extensive agricultural investments in the lowlands is supported both by advertising at the governmental level of the agricultural potential for large-scale production of commercial crops for example in the region of Gambella (Makki & Geisler, 2011) and by the competitive price at which land in peripheral regions is leased to foreign investors (Makki, 2012).

Evidence of the competitive terms and conditions of LSLA transpires from the analysis of the 17 published contracts for the acquisition of large parcels of land by foreign investors in Ethiopia, which will be the subject of a more in-depth analysis in the fourth chapter. Differently from Tanzania and most other countries where very little is known about the content of the LSLA agreements, Ethiopia is one of the countries in the world for which the highest number of contracts have been made public[15]. The available contracts have a standardized structure and content as they are drafted centrally by the Ministry of Agriculture. The analysis of the contracts allows to shed some light on a few key points of the LSLA policy in the country, in particular with respect to:

- Parties involved in negotiation and agreement: the contracts are signed by Ministry of Agriculture and the company. Local communities are not mentioned in any form in the contracts, nor is any other consultation with relevant stakeholders

- Duration of the deal: most LSLA agreements have a duration of 25 years with possibility of renewal

[15] The platform openlandcontracts.org is managed by the Columbia Center on sustainable Investment and UKaid, has published a total of 193 documents concerning land deals with both national and foreign actors for the acquisition of land in 14 countries.

- Environmental sustainability: all contracts require the investor to “provide good care and conservation of the leased land and natural resources thereon”. The contracts also require the investor to carry out an Environmental impact assessment within three months from the start of the project.

- Monitoring: the Ministry of Agriculture has the right to request the investor to produce reports on the project and to monitor the investor’s activity

- Price: the competitive price of land is observable from the terms of the contracts, as most of them (13 out of 17) have the annual price per hectare ranging between birr 111 and birr 158, with the lowest prices observed at birr 20 for the Karuturi investment (MoA, 2010a) for 100,000ha in Gambella. The price of land is set applying the following calculations (Keeley, Seide, Eid, & Kidewa, 2014; MoA, 2013): birr 111/ha is the price for land with rain fall and over 700km from Addis Ababa; birr 158/ha applies for land with irrigation access and again distance from the capital above 700km. In both cases, if the land is located closer to the capital higher prices apply. The competitive prices are combined with investment privileges as granted by the national investment laws and with a grace period for the payment of the land rent, ranging from 3 to 5 years for 15 out of 17 contracts, which allows the rent for those years to be pro-rated over the remaining years. The grace period is calculated based on the commercial crop harvest period (MoA, 2013)

- Peaceful possession: the contractual provision which requires the lessor to “ensure during the period of lease [that] the lessee shall enjoy peaceful and trouble-free possession of the premises and it shall be provided adequate security, free of cost, for carrying out the entire activities in the said premises, against any riot, disturbance or any other turbulent time other than force majeure, as and when requested by the Lessee.” Stebek (2011) notes how this contractual clause, which aims at protecting the investor from any third-party claim, mixes the role of the Ministry of Agriculture as a civil party in a contract with its role as an organ of criminal justice.

The analysis of the contacts allows for some observations to be drawn on the conditions under which foreign investors can access land in Ethiopia for their large-scale agricultural production. The contracts appear to be the expression of the centralized land management of the Ethiopian government. The lack of involvement of local actors combined with the extensive powers over land use and transformation

that are granted to the investor, demonstrate how no legitimacy is given to any other potential claim on the use or occupancy of the same land. At the same time, the investor is subject to the monitoring power of the Ministry of Agriculture over their use of resources as well as their production. The price of the land as shown in the contracts also confirms how the national government encourages large-scale investments in peripheral regions, in line with the national agricultural development plans.

Table 3 Summary of the content of the contracts as appears in Stebek, (2011) who analysed the 10 out of 17 standardized contracts that were available in 2011

Articles 1 & 2: The provisions deal with the scope of agreement, i.e., the area and location of the land and the "period of the land lease and payment rule of the land lease."
Article 3- Rights of the lessee: The issues addressed include the rights of the lessee to develop the land, build infrastructure, use water from rivers and ground water for irrigation, administer the land personally or through agency, use mechanization that the lessee deems fit, and terminate the contract with at least six months of prior notice.
Article 4- Obligations of the lessee: The lessee's obligations to take good care of the land, and to observe the timelines for taking over and developing the land as stated in the provision, conditions of transfer and other obligations.
Article 5- Rights of the lessor: This provision embodies the lessor's right to monitor and establish the performance of the lessee's obligations, restore land that has not been developed according to the timeline agreed upon, termination of the contact under the conditions stated in Article 5.4 with a prior notice of six months, amend land rent as the need may arise.
Article 6- Obligations of the lessor: It deals with the issues of handing over vacant possession of the land, provides special investment privileges "such as exemption from taxation and import duties of capital goods and repatriation of capital goods and profits, granted under the investment laws of Ethiopia", assures the absence of impediments during the lessee's activities of "clearing the land and using the same," and ensures that the "lessee shall enjoy peaceful and trouble free possession" and provide adequate security free of cost.
Articles 7-10: Delivery of the land, Contract amendment and renewal, Grounds for contract termination, Consequences of contract termination procedure.
Articles 11- 15: Registration, Governing law, Force majeure, Covenant of peaceful possession, Controlling calendar.
Articles 16-19/20: Annexes to the agreement, Settlement of disputes, Language, Office and notices.

3.4.3. Target areas

In this context most of the large-scale land investments have taken place in the developing regional states[16] of Benishangul-Gumuz and Gambella (**Figure** 3), (Horne & Bader, 2012; Keeley et al., 2014; The Land Matrix Global Observatory, 2016; The Oakland Institute, 2013). The two regions stand out as preferred locations for the commercial land acquisitions among large-size farms (>1000, or >5000) and among foreign agricultural investments (Ali, Deininger, & Harris, 2015) [17] . The two factors are connected, as evidence shows that foreign investors are allocated more land than the national investors, who are more numerous but much smaller in terms of land allocated[18] (Ali et al., 2015; Cotula et al., 2014; Rahmato, 2011). Gambella

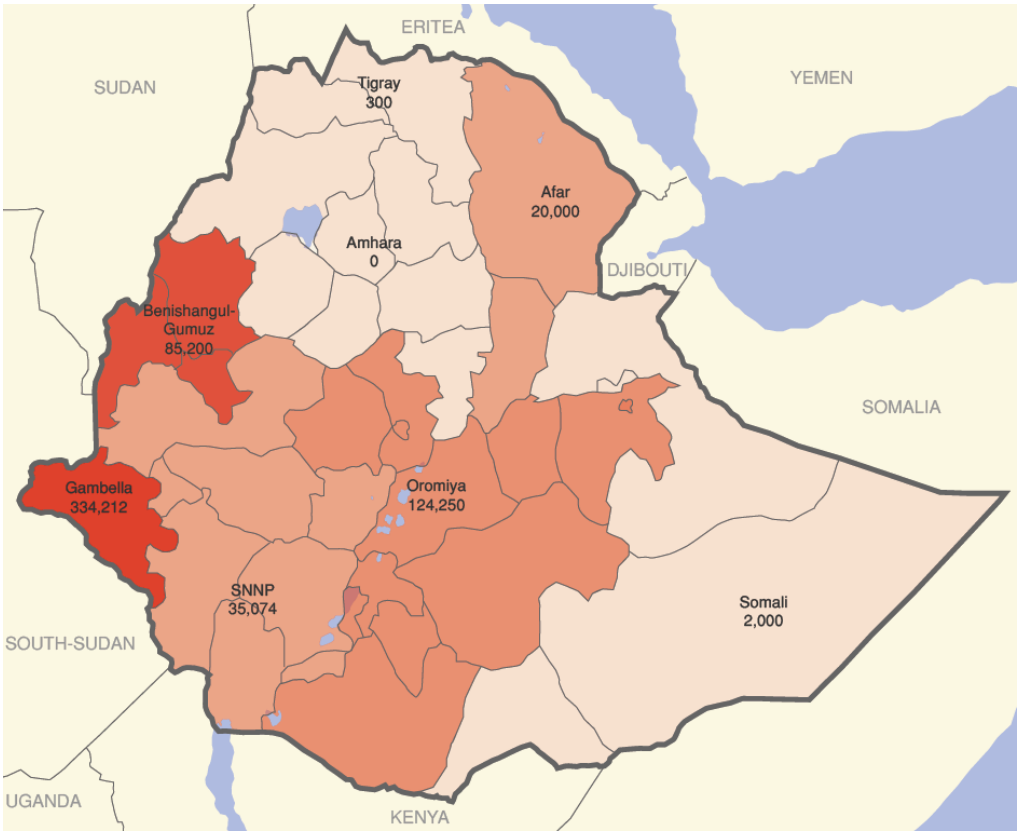

Figure 3 Map of Ethiopia with contract size in hectares of concluded foreign LSLA deals since 2007 by region (source: Land Matrix, 2017)

[16] I refer to the regional states as regions in the rest of the text

[17] If we consider the size of land acquisitions as a percentage of the area of the region, we observe that Gambella and Benishangul are the two regions in which LSLA have the largest impact. The shades of red in Figure 3 indicate the area of LSLA concluded agreements as a percentage of the total area of each region: 11,22% in Gambella; 1,68% in Benishangul; 0,43% in Oromiya; 0,33% in SNNP; 0,28% in Afar; 0,01 in Somali and Tigray; 0% in Amhara.

[18] 80% of the deals and 40% of the land allocated to Ethiopian nationals according to the analysis of national inventories in Cotula et al. (2014)

and Benishangul-Gumuz have also been relatively recent recipients of large-scale farm investments compared to other regions which have substantial commercial farming (Ali, Deininger, & Harris, 2015). Finally, Gambella and Benishangul-Gumuz differ from other regions of Ethiopia because none of the large-scale agricultural investors come from within the region (Keeley et al., 2014).

Geographically and culturally, both regions are characterized by fertile lowlands being inhabited by weakly-organized indigenous communities practicing traditional shifting agriculture and pastoralism (Keeley et al., 2014). It is argued that the success of these regions in attracting land investments derives from the perception, promoted by the government, of them being not only "emerging" in terms of development opportunities (Lavers, 2012), but also underpopulated and underutilized, which are terms that have been widely used to characterize rural areas ready for agricultural investment in rural Africa (Exner et al., 2015; Makki, 2012; Moreda & Spoor, 2015; Rahmato, 2011).

The narrative of the lowlands regions possessing vastly underexploited land is disputed. After extensive field-work in Benishangul-Gumuz Moreda (2015) concluded that "existing traditional land-use practices and social relations that are rooted in the traditions of indigenous communities have been or are being deliberately overlooked" (p. 518). Similarly, Nyikaw Ochalla, an indigenous from Gambella claimed in 2010 that "all of the land in the Gambella region (was) utilized. Each community had and looked after its own territory and the rivers and farmlands within it. It is a myth propagated by the government and investors to say that there is wasted land or land that is not utilized in Gambella" (quoted in Vidal, 2010, p. 2/5). We briefly summarize relevant aspects of the cultural and political landscape in our two focus states below.

3.4.3.1. Gambella

Several ethnic minority groups reside in the Gambella region, and while they practice different types of traditional agricultural production they are all heavily dependent on the ecosystem (Rahmato, 2011). In particular the Anuak (population 100,000) are mainly cultivators and occupy the most fertile land in the region, the Nuer (population 113,000) practice transhumant pastoralism, and the Majangir (population 60,000) are both hunter-gatherers and producers through shifting agriculture (Feyissa, 2005). In all cases, the scarcity of the agricultural output is balanced by fish and forest products which are also an important source of medical plants (The Oakland Institute, 2013). People coming from neighbouring

regions have moved to Gambella since the 1980s and are generally referred to as highlanders, to differentiate them from the indigenous populations in the lowlands. The highlanders live mainly in the capital and practice commerce, thanks to their connections with other regions and their knowledge of Ahmaric (the national language), the lack of which often constitutes a barrier for the indigenous populations (Feyissa, 2005).

After the fall in 1991 of the socialist government, the district became the Gambella People's National Regional State, which found its roots in political actions taken by educated members of the Anuak from the late 1970s (Young, 1999). The regional government and constitution adopted ethnicity and self-determination as their main political features. As the two dominant ethnic groups, the Anuak and the Nuer received the strongest representation at the regional council with five seats each, while the eleventh seat is allocated to the third biggest ethnic group (Feyissa, 2005; Young, 1999). A 2005 case study on Gambella by Evers, Spierenburg, & Wels (2005) mentioned that the total land area that was settled and claimed by the Anuak made up 70% of the region's land size, while the majority of the Nuer lived in two districts covering 24%.

3.4.3.2. Benishangul-Gumuz

Benishangul-Gumuz is a region in the north-western part of Ethiopia, on the border with Soudan and South Sudan. Its total area is 50,380 km^2 and the total population is 679,847. Benishangul-Gumuz is a fertile region, with many rivers, and approximately one million hectares of irrigable land (Moreda, 2015). The population is divided in the indigenous ethnic groups of Berta, Gumuz, Shinasha, Mao and Komo, as well as by settlers from other regions. Detailed information on the Gumuz, thanks to Moreda's extensive field research on the topic (Moreda, 2015, 2016; Moreda & Spoor, 2015), describes an indigenous group living in the lowlands of the region, which relies on a customary land tenure system of communal rights. They are shifting cultivators practicing slash and burn agriculture, meaning that they cultivate a piece of land for a few years until its yield declines, then they leave it to allow it to regenerate and move to a new piece of land, which they clear from vegetation and cultivate. Each group of Gumuz individuals identifies with a specific area, inside which their communal land rights and shifting cultivation practices operate (Moreda, 2015).

In Benishangul-Gumuz, the initiative towards the recognition of the regional state was taken in the late 1970s by the Berta, with small representation from the Gumuz. The Berta went through a series of violent conflicts against the Oromo Liberation front before finally raising to power. Ever since accessing power, the biggest party in the region, the Benishangul People's Liberation movement has been the stage of conflicts between different factions, due among others to the influence of Sudanese Islamists from across the border. The violent past and the ongoing political conflicts have represented a barrier to economic development in the region (Young, 1999).

Foreign investors are only the last of a series of actors that have arrived in the region due to the perceived abundance of land and the favourable climate conditions. In the 1980s the region of Benishangul served as refuge to populations in distress from neighbouring regions, while in the 1990s a system of private rain-fed agricultural activities brought national investors to the region. (Moreda, 2015).

The constant rise in commercial pressure on land by both national and foreign actors (Moreda's estimate of total land transferred to investors in the region is of 390,590 hectares, much more than is reported through the Land Matrix Database) is increasing the pressure on indigenous population in the region of Benishangul-Gumuz. Similarly to Gambella, the outside perception of vastly underexploited, available land is reflective of a more complex situation on the ground. The Gumuz generally view land acquisitions as threats that create additional challenges by exerting intensified pressures on their local land rights and on access to their traditional source of livelihood (Moreda, 2015).

3.5. Tanzania

Laws regulating land rights have been at the core of economic development strategies in Tanzania ever since the country's independence. The recent interest of public institutions in attracting land acquisitions has led to the adoption of new provisions facilitating the access to land by foreign actors. While LSLA have been growing since 2006 (Figure 4), as of 2012 it was estimated that 7,144,900ha of land were still potentially available for agricultural investments in Tanzania (Schoneveld, 2014). At the same time, the

constitutional recognition of the right to own property (art. 24.1) as well as the right to receive compensation in case of regulatory taking (art. 24.2) is enacted at the rural level by one of the strongest sets of regulatory safeguards for customary land rights in SSA.

3.5.1. Land rights in Tanzania

With most of the country's population living in rural areas and relying heavily on land access, the changes in Tanzanian land policies have shaped both social and spatial characteristics of customary rights for rural households. Through all the changes, Tanzania currently holds one of the strongest legal frameworks in terms of formal recognition and protection of customary land rights in Africa, with rural communities empowered to manage their shared property (Alden Wily, 2011b).

The priority of the newly born Tanzanian government soon after the independence from Britain was to achieve agricultural self-sufficiency. In order to boost agricultural production in 1969 it was decided to artificially regroup the country's rural population into 7,000 Ujamaa (villages) that would practice communal agriculture. Ever since its inception, the socialist redistribution plan of Ujamaa has had important repercussions on rural households, as the regrouping of the different communities was carried out following a logic of distribution of manpower and natural resources, while ethnicity and other social factors were disregarded. This led to the implicit abolishment of customary land rights of rural communities, while only the rights of those located in conservation areas were preserved (Barume, 2010).

The socialist plan was abandoned in 1980 as it was not performing as expected. In order to attract investors, with the support of the World Bank in 1983 the *National Agricultural Policy* introduced a "right of occupancy" for up to 99 years, while the state remained the sole owner of all the land. The subsequent rise in violations of customary land led to the establishment of a Presidential Commission of Inquiry into Land Matters, which in 1992 issued the so-called "Shivji Report", criticising governmental practices and suggesting a reform to protect the rights of the original land holders. While the observations and suggestions of the report constitute to date a powerful picture of the land situation in Tanzania (Coldham, 1995), it was not followed by a reforming initiative. The National Council decided instead to set up a plan to improve the efficiency of agricultural production with the aim to increase it from 2 to 5 percent of

the GDP by 2017. The new strategy also relied on the development of the tourist sector, which in the previous years had led to unexpectedly high revenues (Barume, 2010).

In 1999 the two main laws that currently define land rights were issued as a consequence of the new policy and of the success achieved in developing the tourist sector: the Land Act (URT, 1999a) and the Village Land Act (URT, 1999b), which divide the land between “general land”, “reserved land” and “village land”. The Village Land Act defines the structure, management and purpose of the village, which becomes the unit of measurement of each “integrated social and spatial construct” (Wily, 2003, p. 3) in rural areas. Within the village, the Assembly, composed by all village members over 18 years of age, elects the Village Council, which is the highest authority managing all policy matters in the community (URT, 1982).

The Village Council manages the relevant village land area, which is divided into three categories (Locher, 2016): “communal village land” which serves public-purpose functions (art.12 para.'a', URT, 1999b); “Individual Land” which is “occupied or used by an individual or family or group of persons under customary law” (art.12 para.'b', URT, 1999b) for which a certificate recognising the customary ownership can be issued; the remaining land constitutes the third category, which can be allocated to different uses by the Village Council (art.12 para.'c', URT, 1999b). Connected to the division of land uses within the village are the provisions of the Land Use Planning Act (URT, 2007), which requires each village to prepare a village land use plan, detailing the amount of land within the village that is allocated for the different purposes as required by the Village Land Act.

A 2005 Strategic Plan for the Implementation for the Land Laws (SPILL) by the Ministry of Land and Human Settlements Development (MLHSD, 2004) aims at making the new laws operational by following two strategies: on the one hand by targeting nomadism in pastoral communities, declaring it not compatible with the current poverty reduction strategy, on the other hand by introducing a system of minimum acreages for farmers through a resettlement scheme. As the third producer of cattle heads in Africa (FaoStat, 2017), Tanzanian pastoralists that practice traditional nomadism have often been targeted by agricultural and environmental policies, in particular to limit their movement on public and reserve land. The confinement in village areas has often raised conflicts between pastoralists and farmers (Benjaminsen, Maganga, & Abdallah, 2009). Reports on the implementation of the SPILL’s

objective to allocate defined amounts of land to pastoral communities show that this has not yet been implemented (interview with Prof. Niboye[19], University of Dar es Salaam, March 2017).

The most recent evolution in policy targeting rural development is Kilimo Kwanza (Agriculture First), which started in 2009 with the aim of fostering a "green revolution" with the government supporting the development of large-scale agricultural investments, both through financial incentives and through the abatement of barriers to agricultural commercialization (TNBC, 2010). Among other sectors of interest, the implementation framework for Kilimo Kwanza identifies bioenergy production as strategic high value-addition crops (TNBC, 2010). The policy strategic interest in the sector has probably helped biofuel production driving the demand for large-scale land acquisitions in Tanzania for many years. More recently foreign acquisitions of agricultural land have been targeting a wider range of crops production (Cotula et al., 2014).

3.5.2. Rules regulating land acquisitions in Tanzania

The context in which land acquisitions operate in Tanzania is regulated by a set of laws that have been drafted with the specific goal of fostering a radical increase in agricultural production, with the support of national and foreign investors. In 1997 the Investment Act (URT, 1997) supported the creation of a "land bank" that would identify suitable land for investment and allowed non-citizens to hold land (Cotula & Toulmin, 2008). While Tanzanian citizens can own or acquire land either by a "granted right of occupancy" or by a "customary right of occupancy", for non-nationals, the only way to acquire land is in case of an investment under the Tanzania Investment Act (Chachage & Baha, 2010).

Among the three land classifications mentioned above, "general land", "reserved land" and "village land", only the first two can be leased to foreign investors (URT, 1999a). Land that is classified as "village land" can be leased to investors only after it has been converted to "general land" by the President, which requires the involvement of the village in the negotiations and the payment of compensation to the affected villagers . In order to lease land to large-scale investors the 2009 Kilimo Kwanza (Agriculture First) policy set the goal to increase the amount of public land by 20%, by transforming village land

[19] I provide additional information on the interviews I carried out in Tanzania in Section 4.3.1

(German et al., 2011). As mentioned, the Village Land Act requires the involvement of village institutions in the process of transformation of land into public land (Sulle & Nelson, 2009).

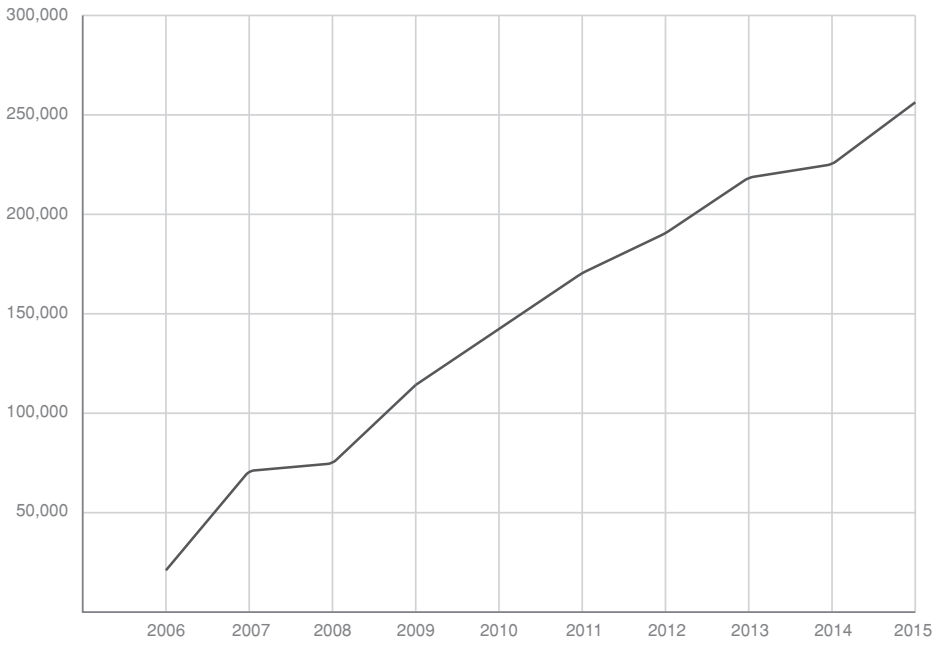

Figure 4 Contract size in hectares of concluded foreign LSLA deals in Tanzania since 2006 (source: Land Matrix, 2017)

In particular, the law requires the agreement of the Village Assembly for areas below 250ha following the recommendations of the Village Council the District Council Land Committee. For areas larger than 250ha, the minister responsible of land matters has the final say after hearing recommendations from the Village Council. The Land Use Planning Act also constitutes an important safeguard for the livelihood of villages affected by LSLA, as it requires villages to autonomously identify the land that is used or needed by the community, both communally and individually. Reports on the law's implementation show that it is still at an early stage, with only 1,645 out of 13,000 having adopted a village land use plan (Officer at Hakiardhi, March 2017).

