

The local impacts of land grabbing for biofuel feedstock plantations in Ghana

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Abstract

The recent large-scale land acquisition by mainly foreign investors in developing countries for the agricultural production of food or biofuels is known as “land grabbing”. This thesis examines the literature and looks at the local impacts of land grabbing in Ghana, with a special focus to the biofuel investments. The impacts from plantation development are mainly associated with land use change and plantation employment. The investments are expected to bring employment, technology and knowledge to rural areas with often-antiquated farming practices, along with land fees for the community. However, cooperate irresponsibility, poor regulatory enforcement, under-regulation of land deals and elite capture can have severe impacts on local livelihoods, and undermine these benefits. Inadequate land tenure systems and poorly set-up contracts can aggravate the food-insecurity in poor rural areas. Vulnerable groups – such as woman and settler farmers – are particularly impacted as a result of their limited access to livelihood resources. The strong preference for biofuel feedstock plantation investments in Ghana carries the danger of competition for land resources to grow food. The high dependence on agriculture makes displacement of people by plantation development a risk for food security. The negative impacts of plantations development often relate to the land tenure system and poor land rights of the rural population. The customary ownership - and the rights of the traditional council play a part in this. Efforts have to be made towards improvement of national legislation regarding land tenure security, resolving of land disputes, improved management of public land and increased transparency of land administration.

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List of acronyms

CIFOR	Center for International Forest Research
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIAN	FoodFirst Information and Action Network
GDP	Gross domestic product
IFPRI	International Food Policy Research Institute
MOFA	Ministry of Food and Agriculture
NGO	Non-governmental organization
RAINS	The Regional Advisory Information and Network Systems
RED	European Commission Renewable Energy Directive
RFS2	United States Renewable Fuel Standard
UNCTAD	United Nations Conference on Development and Trade

Chapter 1: Introduction

The first signs of land grabs were perceived as a result of the escalating global oil process in 2006. Governments increasingly gained interest in foreign land, in order to achieve national energy security. Since the food crisis of 2008 the developing world experienced a rapid increase of foreign investments in the agricultural sector. Highly food import-dependant countries – such as the Gulf States – were confronted with steeply raised import bills, and sought bilateral land deals overseas to secure national food supplies. Also businesses are recognizing the opportunities that large-scale land acquisition can offer, mainly for food and fuel. Consequently, there has been an increased interest in agricultural land since 2008. (Cotula and Vermeulen, 2009).

This large-scale land acquisition promptly received international media attention, and got known as by its critics as land grabbing. The international debate was mainly about the dangers of land grabs, and less about the potential benefits. However, this phenomenon can be viewed and commented on from different angles. On the one hand, foreign direct investment in the agricultural sector, along with the implementation of new technologies, employment and improved infrastructure could make a contribution to decreasing rural poverty (Cotula et al., 2009). On the other hand, these land grabs could also engender socially and environmentally negative land use changes (Schoneveld et al., 2011). Additionally, promises related to the transfer of knowledge, plantation employment and infrastructure tend to be neglected (Cotula et al., 2009).

1.1 Definition of land grabbing

The terms ‘global land grab’ or ‘land grabbing’ have become widely used expressions that have been used for a wide range of commercial land acquisitions, and are in many cases not strictly defined. The definition that is most common, and used by several authors refers to large-scale land acquisition for agricultural production. This land may be purchased or leased (GRAIN, 2008; Cotula et al., 2009; Daniel and Mittal, 2009). Other authors prefer to use the definition of ‘(trans) national commercial land transactions’, since it refers to both domestic and international land deals and emphasizes the commercial nature of the transactions (Borras and Franco, 2012). Another definition of land grabbing is specified as ‘taking possession and/or controlling a scale of land which

is disproportionate in size in comparison with average land holdings in the region' (Graham et al., 2010,). Poorly demarcated definitions of land grabbing can cause problems related to the usefulness of the available information. Moreover, the different use of definitions by authors makes it more difficult to compare land grab studies. The definition I use in this thesis: large-scale (1000 hectares or more) land deals, both by domestic and international investors. These investments can originate from both commercial companies as well as governments.

It is important to note that the definition 'land grabbing' has a negative association of the phenomenon. This term is generally used by NGO's and research agencies and accentuates the negative impacts of the land deals. However, the investors that enter into these contracts usually refer to large-scale land deals that support and promote development in developing countries. They often emphasize the technological backlog and the strong need for agricultural investments in this sector. In this approach the positive effects and the so-called win-win situation of the land deal is emphasized. Therefore, the definition that is used by a person or group gives away an important signal about the persons or organizations' opinion, as well as the message to the reader on what side of the wider international debate they are on. The definition used in this thesis refers to land grabbing, since this term is commonly used in the literature. This does not necessarily mean that I have a negative attitude towards the phenomenon. On the contrary, I try to illuminate both sides of the story. However, the terms vary among the used literature, and therefore different terms may be used i.e. land grabs or agricultural investments.

1.2 Recent trends

There are several publications that report on the magnitude of land grabbing. The results can vary as a result of the methods used by different authors and the year it was published. According to the International Food Policy Research Institute, large-scale land deals have risen 20 million hectares between 2005 and 2009 (IFPRI, 2009). The World Bank states that 45 million hectares have been acquired since 2007-2008 (World Bank, 2010). Oxfam argues that 227 million hectares have been acquired since 2000 (Oxfam, 2011).

Several issues make it difficult to report precisely on the magnitude of land grabbing. The main problem to accurately determine the number and scale of the land acquisitions occurs because many land deals are simply not reported. There are deals that are made in secret, and are not covered by the media. Moreover, if the land deals are being reported, there are still problems to pin down numbers, for several reasons. Firstly, the projects that are involved in land grabbing can be at very different stages, from planning to operationalization. Secondly, the plans for financing a plantation project can change abruptly, which can cause local citizens to be expelled from their lands, or on the other hand slow down project development. Thirdly, because of unreliable and corrupt data that are recorded for land measurements.

A recent report that was executed by the World Bank, 'Rising global interest in farmland, can it yield sustainable and equitable benefits?' (Deininger et al., 2011), reported on a quantitative research, analyzing the investment projects from the GRAIN-blog¹ between October the first of 2008 and August 31, 2009. This database contains 464 projects; 203 of these projects also include information on the area, which is in total 56.6 million hectares. Around two-thirds (39.7 million hectares) of the total area is situated in sub-Saharan Africa. Furthermore, 8.3 million hectares is located in East and South Asia, 4.3 million hectares in Europe and Central Asia, and 3.2 million hectares in Latin America and the Caribbean.

The majority of the projects originate from just a few countries. China and the Gulf states (Saudi Arabia, United Arab Emirates, Qatar, Kuwait, and Bahrain) are important investors, along with western countries such as the United States and the United Kingdom. (Deininger et al., 2011)

Out of the 464 projects, 405 contain information on commodity data. The numbers show that 37% of the projects focuses on the production of food crops, 21% on cash crops and industrial crops, and 21% on biofuels. The remainder contains projects related to game reserves, livestock and plantation forestry (Deininger et al., 2011).

¹ Report accessible on: <http://www.grain.org/article/entries/93-seized-the-2008-landgrab-for-food-and-financial-security>

It is noteworthy to mention that many projects are not in use, or used in another way than intended in the initial phase. Almost 30% of the projects that were analyzed in the World Bank report are still in the exploratory phase. Moreover, 18% of the projects has been approved but is not in use yet, and over 30% are at initial phases of development. Furthermore, the report shows that only 21% has actually begun farming their acquired land, but in many cases on a smaller scale than intended (Deininger et al., 2011).

1.3 Future trends

The FAO argues that for the period of 2010 – 2030, about 47 million hectares of land will be brought into cultivation worldwide. This calculation is without the inclusion of biofuels and forest plantations, or trade and price effects. These new agricultural lands will be brought into cultivation in developing nations, according to the FAO. Moreover, the FAO states that a decrease of 27 million hectares in developed nations, and an increase of 74 million hectares will take place. This means that an annual increase of 1.8 million hectares for food and feed only will occur (Deininger et al., 2011).

Other authors have used computable general equilibrium (CGE) models. These models make it possible to include adjustments to price and trade, and therefore induce land supply in regions where land is fairly abundant (Keeney and Hertel 2009). The calculations that made use of these CGE models resulted in higher numbers of annual land use change for the future. The numbers vary among authors, from 4.5 million hectares (Fischer and others 2008) to 10 million hectares (Al-Riffai and others 2010) or even 12 million hectares. (Eickhout and others 2009).

With an average of 6 million hectares per year (through own estimations by Deininger et al., 2011), it can be said that by 2030, around 120 million hectares of land will be brought into cultivation. The calculations that allow for price and trade changes (as used by the authors Fischer, Al-Riffai and Eickhout) are even higher – to a total of around 240 million hectares. The expansion related to land use change is not likely to be distributed equally. This results in a land expansion in certain regions in the world - mainly sub-Saharan Africa, Latin America and the Caribbean - which together account for two-thirds of the total (Deininger et al., 2011).

1.4 Main drivers

The commodity price boom of 2007–2008 with high a volatile prices was a reminder for the import dependent countries that they have a vulnerable position in food security. These countries were confronted with high import bills and hereby stimulated to secure their food supply overseas (Deininger et al., 2011). Investment in agriculture has been growing quickly (UNCTAD, 2009). Furthermore, land has become the focus of a new trend of long-term investors (de Lap erouse, 2010). Problems with food supply are created by uncertainties and constraints in agricultural production because of limited land and water resources (Cotula et al., 2009). The high food price spikes of 2008 have also contributed to the worldwide rush for land. The main drivers of the interest in agricultural farmland are set out below.

1.4.1 Financial crisis and food crisis

Urbanization and changing diets in developing countries contribute to the increase in worldwide food demand. Simultaneously, productivity of agricultural products has reduced due to natural resource constraints, underinvestment in rural infrastructure and agricultural science. Moreover, output and productivity suffered from limited access in inputs, and weather disruptions (von Braun et al., 2008a). The high food prices raised concerns about food security for food exporting countries. These countries created restrictions for the commodities offered on the world market, in order to secure their own food supply. Hereby, the worldwide food prices even showed a more rapid increase (Spielfoch and Murphy, 2009).

The financial crisis of 2008 is another important driver for the interest in agricultural farmland, and is linked with the food crisis. With the money that was released from the financial markets and collapsed housing markets, investors were looking for save havens for their investments. Additionally, the speculation in agricultural futures, along with trade policies resulted in an increased level of volatility of commodity prices (von Braun, 2008). Food prices reached extremely high levels at the peak of the crisis, in 2008; an 83% increase between 2005 and 2008. Some commodities peaked even more: the prize of maize almost tripled, wheat prices increased 127%, and rice prices increased 170% in these three years (FAO, 2008). The FAO estimated that 40 million more people were pushed into hunger, as a result of the high food prices.

