Losing ground
The impact of increased biofuel production on local smallholders

A case study of Addax Bioenergy, Sierra Leone

Verfasserin:
Lisa Vlasak, Matr.-Nr. 0803021

Bachelorarbeit
Seminar zur Bachelorarbeit (SE 280.115)
Bachelorstudium Raumplanung und Raumordnung (033.240)

Betreuer: Univ.-Prof. Mag. Dr. Michael Getzner
Co-Betreuer: DI Hans Geißlhofer

Fachbereich Finanzwissenschaft und Infrastrukturpolitik
Department für Raumplanung
Technische Universität Wien

Wien, August 2013

My special thanks to:

Hans Geißlhofer,

Lansana Hassan Sowa (SiLNoRF),

John Brima Kargbo (SiLNoRF),

Abass J. Kamara (SiLNoRF),

Joan Baxter,

the communities Worreh Yeama, Robung / Magbansa, Mabilafu and Mamudu.

Abstract

Large-scale land deals are booming. The global phenomenon, which is often called “land grabbing”, refers to the acquisition of huge plots of farmland in countries of the global South by mostly wealthier nations and private investors. Rising food prices, the increasing demand for biofuels and the prospering business with agricultural commodities have pushed the demand for cheap farmland in recent years. This happens, however, to the cost of the local population, which mostly gets expelled from their land.

Sierra Leone, a small west-African country, has recently become a popular target for foreign farmland investors. One of the poorest countries in the world, Sierra Leone struggles with a dramatically high poverty rate and severe food insecurity. Expecting an economic boost, the creation of jobs and the development of infrastructure through foreign investments, the Sierra Leonean government actively promotes the business with farmland. With the support of the World Bank Group it has undertaken a number of deregulatory measures to improve the business environment of the country.

The NGO Green Scenery (2012, p.1) estimates that about one million hectares of land have already been leased to foreign investors or are subject to negotiations so far; this represents 18% of the country´s cultivatable land. One of the investors is the Swiss company Addax Bioenergy, which leased approximately 15.000 hectares of farmland in the central part of Sierra Leone. The project is dedicated to the cultivation of sugarcane and the production of bioethanol for export to Europe. The project area is home to more than 13.600 peoples, mostly small-scale (semi-)subsistence farmers.

Although the Addax project is often regarded as a best practice example for responsible investment, it turns out to have a large number of negative socio-economic effects on the local smallholders. These include not only a loss of their farmland as their basis of existence and only source of cash income, but also broken promises by the company regarding employment opportunities and infrastructure development. The compensation payments and salaries do not cover the smallholders´ expenses for food, education and health services. Longer walking distances, health problems and social discontent contribute to the bad situation of the smallholders.

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List of abbreviations

ABSL	Addax Bioenergy Sierra Leone Limited / Addax Bioenergy Sierra Leone
ADA	Austrian Development Agency
AfDB	African Development Bank
AGI	African Governance Initiative
AHO	African Health Observatory
AOG	Addax and Oryx Group
APC	All People´s Congress Party
BfA	Bread for All
BfdW	Bread for the World
CDE	Centre for Development and Environment
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
CNES	National Centre for Space Studies
DESA	United Nations Department of Economic and Social Affairs
EAIF	Emerging African Infrastructure Fund
EC	European Commission
EIB	European Investment Bank
EP	European Parliament
ESHIA	Environmental, Social and Health Impact Assessment
EU	European Union
EUR	Euros
FAO	Food and Agriculture Organisation of the United Nations
FDP	Farmer Development Programme
FIAN	FoodFirst Information and Action Network
FIAS	Foreign Investment Advisory Service
FNR	Fachagentur Nachwachsende Rohstoffe
GDP	Gross domestic product
GIGA	German Institute of Global and Area Studies
GIS	Geographic information system
IBRD	International Bank for Reconstruction and Development
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	The International Food Policy Research Institute
IMF	International Monetary Fund
IPTS	Institute for Prospective Technological Studies
IRRC	International Rice Research Institute
ISIS	Initiative for Space Innovative Standards
JRC	Joint Research Centre
km	Kilometer
MIGA	Multilateral Investment Guarantee Agency
MOU	Memorandum of Understanding
MP	Member of parliament
MW	Megawatt
NGO	Non-governmental organisation
NKUK	Nippon Koei UK
OECD	Organisation for Economic Co-operation and Development
OeEB	Austrian Development Bank
PIDG	Private Infrastructure Development Group
SiLNoRF	Sierra Leone Network on the Right to Food
SLIEPA	Sierra Leone Investment And Export Promotion Agency
SLL	Sierra Leonean leone
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNHCR	United Nations Human Rights Council
USA	United States of America
USD	United States Dollar
WBG	World Bank Group
WFP	United Nations World Food Programme
WHO	World Health Organization
WRI	World Resources Institute

Introduction

Farmland has always been an essential resource for human beings. While the world has never faced global deficits in farmland for centuries, there are growing signs that the non-extendable good is slowly running short.

In this context, a number of governments and private investors have started to acquire cheap farmland in southern countries on a large scale. "Large scale" means areas of hundreds and thousands of hectares. The Land Matrix[1] refers to deals that cover 200 hectares or more in its studies. The FAO used as a reference figure deals of at least 1000 hectares in a survey. But single deals can overreach these figures by far: In Indonesia, for example, a foreign investor acquired an area of 483.000 hectares of land (Land Matrix 2013b). In the Republic of Congo, even 10 million hectares were leased to South-African investors some years ago (de Schutter 2009, p.3).

The business with farmland is a controversial issue with a number of different names. Neutral terms appearing in literature are "*large-scale land leases*" or "*large scale land acquisitions*" (de Schutter 2009), "*large-scale land deals*", "*transnational land deals*" (Anseeuw et al. 2012) or "*foreign land acquisition*" (Deininger et al. 2011). Proponents, who believe that such deals may cause a win-win situation for both investors and "host countries", positively name the phenomenon "*foreign direct investment in agriculture*" (Baxter 2011, p.43, on translation). Critics, on the other side, point out that large-scale land deals often cause the displacement of the local population. With this in mind, the terms "*land grabbing*" and even "*neo-colonialism*" or "*recolonialisation*" have become prevalent (Akram-Lodhi 2012, Baxter 2011, Bommert 2012, Daniel & Mittal 2009, Liberti 2012, Maillard Ardenti 2011, Ziegler 2011).

The present paper deals with the problems which arise for local smallholders through large-scale biofuel production. It takes a closer look at a nation that has become a leading target country for foreign investors - Sierra Leone in western Africa. Based on the case of the Swiss company Addax Bioenergy, that recently leased about 15.000 hectares of land at long-term lease conditions for the production of bioethanol in the country, the study describes the tense relationship between the investor and the defenseless population, mainly (semi-)subsistence farmers. The aim is to demonstrate that even investor companies which are considered sustainable and responsible, may create a range of negative influences on affected smallholders. The central question to be examined in this paper on the basis of the Addax Bioenergy case is what changed for the smallholders - from a socio-economic perspective - since the company leased the land. Which effects does the replacement of subsistence agriculture have on local smallholders and their food security? How did their livelihood and dependence on local prices change? And can affected farmers profit from the business at all?

The first chapter briefly explains the backgrounds and drivers of large-scale foreign land acquisitions. It gives an overview of the role of investors, "target countries" and the facilitators of land deals and

1 *The Land Matrix is a publicly available online database which "records transactions that entail a transfer of rights to use, control or own land through sale, lease or concession; that cover 200 hectares (ha) or larger; and that have been concluded since the year 2000." (Anseeuw et al. 2012, p.vi)*

describes general problems of this global phenomenon. The second chapter deals with Sierra Leone as a magnet for investors and illustrates the problematic initial situation of the country. It also outlines the Sierra Leonean government´s attitude towards foreign land investments. Both chapters are based on literature research.

Chapter three and four constitute the heart of this paper and concentrate on the case of the Addax Bioenergy project. The former describes the project, its financing, implementation and monitoring. The latter elaborates the consequences of the Addax Bioenergy project for local smallholders. These two chapters are based on the outcomes of existing surveys as well as on interviews with affected smallholders which were conducted in November / December 2012.

1. Farmland - the new gold

"Ethiopia provides 71,000 hectares to investors" Ethiopian News Agency, 8 August 2012[2]

"Ukraine may dole out huge tracts of unused farmland" Kyiv Post, 27 September 2012[3]

"US farmers scramble to buy Brazil's farmland" AlJazera, 29 September 2012[4]

Headlines such as these have become more and more common in recent years. They address a phenomenon that causes a lot of debate: The global rush on farmland. For a couple of years, farmland has been more sought after than ever. Investors discovered a profitable business in trade with the valuable resource. In the search of the best and cheapest lands, they invest in faraway countries.