No formal step in the acquisition process can be taken by the investor without consulting the Tanzania Investment Centre (TIC)[20], which approves the business idea, controls the business registration and evaluates the investment capital. Once the investor receives a "certificate of incentive" which approves the proposal, a formal land survey is carried out to identify the suitable land for the investment. The surveyed land is registered at the Ministry of Land and the agricultural project is approved by the Ministry of Agriculture (Songela & Maclean, 2008). After all these steps have been taken, the investor can apply

[20] http://www.tic.co.tz/ (accessed in July 2017)

for a lease (The Oakland Institute, 2011). A final step involves an environmental impact assessment (EIA) which has to be carried out by independent investigators before any production can take place. Even though the EIA is legally required, a 2011 study reported that only half of the large-scale land acquisitions that had been approved had carried it out (Deininger et al., 2011) while another study reported that no roster of experts had been set up by the time most acquisitions took place, leading to EIA being carried out by experts designated by the investors themselves (German et al., 2013). The lengthy procedures that investors have to undergo in order to receive the authorization and support of the TIC and of the government are also connected to interesting tax incentives, defined by the TIC based on the investors' qualifications (URT, 2013). Additional incentives are given to very big companies and large contracts over 20 million dollars in exchange for a series of commitments taken by the investor.

The formal requirements for the involvement of village authorities in the negotiation of land acquisitions is met in practice by different accounts of power relations. Some studies (Cotula et al., 2014; German et al., 2011) find that district authorities, the administrative level above the village, play an important role in the negotiation of land deals. The national government is also very influential, given the provisions in the Land Act granting them the final say for deals above 250ha. Kabote et al. (2012), observe that the central government, through the TIC but to a greater extent via the Ministry of Lands and Human Settlements concentrates the highest amount of power in the allocation of village land to investors, to the point that land can be allocated to investors even prior to negotiations at the village and district level.

An alternative to the TIC procedure is presented by a rule allowing investors to negotiate the acquisition of land up to 20ha directly from the villages without the need to involve any higher authority. A report shows that many investors prefer to negotiate individually with a series of villages in the same area and purchase small amounts of land from each one of them instead of involving national authorities (The Oakland Institute, 2011). This practice has increased the difficulty in monitoring the status and the size of land acquisitions in the country, while potentially exposing villagers to unfavourable deals as it is reported that disadvantages related to the acquisition are often hidden by the investor during the village consultations, leading to uninformed decisions (The Oakland Institute, 2011).

While the legal requirement of the village's consent to land deals places Tanzania among the most progressive legislations when it comes to land rights in Africa (Alden Wily, 2012), some commentators

claim that the frequent lack of information on the villagers' side (Kabote et al., 2012), reports of corruption (Theting, Brekke, & Gravem, 2010) as well as incomplete understanding of the consequences of the acquisitions still expose rural populations to exploitative deals. Nonetheless, it is also reported that rural communities trust both the authorities and the law, which provides legitimacy to the process (Locher, 2016).

3.5.3. The Southern Agricultural Growth Corridor of Tanzania

As seen in Ethiopia, where land acquisitions by foreign investors were concentrated in two regions of the country that were targeted by governmental policies for agricultural development, a geographic concentration of land acquisitions can also be observed in Tanzania (**Figure** 5), where agricultural investments are mostly located in areas that have improved infrastructure providing a direct access to the capital or in areas that are perceived as being underutilised and underpopulated (Cotula et al., 2014). Land availability and ambitious plans for infrastructure development have led to the creation of the Southern Agricultural Growth Corridor (SAGCOT)(URT, 2013). SAGCOT is a 20-year project which combines

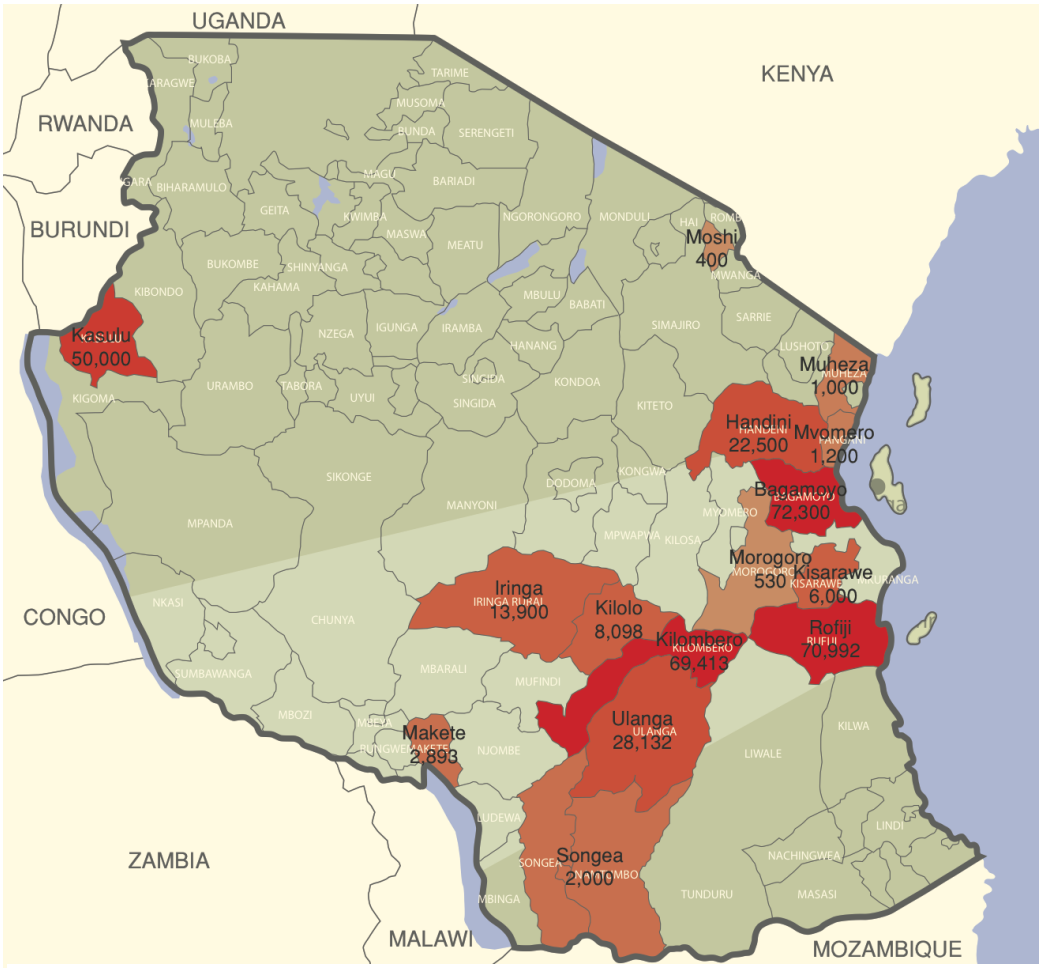

Figure 5 Map of Tanzania highlighting the area of SAGCOT and the districts with LSLA acquisitions in hectares (source: Land Matrix, 2017)

public and private funding with the aim to triplicate the agricultural output in an area denominated “growth corridor”. The focus in this area is to boost agricultural production by modernizing it with the help of large-scale private investments. The plan aims at attracting over $3 billion in investments (SAGCOT, 2012) and at supporting the commercialization of smallholder production, bringing some two million people out of poverty (Twomey, Schiavoni, & Mongula, 2015).

The project was initiated as an outcome of the World Economic Forum of Africa which was held in Dar es Salaam in 2010, when a need to attract new agricultural investments had risen following the decline in land acquisitions for biofuel (Herrmann, 2017). The area in which the Corridor is located is strategic as it connects the port of Dar es Salaam to Malawi, Zambia and the DRC, while benefitting from the abundance of natural resources and good infrastructure (SAGCOT, 2011). The Corridor has a total area of almost 30 million hectares, a third of mainland Tanzania, and incorporates a population of 11.1 million (URT, 2013). In the area 7.5 million hectares have been classified as arable land and there is great potential for the development of irrigation systems (Twomey et al., 2015).

The project’s blueprint identifies a series of constraints that have so far been an obstacle to the development of a productive agricultural sector, which the Corridor needs to overcome in order to meet its productivity goals. Among the biggest constraints, the SAGCOT blueprint (SAGCOT, 2011) lists the lack of an irrigation systems, poor infrastructure, inadequate access to affordable long-term finance, difficulties securing land, limited market access and economies of scale, taxes and export barriers and poor perception of agriculture. In the Strategic Regional Environmental and Social Assessment of SAGCOT the limited tenure security, the slow formalization process and the rising concern for land grabs are also listed as issues that need to be addressed, as “(p)erceptions of the transparency of decisions concerning land and land use will be an important factor affecting the success of the Programme” (URT, 2013, p. 151).

The sustainable use of natural resources is a key factor in the development of the Corridor (Lahr, Buij, Katagira, & Valk, 2016). SAGCOT Greenprint (SAGCOT, 2012) outlines a strategy to “sustainably intensify” agricultural production, by lowering its environmental impact and reducing the pressure on natural resources while boosting its output. In particular, the improved management of water resources for agriculture is considered essential in the project’s blueprint (SAGCOT, 2011). The necessity of

developing a sustainable water system is due to the fact that Tanzania has the second largest volume of inland freshwater resources in the continent but only an estimated 1% is currently developed. According to the expected outcomes listed by SAGCOT blueprint, the development of irrigation systems should benefit tens of thousands of smallholders and support their transformation into commercial farmers by 2030.

From the perspective of land use, a central element in the development of SAGCOT is the creation of "clusters", which are areas were investments covering the full agricultural value chain should be developed. The clusters should allow investors to benefit from the proximity to one another, as well as from the concentration of services and infrastructure. Smallholder farmers should also greatly benefit from their proximity to clusters, as this would provide them with processing facilities and other infrastructures improving their access to and competitiveness in the market (SAGCOT, 2011, 2012).

The development predictions of SAGCOT experts have been met with some criticism by civil society, with regard in particular to the impact of the growth corridor on rural households. While local farmers are expected to benefit from the project, the concentration in the use of land and other natural resources brought by the "clusters" of large-scale investments is viewed by some as a threat to their livelihood. A 2014 assessment (Twomey et al., 2015) of the impact of SAGCOT by some forty representatives of agriculture, science, politics, parishes and NGOs stated that the clusters constitute a serious threat to smallholders' access to land, water and to other resources which are essential to their agricultural production system. "Land grabs" and the displacement of rural communities were listed among the main sources of concern for rural households located in the proximity of a cluster (Twomey et al., 2015).

3.6. Conclusions of the third chapter

Since the start of the current wave of LSLA a number of policy tools have been put forward by different stakeholders in the attempt to address some of the main concerns relating to land and resource use. As the focus of my research is on the impact of LSLA on rural households, the policy analysis in this chapter

focused on the tools in place to define how rural households' and foreign investors' access and use of land is or should be regulated.

At the global level, different international organizations have addressed the relevance of human rights principles in the context of LSLA. In recent years the principle of free, prior and informed consent has become the standard reference for land transfers, drawing the line between legitimate land acquisitions and those labelled as "land grabs". FPIC has been included in the FAO's voluntary guidelines which appear to be the most agreed upon set of principles for economic growth in rural areas protecting rural households' rights and promoting environmental sustainability. De Schutter's core principles offer a systematic review of the main human rights principles protecting rural households with particular focus on their right to food, development and self-determination. The ACHPR has also contributed to protecting the right to land as a human right in particular when it comes to indigenous populations.

Although international human rights principles and guidelines are useful in setting global standards and involving regional and national legislators in promoting their applicability, they often lack binding force. Emblematic is the case of the African Court of Human and Peoples Rights, where only seven of the member countries allow for NGOs and individuals to bring cases in front of the court. The certification schemes set up by global organizations of private producers on the other hand represent a tool that sources the same human rights principles but which has the potential to be more successful at shaping investors behaviour. By providing the right set of economic incentives, certifications encourage compliance to the same set of human rights principles that international organizations promote.

The focus on Ethiopia and Tanzania revealed two different regulatory approaches to rural households' rights and LSLA. Ethiopia has a constitutionally-established centralized management of land and natural resources rights. The centralised management allows for major decisions on land distribution to remain tightly connected to national development policies. Tanzania on the other hand constitutes a best-practice case in the literature on the recognition of rural communities' land rights, assigning villages the power to manage their own land communally.

The differences in land tenure management between the two countries are reflected in the land acquisitions process for foreign investors. While in Ethiopia the investor negotiates LSLA deals with the Ministry of Agriculture and no other party is represented in the negotiations, in Tanzania the investor

who seeks to acquire village land is usually required to consult the affected villages. Due to the different systems, the type of information which is accessible to research also changes significantly. In the case of Tanzania more information is available on the rules and procedures for the land acquisition agreements. In Ethiopia, little is known on the process as it involves much fewer actors, but the fact that land deals are all managed by the same entity has led to the standardised contracts to become publicly known.

The analysis of development policy in the two countries also reveals that Ethiopia and Tanzania share an interest in the economic opportunities that LSLA represent. In both cases the governments have put in place offices responsible for promoting LSLA and incentivise the arrival of foreign actors through competitive regulations and fiscal regimes. The similarity in the approach to LSLA transpires from the observation of both countries establishing "target areas" for the development of large-scale agricultural projects.

The analysis of the policy and institutional context of Ethiopia and Tanzania is essential to understand how LSLA affect the four development indicators of rural households defined in the previous chapter. If the barriers to rural development are shaped by different institutional structures and policy frameworks, then we should be able to observe different effects of LSLA on rural households. In particular, with the protection of rural households' access to land and natural resources and participatory tools are a prerequisite for the success in achieving "win-win" outcomes of land acquisitions, then the rural households in Tanzania should benefit to a higher extent from LSLA than in Ethiopia. The review of qualitative evidence in the fourth chapter and the quantitative analysis of the fifth chapter will compare the effect of LSLA in the two countries, from the perspective of the policy differences highlighted in this chapter.

4. Qualitative Evidence

4.1. Introduction of the fourth chapter

The aim of this chapter is to understand, given the differences highlighted in the policy chapter between Ethiopia and Tanzania, what the available qualitative evidence shows to be the effect of LSLA on rural households in Ethiopia and Tanzania since the start of the new land rush. Following the defined four causal pathways, I conduct a review of the available qualitative evidence. As evidence on LSLA is generally scarce in SSA, the comparison between Ethiopia and Tanzania is reflective of, and limited by, the different institutional structures and degrees of transparency that are present in the two countries. Because of this difference, a major source of information for Ethiopia is represented by the original analysis of all the publicly available contracts of large-scale foreign land acquisitions in the country, while this source of information is absent for Tanzania. As no contract has yet been made available on LSLA deals in Tanzania, this part of the chapter is supported by interviews that I conducted in Dar es Salaam during a research visit in March 2017.

As discussed in the second chapter, the theoretical predictions on the success of large-scale agricultural investments rely on the formal recognition and enforcement of rural land rights for the efficient allocation of resources. The policy analysis in the third chapter stressed the differences between Ethiopia and Tanzania in handling both land acquisitions and rural households' land rights. This chapter puts the theoretical predictions describing a possible win-win situation to a first test, as the centrality of the formal land rights should be reflected in different impacts of LSLA on the four development indicators for rural households. The fifth chapter provides quantitative evidence on the same predictions on the four development indicators for Ethiopia and Tanzania.

Due to the scarcity of data, the vast majority of studies of the phenomenon of large-scale land acquisitions are qualitative case studies (German, Schoneveld, & Mwangi, 2013; Schoneveld, German, & Nutako, 2011). These contributions are overwhelmingly critical of foreign land acquisitions, with numerous authors characterizing them as "land grabs" (Borras et al., 2011; Ince, 2014; Kugelman & Levenstein, 2009). In particular, case studies in different African countries have drawn attention to some recurrent negative outcomes of land acquisitions on the livelihood of rural populations. Besides the evidence of increased vulnerability of rural populations to land expropriation (German et al., 2013; Makki, 2014), different studies have raised concerns about the access to food and water (Lavers, 2012;

Robertson & Pinstrup-Andersen, 2010; Rulli et al., 2013), as land acquisitions are reported to target resource-rich areas with a focus on export-oriented production (De Schutter, 2011) which could leave local inhabitants lacking basic resources[21].

More recent studies provide a more nuanced view of the outcomes of LSLAs for the rural populations, with a focus on the way in which outcomes are contingent on the local political, cultural and legal environment. Addressing land acquisitions as a global phenomenon, Hall et al. (2015) show how different socio-political contexts allow for the perspective of rural farmers to shape development strategies on land use to meet their needs. Regarding the dynamics of land acquisitions in different SSA countries, Cotula, Oya et al. (2014) observe that the different ways in which national and local authorities are involved in negotiating land acquisitions in Ethiopia, Ghana and Tanzania affect scale and impact of land deals in these countries, while Nyantakyi-frimpong et al. (2016) show how land acquisitions in Ghana have increased social differentiation due to the existing gender-specific regulation of land rights among rural communities.

The next section is dedicated to qualitative evidence from Ethiopia, starting from the sources used for the review and then the evidence for the four indicators: access to land, returns to land, returns to labour and price of agricultural goods. Section three is dedicated to the qualitative evidence on the four indicators for Tanzania. Section four summarizes the main findings, highlighting the differences and similarities between the two countries, and concludes the chapter.

[21] These themes have been explored by a large number of reports published by international organizations, research centers and NGOs, among others: Anseeuw et al. (2012), Cotula et al. (2009) and Gerlach & Liu (2010).

4.2. Qualitative evidence from Ethiopia

4.2.1. Sources

The review of qualitative evidence for Ethiopia includes insights from the analysis of 17 contracts for the acquisition of land by foreign investors (Table 4) as well as relevant Ethiopian policy sources[22]. I also review qualitative evidence from 11 peer-reviewed articles[23] and 2 academic papers presented at thematic conferences on LSLAs[24]. I integrate these sources with case studies included in 5 reports from NGOs and research institutes[25] as well as evidence reported by local media[26].

Given the scarcity of direct sources on the conditions of rural populations in areas targeted by foreign investors, a precious (and rare since negotiations are often led behind closed doors) element of analysis is provided by the text of a few land acquisition contracts that have been made available by Ethiopian authorities and have been collected since November 2015 on a dedicated website by the Columbia Centre for Sustainable Investment [27]. I analyse all 17 publicly-available contracts for the acquisition of large parcels of land by foreign investors in Ethiopia. While the 17 contracts only represent a fraction of the land deals that have taken place in Ethiopia[28], it is still a significant number compared to other countries where the content of land deals is not publicly available[29]. The contracts have been signed between 2010 and 2012, ten contracts relate to acquisitions in Gambella (for a total of 231,012 hectare), two in Benishangul-Gumuz (70,000), three in SNNP (21,000ha), one in Amhara (10,000ha) and one in Somali (2,000ha).

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[22] The main Ethiopian policy sources are: MoA, 2013; MoARD, 2009, 2010; MoFED, 2010; WFP, 2012

[23] the peer-reviewed articles are: Ali et al., 2015b; Cotula et al., 2014; Daie, 2012; Deininger et al., 2011, 2008; Deininger & Byerlee, 2012; Lavers, 2012; Makki, 2012; Moreda, 2015, 2016; Moreda & Spoor, 2015

[24] The papers presented at thematic conferences on LSLA are: Rahmato, 2011; Shete, 2011

[25] The reports are: Horne & Bader, 2012; Horne & Mousseau, 2011; Keeley et al., 2014; Minority Rights Group International, 2014; Nolte et al., 2016

[26] Local media reports are: Mesfin, 2011; Tariku, 2013

[27] The website openlandcontracts.org is managed by the Columbia Center on Sustainable Investment in partnership with the World Bank Group and UKaid

[28] The Land Matrix database (Land Matrix, 2017) lists 65 LSLA projects by foreign investors from 2000 to present, that have a “contract signed” status

[29] This is the case for example in Tanzania, where no contract has been made publicly available yet

Table 4 List of published land acquisition contracts between the Ethiopian Ministry of Agriculture and foreign investors

Signature Date	Company Name	Investor's Country	Resource	Contract size (ha)	Location
2010-01-11	Saudi Star Agricultural Development Plc	Saudi Arabia	Rice	10,000	Amhara
2010-03-01	S & P Energy Solutions PLC	India	Biofuels; Oil crops; Other crops	50,000	Benishangul-Gumuz
2010-04-05	Ruchi Agri PLC	India	Soybeans (Soya beans)	25,000	Gambella
2010-04-10	Sannati Agro Farm Enterprises Pvt. Ltd (Ethiopia Branch)	India	Cereal crops; Grain legumes (Pulses); Rice	10,000	Gambella
2010-04-21	Verdanta Harvests PLC	India	Coffee; Eucalyptus; Medicinal plants; Other crops; Tea	3,012	Gambella
2010-05-11	BHO Bio Products PLC	India	Cereal crops; Grain legumes (Pulses);Oil crops	27,000	Gambella
2010-07-12	Hunan Dafengyuan Agriculture Co	China	Sugarcane	25,000ha	Gambella
2010-08-01	Whitefield Cotton Farm PLC	India	Cotton	10,000	SNNP

2010-11-05	Karuturi Agro Products PLC	India	Cereal crops; Grain legumes (Pulses);Oil palm or palm oils	100,000	Gambella
2011-05-10	Saber Farms Plc	India	Cotton; Soybeans (Soya beans)	25,000	Gambella
2011-10-03	Toren Agro Industries Plc	Turkey	Cotton; Soybeans (Soya beans)	6,000	Gambella
2012-01-06	Horizon Plantations PLC	Saudi Arabia	Groundnuts	20,000	Benishangul-Gumuz
2012-02-27	Green Valley Agro PLC	India	Cotton	5,000	Gambella
2012-06-25	JVL Overseas PTE Ltd (Ethiopian Branch)	India	Cotton	5,000	Gambella
2012-06-25	Omo Valley Farm Cooperation Plc.	Turkey	Cotton	10,000	SNNP
2012-07-30	Al-Mehdi Match Makers Plc	Pakistan	Timber (Wood)	1,000	SNNP
2012-08-24	Agropeace Bio Ethiopia Plc	Israel	Castor oil (Ricinus communis); Cotton; Groundnuts; Soybeans (Soya beans)	2,000	Somali

The contracts all share a similar structure, with most provisions standardised and often repeated word for word. While the actual enforcement of the terms of the contracts should rightly be questioned, as evidence points to the lack of monitoring by authorities (Horne & Mousseau, 2011), as noted by Cotula (Cotula, 2011), the content of these contracts is still an important source to understand: who the parties to the deals are, the price of the land, the area and the duration of the acquisitions, the role of other authorities and third parties and the type of monitoring in place on the development of the investment projects. Through the analysis of the deals I identify several elements that illustrate how the conditions under which land is leased to foreign investors may affect the four key determinants of rural households' wellbeing listed above: 1 economic control of land, 2 returns to land, 3 returns to labour and 4 access to agricultural goods.

4.2.2. Access to land

In Ethiopia, the concentration of large-scale foreign land acquisitions in the two peripheral regions of Gambella and Benishangul, combined with the state ownership of land and natural resources and the reported delay in implementing land titling programmes in the two regions[30] (Horne & Mousseau, 2011), exposes rural households to increased vulnerability when it comes to land access.

Reports of villagizations, leading to the displacement of rural households towards new settlements designated by the authority, have emerged in relation with the arrival of land investments. In an interview with an Ethiopian newspaper (Tariku, 2013) the chief of the Gambella region, Umod Ubong Olom, confirmed that 30,000 scattered households had already been resettled at the time of the interview, while an additional 10,688 households would be resettled in 2013. In the first year, 2010-2011, villagization occurred in five districts (*Woredas*) of the Gambella region: Gambella, Godere, Gog, Abobo and Dimma. These districts are for the most part Anuak, and are closest to the major infrastructure of the region, such as the main roads and the largest towns (Horne & Bader, 2012). A similar situation was reported in Benishangul-Gumuz, where between 2011 and 2012 the

[30] A possible explanation for the lack of implementation of land titles in Gambella is that all indigenous communities in the region rely on communal property systems, where the value of the individual land right would not be recognised (Rahmato, 2011).

government aimed at resettling 19,763 scattered households from across the region into new villages (Moreda, 2015).

In both regions the authorities claim that villagizations are necessary to provide indigenous populations with improved access to basic infrastructure and services such as schools and water (Moreda, 2016) and that they are carried out in agreement with rural populations (Tariku, 2013). The Ethiopian government has denied that villagization programmes are connected to LSLA, but the cited report from Human Rights Watch claims villagers in Gambella were told by local government officials that this was "an underlying reason for their displacement" (Horne & Bader, 2012, p. 3). Similarly, regional government officials interviewed in 2012 in Benishangul-Gumuz admitted that "an implicit objective [of the villagization programmes] was to smooth the expansion of commercial agricultural investments" (Moreda, 2016, p. 706).