1.4.2 Food security

Population growth, rising incomes, and urbanization will continue to drive demand growth for food up. To cope with this increase in demand, agricultural production needs to nearly double in developing countries by 2050 (Bruinsma, 2009). The estimated population growth to 9 billion people in 2050 is an important driver for increased food demand, along with the changing diets in emerging economies linked to economic growth that these countries experience (Ansneeuw et al., 2012). Many governments – especially import dependent countries – are looking for ways to increase their food security. Heavily import-dependent countries - like the Gulf States – were confronted with skyrocketing food prices and therefore enormous import bills. Vast amounts of land are obtained overseas in order to avert political and social unrest, and to stabilize food supplies (Daniel and Mittal, 2009).

1.4.3 Demand for biofuels

The demand for biofuels originates from rising fuel prices and fuel consumption, along with growing concerns about oil dependency and reduction of greenhouse gas emissions associated with fossil fuels. There has been a rapid increase for the demand of agro fuels since ambitious targets have been established for blending in agro fuels such as biodiesel and bioethanol with traditional fossil fuels (Daniel and Mittal, 2009). Especially the EU and US have set ambitious targets towards the production of biofuels. The U.S. Renewable fuel standard targets to increase the use of ethanol by 3.5 billion gallons, between 2005 and 2012². Likewise, the EU aims to increase the use of biofuels in transportation, and targets to have a 10 per cent use of biofuels with land transportation by 2020 (Oxfam, 2011). These policy targets have caused a vast increase of production in biofuels. The Netherlands Environment Assessment Agency estimated that 20–30 million hectares would be required for the EU to meet its target, with 60% of the supplies imported. Demand for biofuel feed stocks is a major issue for world agriculture, in relation with land conversion for biofuels. Also in the private sector is a growing interest for biofuel production. Due to the profitability of biofuel production the private sector has recently sparked interest in transnational land acquisitions (UNCTAD, 2009).

² With the expectation that 80–90% of this target is likely to be met by biofuels.

The demand for biofuels is likely to remain high in the long term if ambitious government goals persist. On the one hand non-renewable fuel supplies are decreasing, and on the other hand the demand for oil keeps increasing³. Companies in Europe responded with extensive investments in biofuel production, both inside and outside of Europe (Cotula, 2011; Ravanera and Gorra, 2011). Also the US Energy Independence and Security Act, which was revised in 2007, calls for the use of 36 billion gallons of biofuels by 2022, up from 7 billion in 2007 (Early and McKeown, 2009). Also China, a major consumer of oil, has to import more than 80 per cent of all their oil in the near future (Kreft, 2007).

1.4.4 Rates of return in agriculture

The rising staple food and energy prices have caused an increased interest in arable land, as well as directives by the EU and US on fuel blends (Stahl, 2011). However, large-scale land acquisitions may not only be triggered by the rising demand for the commodities. Expectations of rising land values may be motivating land acquisitions as well. Particularly given the weakness of equity markets, and the low prices to lease or purchase land, the land in the Global South has become attractive as an object of speculation. This was mainly the case in Africa, in recent years (UNCTAD, 2009). Rising agricultural commodity prices make the acquisition of land for agricultural production an increasingly attractive investment. Furthermore, investors consider land as a profitable and safe investment, especially given the unstable financial situation (Milerová, 2012).

³ With the exemption of the 2008 commodity price drop – i.e. the early stages of the financial crisis.

1.5 Problem analysis

Until recently, detailed and reliable information on land grabbing was quite limited. Most information is acquired from media reports and therefore comprises an important source of information. However, most media reports only provide anecdotic information and the lack of detail and reliability make it difficult to get a comprehensive view of the extent of land grabbing. The Spanish NGO GRAIN was one of the first to draw attention to land grabbing in their October 2008 brief⁴ (GRAIN, 2008). This NGO still continues to publish information on current trends related to land grabbing. Furthermore, GRAIN created a database of documents based on reports and media coverage.

The real extent and the nature of this new phenomenon have been hard to assess, particularly because of the lack of reliable data. The Land Matrix project⁵ was set up to respond to this gap of information. This is the most recent database and is a partnership of several organisations, containing information on land acquisitions, which are collected in an online database. The accompanying report to this database (Ansneeuw et al., 2012) was published in 2012 and comprises currently the most comprehensive and recent information on land grabbing.

Although more data is available on the growth of land grabbing, there seemed not to be enough information on the positive and negative effects of this phenomenon. The rapid growing interest in agricultural farmland has divided both experts and public opinion in two groups. The proponents of these large-scale land investments emphasize the benefits for investments in the agricultural sector for developing countries. Conversely, the opponents highlight potential negative impacts on livelihoods, human rights and the environment. Major concerns are expressed about food security for the rural poor; to what extent are the land grabs a risk for local food supply. Additionally, biofuel feedstock plantations carry the threat of worsening the food availability for the local agriculturists if non-food crops - such as jatropha - are cultivated.

To get a more comprehensive view on the balance between the positive and the negative effects of land grabbing, and on the factors influencing that balance, it is important to

⁴ Report accessible on: <http://www.grain.org/article/entries/93-seized-the-2008-landgrab-for-food-and-financial-security>.

⁵ Database accessible on: <http://www.landmatrix.org>.

study it in more detail. For that reason – after a general overview (in chapter 2) – I have concentrated my research on one country - Ghana – and on one application of (trans) national land acquisitions, namely biofuels.

According to the World Bank, Ghana is one of the best countries for investors due to its friendly investment climate: a stable political situation, favourable tax environment and a high level of legal security for investors. As a result, foreign direct investment in Ghana almost tripled between 2006 and 2009, and can be partly found back in the increase of foreign land grabs (FIAN, 2009). Just over half of the population is active in agriculture as their primary livelihood activity, with many more obtaining some of their income indirectly from agriculture. Ghana has many small-scale farmers who form the backbone of the economy and national food security, and are vulnerable to the land use changes and commodity price volatility because of the high dependence on their lands. These farmers are the poorest of the country and suffer from hunger because they lack sufficient land in many cases (World Food Programme, 2009). Hunger and poverty are widespread, especially in northern Ghana. Approximately 14% of the Ghanaian population is hungry. Ghana is not producing enough food for its own population - about 50% of wheat and rice have to be imported (World Bank, 2010). The international debate on the use of biofuels is also of importance to a country like Ghana and its inhabitants, since the production of biofuels that competes with land for food production could aggravate food insecurity.

The objective of this research is to identify the effects of land grabbing in Ghana, and to look for the conditions that can contribute and support economic and social development through land investments. This is also relevant to for an organization like Tropenbos because of the their projects in Ghana.

1.6 Research question

- What are the local impacts of land grabbing in Ghana, with special focus to biofuel investments?

1.6.1 Sub-questions

- What are the potential positive and negative effects of land grabbing? [Chapter 2]
- What are the risks and opportunities of biofuel feedstock plantations, in relation to the Ghanaian land tenure system? [Chapter 3]
- What are the local implications of biofuel feedstock plantations with regard to impacts of land use change and employment? [Chapter 4]

1.7 Methodology

This thesis makes use of secondary data, and reviews published works on the subject of land grabbing. Most of the information is derived from research publications, media reports, or NGO's who specialize in the collection of media reports to build a database. The Spanish-based NGO GRAIN is an important collector of this information, together with the Land Matrix database. The research starts with global trends in land grabbing and subsequently continues to zoom in to the situation of this phenomenon in Ghana. In order to provide a more in-depth analysis, this thesis makes use of a case study, which is elaborated in chapter four. This case study provides important empirical knowledge that can be used to obtain a better understanding of the local impacts of commercial plantation agriculture in Ghana.

The structure of the chapters varies in this thesis according to the availability of information and the questions that are answered. The overall structure is sought to be similar, with an overarching approach. However, due to the different ways of handling and processing information, structures vary among the (sub) chapters. The introduction of the chapter pays attention to the sub-question that is answered, and gives a comprehensive description of the subjects that are covered. Each chapter is conclusively ended with several provisional results and sums up the findings of the chapter.

Chapter 2: Effects of land grabbing

This chapter examines the potential positive and negative effects of land grabbing. This covers both the direct benefits such as land fees, but also macroeconomic benefits that can contribute to the development of the country or region. This chapter also looks at the potential risks that land grabbing can create with regard to livelihoods and land use change. The chapter is focused on answering the first sub-question of this thesis.

The Food and Agriculture Organization (FAO) stated in 1999 that:

“Land is not just a resource to be exploited, but a crucial vehicle for the achievement of improved socioeconomic, biological, and physical environments.”

Large land deals can bring along opportunities for the host countries, such as agricultural investment. Furthermore, proponents list more possible benefits, including employment creation, improved infrastructure and the transfer of technology and knowledge. On the other hand, the treats related to large-scale land acquisition are emphasized, regarding people’s livelihoods and ecological sustainability (von Braun and Meinzen-Dick, 2009). With the current high rate of land deals, less developed nations in sub-Saharan Africa are hopeful that the much-needed investments in infrastructure, agriculture and technology are encountered, and that these investments will increase employment (Daniel, 2011).

2.1 Potential benefits for host countries

Land fees and financial transfers

Deininger et al. (2011) stresses that taxes from local ventures are a key mechanism to encourage support to investments on a local level. Tax income on land and property are one of the best sources for sustaining local revenue. However, Cotula et al. (2009) states that land fees tend to play a relative unimportant role when compared to broader economic benefits such as employment and infrastructure development. In his view, land fees are often not charged, or only at very low rates. Empirical research in several African countries - including Ethiopia, Sudan and Mali - confirms that land fees are low in monetary terms, and are not of great importance in negotiations. Different case studies have shown that land fees are extremely low, for example in Sudan, particularly

in rural areas: a feddan (0.42 ha) may cost US\$ 2 or US\$ 3 (Cotula et al., 2009). Moreover, the study by Cotula gives information on government preferences for development, for example by quoting a corporate officer in Angola who stated that: “the [Angolan] government are not interested in making money out of the land. The government is interested in stimulating the local economy, diversifying the primary economic base from past focus on mining and industry”.

The recently published Land Matrix report argues that several kinds of compensation are used, such as grants to the community or cash payments to farmers that are affected by the land acquisition. In the case of land fees, the report states that these payments can be as little as \$0.07 cents up to \$100 dollar per hectare annually. These differences in prices are linked to the lack of functioning land markets, and the corresponding price signals. This is a situation that some investors may exploit to obtain better deals when leasing land (Ansneeuw et al., 2012).

Although taxation may increase public revenues, tax incentives provided by host government’s play an important role for the extent of public revenues. An example of this can be seen in Sudan, where agricultural concessions are exempted from custom duties, tax on all capital items as well as the income and profit tax. This is also the case in Madagascar, Mali and Ethiopia, where significant levels of tax incentives are documented (Cotula et al., 2009).

The FAO (Cotula et al., 2009) report demonstrates an example of the revenues that Ethiopia missed out on due to tax exemptions. In this example the estimated average profit tax is \$20 per hectare per year, and has an average exempted period of 5 years. In this 2009 report there is a total of 602,760 ha allocated to documented projects. The estimated exemption reaches therefore an amount of US\$60,276,000. To put this into perspective it might be useful to look at foreign aid and agriculture dependency for this country. Ethiopia is the second largest recipient of bilateral and multilateral aid with US\$3,529 million in 2010. Moreover, Ethiopia is the fourth most economically dependent country on agriculture with 47,7% of their GDP originating from agriculture (2008, Economist).

