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How Sustainable Is Transnational Farmland Acquisition in Ethiopia? Lessons Learned from the Benishangul-Gumuz Region

Dereje Teklemariam ^{1,2,*}, Hossein Azadi ^{1,3,4,*}, Jan Nyssen ¹, Mitiku Haile ⁵ and Frank Witlox ¹

¹ Department of Geography, Ghent University, B-9000 Ghent, Belgium; Jan.Nyssen@UGent.be (J.N.); Frank.Witlox@UGent.be (F.W.)

² Department of Management, Mekelle University, P.O. Box 451, Mekelle, Ethiopia

³ Centre for Environmental Sciences, Hasselt University, Agoralaan Building D, B-3590 Diepenbeek, Belgium

⁴ Economics and Rural Development, Gembloux Agro-Bio Tech, University of Liège, B-4000 Liège, Belgium

⁵ Department of Land Resources Management and Environmental Protection, Mekelle University, P.O. Box 231, Mekelle, Ethiopia; gualmitiku@yahoo.com

* Correspondence: DerejeTeklemariam.Gebremeskel@ugent.be (D.T.); hossein.azadi@ugent.be (H.A.); Tel.: +32-09-264-4695 (D.T. & H.A.); Fax: +32-09-264-4985 (D.T. & H.A.)

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Abstract: Due to the nature of available land as one of the main attractions for investment, land lease marketing in Sub-Saharan Africa is appearing on policy agenda. This paper describes critical land-related institutional and governmental frameworks that have shaped the contemporary land governance and land lease contracts in Ethiopia. It also examines the effectiveness of the land lease process regarding economic, social, and environmental expectations from agricultural outsourcing. Both qualitative and quantitative data analyses were used and results showed that the size of the land cultivated by investors is significantly lower than the agreed-upon size in the contract. Besides, the supply of land to large-scale commercial investors in Ethiopia is made without adequate land use planning, land valuation, and risk analysis. Furthermore, limitations in monitoring systems have contributed to meager socio-economic gains and led to deforestation. Accordingly, the study concludes that supplying vast tracts of farmland to large-scale agricultural investors requires integrated land use planning, land valuation and governance, monitoring systems, and a capacity to implement the various social and environmental laws in coordination with other sectors. Improving rural infrastructure, particularly road, is also indispensable to enhance the level of performance of commercial farms. Last but most importantly, the customary land holding rights of residents should be respected and institutionally recognized.

Keywords: land grabbing; sustainable agriculture; food security; sustainable development; land lease

1. Introduction

1.1. Transnational Land Acquisition

Among the academia, practitioners, policy makers, and institutions involved in the transnational land acquisition, or the “land grabbing” and land deals, there is lots of debate with full of discontents, emotions, and justifications. Most of the recent literature highlight the term “land grabbing” as a contemporary phenomenon caused by the combined effects of the global stock market crash and the food and energy crisis of 2008/2009 [1–4]. However, the term was also mentioned in earlier works by Karl Marx for the first time in the context of the enclosures of England: “*The laborers are first driven*

from the land, and then come the sheep. Land grabbing on a great scale, such as was perpetrated in England, is the first step in creating a field for the establishment of agriculture on a great scale" [5]. Following the global financial crisis as well as the increasing demand for food and bio-fuel and the effects of climate change, a new wave of land transactions in many developing countries have been stemmed [6,7].

In order to produce and export food and bio-fuel, government officials of "land abundant" agrarian countries facilitated foreign companies and governments to move in a move that resulted in the dispossession, expulsion, and adverse incorporation of local communities [8]. For example, South Korean Daewoo Logistics planned to invest in 1.3 million hectares of land to produce maize in Madagascar, but after a large debate in the country the transitional government cancelled its license [9]. Furthermore, Hamelinck (2013) [10] has shown that many other land deals which had aspired to produce bio-fuel underwent serious public pressure and resulted in the cancellation of long-term land use agreements. Yet studies from Mozambique and Tanzania reported significant interest in biofuel projects [11]. In Ghana, Schoneveld *et al.* (2010) [12] focus on a biofuel project in which 800 hectares of land were taken, causing 70 households in three different villages to lose their farmlands. The governments of developing countries which host such investments on the other hand, would consider transnational land acquisition as part of their development strategy; an opportunity to attract foreign direct investment (FDI) to their agricultural sectors and would supply land to transnational investor companies and to mainly rich governments [13–17]. In addition to governments maintaining transnational land deals, international development institutions facilitate the acquisition of land by big corporations (both foreign and domestic), typically in the form of leases or concessions rather than outright land purchases for development [2]. Furthermore, governments in countries that have a high potential for agricultural production and a good competitive advantage are encouraging renewed commercial investment from domestic and foreign investors. Several governments wish to allot many of the "idle" lands within their countries and in order that agribusiness implementers may acquire them. For instance, in July, 2009 the government of Ethiopia allocated 1.6 million hectares of land, extendable to 2.7 million, for investment in commercial farmlands [18]. All in all, due to increasing population and urbanization rates and changing diets, the global demand for food is increasing, along with prices of food, over a longer period. The limitations in the global food supply and the rising demands for energy and agricultural products make agriculture an interesting option for investment [19–21].

Unfortunately, quantitative assessments of the geography, scale, and trends in land grabbing are no longer available yet overall commercial interest in farmland is expected to continue to increase and to become a long-term trend. Figure 1 shows the global trend of land acquisition concentrate in key countries in Africa, Southeast Asia (Cambodia, Laos, the Philippines, Indonesia) and parts of Eastern Europe (e.g., Ukraine). As shown in the figure, 83 million ha of land were acquired globally out of which 56 million ha were acquired in Africa. However, there is a large discrepancy in the figures between the amounts of land acquired. According to the Land Matrix data (accessed on 30/01/2016) [22], there are 42,213,284 ha of concluded transnational deals globally, of which 18,789,391 ha belong to Africa. This demonstrates the point that precise data are not yet available, and for a number of reasons such data can over- or underestimate the true extent of the land acquired. It has also been found that two-thirds of the cropland that interest foreign investors are located in Africa, mainly in Sub-Saharan Africa (SSA)—e.g., South Sudan, Sudan, Tanzania, Mozambique, Ethiopia, Madagascar, The Democratic Republic of Congo, Liberia, and Zambia [23,24].

While Ethiopia is one of the leading agrarian economies in attracting foreign direct investment, according to Rulli and D'Odorico (2014) [25], 10.4 million people (11% of the total population of the country) could have been fed by the crops grown in the acquired land. The country is endowed with abundant agricultural resource bases and like that of other developing countries' governments, the hope of the government of Ethiopia is that investors will bring capital, know-how, technology, and market-access to their economies. Investors could therefore act as a catalyst for economic transformation in rural areas where the Growth and Transformation Plan (GTP) of the country is key.

This, in turn, is expected to generate employment, increase public revenue, improve local people's access to infrastructure and upgrade the overall standard of living in local communities. However, the important question has often remained: "Does this trickle-down effect actually take place and who really benefits from these transnational land acquisitions?" The country's institution which promotes private investment, the Ethiopian Investment Agency (EIA) announced that more than 11.50 million hectares of land has the potential for farming and agricultural investment [16,26]. Yet of the stated amount of land, so far, close to 2.5 million hectares have been given to investors who came from more than 32 different countries and invested in the different regions of the nation between 2007 and 2013. The focus of this paper is the lack of comprehensive evidence regarding the national, regional, and grass root level issues and effects of transnational land acquisition in Ethiopia with a particular emphasis to the Benishangul-Gumuz region.

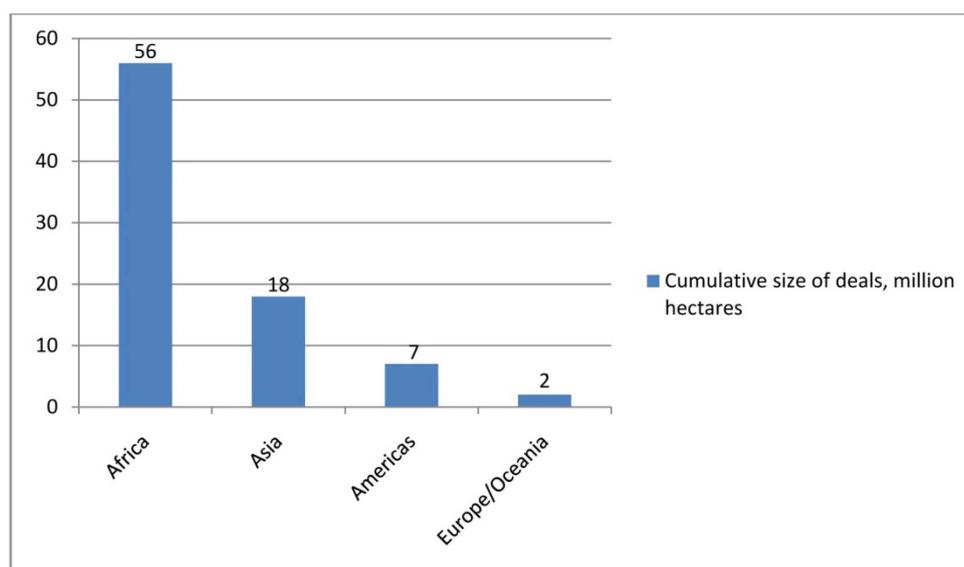


Figure 1. Land acquisitions by continent (Cumulative size of deals, million hectares). Adopted from Schaffnit-Chatterjee (2012) [23].