The willing, concerted nature of the villagizations is further challenged by several reports (Daie, 2012; Horne & Bader, 2012; Minority Rights Group International, 2014; Rahmato, 2011) which have questioned the way in which these programmes are carried out. Evidence of surprise resettlements in Gambella, leading to relocation to areas with poor or no farming potential are accompanied by accounts of human rights violations, connecting the relocation programmes with the suppression of dissent, arbitrary arrests, detention and sexual violence (Horne & Bader, 2012).

I could not find any evidence of rural populations having access to legal tools to challenge villagization or to seek compensation for forced displacement. The available evidence on Gambella and Benishangul-Gumuz suggests that no comprehensive rules for adequate compensation are in place for land previously occupied by rural households. This is connected to the lack of land titling programmes in the two regions and to the constitutionally-recognized state ownership of land and natural resources give the government extensive discretionary powers to allocate land (Moreda & Spoor, 2015). The analysis of the LSLA contracts appears to confirm the lack of obligations of foreign investors towards local populations. On the other hand, the conditions under which foreign investors access land in Gambella are particularly favourable. In fact, the provisions on rural land tenure under article 40 of the Ethiopian constitution are regarded in the literature as a tool facilitating the arrival of foreign investors, because only national and regional authorities are entitled to negotiate the land

acquisitions. This feature brings alleged benefits for the investors as it significantly lowers transaction costs in the negotiation phase of the deals (Makki & Geisler, 2011).

Particularly, my analysis of the seventeen contracts for the large-scale lease of land reveals that the Ethiopian Ministry of Agriculture and a registered Ethiopian office of the foreign company are the signatories and the only actors mentioned in each of the contracts. No local communities or regional authorities are mentioned in the deals negotiated by the Ministry of Agriculture, nor are they in any way involved in the deal as it emerges from interviews that took place in Benishangul-Gumuz in 2012 (Moreda & Spoor, 2015). The contracts further grant the investors the "full and exclusive use" of a defined parcel of rural land, as well as the right to build infrastructure such as dams, water boreholes, power houses, irrigation systems, roads, bridges etc. The quality of registration of the investor's rights over the land as contained in the land deals has led a Human Rights Watch report to note how the land leased under such conditions by the Ministry of Agriculture represents the only type of land tenure benefitting from a formal registration system in the region of Gambella (Horne & Bader, 2012).

Overall, the qualitative evidence available on the access to land of rural populations in areas targeted by land acquisitions suggests that, since the arrival of LSLA, there has been no improvement in the type of land rights that households have access to. Similarly, given the reports of villagization and the lack of legal tools to seek compensation for the loss of land, the qualitative evidence I could access suggests that there was no increase in the value of land owned by rural households as a consequence of land acquisitions.

4.2.3. Returns to land

We turn at present to the economic returns that can be gained per unit of land under the household's control. As mentioned in the previous chapter, the 2010 PIF (MoARD, 2010) identifies rural households in the highlands as beneficiaries of the development of infrastructure and market access, while large investors should be the main drivers of agricultural development in peripheral lowlands. Such a policy framework appears on the one hand to deny the possibility of large-scale investors and smallholders to co-exist in the same territory, and on the other hand to exclude lowland smallholders from the rural commercialization plans that only focus on highland rural households.

Leaving aside policy measures, the impact of large-scale investments on the returns to land of local households can be shaped by the interventions made by investors for the development of their extensive productions. One issue relates to the access to water essential for smallholder rain-fed agriculture, which is reported to be compromised by dams and irrigation systems set up by large-scale investments (Horne & Mousseau, 2011). Indeed, all the contracts analysed grant the investor the right to "build infrastructure such as dams, water boreholes, power houses, irrigation systems, roads, bridges, office, residential buildings, fuel/power supply stations/ outlets health/ hospitals/ dispensaries and education facilities" after receiving authorization by the relevant authority (or by the Ministry of Agriculture). Discussing the use of water by the investors as it is worded in the contracts, Stebek (2011) notes that it is unclear whether water use is part of the land rental agreement, and whether any evaluation of extensive water uses on the water resource impact in the area. While I did not find any reference to rural populations in the contracts, the general limitations to the building of infrastructure involve the conservation of tree plantations which "have not been cleared for earth works", attention to avoid soil erosion and more generally to "observe and implement all legislation regarding natural resource conservation". The only variation in the wording relates to the case of Karuturi (MoA, 2010a), which is specifically granted the right to "use irrigation from rivers and ground water", while it must "respect current and future environmental and water laws, cause no disturbance to the environment, and gain prior permission from the relevant federal and regional institutions".

Regarding the provisions on environmental protection, the generic formulations in the contracts, requiring the investor for example to adopt "appropriate working methods to prevent soil erosion", would need to be supplemented by detailed standards of compliance to be effective (Stebek, 2011). Furthermore, there appears to be no formal or de facto monitoring of the effect of land acquisitions on rural households in the area. The monitoring of the impact of land acquisitions on the use of natural resources is conducted by requiring investors to carry out an environmental impact assessment within three months of the signature of the contract. Although this provision was included in all 17 analysed contracts, a field study from 2014 revealed that only one third of the investment projects for which information was available had an approved environmental impact assessment (Deininger et al., 2011), while the authors of the study confirmed that "none of the deals for which data [were] available formed the object of a duly approved social impact assessment"(Cotula et al., 2014).

Finally, the reports connect villagization programmes driven by LSLA to lower returns to land controlled by rural households. This is due to the fact that the newly-built villages where families are reportedly brought without their consent lack the promised improved service and indeed offer poorer resources than the areas where they previously lived. The issue is so severe that some displaced women when interviewed declared that they travel back to their original village to fetch water because there is none where they have been resettled (Moreda, 2016). The available qualitative evidence seems to suggest that the arrival of land acquisitions jeopardises rather than supports the returns to land controlled by rural households. As in the areas that are destined to host large-scale investments the priority, both from a policy perspective and practically in terms of access to infrastructure and natural resources does not take into consideration the needs of smallholders and of their traditional agricultural practices, with the risk of placing them in an even more vulnerable condition (De Schutter, 2011).

4.2.4. Returns to labour

A strong feature of land acquisitions is their ability to create attractive labour opportunities for rural communities. Unfortunately, very little information is available on the actual number of positions that LSLAs create in Ethiopia. One report on Saudi Star points at the investor's intention to employ between 4,000 and 5,000 seasonal workers per every 100,000ha of land under rice production (Horne & Mousseau, 2011), but no information is available on the current status of the project. The same report describes wages as being generally low, between birr 10 and birr 20 per day, and concentrated in short periods of intensive labour. When it comes to permanent employees, the analysis of national survey data on operational farms by Ali et al (2015) reveals that in large farms only one job is created every 20ha, which makes wage work less profitable than smallholder agriculture.

While information on labour opportunities generated by land acquisitions in Ethiopia is very scarce, the available accounts often focus on the fact that most of the workers are not locals, but are employed by the investors from neighbouring regions (Horne & Mousseau, 2011; Moreda, 2015). Moreda (2015) describes a situation where seasonal workers travel in growing numbers to Benishangul-Gumuz lowlands from the central highlands of Amhara. An investor interviewed by Moreda (2015) in the territory of the Gumuz indigenous group justified the choice of migrant workers

by saying that local communities were not interested in wage work, supporting the author's claim that indigenous populations such as the Gumuz are the object of a series of negative stereotypes. On the contrary, interviewed members of the community expressed their interest in the wage work offered by the investors:

> We wanted to work and get some money.…But these investors don't like us. They don't want to employ our people. They say this community [Gumuz] is not capable of doing daily wage work and they even went to the extent of calling our people lazy. This is their common response when we approach them for employment. They don't even see us as human beings.… That is why they prefer to employ migrant workers. These same investors first promised that they would employ our people and that they would only employ people from other places if there were not enough workers from our communities. But this is not what is happening here. We always ask them for work. Except for a few guard positions in which our people are employed, the available job opportunities are almost all filled by migrant people coming from the Amhara region.… That is what we see here in connection with these investors (Interview to Gimtiya, Dangur woreda on 20 May 2012, in Moreda, 2015, p. 530).

The local communities in Gambella and Benishangul-Gumuz reportedly fear the external workers, not only because they take labour opportunities away from them, but also because they tend to stay in the area between one labour phase and the next and will potentially end up settling in the lowlands, thus threatening the land and resources access of indigenous populations. This tension between migrant workers and local indigenous communities has led in some cases to episodes of resistance by local communities which have turned to violence in the case of the Gumuz against the migrant workers from Amhara (Moreda, 2015).

As none of the analysed land acquisition contracts included references to wage workers, it appears that this is one of the aspects of the LSLA deals that is left under the discretionary power of the investor. It is safe to say that no requirement is imposed on foreign actors for hiring local workforce, as the opportunity of hiring migrant workers is stressed by a promotional document from the Ethiopian Ministry of Agriculture, which indicates that "the investor can mobilize its labour from region to region without any restriction with efficient, economic manner and standard benefit of the workers. Therefore, to provide a sufficient number of labours of the new investment, it is advisable to mobilize

additional manpower from highly populated areas" (MoA, 2013, p. 4). This situation has been at the source of social tensions between the migrant workers and the members of Gumuz communities, who feel excluded from both the access to land and from labour opportunities created by the investors (Moreda, 2015).

4.2.5. Price of agricultural goods

Access to agricultural products for rural households in Ethiopia is a critical determinant for their livelihood. The 2010-2014 Food Security Programme of the Ministry of Agricultural and Rural Development (MoARD, 2009) describes a situation where "more than 38% of rural households fall below the food poverty line, and 47% of children under five suffer from stunting" (p. 1), due among others to land degradation, drought and poor management of natural resources. The situation requires the government to set up emergency response cash and food-distribution projects through the Productive Safety Net Programme (PSNP), active in Afar, Amhara, Dire Dawa, Harare, Oromiya, SNNP, Somali and Tigray Regions (WFP, 2012). Regarding foreign aid, there are mentions of other assistance activities in the country sponsored primarily by the Development Assistance Group (DAG), a group of donors including countries such as US, UK and EU and international organisations such as the World Bank and International Monetary Fund, and supporting the Ethiopian government with development assistance budgets of several billions every year (DAG website). I could not find clear reports regarding DAG's involvement in Gambella and Benishangul-Gumuz in their recent annual reports (DAG Ethiopia, 2014, 2015).

As mentioned, the rural development objective for peripheral, emerging regions such as Benishangul-Gumuz and Gambella is the development of private investments, which can potentially affect the access to food and other agricultural products by rural households in these areas when investments do not target the local market (Shete, 2011). In particular, the focus put by the government on the export of agricultural products (Cotula et al., 2014) is evident from its strategic plan for Growth and Transformation (GTP) (MoFED, 2010) as well as by measures taken to actively encourage the export of agricultural and industrial goods, such as the devaluation by 20% of the exchange rate which took place in September 2010 (Lavers, 2012) and the two year exemption from income tax for the investor that exports at least 50% of its products (MoA, 2013).

In Gambella the Ethiopian Government has given explicit priority to investors interested in the production of industrial crops such as cotton, sugar cane and rubber (Mesfin, 2011). In particular, a land area of 2.6 million hectares in the region has been classified as fit for the cultivation of cotton, while in 2011 only 93,985ha of land were employed for cotton cultivation, most of which held by local farmers. If the goal of 2.6 million hectares is met, Ethiopia will match the production area of Pakistan, the fourth-largest cotton producer in the world (Mesfin, 2011).

Among the analysed contracts, only one explicitly mentions the possibility of exporting the goods. The deal involves a 50-year lease of 3012ha in Gambella for tea production by Verdanta Harvests (MoA, 2010b) and it explicitly mentions that the investor "has the right to export its tea products from the land with an export license as per the countries' export policy and regulations". All other contracts do not mention the target market for the agricultural goods produced, which leaves the choice to the discretion of the investors. In the case of Saudi Star, which is among the analysed contracts, a report mentions the intension of the company to export most of the rice produced, while distributing on the local market the rice that does not meet the quality requirements for export[31]. The same report mentioned that other interviewed investors expressed a preference for the national market because of lower distribution costs (Horne & Bader, 2012).

While all seventeen contracts give the Ministry of Agriculture the power to request reports from the investor and to carry out monitoring activities "to establish whether they are discharging and accomplishing their obligations diligently", investors interviewed by the Oakland institute described a lack of monitoring by Ethiopian authorities, which allows them to change their production plans without requiring prior authorization (Deininger et al., 2011; Horne & Mousseau, 2011). The investors' freedom in managing the acquired land, combined with the lax environmental requirements mentioned above, is considered by some a threat to rural households' access to food sources such as fish and forest products which were freely accessible prior to the arrival of investors and represented an essential complement the farmers' agricultural production (Alden Wily, 2011b; Horne & Mousseau, 2011).

[31] A Saudi Star spokesperson interviewed by Horne and Bader (2012) explains that, in order to qualify for export, grains of rice should be larger than 7 mm

A case study on land acquisitions in Benishangul-Gumuz (Moreda, 2016) provides evidence of the impact of investments on the access to food sources, leading to an increased need for food aid in the area. Interviewed members of the Gumuz indigenous group blame land acquisitions for the decline in access to forest food sources such as roots, leaves and fruits, which constitute part of Gumuz populations' everyday diet. While some resources are now accessible only by traveling longer distances, they claim that some of the resources that they have relied upon in the past are not accessible anymore or have completely disappeared. The available evidence does not allow to evaluate to what extent these resources are replaced by an improved access to market goods.

4.3. Qualitative evidence from Tanzania

4.3.1. Sources

In this section I consider the available qualitative evidence on the four potential pathways of influence of LSLAs on rural households in Tanzania. The sources of qualitative evidence for Tanzania are different from the ones on Ethiopia, even though both countries have been at the centre of the LSLA debate since its inception in 2008 and several organizations have produced reports on both. In Ethiopia, although the contracts provide some specific information on the size and price of the acquisitions, there is little information when it comes to the implementation of individual projects. In Tanzania on the other hand, even though no contract has been made publicly available, there are many more reports providing detailed evidence on the implementation of LSLA on the ground. This is why the following sections are based on the review of 14 reports from NGOs and research centres, both local and international[32], which provide detailed information on the impact of land acquisitions

[32] The referenced reports are: ActionAid, 2009; Chachage & Baha, 2010; German et al., 2011; Kabote et al., 2012; Kachika, 2010; Kamanga, 2008; Karumbidza, 2010; Lahr et al., 2016; LEAT, 2011; Mwami & Kamata, 2011; Songela & Maclean, 2008; Sulle & Nelson, 2009; The Oakland Institute, 2011; Witherow, 2014.

on rural communities, as well as academic sources[33], policy-related documents[34] and information provided by investors[35].

Part of the qualitative evidence for Tanzania was identified and collected during interviews that I conducted while on a research visit at the Institute of Development Studies (IDS) of the University of Dar es Salaam in March 2017. During my stay, I met with several researchers at IDS as well as with land rights experts from Hakiardhi,[36] a land rights research and resources institute, whose goal is to "promote and ensure the realization of the rights to land" (website) of rural communities in Tanzania. Besides referencing the sources that I collected during my stay in Dar es Salaam, in the present study I also reference directly the interviews with Prof. Niboye (IDS) and with experts from Hakiardhi.

4.3.2. Access to land

As the government's latest policies for agricultural development target village land to be leased to national and foreign large-scale investors (German et al., 2011; Kabote et al., 2012), Village Councils in Tanzania often carry out direct negotiations with the investors, and villagers become involved in new agricultural production projects. An element on which qualitative evidence abounds are the negotiations carried out between investors and villagers for the acquisition of land. These reports are central to understanding how LSLAs can affect rural households within the current regulatory framework. The main issues relating to the land access by rural populations following the arrival of land acquisitions in the area, are the lack of information of rural households and the power relations which seem to define most of the negotiations taking place (Kabote et al., 2012).

In many cases, rural populations lack bargaining power in comparison to investors, they do not have the same knowledge on the value of land and other natural resources and are not aware of the long-term consequences of the agreements. Even though there is a plan at the district level to inform people about their rights and the consequences of signing agreements with investors (Alden Wily,

[33] The referenced academic papers are: Arduino et al., 2012; T. a. Benjaminsen & Bryceson, 2012; Cotula et al., 2014; Locher, 2016; Locher & Sulle, 2013; Twomey et al., 2015.
[34] Policy-related sources are: Alden Wily, 2003; FAO, 2010; Mitchell, 2011; URT, 1999b, 2007, 2013.
[35] The main Investor source is: AgDevCo, 2016.
[36] www.hakiardhi.org

2003), it is still challenging for rural populations to absorb and process information on these issues because of the low level of education (Kabote et al., 2012). In recent years, local NGOs such as Hakiardhi have set up projects to train “land rights monitors” in villages involved in negotiations for land acquisitions with a specific focus on their land rights. The aim of these type of initiative is to bridge the information gap, allowing rural households to understand their rights as well as the consequences of land transfer negotiations.

The lack of knowledge of both the process and the consequences of the negotiations can lead to procedural violations, which can have severe long-term effects on land access for villagers (LEAT, 2011). In the case of The New Forest Company, the minutes of the Kidabaga Village Council’s meeting show that the exact amount of land transferred to the investor was not stated in the agreement (Chachage & Baha, 2010). As a fence was built around a much larger area than had been discussed, the villagers challenged the land transfer. Since the land had already been transformed from “village land” to “general land” the population was urged to agree on the compensation that was offered, which was eventually paid at the end of 2011 (Locher, 2016). Similarly, interviews conducted in the Rufiji District showed that villagers involved in negotiations for land acquisitions did not know how much land was being given to the investors and in the case of Arkadia no evidence is available on how the company secured the 25,000ha of land acquired (Sulle & Nelson, 2009).

The uncertainty connected to the amount of land being transferred affects both the villagers and the quality of the reports that analyse them. In the case of the BioShape investment, Chachage and Baha (2010) note how three different studies using similar sources on the land transfer provide different information about the amount of land acquired by the company: 34,000 hectares In Sulle and Nelson (2009), 34,736 hectares in Songela & Maclean (2008) and 37,000 hectares in FAO (2010). The lack of official information at the national level on the amount of land transferred represents an additional barrier to the LSLA monitoring by public authorities.

As legally required land use plans (URT, 2007) are rarely adopted by villages before the arrival of investors, LSLA often lead to the displacement of rural households (Kabote et al., 2012). In the case of AgriSol for example the plan for the creation of a large-scale industrial farm allegedly involved the relocation of 162,000 smallholder farmers (The Oakland Institute, 2011). Besides the displacement

of farmers, the increased pressure on land has led nomadic pastoralists to be increasingly subject to eviction from their seasonal pastures (Benjaminsen & Bryceson, 2012). Given their mobile nature, traditional pastoralists are not eligible for compensation, which puts them in an even more vulnerable situation, as land acquisitions in some areas limit their access to pastures and water sources which threatens the survival of the cattle (Kabote et al., 2012; Kachika, 2010).

4.3.3. Returns to land

The start of land acquisition processes involves a radical change in the way in which rural populations use their land. In Tanzania, programmes such as the outgrower schemes, which involves rural households using their land to produce crops that integrate the investor's production, tightly connect the returns to land of rural households to the ones of the land acquisition project.

The available reports on LSLAs in Tanzania often mention the organisation of outgrower schemes, where rural households are responsible for their own production of commercial crops which they then sell to the investor. This allows for the investors to be less constrained with the formal land acquisition agreement and allows for the direct involvement of rural populations in the production. We know that this was planned among others by CAMS Agri-energy Tanzania that acquired only 160ha of land but extended the production to additional 3840ha belonging to outgrowers; FELISA also acquired 5000ha for its own production and had an additional 5000ha cultivated by outgrowers using processing equipment; EcoDevelopment planned to dedicate 10000ha of land for outgrowers in several villages in the proximity of its investment (Locher & Sulle, 2013); and in the case of Korean Rural Community Cooperation half of the total land in the acquisition contract was planned to be cultivated by local smallholders in collaboration with the investors (The Oakland Institute, 2011, p. 33). A reported limitation of outgrower schemes is that they "deplete local capital" as farmers are at times not familiar with the crop that they have to cultivate and do not know how long or different the harvesting times can be, which leads them to make production commitment without all the necessary knowledge (ActionAid, 2009; Mitchell, 2011).

The proximity to, or involvement in, LSLA projects can provide smallholders with access to advanced agricultural production techniques which have the potential of benefitting their own returns. In the case of Agro-Forest Plantation Ltd for example people from seven different villages were trained to

cultivate sugarcane and in the case of Africa Biofuels and Emission Reduction Company (Tanzania-USA) the initial investment plan included the plan to train independent local farmers and to provide them with technical support (Locher & Sulle, 2013). Reports show that the choice of the crop to be cultivated by the investor can be subject to negotiation with the affected villages, to the point that in the case of Nava Bharat Africa Resources PVT Ltd the village rejected the company's proposal to cultivate sugarcane and the investor was forced to change plans (Locher & Sulle, 2013).

The arrival of investors is also connected to the commitment to develop or improve local infrastructure, such as schools, hospitals and importantly for the returns to land, roads and processing facilities which increase rural households' market access and competitiveness (Locher & Sulle, 2013; Mitchell, 2011; Songela & Maclean, 2008). Differently from size and compensations attached to the acquisition, which are included in a formal agreement and registered with the TIC, the services that investors promise to provide to populations affected by the investment are mostly lacking a written commitment and are often not implemented (Kabote et al., 2012; Sulle & Nelson, 2009). This is another consequence of the lack of negotiating power of villages involved in land acquisitions, which can potentially cause further insecurity for the livelihood of rural households.

Another factor shaping rural households' returns to land relates to the calculation of the compensation, which is a necessary step for the land to be acquired by the investor (URT, 1999b). The parameters used for the calculation should be the current value of the land as used by villagers, including trees planted and other improvements made, while in practice the compensation process seems to allow the investor to use broad discretionary powers to limit the scope and amount of the compensation. For example, the choice of moment of the year in which the calculation takes place can strongly affect the valuation, as compensation is only due for land that is used at the moment of the valuation. Some reports describe the compensation procedures as being carried out in non-transparent ways, relying on the villagers' lack of knowledge regarding the legal process (Kabote et al., 2012). This leads to trees being included in the valuation but not the land itself (Kabote et al., 2012; Kamanga, 2008; Sulle & Nelson, 2009), or to the alleged exclusion of most of the eligible households from receiving any form compensation (Kamanga, 2008). In other cases, it is not the investors' behaviour but the law itself that limits the amount of compensation due to rural households, affecting their economic returns. For example, the legal requirement for the compensation to match the current value of the land, which is not supposed to enrich or impoverish its recipient, exposes

villagers that live in extremely poor conditions to not being able to afford to start over somewhere else (The Oakland Institute, 2011). Compensation is also not due for land covered in forest from which villagers collect resources (URT, 1999b).

While monetary compensation is the most frequent type of compensation obtained by villages, in some cases rural households have been able to receive different types of guarantees. In the case of Kilombero Plantations Limited for example, after an old investor had left the area, the local population reoccupied the land and when the new investor arrived the villagers refused to leave until they were promised to receive a three-acre farm and a house each at the company's expenses (Mwami & Kamata, 2011). While in the case of Bagamoyo EcoEnergy Ltd, a 99-year lease and free access to the land where granted by the government which became, together with local communities, a 25% long term shareholder of the company (Locher & Sulle, 2013).

The way in which investors use natural resources is another factor that can deeply affect the returns to land by rural households. In some cases, reports show a positive effect of the arrival of investors on the use of resources, which can benefit rural populations. For example, in the case of Kilombero Valley Teak Company, the company underwent certification from the Forestry Stewardship Council and ISO 14001 (Jew et al., 2009), while Green Resources Ltd committed to use at least 10% of the revenues for community development and environmental protection (company's website). In 2000 the company's afforestation programme was certified by the Société Générale de Surveillance and sold the first options on carbon credits (company's website).