Macroeconomic investment

Investment, employment and infrastructure from land investments are considered as potential macroeconomic benefits that can increase economic performance (Cotula et al., 2009). These potential macroeconomic advantages of land investment are shortly discussed with regard to agricultural investment, the transfer of knowledge and technology, employment and infrastructure.

2.1.1 Agricultural investments

The agricultural sector forms the basis of development countries, and is in many cases in need of investments. However, these governments are not able to expropriate these investments. Therefore, foreign investment in these economies is very much welcomed. These investments should bring new agricultural technology to boost productivity and improve the quality of the agricultural products (Hallam, 2009).

2.1.2 Transfer of knowledge and technology

One of the reasons for the low productivity and quality of agricultural products is the lack of knowledge and technology, especially in Africa (Deininger et al., 2011). An important potential benefit of land deals is the transfer of knowledge and technology. It is expected that agricultural technology will improve agricultural practices with regard to productivity and quality (Hallam, 2009). Meinzen-Dick and Markelova (2009) argue that land deals can contribute to improved productivity and quality for the agricultural sector, by introducing modern agricultural technology and improving agricultural knowledge.

2.1.3 Employment

Land investments bring around hope that it will provide jobs for the local population. Several authors argue that international institutions and transnational land deals can create local employment and contribute to poverty alleviation (FAO, 2009a; Deininger, 2011; Cotula et al., 2009). Nevertheless, it is important to keep in mind that promises made by investors concerning job employment tend to be neglected (Cotula et al., 2009). Moreover, the crops that are planted present high differences in the number of employees needed per hectare. According to Deininger et al., (2011) large-scale cultivation of wheat only needs 10 workers per 1000 hectares, whereas sorghum needs approximately 53 workers per 1000 hectares.

2.1.4 Infrastructure

The land deals in sub-Saharan Africa tend to focus on the improvement of the infrastructure, as part of the land deal. Commitments related to infrastructure seem prominent in some of the land deals. This can be under the terms of contract or as part of the national legislation (Cotula et al., 2009). However, there are cases where the infrastructure is not related to the agricultural project. For example in Qatar, where a 40,000 hectare lease was established. Qatar offered in return a loan of several billions to Kenya, to construct a deep-sea port.

2.2 Risks of land grabbing for host countries

Land grabs have provoked reactions by different organizations. The subject has been widely covered by the media and caused concerns from civil society, environmentalists, and researchers about the negative effects of large-scale land acquisition. These groups express their fears for food security, livelihoods and environmental implications of land grabbing. Moreover, governments and United Nations agencies have uttered their concerns as well (Daniel and Mittal, 2009).

2.2.1 Livelihoods

Several new studies have shown the potential threat of investors who are exploiting weak land tenure systems in developing nations to their own advantage (World Bank, 2010; Arezki et al., 2011). Investors tend to choose their target countries with weak land tenure systems, which gives them advantages to acquire cheap land in an easy manner (Ansneeuw, 2012).

Most of the land in Africa is property of the government, together with a high dependency on natural resources. Displacement of land can therefore have large implications for the rural population in African nations. When the government decides to lease out land to a foreign investor, it is possible that local farmers lose their lands – in some case even without any form of compensation (von Braun & Meinzen-Dick, 2009). Furthermore, lands that are allocated to investors are in many cases labeled as “waste land”, where in reality these lands are used by local people (Cotula et al., 2009).

2.2.2 Environmental impacts

Case studies have shown that large-scale agriculture brings along different environmental consequences. These are related to the change in agricultural production methods as well as the negative effects of land use change (Ansneeuw, 2012). The land use change from local small scale farming methods to large-scale industrialised agriculture entails several negative environmental consequences. Among these are land degradation, water pollution, excessive use of fresh water, and the heavy dependency on fossil fuels and fertilizers, and the use of pesticides (Montemayor, 2009). Additionally, the release of carbon dioxide into the atmosphere is associated with land use change. Investors tend to be focused on their profits and less dedicated to sustainable agricultural practices than local farmers (von Braun & Meinzen-Dick, 2009).

2.2.3 Employment, infrastructure and transfer of knowledge and technology

It is often argued - by the proponents of large-scale agriculture - that the investments will generate employment for the local people. However, several case studies suggest that these jobs do not get established in the manner that was promised, or in a lower quantity. Moreover, salary and work conditions may be poor (Ansneeuw, 2012).

The contracts that are signed – regarding employment and infrastructure – are often unclear or lack details on concrete numbers or figures and are therefore often not complied (Cotula et al., 2009)

Furthermore, while investors tend to focus their investments on so called “marginal” or “waste” lands, they focus on the best lands with the highest potential for soil fertility, irrigation, closeness to markets or the availability of infrastructure (Cotula et al., 2009). The transfer of knowledge and technology can contribute to the development of the agricultural sector, but much depends on the way the business operates. When the business does not work in an integrated way with the broader agricultural sector, not much exchange of knowledge or technology can take place, and provides therefore little benefits for the local development within the sector (Hallam, 2009).

2.2.4 Export based production

The land investments are in many cases focused on export-based production, which entails a questionable situation. Firstly, there arises the problem with food security since the rural communities lose access to use the land that is leased by the investor.

Primarily the poorest people and landless people tend to be affected by this (Right to Food and Nutrition WATCH, 2010). Although it is possible that the investments or investors can increase productivity, it does not necessarily mean that the access to food for the local population will improve. Many projects are aiming to export the agricultural products back to the home country of the investor. Furthermore, a significant part of the projects are established for the production of biofuels (Spielloch & Murphy, 2009). Many of the countries that lease out land to foreign investors are recipients of foreign food aid, for example Ethiopia, as mentioned previously (Daniel and Mittal, 2009). When the country is importing more food - instead of using its own production - it will become more vulnerable to the fluctuations on the world food market (Robertson & Pinststrup-Andersen, 2010). The worldwide protests in developing countries after the food crisis in 2008 are related to this.

Secondly, the large-scale land investments create a shift from small-scale agriculture to large-scale market-orientated agriculture (De Schutter, 2010). The mechanized way of production is providing benefits to produce at lower costs, and create products that fit standard market requirements (United Nations, 2010). Local farmers that have to compete with large-scale enterprises, are not able to compete with these new, low-cost production methods. They are therefore forced to sell their products at low prices (De Schutter, 2010). The change from small scale to large-scale agriculture generates in this way few big winners at cost of many small-scale farmers.

2.2.5 Power distribution

Host countries are prepared to go to great lengths to attract foreign investments, which can cause used lands to be leased out to investors (Ansneeuw, 2012). Moreover, the host countries are in some cases politically unstable or lack the democratic institutions to make right decisions for their country. The deals that are made with corrupt governments create problems for the rural poor and landless people since these groups can become victim of non-functioning host governments.

Conclusion

This chapter examined the potential risks and opportunities of land grabbing on a general level. The direct earnings from land fees can vary widely and are difficult to trace because contracts are often withheld from publicity. Authors who comment on the

benefits of land fees have divergent opinions about the importance of these direct earnings. Moreover, governments' attempts to attract investors provide in some cases tax exemption on which countries can miss out on large sums of money that could have been used for development. The main macroeconomic benefits are considered to be agricultural investment, employment, infrastructure and the transfer of knowledge and technology, but several authors raise questions whether these promises are complied.

On the other hand are the risks of land grabbing with the dangers for livelihoods because of land use change and displacement of people. Risks exist that land which is labelled as wasteland or marginal land is being leased out to investors with the intention to develop these 'unused' lands. Land use change can also have environmental impacts e.g. through the use of pesticides, or removed forests that results in biodiversity loss and the release of carbon dioxide into the atmosphere. Also the export based production for both food crops and biofuel feedstock carries risks to worsen the food insecurity when people lose access to vital livelihood resources. The question is whether biofuels compete with food production for land.

Chapter 3: Land grabbing in Ghana

This chapter examines the situation of land acquisition in Ghana and provides information on the trends of land grabbing for this country. Moreover, quantity and destination of the investments are discussed, along with land ownership systems and acquisition of agricultural lands. Subsequently, the opportunities and risks related to the Ghanaian land tenure system and agricultural practices are discussed. The information obtained in this chapter substantiates the second sub-question and provides a basis for the following chapter and eventually the discussion and the end of this thesis.

3.1 Introduction to Ghana

The republic of Ghana is situated in West Africa; it borders Ivory Coast, Burkina Faso and Togo and has a coastline of 530 kilometres. Ghana has a population of approximately 24 million people and a population growth rate of 2.6% per year. The agricultural sector contributes to the biggest share of the national GDP, with 34%. Moreover the sector employs 55% of the economically active population. The growth in agricultural GDP in the last decade (through 2008) was 4.62%, and is among the highest growth rates in sub-Saharan Africa. Main export products include cacao, gold, bauxite, pineapples, mangos and oil. Many people are small-scale farmers with a plot of land of around 2 hectares. These family farms often use obsolete technologies, but nevertheless produce more or less 80% of Ghana's agricultural output (World Bank, 2010).

Ghana roughly has a land area of 23.5 million hectares, and around 13.5 hectares (57%) are considered suitable for agricultural purposes. The World Bank estimated that in 2009 roughly seven million hectares were cultivated, which translated to approximately 54 per cent of the area suitable for agriculture. Only a small percentage of this cultivable land is irrigated, namely 0.44%, or 33,778 hectares (World Bank, 2010).

3.2 Recent trends

Numbers on the amount of land acquisition are difficult to uncover, they vary to a high extent and are difficult to verify. A FAO report from 2009 carried out quantitative inventories for five African countries, including Ghana. This report gives an overview of the scale of land acquisitions from 2004 until 2009. Only projects with more than 1000

hectares are included in the data. The report totals the amount of allocated land in Ghana at 452,000 hectares. Furthermore it states that this amount of allocated land is divided for only three projects, with the largest project acquiring 400,000 hectares. The total investment commitments are held to be US\$30 million. Moreover, the report gives an overview of the amount of land that has been acquired as a percentage of the total arable land in the country. From the five countries assessed for quantitative data (Ghana, Mali, Sudan, Ethiopia, and Madagascar), Ghana takes the second place right behind Madagascar with 2.12% (Cotula et al., 2009).

It is important to note that press articles are often the only source of information. An overview by FIAN (2010) provides a list of land grabs in Ghana, mostly obtained from media reports. When these media reports are combined, the amount of land acquired in recent years totals at approximately 3 million hectares. These lands are scheduled to be planted within few years for the export of biofuels. However, it is difficult to verify whether and to what extent plans are implemented. Noticeable is the strong preference for the cultivation of jatropha. Only two of the listed projects planned to grow other crops than jatropha, namely oil palm and sugarcane - combined covering around 50,000 hectares. Most investments come from European companies and total around 1 million hectares. The Ghanaian company Gold Star Biofuels is by far the largest investor and acquired more than two million hectares of land for the cultivation of jatropha (FIAN, 2010).