The busiest investors generally come from wealthy or emerging countries. According to the Land Matrix (2013a), these include the USA, Malaysia, the Arab Emirates, the UK, India, Singapore, China, Saudi Arabia, South Korea and Egypt[5]. Their main target are countries of the global South. Africa, South America and South-east Asia have become the hotspots of large-scale foreign land acquisition but also east European countries attract a large number of investors. Africa is most affected by the rush of foreign large-scale enterprises (Anseeuw et al. 2012, p.7). In Sub-Saharan countries, more than half of all land deals have been registered in 2010 (Bommert 2012, p.119).

Estimations on the amount of land, which has already been subject to large-scale land deals, vary widely. The quantities are certainly huge: The International Food Policy Research Institute (IFPRI) assumes that since 2006, between 15 and 20 million hectares of farmland have been involved in land deals or negotiations in developing countries (de Schutter 2009, p.3). The World Bank states that about 56 million hectares of land might be affected by the end of 2009 (Deininger et al, 2011, p.xiv). And the international development organization Oxfam International (2011, p.5) even estimates that 227 million hectares of land have been subject to large-scale land deals or negotiations since 2001. That is a surface of almost the size of Argentina (UNdata 2013a).

1.1. Reasons for the land rush

For a long time, farmland has been regarded as an endless resource. Today, investors battle for the valuable good. Since 2005, the interest for farmland has significantly increased (Anseeuw et al. 2012, p.6). The reasons for the land rush are manifold and the result of a complicated network of diverse factors. In a report, the Oakland Institute[6] (Daniel & Mittal 2009, p.2) listed three main trends responsible for the land rush, which will be further explained in the following section:

2 *(Tekleberhan 2012)*
3 *(Rachkevych 2012)*
4 *(Elizondo 2012)*
5 *as of 11 July 2013*
6 *The "Oakland Institute is an independent policy think tank" researching on land rights, the food price crisis, sustainable food systems, foreign investment and the more (The Oakland Institute 2013).*

1) The growing concern about food supplies

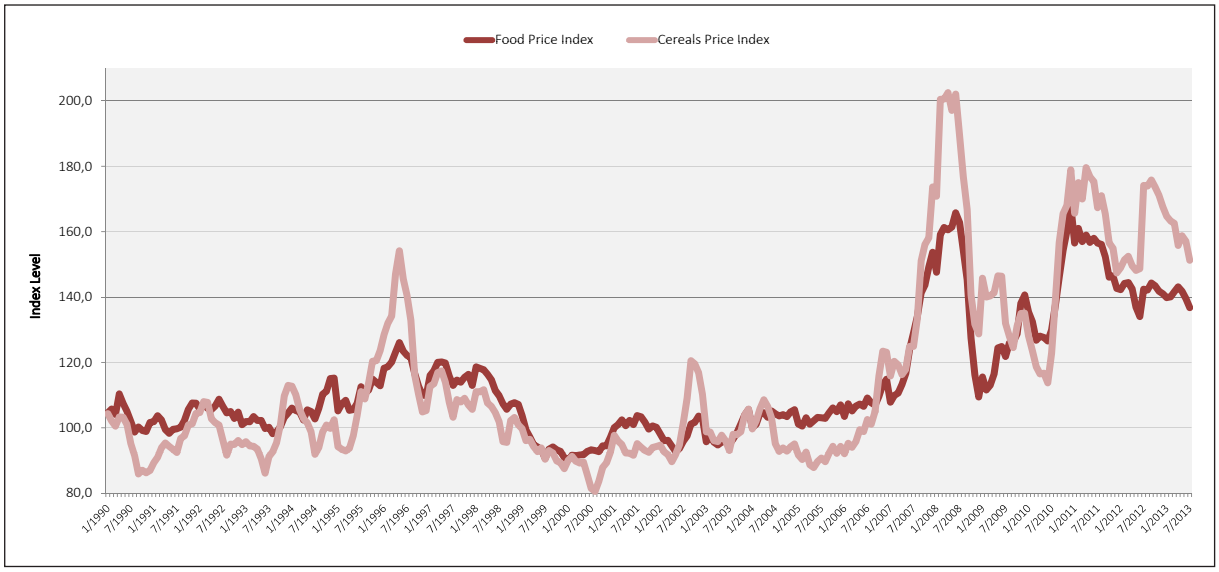
2) The rising demand for biofuels

3) Increasing private investment in land and commodities

1.1.1. Growing concern about food supplies

Not long ago, many countries experienced how fragile food security can be (Deininger et al. 2011, p.1). In 2007, the food prices started to rise dramatically. One year later, the FAO food price index reached an all-time high (FAO 2013). A number of staple foods experienced an extreme price increase (Bommert 2012, p.218). In mid-2008, the real cereal price index was about twice as high as in mid-2006 (FAO 2013). Responsible for the sudden increase of food prices were, according to Akram-Lodhi (2012, p.121) an increased demand for grain, the competition of food and biofuels production, speculation and increased input costs for agricultural products together with bad harvests and regionally declining agricultural productivity.

Fig.1: Monthly real food price indices (2002-2004=100)



Own illustration, based on: FAO 2013.

Many nations started to worry about their food security, most of all countries which do not have available much agricultural land due to climatic or topographic conditions. China is one example: Although the country accounts for approximately 20% of the world´s population, it only has 7% of the world´s arable land. During the last decade, China has turned from a net exporter into a net importer of agricultural products. Similarly affected are arid countries such as Saudi Arabia, which struggle with climatic challenges and scarcity of water and fertile soil (Seo & Rodriguez 2012, p.166). Through their dependence on imports, such countries are at the mercy of the world market prices.

In some parts of the world, governments are also stressed by rapid population growth. In many emerging countries, the fertility rate remains very high. In India for example, the number of people that need to be

fed almost tripled between 1950 and 2005 (UN DESA 2013). At the same time, people´s eating habits are changing. The worldwide meat consumption increases. Industrial countries have been characterized by a high per capita meat consumption for a long time. In the last decades, the demand for meat has also experienced a strong increase in developing and emerging countries. The meat consumption more than doubled between 1967 and 1997 in these countries (Schlatzer 2011, p.34). Akram-Lodhi (2012, p.121) explains this by the increasing prosperity in developing capitalist countries. The "meatification of diets" (Weis 2007, p.42) results in an extensive use of natural resources. Beef production requires almost 30 times as much land and approximately 10 times as much water as cereal production (Schlatzer 2011, pp.83, 121).

Due to developments like those, the pressure on land resources is very high. While the worldwide demand for arable land is rising, its amount however is limited, even declining. The journalist and author Wilfried Bommert mentions a number of reasons for the ongoing depletion of agricultural land: Modern, industrial agriculture facilitates soil erosion and salinization. Also the proceeding sealing of ecologically valuable grounds for cities, road infrastructure and industrial plants reduces the amount of arable land. Water is becoming a more and more scarce resource and prices for fertilizers - with production costs depending on rising energy prices - are expected to increase. Both of these are important input factors for agricultural production and a lack of it leads to a declining fertility of land (Bommert 2013, pp.186-260).

Many nations therefore search to secure arable land around the whole world. A lack of or high prices for fruitful land constrain them to outsource parts of their food production to other, mainly poorer countries in the global South in the hope to become less reliant on the instable world market prices for food.

1.1.2. Rising demand for biofuels

An important factor boosting large-scale land deals is the rising demand for biofules in many industrialized countries. Zwiauer (2011, p.11, on translation) highlights that "worldwide, the production of biogenic fuels tripled between 2000 and 2007". The production of agrofuels and bioethanol requires great amounts of soil resources, since it is mainly produced from plant-based raw materials such as raps, soy, Jatropha, corn, sugarcane and beet, wheaten and the more (Schmitz, Henke & Klepper 2009, pp.12-13). It is estimated that worldwide more than half of all large-scale land acquisitions are dedicated to the production of agrofuels (Bommert 2012, p.19).

The rising demand for biofuels is not only attributed to the population´s interest in eco-friendly mobility but to a large part to the policies of many industrial nations. Biofuels are seen as a future alternative to fossil fuels. The approaching end of the availability of crude oil makes many governments search for alternatives in order to become less dependent on the limited resource. Both the European Union as well as the USA introduced policies for the support of biofuels production (Akram-Lodhi 2012, p.124).