On the opposite side of the spectrum, reports describe a negative effect of the loss of natural resources involved in the land acquisitions, for rural populations' returns to land, in particular when it comes to soil and water pollution (Kabote et al., 2012). As mentioned, the environmental impact assessment is a necessary step for the approval of foreign LSLAs, but the system is not yet up to speed. The EIA for an agricultural project in the district of Bagamoyo by SEKAB BT was carried out by a Swedish consulting company and brought attention on the project in Sweden due to its potential environmental impact (Mitchell, 2011).

A recent report on the use of pesticides in Tanzania, specifically in the area of SAGCOT (Lahr et al., 2016), lists among the main findings the expected increase in the use of pesticides as a consequence of the expansion and intensification of agricultural production in the area. Even though

several investors have put measures in place to prevent the use of chemicals from negatively affecting villagers' health, wildlife and natural resources, the use of pesticides in the agricultural corridor still represents an environmental threat. The lack of knowledge by rural households and their reliance on ecosystem services exposes their health and their agricultural production to increased risks, among others when pesticides are released by plane, as it happened with Kilombero Plantations Limited, which led to chemicals spreading to land in proximity of the company's plots (Lahr et al., 2016). Reports of the devastating impact of water pollution on thousands of rural households in the region of Iringa have also surfaced (Arduino, Colombo, Ocampo, & Panzeri, 2012). The study by Lahr et al. (2016) finds that between 2004 and 2014 while the ratio of national crop production/land has remained constant, the amount of pesticides imported in Tanzania has quadrupled.

Similarly to the issues relating to property rights, it appears that while formal regulatory tools are in place to protect the environment and regulate the use of pesticides (URT, 2013) what is missing is effective monitoring by the authorities (Lahr et al., 2016), as well as access for smallholder farmers to information on both the regulations and the polluting effects of pesticides. Regarding water and land pollution Lahr et al. found that no large-scale monitoring of pesticide residues are in place in the SAGCOT corridor, still some foreign investors carry out water analyses because they abide by international standards (Lahr et al., 2016).

4.3.4. Returns to labour

One of the most attractive elements of LSLAs for rural households is the creation of labour opportunities. Several investors declare the intention to create jobs for rural communities (Locher & Sulle, 2013) which evidence shows to be more cost effective than buying products from smallholders through outgrower schemes (Witherow, 2014). Between permanent positions and seasonal jobs, LSLA have the potential to positively affect rural households by providing a new, reliable source of income (AgDevCo, 2016) especially among those sections of the population that lack land access. Evidence relating to the terms under which rural workers are hired, including working conditions and length of contracts shows how the opportunity is at times negatively affected by the lack of bargaining power of rural workers.

The seasonal character of most of the jobs created by LSLAs (Locher & Sulle, 2013), can generate income only during defined phases of the agricultural production cycle, providing "no pension or medical aid … (and) no possibility of unionising, which led a government official to call plantation workers little more than "modern day slaves in their own country" (Karumbidza 2010 in The Oakland Institute, 2011, p. 43). Similar to Ethiopia, I have also been informed of the preference of some investors for migrant workers, because of the increased control that the employer can exercise on the workers, with consequent exclusion of households that are directly affected by the acquisitions (Interview at Hakiardhi, March 2017).

The lack of guarantees in terms of length of the employment is also connected to the duration of the agricultural investments, as the abrupt interruption of the investment's activity in the case of Sun Biofuels led to laying off workers overnight (Locher & Sulle, 2013). By way of comparison, the Oakland Institute (2011) stresses that while outgrower schemes involve the communities directly, training them or building on their knowledge, when production is managed centrally by the investor there is a different, less inclusive relationship with communities, which at best are hired to work in the investor's fields for a few months a year. Reports of poor working conditions are also frequent[37], in relation to the low environmental standards seen in the previous section which have led to episodes of poisoning and intoxication for unskilled workers (Kabote et al., 2012; Lahr et al., 2016).

A study by Kabote et al (2012) looked at the access to labour opportunities created by LSLA differentiating among income groups within a village. They found that poorer villagers were more likely to access wage labour under poor working conditions than wealthier households, because of the lack of alternative opportunities. The remuneration was "inadequate to meet basic needs including housing, food and drinking water" and it worsened the wealth status of the majority of the villagers surveyed (Kabote et al., 2012, p. 62).

[37] 30 degree east/Sun Biofuels conflicts about compensation, salary above minimum wage but questionable working conditions (Theting and Brekke 2010);

4.3.5. Price of agricultural goods

The price of agricultural products purchased by rural households is defined by the three other indicators that I have analysed. When it comes to the choice of the crop to be cultivated, in Tanzania too investors are mainly interested in growing crops for national and foreign food markets, as well as for biofuel production and for the export of certified wood, while rural households mostly engage in self-subsistence farming. The arrival of investors leads to a shift towards a wage-labour economy, which means that instead of growing their own food, farmers cultivate commercial crops. A consequence of the change is that food and other utilities should become accessible to rural populations through the income-generating activities brought by LSLAs.

In the Southern Growth Corridor, one of the most targeted areas for LSLA in Tanzania, the issue of food access is possibly the most essential to be addressed with 30% to 50% of children malnourished and 50% of rural populations eating only two meals a day (URT, 2013). With most rural households depending on agricultural production, several villages have seen a drop in food crops that were once targeting local consumption, as households started using their land for the production of commercial crops as outgrower schemes offer new attractive opportunities of market access for rural households, or quit cultivating their own land to work for a wage (Chachage & Baha, 2010). Unfortunately it appears that working hours and wages are not able in practice to cover the new expenses that households are faced with (Twomey et al., 2015). Because of this, in areas that are vulnerable to droughts, such as the Kisarawe District, the success of outgrower schemes has been linked to an increase in food insecurity (Kabote et al., 2012).

With an estimated median age of 18.5, households are composed of many children depending on a limited adult workforce which is pressured to meet the needs of the entire family, including high need for education expenditure (Locher, 2016; URT, 2013). A striking testimony on this is provided by a head of household, employed as a guard seven days a week at the Eurovistas farm in Rufiji and earning 85000 Shillings per month, who says: “We can’t grow as much food as before now and before I used to sell 10 bags of rice per year at 10,000 shillings ($7) a bag and 5 bags of maize but now I sell nothing and the food I am able to buy with my salary is not satisfactory.” (Karumbidza, 2010 in The Oakland Institute, 2011, p. 43).

Studies conducted by international organisations promoting biofuel investments found that there was no trade-off between the production of food crops and the development of the biofuel sector, which should instead lead to widespread welfare gains for the rural households involved (FAO, 2010). Still qualitative evidence is available showing how the shift to outgrower schemes and wage work, combined with the loss of land due to the acquisition by investors, can increase both the variety and price of goods that households purchase for their own consumption. The variety of goods purchased increases as some of the natural resources that villagers would rely upon prior to the arrival of LSLA become scarce. In particular, cases of deforestation deprive villages of their access to ecosystem goods and wildlife, while the use of pesticides can compromise the use of water sources for drinking and fishing (Lahr et al., 2016; Twomey et al., 2015).

The rise in the price of agricultural products consumed by rural households, can be due to the fact that investments' production almost never targets the local market for distribution, reportedly leading to a paradoxical situation where rural households in proximity of LSLAs have to buy food from the city instead of vice-versa (The Oakland Institute, 2011). In 2010 the FAO argued that whether the rise in food prices is good or bad for rural households it generally depends on whether they are net-buyers or net-seller and after conducting an analysis based on two regions, concludes that it is possible that vulnerable households might be affected by the rise in food prices consequent to the pursue of biofuel production in Tanzania (FAO, 2010). The study does not include questions on how households participating in the biofuel production would be affected in terms of food access. It is important to remember that other factors are contributing to raising the price of agricultural products. Food prices have been rising in the past 15 years due to national and international supply and demand shocks, which have led the price of cassava and maize to increase by 50% in real terms between 2003 and 2008 and the global surge in biofuel production has been recognised as a factor contributing to this (FAO, 2010).

The majority of qualitative evidence on the impact of large-scale foreign land acquisitions in Tanzania describes the negative effects of the investor's arrival on the four development indicators identified to observe rural households' welfare. The role of the law, which formally protects village land and requires rural households' involvement in the process of negotiation of land acquisition, appears to be limited by the lack of information and unbalanced power relations at play in rural areas. The sustainability of large-scale investments is among the most critical elements on which qualitative

evidence is critical, from the use of natural resources to the working conditions. The fact that the duration of the deals does not appear to be connected to the type of agricultural plan that the investor intends to put in place shows that little attention is given the long-term evolution of rural production and its effect for local households (Cotula et al., 2014).

4.4. Conclusions of the fourth chapter

The first optimistic projections of major international organizations on the impact of large-scale foreign land acquisitions on rural development have been challenged over the years by a growing body of qualitative evidence. Case studies by academic researchers and NGOs have brought LSLAs to the forefront of the land and poverty debate. As the biggest recipient of land acquisitions, and the area with the highest potential for agricultural development, SSA is where theoretical predictions, legal analyses and field work have most often intersected.

Sharing the success in attracting foreign investors to their respective agricultural sectors, Ethiopia and Tanzania offer an interesting opportunity for the comparative analysis of their qualitative evidence. As they manage land tenure and acquisition deals in radically different ways, the expectation would be to find the differences in policy reflected in the way in which LSLA affect rural households. This expectation is met by several differences highlighted in the previous sections. Concerning the first indicator, access to land and other natural resources, in Ethiopia none of the 17 contracts involves other parties besides the investor and the Ministry, while in Tanzania several reports confirm that the legally-required consultations between villagers and investors take place and have at times important impacts on the investment plan. Similarly, the absence of any evidence concerning compensations in Ethiopia is met by compensation being paid in Tanzania for the transfer of village land to general land, even though with some limitations. From the available evidence, it also transpires that local farmers in Tanzania are often directly involved in the agricultural production of the investor, in the shape of outgrowing schemes, and appear to be more likely than Ethiopian farmers to benefit from knowledge and technology transfer. LSLAs in Tanzania also provide more detailed information on hiring expectations, which is something that is much harder to understand for Ethiopia, where it is only clear that investors have a preference for migrant workers.

While the impacts reflecting the different policy backgrounds in the two countries are numerous, there are also several elements of similarity in the way in which qualitative evidence describes land acquisitions' effect on the defined indicators of households' welfare. Both in Tanzania and Ethiopia, reports describe recurring cases of loss in access to land and natural resources. While in Ethiopia this is allegedly connected to villagization programmes, in Tanzania it is the power relations at play during negotiations, combined with lack of knowledge by villagers of the legal procedures that negatively impact their control over village resources. The evidence also suggests that the returns to land of rural households in both countries are negatively affected by the lack of monitoring by state or local authorities of the environmental impact that LSLA's agricultural production projects have. While the available evidence on the returns to labour is very different for the two countries, from my interview with a representative of Hakiardhi, a Tanzanian land rights NGO, it transpired that similarly to Ethiopia, here too there is at times a preference for migrant workers over locals. Finally, in both countries land acquisitions are connected to reports of increased food insecurity, which is mainly due to investors' focus on commercial crops which are destined for export, and to the decrease in access to natural resources which represent essential sources of nourishment for rural households.

Overall, even though in Tanzania there are more regulatory tools in place protecting the land rights of rural communities, the available qualitative evidence suggests that several barriers exist which do not allow for equal power relations among the actors involved, leading to similar negative effects to Ethiopia. In particular, the villagers' limited understanding of the legal process weakens their ability to negotiate deals to the point of threatening their participation in the process. Furthermore, the lack of monitoring by public authorities allows for violations to occur in the process of survey, valuation and compensation of the land. Finally, the limited capacity of local authorities leads to threats to the sustainable use of natural resources.

A lot can be learned from the available qualitative evidence on the subject of the impact of LSLA on rural households, as the myriad of field studies providing this type of evidence have fuelled the debate over the past 10 years. As multiple sources of information have raised similar issues in different contexts over the years, qualitative evidence has supported the identification of key issues that need to be tackled at the policy level, for rural households to benefit in any way from the arrival of foreign investors. Still, the source of some of the evidence being NGOs reports and not peer-

reviewed research, and the case-specific nature of most of the studies limit the scope of the observations that can be drawn from them. The next chapter complements the observations drawn from the study of the available qualitative evidence by providing new insights through quantitative analysis of data for both Ethiopia and Tanzania relating to the same four indicators defined in the second chapter.

5. Quantitative analysis

With Prof. Emma Aisbett

5.1. Introduction of the fifth chapter

In this chapter we continue the analysis of the impact of large scale land acquisitions on the defined key pathways of influence on rural households, this time relying on quantitative methodologies.

The review of the available qualitative evidence and the analysis of new sources provided a mostly critical picture of the impact of LSLA on rural households both in Ethiopia and Tanzania. In the conclusions, I highlighted the differences and similarities between the available evidence between the two countries. A major outcome of the analysis was the observation that the similarities and differences between the qualitative evidence of the two countries do not reflect the different regulatory context in which both land rights and foreign land acquisitions take place.

While a substantial body of qualitative evidence of the impacts of land acquisitions on rural populations has accumulated, data limitations have meant that quantitative evidence is scarce. The current paper seeks to provide such evidence for both Ethiopia and Tanzania through the econometric analysis of newly available household survey data. The World Bank's LSMS-ISA has been publishing in recent years a comprehensive survey on eight countries in SSA (including Ethiopia and Tanzania) covering a wide range of topics regarding rural life, communities and agricultural activities on a nationally-representative sample of thousands of households. The panel nature of the data available for both countries allows to use differencing to address biases which can be caused by household characteristics being correlated with the probability of LSLA exposure. In the case of Tanzania, using the three waves of the panel survey, we are able to distinguish effects in the first two years following LSLA from those in the second to fourth years. In this way we can distinguish some short-term, one-off effects (such as loss of land and payment of compensation therefore) from medium-term effects (on prices and behaviour and nutritional outcomes).

We ground our econometric analysis in the conceptual discussion of the linkages between large-scale land acquisitions and rural household welfare. The wide range of questions included in the LSMS-ISA survey allows us to identify a set of variables linked to each of the four pathways of influence defined in the second chapter. In particular, we consider the change in field areas owned or used by rural households and the ownership of any land title to understand the impact of LSLA on land access; we look at the change in land value in relation to the returns to land controlled or

used by farmers; information on agricultural work, non-agricultural family work and wage work provide insights on the effect of land acquisitions on labour access; and finally we look at the change in households' food expenditure and non-food expenditure to evaluate the impact of LSLAs on the price of agricultural products.

A growing number of studies has been published in recent years thanks to the growing availability of data. Recent studies have contributed quantitative evidence on the nature, magnitude and drivers of LSLAs in developing countries (Ali et al., 2015; Baumgartner, von Braun, Abebaw, & Müller, 2015). Several of these contributions note the need for more rigorous research on the effects of LSLAs at the household level.

Closer to our question, is the quantitative literature on the impact on household outcomes of participation in opportunities provided by LSLAs, including outgrower schemes. Our study complements these in a number of important ways. Firstly, we study the impact of foreign large-scale land *acquisitions.* As has been noted by Cotula et al (2014, p. 922) "(…) a common feature (…) is the limited progress with implementation of the deals. This situation (…) makes it significantly less likely that negative outcomes are offset by positive ones." Hence our study differs from those of Herrmann & Grote (2015a) and Herrmann (2017) in that we study the combined effects of the acquisition (with associated possible loss of land and perhaps compensation therefor) and the operation (with associated opportunities).

Secondly, the existing qualitative and quantitative literature compares outcomes within areas experiencing LSLA – either by comparing outcomes for participants and non-participants in LSLA opportunities, or by comparing changes over time. Our study compares changes over time in LSLA regions with those of comparable households in regions which did not experience substantial foreign LSLA during our study period. This difference-in-difference approach allows us to avoid biases arising from households self-selecting into participation, or from confusing general changes over time with changes caused by LSLA.

The next section will describe the data used in the quantitative analysis, specifically the Land Matrix databased and the LSMS-ISA household survey. Sections three and four illustrate the empirical approach and the results for Ethiopia and Tanzania respectively. Section five provides some observations on the results obtained for the two countries and concludes the chapter.

5.2. The dataset

The main data sources used in the present research are the Land Matrix database for information on large-scale land acquisitions by foreign investors and the LSMS-ISA for rural households' welfare. This section provides additional information on both datasets, as well as on the variables from each that are used in the analysis.

5.2.1. The Land Matrix

The Land Matrix is a global and independent land monitoring initiative, widely believed to be the richest and most transparent source of information on large-scale land acquisitions (Cotula et al., 2014). The database collects information on large-scale land acquisitions of over 200ha and is constantly updated using information from a variety of sources (Nolte et al., 2016)[38]. The dataset is, of course, limited by the public availability of land investment information, and the limitations of the data for quantitative analysis have been broadly discussed (Anseeuw et al., 2013; Edelman, 2013; Edelman et al., 2013; Scoones et al., 2013). In response to these criticisms the dataset has undergone several revisions, increasing the proportion of data points which are supported by multiple sources of information.

The Land Matrix collects information on large-scale land acquisitions of over 200 ha. For the purpose of the current research, the following information were collected on large scale land acquisitions in Ethiopia and Tanzania:

- Year of signature of the contract;
- Location of the land acquired;
- Size of land acquisition in hectares;
- Nationality of the acquirer (only acquisitions by non-nationals were retained)

[38] 29% of the information on land deals is based on media reports, 24% on company resources, 24% on research papers and policy reports, 11% on government sources, 7% on personal information, 3% on other sources and 3% on contracts.

Here again we find that the nature of information sources varies between Ethiopia and Tanzania. For Ethiopia, all the publicly-available contracts analysed in the previous chapters are part of the Land Matrix dataset, contributing to the reliability of the data (Cotula et al., 2014), while this is not possible for Tanzania.

Due to differences in data availability we also use different levels of specification for the two countries: in Ethiopia the geographic location is retained at the regional level, whereas for Tanzania it was possible to gather the information at the district level. This is a fundamental difference in the study of the two countries. Following the 2002 census of the National Bureau of Statistics of Tanzania, which is also referenced by the household data, the country is organised in 26 regions and 129 districts, each one administered by a district council. The population in each district varies greatly, from the highest-populated districts in the region of Dar es Salaam, with up to 1,700,000 habitants, to a district of 39,000 in Zanzibar.

Due to differences in the publication of LSMS-ISA survey data, the land deals considered are from different time periods for the two countries, depending on the range of years for which household data is available. This means that for Ethiopia we consider information on LSLA agreements that took place between 2011 and 2013, whereas for Tanzania, as an additional wave of household data is available, we include LSLA agreements from 2008 to 2012.

As the Land Matrix is a constantly-updated database, it is important to point out that the data on LSLA that we use in this study is reflective of the list of land acquisitions by foreign actors that was available in January 2016 for Ethiopia and in January 2017 for Tanzania. We excluded from our dataset the deals that had a “failed” or “cancelled” status, as well as the deals for which it was not possible to obtain information on the regional location (for Ethiopia) or district location (for Tanzania), as this information is essential for our analysis.

5.2.2. The LSMS-ISA

The Living Standard Measurement Study – Integrated Survey on Agriculture (LSMS-ISA) is a household survey project established with a grant from the Bill and Melinda Gates Foundation. The data collection is carried out by the national statistical agencies of the countries involved, while monitoring and final data publishing are done by the World Bank. The aim of the project is to collect

comparable data on rural development at the household level in eight countries in SSA: Burkina Faso, Ethiopia, Malawi, Mali, Niger, Nigeria, Tanzania and Uganda. The LSMS-ISA represents a growing effort aiming to improve public data access on rural development, with different waves of survey being published every year.

In Ethiopia, the LSMS-ISA survey was implemented by the Central Statistical Agency of Ethiopia and collected information on approximately 3,969 households in rural areas and small towns around the country. Only the data on the 3,466 households residing in rural areas were included in the dataset. The data on the 503 households living in small towns and on larger cities (which were only introduced for the second wave of the survey) were excluded. The survey was organized in two waves, the first taking place between late 2011 and early 2012 and the second between late 2013 and early 2014, so each household participated in the survey twice with a two-year break. We exploit the panel nature of the data in our econometric analysis. The short nature of the panel, however, means that our analysis will provide evidence of the short-term impacts of LSLAs only.

In Tanzania, the LSMS-ISA survey was carried out by the Tanzania National Bureau of Statistics. It collected information on 3,280 households, representative of seven identified “zones” of the country. The survey was organised in three “waves” so that each household was interviewed three times: 2008-2009, 2010-2011 and 2012-2013.

In both countries, the panel nature of the dataset is provided by household-specific codes, which ensure that the same household is interviewed through the years. In case of a household moving to a different location within the country, the survey enumerators are required to track the families down and conduct the interview at the new location. In case a household has split up since the previous interview, the enumerators interview the part of the new household where the head of the previous household lives (Central Statistical Agency of Ethiopia & The World Bank, 2015; National Bureau of Statistics & URT, 2011).

The LSMS-ISA survey was divided into five components: Household, Community, Post Planting, Post Harvesting and Livestock. The resulting dataset on both Ethiopia and Tanzania provides a huge number of potential measures of household wellbeing. From these, we select those which best represent the potential pathways via which large-scale land acquisitions may influence the

household's welfare as discussed in the previous chapters. The variables from the LSMS dataset are described below, grouped according to the pathways identified in the second chapter.

(1) Access to land and natural resources

- Area of fields: Field area (in hectares) owned and/or managed by the respondents was recorded using GPS by the enumerators conducting the survey. Based on the qualitative evidence in the fourth chapter, there are two possibilities for the impact of large-scale foreign land acquisitions on field area. The first is that the government rents predominantly unused land to foreigners, in which case we would see very little impact on rural households' land area. The second is that land which was previously used by rural households is rented to the foreign firms. In this case LSLA is associated with a decrease in land-holdings. On its own a decrease in land used by rural households cannot tell us the ultimate welfare impact of LSLAs, because we do not know the extent to which the households have been compensated for the decrease.

- Land title: Survey respondents were asked if they were in possession of a land title for each of the land parcels they owned or cultivated. The variable used is the total number of certificates held by the household. If foreign LSLAs were a driver of improved property rights at the regional level, we would expect to see an increase in the relative number of certificates in the regions experiencing the most LSLA. On the other hand, if LSLAs encouraged government elites to expropriate rural households' existing property rights, we would see a relative decrease in certificates in the regions most affected by LSLAs. As was the case for the area-of-land variable, the impact of a loss of certificates on the household's welfare depends on the amount of compensation which accompanied the transfer of property rights.

(2) Returns to land and natural resources

- Land value: Survey respondents were asked to evaluate for how much they would rent (Ethiopia) or sell (Tanzania) their land to others for a period of twelve months. Again the impact of LSLAs on the value of land controlled by rural households is unpredictable. All else equal, LSLAs increase scarcity in rents and provide complementary infrastructure, driving up rental rates. However, in the Ethiopian context, we have seen that LSLAs are granted by the government at very low rental rates. These low-rent LSLAs may crowd out investors who might have been willing to pay higher rental

rates to rural households, thus having a downward effect on rents received by the households. Furthermore, if households are displaced from prime land toward less productive land, their land value per acre will also fall. However, if LSLAs decrease the security of land tenure for rural households then it may lead to a decrease in the value at which they can sell the land.

- Debt: households were asked if they had borrowed on credit from someone outside the household or from an institution for business or farming purposes in the previous 12 months. In case they answered yes, they were asked how much they expected to pay in total, in order to pay off their loan. The theoretical predictions as to the impact of LSLAs on rural households' use of credit are, of course, ambiguous. Some theories predict that LSLAs lead to more formal property rights for smallholders and hence provide them with collateral which they can use to access previously unavailable sources of credit. Of course, if LSLAs make smallholder property rights over land less secure, the opposite could be expected. The other question is the extent to which debt should be viewed as positive (indicated better access to credit markets and ability to make productive investments) or as a negative outcome (indicating borrowing in desperation in order to maintain a minimum level of consumption for the household).

(3) Returns to labour supply

- Agricultural work (non-wage): Hours of work per week spent collectively by the household members in agricultural activities for the household (including livestock or fishing, whether for sale or for household food). In our context, the impact of LSLAs on this variable is ambiguous. Ceteris paribus, a fall in land area should lead to a decrease in the returns to agricultural labour. For profit-maximising households, this should translate into a decrease in the time devoted to agriculture for own production. However, for households trying to meet a minimum subsistence level of household production, the opposite may be true. On the other hand, if low-intensity herders with large areas of land become high-intensity crop farmers we might expect an increase in agricultural work hours associated with LSLAs. An increase in agricultural work hours might also result from a shift away from traditional food crops toward cultivation of more complicated and time-intensive export crops

- Non-agricultural work (non-wage): Hours of work per week spent collectively by the household members in unpaid non-agricultural activities for the household. We could observe an increase in hours here if land access is limited and households offset the decreased agricultural production or if

markets for non-agricultural goods and services improve as some community members gain disposable income. On the other hand, if LSLAs generate a substantial increase in wage work opportunities we might expect to see a fall in non-agricultural, non-wage work hours.