The difficulties that are encountered in the search for quantitative information on land acquisition can be quite substantial and confusing. The dangers and questionable reliability of press articles is clearly demonstrated by the following quote of a web article found on the Internet: "37% of Ghana's Farmland Recolonized". The sole title of this article unmistakably makes use of the word re-colonization, and therefore emphasises the negative impacts of these foreign land acquisitions. Apart from this, the article states that Ghana has approximately 4 million hectares of arable land - in contrary to roughly 14 million hectares of arable land used by the World Bank -, with just over two million hectares under permanent crops. As a result, it quantified that the 769,000 hectares that were acquired by foreign companies cover 37% of Ghana's farmland. The vulnerability of these articles lies in the imprecise calculations that are

created, and the danger of being misinterpreted by people and organizations with little background knowledge on the subject.

Another quantitative analysis on biofuel feedstock plantations in Ghana by Schoneveld and German (2011) describes a situation where the escalating global oil prices in 2006 resulted in a rapid interest for acquiring large tracts of land for plantation agriculture. According to this research, Schoneveld and German (2011) estimated an acquired area of 1.184 million hectares of land for biofuels in Ghana.

3.3 Introduction to biofuel investment

Many industrialized countries have set mandates for the use of biofuels, as discussed in chapter three. Political and economic concerns play a vital role in this increased demand. The use of biofuels can decrease the oil dependency of fossil fuels that have to be imported. Moreover, it is promoted as a more sustainable alternative to fossil fuels. These blending mandates - as adopted by the EU⁶ or US⁷ - create sizeable and stable markets for biofuels, and therefore opportunities for developing countries. Governments of developing countries embrace the newly created export opportunities for biofuels in order to expand their markets to this sector (Schoneveld et al., 2011). For developed countries the mandates for renewable energy mainly have to be achieved overseas, because of land availability and production costs. Hence, land availability and production costs are important causes for the competitive advantages for biofuel production in developing countries, in comparison to the production in industrialized countries (FAO, 2008; Cotula et al., 2009).

Large-scale farming is increasing in Ghana, mainly due to investment for the cultivation of jatropha plantations. The stable market for biofuels has attracted companies to invest in jatropha biofuel plantations in the last five years. Together with countries like Tanzania, Mozambique, Madagascar and Ethiopia, Ghana has become a top destination for the cultivation of jatropha (CIFOR, 2011).

⁶ The European Commissions' Renewable Energy Directive (RED)

⁷ The United States' Renewable Fuel Standard (RFS2)

3.4 Trends in foreign agricultural investment

During the time of colonial rule several attempts were made to create large plantations for the export of tropical crops. In 1957 Ghana became independent and the government set up policy objectives to stimulate mechanized agriculture on a large scale (Akoto, 1987). The 1980's brought along neoliberal market reforms, and caused problems for the initiatives that were led by the government to stimulate the agricultural sector. These reforms took away government support, causing exposure to and competition from international markets with the result that only few projects from that era survived or are active (Amonar and Pabi, 2007). At the beginning of 2000, Ghana was rediscovered as an investment destination for the private sector. This was mainly aimed at the horticultural sector for the cultivation of pineapples for the European market (Schoneveld et al., 2011). The occurrence of the horticultural and oil palm sector has increased over time in the 2000s. Despite that, small holders still play a vital role for the agricultural output and landholdings in Ghana – 80% and 90% respectively. These smallholders therefore remain to contribute to important sectors in Ghana (Chamberlin, 2008).

3.5 Land ownership and acquisition of land

Land ownership can be divided into three types of ownership. Firstly, and most commonly is customary ownership. Land in Ghana is predominantly owned by customary authorities and covers about 78% of the total land area in Ghana. Customary lands are managed by chiefs or the head of a family. They represent the community and are bound to make the best possible decisions for their people. Secondly, there is land owned by the state and covers around 20% of the land. Thirdly, split ownership, which is a partnership between the state and the customary owners, and covers 2% of the land in Ghana (FAO, 2008).

The risk of extensive alienation of customary land is applicable to Ghana, as most of the land is under customary ownership and hence in the hands of the chiefs. They represent the people and are expected to handle competently, and ultimately determine the destination of the land. Land in Ghana cannot be permanently alienated, unless it is acquired by the government through right to eminent domain, as described by Ghana's constitution of 1992. Otherwise land can only be formally allocated through renewable

leases with a maximum of 50 years for foreigners and up to 99 years for Ghana's citizens. Customary lands are owned by traditional councils, which typically are comprised of chiefs or village elders. They are the titleholders of the land and given the sole authority to negotiate and approve allocation of their customary lands (Schoneveld et al., 2011). Consequently, few people hold the responsibility of the customary lands. The users of these lands often lack formal documented administration of their land rights and therefore depend on the decisions of the traditional council (Blocher, 2006; Grischow, 2008; Ubink and Quan, 2008; Berry, 2009). As a result, the traditional authority is given opportunities to allocate large areas to commercial projects, which can negatively impact the users of the land who depend on it.

In Ghana, the Ministry of Lands and Natural Resources manages land, forest, wildlife and mineral resources in order to support development. It also oversees the Land Administration Project (LAP), an initiative to improve land administration and land security. In 2004, it has created 38 Customary Land Secretariats (CLS) throughout the country. These Customary Land Secretariats have the task to register individual claims to land, dispute resolution and support land use planning. They have the authority to record and manage allocations and transactions of land by customary authorities. According to the World Bank, these Customary Land Secretariats are only found in a fraction of Ghana's rural areas (World Bank, 2010).

3.5.1 Ghana as investment country

According to the 'Doing business' report of 2010 by the International Finance cooperation and the World Bank, Ghana ranked number one in West Africa on the ease of doing business. Additionally, it offers labour at low cost. There are good facilities for doing business, such as two commercial ports and an international airport in Accra. Moreover, Ghana has been a stable state with democratic governance since 1992, and has held fair elections since then.

3.6 Risks and opportunities of plantation agriculture for rural development

The rapidly growing investments and the scope of investments in the last years bring around new challenges for land use and land management. Especially in the poorer regions in the north with little foreign investment experience, this could create potential risks concerning land rights and ownership. The government of Ghana has made efforts

to modernize and diversify the economy of the country, and therefore welcomed the investments in the agricultural sector - the backbone of the economy. However, where Ghana was practically self-sufficient in the 1970's, the country has become a chronic food importer with year after year of wheat and rice shortages to meet domestic demand. Causes for the poor agricultural productivity are considered to be the lack of private and public investment, meagre market linkages and difficulties with the adoption of modern inputs (Seini, 2002; Benin et al., 2009; Wolter, 2009). As a result, increased production is in many cases achieved with the expansion of land under cultivation, instead of intensification of the existing land (Quaye et al., 2010).

Due to the high costs of agricultural inputs, smallholders in Ghana implement rotational bush-fallow cultivation in a traditional manner. This agricultural method makes use of shifting cultivation where burnt biomass provides the nutrients for agricultural cultivation. After exhaustion of the soil, the piece of land is left fallow, and is not used for two to five years. This method can be quite sustainable in areas with low population density. Some authors consider this agricultural method to be unsustainable in high population areas in Ghana and emphasize the constraints for the land. They highlight the growing population of Ghana, and doubt whether this agricultural practice can sustain the needs of its people (Ardey Codjoe, 2010; Quaye et al., 2010).

Ghana's 'Growth and Poverty Reduction Strategy' and the 'Food and Agriculture Sector Development Policy' have been set to address the development issues of the country. These reports are revised every few years and new development strategies are implemented. Modernization of the agricultural sector is stated as a primary measure to obtain economic growth and improve the situation in rural areas. A vital part of the development strategy is to promote investment in commercial farming and boost the agricultural sector by attracting Foreign Direct Investment (FDI). Moreover, the government aims to improve the investment climate by investing in infrastructure, improve market linkages, and facilitate the process to acquire land (Schoneveld et al., 2011).

Because the government's objectives concerning modernization and commercialization have been little fruitful in Ghana's history, the recent large-scale plantation investments

bring along new opportunities and promises for the development of Ghana (Akoto, 1987; Wolter, 2009). The recent interest by foreign investors for the biofuel sector can therefore be perceived as a blessing for Ghana (Schoneveld et al., 2011). Improvement of the agricultural productivity could be contributory to a better food security situation and the fight against rural poverty. Positive examples related to plantation agriculture can be found in Ghana. For example, the improvement of infrastructure and the availability of inputs tend to intensify production by smallholders (Tripp, 1993; Brown and Amanor, 2002). Likewise, increased labour availability and higher demands for food have been shown as a stimulus for smallholders to increase output (Amanor and Pabi, 2007). A major potential contribution from large-scale plantation projects is the generation of income. This can be achieved through land leases, or employment on the plantation (World Bank, 2010; von Braun and Meinzen-Dick, 2009; FAO, 2008). Furthermore, employment on a plantation is often stated as a strong tool for the reduction of rural poverty as it creates a diversification in household income. Hereby, employment improves livelihood resilience and therefore tends to be less prone to shocks in income or price volatility. Additionally, household surpluses can be invested in improvement of the agricultural production (Reardon, 1997; Elles, 1998; Barret et al., 2001; Lansing et al., 2008).

On the other side, concerns related to large-scale plantation agriculture are expressed by reports that accentuate the land rights and emphasize the displacement of customary land uses (Cotula et al., 2009; Sulle and Nelson, 2009; Zaugg, 2009; FIAN 2010; World Bank, 2010). The shift of customary lands to plantation lands could aggravate rural inequalities, as it threatens the access to crucial livelihood resources (Amanor, 2010; Cotula et al., 2008; Poulton et al., 2008; World Bank, 2010). Ghana's intended modernization of subsistence agriculture is in this manner conflicting with the countries' agricultural policy linked to rural development.

Additionally, there are risks concerning environmental issues. The conversion from existing land uses to plantation monocultures bear the risk of extensive environmental degradation. In general, plantation monocultures support lower (agro-) biodiversity than traditional farming systems. Clearing of forestland for plantation purposes can result in deforestation of forests or native vegetation with subsequent socioeconomic

repercussions (Clay 2003, Poulton et al. 2008, Gibbs et al. 2010). Approximately 74% of Ghana's forests are not under some form of legal protection; the conversion of traditional land uses to plantation agriculture can have far-reaching environmental implications (Schoneveld et al., 2011).

Conclusion

The assessment of land grabbing in Ghana is difficult because numbers on the scale of land grabbing vary among years and authors, and are difficult to verify. However, this chapter found an unambiguous picture on the destination of land grabs. There seems to be a strong preference for biofuel feedstock plantation, particularly jatropha. Moreover, small-scale farmers tend to play an important role for both the needs on local level, as well as the domestic production and export of these commodities. The majority of the land in Ghana is under customary ownership, and can be leased out to foreign or domestic investors, for respectively 50 and 99 years through renewable leases. This ownership by the traditional council forms an important risk for the long-term alienation of land in Ghana. This is exacerbated by the ownership of few people and the right to decide whether the land stays in the local farmers' hands or will be leased out to the new investor. The preference for biofuel plantations carries the danger of competition for land with food crops, and could in this way aggravate rural inequalities, because this would threaten access to crucial livelihood resources. This combined with the high agricultural dependence of local farmers and the long leases may provide problems for the longer term e.g. when population density increases in already food-insecure areas. Furthermore, the bulk of Ghana's forests is not protected by law and is therefore in danger of being cut as a result of land use change. This could not only take away crucial livelihood resources such as non-timber forest products (NTFP's), but also release vast amounts of carbon dioxide into the air. Additionally, this chapter found that the Ghanaian agricultural practices are often obsolete and in need of investments for both material (i.e. machinery, fertilizers) and knowledge in order to improve the agricultural production. These investments create opportunities for the local population. Positive effects are linked to the investments and macroeconomic benefits such as improved infrastructure that come with the agricultural investments. Plantation employment can also improve livelihoods through increased incomes, and the diversification of livelihood incomes.