With the first "Directive [...] on the Promotion of the use of biofuels and other renewable fuels for

transport" (EC n.d.), resolved in 2003, the European Union set mandatory targets for the use of biofuels. By 2010, all member states of the European Union were supposed to reach a minimum share of 5,75% of biofuels in all fuels used for transportation. This goal was extended with a second directive issued in 2009 which provides for a minimum share of 10% until 2020 (EP & Council of the European Union 2009, p.2). The USA pursue similar goals. Both governments further push the biofuels production through subsidies and tax reductions. The result is the emergence of a huge market for biofuels, whose production became a very lucrative business (Akram-Lodhi 2012, pp.124-125).

Zwiauer (2011, p.11) assumes that the raise of land deals is directly connected to the above mentioned EU policies. The diagram in fig.2 demonstrates the presumable correlation: Short time after both directives became effective, the number of new large-scale land deals climbed up to a new maximum.

Fig.2: Land deals in agriculture over time

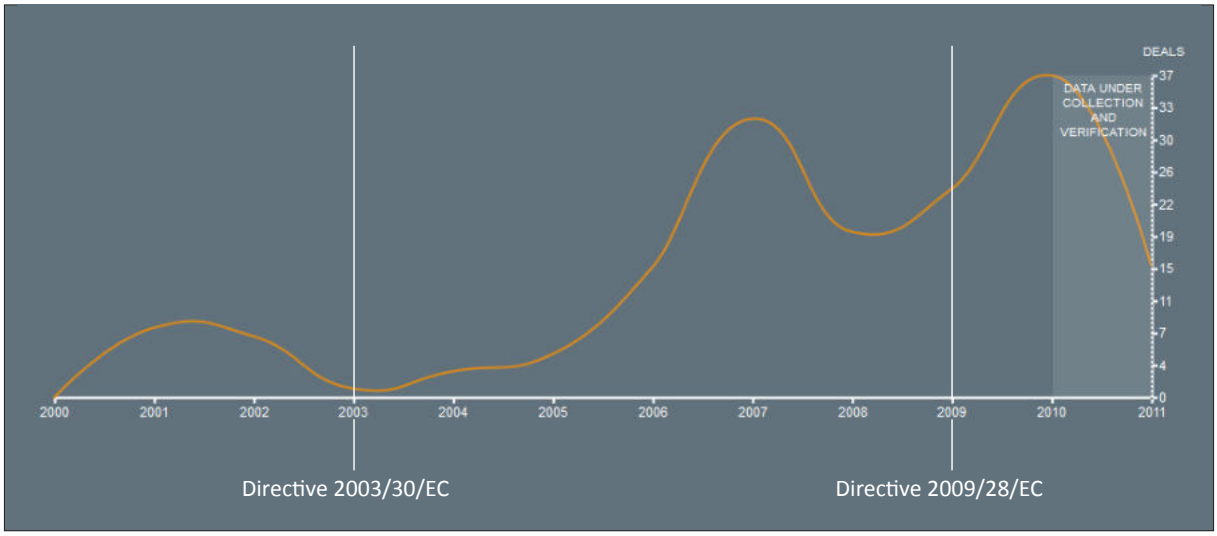


Illustration based on: Land Matrix 2013.

1.1.3. Increasing private investment in land and soft commodities

While many are concerned about the increasing pressure on the supply of food and biofuels, others take profits from the development: "banks, pension funds and investment funds" (Bommert 2012, p.33, on translation). They are said to be responsible for almost one third of all land deals (ibid.). By purchasing equity interests in companies which are involved in the agrobusiness, they secure a share of their profits. The business is deemed to be successful: The combination of a "rising world population needing to be fed, and the resources to feed these people being finite" (GRAIN 2012, p.140) promises high profits. Funds count with returns of up to 25% (Bommert 2012, p.39).

The lucrative business is widespread, most of all in Europe. Almost half of all assets belong to European banks (ibid., p.39). In order to maximize their profits, they invest in countries with low land prices. Sub-Saharan Africa, but also Latin America and south-east Asia represent popular destinations for agribusinesses. (ibid., p.34).

Among the most important actors in the agribusiness are pension fund societies. With investments of about 100 billion USD, pension funds represent almost one third of all assets in commodities. Of that, 5-15 billion USD are believed to be involved in farmland acquisitions (GRAIN 2012, p.139). Pension funds are designed to secure and augment people´s savings. This method is quite common in industrial nations and means that everybody, including workers and former workers, gets involved in the farmland business (Liberti 2012, p.125). Pension funds are often held by governments of wealthy nations such as Japan, Norway, the Netherlands, Korea or the USA. Governmentally held pension funds belong to the biggest worldwide (GRAIN 2012, p.139). Usually, they are not directly involved but do their business via private investment companies, which then invest in farmland (Liberti 2012, p.125).

Fig.3: Poster of the 2011 AgInvesting Conference

Special conferences, such as the annual "Agriculture Investment Conferences" represent important networking oppor-tunities for players in the agribusiness (Bommert 2012, pp.38-39).

Source: deCarbonell 2011.

Even climate protection has turned out to be an indirect opportunity to make money. Apart from the trade of biofuels, many corporations discovered the business with climate certificates. Climate certificates are issued for the amount of carbon dioxide that gets absorbed by plants or trees (Bommert 2012, p.83). In times of rising concern about the environment and strengthened emission limits, the demand is quite high: It has been shown in the past that the purchase of climate certificates is cheaper than the reduction of emissions (Victor 2009) which would require the implementation eco-friendlier production technologies. The certificates are subject to free market rules and traded on special exchanges such as the American Chicago Climate Exchange (Bommert 2012, p.85). The most climate certificates can be gained if the land remains unploughed and turned into grassland or forest. The principle is the same as in any other profit-oriented business: The cheaper the inputs, the higher the profit. For this reason, more and more hectares of cheap land are purchased and afforested or simply left fallow in the countries of the global South (ibid., p.87).

1.2. A win-win situation?

As it became clear in the previous section, large-scale land deals are quite profitable for investors. In the age of globalization it is an easy game for them to select the location which brings in the largest benefits. Most often, southern countries provide the best conditions:

First of all, it is the availability of farmland and the low prices, which attract agrarian companies from all over the world. Investors profit from the perception of many developing countries´ governments that much of the land is either "*idle*" or "*underused*" (Baxter 2011, p.44, on translation). This way, foreign investors have the possibility to lease huge areas of farmland, often for long-time periods. The price for

the land thereby is crucial. Investors can save considerable expenses by outsourcing their production to developing countries, where the price for farmland is only a fraction of what it is in more developed countries. In Africa, for example, one hectare of farmland can be leased for less than 10 USD (about 7,60 EUR[7]) per year (The Oakland Institute 2011a, p.4). For the same acreage of farmland in central Europe, the annual land rent is up to 812,80 EUR (Střeleček, Lososova & Zdeněk 2011, p.311).

Likewise, the costs for labour force are generally low in developing countries. The cultivation of food crops or plants for biofuel production requires the input of manual labor, which would make the production process quite expensive in industrialized countries. Many companies therefore relocate their production to regions where the wage level is low. At the same time, they profit from fewer legal restrictions, bureaucracy and taxes than in most industrialized countries and generally favourable ecological conditions for agricultural activities in southern countries. Long vegetation periods, warm temperatures and high humidity guarantee rich harvests in tropical areas.

The interest in establishing agricultural projects in foreign countries is not only shown by the investors, also governments of the so-called "target countries" or "host countries" are convinced that this kind of business will bring along a number of benefits. Many of these countries struggle with severe structural problems. Politicians hope for an economic boost through international large-scale investors. They expect investors to bring in capital, create jobs and develop much-needed infrastructure.

Instead of keeping their farmland as a security against hunger, they decide to lease it to investors hoping for a "green revolution", a modernization of traditional agriculture. In most least-developed countries, traditional small-scale subsistence agriculture is still widespread. According to the FAO´s figures (FAO, WFP & IFAD 2012, p.28), 66% of the economically active population were employed in agriculture in least developed countries in 2009. For comparison, in the USA only 1,5% of the total working population were employed in this sector in the same year (The World Bank 2013a). Deininger et al. (2011, p.xiii) point out that poverty is most widespread among the rural farming population. (Semi-)subsistence agriculture is often considered problematic because it is characterized by low productivity (Matus, Acs & Gomez y Paloma n.d., p.1) and hardly capable to adapt to growing challenges such as rapid population growth or natural hazards (Morton 2007, pp.19681, 19684). A shift from small-scale towards commercialized agriculture with a higher share of workers in wage employment is meant to reduce poverty and food insecurity in the long run.