1.2. Conceptual Framework

As part of the policy agenda on the SSA, land marketing has come into question. Many of the SSA countries have gone through consecutive institutional reforms concerning land use; most of which were made with the support of the World Bank and developed countries [27]. While national land use policies and strategies vary across countries, common land-related problems, conservation strategies, and expertise solutions are becoming apparent and provide timely lessons for Ethiopia. Land management systems are increasingly checked against information-based land use models that contribute to efficient and effective land use management. Globalization and technological development further enhance the establishment of multifunctional information systems by incorporating diverse land features, uses, rights, regulations, and other pertinent data [28]. To this end, contemporary land management systems should consider the diverse interests and competitive purposes of land before it is marketed to commercial investment on a long-term basis [29]. A holistic approach to land management most importantly requires information, recognition of the human, social and governance elements, as well as adaptation of improved land use practices elsewhere. This approach plays a central role in the enhancement of informed land marketing chains.

As there are a number of tools which help to conduct sustainable impact assessments of development projects [30–32], we adapt the Integrated Land Use Management and Responsible Agricultural Investment framework because, according to Enemark *et al.* (2005) [28] and FAO *et al.* (2010) [33], institutional arrangements, land information systems, and land use management more

appropriately show the informative level of land markets. Furthermore, it is important to integrate federal and regional interests including multiple land use sectors and dimensions of sustainability and to do so on all scales [33]. The interplay between institutional arrangements and land information systems determines the quality of land use management which again determines the effectiveness and efficiency of land markets [28,33] (Figure 2).

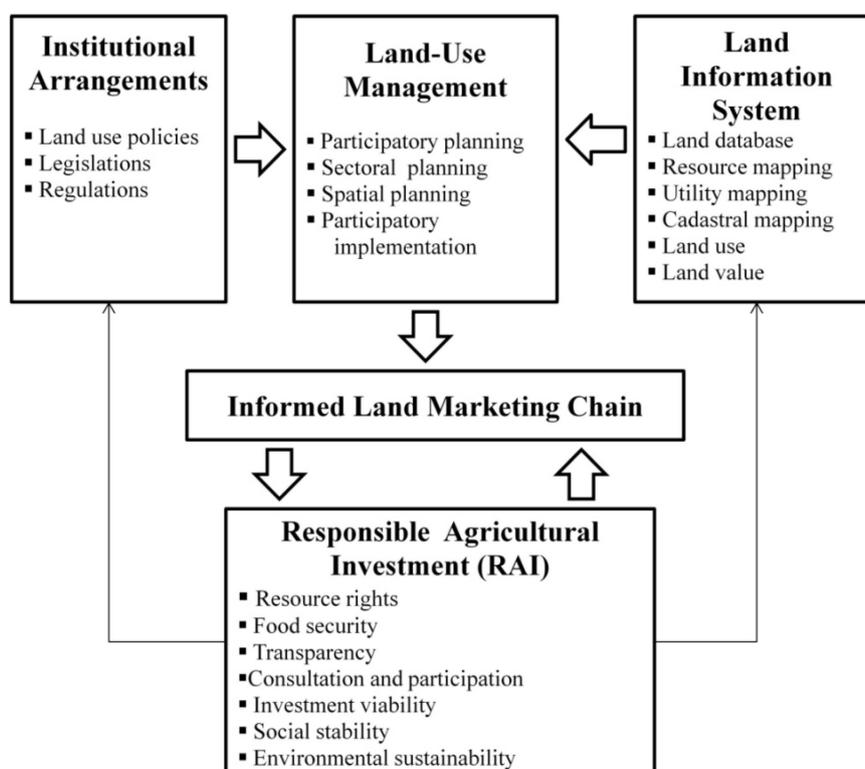


Figure 2. Integrated Land Use Management (ILUM). Adapted from Enemark *et al.* (2014) [29].

In an integrated land use management system, the interests of different land uses are balanced against the broader developmental objectives of a country or region. These interests serve as a base for the plans of use and for control through institutional mechanisms and incentives. As described by Reidsma *et al.* (2011) [34] and Enemark *et al.* (2014) [29], effective planning and control of land use requires up-to-date data so as to understand the spatial, temporal, and anthropogenic consequences of land use policies and decisions. To this end, in addition to integrating sectoral and spatial components, the process of land use planning and implementation should be participatory. Furthermore, as for other key issues, allotting land for agricultural investment should include and be designed to meet not only the interests of the investors but also the needs of the various stakeholders [35], particularly local communities and those whose livelihoods are attached to the land and environmental sustainability. With the support of international development partners and civil society organizations the governments of such countries like Ethiopia need to protect their local communities and natural resources while attracting foreign investments in order to guarantee their economic growth. Apart from the host nations and intergovernmental bodies, investors should also commit and take complete responsibility in the present situation. Accordingly, the impacts of development projects can only be sustained with an integrated plan where institutional arrangements, land information systems, and land use management are assured. A responsible agricultural investment is an inclusive situation where the process of investment respects resource use rights of local communities, ensures local food security, is transparent, and encourages consultation and participation, investment viability, and environmental sustainability [33].

1.3. Objectives

According to “databases” that were directly obtained from the Ministry of Agriculture in Ethiopia in 2013 [36], 2.11 million ha of the total 11.5 million ha potential land was already given to investors, out of which 600,254 ha is the share of the Western Ethiopian lowland state called the Benishangul-Gumuz region [26]. Focusing on this region, the following key research questions are considered in this study: (i) What are the key institutional frameworks which shaped the contemporary land governance in Ethiopia? (ii) How effective would the integration and harmonization of large scale commercial farming with other local development projects be? and (iii) How effective is the land lease process from the context of integrated land management, and economic, social, and environmental payoffs of agricultural investment?

2. Methodology and Materials

2.1. Description of Study Area

This paper relies on the data set from the Benishangul-Gumuz region of Ethiopia which is located at 09.17° – 12.06° N latitudes, and 34.10° – 37.04° E longitudes along the Western Ethio-Sudan border (Figure 3), with a total area of about 50,699 km². According to the Regional Bureau of Agriculture, the overall area of arable land in the region is about 911,877 ha, of which less than half has been cultivated. It was noted that 189,534 hectares of land in the region is potentially irrigable [37]. The region is located in an area where the Grand Renaissance Dam of Ethiopia is under construction over the Abay River (or Blue Nile) which includes the Beles, Dabus, Anger, Dhidhsa, and Dindir Rivers, which are tributaries of the Abay River.

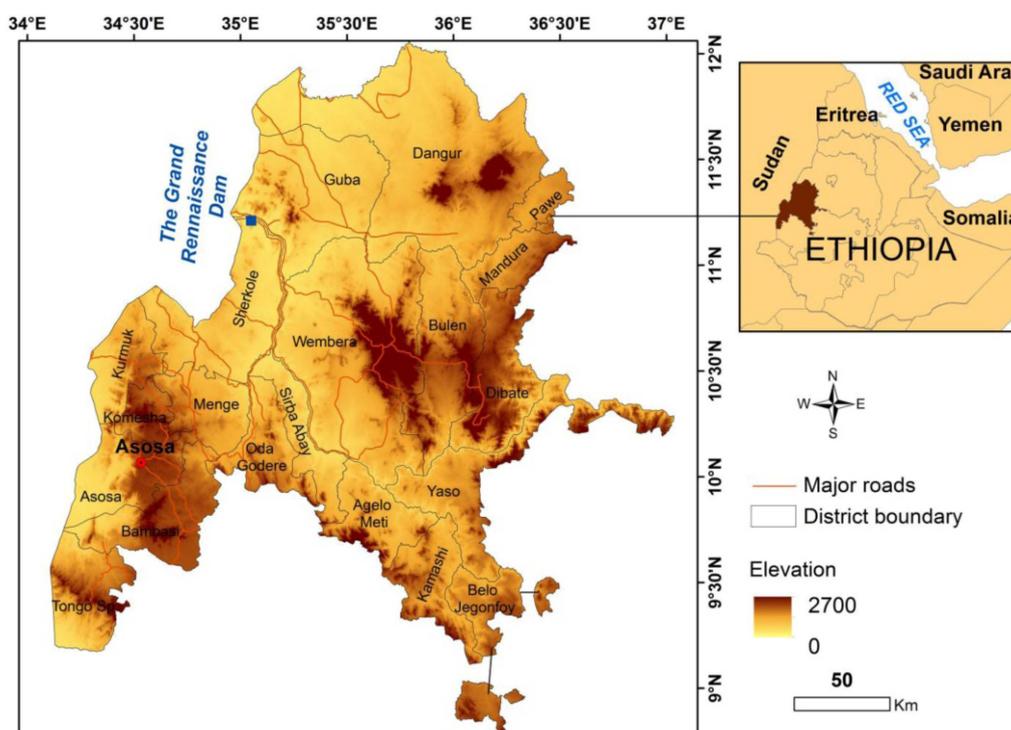


Figure 3. Map of the study area (the Benishangul-Gumuz region).

Agro-ecologically, the study area can be classified into three major climatic zones: (a) Lowland or kola (75% of the region) with an altitude below 1500 m; (b) Midland (woynadega) zone which constitutes about 24% of the region and has an altitude of 1500–2500 m; and (c) Dega agro-ecologic zone which accounts for only 1% of the area of the region and lies at an altitude of 2500 m [38].