Chapter 4: Biofuel feedstock plantations in Ghana

This chapter takes a closer look at a case study in Ghana, and answers the third sub-question. This empirical research may provide vital insights in the effects of large-scale plantation investment. The previous chapter revealed a strong preference from investors for the cultivation of biofuel feedstock plantations, particularly jatropha. For that reason, this chapter provides a deeper understanding on the local impacts of biofuel feedstock plantations. One jatropha project has been chosen since jatropha investments are predominantly present in Ghana. The case study starts with a description of the selected case study, followed by the methodology and the case study background. Subsequently, the local impacts of the plantation are discussed with regard to land use change and employment. The results of the case study are discussed in the following chapter.

4.1 Selection of the case study

At the early stage of the oil price peak – in 2006 – a renewed interest in farmland took place for the commercial production of agricultural plantation crops. In a short time several companies acquired large tracts of land. An overview of the biofuel feedstock plantations in Ghana can be found in Schoneveld et al. (2011). These plantation projects exceed 10,000 hectares. Schoneveld referred to a total of 20 companies, which are for the majority owned by foreign investors. The size and location of the projects are displayed in figure 1. According to Schoneveld, a total 1.184 million hectares has been acquired in Ghana for the production of feedstock for biofuels. This amount of land can be translated to approximately 4,6% of the total land area in Ghana, or 8.8% of the land that is suitable for agricultural production.

Schoneveld et al. describes one plantation project in detail to obtain detailed information regarding the impacts of land grabbing. This plantation site is further on referred to as Brong Ahafo, and is indicated with a black dot in figure 1.

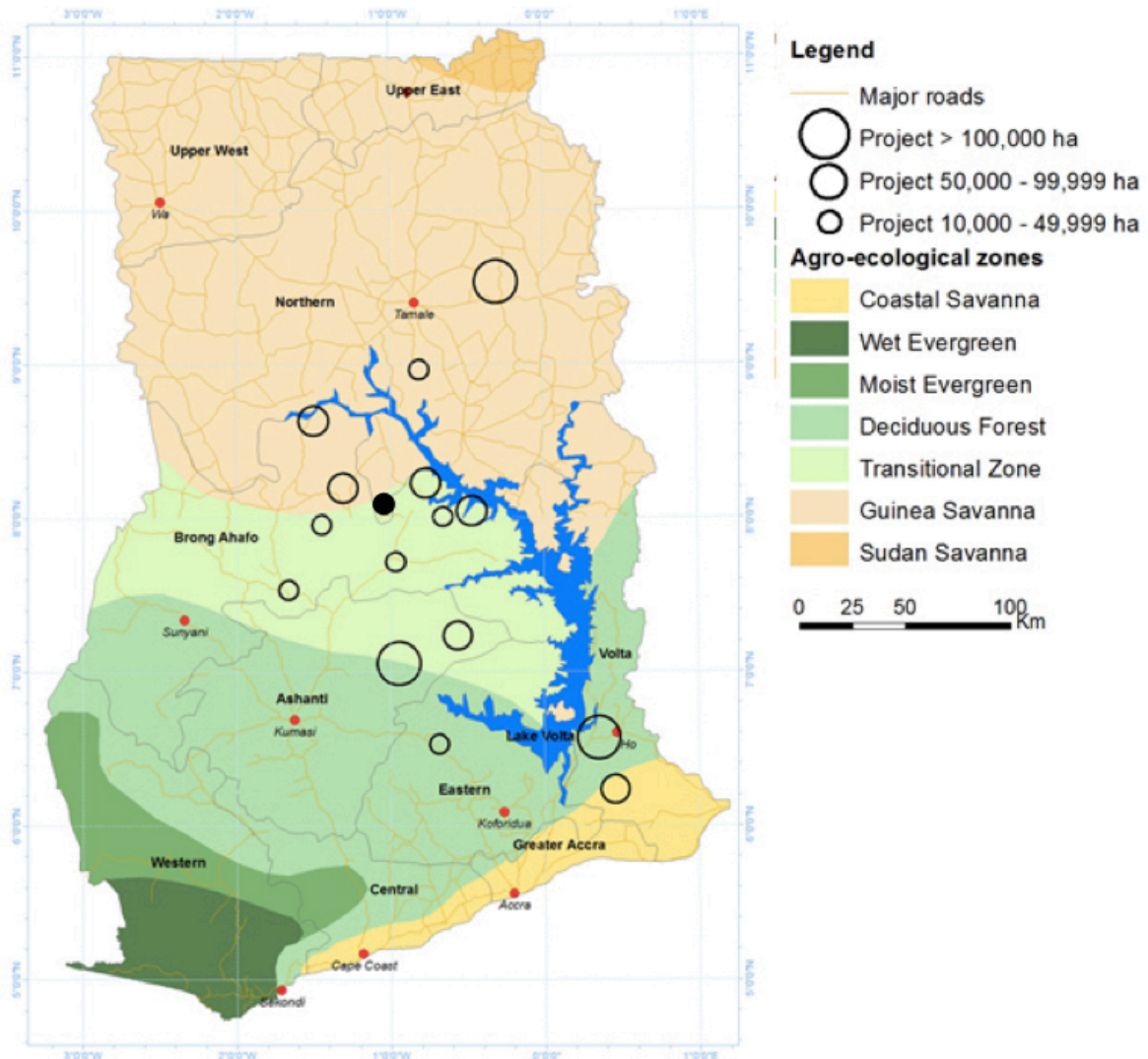


Figure 1: Distribution of biofuel feedstock plantations (Schoneveld et al., 2011).

4.2 Methodology

The research was conducted by Schoneveld et al. between June and August 2009, to capture processes on different scales e.g. national, regional and local. Firstly, interviews were conducted, and secondary data was collected from relevant government and society organizations in Accra. Secondly, visits to nine biofuel plantations with the highest concentration of biofuel investment were conducted, but only three were executed because of reluctance to cooperate with the research. The company's plantation that is assessed in this case study was unavailable for an interview and was unwilling to have details related to their activities made public. Therefore, the company could not respond to the research outcomes and interpretations. Consequently, the main source of information comes from site visits, discussions with affected communities and interviews with the traditional leadership.

The research team sought a plantation that was representative for other plantations in the wider area. The case study plantation site has been chosen to be representative of land use systems (i) and advancement of the plantation development (ii), in order to assess the impacts. The authors do not further specify the reasons why they choose this plantation. However, Figure 1 shows that the examined plantation is centrally located close to the other plantations. Additionally, Brong Ahafo is situated in the agro-ecological zone where the most biofuel feedstock plantations are found, and has an average size. These factors may have contributed to the decision for this particular plantation site. Brong Ahafo is a plantation of 14,000 hectares, with around 780 hectares cleared at the time of the research. From discussions with the traditional council and village chiefs, two broad stakeholder groups have been identified; the people who are employed at the plantation, and the people who lost land to the plantation. Information from these stakeholder groups has been obtained through questionnaires.

4.3 Background information

The case study plantation is situated in northeastern Brong Ahafo in the Pru district, and has a population of 93,857 with a population density of 42.8 per km². The district has four traditional areas that are ruled by chiefs from the bordering towns. Yam cultivation is the most important livelihood activity, followed by cassava. The most important livelihood activity is agriculture, where around 66% of the population depends on. Fishing in the nearby Volta Lake and small-scale trading are important livelihood activities as well. The GDP of the area is approximately 195 Ghanaian Cedi per annum (\$131 on January first 2011), which is around half of the national average; therefore the region has a relatively high level of poverty. Before 2007, there were no large-scale agricultural plantations present in the area. Between 2007 and 2009, four companies acquired land in the district, with three of them for jatropha and one for sugarcane cultivation. These four companies acquired land for in total six different plantation sites. The acquired land covers 152,500 hectares, which is equivalent to 69% of the total area in the Pru district. The research team could not determine whether all six land deals in this area were formalized through a contract. This was only possible for 77,500 hectares. The remaining 75,000 hectares were reportedly also acquired, although it could not be ascertained whether this happened through contracts or informal agreements. At four of the six sites cultivation of the land occurred.

At the case study site, the 14,000 hectares were allocated to the company in 2008. The majority of the population in this area is engaged in traditional bush-fallow agriculture, with the cultivation of yam as their main cash crop. The area is a mosaic of forest and agricultural plots and is characterized by different patches of forest, open and closed woodland, fallow areas and agricultural plots.

The company obtained the land by a direct approach to the traditional authorities, without government intermediaries. The traditional council entered an agreement with the company to obtain 25% of revenue profits from the jatropha plantation, in return for a 50-year renewable lease. Regarding employment, the company made a verbal agreement that at least 75% of the plantation workforce would be residents from the area. There was no agreement made on households potentially negatively impacted. According to an interview with the chief, the traditional council was receptive to the project and emphasized the benefits it could bring to the village, linked to employment and wages from the plantation work. Additionally, the chief argued that the profit from the company is much higher than earnings from migrant farmers leasing land - who settled here in the 1980's.

It is legally required to obtain environmental permits when clearing more than 40 hectares of land. At the time of research the company did not obtain these documents. One year later, when the Environmental Protection Agency (EPA) was made aware of this, the company was not forced to cease their activities, but only requested to execute an environmental assessment for the uncultivated land, as it did not wish to obstruct development. Furthermore, the Ministry of Food and Agriculture (MOFA) was aware of this, but likewise did not pursue the issue. Arguably, there could be conflicts of interest in this case, since a senior employee's for the company, also has a job at the MOFA.

4.4 Local impacts of plantation agriculture

4.4.1 Land use change

The company started their preparation activities in mid 2008, and in May 2010 around 960 hectares of land had been cleared. The company aims to expand the land clearings and accomplish to have a total of 14,000 hectares under cultivation by the end of 2014.

According to Landsat images, an estimated 780 hectares of land was cleared at the time of the research, in August 2009. The research team considered an estimated 46% (359 hectares) not to be part of an active farming system before conversion. This was calculated using household surveys data on the land use area, subtracted by the land clearings made by the company. This collective uncultivated land is mainly used for the collection of forest products and hunting, and characterized by patches of open and closed forest.

The remaining 54% (421 hectares) was used for bush-fallow agriculture, with a total of 69 households from three different villages. Approximately 19% (80 hectares) consisted of yam plots. Additionally, 24% (101 hectares) of the land was used for the cultivation of other crops. Fallow areas covered approximately 57% (240 hectares) of the land.