Against this background, large-scale land acquisitions are often claimed to be a "*win-win-situation*" for all affected parties. This idea obtains a wide acceptance and support (Daniel & Mittal 2009, p.9). Among its strongest proponents are a number of international development banks. The probably most important is the World Bank Group (WBG). The Oakland Institute (2011b, p.1) argues that „the trend of large-scale land investment in Sub-Saharan Africa could not take place without WBG support". Initially, the WBG was founded for the purpose of post-war reconstruction after World War II (The World Bank 2012). Today, it is one of the most dominant institutions in the field of development support through the

7 *exchange rate of 2nd August, 2013.*

promotion of economic growth (The World Bank 2013b). It represents the economic-liberal assumption that the key to development lies in privatization, deregulation, tax reduction and foreign investment (Bommert 2012, p.160).

At this point it must, however, be underlined that the power of decision within the WBG is primarily in the hands of western nations. The main office of the WBG is located in Washington, D.C., its presidents are traditionally represented by US-American citizens (Liberti 2012, p.106). The distribution of votes is guided by the financial share which member countries are able to contribute. Needless to say that the highest contributions are paid by the richest member states. Out of almost 200 member countries, only 16 nations - industrial countries together with Brazil, China, India and Russia - held more than 52% of all votes in 2011. In contrast, all 44 African member states together had only 6% of all votes (Bommert 2012, pp.157-158).

Within the WBG, the International Finance Corporation (IFC) is the most involved in the support of large-scale land deals. The IFC belongs to the private sector of the WBG. On the one side, the institution supports investors with the provision of capital. “In Africa, IFC is the largest multilateral source of loan and equity financing for private sector projects.” (The Oakland Institute 2011b, p.1). In 2010, the IFC provided funding of 100 million USD for projects in the sub-Saharan agribusiness sector and intends to further increase its financial support (ibid.).

On the other side, the IFC, together with the Foreign Investment Advisory Service (FIAS), provides technical assistance and consulting to developing countries (ibid., p.2) with the aim of “shaping the business environment for the private sector” (The World Bank 2013c). This means to make countries as attractive as possible for investors, sometimes controversial methods being applied. “Host countries” are advised to generate a number of incentives for investors (The Oakland Institute 2011a, p.1), which however imply a strong limitation of their own rights and benefits. One main objective is to cut down legal restrictions and administrative barriers in order to facilitate new investments. This makes necessary legislation reforms, which are intended to grant foreign investors a better access to land (Daniel & Mittal 2010, p.19).

The IFC´s and FIAS´ advises comprise not only a deregulation of import and export restrictions which includes a reduction of import duties but also a minimization or exemption of business-relevant taxes and a cutback of necessary procedural steps in order to simplify company formations in developing countries. These investment incentives will be more detailed elaborated in later sections of the paper.

Nations that follow the instructions of the IFC and FIAS get rewarded with a good ranking in the WBG´s annual “Doing Business” reports, which compares countries with respect to their investment climate (The World Bank - IFC 2013, p.4). The more compliant a country is the better it generally gets ranked. The reports provide investors with fast information on where investments are most profitable.

Regarding the policies for the support of land deals it appears questionable if an actual win-win-situation is given. The privileging of investors on the one side and the concessions of “host countries” on the other

side leads to a growing imbalance between the actors.

On the part of the investors, a benefit is very likely. They have the backing of influential institutions and policy makers who have the power to create favourable conditions for private investors. Also, large-scale land deals have financial security through the participation of finance institutions (Maillard Ardenti 2011, p.15). A legal cover is provided by the WBG´s Multilateral Investment Guarantee Agency (MIGA), which offers political risk insurances for investors (Zimmerle 2012, p.12).

On the part of the "host countries", it is quite doubtful if they can actually achieve benefits out of the land deals. Governments are ready to accept the advices given by the WBG in the prospect of economic growth, even though they risk to minimize their profit through the cut-down of restrictions for foreign investors. Through the reduction of taxes and year-long tax holidays, governments miss out important fiscal revenues, which would be of a very high significance for the development of their countries. A survey done by the International Monetary Fund (IMF) affirms that "lower corporate income tax rates and longer tax holidays are effective in attracting investment, but not in boosting gross private fixed capital formation or growth." (The Oakland Institute 2011a, pp.1-2). A deregulation of the legal framework further makes governments lose parts of their control over the land acquisitions that happen in their countries, which at the same time reduces the transparency of the deals and makes the country´s population more vulnerable to investors´ actions.

The WBG on its part is only involved in promoting and rewarding deregulations, it is, however, not responsible to make sure that deregulations have no negative side effects on a country´s citizens (Bretton Woods Project 2008). These are, after all, the ones who get to feel the consequences of the business-enabling policies.

1.3. Grabbing land

It has been shown in the past that large-scale land deals often cause problems for the affected population. Since these deals require large amounts of land, the local population has to make way for the foreign investors´ fields. In many cases, this doesn´t happen on a voluntary basis. Farmland is the most important source of life for a large part of the population in developing countries. Nonetheless, governments rent out great amounts of land to export-oriented foreign investors under the widespread but often erroneous perception that much land is available. According to Olivier de Schutter, UN Special Rapporteur on the Right to Food, an indicative value used by the FAO regards areas with a population density of less than 25 persons per square kilometer as "available" (Liberti 2012, p.114). Experience shows that foreign land investors preferably lease land next to water resources (de Schutter 2009, p.3). The affected population not only loses the access to the much-needed naturally irrigated land but also to scarce water resources.

In this context, the terms "land grabbing" and "water grabbing" are often used. Journalists and NGOs frequently report on violent expulsions. The population is hardly ever included in the negotiations

concerning their land. In the probably most famous case of land grabbing - it is about a south Korean investor who intended to lease half of Madagascar´s arable land for a duration of almost one century - the citizens were not informed about the deal. The details only accidently reached the public in 2008 and led to week-long riots and the resignation of the president (Bommert 2012 pp.139-140).

Fig.4: "Land grabbing"

Source: La Via Campesina, FIAN & Land Research Action Network 2010

Usually, the affected population has sparse options to react against land grabbing. On the legal level, land grabbing is a grey area. Although NGOs such as Bread for All (Maillard Ardenti 2011) and Misereor (2010) criticize the crude approach applied in many land deals for violating or negatively impacting human there are rarely legal consequences for investors. This is because in most cases, peasants possess no land titles and therefore have "no legal claim on compensations" (Misereor 2010, p.5, on translation). Formal land tenure is not common in most developing countries. In Africa, it has never been regarded necessary to clarify land ownership structures because the low population density on the continent and slow population growth never led to land shortages in former times (Felsch 2010, p.56). According to the World Bank´s figures, "more than 90% of land remain outside the existing legal system" in Africa (Deininger 2004, p.4). Usually, the government is the holder of the land; the rural population cultivates it on the basis of traditional usage rights (Felsch 2010, p.55). This circumstance makes the peasants highly vulnerable to displacements. Although they have cultivated the land for generations, they can easily be dispossessed of their lands from one day to another.

Several institutions are aware of this problem. In order to curb the negative effects which might arise for the population through large-scale land deals, international organizations including the UN, the FAO but also the World Bank, supporting agribusinesses, have set up action guidelines for more responsibility in agricultural investments (Bommert 2012, p.316). However, the guidelines draw a lot of criticism since they are only on a voluntary basis. Investors can therefore not be penalized for not observing their principles (ibid., pp.318-319).

2. “Target country” Sierra Leone

Sierra Leone is a small sub-Saharan country in western Africa. With a size of 72.300 km², it is slightly bigger than Ireland (UNdata 2013b & UNdata 2013c). In recent years, Sierra Leone has become a magnet for foreign investors. About 20 different companies from Europe and Asia are involved in large-scale land deals, as the Sierra Leonean NGO Green Scenery estimates. About one million hectares of land have either already been leased or are subject to negotiations. This amount represents 18% of the country´s cultivatable land. (Green Scenery 2012, p.1).

Fig.5: Location of Sierra Leone

Source: Wikimedia Commons 2011.

This chapter takes a closer look on the problematic initial situation of a “host country” using the example of Sierra Leone. It further explains the government´s attitude towards land investments and its efforts to attract foreign investors.