- Wage work: Hours per week spent collectively by the members of a household in work for a wage, which includes both agricultural and non-agricultural activities for an employer. One of the benefits which investors claim to provide to rural households is an increase in formal wage work opportunities. The extent to which this materialises is a subject of debate. Furthermore, there may be a decrease in wage work as relatively inefficient (and thus labour-demanding) small and medium-sized local farms are replaced with highly efficient and mechanised large farms.

(4) Price of agricultural products

- Food expenditure: was collected as the amount spent to purchase food consumed by the household in the previous week. An increase in food expenditure may indicate an increase in the price of food, as well as an increased dependence on purchased c.f. self-grown food. All else equal, either of these reasons for increased food expenditure would indicate lower welfare for the household. However, an increase in food expenditure may also occur due to an increase in household income. This, of course, would suggest increases in household welfare. In order to help distinguish the income driver from price and dependency drivers of increased food expenditure, we also study non-food expenditures and (only for Tanzania) food consumption.

- Non-food expenditure: Is the amount the household estimates it spent in the previous 12 months on non-food items. An increase in non-food expenditure may be a positive sign, indicating increased disposable household income or better access to markets and shops. Alternatively, an increase in non-food expenditure may be a negative sign, indicating an increased need to purchase goods and services previously provided by own production and local ecosystems, or the need to purchase to replace housing after displacement.

As mentioned in the section on the Land Matrix database, differences in data availability have led to some differences in the empirical analysis carried out for Ethiopia and Tanzania. These differences are also reflected in the choice of some additional variables that we have retained only for one of the two countries.

In the analysis on Ethiopia we included survey information on aid received: households were asked to estimate the value of assistance received over the last 12 months. We used the total of cash, food, and in-kind assistance. Government aid could be a form of partial compensation for losses experienced by rural households due to LSLA. Aid delivery may also be eased by villagization. We decided to include this variable because of the active national and international rural development programmes providing cash or food for hunger relief.

Because of the widespread payment of compensation for the transfer of land from villagers to investors, for Tanzania we focus more on the breakdown of food and non-food expenditure. Compensation payments and increased disposable household income should be evident in an increase in non-food expenditure. On the other hand expenditure may also be higher if the household needs to relocate and establish itself at a new location, or if materials previously available for free (wood, thatch, bamboo, drinking water) now need to be purchased. In order to try to disentangle these effects we study several additional expenditure variables. These variables all measure expenditures on items which are not likely to increase due to relocation costs or due to loss of ecosystem goods and services.

We study the impact of LSLAs on Tanzanian households' expenditure on: alcohol and tobacco, food consumed outside the home, communications, recreation, and education. An increase in expenditure on these groups of items would suggest an increase in disposable income. An increase in expenditure on education may also indicate an increase in educational opportunities and/or the perceived returns to education. Importantly, however, not all of the other expenditure categories necessarily lead to an increase in welfare. We may be particularly concerned that alcohol and tobacco expenditure may increase at the same time as nutrition decreases for women and children if loss of land for own food production is compensated with money which is controlled by a male head of household. For this reason we study actual food consumption.

We further examine the impact of LSLAs on the Tanzanian households' weekly consumption of: butter, lard and animal fats; cooking oils; salt; sugar; tea; beef; and meat. For all of these variables amounts given by respondents in alternative units were converted to their gram equivalent. The "meat" category is the sum of all types of meat (including goat, beef, chicken, and game), fish and eggs recorded in the survey. These food categories were chosen because they do not have

substitutes which have substantially different nutritional value per gram (unlike the numerous grains and starches). With the possible exception of tea, increases in consumption in these categories can be expected to correlate well with increased nutritional status. Changes in the consumption of the different goods can be expected to follow from changes in own production, changes in income, and changes in prices of the goods – all possibly associated with LSLA. Note in particular, one of the policy aims of the Tanzanian government in encouraging LSLAs is to increase market access and hence farm-gate prices for agricultural produce. Given the predominance of biofuel and oil-producing investments in the Tanzanian data, we would expect to see price increase effects most pronounced for cooking oil.

Based on existing literature on agricultural production in Ethiopia (Deressa & Hassan, 2009; Holden & Yohannes, 2002) we included the following control variables from the Ethiopian LSMS-ISA survey: size of the household; gender of the head of the household; whether the household's head has ever been to school; distance of the household from the nearest market; landscape-type/elevation (5 categories)[39]; and annual precipitation. The controls for Tanzania are Urban/rural households, whether the household's head has ever gone to school, household size, annual precipitation, elevation and terrain roughness.

5.3. Quantitative analysis for Ethiopia

5.3.1. General approach

Our research objective is to shed light on the impact of large scale foreign land acquisitions on the wellbeing of existing rural households in the area. In order to do this, we use a treatment effect methodology where households in Gambella and Benishangul-Gumuz are considered "treated" and others in other regions as "controls". Before detailing out treatment-effects methodology, it is worth

[39] Categories are: Plains, Mid-altitude Plains, High-altitude Plains, Low Plateaus, Mid-altitude Plateaus, Mid-altitude Mountains.

considering exactly what treatment means in our case, and consequently what our approach captures.

One could argue that the appropriate way to test the impact of LSLAs on households is to compare outcomes for households which have lost or sold their land to such an acquisition, with households which have not. One problem with this approach is that it would miss the potentially positive effects of the LSLA on nearby households which, for example, participate in newly-available outgrower schemes[40]. A somewhat broader approach could capture both of these effects by comparing outcomes for households nearby LSLAs to those further away. The question, of course, is where the boundary between "nearby" and "further away" should be drawn.

If the boundary delineating "treated" and "control" households is drawn too tightly, we risk missing the impacts of LSLAs on endogenous property rights – so central to both the law and economics approach and enclosure models. Thus the smallest boundary which could capture all of these effects, is the smallest unit over which control of property rights evolution varies. Since 1997 this unit in Ethiopia is the regional state (see the third chapter for detailed discussion of the relevant institutional evolution in Ethiopia).

Of course, a large number of other factors also vary at the state level. Our empirical approach, discussed below, will attempt to purge our estimates of the influence of other factors. It will not, however, be able to eliminate the influence of factors which vary by regional state, coincidently with the variation in foreign LSLAs. Most importantly, we will not be able to remove from our estimate the effects of ongoing villagization and related government programmes in Gambella and Benishangul-Gumuz over the study period. The extent to which this limitation is damning depends on the extent to which one believes these government policies are causally related to foreign large-scale land investments.

[40] See R. T. Herrmann, 2017 for a study of these benefits.

5.3.2. Summary statistics

Summary statistics for all the variables are tabulated by year (2011 or 2013) in the Appendix 1. Statistics are additionally separated for Gambella and Benishangul-Gumuz as these regions are our primary "treatment" areas for the large-scale foreign land acquisitions discussed below. The data includes 96 households in Gambella and 108 in Benishangul-Gumuz which were in both waves of the survey. The control group consists of around 1800 rural households from elsewhere in Ethiopia. While around 100 households per treatment group is sufficient to calculate sample average treatment effects (SATEs), the power is limited, biasing away from finding statistically significant effects. Furthermore, as noted by the World Bank, the sample is not sufficient to calculate population average treatment effects (PATEs) for Gambella or Benishangul-Gumuz.

The summary statistics in the Appendix show that rural households in our treatment areas are generally similar to their counterparts elsewhere in the country. The main differences are that the treatment areas have substantially less land-title certificates and lower land value, despite enjoying somewhat higher average rainfall and lower distance to market. This combination of characteristics undoubtedly contributes to their recent popularity among large-scale foreign land investors.

5.3.3. Econometric Methodology

The fundamental challenge when trying to identify the impacts of any treatment is to separate out the effects of the treatment, from those of confounding variables which both affect the probability of treatment and the outcome itself. For example, any analysis of the impact of LSLAs on the property rights of rural households, must account for the fact that LSLAs may be more likely where property rights are already weak. The summary statistics Table 19 and Table 20 in Appendix 1 (below at 171) suggest that our two treatment regions do differ from the average of other parts of Ethiopia on some potentially important determinants of both household wellbeing and LSLAs. Thankfully, the panel nature of the LSMS-ISA data allows us to use a difference in differences (diff-in-diff) methodology to address such bias.

The standard treatment-effects model with the assumption of constant treatment effect, τ, across individuals leads to a model for the realised outcome (Athey & Imbens, 2006)

$$Y_i = \alpha + \beta T_i + \gamma G_i + \tau I_i + e_i \quad \text{Equation 1}$$

where T_i is a dummy variable representing the time period (before or after treatment), G_i represented the group indicator (treatment or control), I_i indicates treatment (i.e. $G_i * T_i$) and e_i is the individual-specific error. Under this model we can obtain unbiased estimates of the sample average treatment effect on the treated from estimating:

$$\Delta Y_i = \beta + \tau \Delta I_i + \Delta e_i \quad \text{Equation 2}$$

This is the basic diff-in-diff approach. One advantage of the diff-in-diff approach is that if equation 1 represents the true data generating process, unbiased estimates of τ can be obtained even if there are unobservable factors which affect both the outcome and the probability of being treated. For example, LSLA might be more likely in states where households are poorer, less educated and less politically enfranchised. For this reason, all of our estimates make use of the diff-in-diff approach and involve the estimation of a specification like equation 2[41].

Despite the strengths of the diff-in-diff approach, if the true data generating process is different from equation 1, the estimated treatment effects can be biased. We undertake a number of strategies to reduce such potential bias. To begin with variables which are close to log-normally distributed (food and non-food expenditures, land area, land value) we examine the changes both in levels and in logarithms[42]. Other variables (working hours in agricultural, non-agricultural household activities, and wage work, number of certificates) show a large proportion of zero observations. For these variables we examine both the changes in levels and a binary indicator of whether the value decreased between survey waves.

These different transformations of the dependent variable correspond to different modelling assumptions. Of particular note, the log specification assumes that the treatment and time effects are all proportional rather than linear. It is also worth remembering that the log specification and the binary specification place progressively more weight on households with low values of the dependent

[41] Note that biases can arise in diff-in-diff estimates due to serial correlation of error terms. This is not a problem in our case as we have only two time periods.

[42] We add 0.001 to any zero observations before taking logs.

variable compared to the level specification. Comparing the different dependent variables therefore gives an indirect means of assessing the distributional impacts of LSLAs.

Our second strategy to avoid potential biases due to the misspecification of equation 1 is to exclude from the analysis any households which are either urban, or located in a different landscape/elevation category to any of the households in the treatment areas[43]. It seems plausible that the determinants of household wellbeing differ in fundamental ways for rural versus urban households or households in different landscape/elevation categories. Results from this basic diff-in-diff design are reported in columns 1 and 2 of Table 5 and Table 6.

Despite the advantages of the diff-in-diff approach in addressing bias due to features of the treatment area that affect not only the probability of treatment and level of the outcome variables, we may still be concerned about bias arising from characteristics that affect both probability of treatment and *changes* in outcome variables. For example, trends in titling may differ between areas where land title was already mostly formalized, and those where it was almost non-existent. Similarly, global agricultural price changes might mean that land value is increasing in exactly the same climatic areas in which foreign large-scale investments are most likely. We address these potential sources of bias by using coarsened exact matching (CEM) to produce a balanced dataset of treated and non-treated households.

CEM matches cases and controls by generating strata from the intersection of a set of observable characteristics. In order to ensure that there are sufficient matches between cases and controls, continuous variables are coarsened into bins, much like in the construction of a histogram. Within each strata are treated and control observations which share the same bin for all of the different (possibly coarsened) variables. The algorithm then calculates weights to be applied to each strata on the basis of the number of treatment and control observations it contains. Regressions using these weights simulate regressions on a dataset which is balanced in terms of the characteristics of the treatment and control groups.

[43] This results in the exclusion of households in the four (of ten) landscape/elevation categories which are not represented in the treatment areas.

A major advantage of CEM is that it is non-parametric, and thus robust to arbitrary functional form and interactions between the effects of the confounding variables. As a result, CEM is free of modeller or misspecification biases which plague popular parametric methods such as propensity score matching (King & Nielsen, 2015).

We conduct the matching separately for Gambella and Benishangul-Gumuz (and in each case exclude the other "treatment" region). We define the matching strata on the basis of household size in 2011 (number of people), a binary indicator of whether the household head has had any schooling up until 2011, a binary indicator of whether the household possessed any land title certificate in 2011, and - following the literature on the determinants of agricultural profitability in Ethiopia (Deressa & Hassan, 2009; Holden & Yohannes, 2002) - average rainfall (high or low) and terrain (plains, high-altitude plains, low plateaus, mid-altitude plateaus, and mid-altitude mountains). Of these, rainfall was the only variable which was continuous in the original data and thus required coarsening. We used the coarsened exact matching algorithm of Iacus, King & Porro (2012) to choose the cut points for high and low rainfall categories. The combination of diff-in-diff and CEM weights makes our base estimates (reported in columns 3 and 4 of Table 5 and Table 6) doubly robust.

The price paid for CEMs ability to avoid specification biases is potential loss of identifying observations. CEM's requirement that treatment and control observations are alike across all relevant dimensions can render the number of identifying observations too few for certain applications. This issue is less of a concern in our case since we have a large number of control observations relative to treated observations, making (coarsened) exact matches for the treated households more likely[44]. None-the-less, a desire to avoid excluding too many treated observations from the estimation motivated our choice to only use binary rainfall categories, and to exclude the distance from household to market from the list of matching variables.

Our final robustness checks add controls for rainfall and distance to market to the CEM diff-in-diff regressions. This approach balances the importance of these variables for agricultural profitability

[44] Like diff-in-diff, CEM allows estimation of the sample average treatment effect (SATT).

against the need to maintain sample size, while still avoiding the specification-bias risks of parametric matching methods. These results are reported in columns 5 and 6 of Table 5 and Table 6.

5.3.4. Results

5.3.4.1. Results for Gambella

We consider first the results which compare changes in outcomes in Gambella over this observation period with corresponding changes in all regions other than Benishangul-Gumuz. Table 5 summarizes these results. Columns 1 & 2 report results from the basic diff-in-diff specification, columns 3 & 4 those from the diff-in-diff plus coarsened exact matching (CEM) and columns 5 & 6 from diff-in-diff plus CEM and additional regression controls (triple robust). Columns 1, 3 & 5 in Table 5 report results where the dependent variable was the change in the level of the original variable collected by the survey (e.g. hectares of agricultural land, hours of agricultural work per week). In the top panel of the table, columns 2, 4 & 6 report results where the dependent variable is the change in the log of the original variable. In the bottom panel of the table, these columns report results of logit regressions where the dependent variable is the probability that that value of the variable decreased between the two survey waves.

The results in Table 5 paint a mixed picture of the fortunes of rural households in Gambella compared to those in other states in our time period. The diff-in-diff results in columns 1 & 2 suggest an economically and statistically significantly greater reduction in field area in Gambella than in other regions. This statistical significance is not robust to the further controls in columns 3-6, though the estimated magnitude of the effect remains substantial – around 30% according to column 6.

On the positive side there is good evidence of an increase in household expenditure and fall in household debt levels, which seem to have been driven by an increase in both non-agricultural, non-wage work and formal assistance/aid. Though we cannot identify the causal mechanisms at play, these results are consistent with villagization leading to an increased marketization of the rural economy and easier aid distribution.

Table 5 Results for Gambella

	(1)	(2)	(3)	(4)	(5)	(6)
	Basic Diff-in-Diff		Diff-in-Diff with CEM		Triple-Robust	
	Level	Log	Level	Log	Level	Log
Field Area	-0.0281*	-0.339**	-0.0162	-0.142	-0.0163	-0.249
	(0.0167)	(0.153)	(0.0230)	(0.203)	(0.0153)	(0.161)
Land Unit Value	-418.7	0.250	1216.3	0.942*	-412.7	0.306
	(1456.2)	(0.291)	(1845.1)	(0.480)	(2433.8)	(0.435)
Non-food Expenditure	1104.9***	0.108	915.4**	-0.208	1150.8***	0.209
	(411.0)	(0.268)	(459.8)	(0.386)	(439.9)	(0.366)
Food Expenditure	23.29	0.0799	79.67	0.234	75.42	0.138
	(31.08)	(0.343)	(48.93)	(0.393)	(63.25)	(0.396)
	(1)	(2)	(3)	(4)	(5)	(6)
	Basic Diff-in-Diff		Diff-in-Diff with CEM		Triple-Robust	
	Level	Decrease	Level	Decrease	Level	Decrease
HH agric. work	1.896	-0.0164	-13.70**	0.260	-2.108	-0.0207
	(4.548)	(0.207)	(6.846)	(0.279)	(5.833)	(0.283)
HH non-ag. work	7.274***	-0.658***	1.036	-0.304	5.308	-0.857**
	(2.716)	(0.251)	(4.044)	(0.330)	(3.692)	(0.338)
HH wage work	1.503	0.620	1.336	0.241	1.246	0.811
	(2.044)	(0.446)	(3.097)	(0.581)	(2.560)	(0.627)
Field certificates	0.00820	-1.960*	0.157	0.409	-0.283	-0.414
	(0.158)	(1.011)	(0.174)	(1.100)	(0.191)	(1.042)
HH credit	-387.0***	-0.219	-275.5	0.429	-318.3*	-0.542
	(146.2)	(0.328)	(174.4)	(0.406)	(182.8)	(0.376)
Aid Received	273.7**	-0.213	-2.851	-0.995**	465.5***	0.180
	(127.2)	(0.342)	(184.2)	(0.462)	(134.7)	(0.461)

Consistent with the relatively weak impact observed for field area, we do not find significant results for many of the other measures which theory suggests should be affected by LSLAs, including agricultural work hours, wage work hours, and land-title (field) certificates.

5.3.4.2. Results for Benishangul-Gumuz

Table 6 presents the results comparing outcomes in Benishangul-Gumuz to those in all regions other than Gambella[45]. The results presented are consistent with a stronger influence of LSLAs on the lives of rural households over the study period than we found for Gambella. To begin with, the losses

[45] For an explanation of the structure of the table please refer to the discussion of Table 5 under subheading 3.4.1.

in field area remain statistically significant at the 5% level across columns 1-6, with the estimated magnitude of the land loss consistently around 30% or greater (based on the log specifications). Land value (per unit) also shows consistent strong declines in the levels specifications, though not in logs.

Results consistent with LSLAs are also evident in the household labour allocations. Our preferred specifications in columns 3-6 all suggest a fall in time spent working on the household's own private agricultural output, and an increase in wage labour hours. In strong contrast to Gambella, non-agricultural, non-wage work hours were also significantly more likely to fall in Benishangul-Gumuz than in other regions.

Table 6 Results for Benishangul-Gumuz

	(1)	(2)	(3)	(4)	(5)	(6)
	Basic Diff-in-Diff		Diff-in-Diff with CEM		Triple-Robust	
	Level	Log	Level	Log	Level	Log
Field Area	-0.0716***	-0.255**	-0.0702***	-0.419***	-0.0582**	-0.284**
	(0.0263)	(0.120)	(0.0224)	(0.134)	(0.0228)	(0.132)
Land Unit Value	-2966.7***	-0.632	-3967.4***	-0.481	-4110.6**	-0.100
	(1117.3)	(0.407)	(1035.3)	(0.509)	(1854.7)	(0.559)
Non-food	615.4**	0.160	685.2**	0.440	667.3*	-0.00151
Expenditure	(298.4)	(0.165)	(326.5)	(0.272)	(346.5)	(0.317)
Food Expenditure	69.65***	0.0376	155.0**	0.201	-9.548	-0.260
	(23.01)	(0.198)	(70.97)	(0.281)	(27.94)	(0.368)
	(1)	(2)	(3)	(4)	(5)	(6)
	Basic Diff-in-Diff		Diff-in-Diff with CEM		Triple-Robust	
	Level	Decrease	Level	Decrease	Level	Decrease
HH agric. work	-3.427	0.301	-11.01*	0.496**	-2.555	0.461*
	(4.989)	(0.189)	(5.734)	(0.221)	(5.627)	(0.243)
HH non-ag. work	0.889	0.588***	-4.345	0.645***	0.344	0.746***
	(2.467)	(0.191)	(3.203)	(0.222)	(3.729)	(0.254)
HH wage work[a]	2.851*	0	1.776	0	2.851*	0
	(1.497)	(.)	(1.862)	(.)	(1.622)	(.)
Field certificates	-0.417***	-1.462**	-0.527***	1.570*	-0.839***	1.997*
	(0.0932)	(0.719)	(0.107)	(0.841)	(0.179)	(1.071)
HH credit	-19.57	-0.340	45.47	-0.273	95.53	-0.707*
	(153.8)	(0.324)	(176.9)	(0.362)	(221.2)	(0.402)
Aid Received	32.96	-1.831***	-64.28	-1.896***	-49.30*	0.0820
	(35.04)	(0.589)	(57.04)	(0.610)	(29.76)	(0.580)

[a] This effect was not able to be estimated since only one HH in Benishangul-Gumuz reported any wage work in 2011. In 2013 12 HH in the area reported some wage work.

Finally, there is some weak evidence of increases in expenditure on both food and non-food items. These increases are only evident in the levels specifications, suggesting the effect is constrained to households with relatively high expenditures. We cannot say whether these increases reflect increased purchasing power due to wage incomes or forced expenditures due to loss of access to land and natural resources.

5.3.4.3. Discussion of differences by treatment area

Given that Gambella consistently out-ranks Benishangul-Gumuz in terms of total number and area of large-scale foreign land acquisitions, it may come as a surprise that we find strong effects of such in Benishangul-Gumuz. Our findings make sense, however, if one bears in mind that we are considering the influence of foreign LSLA occurring between 2011-2013. While Gambella's almost total of 430,000ha of LSLAs since 2000 in the Land Matrix is far greater than Benishangul-Gumuz' 85,000ha, since 2011 Gambella has only 14,000ha and Benishangul-Gumuz 20,000ha. Hence, relative to other recent years, our study period was one of relatively low LSLA activity in Gambella but not in Benishangul-Gumuz. One possible interpretation of our results, therefore, is that those for Benishangul-Gumuz represent the immediate, short-term effects of foreign LSLAs, while those for Gambella are more representative of medium-term outcomes. We cannot rule out, however, that the different outcomes in the two areas are due to differences in environmental, cultural or institutional factors.

5.4. Quantitative analysis for Tanzania

5.4.1. Summary statistics

We turn now to the analysis for Tanzania. Summary statistics for all dependent and control variables are provided in Appendix 2 (below at 177). Mean, max, min and count are provided separately for households in districts which received LSLA during 2008-2011 or not. Households in districts

receiving LSLA prior to 2008 are excluded from our analysis. For the dependent variables, summary statistics are also reported separately by year (2008 and 2012).

Several points worth mentioning arise from examining these summary statistics. Firstly, in Table 25 we see that there are differences between treated and control groups in terms of the control variables, hence our econometric approach will need to ensure our treatment effect estimates are not biased by these underlying differences.

Secondly, Table 26 and Table 27 show how extremely rare outgrowing participation is. Indeed, no household in the treated group participated in an outgrower scheme in either 2008 or 2012. Meanwhile participation in outgrower schemes in the control group rose from 0.9% in 2008 to 1.8% in 2012. Hence we find no evidence that LSLAs encourage participation in outgrower schemes.

Thirdly, Table 28 and Table 29 show how extremely rare formal land rights and credit are. Again this is particularly true in the treatment areas. No households in districts receiving LSLA reported having a formal land right of any sort either in 2008 or 2012. In 2008 4.8% of households in the treatment group reported any value at which they thought they could sell their land, by 2012 no households in the treatment group reported such. Falls in the proportion of households reporting land rights or land sale values were also evident between 2008 and 2012 in the control group. Overall, positive outcomes are so rare in both groups that it is not possible to undertake further econometric analysis of the link between LSLA and changes in the outcomes. The proportion of households who had taken borrowed money in the previous 12 months, meanwhile, rose in both treatment and control groups. Furthermore, this rise was stronger in the treatment group. This variable we are able to analyse formally and is discussed further in the results section.