The 780 hectares that have been cleared by the company impacted the landholdings of the 69 households in the area. The households were not involved in the process, nor did they participate in the negotiations. They first heard of the upcoming plantation from the village chiefs who informed them in 2008. In 2009, the household landholdings had reduced by 61% compared to the situation before the plantation (Figure 2). After the final yam harvest in 2009, the company accessed another 16% of the land for jatropha cultivation. Around three-quarters of the landholdings were lost, but only 18% of the households were able to find replacement land, which constituted 12.6% of the total initial landholdings. The average household landholding size decreased from 26.1 acres to 12.7 acres, and even further decreased by the end of 2009, to 8.5 acres. Moreover, seven households became landless due to the plantation development.

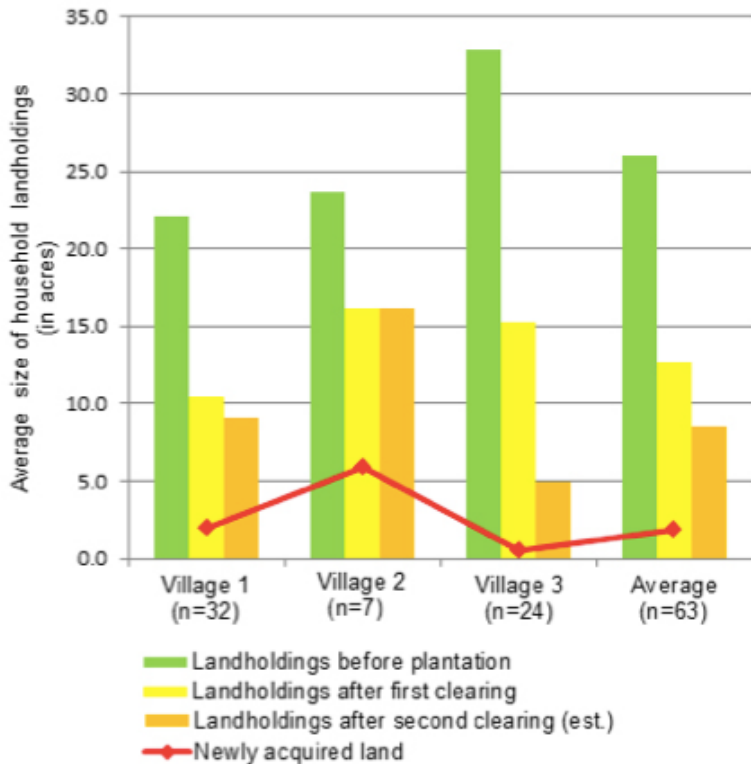


Figure 2: Changes in average household landholdings by community (Schoneveld et al., 2011).

A major obstruction for households to obtain new land is the lack of land that is available. Of the households, 67% stated that land scarcity as a result of the plantation development was the primary barrier for land recovery. Newly allocated land is often cited as unsuitable or being too far from the villages. From the villagers that did obtain new land, 50% considered it lesser quality than their initial land holding. Furthermore, 13% of the households mentioned lack of money as their primary constraint. Another 11% considered no barriers for obtaining new land, and 7% had not made an attempt.

Questionnaires were used to obtain information on the household portfolios of the respondents. The cultivation of cash crops like yam, maize and cassava is for 95% of the questionnaire respondents a primary livelihood activity. These crops are considered men's crops; the women have a responsibility for a range of secondary cash and staple crops. These crops are mainly for household consumption, but are also considered a vital contribution to the household portfolio. Moreover, forestry activities play a key role for the household's livelihood. Besides the collection of firewood, nuts and beans that are collected contribute to a substantial proportion to the woman's portfolio. Charcoal

collection was not considered an important activity for the households, except for the youth. Nevertheless, it was mentioned as a possibility to fall back on, due to the land loss.

The livelihood activities of the households (HH) involved did not change substantially as a result of the land loss, but some exceptions can be observed (Table 1). Some households have lost their land and ceased their farming activities; others stopped their forestry activities due to a reduction in available forestland. Nevertheless, these activities remain to be the most important household activities. On the other hand, households experienced a lower contribution of these activities to their household portfolios. The smaller landholdings resulted in a smaller cultivated area for their crops, or caused an earlier return to fallow land, which over time will result in lower yields. Households with no intention to return to their fallow lands within a short time did not experience a decline in agricultural output yet. However, when they seek for agricultural land in the future, it is likely that constraints for land resources are encountered.

Livelihood Activity	% of HH participating – Before	% of HH participating – After	% of HH experiencing a decrease in activity’s contribution to livelihood since plantation establishment
1. Agriculture	100	87	73
2. Forest Products	97	89	98
3. Livestock	21	29	0
4. Off-farm	3	10	0

Table 1: Changes in livelihood portfolios (Schoneveld et al., 2011).

The woman’s portfolio’s suffered from the loss of agricultural land. Woman’s cash income declined due to a reduced ability to collect, process and market beans and nuts.

In order to cope with the decline in agricultural income, households sought alternative means of income, and expand the scope of their livelihood activities. A few households managed to substitute their initial occupations for new activities, such as livestock

rearing, or off-farm activities like work at the plantation (three households). Moreover, one household was able to trade consumer goods as a new way of income. Nevertheless, the most important barriers for livelihood diversification are considered to be the lack of skills and financial capital by most households.

The land loss and inability to implement new livelihood strategies have resulted in a lower living standard for 73% of the households (Table 2) The households that did not plan to use fallow lands immediately mentioned that the land use will intensify over time, due to decreased land resources. The main changes for household livelihoods are cited to be loss of access to forest products, decreased availability of land, increased time for gathering firewood, and loss of income (in order of frequency). The households considered lower yields from agriculture and forestry the underlying cause for lower living standards. This results in reduced spending power and increased dependency on external food sources for the households.

Variable	Negative (% of Households)	No Change (% of Households)	Positive (% of Households)
1. Access to Forest Products	95	5	0
2. Land Availability	81	19	0
3. Time to Gather Firewood	74	24	2
4. Income Level	67	33	0
5. Food Security	61	39	0
6. Ability to Support Children	61	39	0
7. Social Relations	37	63	0
Overall Standard of Living	73	27	0

Table 2: Perceived livelihood impacts of land loss (Schoneveld et al., 2011).

The discontent that was created by the loss of land for the households was remarkably not aimed at the traditional council who was responsible for the land deal; neither was the company. The general sense of the village households was that the chief – as the landowner – has the full right to allocate land and therefore “cannot be challenged”. This

idea of ownership is particularly present with the settler farmers, who considered these lands not theirs in the first place.

In one of the villages concerns were expressed towards the village chief, since he was held responsible for the land loss for the households. The land users were displeased because the chief was in their view not able to make a better deal, although he was not directly involved in the land allocation process. Nevertheless, the great majority of the households did not express regrets towards the project, and believed that the developments would come to the villages once the projects start to make a profit.

The most desired developments by the villagers were cited to be better health care, improved education facilities and teachers, and higher demand for food crops because of in-migration. On the other hand, very few households expected that the income generated by the traditional council from the plantation profits would be shared with the community.

4.4.2 Impact of employment

Plantation employment is one of the major mechanisms for the development of communities, as a result of commercial plantation projects. The company of the jatropha plantation project employed 120 people at the time of the research. The employees ranged from part-time manual labourers, to more skilled workers who for example operate the tractors. An unskilled worker obtained a salary of 75 Ghanaian Cedi per month, which is approximately US\$50. This wage would constitute roughly half of the average household income – based on the earlier discussed US\$ 131 per annum and a household size of nine persons. Regarding employment, 67% of the plantation employees stated that the work at the plantation had a positive impact on their livelihoods (Table 3). However, only few of the respondents attributed this to the increase of their income. The positive impact was mostly due to the increased security and stability of their income and therefore the improved ability to cover expenses regarding food, medication and education.

Variable	Proportion of Affirmative Response
1. Increased stability and security of income	74.1%
2. Increased ability to cover medical expenses	66.7%
3. Increased ability to care for children	59.3%
4. Increased food security	53.6%
5. Increased income levels	44.4%
6. Increased ability to save and/or invest	29.6%
7. Increased social status	25.9%
Improvement to overall standard of living	66.7%

Table 3: Benefits of employment (Schoneveld et al., 2011).

Before the plantation employment, 73% of the respondents were occupied with farming as their primary livelihood activity. The rest of the respondents were active in small business or job employment other than the plantation. Nearly all of the people with former off-farm activities quit these occupations to work for the plantation. However, from the people who were previously involved in farming, only 10% stopped their farming activities completely. Moreover, the research noticed that the farming activities remained important to the household portfolio. Therefore plantation employment is more a contribution to the household's income than an overall substitution for their farming activities.

Plantation employment has potential to livelihood improvement, and is generally perceived to have a positive impact on income gains. However, when these employment gains are compared to land loss, there appears to be no net improvement. Despite plenty interest in plantation employment, only three households were able to obtain a job at the jatropha plantation. This is only 4% of the 63 households examined. Furthermore, from the three communities affected by the company's plantation, 16 people were employed at the plantation, which is approximately 13% of the total work force. The previously discussed verbal agreement between the chief and company to preferentially employ neighbouring communities is in this way not complied.

In order to provide a more comprehensive overview of the distribution of costs and benefits Schoneveld et al. made a comparison between the costs of land loss and the benefits of employment. This cost-benefits analysis is established through extrapolating the results of the case study to the broader region – the total area that has been brought into cultivation.

The 780 hectares that have been cultivated until now provide jobs for 120 people, and therefore one hectare provides 0.15 jobs. This employment generates US\$90 per year, based on an average wage of US\$ 50 per month per employee. In order to create this employment, approximately 80 hectares of yam was displaced. Based on farmer estimates, this area of yam can generate around US\$ 1000 yearly. Therefore, extrapolated for the 780 hectares, one hectare of yam could generate around US\$ 100 per year, which is already more than US\$ 90 dollar plantation wage. Moreover, land allocated to the plantation resulted in other displaced cash and staple crops, as well as forest products. Additionally, plantation employment generally tends to decrease over time. When the jatropha plants reaches maturity, labour intensity decreases to 0.06 jobs per hectare. During the harvesting months, there are seasonal hikes of 0.08 and 0.12 jobs per hectare. Consequently, the households that lost land to the plantation regained approximately US\$ 2.26 per hectare per year through employment of the plantation – only 2.3% of the value that could have been generated through yam cultivation.

Conclusion

The Brong Ahafo case shows the local implications of a biofuel feedstock plantation into detail, and found that poor regulatory enforcement and under-regulation of land deals can have strong negative implications for local livelihoods. Connected to this is on the one hand the corporate irresponsibility and on the other hand the benefits of the land deals appropriated to the elite of the community i.e. the traditional council. The land users that lose land to the plantation are directly negatively affected since it impacts their food security and the income earning potential from this land. The vulnerable groups that have been identified – in this case study woman and migrant farmers – are even more impacted because of their insecure access to livelihood resources.

The positive impacts of the Brong Ahafo case are mainly perceptible through plantation employment. The employment had a positive impact for the households, mainly because of the improved stability and security of the household income. Therefore, the employment at the plantation provides an important activity to complement livelihood portfolios. However, the study found that the value of the displaced activities exceeds the profits from the plantation. Moreover, there were only a limited number of jobs available at the plantation for displaced farmers. Conclusively, this case study showed a net negative economic outcome as a result of the plantation. It is also questionable whether the substitution of smallholder agriculture for plantation agriculture is socially desirable.