2.1. Climatic conditions and socio-economic background

Sierra Leone is characterized by a humid tropical climate. Located 7 to 10 degrees north of the Equator, its annual rainfall reaches up to 4000 millimeters. The year is divided into two climatic seasons; a rainy season between May and October and a drier season from November until April (Gomez y Paloma et al. 2012, p.40). Rainfall periodically drops below 20 millimeters per month (AfDB n.d., p.4). The temperature is generally high with average monthly temperatures between 23 and 29 degrees (Gomez y Paloma et al. 2012, p.40).

The country counted 6 million inhabitants in 2011 and reports an average annual population growth rate of 2,1%[8]. As in many low developed countries, more than 60% of Sierra Leone´s population live outside urban areas (UNDP 2011, p.165).

Thirteen years after a devastating civil war the political situation has stabilized; however, Sierra Leone remains a least developed country (UNCTAD 2012, p.xii), ranked eight last in the Human Development Index (UNPD 2011, p.126). More than half of the population lives in poverty, 26% are even affected by extreme poverty (ACDI & VOCA 2011). The GDP per capita of 808 USD is among the lowest in the world (UNDP 2011, p.165).

A large part of the Sierra Leonean population is threatened by food insecurity. According to a survey by the World Food Programme (WFP) (2011, p.3), 45% of the households do not have enough to eat throughout the year. 6 out of 12 districts are classified as “serious” on the basis of their prevalence of malnutrition (World Food Programme 2011, p.14). The rural population is most seriously affected by seasonal food shortages. The FAO indicates that they spend more than half of their income on the

8 *in the period 2010-2015*

purchase of food (Gomez y Paloma et al. 2012, p.59).

Although agriculture is the dominating economic sector in Sierra Leone, the country depends on food imports (AfDB & OECD 2009, p.561). The long-lasting civil war let the national food production drop to a long-time low. Since the end of the war, Sierra Leone´s self-sufficiency in grains is about to increase again. However, the imports remain high (WFP 2011, pp.18-19). In 2005, 19.000 tons of rice, which is the staple food in Sierra Leone, had to be imported (IRRC 2006, p.48).

2.2. Agriculture in Sierra Leone

About 70 % of the Sierra Leonean population are employed in agriculture (Asenso-Okyere et al. 2009, p.3). Small-scale (semi-)subsistence farming is widespread. Farmers cultivate small plots of 1 to 2,5 hectares (Brush & Turner 1987, p.158). Rice is the main crop and is basically grown in all parts of Sierra Leone. During the post-harvest season, the rural population is usually self-sufficient in rice, while in the lean season they often face deficiencies. However, the World Food Programme reports that the season which is normally characterized by low local rice availability tends to shorten (WFP 2011, p.18). Many smallholders produce surpluses, which they sell to the local community, and they earn some extra money through the production of cash crops[9] (Gomez y Paloma et al. 2012, pp.48, 53).

Usually the field work is carried out by the family members. The average household size is 7 to 9 persons, about half of which are children (Brush & Turner 1987, p.173). Sometimes, labour exceeds the capacity of a family. In order to overcome such labour shortages, farmers form communal labour groups to help out on the fields of others against payment (Gomez y Paloma et al. 2012, pp.50-51).

Small-scale agriculture in Sierra Leone is generally characterized by hard physical labour and low efficiency (Matus, Acs & Gomez y Paloma n.d., p.1). Most of the tasks on the fields are carried out manually. Only a small minority of farmers have agricultural machinery at their disposal. In Sierra Leone, only one tractor is available to more than 10.000 agricultural workers. This ratio is one of the lowest in western Africa. The same applies to the use of fertilizers whose per hectare consumption is the lowest in the region (Gomez y Paloma et al. 2012, pp.60-61). Moreover, the use of pesticides is uncommon, especially in the northern and central districts Bombali and Tonkolili (Spencer, Deen & Wilson 2009, p.13). Seeds are usually obtained from the previous harvest (Gomez y Paloma et al. 2012, p.52).

Despite the high natural soil fertility, these circumstances require special methods in order to keep harvests at a sufficient level. Traditionally, the shifting cultivation system is widespread. After one or two years of cultivation, the fields are abandoned in order to let the soil regenerate (Binns 1982, p.116). After a fallow period of several years the land is being re-cultivated. The length of the fallow period depends on the continuously decreasing availability of land (ibid., p.116). Half a century ago, the interval between two cultivation periods lasted up to 20 years. Today, the farmers come back after only 4 to 7

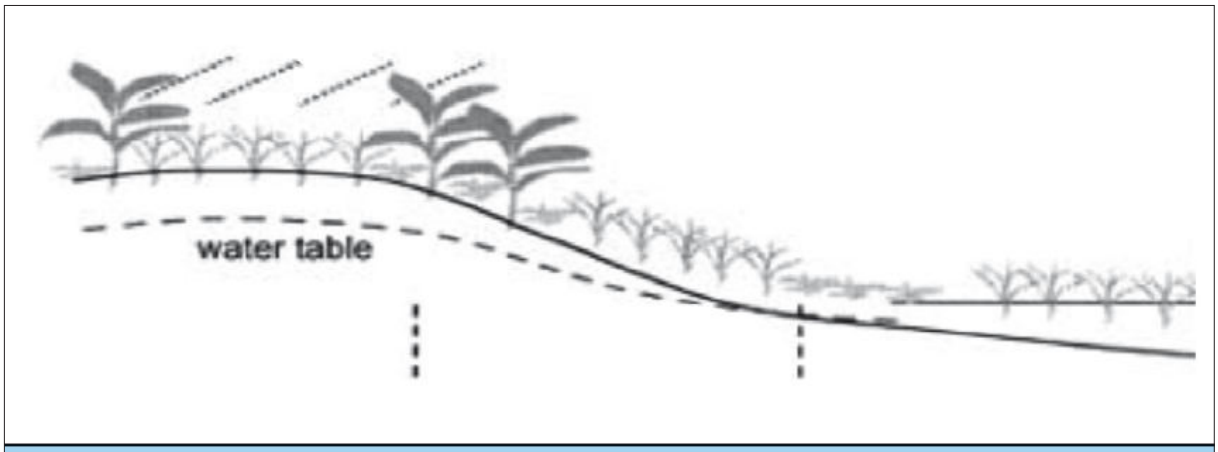
9 *cash crop = "a crop produced for its commercial value rather than for use by the grower " (Oxford University Press 2013)*

years, when the soil is still exhausted from the last cultivation period (Matus, Acs & Gomez y Paloma n.d., p.2). In order to clear the "new" land, peasants practice the slash and burn method, which means to burn down the existing vegetation. This method is regarded quite critically. Even though it leads to an increase of soil fertility in the short term - the remaining ash is full of nutrients - it leaches the soil in the long term (Gomez y Paloma et al. 2012, p.42). Besides, it has serious environmental effects.

Small-scale agriculture takes place both in the lowlands, consisting of swamps, bolilands and riverain grasslands, as well as in the dryer uplands (ibid., p.43). Bolilands, which are of a specific relevance in the case study area (see chapters 3 and 4) can be described as "seasonally flooded shaped depressions [...] with very poor drainage" (ibid., p.47). They are mainly used for rice production, but when the water tab is lower during the dry season, a variety of different crops is grown as well.

Mixed intercropping is predominant mainly in the uplands. This means that a high variety of crops, including "sorghum, millet, maize, fundi (digitaria), benniseed, groundnuts, cowpeas, root crops and tubers including cassava, sweet potato, and yam together with a host of vegetables" is grown in mixed stands (Matus, Acs & Gomez y Paloma n.d., p.2). But also upland rice is common. The system of mixed intercropping guarantees a great amount of biodiversity. Besides their fields, the peasants have their permanent backyard gardens, where women grow fruits, vegetables but also a number of different cash crops. Cash crop production includes on the one hand peppers, groundnuts but also local vegetables, okra and cassava. On the other hand, certain tree crops, such as cocoa, coffee and palm oil, represent a major source of income (Baxter, pers. comm. 22 Nov. 2012).

Fig.6: Characterisation of uplands and lowlands



	Uplands	Hydromorphic slopes	Lowlands
Water supply:	Rainfall	Rainfall + water table	Rainfall + water table + floodwater

Source: Gomez y Paloma et al. 2012, p.45.

2.3. Land tenure

As in most African countries, customary land tenure prevails in Sierra Leone. Only in the western part of the country, where also the capital Freetown is located, it is possible to formally own land. However, in most parts of Sierra Leone land can neither be bought nor sold. According to the Provinces Land Act of 1961, which constitutes the legal framework of leasehold, "natives" hold rights of use on the land (The Oakland Institute 2011c, p.18). These rights are transmitted from generation to generation within so-called "land-owning"[10] families or extended family circles. Their land extends along imprecise boundaries and shifts quite often due to the rotational farming method applied by most peasants. The families know the size, approximate location and natural factors of their land. However, their plots are not registered in any land cadastre.