2.2. Data Collection and Analysis

In order to analyze the process of commercial farmland acquisition and its effects, multilevel exploration of qualitative and quantitative data is required. Accordingly, this study collected data at federal, regional, district, and village or farm levels (Table 1). Rigorous archival review, review of land lease contracts and accompanied documents, extraction of relevant data from accessed databases, and interviews were also conducted. Participatory field observation and key informant interviews were also held at federal, regional, and local levels, though as this information is considered highly sensitive in Ethiopia, it will not be disclosed. Not to mention that in order to make this survey, we reassured the respondents that their information would remain confidential.

Table 1. Data sources and methods of data collection.

Level	Data Source ¹	Focus	Method Used
Federal	GOE, MOA, EIA (Addis Ababa)	Land laws, regulations, land/investment data	Document review, contract review, extraction of relevant data from accessed databases, and interviews
Regional	GBGR, investment bureau, BoARD (Asosa)	Regional land laws, regulations, and land lease system	Document review, key informant interviews, surveys
District	BoARD, and Natural Resource Protection Case Team (Dangure and Guba)	Practices of delivering land to investors, resettling communities	Key informant interviews, data extraction from regional databases
Village/farm	Community leaders, investors, and employees	Effects on local communities, environment, concerns from community, investors, and employees	Key informant interviews, data extraction from regional databases, participatory observation

¹ GOE = Federal Government of Ethiopia; EIA = Ethiopian Investment Agency; GBGR = Government of the Benishangul-Gumuz region; MOA = Ministry of Agriculture; BoARD = Bureau of Agriculture and Rural Development.

A total of 26 interviews were made (four in federal-level institutions, six in regional bureaus, seven at district, and nine at village levels) in the period from October 2013 to January 2014. Additionally, 22 owners and/or managers of commercial farms in the study site were interviewed. A survey of 89 commercial farms was made in the period May 2013–January 2014. Using a structured questionnaire, the data were collected to assess the performance evaluation of commercial farmers on the ground. The questionnaire was approved through face validity and the reliability was confirmed by estimating Cronbach's alpha ($\alpha = 0.78$).

Descriptive statistics and relevant statistical tests such as the paired sample *t*-test were made to complement the qualitative data analysis and explain the economic, social, and environmental implications of the ongoing commercial land acquisition in the study area. STATA (version 11) software was used to conduct statistical computations and a paired sample *t*-test (with a significant level of $\alpha = 0.05$) was run to compare the amount of land taken in lease form and the amount of land developed. Furthermore, with a significance level of $\alpha = 0.05$, the paired *t*-test was made for the size of land leased by an investor versus the size of land cultivated, and regression analysis on the amount of land developed and employment generated so as to see whether significant amounts of land were developed and the expected level of employment opportunities was achieved.

3. Results and Discussion

3.1. Governance

3.1.1. Land in Ethiopia: The Institutional and Governance Framework

According to the Constitution of the Federal Democratic Republic of Ethiopia [39], the right of land ownership and other natural resources of the country exclusively belong to the State and the peoples of Ethiopia. This implies that, all subsidiary laws and regulations of the country which could be issued either by the federal or regional state bodies recognize usufructuary rights to land which can be in the form of state, communal or group, and private holdings. While the right to use and inherit land is preserved, private ownership of land is prohibited. As explained by GOE (2005) [40], our study also corroborates that the private ownership of land is prohibited to ensure equity of land use among citizens and between generations, especially in the rural areas where livelihood exclusively depends on land; if not, the country would be threatened by the social predicaments of land accumulation within a few hands. Therefore, it is up to the federal government to determine the amount and type of land a citizen may hold in the country. The main justification given for this system is that if land is privatized, small-holder farmers may sell it when they face financial difficulties (desperation sales) and ultimately the country's land would be under the hands of a few rich farmers. According to Galor *et al.* (2009) [41], the concentration of land in the hands of a minority and inequality in land ownership adversely affects institutions that promote human capital, for instance public schooling. A study by Cárdenas (2012) [42] shows that such instances of concentrated land ownership have already occurred in some Latin American countries such as Colombia. Similarly, Pestana *et al.* (2013) [43] in their study in Brazil showed that inequitable allocation of land contributed to land-related conflicts and unrest in the country.

Prohibiting private land ownership, on the other hand, may not be an adequate guarantee for equitable distribution of land among citizens. As argued in some studies [44,45] policies that prohibit private ownership of land have been criticized because it stifles farmland investments and could lead to unproductive and excessively small parcels of land size. According to Nyssen (1998) [46], the land tenure system in Ethiopia has made positive contributions to the unprecedented involvement of farmers in soil and water conservation because land is "equally" shared among farmers unlike previous land holding systems. Some studies [8] showed that governments play an important role in of the political economy of a global capitalist system where the contemporary ramifications of land acquisition are considered as part of "security mercantilism" in international relations. Yet the continuing debate in Ethiopia is whether or not consolidating all the land under the custody of the state is considered as suppressing citizens' rights to privately own land. The federal government, through the constitution and other laws that followed later, assigned mandates and jurisdiction to the different federal and regional government organs as summarized chronologically in the Appendix.

3.1.2. Evolution of Land Use–Land Governance Institutional Frameworks in Ethiopia

The current institutional framework of Ethiopia concerning land use governance is the result of a number of consecutive institutional and regulatory developments. According to the 1955 constitution of Ethiopia [47], all natural resources of the country (water, forest, land, *etc.*) became the state's domain since 1955. Later, in 1974, "Land to the tiller" was one of the mottos of the socialist-driven revolution in the country as land ownership was one of the major issues at the time and of the revolution which overthrew the imperial/feudal system in the country. As a result of the 1974 socialist revolution in Ethiopia [48], all forms of private ownership of land were abolished without any compensation, and all lands used for agriculture or grazing purposes throughout the country were declared to be the collective property of Ethiopians. Due to the functioning supreme law of Ethiopia (*i.e.*, the 1995 constitution of the country), land and all other natural resources are commonly owned by the Nations, Nationalities, and Peoples of Ethiopia and are not subject to sale or to other means of exchange. As noted by GOE

(1995) [39,49], regional states are given the power and mandate to administer land and other natural resources in accordance with federal laws. Peasants and pastoralists have usufructuary right over land without any charge and without time limit, and have safeguards against expulsion from “their” land unless it is intended for public purposes and are then subject to compensation.

In addition to the chronology of stated proclamations and regulations, under the tenets of the 2005 Federal Rural Land Administration and Land Use Proclamation (Federal proclamation no. 456/2005), non-pastoralist regions of Ethiopia have enacted their own regional rural land administration laws, regulations, and guidelines. The first two regions in this case are Tigray (regional proclamation no. 97/2006, and land use regulation no. 37/2007), and Amhara (regional proclamation no. 133/2006, and land use regulation no. 51/2007). As well as the Southern Region’s Rural Land Administration and Use Proclamation (regional proclamation no. 97/2006) and the Oromia Rural Land Administration and Use Proclamation (regional proclamation no. 130/2007). As explained by Tigistu (2011) [50], the Gambela and the Benishangul-Gumuz regions enacted their land proclamation in 2010, with the Benishangul-Gumuz regional state having a regional Rural investment Land Use Regulation, regulation no. 29/2009. The remaining regions (Afar, Harari, and Somali), lack legislation for administering their land for rural and clan-based uses, hence it is currently difficult to enforce laws and formally recognize peasants’ and pastoralists’ rights in these regions.

3.1.3. Investment Land Supply and the Land Lease Contracts

Investment Land Supply

According to official investment guidelines developed by the Ethiopian Investment Agency, as of 2013, a total of 11,545,902 ha of potential investment land was made available to investors in Ethiopia (Table 2). In the Benishangul-Gumuz region, the total amount of land delivered to both foreign and domestic investors has taken the lead with 600,254 hectares, followed by Oromiya and Gambella regional states with 458,292 and 399,491 ha, respectively (Table 2).

Table 2. Land size of agricultural investment in Ethiopia.

Land Size (ha)	Potential Investment Land	Total Land Delivered	Regions			
			Benishangul-Gumuz	Oromiya	Gambella	Other 8 Regions (Total)
	11,545,902	2,110,000	600,254	458,292	399,491	651,963

Source: MoA (2013) [36].

Given the discrepancy in stated figures among different authors, the figure seems exaggerated and, therefore, further assessment is required. For instance, according to Deininger *et al.* (2011) [51], since mid 2010, the total amount of land allocated to local and foreign investors is 1.2 million ha with a regional distribution of 535,000 ha (Gambela), 380,000 ha (Oromia), 191,500 ha (Benishangul-Gumuz), 60,500 ha (SNNP), 20,000 ha (Afar), and 18,000 ha (Amhara). However, according to recent information from the Ministry of Agriculture [36] (*i.e.*, since October, 2013), in total, there are about 238 foreign agricultural investment projects from about 32 origins/countries (including the Ethiopian diasporas) which took a total of 736,228 ha of land in the different regions of Ethiopia. There is a variation in stated figures among different authors, and such discrepancies of figures are, however, common not only for Ethiopia but also for other host countries. Furthermore, there is large discrepancy in the figures between the amount of land stated on an investor’s investment contractual agreement (on the document) and the actual amount of land delivered on the ground, where the latter is significantly lower than the former. According to our survey results, in most cases the amount is lower by up to 50%–60%. Edelman *et al.* (2013) [52] believe the reasons for such discrepancies are a result of poor planning in terms of land use and a lack of information about investment land supplies.