This particular case study provides important insights about the impacts of plantation agriculture from land use change and employment. Although the research team identified this plantation as representable for Ghana, further research has to be applied for the wider area. Moreover, the research team identified the impacts from the plantation for the local population at a fairly early stage in the development. It is not clear what happens in the next stages of the Brong Ahafo case. The profit share that is derived from the plantation is also not examined. This income can be used to fund public facilities, and thus improve local livelihoods. Another weakness of the research: they did not pay attention to potential macroeconomic benefits such as infrastructure and improving trading possibilities.

4.5 Another point of view?

This section takes a closer look at the 'narratives' or storylines on land grabbing, and how proponents and opponents of land grabs can perceive a story differently. Moreover, it examines the factors that impact the positive and negative outcomes of the land grabs for the local population.

The increasing biofuel investments in Ghana and other developing countries has aroused an intense discussion whether investment for biofuel feedstock can contribute to development or otherwise worsen rural poverty. Several international research institutes and organizations (IFPRI, 2007; ActionAid International, 2008; Oxfam 2008) have expressed concerns about the long-term dire consequences. The large areas needed for the production of biofuels, along with the scanty empirical research has created controversies among interest groups in Ghana who report through reports and media debates on the implications of biofuel investment (Boamah, 2011). The controversies related to the biofuel debate triggered researcher Festus Boamah to analyse the food security implications and the accompanying discourse on this issue. His intent was to review the discourses that underpin the biofuel debate, by looking at the implications of a jatropha biofuel project owned by the Norwegian company BioFuel Africa in Northern Ghana.

Discourse refers to a specific delimitation of the shared meaning of the phenomenon (Svarstad, 2002). Each discourse rests on assumptions, judgements and contentions that provide the basic terms for analysis, debates, arguments and disagreements (Dryzek, 1997). The debates on food security implications by biofuels are underpinned by two different discourses. The implied messages of these discourses are expressed with the use of narratives. In other words, Boamah analysed the stories of broadly two groups: firstly, the group with a negative attitude towards the project, and secondly a group with generally positive attitude towards the biofuel project. This analysis investigates the stories of both sides that reported on this project.

Boamah identifies the first group as: 'Global environmental managerial discourse', who expresses optimism towards the development project. The proponents of the jatropha project include the company itself, BioFuel Africa Ltd, chiefs, the majority of residents of

the project villages and Rural Consult Ltd, which is a NGO that claims that biofuel can create a win-win situation for the parties involved.

Boamah names the second group the 'Proponents of the populist discourse'. The discourse implies a deepening of the problems, and claims that the local communities are better off without the intervention of the plantation projects. In the biofuel debates, the second discourse sees biofuel investment as a potential threat to climate change, and a danger for livelihoods through land grabbing. In Ghana, the opponents of the biofuel investment include: ActionAid-Ghana, RAINS, the Directorate of Crop Services and some local farmers.

Boamah makes use of narratives, which are expressive means of the two discourses underpinning the debates about the jatropha project. He analyses these narratives in order to get a better picture of the mainstream discourses. Coupled with the 'opponents' and 'proponents' of the biofuel project, Boamah defined two statements, which he later on elaborated. He uses a method called de-narrativization, in which counter-narratives are produced that become subject to rigorous investigation of their true complexities, in order to highlight the flaws of oversimplifications in the narratives. The study by Boamah tries to examine the two narratives in the jatropha biofuel debates, based on empirical findings from the study villages (Boamah, 2011). The discussion below provides a summary of the two de-narrativizations:

De-narrativization of '*Land grabbing leads to food insecurity*'

The narrativization perceives 'food insecurity' to be an inevitable consequence of the jatropha project, since livelihoods in the villages depend on the land resources, land grabbing has negative food security implications. However, the plantation project initially planted 400 hectares of jatropha, which were before the arrival of the plantation used by 25 farmers. In consultation with the affected farmers and chiefs, the 25 farmers were asked either to relocate their farm, or continue farming on the plantation. Five of the 25 farmers continued farming on the plantation, and the other 20 accepted he relocation. The company ploughed a part of their new piece of land, and encouraged to expand on their own. The farmers stated that the new farmland was compatible with the traditional bush-fallow farming system. No decreases in yield were encountered, and

usually even increases in crop yields due to high soil fertility. The removal of stumps and big trees was said to be a difficulty. Altogether, the establishment of the plantation did not lead to seizure of farmland in the project villages.

Furthermore, the story of this narrative states that food insecurity is caused by the plantation project due to the encroachment of farmland areas. However, the jatropha plant allows other plants to be cultivated between the rows. Moreover, the company has set aside areas for the production of maize for villagers living in the area, and a further piece of land for benefit of the plantation workers. Furthermore, farmland under cultivation within the cleared land increased, which led to a rise in crop production. Although the plantation increased its size in farmland, a large proportion of the land in the area remained 'unused'. This is a result of the low population density of the district, which is about one-fourth of the national average of approximately 100 persons per square kilometre (Europa Regional Surveys of the World, 2009).

Another dimension of the story to this narrative was about the destruction of shea nut trees by the project, which would have led to food insecurity. However, Boamah found that the destruction was a result of more factors, and the destruction had already started a couple of years before the jatropha project. Although the project indeed led to destruction of some trees during the preparation of the land, the farmers indicated that they too played a part in this during the preparation of the land for farming. Village residents indicated farmers as the main cause for the destruction and consequent destruction of shea nut trees. Additionally, the part that was prepared by the plantation project had been previously used by farmers from the area, and had therefore been cleared most of the economic trees.

According to Boamah, the empirical findings from the project villages reveal that the residents do not necessarily disapprove the loss of some economic trees by the jatropha project. He therefore states that it is not straightforward to relate tree loss as a result of the plantation project to livelihood destruction, or food insecurity in the project villages to farmland encroachment. He also says that he still observed woman trading in shea nuts. Moreover, he notes that despite the land use changes, the food production increased during the project, when compared to its previous level. Conclusively, Boamah

states that the central storyline – that land grabbing from BioFuel Africa Ltd causes food insecurity – needs to be qualified.

De-narrativization of ‘*development project leads to improved livelihoods*’

The other storyline, which utters its view towards the positive impacts of the plantation project, found employment – both direct and indirect - to be an important consequence of the plantation. Around 60% of the workers on the plantation were residents of the three plantation villages, earning between GHS 77 and GHS 150 per month. This is an important source of income in rural peasant villages with little alternative livelihood income. Moreover, income sources increased during the project due to a boost in petty trading activities as a result of the increased demand for food and groceries. Residents also invested in farming in different ways. Firstly, farmers could hire tractors for ploughing their lands from the company for a lower cost than before. Secondly, part of their wages was invested to buy seeds for cultivation. Thirdly, wage earners were able to hire extra labour on their farms.

Boamah considers the project to have contributed to improved livelihoods in the project villages. However, the company in this project village has faced funding problems, which resulted in a lay-off for most of the plantation workers – around 75% of the plantation workers had to engage in their previous livelihood activities. Boamah states that the village residents were not worse off after the lay off. However, he notes that the inability of the project and the company to continue to provide sustainable livelihood opportunities for the residents raises questions about the positive impacts that these projects can offer, and are claimed by the proponents of this managerial discourse. As a result, he concludes that both narratives associated with the discourses are in need of qualification, and emphasizes the complexity of the issue.

Constructing a better narrative

The study by Boamah seeks to identify and clarify narratives concerning jatropha projects and food security to be able to represent better and more realistic knowledge. In order to achieve this, he posted four conditions – based on evidence from the BioFuel Africa jatropha project - under which biofuels influence food security.

1. Biological characteristics of the biofuel feedstock

The biological characteristics of the feedstock that is used for the production of biofuels has an effect on both food consumption and food production. The drought resistant characteristic of the jatropha plant makes it a suitable choice to be planted in the drier zones of the country, and implies that it does not necessarily compete with staple food crops. Additionally, the inedible characteristic of jatropha does not directly deny people food. This is not the case when edible crops like maize or sugarcane are used to produce ethanol.

2. Population density and the availability of unused land

The availability of 'unused' land is another important factor to consider in order to assess the impacts of biofuels on food security. The effects of land encroachment vary regarding the population density of the area. The impacts for food crop production are different for densely populated communities when compared to sparsely populated communities.

3. Social responsibility of biofuel investors

The social responsibility of an investor has an effect on the food security situation. The strategy of the investor plays an important role as to what extent the project will be compatible with previous livelihoods, the local food production and respect for labour rights for the employees.

4. Contribution to livelihood diversification

Many researchers have stressed the importance of livelihood diversification to achieve food security (Swift and Hamilton, 2001; Maxwell and Smith, 1992). This involves a spread of economic activities, in order to become less dependent on primary activities such as farming and livestock activities. Diversified livelihood activities decrease reliance on just few sources of income, and make households less prone to yield and price fluctuations and irregular incomes.

Conclusion

The results of this subchapter show that the storylines that are used by the proponents and opponents of a specific discourse vary widely and are easily interpreted in their own suitable way. This can cause a distortion of the truth through the withholding of information, or the use of particular information that suits one of the two camps' opinions. To provide a better and more realistic idea of the effects of biofuel investment, and its implications on food security, Boamah posted a couple of subjects that can contribute to the establishment of better narratives. These subjects are also associated with the relation between biofuels and food security. The evidence provided by Boamah resulted in several conditions under which biofuels influence food security. Biological characteristics of the biofuel feedstock, population density and the availability of unused land, social responsibility of investors and the contribution to livelihood diversification are factors that influence the effects of biofuels on local food security. These conditions form an important framework to better assess the effects of biofuel projects on local food security, and can therefore constitute a part of the broader biofuel debate. Initiatives from investors to alleviate the impact of land loss can significantly contribute to the economic and social success of plantations projects for the local population. This includes the efforts of a company to find suitable replacement land for the displaced farmers. Moreover, the provision of agricultural inputs, cash compensation and suitable employment policies can contribute to the benefits of the plantation for the local population.

The following chapter discusses, inter alia, the outcomes of the Brong Ahafo case study and the narrative debate on biofuel impacts.

Chapter 5: Discussion

The previous chapters covered the global land grab situation, and zoomed in to the situation in Ghana. Chapter four provided an analysis of the local impacts of biofuel investment. This chapter offers a discussion towards the research results, and highlights the case study outcomes of the previous chapter, and its link to Ghana. Subsequently, it focuses on the research questions and wraps up the information and outcomes of this study and displays my opinion on the subject and research outcomes.