Next to the "land-owning" families, there are also "land-using" families. This group, which represents 20- 40% of chiefdom populations, consists of persons which do not belong any specific chiefdom such as former combatants, tenants, displaced people, refugees, migrants and foreigners (Unruh 2008, p.102). As opposed to "land-owning" families, "land users" have fewer rights concerning the use of farmland. Formally, they have no usufruct rights at all. However, in most cases, they cultivate parts of a land owning family´s land. In return, they dedicate a part of their crop yield to the land-owner. This is mainly done to "acknowledge that the land does not belong to them, in an attempt to forestall future claims." (Unruh 2008, p.102).

The Paramount chiefs represent the custodian over the land. Paramount chiefs are the heads of the chiefdoms, which are the third-level administrative unit in Sierra Leone. They have an important role regarding land rights, since they are responsible for its administration, allocation and the approval of important land matters (Gomez y Paloma et al. 2012, pp.49-50).

This loosely handled system of customary land tenure has been working well for a long time. However, in times of growing population and increasing soil degradation, this system reaches its limits. The problem is on the one hand that the transmitted land within the families cannot be extended in the course of time. This means that with every new generation, an increasing number of persons has to share the same plot of land (ibid., p.50). On the other hand, land disputes occur more often. Shifting cultivation requires a great deal of land, while most of it is intentionally left fallow. This leads to the assumption that more land is unused than it actually is the case. The Sierra Leonean government believes that only 12 to 15% of all agricultural land is being used (The Oakland Institute 2011c, p.5).

2.4. Attracting investors

The Sierra Leonean government under president Ernest Bai Koroma is very ambitious to efficiently push forward development in the country. After years of economic stagnation the head of the All People´s

10 *The term "land-owner", which is commonly used in Sierra Leone, is misleading: it does not mean that land is formally owned but that a person holds usage rights on it.*

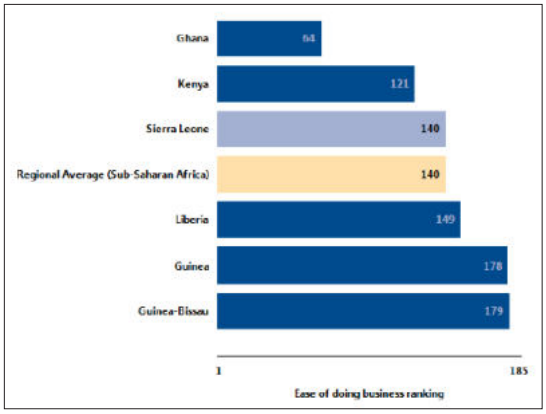
Congress Party (APC) seeks to rapidly improve the life of the "ordinary man" (Sierra Express Media 2010). He attributes the weak economic development mostly to the prevailing traditional agriculture. Although about two thirds of the population work in agriculture, its sector has constituted not more than 50% of the GDP in the last years (Matus, Acs & Gomez y Paloma n.d., p.1).

Similar to many other heads of state, also President Koroma is convinced that foreign investors would boost the development in his country. In this hope, the Sierra Leonean government has competed for the attention of international large-scale investors for several years. It established an ambitious programme. Investors and governments across the world have been invited to convince themselves of the advantages of the country (The Oakland Institute 2011c, p.12). In 2009, the government, together with the African Governance Initiative (AGI), organized the "Sierra Leone Investment Forum" in London with the aim to promote the country to potential investors (Baxter 2011, p.43).

Indeed, the advantages for investors are manifold. With the support of the IFC and FIAS, the government worked on improving the "business environment" of the country. "Sierra Leone has recorded impressive improvements in the investment climate", the Sierra Leonean Ministry of Trade and Industry emphasizes on its homepage (Ministry of Trade and Industry 2013). At an international meeting in New York, President Koroma proudly stated that "[l]ast year, the country was named the 'easiest place to open a new business' in West Africa by the World Bank." (AGI 2009). After all, the country has moved up eight places between 2012 and 1013 in the IFC´s "doing business" ranking (The World Bank- IFC 2013, p.5).

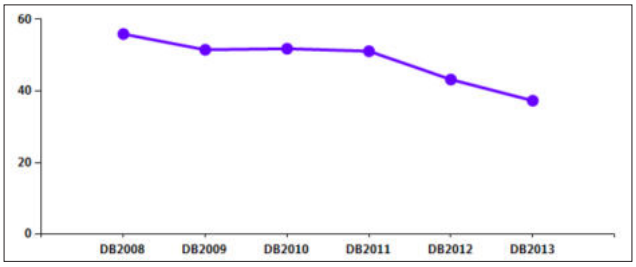
The ranking annually evaluates and compares the business environment of 185 nations worldwide. It is carried out on the basis of 11 different criteria, which are relevant for profit oriented enterprises, including categories such as "Starting a business", "Protecting investors", "Paying taxes", "Enforcing contracts", "Employing workers" or "Trading across borders" (The World Bank - IFC 2013, p.8). Regarding the assessment tools used in this ranking it appears immaterial whether the advantages of investors are at the cost of the population. For illustration: in the chapter "Employing workers" the IFC welcomes the fact that the minimum wage level for young workers or apprentices in Sierra Leone has significantly decreased in recent years (see fig.8). This negative development is regarded as an improvement of the

Fig.7: Sierra Leone´s overall business environment ranking



Source: The World Bank - IFC 2013, p.7.

Fig.8: Minimum wage (USD per month) for a 19-year-old worker or apprentice in Sierra Leone



The IFC welcomes the decreased minimum wage level in its "Doing Business" ranking.

Source: The World Bank - IFC 2013, p.101.

business atmosphere by the IFC (ibid., p.101).

This year, Sierra Leone is ranked above the regional (sub-Saharan) average in half of all criteria. It shows the most investor friendliness in the categories “Protecting investors”, “Starting a business” and “Getting Credit”, in which it is ranked among the top 100 nations (ibid., p.8). In order to reach these rankings, a comprehensive reformation of legal regulations was necessary. A number of legislative changes were approved in 2007. First of all, these include a reduction of time, number of procedural steps and financial burdens needed to open a business in Sierra Leone. The costs of setting up a business were cut down by nearly 97%. Also customs examinations were liberalized. The government effectuated 11 out of 15 measures recommended by FIAS, which include a “reduction of documentation, elimination of unnecessary steps, and the introduction of a risk-based system that eliminates inspections of every shipment” (Daniel & Mittal 2010, p.23). Furthermore, Sierra Leone has “improved its credit information system” in recent years (The World Bank- IFC 2013, p.54). Changes in the tax systems allow a number of privileges for investors, as will be further illustrated on the basis of the case study in chapter 3.6.1.

Also in 2007, the government, assisted by IFC, FIAS and other international organizations, created a special institution for the purpose of promoting its incentives to the outside world. The Sierra Leone Investment And Export Promotion Agency (SLIEPA) is the most important authority in the field of foreign investments (The Oakland Institute 2011c, p.13). Its tasks consist on the one hand of the promotion of Sierra Leone as a lucrative production site. Like the IFC, the SLIEPA is not reluctant to advertise the precarious circumstances in the country to the investor´s benefit. To give but one example, SLIEPA highlights the simplicity of achieving land on long-term conditions by taking advantage of the unresolved land tenure structure. As the institution states on its homepage, the “communal/chiefdom land tenure system and strong government facilitation makes land easy to obtain in most agricultural areas through secure, long-term leases.” (SLIEPA 2012).

On the other hand, SLIEPA is the first contact point for foreign investors. It provides guidance and support in the land acquisition process. Among these tasks is the “pre-identification” of “suitable” areas for large-scale agricultural investments focusing on areas with a size beyond 10.000 hectares (SLIEPA 2010, p.8).

3. The case of Addax Bioenergy

Among the most ambitious large-scale foreign land investors in Sierra Leone is the Swiss company Addax Bioenergy. In 2008, the enterprise leased about 15.000 hectares of land for a duration of 50 years for the cultivation of sugarcane in order to produce bioethanol for export. As measured by its amount of investment, the project is "the largest agricultural investment ever to occur in this country" (Daniel & Mittal 2010, p.24). The project officially started in 2010 and is still in its implementation phase.

Fig.9: Addax Bioenergy sign

Source: Lisa Vlasak.