5.4.2. Econometric methodology

For the empirical analysis of the impact of LSLA on key development pathways of rural households in Tanzania, we use the same diff-in-diff approach as described in section 3.3, involving the same estimation of a specification described in equation 2 (above at 128).

Despite the availability of a third wave of household survey for Tanzania, we avoid the well-documented biases which can be caused by serial correlation in the Δe_i, by always basing our

estimates on comparison across two time periods only. Our base estimates compare 2008 to 2012 and the treatment group is defined as districts which received LSLA during 2008-2011. The control group in our base estimates is districts which did not receive any LSLA prior to 2012.

In separate estimates, we also consider changes over the time period 2010-2012. This later and shorter period will miss some of the initial effects of LSLAs which occurred in the period 2008-2009. Such initial effects include possible relocation and up-front compensation payments. One motivation for separately analysing changes 2010-2012 is that it allows us to separate medium-term effects from these initial effects.

Here too we undertake a number of strategies to reduce the potential bias of the estimated treatment effect, in case the true data generating process is different from equation 1. To begin with, we consider three different measures for each of the dependent variables: levels, logs[46], and a binary indicator of whether the value increased (compared to decreased) in the observation period[47]. As described for Ethiopia, these three different forms of the dependent variable correspond to three different modelling assumptions. Results for all three sets analyses based on the basic diff-in-diff design are reported in Appendix B. These are not base results, however.

Our second defence against misspecification of equation 1 is coarsened exact matching (CEM) as described in section 3.3. CEM is particularly appropriate in our case since we have a large number of control observations relative to treated observations, making (coarsened) exact matches for the treated households more likely[48]. The variables we use for the matching are: rural/urban, household size (numbers as categories), whether the head of household has ever been to school (binary), soil type category, elevation (high or low land), rainfall (high or low), and whether the household possessed formal land rights in 2008 (binary). The only variables which required coarsening were elevation and rainfall, which were both available as continuous variables. We used again the coarsened exact matching algorithm of Iacus, King & Porro (2012) to choose the cut points for high

[46] To be precise log of (y_i+0.001).

[47] We exclude households for which the dependent variable did not change. This includes many households, especially for the variables for which most households record zeros.

[48] Like diff-in-diff, CEM allows estimation of the sample average treatment effect (SATT).

and low categories for both variables. The combination of diff-in-diff and CEM weights makes our base estimates (reported in Table 7 to Table 9) doubly robust.

We also undertake additional robustness checks. One remaining potential source of bias is unobserved heterogeneity which increases the likelihood of treatment but whose influence does not conform to the model in equation 1. To further reduce such potential bias, Table 10 to Table 12 report estimates in which the control group is restricted to districts which also receive LSLA, but only after 2011. Thus treatment and control groups should be similar in terms of unobservables which affect the probability of ever receiving LSLA.

A final robustness check adds control variables to the diff-in-diff regression. For the base case these controls are merely the continuous variables elevation and rainfall. Their addition to the specification reduces the risk that important information was lost in coarsening to create the CEM strata. In the estimates for the time period 2010-2012 we are also able to add the 2008 value of the dependent variable to the regression. These estimates are therefore robust to the possibility that the initial value of the dependent variable influences both the probability of treatment and its own future values. Estimates for the period 2010-2012, with and without the extra regression controls are reported in Table 16 to Table 18.

At this stage we have not addressed potential bias from non-random attrition from the panel. We will address this in future drafts.

5.4.3. Results

5.4.3.1. Results: base regressions

Table 7 to Table 9 report the results of our base regressions for three sets of dependent variables. Table 7 contains estimated treatment effects (SATTs) for dependent variables which relate to the use by the household of productive inputs: labour hours worked (in wage work, non-agricultural work for the household, and agricultural work for the household); and field owned or cultivated.

Table 8 reports estimates for dependent variables related to household expenditure: weekly food expenditure and annual non-food expenditure are mutually exclusive measures. The remaining

measures are sub-categories of one of these: alcohol and tobacco, food consumed outside the home, communications, recreation, and education. These sub-categories were chosen because they represent non-essential items and an increase in expenditure on these items may be indicative of higher spending power for the households.

Table 9 reports estimates for dependent variables which are measures of actual food consumption in gram equivalents. The foods in the tables were chosen because there are important foods with relatively few nutritional substitutes.

Table 7 shows statistically significant fall in field area measured in levels, as well as a statistically significantly higher probability of treated households experiencing a decrease in field area over the observation period. These results are reassuring since the most direct impact we expect from LSLAs to increase competition for farmland in affected areas.

Table 7 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012. Land and labour

	Level	Log	Decrease
Wage Work	-3.023	0.0723	-0.0302
	(4.849)	(0.691)	(0.217)
Non-Agricultural Work	1.911	-0.0555	-0.00892
	(5.329)	(0.412)	(0.0177)
Agricultural Work	-0.196	0.931	-0.0812
	(6.616)	(0.585)	(0.146)
Field Area (hectares)	-0.582*	-0.531	0.534*
	(0.306)	(0.498)	(0.316)

To understand the magnitude of the effects observed, we begin with the coefficient from the binomial regression in column 3. Exponentiating this coefficient gives the relative risk of a decrease in field area for treated households e^0.534=1.71, hence, households in areas which received LSLAs were around 70% more likely to experience a decrease in field area than they otherwise would have been. The magnitude of the coefficients on the log of field area (column 2) suggest that on average the field area per household in treated districts is about 60% of what it would have been in the absence of LSLA. Finally, the magnitude of the coefficient in column 1 suggests field area is on average 0.58 HA less as a result of LSLA in the district. None of the work-hours variables are consistent in sign or statistically significant in this specification.

Turning now to the results for the expenditure variables in Table 8, we see statistically significant increases in the level and log of annual non-food expenditure and log education expenditure. Treated households are also significantly less likely to have decreased their expenditure on either education or alcohol and tobacco. Overall, the expenditure results paint a positive picture. There were no significant falls in expenditure for any category, and some categories saw significant increases. These increases suggest an increase in spending power. We cannot tell from these estimates, however, whether this was a one-off increase due to compensation payments for land or whether the treated households enjoy a sustained increase in income. We revisit this point in the discussion of Table 14.

It is also worth noting that the magnitude of the estimated treatment effect for the log of the dependent variable is often large. This is simply a function of the very low (or even zero) initial values of these variables.

Table 8 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012. Expenditure variables

	Level	Log	Decrease
Food Expenditure	-684.1	-0.189	0.175
	(2011.0)	(0.382)	(0.145)
Non-Food Expenditure	14650.8*	2.037*	-0.433
	(8743.1)	(1.200)	(0.369)
Alcohol/Tobacco	21739.1	1.563	-0.308*
	(42060.4)	(1.348)	(0.178)
Food OUT	-111544.7	0.967	0.0141
	(110948.9)	(1.626)	(0.175)
Communication	-19206.3	-0.530	0.103
	(32124.0)	(1.249)	(0.223)
Recreation	462.7	0.0130	-0.425
	(1021.2)	(0.471)	(0.895)
Education	-83518.2	2.467*	-0.349**
	(86859.5)	(1.408)	(0.165)

While increases in expenditure are a positive change all else equal, we may be concerned that compensation payments have been used to buy non-essential items (particularly those preferred by male heads of household) rather than to purchase food to offset the loss of land. Ultimately, the wellbeing of women and children in the households is much better reflected by food consumption. This is the question to which we turn in Table 9.

Table 9 shows significant falls in the consumption of tea and cooking oil. The fall in cooking oil consumption is substantial and only in small part offset by an increase in consumption of butter, lard and other fats. The fall in consumption of cooking oil could be due to a rise in the local price in LSLA areas. Such a rise would be consistent with the hypothesis that LSLAs bring supply chain infrastructure with them which can increase the price at which local producers can sell their products. Over a third of the LSLAs in the Land Matrix are crops from which biodiesel can be produced, and many of those investments explicitly mention biodiesel or biofuel production as their objective.

Table 9 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012. Food Consumption

	Level	Log	Decrease
Butter and fats (gr)	27.21*	0.462	-0.341
	(15.39)	(0.420)	(0.494)
Cooking oils (gr)	-744.6	-3.438***	0.239
	(526.4)	(1.299)	(0.165)
Salt (gr)	2.285	-0.208	-0.0741
	(24.55)	(0.520)	(0.123)
Sugar (gr)	-86.37	-0.768	0.0508
	(95.74)	(0.960)	(0.141)
Tea (gr)	-14.65*	-0.676	0.134
	(8.656)	(0.539)	(0.124)
Beef (gr)	-6.307	-0.263	0.112
	(68.92)	(0.729)	(0.139)
Meat and eggs (gr)	24.08	-1.563	0.0469
	(117.2)	(1.053)	(0.125)

The fall in tea consumption seems unlikely to be driven by the same effect, since none of the investments in the Land Matrix for Tanzania mention tea production. It seems more likely that supply of tea is falling as land on which it was previously grown is used for higher-value crops, though we cannot identify the exact causal mechanism at this stage.

5.4.3.2. Results: robustness checks

Table 10 to Table 12 present our first set of robustness checks. Here we have restricted the control group to districts which will receive LSLA in the future (after our observation period). Making this restriction decreases/alleviates the potential issue of there being unobserved characteristics of

districts which make them more likely to receive LSLA and which affect the outcome in a way not eliminated by the diff-in-diff specification.

Table 10 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. LSLA after 2012. Land and labour

	Level	Log	Decrease
Wage Work	0.856	0.221	-0.0503
	(4.760)	(0.767)	(0.239)
Non-Agricultural Work	1.276	-0.113	0.00164
	(5.582)	(0.352)	(0.0137)
Agricultural Work	4.417	1.750***	-0.182
	(8.260)	(0.617)	(0.158)
Field Area (hectares)	-0.879**	-0.587	0.387
	(0.389)	(0.564)	(0.356)

Table 10 shows that the decrease in field area associated with LSLA is robust to comparing only with districts that will receive LSLA in the following period. Indeed the magnitude of the effect on the level of field area increases in this specification. Furthermore, there is now a statistically significant increase in log agricultural work hours.

Table 11 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. LSLA after 2012. Expenditure variables

	Level	Log	Decrease
Food Expenditure	-495.2	0.138	0.169
	(2107.5)	(0.426)	(0.168)
Non-Food Expenditure	15399.7*	1.793	-0.445
	(9254.5)	(1.426)	(0.412)
Alcohol/Tobacco	22612.3	2.565*	-0.396**
	(44035.9)	(1.506)	(0.179)
Food OUT	-145996.2	-0.215	0.122
	(118974.4)	(1.851)	(0.193)
Communication	-17398.8	-1.479	0.253
	(33294.2)	(1.375)	(0.242)
Recreation	547.8	-0.222	-0.267
	(872.6)	(0.518)	(0.908)
Education	-109099.9	1.735	-0.219
	(92480.6)	(1.515)	(0.181)

The increase in agricultural work hours is initially a surprising result given the fall in field area. We see several possible explanations. The first is that households compensate for the loss of land by

shifting from low-intensity animal husbandry towards (more labour intensive) cropping activities. A second possible explanation is that households need to crop more intensively in order to maintain food production on smaller plots of land. A third possibility is that households in LSLA areas are shifting toward production of export crops which are harder and more time-consuming to grow. This effort may, however, be rewarded by higher sales value of the crops.

Turning now to the expenditure variables, 11 shows that the statistical significance of the increase in the level (but not the log) of annual non-food expenditure is robust to comparing LSLA areas only with those which will receive LSLA in the following period. The tendency toward higher alcohol and tobacco consumption becomes even more significant here, while the increase in log education expenditure is no longer statistically significant.

Table 12 Diff-in-diff regressions with CEM weights: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. LSLA after 2012. Food consumption

	Level	Log	Decrease
Butter and fats (gr)	37.00*	0.563	-0.456
	(19.25)	(0.446)	(0.500)
Cooking oils (gr)	-955.4*	-3.543**	0.302
	(570.0)	(1.368)	(0.186)
Salt (gr)	18.29	0.204	-0.201
	(25.99)	(0.552)	(0.130)
Sugar (gr)	-87.56	-0.397	0.0245
	(101.2)	(1.051)	(0.152)
Tea (gr)	-23.94**	-0.997*	0.303**
	(9.445)	(0.591)	(0.151)
Beef (gr)	5.814	0.225	0.0676
	(74.39)	(0.881)	(0.162)
Meat and eggs (gr)	80.50	-0.208	-0.0836
	(135.0)	(1.248)	(0.134)

Table 12 shows that the falls in tea and oil consumption (and somewhat offsetting rise in butter and fat consumption) are even more statistically significant when we restrict the comparison group to those districts which will be treated in the future.

Until now the differences have been calculated over a period which includes the year in which treated districts received LSLA. As such they include the influence of adjustment costs (potentially involving relocation) and any one-off compensation payments received. In order to get a better idea of the on-

going impacts of LSLAs we can focus on changes between 2010 and 2012 for districts which received LSLA from 2008-2010. The results of this exercise for the doubly-robust (diff-in-diff with CEM weights) are summarised in Table 13 to Table 15.

Table 13 Diff-in-diff regressions with CEM weights. Changes: Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Land and labour

	(1)	(2)	(3)
	Level	Log	Decrease
Wage Work	-3.848	0.154	0.0616
	(4.320)	(0.628)	(0.182)
Non-Agricultural Work	3.618	-0.0593	-0.201
	(2.453)	(0.516)	(0.219)
Agricultural Work	3.944	1.708**	-0.331**
	(7.018)	(0.664)	(0.166)
Field Area (hectares)	0.0313	-0.0439	-0.0871
	(0.203)	(0.294)	(0.134)

The first thing to note about the results in Table 13 is that there is no significant correlation between (now lagged) LSLA indicator and field area. This is further evidence that the effects identified in the earlier Tables were indeed a causal effect at the actual time of the LSLA.

Table 14 Diff-in-diff regressions with CEM weights: Changes Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Expenditure variables

	(1)	(2)	(3)
	Level	Log	Decrease
Food Expenditure	810.3	-0.0377	-0.142
	(2088.8)	(0.365)	(0.182)
Non-Food Expenditure	-4688.3	0.555	-0.0508
	(12764.5)	(1.625)	(0.177)
Alcohol/Tobacco	-5919.7	-0.386	-0.0799
	(50191.3)	(1.652)	(0.187)
Food OUT	-75286.8	0.351	-0.0447
	(143315.9)	(2.112)	(0.183)
Communication	58001.8	-0.558	-0.0222
	(35229.7)	(1.371)	(0.225)
Recreation	373.6	0.184	-0.0819
	(1150.6)	(0.693)	(0.372)
Education	-36658.1	2.912*	-0.293*
	(73429.1)	(1.541)	(0.155)

The second interesting result is that the statistically significant increase in the (log) hours spent on agricultural work – first evident in Table 10 – is once again present here. Furthermore, treated households are statistically significantly less likely to have decreased their hours spent on agricultural work for the household.

In Table 14 we see that there is no evidence of an increase in either annual non-food expenditure or alcohol and tobacco when we exclude the year in which the LSLA occurred. This suggests both of these impacts may have been driven by compensation payments and/or relocation expenditures. Meanwhile the positive impact of LSLA on (log) education expenditure and reduced probability of having decreased education expenditure is once again evident in this specification. This suggests, in the medium term, LSLA may increase either the availability of educational opportunities or the perceived returns to education.

The medium-term impacts of LSLAs on food consumption (Table 15) seem somewhat less positive. The substantial fall in cooking oil consumption is evident regardless of the measure used. Meanwhile the compensating shift toward butter and animal fats remains relatively small and weak. Additionally, statistically and economically significant falls in (log) salt and sugar consumption are now evident. Since the log regressions place more emphasis on smaller values, this suggests the fall is most apparent in the households which already had the lowest consumption.

Table 15 Diff-in-diff regressions with CEM weights: Changes Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Food consumption

	(1)	(2)	(3)
	Level	Log	Decrease
Butter and fats (gr)	38.38*	-0.0237	0.193
	(22.48)	(0.455)	(0.699)
Cooking oils (gr)	-1617.2**	-3.278***	0.407**
	(720.1)	(1.105)	(0.185)
Salt (gr)	-11.50	-1.016**	-0.00923
	(24.14)	(0.398)	(0.155)
Sugar (gr)	-87.32	-2.532**	0.160
	(110.1)	(1.116)	(0.163)
Tea (gr)	0.246	-0.185	0.0148
	(4.502)	(0.691)	(0.194)
Beef (gr)	-89.52	-1.567	0.192
	(99.48)	(1.008)	(0.171)
Meat and eggs (gr)	-218.3	-1.232	0.131
	(192.1)	(1.109)	(0.158)

Focussing on the lagged impacts of LSLA also provides us the opportunity to undertake an additional robustness check. Table 16 to Table 18 report results of "triply robust" estimates which are based on diff-in-diff with CEM weights and additional regression controls for the level of the dependent variable in 2008 and continuous measures of elevation and rainfall (both of which were coarsened into binary categories for the coarsened exact matching)[49].

Table 16 Diff-in-diff regressions with CEM weights and regression controls: Changes Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Land and labour

	(1) Level	(2) Log	(3) Decrease
Wage Work	-6.417	0.470	0.0756
	(6.231)	(0.844)	(0.129)
Non-Agricultural Work	2.785	0.0586	-0.147
	(2.652)	(0.583)	(0.170)
Agricultural Work	-3.842	1.070	-0.111
	(7.991)	(0.969)	(0.0838)
Field Area (hectares)	0.125	0.0311	-0.00627
	(0.212)	(0.311)	(0.0901)
LandValZ	-4505.4	-0.290	0.192
	(14569.3)	(0.517)	(0.297)

In this very conservative, triply robust, specification there are no statistically significant impacts of lagged LSLA on either field area or any of the work hour variables (see Table 16).

Reassuringly, Table 17 shows that the increase in relative (log) expenditure on education and lower probably of decreasing expenditure on education remains robust to this highly conservative specification.

Table 17 Diff-in-diff regressions with CEM weights and regression controls: Changes Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Expenditure variables

	(1) Level	(2) Log	(3) Decrease
Food Expenditure	-386.4	-0.373	-0.0539
	(2433.7)	(0.290)	(0.0832)
Non-Food Expenditure	2543.9	0.488	-0.0491
	(13836.4)	(1.826)	(0.0929)

[49] Adding any of the categorical variables from the coarsened exact matching will have no effect since our CEM estimates are already robust to arbitrary functional form and interactions between these variables.

Alcohol/Tobacco	-3011.4	0.421	-0.0609
	(48379.6)	(1.663)	(0.103)
Food OUT	-110360.7	0.0907	-0.0145
	(177192.3)	(2.252)	(0.0905)
Communication	77481.1*	0.347	-0.0426
	(41557.6)	(1.570)	(0.0783)
Recreation	173.7	-0.0625	0.0503
	(1328.9)	(0.727)	(0.267)
Education	25460.0	3.523**	-0.157*
	(60663.1)	(1.493)	(0.0812)

Somewhat less happily, the relative decreases in (log) consumption of oils, sugar and salt are also evident in the triply-robust estimates (Table 18). Furthermore, LSLA appears to be associated with lower beef consumption in this specification.

Table 18 Diff-in-diff regressions with CEM weights and regression controls: Changes Years 2010-2012. Treatment: district received LSLA 2008-2009 c.f. no LSLA before 2012. Food consumption

	(1)	(2)	(3)
	Level	Log	Decrease
Butter and fats (gr)	49.19*	0.0643	0.0853
	(26.74)	(0.451)	(0.271)
Cooking oils (gr)	-1227.6	-2.735**	0.214
	(900.2)	(1.386)	(0.130)
Salt (gr)	-11.60	-1.084**	-0.000930
	(26.23)	(0.442)	(0.0953)
Sugar (gr)	-33.35	-2.750**	0.116
	(149.9)	(1.301)	(0.101)
Tea (gr)	-0.827	-0.772	0.0329
	(5.107)	(0.718)	(0.0956)
Beef (gr)	-142.2	-2.432**	0.152
	(103.9)	(1.128)	(0.0946)
Meat and eggs (gr)	-22.71	-0.708	0.0193
	(179.3)	(1.210)	(0.0918)

5.5. Conclusions of the fifth chapter

This chapter has attempted to provide some evidence to help progress the debate over the impacts of LSLAs on rural households. We have used new household-level panel data made available by

the World Bank to provide much-needed quantitative evidence on the impacts of LSLAs in both Ethiopia and Tanzania.

The results of our study provide a mixed picture of the impacts of LSLAs in Ethiopia. In Gambella the most statistically robust findings were increases both in hours spent on non-agricultural, non-wage work and non-food expenditure. These results are consistent with initial shifts toward urbanisation of the populations, consistent with the government's ongoing villagization programmes in the region. Meanwhile in Benishangul-Gumuz there was strong evidence of a loss of land rights (measured as field area, land value or number of land-title certificates). Hours spent on work for household production fell (agricultural and non-agricultural), and our preferred specification suggested these were offset by an increase in wage work hours on average. Hence the results for Benishangul-Gumuz seem to be dominated by the effects of the LSLAs rather than urbanization more generally.

One caveat in the interpretation of our results needs to be made. Gambella and Benishangul-Gumuz have by no means been the only areas in Ethiopia which have seen a massive shift away from smallholder, subsistence land use toward larger, commercial farms. Indeed, many parts of Ethiopia have seen much greater areas of land transformed into large commercial farms. What distinguishes Gambella and Benishangul-Gumuz is the concentration of very large scale investments, greater than 10,000ha, the dominance of foreign investors, and the heavy involvement of the federal government in the deals. Thus our results should not be interpreted as showing the impact of commercialisation of agriculture, but rather, the impact of very large scale commercialisation compared to more moderate-sized investments, which are negotiated and controlled at more local levels.

One possible explanation for the different results in our two study regions is a difference in the timing of the study period relative to the timing of peak LSLA activity. More idiosyncratic environmental, cultural and political explanations are also plausible. Future research in Ethiopia and elsewhere will help to distinguish the role of these idiosyncratic effects from more generalizable dynamics effects.

Turning to the analysis on Tanzania, using doubly and sometimes triply robust treatment effects estimation methods we examine the impact of LSLA occurring in a district on a large number of outcomes for rural households. The results are mixed, and sometimes surprising, yet paint a coherent picture.

We begin by considering the impact of LSLAs on access to factors of production (land and capital) and how they are deployed by households (land and labour use choices). Unsurprisingly, we find strong and robust evidence of a loss in the area of field owned or cultivated by households in districts receiving LSLA, occurring at the time of the LSLA. Also in agreement with theoretical predictions, borrowing on credit did increase over the observation period, particularly in districts receiving LSLA. It is not clear, however, whether this result should be viewed as a sign of improved credit worthiness/access, greater financial distress on behalf of these households, or increased investments in crops which take a few years to bring returns (e.g. teak and oil palm production are both objectives of LSLAs in the land matrix data for Tanzania).

Our other results regarding the factors of production may be more surprising. Both formal land-rights and participation in outgrower schemes[50] are very rare among the sampled households and remain so up to four years after LSLA in the district. There is also no evidence that LSLA is associated with increased wage labour opportunities. Possibly the very efficiency for which LSLAs are valued limits their wage-labour generating potential. The only household work-hours measure which showed any relationship with LSLA was time spent on agricultural activities for the household – which increased in some specifications. It is not clear whether this result is due to households substituting their loss of land with an increase in labour, or due to a shift toward the cultivation of more time-intensive export-oriented crops.

We next consider the impact of LSLAs on expenditure in various categories. We find strong and robust evidence of an increase in annual non-food expenditure – occurring around the time of the LSLA. We also find evidence of an increase in alcohol and tobacco expenditure at this time, but not in the subsequent two years. Both of these effects are consistent with payment of compensation to households affected by LSLA. Increases in household non-food expenditure may also reflect relocation costs in some cases. Increases in alcohol and tobacco expenditure may be worrying if they come at the expense of buying food to replace losses in own production. A definite positive

[50] Participation in outgrower schemes may be viewed as a means for smallholders to access the productive capital of the large-scale investors.

finding is that educational expenditure is also less likely to decrease in areas receiving LSLA – and this effect persists 2-4 years after the LSLA.