The case study by Schoneveld et al. (2011) gives important insights in the impacts of biofuel investment. The researched plantation project shows that the negative effects from the project mainly relate to the loss of access to land and forest resources. An additional problem is the limited ability or inability to access these resources elsewhere. This results in decreased quality of the livelihoods, and increased pressure on land elsewhere in the area. The most vulnerable groups are woman and settler farmers because they have limited access to land. The increased land pressure also undoubtedly worsens land degradation in the area, as a result of shorter cropping cycles, declined soil fertility and depleted forests due to increased harvest of this natural resource. This could negatively impact the agricultural and forest biodiversity, and this again can have a negative effect on the natural livelihood resources where these households depend on. With the expansion of the big plantations it is likely that these impacts intensify over time. Schoneveld et al. analysed the area with household landholding data and geospatial analysis and concluded that approximately 1500 households face land loss if the plantation develops as planned.

Moreover, Schoneveld et al. emphasizes the lack of initiatives by the plantation company in order to compensate for the impact of land loss as a result of displacement. He states that efforts to secure suitable replacement land, provision of agricultural inputs, cash compensation or employment policies could have contributed to the reconstruction of affected livelihoods. Schoneveld et al. notes that – on the basis of interviews at other communities – the problems appear to be widespread. However, these communities have not been investigated thorough as the Brong Ahafo case study. Companies may obtain better results where efforts are made in order to restore local food production

levels from before the establishment of the plantations. These companies with 'better results' tend to be the ones with environmental permits. The case study does however not give details about the kind of environmental permits or the exact improved results from these companies.

Schoneveld et al. also mentions the jatropha plantation project in northern Ghana, which was also described by Boamah (2011). He calls this an isolated case, and notes the increased acreage under food crops by providing inputs, designating plots for smallholder production, and facilitating access to agricultural machinery. These positive impacts are in line with the results that were presented by Boamah. These are results of a corporate social responsibility measures taken by the company to ensure a win-win situation and therefore has a positive effect on the food security situation. Additionally, the employment at the plantation contributes to livelihood diversification and thus contributes to achieving food security. Another important factor in this success story is the population density and the availability of unused land. The low population density of 26.6 persons per square kilometre at this project is only a little more than half of the population density at Brong Ahafo, and around one-fourth of the national average of around 100 persons per square kilometre. Along with the biological characteristics of the biofuel feedstock – the choice for jatropha or staple food crops -, Boamah clearly demonstrated the practical examples to provide a better and more realistic narrative regarding biofuel investment. But more importantly how it can contribute to biofuel investment with positive effects for the local population. The particular case by Boamah in northern Ghana shows a unique example of certain demographic and ecological conditions, together with the goodwill of the company that resulted in improved household food security as a result of the project.

The traditional council is able to contribute to the compensation of affected households. However, at none of the nine plantations Schoneveld has visited, the traditional council made efforts to consult or negotiate for direct compensation for the people they represent. There could be two different reasons for that. First, the traditional council acts in its own interest, and not in the interest of the people in the village they represent. Second, the council is not able to negotiate fair terms, for example due to lack of legal literacy. It has to be noted that many of the involved communities were receptive to the

proposed projects and showed their trust towards the authority of the chief and the government. Therefore, it is unlikely that people affected by the plantation did formally dispute the expropriation of their lands. However, it remains unclear if any disputes were filed.

This thesis found that there is a strong need for more transparent negotiation processes to be able to make participation for involved groups possible, and represent their needs. The negotiations should pay attention to binding agreements for minimizing land loss or food insecurity, compensation of economic losses as a result of plantation development, alternative livelihood income and the provision of benefits for the community, for example through infrastructure development or services for the local population.

However, there are profound problems that make it difficult to obtain beneficiary results for the local population. These include the limited awareness of land value, unrealistic and unwritten expectations of the benefits, weak negotiation capacities and the distribution of benefits. These problems suggest the need for a more direct and active administration of land acquisition by the government ministry. This could address the process of land alienation and oversee the terms and conditions of the investor. It is however questionable to what extent the government – in the quest to attract investors – is aligned to the rights and needs of the customary land users opposed to the investor's requirements. The problems linked to intervention for illuminating these issues relate to conflicting interests, capacity constraints and power relations of chiefs, which in practice limit the usefulness of public intervention. Legal empowerment through bottom-up approaches could help to strengthen capacities to claim rights. Civil society organizations are likely to play an important role in this. Also improved monitoring on investor practices and implementation of sustainability standards is assumedly an essential activity to provide benefits for the local population.

The literature about biofuels and biofuel investment clearly lacks details and profound knowledge on the situation in not only Ghana, but also the broader perspective that feeds the biofuel debate. The study by Boamah has revealed how mainstream biofuel narratives fail to illuminate the complexities regarding biofuels and food security. Boamah describes how the NGO's identify themselves with the poor, and analyse the

problems related to land grabbing on the grass-root level. The stories or narratives published in reports by these NGO's are well received and are trusted with high reliability on their information. This in turn, would help the NGO's to solicit for funds, and in his view these crisis narratives are even used as a tool for lobbying as they appeal to the emotions of the donors.

The coverage on land grabbing is often based on news reports, which are difficult to verify. This is noticeable on both the global level and country level, e.g. the Land Matrix report (Ansneeuw et al., 2012), where a distinction is made between 'reliable data' and 'reported data'. As a result of this knowledge gap, statements may be rapidly drawn without the vital knowledge on the complexity of this issue. The assessments that are made mostly provide only a glimpse of the situation in a certain brief timeframe on few locations. This was certainly the case for the information regarding Ghana's agricultural investments situation and trends. Thus, the land grab situation and the impacts need to be qualified to ensure more substantiated choices, and to support improved assessment for the near future.

For the further assessment of food security implications of biofuel investment it is important to place the analysis of these investments in a specific context. The analysis should pay attention to local characteristics of the land deals, by focusing on land availability, land use patterns, household composition, resilience of livelihoods, and strategy of investors. These factors are very important because there are big differences in these characteristics in Ghana. These factors determine whether agricultural biofuel investments compete with food production and consequently cause food insecurity. Accordingly, it is vital to rethink common narratives and support insightful research to contribute to more nuanced knowledge, and the accompanying debates on food security and land grabbing.

Vast amounts of agricultural investments are needed in the developing world in order to feed the 9 billion people living on the planet by 2050. The FAO (2009b) states that global production of food should increase by 70% in order to feed the world, and calls for an annual US\$ 83 billion for agricultural investment in developing countries. Growth in yield due to technological improvement is steadily decreasing, which suggests that this

increased production needs to come from expansion of arable land. However, the fact remains that Africa has great potential to improve production by technological improvement and the use of fertilizers and pesticides (FAO, 2009b). The agricultural potential linked to availability of land is found mainly in Africa and South-America. Geospatial analysis suggests that 80% of the agricultural reserve land lies within these two continents (Fischer et al., 2002). These data suggest that it is inevitable that new land will be brought into production in the future, also in Ghana. It is therefore justifiable to focus on the improvement of agriculture investments to cope with the risks of land grabbing.

The main problems with plantation investment seem to exist with the set up of contracts, and the actions of companies to comply with these agreements. The possibility for investors to directly approach the traditional council – without government intermediaries – forms a risk for the quality of the contracts and governmental supervision on these investments. Poorly drawn contracts can deprive local population from their rights and undermine local development. An additional problem is that choices are made by the traditional council and therefore determine the destination of their land, with negative consequences for the people who depend on it. If the traditional council provides poor negotiations and contracts for their people, this could aggravate poverty. Another problem is that benefits of the lands could end up with the elite communities and not with the local population.

The recent efforts of Ghana to modernize land administration have resulted in higher efficiency and transparency of land administration services. The number days to transfer property decreased from 169 in 2005 to 34 in 2011. Moreover, improvements through decentralization and digitalization of land registries, merges of land agencies and strengthening of property valuation have increased land revenue from US\$ 12 million in 2003 to US\$ 132 million in 2010. These results have been achieved while the average registration cost - as a share of the property value – were kept unchanged. Hereby, Ghana has made great progress in strengthening land registration and performs considerably better than other supported countries including Tanzania, Uganda, Mozambique, Madagascar and Malawi (Byamugisha, 2013).

Chapter 6: Conclusion

This thesis examined the local impacts of land grabbing in Ghana, with a special focus on biofuel investments and looked at the risks and opportunities that come with it.

The opportunities of land grabbing relate to the investments, and the direct benefits that are derived from that. Moreover, it can bring macroeconomic benefits, such as infrastructure improvement, the transfer of knowledge and technology, employment and local investments. The agricultural sector of Ghana is in need of investments – especially in the north of the country where the population is relatively poor and has to cope with low agricultural production. Biofuel feedstock plantation can play an important role in improving household portfolios, diversifying livelihood income and enhancing stability in income flows. However, poor regulatory enforcement, corporate irresponsibility and under-regulation of land deals undermine these potential benefits. With the traditional council ruling the vast majority of the land in Ghana, the danger of elite capture is particularly present. This form of land ownership puts the faith of many in the hands of few. Poorly set up contracts by the traditional council can impact many farmers that rely on these vital resources to sustain their livelihoods. Furthermore, particularly vulnerable groups – such as woman and settler farmers - with limited land rights are suffering because of their limited rights to livelihood resources.

The positive impacts of plantation projects are attributed to the employment on the plantation. The extra income can complement household income and provide a stable income. However, the question arises whether the economic returns exceed the profits that are made from smallholder agriculture. The Brong Ahafo case study showed a particular case where the profits from plantation employment did not exceed the profits from the smallholder agriculture. However, this case was examined in the early stages of the project, and did not pay attention to the future profit share from the jatropha income, nor did it examine macroeconomic benefits. There is a strong need for improved assessment of investment and the implications need to be qualified. It has to be noted that many narratives are being claimed and pleaded, without strong substantiation or reliable information sources.

The strong preference for biofuel feedstock plantations in Ghana carries the threat of aggravating food insecurity if land rights are being violated and biofuels compete with food for land resources. This depends strongly on the population density, the availability of land and the social responsibility of the company to provide suitable replacement land and agricultural inputs to the farmers to obtain higher yields. Cash compensation and the provision of machinery to farmers can also improve the success of plantation projects. On the other hand, the claims that are made by the proponents of biofuel investments are highly doubtful, since assessment of the biofuel feedstock plantations reveal different information than the statements that are made by companies. Locations of biofuel feedstock plantations are not for the majority found on marginal lands in the north – as claimed by the investors. Also the obtainment of mandated environmental licences does not seem to be widespread. Empirical research found in this thesis on basis of interviews suggests that the problems with compensation and corporate irresponsibility appear to be widespread.

The findings of this thesis suggest that the majority of the problems are related to the poor land rights of particularly communal lands. The customary land secretariats are an effort to manage land and resolve land disputes. The Customary Land Secretariats address local decision and dispute resolution on the one hand, and elite capture on the other. According to the World Bank, elite capture has been particularly exposed in recent years due to the growing commercialization of land. The steps towards sustainable development and the eradication of poverty have to be sought in the management of land and in land rights. This includes improved land tenure security, resolving land disputes, improved management of public lands and increased efficiency and transparency in land administration services. Additionally, there is a strong need for continued research and in-depth analysis for improved strategies and policy to support sustainable development. Further research should mainly focus on the improvement of land tenure and governmental administration of land contracts. Another point of attention would be to further research the conditions and factors for jatropha plantations that can contribute towards sustainable practices. This can contribute to develop and maintain practices that produce sustainable outcomes for the local population in Ghana.

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