The present case study examines the impacts on the local population affected by the Addax Bioenergy project. It thereby touches the hotly debated "food or fuel discussion". Occupying much-needed farmland resources in food-insecure countries for the purpose of fuel production is a widely questioned concept. Nevertheless, projects such as the one by Addax Bioenergy are booming.

On the basis of the Addax Bioenergy project, the study looks at the local consequences of the global phenomenon of increasing biofuels demand. It investigates the socio-economic impacts on displaced smallholders in the sugarcane plantation area, considering diverse aspects regarding livelihoods, changes in land use, employment, health and environmental impairments right up to project´s effects on food security.

This chapter will first describe the methodic approach to the case study and the basic points of the examined project. Then, it will focus on the initiation process of the project in order to understand why the project actually happens to negatively affect the local population.

3.1. Selection of the case

To date, there are more than 1200 cases of large-scale land deals registered by the Land Matrix (Anseeuw et al. 2012, p.vii). The reason why I chose the Addax Bioenergy case for my study is because - at first sight- it doesn´t seem like a "bad" project at all. It is even frequently cited as a "best-practice" example among large-scale land investments. Many institutions praise the company for its stakeholder dialogue, its ambitions to promote sustainable development and the high level of transparency in the land lease process (Addax Bioenergy n.d.a).

Indeed, compared to other large-scale land deals in developing countries, the Addax Bioenergy project has been implemented relatively considerately. There haven´t been any reports about violent expulsions of local farmers. However, even this project - supposed to represent a paradigm of how international land deals can be implemented - has many deficits that threaten the local population, as will be demonstrated in the present case study.

3.2. Methodology

The case study is based on literature research, a field study including expert interviews, observations and conversations with affected farmers and the interpretation of satellite images.

3.2.1. Literature research

An extensive review of literature provided details and insights about the Addax Bioenergy project. The desk study was mainly based on expert reports, journal articles, government reports and publications, information provided by Addax Bioenergy online, surveys done by national and international NGOs and newspaper articles.

3.2.2. Field study

In November / December 2012, I had the possibility to go on a two-week field trip to Sierra Leone for the present case study. My co-supervisor Hans Geißlhofer who has been working in Western Africa for many years recently concentrating on land grabbing research, supported me in establishing contact to experts and organizations dealing with the Addax Bioenergy case in Sierra Leone.

After my arrival in Sierra Leone, I first met the Canadian journalist, development researcher, anthropologist, and author Joan Baxter who has been working on land grabbing issues and the Addax case for a long time. The interview provided me with a lot of relevant information on the Addax case and on the complex farming system in Sierra Leone.

The local NGO Sierra Leone Network on the Right to Food (SiLNoRF)[11] offered me its generous support for my case study. SiLNoRF is involved in both research as well as the support of the farmers who are affected by the Addax project. With their help and expert input, I was able to prepare and conduct interviews with 6 affected farming families in 4 different communities across the project area (see tab.1 and fig.10). It was also relevant to have someone who was able to translate, as most farmers speak only their traditional language.

The villages as well as the interviewees had to be carefully selected. There are some villages which have a rather positive attitude towards Addax, since they receive special treatments from the company. This may include extra payments, infrastructural facilities or presents, which the majority of affected communities does not receive. These communities therefore do not represent the widespread opinion on Addax.

The spatial distribution of the selected villages made it possible to gain an overview of both the common problems the villages face throughout the project area as well as their different degrees of affectedness. The interviews were based on a standardized questionnaire with both open and specified questions

11 *It is primarily thanks to the commitment of three persons from the SiLNoRF staff, namely Lansana Hassan Sowa, John Brima Kargbo and Abass J. Kamara, without whose support I would not have been able to conduct this case study.*

about the changes they experienced through the Addax project. Much additional information could be gained from the personal statements and stories my interview partners were ready to tell. In five of the interviews it was not possible to talk to only one person. Most often, I talked to one main interview partner whose families were present and added further remarks. I regard this as a valuable opportunity to get to know the women´s opinions as well, who seldom represented the main respondent. Having trust in the SiLNoRF members, who accompanied me to the communities, the farmers were very open to talk about their situation.

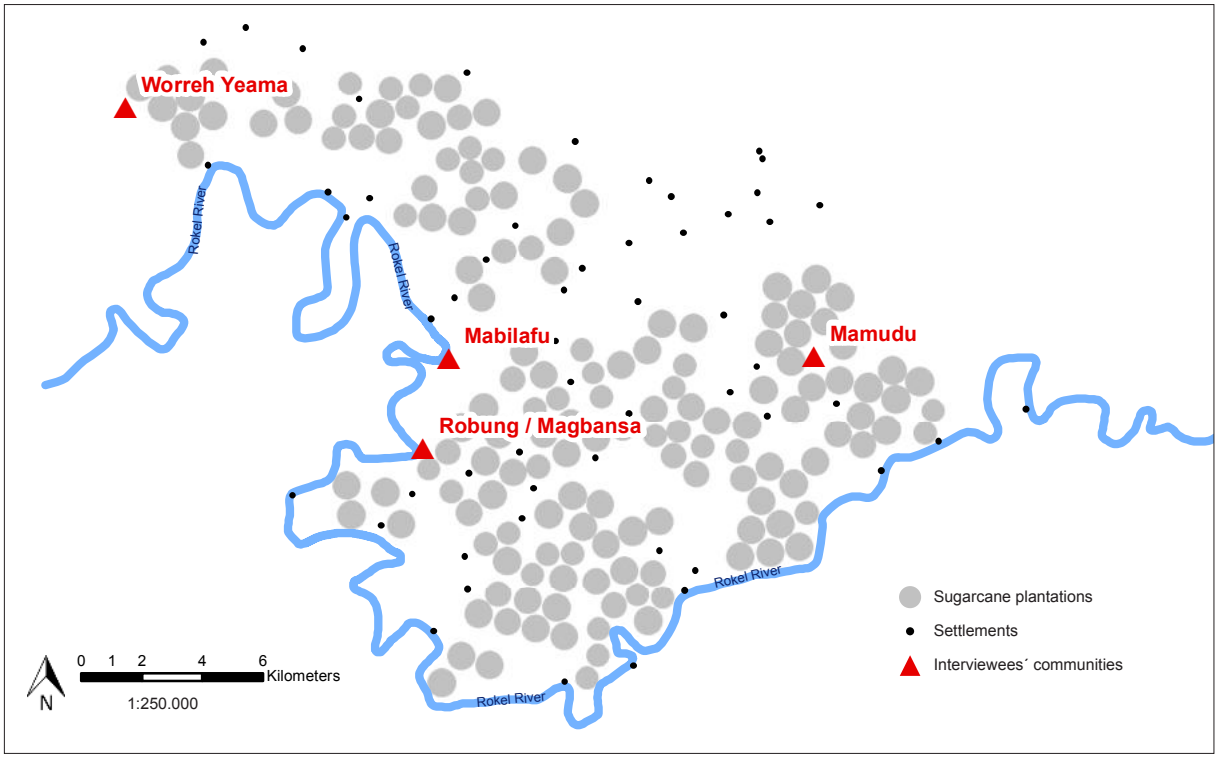
Unfortunately, it was not possible to get any statement from the company. Several e-mails and phone calls have remain unanswered to date.

Tab.1: Interviews

Interview	Main respondent	Other respondent(s)	Community
1	smallholder, female	family	Worreh Yeama
2	smallholder, male	--	Worreh Yeama
3	smallholder, male	family	Robung / Magbansa
4	smallholder, male	family	Robung / Magbansa
5	smallholder, male	friend, male	Mabilafu
6	smallholder, male	family	Mamudu

Source: own selection, based on recommendations by SiLNoRF.

Fig.10: Location of interviewees´ communities



Own illustration, based on: AfDB n.d., p.21.

3.2.3. Interpretation of satellite images

Remote sensing allows to define and observe changes in the physical environment. As part of the case study, I used satellite images in order to illustrate the extent of the project and the spatial conflict between the company´s large sugarcane plantations and the - partially displaced - fields of the local smallholders.

For that purpose, I had a high-resolution (2,5 meters) ISIS:CNES spot image dated from April 2012 at my disposal. Using the image it was possible to clearly identify the plantations already implemented by this time. The displacement of traditional agriculture could be discovered when comparing the 2012 image with screenshots of older dated spot images provided by the online freeware Google Earth, which were taken before the start of the project.

In order to locate the sugarcane fields planted after April 2012, I used a schematic map provided online by the company itself and in a survey published by the African Development Bank Group, which I georeferenced with the help of a geographic information system (GIS). I applied this method in fig.23 due to the limited actuality of the available satellite image. It must be mentioned that a hundred percent exact projection is technically not possible, however, the result is precise enough to illustrate the change in land use.