The soaring demand for agricultural products and the uncertainty of international food markets has recently drawn the attention of governments and agribusiness firms to investments in productive

agricultural land, mostly in the developing world [25]. The estimated potential areas of agricultural investment for the cultivation of agricultural products in all regional states of the country are presented in the Figure 4. The country also has a huge potential for large-scale plantations to produce pulse, cotton and oil crops.

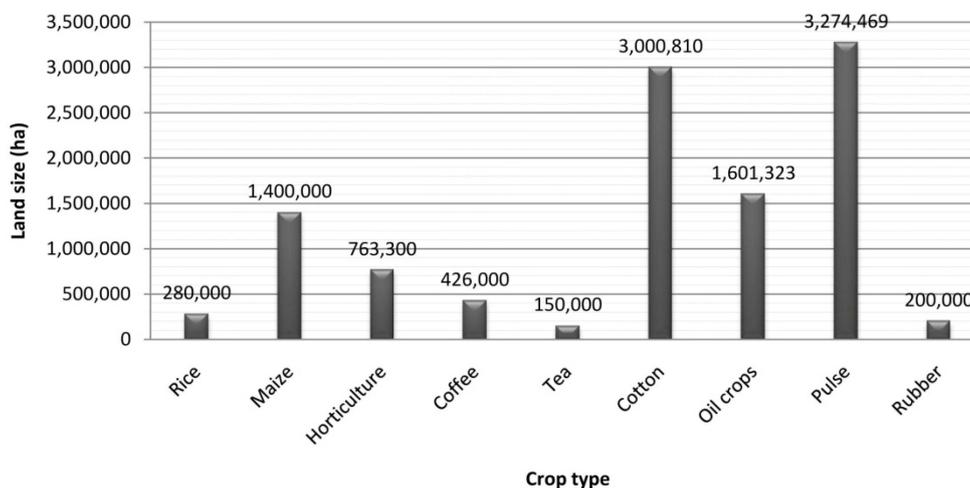


Figure 4. Potential areas of agricultural investment in Ethiopia, adapted from EIA (environmental impact assessment) (2013) [16].

Land Lease Contracts

According to the revised land use directive which was developed in 2009 and became effective in 2011/2012, there was no maximum limit set on the amount of land that an investor could take. The maximum threshold of land that can be given to an investor is set based on the type of land development (Table 3), the capacity of the project (its capital and skilled man power), level of employment creation, and fertility level of the land. While there is no limit set on the amount of land that an investor can take, investors cannot buy as much land as they want due to a maximum limit on the type of investment land.

In Ethiopia, as opposed to other countries (e.g., Canada *etc.*, [4,15,53–55]), investors cannot lease as much land as they want. There is a limit both in terms of land size and land lease period, while land is leased to investors depending on the area of investment and other terms (Tables 3 and 4). As stated by EIA (2012) [26], the Ministry of Agriculture has given the responsibility of providing technical support to private investors in agriculture. According to the MoA (2009) [56] land of size 5000 ha and above and which are found in a single place will be administered by the Ministry of Agriculture, and lands below 5000 ha found in different places (or pockets lands) will be administered by an appropriate regional office.

Table 3. Maximum threshold of land size for an investment project in Ethiopia [56].

Area of Investment	Threshold (Land in ha)	Area of Investment	Threshold (Land in ha)
Bio-fuel	50,000	Food crop	20,000
Palm oil	50,000	Oil crop	20,000
Rubber tree	10,000	Vegetable production	150
Cotton	20,000	Fruit and enset production	5000
Forestry	20,000	Livestock farming	30
Sugar cane	20,000	Animal fattening	5
Coffee plantation	5000	Seed reproduction	5000
Tea plantation	5000	Wild animal production	50
Forage production	5000	Tobacco production	5000

The Benishangul-Gumuz regional government has also set a maximum threshold of land for different areas of investment (Table 3). The regional government's proposition of delivering 200–500 ha of land to a single investor is ambitious, vague, and imprudent in light of some of the regulatory points that are contrary to what is stated by the Federal Government. It did not indicate a land lease period limit for an investment land of 200 ha and less, while the threshold by the regional government is made in terms of land size and years. However, specifically in reference to the horticultural sector, the land lease period further varies according to the type of land (*i.e.*, either cultivated or non-cultivated). Moreover, the regional government limited the land lease holding period of 25–35 years (Table 4).

Table 4. Type of investment land and land lease duration.

Type of Investment Land		Lease Period/Duration (Years)	
		201–500 ha	Above 500 ha
Cultivated land	Rain fed	20–25	30–35
	Irrigation	20–30	30–35
Non-cultivated land	Rain fed	25–30	35–40
	Irrigation	20–25	30–35
Dairy production		20	25
Fast-growing perennial production		20	35
Horticulture		30	35
Livestock rearing and/or fattening		20	25

Source: Regional land use regulation [57].

Although the regional government set 20–35 years as the maximum lease periods for investment lands in the region, there are companies in the same region with contracts of 50 years. These companies hold land on a large-scale basis and the contractual agreement was made not between the regional government and the company but with the Federal government and the company. This is because the regions have “delegated their authority upwards” to the Federal Government (*i.e.*, Ministry of Agriculture), for leasing adjoining farm land areas of above 5000 ha so as to expedite the development of large farm lands for export and industrial crops.

3.1.4. Bilateral Land Lease Contracts: Lessee-Lessor Rights and Obligations

Commercial land lease agreements in Ethiopia are generally bilateral. Meaning, land lease agreements are made between the investor termed in contracts as “lessee” and the responsible government body, mainly the Ministry of Agriculture (MOA) called the “lessor”. The following describes the rights and obligations of each party.

Lessee

The lessee is vested with rights to develop land for the cultivation of crops and plantations as agreed upon with the lessor. The lessee can build relevant infrastructure and facilities which are helpful to enable its investment operations upon consultation and permit from concerned bodies. Moreover, the lessee can administer or develop the leased land by itself or through a legally delegated agency or person. The lessee has full rights to use mechanization or other methods that they consider as proper for developing the land. As explained by Stebek (2011) [13], the right to get additional land is maintained by the lessee based on performance on the ground. Upon presentation of convincing reasons or for better options, by providing at least six months' time to the lessor, the lessee can cancel the contract.

The lessee is obliged to take care of and conserve the leased land and its natural resources with specific obligations to: (i) conserve trees which have not been cleared for land preparation, (ii) apply appropriate farming methods to avoid soil erosion, (iii) adhere to all laws and proclamations related

to the conservation of natural resources, and (iv) conduct environmental impact assessment (EIA) followed by submission of the EIA report within three months (the EIA obligation was added to the contractual agreements recently and used for those land lease agreements made since 2010/2011 following the environmental damages incurred by most of the land lease agreements made between 2007/2008–2009/2010), (v) submit an action plan in advance about the use of leased land together with the contract agreement document to the Ministry of Agriculture at the time of agreement (although what is practically found is the contract agreement and no submitted action plan!), (vi) pay the agreed down-payments, and (vii) start operation on the land within six months from the date of the execution of the land lease agreement. The lessee is expected to develop at least one-third of the land within a one-year period, and develop all the land within three years from the date of the execution of the land lease agreement. For some companies this obligation is adjusted to “develop at least 10% of the leased plot of land within the first year period from the date of the execution of the land lease agreement, and should develop the whole leased land within a five-year period”. Yet, no justifiable reason is found for having two different statements in this part.

Upon terminating the land lease contract or revocation of investment licenses, the lessee should clean the land from all his assets and hand it over to the lessor within one year and provide investment activity reports and correct data upon request from the Ministry of Agriculture. Furthermore, the lessee should pay the land lease rent every year at the rate stated in the agreements. The lessee should not make any unauthorized use of leased land without written consent from the lessor. Until three-fourths of the land is developed, the lessee cannot transfer the land or properties developed on the land to any other individual or company. In addition, an organization or company which leased the land in its name cannot reallocate the land to its individual members or shareholders, and to do so results in an automatic revocation of a contract. Upon developing three-fourths of the land, the lessee can transfer the land or properties developed on the land to any other individual or company only with a permit from the lessor.

Lessor

The lessor holds exclusive rights to monitor the activities of the lessee in accordance with the mutually-agreed contract without hindering any of the activities and operations of the lessee. The lessor also has the right to amend the land rent rate (decrease or increase) in consultation with the lessee. Finally, after 2010/2011, a new statement was added under the lessor’s right: “*With a convincing reason and for using the land for a better function (. . .) the lessor can revoke the land use contract*” (Article 5:5 of the contractual template [58]). This implies that, according to key informant officers in the Ministry of Agriculture, the lessor can revoke the leased land at any time and has created a sense of insecurity among potential investors and preclusion among investors which had already leased land.