Finally, we consider the impact of LSLA on food consumption. Although we found no relationship between LSLA and food expenditure, it is still possible that it has an impact on actual consumption. LSLAs not only alter households' ability to produce their own food, they may also change local relative prices. Indeed, one of the objectives of LSLA promotion is to increase the farm gate prices smallholders can obtain. We find evidence of these price effects in the form of a substantial and robust fall in the consumption of cooking oils, which is (in small part) offset by an increase in consumption of butter and animal fats. Cooking oils can alternatively be used as biofuel inputs, and biofuel input production is the stated aim of around a third of the LSLAs in Tanzania (and likely an unofficial aim of several more). In some specifications we also find evidence of falls in the consumption of sugar, salt, tea and meat & eggs. In no specification do we find LSLA associated with an increase in the consumption of any food group except butter and animal fats. Overall, the food consumption results paint a worrying picture for the impact of LSLA on nutritional outcomes for affected rural households – at least in the first four years. It remains to be seen whether future returns to higher-value non-staple crops will increase the households' buying power to the extent that they can offset these losses.

Overall, the differences regarding the household survey for the two countries – geographic specification and number of survey years available – only allow for limited observations to be drawn from the comparison between the results for Ethiopia and Tanzania. Following the qualitative reports of LSLA causing land loss for rural households in the two countries, the quantitative analysis also shows a loss in field area for rural households in areas where LSLA operate. Related to land access, in neither country we could observe any evidence of the impact of LSLA on land titling initiatives. Here again, the differences in land tenure policy between the two countries would have suggested a distinction between the change in land access for rural households in Tanzania, who are protected under the Village Land Act, and the ones in the lowlands of Gambella and Benishangul Gumuz that do not benefit from a formal recognition of their land rights. The results for the other indicators for the two countries are more mixed. The results on rural households' returns to land only show a significant fall in land value in Benishangul-Gumuz, while the results on credit access show a decrease in Gambella and an increase in Tanzania. The returns to labour show either a negative or

non-observable change in wage work in both countries, which is consistent with the worrying reports of limited work opportunities and low wages available to local farmers in areas where LSLA take place. At the same time, agricultural work hours decreased in Benishangul-Gumuz and increased in the districts in Tanzania where LSLA take place. The difference in data availability, combined with observations derived from the qualitative evidence, led to choose different variables to understand the impact of LSLA on the price of agricultural goods in the two countries. In the next chapter, I analyse each of the four indicators individually and I formulate some final observations.

6. Discussion and conclusions

6.1. Introduction

This study has applied a law and economics approach to the analysis of the impact of large-scale foreign land acquisitions on rural households. Each chapter has explored the same problematics by applying different research methods and sources of evidence. This final chapter summarises the findings of the previous chapters, addresses the research question and sub-questions and discusses some of the implications raised by the research project.

The first chapter introduced the problematic and outlined the research question and methodology. The second chapter presented a conceptual framework for analysing the issue, by providing four causal pathways of influence of LSLA on rural households. For each pathway, I defined the barriers to development that exist in rural areas of developing countries, as well as the hypotheses on the direction of LSLAs' impact. As it became clear in chapter two that the normative and institutional framework are the most important definers of the impact of LSLA on rural households, the third chapter looked at the regulatory tools and institutional frameworks of two countries - Ethiopia and Tanzania - that have successfully attracted a large number of foreign land investors. The chapter highlighted the major differences that characterise the two countries when it comes to regulating land tenure systems in rural areas. In particular, the lack of recognition of rural land rights combined with the widespread powers of the public authority to unilaterally allocate land in Ethiopia are in clear contrast with Tanzania's Village Land Act, which recognises and protects the right of rural communities to manage their own land and natural resources. While the differences between the two countries in the involvement of rural populations in decisions involving the allocation of their own land are striking, both Ethiopia and Tanzania have set up national development plans which rely on foreign LSLA for the development of the agricultural sector. Chapter four compared qualitative evidence for the two countries on the impact of LSLA on the four defined indicators. Highlighting the differences and similarities between the qualitative evidence available for the two countries, I noticed how the similarities in the qualitative reports are more than it could have been assumed by looking at the differences in the policy frameworks. Chapter five presented the quantitative analysis on the impact of LSLA as reported by the Land Matrix Database on a set of rural households' survey questions as collected by the World Bank's LSMS-ISA for both Ethiopia and Tanzania.

In order to address the complexity of law and development dynamics, the study combined a plurality of perspectives, sources and methodologies. I chose to consider four development indicators in order to comprehensively capture the impact of LSLA on rural households. Turning to the sub-questions, the next sections are dedicated to answering the individual sub-questions, by summarising the relevant insights from each chapter and drawing some observations for each of the four development indicators defined in the second chapter.

6.2. Access to land and other natural resources

The first sub-question asked: what is the impact of large-scale land acquisitions on rural households' access to land and other natural resources?

The analysis of the meaning of resource access in rural development identified it as an essential tool for the livelihood of rural households and as an economic tool for development. The underexploited potential of land and resource access for rural development is a problematic that has been highlighted in recent years by promoters of land acquisitions (Arezki et al., 2013). The roots of this argument can be found in the traditional law and economics approach to private property (Demsetz, 1967; Johnson, 1972).

The efficiency argument on the land use system is seen by critics of LSLA as being culturally charged and endangering other agricultural systems which rely on different agricultural production systems and carry their own definition of what an efficient use of the land is. The terra nullius narratives are further seen by some as legitimizing the current wave of LSLSA as a new type of enclosure, which by means of dispossession of rural communities, should lead to the commodification of African ruralities (Exner et al., 2015).

What appears to be the main challenge to rural households' access to land and natural resources is the lack or limited governance of land transfers, which can lead to the rise in opportunistic behaviour of elites, dispossession and lack of compensation. Both centralized and decentralized governance present challenges to the management of resource access in rural areas of developing countries. The centralized management is believed by many to weakly influence rural dynamics and to limit the

accountability of public authorities. On the other hand, others argue that the decentralized, local administrations have limited local capacity and are more vulnerable to private interests' influence, posing a threat to rural communities land access.

The third chapter identified several policy tools that can shape the ways in which LSLA affect rural households. At the international level, the principle of free prior and informed consent, which was originally formulated to protect the rights of indigenous people (UN General Assembly, 2007), has become the reference for protecting rural communities against unlawful dispossession. Since the start of the current wave of LSLA, FPIC has been reinterpreted to include the rights of all rural communities (De Schutter, 2009; FAO, 2014) and has been incorporated among the standards to be observed to obtain certifications under the Roundtable on Sustainable Biofuels and Bonsucro (Bonsucro, 2015; RSB, 2010). The set of international law principles formulated by the Special Rapporteur on the Right to Food also requires states to adopt legislation to protect the rights of rural households and to promote collective land titles registration (De Schutter, 2009). The Principles for Responsible Investment also promote the respect of existing rights of rural communities and the need for consultations for land deals (FAO et al., 2010). At the regional level, the ACHPR does include the right to property, but the right is not accompanied by a right to compensation, while the rights of indigenous people, which are defined narrowly by the ACHPR Commission, have been protected more extensively through the Charter.

In Ethiopia, the lack of regulatory tools for the protection of the land rights of rural populations, defined as "land holdings" by the Rural Land Administration and Use Proclamation (FDRE, 2005) combined with the development policies targeting lowlands for large-scale agricultural investment are in line with the available qualitative evidence. The largest LSLA are concentrated in peripheral regions of the country, Gambella and Benishangul. The available qualitative evidence points at the lack of implementation of land titling programmes in these areas, while local populations are involved in ongoing villagization programmes. Villagizations are reportedly taking place in areas that are targeted for large-scale agricultural investments, and are sometimes carried out against the will of the affected rural populations. While public authorities have declared that villagizations are planned to provide rural households with an improved access to infrastructures, available reports claim that the displacements negatively affect the indigenous populations access to land and natural resources. Although no clear connection has been drawn in the literature between villagizations and

land titling, it can be observed that land titling initiatives, aimed at improving land tenure security among rural communities, could potentially lead to increased levels of participation of affected households in the decision-making process leading to their displacement.

The analysis of the 17 published contracts with foreign investors for LSLA, confirms the favourable conditions for foreign investors to acquire land, that were evidenced by the available agricultural development policies on the subject. The investors are granted full and exclusive use of the land, are entitled to build infrastructure and use water sources and are also protected by the Ministry of Agriculture against any interference by third parties. The state ownership of the land allows for foreign LSLA agreements to be carried out without consulting rural communities.

The situation regarding rural households' land access in Tanzania is also reflective of the legal tools available, which are very different from the ones for Ethiopia. Here, thanks to the village land act, rural communities are involved in the negotiations when investors are interested in acquiring village land, and are in some cases directly involved in the deal making regarding LSLA.

Differently from what transpired from the policy analysis, the qualitative evidence on Tanzania shows how understanding legal provisions and accessing other information regarding LSLA represents a challenge for rural communities. Information asymmetry in conditions of unequal power relations can hurt the interests of rural households who are not fully aware of their rights or of the long-term consequences of the deals. While some local organizations are carrying out Initiatives to promote the legal empowerment of rural households, their impact remains very limited compared to the LSLA phenomenon.

Procedural violations regarding the land transfer and other violations of villagers' rights are reported as a consequence of the lack of transparency and unequal power relations: in some cases, it has been reported that more land than it was agreed upon was transferred, in other cases less compensation was paid than was due and pressure was exercised on farmers to accept the deal.

Turning to the quantitative analysis, two main questions from the LSMS-ISA dataset were used to understand the impact of LSLA on rural households: (1) what is the area of the fields owned or used by rural households and (2) does the household own any certification (referred to in this study as land title) for the parcel of land that they use or own. The results of the first question could tell us

different thigs: the land area could remain the same if LSLA are taking place in areas that are not occupied by farmers, or it could decrease due to the land being sold or the rural households being evicted (as we do not have information on compensation).

For Ethiopia, our results show a fall in land area for both Gambella and Benishangul, but only in the case of Benishangul-Gumuz the fall remains significant through all robustness checks - which is the case for other results as well. Regarding Tanzania, we find strong and robust evidence of a loss in the area of field owned or cultivated by households in districts receiving LSLA, occurring at the time of the LSLA.

Turning to the question about land titles, the household survey question looked into the possible connection between LSLA and the formalization of titles which could be expected as a consequence of the increased commercial pressure on land. Unfortunately, in neither of the two countries we could observe any statistically significant impact of LSLA on land titles owned by rural households for the land parcels that they use or occupy.

A few observations derive from combining the information from the different chapters about the impact of LSLA on rural households. First of all, the ways in which Ethiopia and Tanzania manage rural land could not be more different. While the Ethiopian government is legally recognised as the sole owner of rural land in the country, and can freely allocate land to private investors (FDRE, 2005), in Tanzania the rural land allocated to villages is managed by local representatives and can only be transferred with their involvement (URT, 1999b). The qualitative evidence partially reflects the differences between the policy frameworks of the two countries, while in part it also provides similar accounts of displacements and of lack of compensation. The similar accounts are due to the limited access of Tanzania villagers to legal tools to defend their rights and to the unequal power relations that characterize negotiations with foreign investors. From a formal standpoint, Tanzania complies with the international standards on the protection of rural households' access to land and other resources. On the other hand, reports of significant violations of the FPIC principle are available for both countries, proving that institutions alone do not suffice if there is no enforcement. The quantitative analysis for both Ethiopia and Tanzania shows a fall in the size of land used or occupied by rural households, while in neither of the two countries we could observe any significant effect on land titles.

6.3. Returns to land

The second sub-question asked: how do LSLA affect the returns to land used or controlled by rural households? This question looked at the value of the land that rural households use or control, including the agricultural output, the returns from selling surplus and the land value.

The theoretical chapter identified a series of barriers, including unequal distribution of factors, high transaction costs and imperfect information, that lead to an unequal market access for rural communities. LSLA are expected by some to improve market access and expand rural households' economic activities by contributing to rural infrastructure such as roads and processing centres for agricultural crops. Improved access to credit is also expected from applying a traditional law and economics approach to property rights. On the other hand, there is the question of the use of water and other natural resources by the investor, which, if not done in a sustainable way, may harm the rural households' agricultural production. It was noted how important it is for environmental standards to be included in land deals and the need for effective monitoring to be carried out by state or local authorities.

Several issues relating to rural households returns to land are addressed by international policy tools. Three of De Schutter's key international law principles are dedicated respectively to the need to reinvest the revenue generated by LSLA on the development of local populations; to protecting environmental resources from degradation and to the necessity of carrying out effective monitoring of foreign investors' activity and impact. The Voluntary Guidelines also stress the importance of environmental conservation (FAO, 2012), while the PRAI requires an EIA to be carried out and measures to be taken in order to ensure the sustainable use of resources, minimize risks and mitigate negative effects on the environment (FAO et al., 2010). Both the RSB and Bonsucro also set their standards for the certification mechanisms in line with environmental protection principles and conservation activities (Bonsucro, 2015; RSB, 2010).

In Ethiopia, the qualitative evidence reflects once again the regionally-different targets of national development policies, which aim at supporting different agricultural sector agents in the highlands and in the lowlands. In particular, the development policies identify rural communities in the highlands as a target for rural households' support relating to agricultural production, infrastructure

and food security. The lowlands are instead selected for the development of large-scale agricultural projects by private investors. The reports of the concentration of acquisitions in the small, peripheral regions of Ethiopia seem to prove how in these areas the needs of rural communities for maintaining their agricultural production are overlooked. A major challenge is represented by LSLA contracts granting the investors extensive rights to build infrastructure which can affect local communities' access to essential resources such as freshwater reserves.

The limited implementation of monitoring instruments by public authorities, combined with the lack of EIAs for many land investments (Deininger et al., 2011), worry observers with regard to the impact of the investors on the environment and on rural households' agricultural production (Cotula et al., 2014). Villagizations, which reports link to the arrival of foreign land investors, further limit the access of rural populations to the resources needed for their agricultural production.

In Tanzania, rural households' agricultural production is tightly connected to LSLA, thanks to the widespread implementation of outgrower schemes, where rural households integrate the production of LSLA by using their own land. Outgrower schemes represent an opportunity for rural farmers, as it allows them to acquire new skills that they can use on their own fields, while some reports warn against the risk of outgrower schemes depleting local capital.

Similarly to what was observed for land access, the returns to land are also in some cases affected by asymmetric information and unequal power relations. According to the available evidence, the potential benefits deriving from the investors' promise to provide the community with services and infrastructures rarely materialize, as these commitments are often only verbal and deprived of legal value. The legally-required compensation for land transfers is in some instances successful in safeguarding the interests of rural households, while in other cases compensation is not paid or is only paid in part, with pressure exercised on rural households for accepting the partial payment.

Regarding environmental conservation, while effective monitoring by public authorities is reportedly not effective, in some cases investors pursue certification programmes which have the potential of limiting environmental degradation. On the other hand, some reports mention the negative effect of LSLA's use of pesticide and chemical products on the environment, leading to water and soil pollution, and in some cases affecting rural households' agricultural production.

The quantitative analysis looked at the changes in land value and to the access to credit in the areas targeted by land acquisitions in Ethiopia and Tanzania. The results for Ethiopia show a consistently strong fall in land value in the region of Benishangul-Gumuz, while no significant result is observable for Gambella. In Tanzania, no significant effect is observable in the districts where LSLA took place.

Regarding the access to credit, a negative effect is observed in Gambella; there is no significant result for Benishangul-Gumuz, while in Tanzania credit did increase over the observation period, particularly in districts receiving LSLA.

The barriers identified in the second chapter show how, in the absence of other economic opportunities, the returns to land for rural households constitute an essential source for their subsistence. If some believe that LSLA can create new opportunities by improving market access and contributing new knowledge and technology, a potential negative impact of LSLA on local natural resources could have disruptive effects on local communities. The positive predictions on LSLA seem to concretize at least in part in Tanzania, where agricultural production programmes connecting rural households with LSLA constitute a resource in terms of knowledge and technology transfer. In Ethiopia, the lack of support of development policies in the lowlands, and the lack of involvement in the deals, appears to isolate rural communities from the potential benefits of land acquisitions. The concerns relating to environmental conservation have been addressed at the international level, encouraging states to adopt strict environmental protection laws and to monitor the environmental impact of the investors. Unfortunately, evidence from both Ethiopia and Tanzania indicates that environmental standards are loosely applied and that little monitoring takes place after signing the deal. Similarly to what transpired in the previous section for Tanzania, here too it appears that the violations of legal requirements for the transfer of land leave some villagers dispossessed and uncompensated. The quantitative evidence only finds a fall in land value for Benishangul-Gumuz, in line with villagization reports.

6.4. Returns to labour

The third sub-question was: what is the impact of LSLA on rural households' returns to labour? Which aimed at understanding how foreign land acquisitions can influence the rural labour market.

Reviewing the main barriers to the development of a labour market in rural areas identified several constraints on both supply and demand side which distort the incentives created by more profitable opportunities, leading rural workers to rely on their own farm work instead of venturing into more profitable labour opportunities. The arrival of LSLA has the potential of creating new labour opportunities both on and off farm for rural workers, by injecting capital and know-how. The new labour opportunities are potentially accompanied by an increased need for wage labour, as the loss in land limits the traditional ways of work. If the demand for labour increases and the barriers to an efficient labour market remain, there is a risk of increased exposure of rural workers to changes in the labour market. One of such risks that reports have described is the seasonal character of wage employment, which does not guarantee financial security to workers. The gap between the labour opportunities created by LSLA and the higher number of farmers losing their land is described by the enclosure theories as leading overall to a net flow of labour out of agriculture. An additional issue concerns the access of minority groups to labour opportunities. As they could be excluded due to skills requirements or negative stereotypes, it is argued that it would be efficiency enhancing in rural areas to establish quotas to ensure labour access for a group, which would lead to Improved social capital and would create incentives within the community for acquiring new skills.

International policy tools provide a framework for how LSLA-crated jobs should be regulated. The fifth of De Schutter's core principles of international law is dedicated to this issue, stating that "Host States and investors should establish and promote farming systems that are sufficiently labour intensive to contribute to employment creation. Labour-intensive modes of production can be highly productive per hectare. Investment agreements should contribute to the fullest extent possible to reinforcing local livelihood options and in particular provide access to a living wage for the local population involved, which is a key component of the human right to food" (De Schutter, 2009). A reminder that international labour rights standards, as defined by the International Labour Organization, should also apply in the context of LSLA is included in De Schutter's Principles, in the

PRAI as well as in the sets of principles of the certification mechanisms of Bonsucro and the RSB (Bonsucro, 2015; De Schutter, 2009; FAO et al., 2010; RSB, 2010).

Regarding labour opportunities created by LSLA, in Ethiopia there is very limited qualitative evidence available. The little that is known concerns poor working conditions and very limited long term posts, creating a situation where labour employment rates are less profitable than smallholder agriculture according to Ali et al (2015). Reports show how in peripheral regions most of the hired workers are not locals but migrants, in line with the government's advertisement of this opportunity for LSLA investors. The exclusion of local workers, which appears to be driven by negative stereotypes about indigenous populations, creates a lot of disappointment and social tensions between locals and migrants.

The qualitative evidence for Tanzania points at many and profitable LSLA-related wage-work opportunities created. Although the willingness to hire large numbers of workers to work on investors' farms is reported both by the investors themselves and by communities as being part of the LSLA deal, in practice it is reported that many jobs are seasonal, which does not guarantee a stable income to rural households.

The issues relating with poor, unsafe working conditions are raised by several reports, pointing at the lack of education and bargaining power of rural communities, leading to episodes of intoxication due to pesticides and other poisonous substances that they have to work with. In Tanzania, similarly to Ethiopia there appears to be a preference of at least some investors for migrant workers instead of local workforce. The uncertainty connected to the abrupt abandonment of several large-scale projects also causes insecurity, especially in a context where, even after the investors have left, the land is not transferred back automatically to the communities. A final issue raised by reports deals with the low wages which do not cover the living costs of the workers.

The quantitative analysis in the fifth chapter looked at three indicators of work activity: non-remunerated agricultural activity for the households' farm, non-remunerated activity for the households excluding agricultural work and finally wage work. The results for Ethiopia show a significant fall in agricultural work in Benishangul-Gumuz and an increase in non-agricultural work in Gambella. In Tanzania, mixed quantitative results suggested little participation in outgrower

schemes, while no evidence was found of increased wage labour opportunities and agricultural work increased in some specifications.

A few considerations derive from combining the insights from the different chapters on the impact of LSLA on rural households' returns to labour. The contribution that LSLA projects are expected to bring to rural labour markets have been driving in part the arguments in favour of land acquisitions, particularly in countries like Tanzania, where the involvement of rural communities is required for investors to access land. The announcements from investors' sources and projects like SAGCOT projecting the creation of position for thousands of workers, are met by reports of limited labour opportunities being created in reality. As reports on both Ethiopia and Tanzania describe limited job opportunities, marked by seasonality and low wages, it appears that at least part of LSLA-created jobs might be in violation of those ILO instruments on human and labour rights which have often been brought forward both by private certification schemes and international organizations in the context of LSLA[51]. An additional issue creating comparable outcomes in the two countries concerns indigenous workers, who are reportedly excluded from some of the labour opportunities created by foreign investors, who prefer to hire migrant workers. As mentioned in the second chapter, some authors argue that the active involvement of local communities would lead to more desirable outcomes in terms of both efficiency and equity.

6.5. Price of Agricultural goods

The fourth and final sub-question asked: what is the impact of LSLA on the price of agricultural goods purchased by rural households? The theoretical section on the indicators identified similar issues refraining from the development of a market for agricultural products, to the ones affecting the labour market. In particular, the inability of rural households to respond to price incentives and external shocks explains why rural households generally rely on subsistence agriculture for their needs instead of producing higher-value crops and relying on the market for the rest. The combination of

[51] See above Section 3.2

widespread poverty of rural populations, the high variability in consumption needs depending on the seasons, and the large number of people trading in very small volumes, bad infrastructure and telecommunication further constrained the development of a supply chain.

The arrival of LSLA and the consequent shift towards wage labour for rural farmers is expected to increase the dependency of rural communities on market-based food supply. The change should affect in particular those households that have seen their land access reduced as a consequence of the arrival of LSLA. At the same time, it is expected that all communities in proximity of a large-scale acquisition could see their demand for agricultural products increased, due to the LSLA-driven limitation in accessing natural resources that were previously available. This increased purchase demand for agricultural goods could be facilitated by the improvements in infrastructure that could support the development of a more efficient supply chain and market access.

The importance of the price of agricultural goods consumed by rural households is directly connected to the issue of food security, as LSLA's export-oriented production, the focus on biofuels and mono-cropping can affect the reliance of rural communities on their usual food sources (Stephens, 2013). The issue is addressed first of all by the FPIC (FAO, 2014), to the extent that the principle is not limited to land but it extends to all natural resources. This means that rural communities should be consulted and agree, free from any external pressure, to any changes in the availability of natural resources that they use and rely upon for their livelihood. Food security is also the central focus of the core principles defined by the UN Special Rapporteur on the Right to Food, who expresses his concern with regard to the opportunity cost of export-oriented production in food insecure areas (Claeys & Vanloqueren, 2013; De Schutter, 2009). The first principle refers to the need for an analysis of the impact of LSLA on the long-term food needs of rural communities to be included in the negotiation phase for land acquisitions. The seventh principle addresses the issue of export-oriented production by foreign investors, which should be regulated by defining a minimum percentage of crops production that should be distributed locally. Principle 2 of the PRAI is also dedicated to food security in relation to LSLA, stating that "investments should not jeopardize food security but rather strengthen it". The FAO Voluntary Guidelines, as well as the two certification programmes also place food security concerns at the core of their sets of principles that both states and investors should respect (Bonsucro, 2015; FAO, 2012; RSB, 2010). The international policy concerns are complemented in the policy chapter by accounts of the dependency of indigenous

populations in Gambella and Benishangul-Gumuz on natural resources which represent an essential complement to their agricultural production.

In Ethiopia, the qualitative evidence shows severe issues of food insecurity among rural populations which are handled with emergency food distribution programmes but not in the more fertile regions that are more targeted by LSLA. A field study by Moreda (2016) shows how there is a growing need for food aid among the indigenous populations living in the lowlands, as in Benishangul-Gumuz investments are linked to a decline in access to forest food sources.