The following are the obligations of the lessor: (i) to supply investment land which is free of any constraint on the ground to the lessee within ten days from the time of contractual agreement; however, this does not happen in practice as many of the investors received the land between six and 15 months after conclusion of the contract and faced many local impediments (for instance land assumed as free by the government was already in use by local people), overlapping problems with other investors, and unsuitable land for agricultural practices; (ii) to provide investment privileges and incentives in accordance with available directives promulgated by the government; (iii) to ensure the lessee that there are no impediments (legal or other) in relation to land preparation; (iv) to secure access to the lessee for soil testing facilities or map databases of regional or federal government research centers; (v) to guarantee peace and security (in collaboration with other governmental bodies) around the investment areas free of cost from the side of the investee; and (vi) if the investee fails to start developing land within the agreed time or fails to develop land in accordance with agreements entered or causes any damage to local natural resources or fails to pay lease fees, the lessor may be obliged to extend the time for such compliance or obliged to terminate the contract.

Generally, the land lease contractual agreement focuses on maintaining the interests of the two parties: the lessee (the commercial companies which acquire land) and the lessor (the governmental body—either the Ministry of Agriculture or the corresponding delegated body in the regions, *i.e.*, the regional Bureau of Agriculture and Rural Development). There is no single statement in any of the contractual documents or templates which requests the participation of any other stakeholders (e.g., local communities) when signing the land lease contracts. In addition to the rights and obligations of the parties in the contract, the economic, social, and environmental significance of land lease agreements should be explored, for instance: How feasible are the contracts economically? What are the land lease prices across the districts of the Benishangul-Gumuz region? What is the status of large-scale agricultural investment projects in the region and what are the factors which determine the progress at farm level in terms of the amount of cultivated land? Additionally, the social and environmental aspects of the contracts should be explored so as to have a better understanding of the contracts and their practical implementation on the ground. The following section deals with the economic, social, and environmental perspectives of large-scale agricultural investment in the study sites.

3.2. Economic Payoff

3.2.1. Farm Land Lease Price

The expectation that countries have when using land to market to and attract foreign direct investment is clear; they wish to attract foreign capital, economically use “free” land and improve the internal state revenue through business (or income) tax. Yet, there is no objective land valuation in Ethiopia both at the federal and regional levels, although there are a number of methods and techniques that could be used to measure the benefits of farmland, such as hedonic pricing and contingent valuation [59–62]. Given that, the price quoted for different types of land is not based on its true values and amenities. The federal government proposes the price of land simply on the basis of distance from the capital city to the location of the leased land. To put it in a nutshell, the stated price of land does not reflect the real value of land and the prices are very low compared to local land rental prices. The country is not benefitting from the actual benefits of land because the value of land is not properly determined, which results in extremely low land lease prices for large-scale commercial farmlands compared to the local informal land market values. Furthermore, there is no formal economic benefit-sharing mechanism with local people.

It is also hoped that investors would construct infrastructures and transfer technology so as to benefit their host country, yet none of these are formal requirements expected from investors. According to the interviews made with the lessees, the lower land lease prices are considered as a compensation for the state’s low infrastructure, bureaucratic land acquisition process, and challenging business operating environment. Although the government of Ethiopia has a number of consecutive reforms to create a smooth investment and business operating environment, according to a recent World Bank report: “Globally, Ethiopia stands at 166 in the ranking of 189 economies on the ease of starting a business” [63]. Nevertheless, this ranking is a point of debate as the number of business enterprises formed in the country within a few years has increased by six fold in the period 2002–2012. As noted by GOE (2012) [64] and EIA (2013) [16] there are also a number of investment incentive packages, improved infrastructure, and attractive investment environments now offered to investors. However, the economic benefits of Ethiopian farmlands can be boosted further by pursuing the improvement of the business operating environment together with proper land use valuation and integrated land use planning. Considering the land lease pricing system, since 2008 the Benishangul-Gumuz regional government developed and enforced its own land lease rent prices for each district (Table 5).

Table 5. Farm land lease price across districts of the region.

Land Lease Price ha/Year	Districts
Birr 50 (Euro 3.14 *)	Sirba Abay Kumruk
Birr 60 (Euro 3.77)	Agalo Komashi Menge Odabildglo Sherkole Wenbera Yaso
Birr 70 (Euro 4.40)	Asosa Homosha Bambasi Belewjiganfof Bulen Dibate Dangure Guba Maokomo Mandura Pawe

* 1 Euro = 15.90 Birr (Ethiopian/local currency), 2009; the current exchange rate is about 1 Euro equal to 15.90 Birr. Source: Regional land use regulation [57].

3.2.2. The Status of Large-Scale Land Deals

While the nature of land (cultivated and non-cultivated) is considered as a determinant for setting land lease periods, it is not considered for determining land lease prices. Due to various reasons, the average amount of land cultivated or developed by investors is significantly lower than the average amount of land leased to investors. The main reasons for this difference are the lack of adequate information about the nature and suitability of land upon which investors agreed to develop, and the challenges of farmland overlapping and farm border disputes. Furthermore, there are challenging processes related to the import of agricultural inputs, discrepancies in the capacity of many investors in terms of the capital they promised to invest in and what they actually invested in and fear of contract cancellation by the government (Figure 5 and Table 6).

A paired sample t-test was applied to compare the amount of land taken in lease form and the amount of land developed (*i.e.*, either started operation, as operation is measured in terms of “developed” land size, or fully entered into production of crops). According to the regional investment bureau, a “developed land” is a leased land which is under commercial farmers or “investors” and land preparation has started at the very least. Accordingly, the average land size developed (or cultivated) by investors (158.32 ha) is significantly ($\alpha \leq 0.05$) lower than that of the average land size on which investors agreed to develop (461.45 ha). There is a higher variation among the amount of land delivered to investors (with standard deviation of 774.73) as compared to the variation among the amount of land developed so far (with standard deviation of 232.60 and $\alpha \leq 0.05$) (Table 7). As a result, the average land size developed by investors is significantly lower than that of the average land size on which investors agreed for development. This implies that investors lack the capacity to cultivate the land that they took or they are discouraged to cultivate as agreed upon in the contract due to limited infrastructure where the farmlands are located. This shows that in reality the investors are sometimes not very realistic in the estimate of their capabilities either.

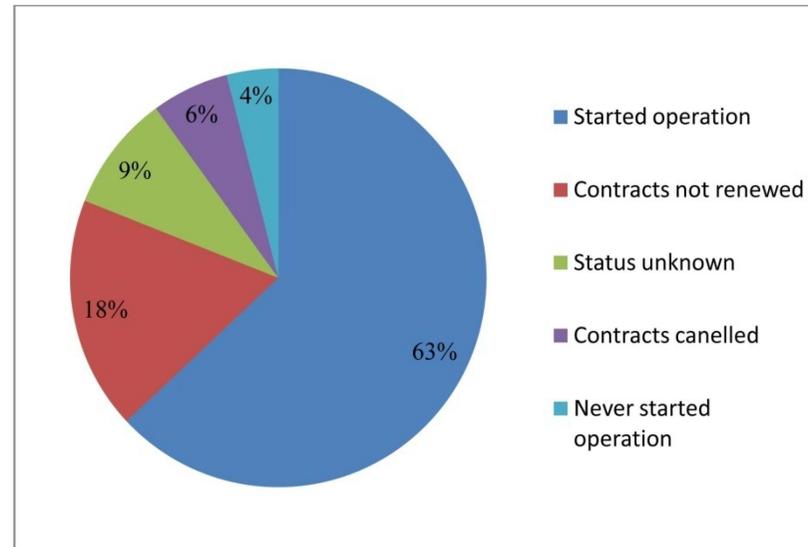


Figure 5. The status of large-scale agricultural investment projects in the Benishangul-Gumuz region. Source: Ministry of Agriculture (Addis Ababa) and Benishangul-Gumuz Regional Investment Bureau (Asosa) and own survey.

Table 6. Description of the agricultural investments in Ethiopia and Benishangul-Gumuz.

In Ethiopia					In Benishangul-Gumuz					
Investment Land Size (ha)		Areas of Major Crops (ha)			Land Size Delivered for A Single Investor (ha)		Maximum of Land Lease Duration (Year)	Employment (2013/2014)		
Potential Land	Land delivered	Pulse	Cotton	Oil crops	Max: Bio-fuel/ Palm oil	Min: Animal fattening	Cultivated land	Non-cultivated land	Permanent	Temporary
11,545,902	2,110,000	3274,469	3,000,810	1,601,323	50,000	5	30–35	35–40	848	3246

Table 7. Comparison of land size between land leased and cultivated land (*t*-Test).

Variable	Obs.	Mean	Std. Error	Std. Deviation
Size of land leased	86	461.4535	83.5418	774.7348
Size of cultivated land	86	158.318	25.08216	232.6024
Difference	86	303.1355	63.54804	589.3203
Mean (diff) = mean (Size of land leased – Size of cultivated land), $t = 4.770$				
Ho: mean (diff) = 0 degrees of freedom = 85				
Ha: mean (diff) < 0, Ha: mean (diff) ≠ 0, Ha: mean (diff) > 0				
Pr (T < t) = 1.0000, Pr (T > t) = 0.0000, Pr (T > t) = 0.0000				

3.2.3. The Destination of Products

A study by Rulli and D’Odorico (2014) [25] shows that the food produced in the acquired land is typically exported to other regions, while the target countries exhibit high levels of malnourishment. If the food produced were used for domestic consumption, the crops harvested in the acquired land could ensure food security for the local populations. There is also an on-going debate of a policy issue between export promotion and the stabilization of local food markets. As stated in the Ethiopian Investment Guide of 2012, those companies which export half or three-quarters of their production, are entitled to get comparably more incentives (exemption from income tax [25]) compared to those investors which supply their production to the domestic market. Even though domestic food market inflation takes place, this export policy still exists. While encouraging export through explicitly-stated incentives is good for Ethiopia as a developing country, ensuring the appropriate balance of export promotion and stabilizing the domestic food supply market is imperative.

3.3. Social Aspect

In order to create social standards for land deals that make a positive contribution to local development it is necessary to respect the existing land use rights of local people, ensure food security, transparency, good governance, and community consultation and participation. Article 92(3) of the constitution of Ethiopia states that local people have the right to be consulted fully and express their view in the planning and execution of policies, projects, and programs that affect them directly [49]. With respect to the participation of indigenous communities, before land is supplied for commercial investors, there are community level consultative discussions. There are also a number of minutes and signed documents in district offices showing the consents of local communities through their representatives. However, nothing is formally stated on the land lease contractual agreements regarding the rights and options for local communities. District authorities mainly have the difficult task of handling claims, conflicts, and grievances voiced by local communities in relation to the pressure from commercial farming companies. The two leading neighboring districts where many of the transnational companies obtained land in the form of long-term land lease contracts in the Benishangul-Gumuz region are the Guba and Dangure districts, where local communities have been relocated or resettled away from the land they lived on for years.

Key informants and local administrative officials justify this relocation in different ways. According to the key informants, the eviction is considered as part of the preparation to supply “their land” to investors. The local administrators call the displacement a “villagization” program which was made to supply improved social infrastructure such as roads, schools, clinics, water supplies, electricity, *etc.*, though the on the ground practice has not seen any of those so far. According to the data extracted from the study areas, a total of 2396 households were dislocated in a three-year period (Tables 8 and 9). The resettlement creates pressure upon the recipient villagers and the environment.

Table 8. Relocated and recipient households in the Guba district.

Kebele *	Resettled Households	Households in Recipient Village (s)	Total (% Increase of Number of Households)
Abela Horus	83	78	161 (106.4%)
Almehal	87	306	393 (28.4%)
Bengo	211	54	265 (390.7%)
Iyssid	104	98	202 (106.12%)
Wedelbahit	46	13	59 (3.54%)
Total	531	549	1080 (96.72%)

Source: Own computation at Guba District office, Mankush. * A “kebele” is the smallest administrative unit in Ethiopian governance structure and it consists of a minimum of five hundred households or a population of 3500–4000 persons while 1200–3200 persons in Benishangul–Gumuz which is a sparsely populated region.

Table 9. Relocated and recipient households in the Dangure district.

Kebele *	Resettled Households	Households in Recipient Village(s)	Total (% Increase of Number of Households)
Azaltiktli	97	73	170 (133%)
Aypapo	158	38	196 (415.8%)
Burji	173	190	363 (91.05%)
Gitsi	115	110	225 (104.54%)
Dabuhkokel	99	104	203 (95.19%)
Jimtiya	144	149	293 (96.64%)
Gublak	69	330	399 (20.9%)
Chidanguya	74	23	97 (321.74%)
Dibatie	48	106	154 (45.28%)
Bawla	60	58	118 (103.45%)
Juraysis	54	60	114 (90%)
DekMariam	299	95	394 (314.73%)
Bengez	11	57	68 (19.3%)
Kotay	44	122	166 (36.07%)
Anjakuaya	133	66	199 (201.52%)
Abaydar	287	78	365 (368%)
Total (average % increase)	1865	1659	3524 (112.42%)

Source: Own computation at Dangure District office, Manbuk.

The “performance” of the villagization program enforced by district administration offices and regional states has affected 13% of the households in Guba and 16% of those in Dangure. If the recipient communities in the villagization program are taken into account, 27% of households in Guba and 30% of the households in Dangure are affected by the villagization programs. Furthermore, part of the presumptions behind the commercial supply of farmlands is that they will create employment opportunities and ensure national food security. According to Ostermeier *et al.* (2015) [65], employment creation is a key factor amongst potential community benefits and is particularly interesting for two reasons: First, the creation of jobs is one of the most common commitments investors make to local communities when acquiring land. Second, generating employment is a key component for poverty alleviation. Hence, national governments often welcome and even foster large investments in their countries. Although wage employment is considered a positive effect of foreign investment, Dessalegn (2011) [66] argues that the international land deals barely benefit rural people; rather it is considered as a threat to the local population’s livelihoods. Based on government records, nearly 89,000 citizens (in the whole Benishangul-Gumuz region) are expected to benefit from land acquisition in the form of social gains such as employment opportunities for local people. While, until now, throughout the region, employment opportunities were created for 4094 people, of whom 848 are permanent and 3246 temporary. When companies operate at full scale to develop the whole land they leased, further employment opportunities are created. Furthermore, according to the data extracted from

the study areas, a total of 2396 households were dislocated. According to the regional and federal government officers, the phenomenon is not considered as “dislocation” but “resettlement which is intended to bring local communities together so as to provide better infrastructure and social services to local communities which used to lead life along scattered hamlets and villages”. However, the fact on the ground is that the land which was occupied for years by the dislocated communities was leased for investors, following the state driven community resettlement programs. The temporary employment opportunities benefited citizens, mainly for the influx of labourers from neighbouring highlands, though some of the migrated labourers shifted to encroach on “free” forested land and could “upgrade” themselves to the status of “investors”. Therefore, the threat to local communities is not only from the commercial farmers who are recognized by the state but also from those labourers employed in commercial farm lands who illegally invade “free” forest lands for their own business. As the forest is a source of many food and non-food resources, the “free” forest lands are important economic buffer zones for local communities, especially during periods of stress on their livelihoods. Hence, local communities frequently see land deals as threats to their livelihoods, potentially leading to loss of land and household income. There is a high possibility of further employment opportunities that will be available in parallel to the farmland’s operational progress and the growth of companies in the region. For further understanding of the leased and developed land effects on the level of local employment generation, regression analysis was applied.

As shown in Table 10, five factors, which are, “size of land leased”, “permanent employees”, “temporary employees”, “distance from road”, and “level of education” are entered into the equation that altogether can explain about 73% of the variations of the dependent variable (size of cultivated land) (adjusted $R^2 = 0.73$). The regression model is statistically significant and indicates that, overall, the applied model can significantly predict the dependent variable ($F_{(5,80)} = 47.38$; $p \leq 0.01$). Beta coefficients show that increasing one unit to the standard deviation of “size of land leased”, “permanent employees”, “temporary employees”, “distance from road” and “level of education”, will respectively cause 0.841, 0.002, 0.016, -0.138 , and 0.038 of the increase in the standard deviation of the dependent variable, respectively. Among the variables, the total size of land leased has a significant effect on the size of land developed and cultivated by an investor ($B = 0.25$; $p \leq 0.01$). Similarly, farm distance from roads has a significant effect on the size of land developed or cultivated by an investor ($B = -2.13$; $p \leq 0.05$). This implies that improving rural infrastructure (particularly roads) is indispensable in enhancing farm level performance of commercial farms. Other factors, such as amount of labor employed and the investor’s level of education have insignificant effects on the size of land developed or cultivated by an investor.

Table 10. Regression analysis of the main factors influencing size of cultivated land.

Model Summary					
Model	R	R ²	Adjusted R ²	Std. Error	
1	0.87	0.75	0.73	120	
ANOVA					
Source	Sum of Squares	Df	Mean Square	F	Sig.
Regression	3,437,915.40	5	687,583.08	47.38	0.0000
Residual	1,160,912.63	80	14,511.40		
Total	4,598,828.03	85			
Coefficients					
Independent Variable	B	Std. Error	Beta	t	Sig.
Size of land leased	0.25	0.02	0.841	14.81	0.000
Permanent employees	0.11	3.15	0.002	0.03	0.973
Temporary employees	0.18	0.69	0.016	0.25	0.801
Distance from road	-2.13	0.88	-0.138	-2.41	0.018
Level of education	2.01	3.01	0.038	0.67	0.508

The land that has been developed by investors is a subset of the acquired land. However, they are not always related. In fact, we have also seen different situations: sometimes, despite the increasing size of leased lands, the investor did not have enough capital (technology, labor, and the like) to increase the cultivated land as well. This shows that the investors sometimes are not realistic when estimating their capabilities either. For example, an Indian company in the Benishangul-Gumuz region was supposed to clear 50,000 ha forest within 10 years (5000 per year on average), while after five years it had only cleared 3000 ha.

The output corresponds with the field observation that much of the temporary labour force is used to clear the land (land preparation) and is commonly supervised by permanent employees. The more permanent employees, the more temporary the employment is. The amount of both taken land and developed land has not yet had a statistically significant effect on the level of temporary employment. The most probable reason for this is that a major proportion of lands have been not developed yet, as temporary employees are used either for weeding or cultivation jobs once investors enter into full production. However, the amount of land developed is expected to have a meaningful effect on the level of (temporary) employment after companies enter into full-scale production in the near future.

Friis and Reenberg (2010) [67] in their study show that local food insecurity and increasing poverty can be considered as some of the consequences of farmland acquisition. D'Odorico and Rulli (2014) [68] argue that even those large-scale land acquisitions carried out with the informed consent of local communities can jeopardize the food security and livelihoods of selling communities. With regard to the food security effects of farmland acquisition, there are key concerns among local communities and stakeholders in the country. Local Gumuz communities are losing access to non-timber forest products and their traditional sources of food, the natural forest areas, which they have been accustomed to using for generations. There is a dramatic shift in terms of land use and consequently the livelihood of local people; a shift from forest-dependent means of living to customary farming practices without adequate support and training in farming practices. Furthermore, the socialization of the resettled groups of households (in some cases with different ethnicity) with the recipient ones is not easy. Therefore, it is necessary to understand the wider context and the overall predicaments of local people in relation to the local resource access for local communities.