Regarding the question of the markets targeted by LSLA, there is evidence of the national government's support for export-oriented production of industrial crops, in particular through advertisements and fiscal benefits to agricultural investors. Still, some investors do mention their interest in targeting national markets, but I could not find any information on market distribution at the local scale. Regarding in particular the case of Gambella, reports confirm that explicit priority is given by the government to the large-scale production of industrial crops like cotton. The lack of monitoring by public authorities on the investors production make it very difficult to know what they are actually doing with their agricultural output.

In Tanzania, the shift caused by LSLA towards growing commercial crops makes access to the market ever so important. Here too there are reports of food security issues in the SAGCOT area, the area where most LSLA takes place in the country. As farmers are mostly working for a wage or growing commercial crops, the need for accessing a market for agricultural products has increased. At the same time, the difficult working conditions and low wages mentioned in the previous section do not allow farmers to afford buying the agricultural products that they now increasingly need. The connection has been drawn between the outgrower schemes in particular and food security concerns. As households are increasingly abandoning self-subsistence agriculture, the composition of families also contributes to the problem of purchasing agricultural products, as the many young household members need to be sustained by the few older ones that are able to work.

Similarly to the situation in Ethiopia, the focus on commercial crops is reportedly limiting the distribution of agricultural products at the local market, while the needs for market access increases among rural communities due to the increasingly limited access to natural resources. The focus on biofuel production, which has driven LSLA in Tanzania for years and has now slowed down, is also

linked to the issue of the price of agricultural goods for rural households. While studies on biofuel production say that they should not offset the food production and only lead to benefits, reports show that prices of agricultural good rise (and farmers need to buy more) because of biofuel production. LSLA not targeting local markets means that in some cases farmers have to buy agricultural products in the city instead of the other way around.

The quantitative analysis for the fourth indicator looked at the food expenditure for every rural household in the previous week and to the non-food related expenditure in the previous 12 months. Increases in food expenditure could be due to a rise in the price of agricultural goods, or to an increase in income, while changes in the second variable could be caused by an increase in income, by the increased market dependency or due to purchases related to displacement. In the case of Ethiopia, we included in the data analysis information on the amount of aid received by the rural households, as we learnt in the qualitative section about active aid programmes in the country targeting rural households. For Tanzania we added some variable looking specifically at the consumption of particular goods for both food and non-food expenditure.

In Ethiopia, the results of the quantitative analysis show an increase in the short term in non-food expenditure and aid in Gambella in the study period, compared to the regions that did not receive land acquisitions in the same period, while for Benishangul we obtain only weak evidence of the LSLA effect on food and non-food expenditure.

Regarding Tanzania, the short-term evidence on non-food expenditure, and specifically on alcohol and tobacco, is consistent with a compensation payment to households affected by land acquisitions. These results are accompanied by a positive effect on expenditure on education that persists 2-4 years after the land acquisitions. Regarding food expenditure, we do not find evidence of an effect on the overall expenditure, but we observe that LSLA are associated with a substantial fall in the consumption of cooking oils which, in the case of palm oil in particular, appears to be connected to the investors' interest in biofuel production. This result points at a negative impact of LSLA on the price of agricultural goods consumed by rural households, as the strong and robust fall in the purchase of cooking oils is only in part offset by an increased expenditure in butter and animal fats, while in some specifications we also find a decrease in the consumption of sugar, salt, tea and meat & eggs.

The impact of LSLA on the price of agricultural goods is possibly the one that causes the most concerns, as it is directly connected to food security, and to the related importance to employ the available natural resources to support the local market (De Schutter, 2011). The issue raised by the Special Rapporteur on the Right to Food, is particularly relevant in the present study, as the target areas for LSLA in both Ethiopia and Tanzania are affected by food insecurity. While the qualitative evidence raises several concerning issues in relation to the availability and affordability of agricultural products in the areas targeted by LSLA, the effects are mixed in the quantitative evidence.

6.6. Observations

A few final remarks can be drawn from the observations relating to each sub-question. First of all, the analysis of the four development indicators identified a series of barriers to development which interfere with the potentially beneficial effects of LSLA. An example of this is provided by the exclusion of indigenous communities from labour opportunities. The issues highlighted in the second chapter, in terms of both equity and efficiency goals that such exclusion generates, were present in rural areas before the arrival of foreign land acquisitions. The available evidence from both Ethiopia and Tanzania reveals that the exclusion of indigenous communities from the labour opportunities created by LSLA is taking place. As the impact of LSLA on indigenous communities also involves effects on the access to land, returns to land and the price of agricultural goods, the issue of exclusion from labour opportunities becomes increasingly concerning.

By defining the land tenure systems and the economic priorities, national institutions influence the way in which a country responds to emerging development opportunities and risks. The section on institutions at the end of the second chapter identified the institutional challenges that developing countries face when dealing with rural development. One of the main challenges highlighted was the arbitrary power of institutions, which is caused by the limited monitoring that citizens are able to exercise on the institutions. Part of the difference in development policy and land rights management between Ethiopia and Tanzania could be explained by the difference in the exercise of arbitrary powers by national institutions. In Tanzania, the decentralised land tenure system is combined with development policies, which include rural households as a target of the positive expected impact of

LSLA, as some of the expected benefits of SAGCOT are directly mentioning rural households. In Ethiopia on the other hand, the centralised management of rural land and natural resources is complemented by national development policies which appear to exclude rural households in areas where LSLA take place from benefitting from the agricultural development projects that target the rest of the smallholders. Overall, observing the deep differences in the formal institutional settings of Ethiopia and Tanzania, combined with the similar reports of negative effects of LSLA on rural households, demonstrates the need to complement the analysis of formal institutions with an understanding of the issues that in practice affect their implementation and enforcement.

While the connection between policy, qualitative and quantitative evidence for Ethiopia is more predictable, given the central management of rural land and the apparent lack of tools for rural communities to protect their traditional land use, the relationship between policy framework and empirical evidence for Tanzania is more surprising. One of the questions raised in the introduction related to the choice of the land tenure system that better protects the interests of rural households. As seen from the discussion of the four sub-questions, the decentralized, inclusive land tenure system of Tanzania's village land still exposes rural households to vulnerability if it is not accompanied by the transparency of land deals and advocacy of village interests. Here, the inclusive, decentralised system of managing village land is met in practice with violations and abuses which are mainly due to rural communities' lack of knowledge of their rights and to unequal relations within the villages. This importance of the legal empowerment of rural communities, in the context of favourable formal legal tools is best captured by Meinzen-Dick and Pradhan (2002), who explain how the formal recognition of rural land rights by the state constitutes a valuable tool that rural communities can use to strengthen their claims over land and natural resources. But for this tool to be effective, "new laws aimed at strengthening the rights of the poor or other marginal groups must be accompanied by programmes to create awareness by all parties, so that the new laws can be cited and accepted in the negotiation process" (Meinzen-Dick and Pradhan, 2002, p. 28).

The purpose of this book was to provide a positive analysis of the relationship between LSLA and rural households. As LSLA are a reality of the current rural development landscape, the discussion in the next years should focus on how they should operate to achieve both efficiency and equity goals in rural contexts of developing countries. In order to achieve this outcome, several tools are available and have been identified in this study. Land titling initiatives can help to achieve land tenure

security of rural communities in countries like Ethiopia where communal land rights are not formally recognised; private-sector certification schemes can encourage the compliance of foreign investors with international human rights and labour and environmental principles; a stronger monitoring of LSLA activities can allow for an improved protection of natural resources. More generally, participatory institutions allowing smallholders to be involved in managing the land that they rely upon should support a more equitable use of resources. Although these all appear as valid policy tools, the available data does not yet allow for generalizable evaluations of their positive impact.

The complexity of the task to understand land dynamics in Sub-Saharan Africa should be stressed once again in this conclusion. I addressed the difficulty in accessing reliable information from a single source by combining a plurality of sources and research methodologies. While the present research is based on the most recent qualitative evidence and data available, the quality and quantity of available information on LSLA remain a challenge for researchers. The international dynamics that drive the global demand for land have changed through the years, leading to the frequent failure of land acquisition projects or to the transfer from one investor to another. The combination of such instability in land investments with the difficulty in accessing information so far has limited the scope of the research. The results of the quantitative research in the fifth chapter help informing future data collections, as data availability on compensations for land acquisitions, for example, will eventually allow researchers to reach unambiguous conclusions on land transfers in rural areas of developing countries. The availability of constantly more reliable quantitative evidence on LSLA represents a new opportunity for an evidence-based future of this field of research, as it allows to conduct a more comprehensive, positive analysis of the implications of land acquisitions for rural development.

Appendix 1 - Ethiopia

A1.1 Summary statistics Ethiopia

Table 19 Ethiopia: Summary statistics for dependent variables in 2011

2011	Gambella	Benishangul-Gumuz	Other	Total
		Field area (ha)		
Mean	.1323	.1845	.1484	.1496
N observations	74	87	1519	1680
		Land Value (Birr)		
Mean	2894	2028	5828	5496
N observations	83	88	1570	1741
		Land title		
Mean	.0361	.0909	.9338	.8484
50th percentile	0	0	0	0
N observations	83	88	1570	1741
		Total Expenditure (Birr/year)		
Mean	1981	1390	1851	1833
N observations	96	108	1789	1993
		Food Expenditure (Birr/Week)		
Mean	187.2	103.2	165.2	162.9
N observations	96	108	1789	1993
		Credit Value (Birr)		
Mean	289.1	185.9	364	350.7
50th percentile	0	0	0	0
N observations	96	108	1789	1993
		Hours of Agricultural Work		
Mean	23.58	32.43	49.51	47.34
50th percentile	7	22	36	35
N observations	96	108	1789	1993
		Hours of non-Agricultural Work		
Mean	7.813	15.28	16.08	15.64
50th percentile	0	6	0	0
N observations	96	108	1789	1993
		Hours of Wage Work		
Mean	2.99	.463	2.089	2.044
50th percentile	0	0	0	0
N observations	96	108	1789	1993

Table 20 Ethiopia: Summary statistics for dependent variables in 2013

2013	Gambella	Benishangul-Gumuz	Other	Total
		Field area (ha)		
Mean	.0891	.1895	.2013	.1954
N observations	95	109	1812	2016
		Land Value (Birr)		
Mean	5143	2201	7905	7465
N observations	96	112	1848	2056
		Land title		
Mean	.3333	.0179	1.173	1.071
N observations	96	112	1848	2056
		Total Expenditure (Birr/year)		
Mean	3807	2828	2805	2854
N observations	103	120	1962	2185
		Food Expenditure (Birr/week)		
Mean	192.3	153.6	150.1	152.3
N observations	103	120	1962	2185
		Credit Value (Birr)		
Mean	1194	2516	2956	2892
50^{th} percentile	525	850	1455	1400
N observations	14	23	510	547
		Hours of Agricultural Work		
Mean	21.64	25.09	45.52	43.28
50^{th} percentile	14	5	32	28
N observations	103	120	1962	2185
		Hours of non-Agricultural Work		
Mean	10.4	8.133	8.914	8.941
50^{th} percentile	0	0	0	0
N observations	103	120	1962	2185
		Hours of Wage Work		
Mean	7.816	4.983	3.346	3.646
50^{th} percentile	0	0	0	0
N observations	103	120	1962	2185

Table 21 Ethiopia: Summary statistics for control variables in 2011

2011	Gambella	Benishangul-Gumuz	Other	Total
		Distance to Market (km)		
Mean	38.25	75.71	67.83	66.82
N observations	96	108	1756	1960
		Annual precipitation (mm)		
Mean	1242	1375	993.9	1027
N observations	96	108	1756	1960
		Household size		
Mean	4.813	4.407	5.036	4.991
N observations	96	108	1789	1993
		Gender of Head of Household		
Mean	.7158	.7963	.7792	.777
N observations	95	108	1766	1969
		Ever attended School		
Mean	1.632	1.673	1.677	1.675
N observations	95	107	1756	1958

Table 22 Ethiopia: Summary statistics for control variables in 2013

2013	Gambella	Benishangul-Gumuz	Other	Total
		Distance to Market (km)		
Mean	43.66	77.81	69.51	68.74
N observations	103	120	1961	2184
		Annual precipitation (mm)		
Mean	1238	1363	989.3	1022
N observations	103	120	1961	2184
		Household size		
Mean	5.427	4.842	5.162	5.157
N observations	103	120	1961	2184
		Gender of Head of Household		
Mean	.7087	.775	.7645	.7625
N observations	103	120	1962	2185
		Ever attended School		
Mean	1.544	1.567	1.66	1.649
N observations	103	120	1959	2182

A1.2 Matching Summary: Gambella region as ‘treatment’ dummy

Number of strata: 170

Number of matched strata: 37

Table 23 Ethiopia: Gambella region as 'treatment' dummy 1

Number of observations	Other	Gambella
All	1490	103
Matched	417	88
Unmatched	1073	15

Matching Summary: Benishangul-Gumuz region as ‘treatment’ dummy

Number of strata: 223

Number of matched strata: 48

Table 24 Ethiopia: Benishangul-Gumuz region as 'treatment' dummy 1

Number of observations	Other	Benishangul-Gumuz
All	1893	120
Matched	680	110
Unmatched	1213	10

Appendix 2 - Tanzania

A2. 1 Summary statistics

Table 25 Tanzania: Summary statistics for matching variables: 2008

	mean	max	min	count
0				
Urban or rural areas	1.377443	2	1	3121
Household head ever school	1.241202	2	1	1165
Household size	5.118552	46	1	3121
Annual Precipitation (mm)	1143.63	2377	541	2611
Elevation (m)	695.5663	2508	1	2661
Terrain Roughness	4.553504	14	1	2654
1				
Urban or rural areas	1.230769	2	1	104
Household head ever school	1.346154	2	1	52
Household size	5.105769	15	1	104
Annual Precipitation (mm)	859.4712	1463	462	104
Elevation (m)	1116.51	1769	511	104
Terrain Roughness	6.240385	13	3	104

Table 26 Tanzania: Summary statistics: Binary indicator farming activities: 2008

	mean	max	min	count
0				
Did you or anyone in this household own or cultivate any plots in the long rainy season?	.9426947	1	0	2286
Did the household process any of the products harvested on the farm in the last rainy season?	.8269849	1	0	2179
Did anyone in the household own any livestock in the last 12 months?	.7368881	1	0	2288
Did anyone in the household engage in fishing in the last 12 months?	.058592	1	0	2287
Did you cultivate any crops, permanent crop or fruit trees as part of an outgrowing scheme?	.0096419	1	0	2178
1				
Did you or anyone in this household own or cultivate any plots in the long rainy season?	.8737864	1	0	103
Did the household process any of the products harvested on the farm in the last rainy season?	.7553191	1	0	94
Did anyone in the household own any livestock in the last 12 months?	.815534	1	0	103
Did anyone in the household engage in fishing in the last 12 months?	0	0	0	103
Did you cultivate any crops, permanent crop or fruit trees as part of an outgrowing scheme?	0	0	0	94

Table 27 Tanzania: Summary statistics: Binary indicator farming activities: 2012

	mean	max	min	count
0				
Did you or anyone in this household own or cultivate any plots in the long rainy season?	.9914738	1	0	1642
Did the household process any of the products harvested on the farm in the last rainy season?	.776083	1	0	1639
Did anyone in the household own any livestock in the last 12 months?	.9458545	1	0	1182
Did anyone in the household engage in fishing in the last 12 months?	.1049069	1	0	1182
Did you cultivate any crops, permanent crop or fruit trees as part of an outgrowing scheme?	.018914	1	0	1639
1				
Did you or anyone in this household own or cultivate any plots in the long rainy season?	.9859155	1	0	71
Did the household process any of the products harvested on the farm in the last rainy season?	.8169014	1	0	71
Did anyone in the household own any livestock in the last 12 months?	.9550562	1	0	89
Did anyone in the household engage in fishing in the last 12 months?	.0449438	1	0	89
Did you cultivate any crops, permanent crop or fruit trees as part of an outgrowing scheme?	0	0	0	71

Table 28 Tanzania: Summary statistics: Binary indicators land rights and credit: 2008

	mean	max	min	count
0				
Some land sale value	.0189042	1	0	3121
Some credit taken	.0634412	1	0	3121
Some formal land right	.0019225	1	0	3121
1				
Some land sale value	.0480769	1	0	104
Some credit taken	.0288462	1	0	104
Some formal land right	0	0	0	104

Table 29 Tanzania: Summary statistics: Binary indicators land rights and credit: 2012

	mean	max	min	count
0				
Some land sale value	.0023319	1	0	2573
Some credit taken	.1049359	1	0	2573
Some formal land right	.0007773	1	0	2573
1				
Some land sale value	0	0	0	89
Some credit taken	.1235955	1	0	89
Some formal land right	0	0	0	89

Table 30 Tanzania: Summary statistics: Land and labour: 2008

	mean	max	min	count
0				
Weekly Wage work (hrs)	21.24095	318	0	3121
Weekly non-Agricultural work (hrs)	58.36479	753	0	3121
Weekly Agricultural work (hrs)	37.46652	1213	0	3121
Area of agricultural land (HA)	.8591897	53.66536	0	2156
Area of agricultural land (HA)	.3436759	21.46614	0	2156
1				
Weekly Wage work (hrs)	15.53846	202	0	104
Weekly non-Agricultural work (hrs)	54.72115	176	0	104
Weekly Agricultural work (hrs)	45.22115	203	0	104
Area of agricultural land (HA)	.871829	19.95821	0	90
Area of agricultural land (HA)	.3487316	7.983283	0	90

Table 31 Tanzania: Summary statistics: Land and labour: 2012

	mean	max	min	count
0				
Weekly Wage work (hrs)	23.34473	360	0	2573
Weekly non-Agricultural work (hrs)	3.45239	196	0	2573
Weekly Agricultural work (hrs)	42.96658	752	0	2573
Area of agricultural land (HA)	3.868869	366	0	2573
Area of agricultural land (HA)	1.547548	146.4	0	2573
1				
Weekly Wage work (hrs)	16.04494	145	0	89
Weekly non-Agricultural work (hrs)	3.101124	98	0	89
Weekly Agricultural work (hrs)	53.1573	210	0	89
Area of agricultural land (HA)	3.134719	21.02	0	89
Area of agricultural land (HA)	1.253888	8.408	0	89

Table 32 Tanzania: Summary statistics: Expenditure variables: 2008

	mean	max	min	count
0				
Weekly food	19258.54	193750	0	3121
Ann. non-food	3092.092	600000	0	3120
Ann. alcohol & tobacco	61085.54	3293334	0	3121
Ann. food, beverages & tobacco outside home	326310.9	1.32e+07	0	3121
Ann. communications	129476.4	5820000	0	3121
Ann. recreation	4090.484	3700000	0	3121
Ann. education	147491.9	1.29e+07	0	3121
1				
Weekly food	19334.47	129000	0	104
Ann. non-food	3033.654	80000	0	104
Ann. alcohol & tobacco	75230	1014000	0	104
Ann. food, beverages & tobacco outside home	229700	3302000	0	104
Ann. communications	108138.5	1800000	0	104
Ann. recreation	144.2308	15000	0	104
Ann. education	195304.1	6475000	0	104

Table 33 Tanzania: Summary statistics: Expenditure variables: 2012

	mean	max	min	count
0				
Weekly food	28144.21	350267	0	2573
Ann. non-food	27064.71	1344000	0	2573
Ann. alcohol & tobacco	78482.66	8684000	0	2573
Ann. food, beverages & tobacco outside home	695457.5	1.60e+07	0	2573
Ann. communications	186318.5	3720000	0	2573
Ann. recreation	3364.438	550000	0	2573
Ann. education	252625.8	1.19e+07	0	2573
1				
Weekly food	24475.17	96000	0	89
Ann. non-food	51589.89	720000	0	89
Ann. alcohol & tobacco	114107.9	1976000	0	89
Ann. food, beverages & tobacco outside home	442350.6	3640000	0	89
Ann. communications	151860.7	1080000	0	89
Ann. recreation	2528.09	120000	0	89
Ann. education	156831.5	2016700	0	89

Table 34 Tanzania: Summary statistics: Food consumption: 2008

	mean	max	min	count
0				
Butter and fats (gr)	39.92291	6720	0	3113
Cooking oils (gr)	2874.586	38640	0	2691
Salt (gr)	250.2928	2500	0	3119
Sugar (gr)	338.9772	5250	0	3121
Tea (gr)	45.70188	700	0	3121
Beef (gr)	95.19103	4500	0	3121
Meat and eggs (gr)	740.8716	27250	0	2672
1				
Butter and fats (gr)	53.8835	4800	0	103
Cooking oils (gr)	3891.753	15456	0	77
Salt (gr)	306.5385	500	0	104
Sugar (gr)	485.3372	3500	0	104
Tea (gr)	60.41346	500	0	104
Beef (gr)	137.0197	3500	0	104
Meat and eggs (gr)	633.9805	7500	0	93

Table 35 Tanzania: Summary statistics: Food consumption: 2012

	mean	max	min	count
0				
Butter and fats (gr)	14.45783	3500	0	2573
Cooking oils (gr)	3338.508	48300	0	2194
Salt (gr)	204.6077	1400	0	2573
Sugar (gr)	311.7649	10500	0	2573
Tea (gr)	24.29304	700	0	2573
Beef (gr)	113.9918	4500	0	2573
Meat and eggs (gr)	668.9688	11500	0	2145
1				
Butter and fats (gr)	30.33708	500	0	89
Cooking oils (gr)	3410	13800	0	69
Salt (gr)	249.6067	500	0	89
Sugar (gr)	348.3151	1750	0	89
Tea (gr)	28.71348	125	0	89
Beef (gr)	151.6858	3500	0	89
Meat and eggs (gr)	437.1927	3500	0	73

A2.2 OLS Diff-in-diff results

Table 36 Tanzania: OLS Diff-in-diff regressions: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012

	(1)	(2)	(3)
	Level	Log	Decrease
Wage Work	-2.232	0.152	-0.0275
	(4.272)	(0.640)	(0.176)
Non-Agricultural Work	3.886	-0.461	0.00309
	(5.007)	(0.370)	(0.0164)
Agricultural Work	3.396	0.733	-0.0662
	(5.869)	(0.523)	(0.131)
Field Area (acres)	-1.690**	-0.195	0.399
	(0.670)	(0.525)	(0.272)
Field Area (hectares)	-0.676**	-0.205	0.399
	(0.268)	(0.468)	(0.272)
LandValZ	-28034.0	-0.776	.
	(28588.3)	(0.561)	.

Table 37 Tanzania: OLS Diff-in-diff regressions: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012

	(1)	(2)	(3)
	Level	Log	Decrease
Food Expenditure	-3203.3	-0.160	0.320**
	(1954.1)	(0.378)	(0.129)
Non-Food Expenditure	24364.1**	1.792*	-0.216
	(10931.6)	(1.065)	(0.350)
Alcohol/Tobacco	30066.7	1.086	-0.229
	(36142.9)	(1.200)	(0.159)
Food OUT	-128638.7	0.225	0.0243
	(95738.8)	(1.476)	(0.148)
Communication	-10318.0	0.00312	-0.145
	(28281.6)	(1.089)	(0.203)
	3571.8	-0.305	-0.442
Recreation			
	(2264.0)	(0.451)	(0.899)
Education	-143383.3*	1.835	-0.260*
	(85159.3)	(1.273)	(0.146)

Table 38 Tanzania: OLS Diff-in-diff regressions: Changes Years 2008-2012. Treatment: district received LSLA 2008-2011 c.f. no LSLA before 2012

	(1)	(2)	(3)
	Level	Log	Decrease
Butter and fats (gr)	49.82***	0.896**	-0.520
	(15.01)	(0.431)	(0.403)
Cooking oils (gr)	-598.1	-3.221***	0.220
	(491.6)	(1.186)	(0.145)
Salt (gr)	-6.925	-0.348	-0.0701
	(22.47)	(0.491)	(0.108)
Sugar (gr)	-50.52	-0.632	0.0654
	(86.85)	(0.858)	(0.118)
Tea (gr)	-10.80	-0.598	0.0723
	(9.570)	(0.483)	(0.0969)
Beef (gr)	-13.99	-0.431	0.279**
	(66.65)	(0.685)	(0.124)
Meat and eggs (gr)	65.68	-1.240	0.0962
	(116.1)	(0.969)	(0.110)

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