3.4. Environmental Aspect

As stipulated in Article 92(2) of the national constitution of Ethiopia, the implementation of development programs and projects should not have damaging effects on the natural environment. Furthermore, according to the country's environmental impact assessment law (proclamation no. 299/2002), it is mandatory to properly accomplish an assessment of environmental impacts of a development project before its implementation [69]. However, in practice, no environmental impact assessment reports are prepared to be cross-checked in various databases and through relevant key informants and confirmed by investors.

Environmental damage associated with large-scale land investment might directly occur as a result of forest degradation. A study by Davis *et al.* (2015) [70] in Cambodia shows that nearly half of the area where concessions were granted between 2000 and 2012 was forested in 2000. Accordingly, they concluded that land acquisitions can act as a powerful driver of deforestation. Furthermore, as noted by Dessalegn (2011) [66], large-scale land investment causes a huge loss in biodiversity. According to Cotula *et al.* (2009) [71] and Benjaminsen *et al.* (2011) [72], biodiversity should be monitored as environmental aspects of large-scale land investment. Also, the impacts on biodiversity need to be monitored (e.g., monoculture farming, which may even lead to pest or disease problems) [73]. Additionally, as discussed by The Oakland Institute (2011) [74], the influx of huge numbers of workers into an area raises environmental stress and results in increased deforestation, a decrease in the fish population and wildlife, and general negative effects on ecological systems. In this regard, the environmental cost of the villagization program in the study region has clearly contributed to additional deforestation and degradation of forest resources. According to Rulli and D'Odorico (2013) [75], the

acquisition of land is associated with an appropriation of land-based resources, particularly water, which is crucial to agricultural production. Also, a study by Rulli *et al.* (2013) [76] shows that land grabbing is associated with a virtual grabbing of a substantial amount of freshwater resources, including water supplied by both rainfall and irrigation. Their study showed that the high instances of water grabbing are of particular concern because their effects can be felt both at the local and downstream levels, which can contribute to the possible emergence of water stress, poor water quality, and social conflicts [76]. In line with this, there is no binding contractual agreement which can prevent companies from implementing irrigation farming, particularly those companies which cultivate along the banks of the Beles River, a river which contributes a significantly higher water supply to the GERD, following the Blue Nile River. If this happens without conservation of land, it will become one of the key issues that may cause dissatisfaction and further suspicion among other Nile Basin states which are under the Nile Basin Initiative cooperative framework, particularly, in the lower riparian states of Sudan and Egypt. Therefore, companies engaging in irrigation farming could cause attitudes to tense in the Basin and extensive public concern among stakeholders.

According to Davis *et al.* (2015) [70], the other environmental impacts of farmland acquisition include soil loss and compaction, elevated runoff and GHG emissions from fertilizers, and increased competition for water resources. In addition, the acquisition of land may ultimately alter the resilience of countries and communities to climate change.

Advancing deserts are now on the move almost everywhere [77]. It is reported that in the Sahara Desert, 1.5 million hectares of land are becoming barren every year [78] and expanding in every direction [77]. The forest resources of the Benishangul-Gumuz region could have been conserved as national buffer zones against the expanding the Sahara desert into western SSA.

Parallel to land clearance for commercial farming, forest wildfire is the most prevalent challenges observed during the field visits made in the region. The main causes for forest fire in the region include commercial farmers who burn their wood biomass so as to clear land for tillage, local people who practice wild honey production, and natural wildfire occurring due to the dry-hot seasons. There is much deforestation on the ground by the investors in the Benishangul-Gumuz region but no action has been taken to counteract it for years.

Land conversion from forests to “farm lands” has contributed to deforestation of the natural forest resource bases of the region as well. It is very common to observe huge woody masses in every commercial farm, and ongoing land-clearing and preparation (deforestation) (Figure 6).



Figure 6. Deforestation is part of the land preparation process by companies in the study area (Photo: First author).

Following deforestation, many of the commercial farms have started growing commercial crops, such as bio-fuel trees and edible crops, resulting in huge tracts of land converted from forest to commercial crop farms. As a result, there is a huge loss in biodiversity (both flora and fauna). Moreover, the environmental cost of the villagization program in the study region is clearly visible and has contributed to additional deforestation and degradation of forest resources.

The other pressing issue in the region is locally called “The Dam-in-Between”, *i.e.*, the Grand Ethiopian Renaissance Dam (GERD), its construction was begun in 2011. Upon completion, its reservoir will have a capacity of $63 \times 10^9 \text{ m}^3$, covering a total area of 1800 km^2 [79]. According to ERTA (2011) [80], the dam will be the largest dam in Africa and the eighth largest hydroelectric power dam in the world. However, the area where the dam is located is also where the government of Ethiopia supplied huge parcels of commercial farmlands on a long-term land lease basis. The reservoir will be threatened by sediment deposition if there is no natural buffer zone.

A similar challenge was already observed by Haregeweyn *et al.* (2006) [81] in the Northern part of the country, for instance, that sediment deposition in reservoirs is a serious off-site consequence of soil erosion. To have a natural buffer zone, land and forest areas in the closer upper watershed should have been conserved properly, but the practice on the ground by the land deals has made these areas the opposite of an ideal outcome. Furthermore, as argued in some studies [82,83], restoration of forest ecosystem services will be important both for sustainable agricultural production and protection of aquatic ecosystems.

4. Conclusions

As aforementioned, we adapted the Integrated Land Use Management and Responsible Agricultural Investment framework to describe key land-related institutional and governance frameworks and to examine the effectiveness of the land lease process in terms of economic, social, and environmental expectations from agricultural outsourcing in Ethiopia. Based on the results obtained, by the end of 2012, 2.11 million ha of the total 11.5 million ha potential investment land is already delivered to investors out of which 600,254 ha is the share of the Western Ethiopian lowland region called Benishangul-Gumuz followed by Oromiya and Gambella regional states with 458,292 and 399,491 ha, respectively. In the Benishangul-Gumuz region, there is large discrepancy between the amount of land stated on an investor’s investment contractual agreement (on the document) and the actual amount of land delivered on the ground where the latter is significantly lower than the former, for many cases lower by 50%–60%. While there is no limit set on the amount of land that an investor could take, investors cannot lease as much land as they want due to a maximum limit on the type of investment land and area of investment. Land size of 5000 ha and above and which are found in a single place are leased by the Ministry of Agriculture, and lands below 5000 ha found in different places are leased by an appropriate regional office. There is a limit both in terms of land size and land lease period. The base for setting the threshold by the federal government is land size while the threshold by the regional government is made in terms of both land size and the length of the lease period. However, the regional government’s proposition did not indicate a land lease period limit for investment land of 200 ha and less. Furthermore, some of the regulatory points are contrary to what is stated by the Federal Government. The country is not benefitting from the actual benefits of land because the value of land is not properly determined, which results in extremely low land lease prices for large-scale commercial farmlands even compared to the local informal land market values. Generally, the price quoted for different types of land is not based on its true values and the livelihoods of selling communities. While it is imperative to encourage and attract agricultural investment in the economy of developing countries of Africa, it is equally important to meet the desirable social, economic, and environmental standards of the sector. Lessons learned from the Benishangul-Gumuz region highlight that supplying huge tracts of farm lands for large-scale agricultural investment requires integrated land use planning, appropriate land valuation, functional land governance and monitoring frameworks, and the capacity to implement the various social and environmental laws. Land should be seen not only from the

economic benefits of large-scale agricultural investment, but also from the angle of other marketable services, such as payments for environmental services. According to Resosudarmo *et al.* (2014) [84], sustainable land use alternatives other than commercial farming, such as reducing emissions from deforestation and forest degradation, and fostering conservation and enhancement of forest carbon stocks (REDD+) should be considered, especially in those ecologically fragile areas where the threat of desertification is surging [85]. However, a study by Davis *et al.* (2015) [86] shows that through these carbon credit mechanisms (e.g., reducing emissions from deforestation, forest degradation, and REDD+), land-intensive policies may further heighten the demand for land. It has been suggested that it is time to move beyond the approach of internalizing externalities through payments for ecosystem services. According to Fairhead *et al.* (2012) [87], while understanding and critiquing the processes that result in the neo-liberalization of nature are important, they are clearly insufficient. Alternatives must emerge, rooted in relational, interconnected, animated understandings and experiences of landscape, ecology, and human-ecological relations, responding to the unruly politics and ecologies of the real world. Generally, large scale land acquisitions should not be criticized just because the price quoted for different types of land is not based on its true values, but more in general because it jeopardizes the livelihoods of local selling communities [68]. Countries should not ambitiously supply large-scale farmlands without adequate preparation, land use planning, proper land valuation, and capable monitoring framework. Based on the results, there is no single statement in any of the contractual documents or templates which requests the participation of any other stakeholders (e.g., local communities) when signing the land lease contracts. Moreover, the compensations are not mentioned in the contracts either. Adequate consultations should have been primarily made with local communities, aiming for their active participation when formulating the contract and all agreements. Accordingly, commercial land acquisitions should pass through “inclusive” deals that integrate the biophysical environment, stakeholders, governance, and institutions [35]. Following the acquisition of land by transnational companies, there is a dramatic shift in terms of land use and the livelihoods of local people: a shift from forest-dependent means of living to customary farming practices without adequate support and training in farming practices.

Environmental damage associated with large-scale land investment in Ethiopia happens directly as a result of forest degradation and land conversion which cause biodiversity loss and soil erosion [66]. Integration and harmonization of large-scale commercial farming with other local development projects is crucially important for countries which supply tracts of large-scale farm lands to investors. For instance, there is a large concern in the region, where the supply of large-scale commercial farmlands around the Grand Ethiopian Renaissance Dam (GERD) and long-term land use contracts are made between the government of Ethiopia and commercial companies [88]. Accordingly, future studies should address the long-term effect upon the functionality and sustainability of the reservoir of the dam caused by those large-scale mechanized commercial farms which are operating in the upper watersheds of the region. Introducing cadastral systems and fit-for-purpose land management approaches can contribute to resolving the prevailing challenges and predicaments of large-scale private commercial farming in the region [28,29]. Large-scale agricultural investment in the Benishangul-Gumuz region in general, and the Dangure-Guba districts in particular, is at the cross point of protecting the reservoir of the hydroelectric dam or continuing the supply of large-scale farm lands, which has resulted in significant deforestation and land conversion. Additionally, the forest resources of the region could have been conserved as national buffer zones for the expanding Sahara Desert, as the critical functions of forestlands in deterring the expansion of the Sahara desert to western SSA are indispensable. More lessons can be learned from commercial farmland acquisition in Ethiopia for future studies on issues such as identifying factors that influence the size of cultivated land, e.g., type of crops and type of investment land, the determining factors of employment among commercial farmlands in commercial land supplying developing countries in general, and in the study area in particular, household level welfare effects, land use land cover changes, and the nexus between large-scale commercial farming

and the mega hydro dam and its reservoir. Lastly, improving rural infrastructure, particularly road, is essential to boost the farm level performance of commercial farms.

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Appendix

Table A1. The evolution of land use-land governance institutional frameworks in Ethiopia.

Proclamation(Regulation)	Basic Content Related to Land
1955: Revised Constitution of Ethiopia (article 130)	All natural resources of the country (water, forest, land, <i>etc.</i>) became state domain. Land was part of the sacred trust and meant for the "benefit of both the present and succeeding generations of people" in Ethiopia [47]. However the imperial system was characterized with feudal lords who possessed land and the majority of citizens were tenants. Until the end of the imperial government in 1974, the land tenure system of the country was complex and intricate, it varied from region to region following the occurrence of different socio-political events in the country. Generally, the tenure system could be classified as private tenures and usufructuary tenures. Usufructuary tenure system is mainly based on the type of institutions which hold the eventual reversionary right over the land and could be classified as <i>rist</i> , <i>semon</i> , and <i>maderia</i> , or <i>yemengist</i> . Later in 1974, ownership for land became one of the major causes for the socialist-driven revolution in the country which overthrew the imperial/feudal system in the country. "Land to the tiller" was one of the mottos of the revolution.
1975–1982: Public Ownership of Rural Lands proclamation, proclamation no. 31/1975; Peasant Association Organization and Consolidation Proclamation no. 71/1975; amended by Peasant Associations Consolidation Proclamation no. 223/1982	Abolished (without compensation) all forms of private ownership, and all land used for agriculture or grazing purposes throughout the country was declared to become the collective property of the Ethiopian people. The law stipulated that no compensation would be paid for rural land or tree crops or any forest on such land [48]. In the same year, the proclamation was strengthened by the establishment of peasant associations to ensure equitable distribution of land and to expand the base of socialist relations that would work for the build-up of democracy in the country [48]. Later in 1982, local peasant associations (<i>i.e.</i> , <i>kebelle</i> peasant associations) were given the powers and duties to distribute land within their territorial delimitations [48].
1995: The constitution of Ethiopia, proclamation no. 1/1995, article 40.2; article 50.2	The 1995 constitution of Ethiopia is the existing supreme law of the country, its land, and all other natural resources. Land is commonly owned by the Nations, Nationalities, and Peoples of Ethiopia and it is not subject to sale or to other means of exchange. Regional states are given the power and mandate to administer land and other natural resources in accordance with federal laws. Peasants and pastoralists have usufruct right over land without any charge and without time limit, including the safeguard against expulsion from "their" land except if it is intended for public purposes, which is subject to compensation commensurate with the value of the property on the land [37].
1997: Rural Land Administration Proclamation no. 89/1997, Later repealed by proclamation no. 456/2005.	Stated general guidelines and set broader principles about the contents of land administration law to be enacted by each regional council, such as ensuring free assignment of landholding rights to peasants and nomads without any discrimination of sexes but with transparency, fairness, and participation [37,49].

Table A1. Cont.

Proclamation(Regulation)	Basic Content Related to Land
2002: Investment proclamation. 280/2002. Later repealed by investment proclamation no. 769/2012	So as to widen the participation of foreign investors in addition to the domestic ones. Stated four forms of investment and set minimum capital requirements for foreign investors (100,000 USD for single investment; 60,000 USD jointly with domestic investors), allocation of land, and further rights and privileges for different forms and types of investors [69].
2004: Reorganization of government organs of Ethiopia, proclamation no. 380/2004	Restructured the powers and duties of the Ministry of Agriculture and Rural Development mandated with the power to draft land use policy, land administration guidelines, conservation and use of forest and related resources such as wildlife [48].
2005: Expropriation of landholdings for public purposes and payment of compensation Proclamation no. 455/2005	Defined the key principles that should be considered to determine compensation for a person whose landholding has been expropriated for various development purposes. It also stated the state bodies that have the mandate to determine the responsibility to pay the compensation for land. Generally, it is part of the constitutional requirements of the constitution of the country, article 51/(5) and article 40/(8) to enact laws concerning the utilization of land. A district (<i>woreda</i>) or urban administrations are given mandate to expropriate rural or urban landholdings for public objectives [40].
2005: Federal Rural Land Administration and Land Use Proclamation no. 456/2005 (which repealed the Federal Land Administration Proclamation, 89/1997)	Targeted to increase the land tenure security, enhance farm land productivity, and circumvent expectation of land redistribution among citizens. Farmers hold a perpetual use right on their farm holdings, and this use right should be strengthened through the issuance of land holding-land use certificates and registration, followed by cadastre. A federal framework for rural land administration and land use proclamation, each regional state is mandated to arrange its own legal framework to register land in a region [40]. Security of land tenure versus agricultural investment has been a point argument which requires further investigation. Although the relationship between tenure security of land and agricultural investment varies, tenure security has a significant effect upon farmers' investment in certain counties in Ethiopia [89].
2007: Payment for compensation for property situated on landholding expropriated for public purposes, Council of Ministers regulation no. 135/2007	The amount of compensation for a property situated on a land to be expropriated should be determined on the basis of current market prices. Provisions are set concerning compensation for a building, fences, non-crops, perennial crops, trees, protected grass, permanent improvement on rural land, relocated property, a mining license, and burial ground. Furthermore, formulas for calculating the amount of compensation for the stated properties are set [49].
2009: Benishangul-Gumuz Region Rural Investment Land Use Regulation, Regional Council's Regulation no. 29/2009	Explains investment land supply procedures, investment landholding, lease system and duration of land use, forest protection, land evaluation, land use contract, land lease price in the different districts (<i>woredas</i>) of the region, rights and obligations of investors, etc. [57].
2010: Definition of power and duties of executive organs, proclamation no. 691/2010	The proclamation established twenty ministries one of which was Ministry of Agriculture. The Ministry of Agriculture and Rural Development (MoARD) is dissolved and replaced with Ministry of Agriculture (MoA). Powers and duties which had formerly given to the MARD were transferred to the MoA. The MoA is mandated to ensure conservation of biodiversity, and "the administration of agricultural investment lands entrusted to the federal government on the basis of powers of delegation obtained from regional states" [90].
2010: Agricultural Transformation Council and Agency Establishment, Council of Ministers regulation no. 198/2010	Lead the identification, design, and effective implementation of solutions to the challenges of agricultural development, for instance, identification of soil fertility problems and solutions for the same [71].
2012: Investment proclamation no. 769/2012, it repealed investment proclamation no. 280/2002	Stated provisions which could enhance investment not only in the agriculture but also in the manufacturing sector and improve some laws stated in the previous investment proclamation. Areas of investment for domestic investors, foreign investors, and investments to undertaken jointly are delineated. Amendment on minimum capital requirements for foreign investors are set [64].
2012: Investment Incentives and Investment Areas Reserved for Domestic Investors, Council of Ministers regulation, regulation no. 270/2012	Specified various types of incentives for investors depending on different criteria such as type of investment, location of investment, performance of investment or progress. Exceptions for income tax and exemptions from custom duty for two–nine years. Specifically, investors who invest in Afar, Benishangul-Gumuz, Gambela, and Somale Regions are entitled to 30% income tax reduction. Similar income tax reduction will be made if companies invest in the Guji and Borena zones of Oromia Region and in many of the areas in South-Omo, Segen, Bench-Maji, Sheka, Dawro, Kefa Zones, and some Woredas of the State of Southern Nations and Nationalities People [64].

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