3.3. The case study area

The area which the case study is based on is defined by the zone Addax Bioenergy uses for its sugarcane project. It is located in the central part of Sierra Leone, about 20 to 30 km south-west of Makeni, the fourth largest city in Sierra Leone and 100 km east of the capital Freetown and the Atlantic coast. The area strechtes over two districts, namely the Bombali and the Tonkolili district, which cover the chiefdoms Makari Gbanti, Bombali Sheboa and Malal Mara.

Not far from the Addax Bioenergy project site runs the Lunsar-Makeni highway, which directly connects the area with the capital. The Rokel River, which is the biggest river in Sierra Leone, surrounds the project area in the south, the west and in parts of the east. Also, a number of smaller water streams cross the territory. The Addax Bioenergy project site is characterized by a high soil fertility. It lies in the middle of one of the three major rice producing areas responsible for the supply of staple food for the most part of the country´s population (WFP 2011, p.20).

An Environmental, Social and Health Impact Assessment (ESHIA) undertaken on behalf of the African Development Bank Group identified a number of highly sensitive vegetation types, such as wetlands, riparian forests, terrestrial forests and village forests in the project area. The survey further came to assume that it is a habitat for a range of “protected, rare or endangered animal species” including bird, pangolin and antelope species as well as monkeys, baboons, chimpanzees and forest buffalos (AfDB n.d., pp.4-5).

Throughout the project area approximately 60 settlements, which are home to more than 13.600 people, will be directly affected when the project becomes fully operational (ibid., p.7). As in most parts of Sierra Leone, the majority of people live off small-scale (semi-)subsistence agriculture and do not have formal land titles.

Fig.11: Landscape in the project area

Source: Lisa Vlasak

Fig.12: Settlement in the project area

Source: Lisa Vlasak

3.4. Description of the Addax Bioenergy project

Addax Bioenergy was founded in 2008 for the purpose of the biofuels production from sugarcane in Sierra Leone. The company is a subsidiary of the privately owned Addax and Oryx Group, which is involved in energy generation in many African countries since 1987 (Addax Bioenergy n.d.b, AOG n.d.a & AOG n.d.b). The Addax and Oryx Group is headed by the Swiss Billionaire Jean-Claude Gandur and based in the Virgin Islands (The Oakland Institute 2011c, p.24 & Maillard Ardenti 2011, p.6).

The Addax Bioenergy[12] project aims to become fully operational in 2014 (Addax Bioenergy 2013a, p.3). The project is set for a duration of 50 years with the option for an extension of 21 years (The Oakland Institute 2011c, p.24). During that time the company will occupy huge amounts of land for the its fields and infrastructure. According to the company, 10.000 hectares will be used for sugarcane plantations. Together with the surface required for infrastructure, more than 14.000 hectares of land will be needed (Addax Bioenergy 2013b, p.1). Including sensible ecological corridors and human settlements, where no plantations are possible, even 57.000 hectares will be affected by the project (AfDB n.d., p.2). This is a surface bigger than the urban area of Vienna (Magistrat der Stadt Wien, MA 23 2013).

Addax pays an annual rent of 12 USD per hectare. It is unclear whether it is paid for the whole affected area or only for the actually used surface[13]. From the 258 million Euros investment, the company expects an annual return of 15%, which corresponds to the sum of 38,7 million Euros each year (Maillard Ardenti 2011, p.8).

12 *in the following parts of the paper, Addax Bioenergy will be shortened to "Addax".*

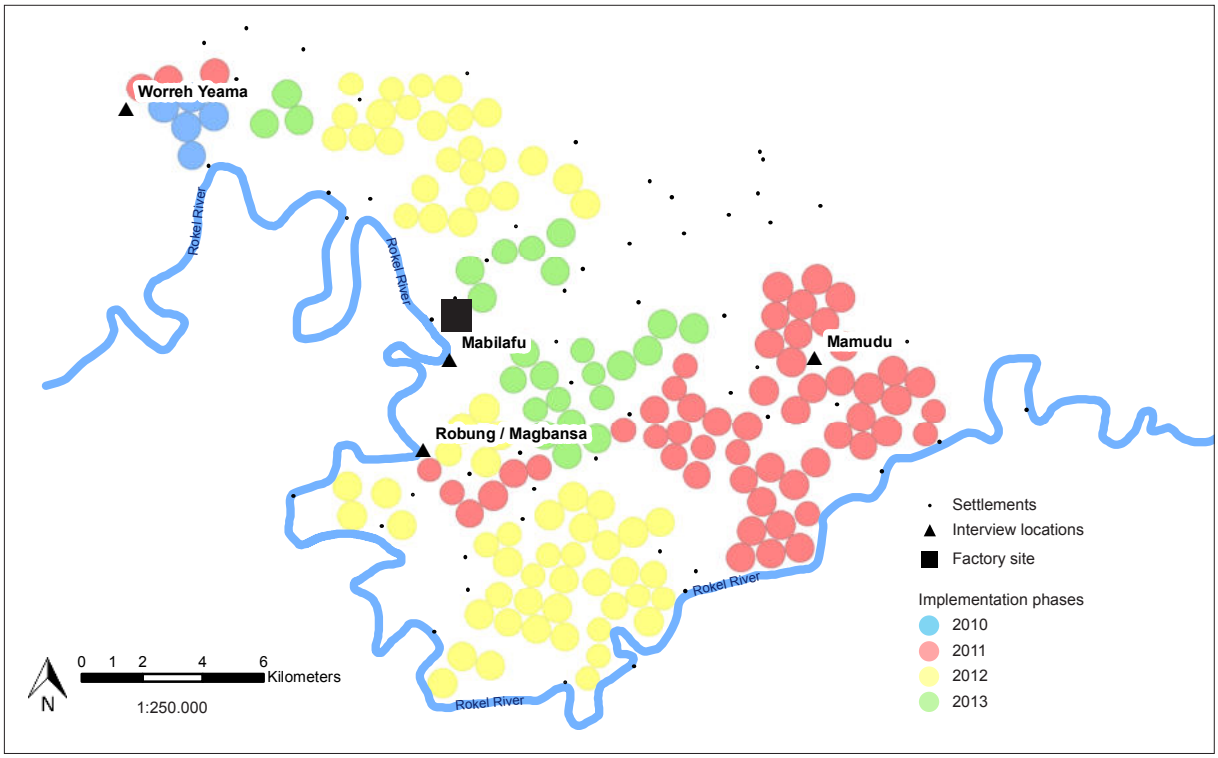
13 *According to Bread for All, the company pays rent for 14.300 hectares (Maillard Ardenti 2011, p.8). The aforementioned ESHIA on behalf of the African Development Bank Group mentions that the total leased area encompasses 57.000 hectares (AfDB n.d., p.2).*

The sugarcane plantations are laid out in round center pivots, each of which has a size of 50 to 70 hectares. In four implementation phases, the company creates 150 pivots, envisaged to produce one million tons of sugarcane per year when fully operational (Addax Bioenergy 2011a, p.6 & Addax Bioenergy 2013b, pp.1, 5). Rotating irrigation plants allow an automatic irrigation, which is necessary during half of the year. The water for the irrigation comes from the adjacent Rokel River. Throughout one year, the project will require about 80 million m³ of water (AfDB n.d., p.1). This amount corresponds to the annual water consumption of more than 2,5 million Africans (UNEP 2008, p.20).

Fig.13: Irrigation system

Source: Lisa Vlasak

Fig.14: Implementation phases



Own illustration, based on: AfDB n.d., p.21.

The planting season lasts approximately 220 days (AfDB n.d., p.1). The production is mainly based on mechanical labour input. According to the company, not more than 2000 staff will be required by the time of the first production in 2013 (Addax Bioenergy 2013b, p.1). After the harvest, the sugarcane is transformed into ethanol in the factory´s on-site refinery. When the project becomes completely operational, the refinery is estimated to produce an annual ethanol output of 85.000 m³ (ibid., pp.1, 4). The finalized ethanol is then brought to Kissy Terminal in Freetown, from where it is shipped to Europe

(AfDB n.d., p.2). The company benefits from the "everything but arms" arrangement[14] between Europe and several "least developed countries" including Sierra Leone, which grants the company a "duty-free access to the EU market" (Addax Bioenergy 2013b, p.3 & Bommert 2012, p.51).

Apart from ethanol, the distillation process delivers two co-products: One is Bagasse, which is used for the production of electricity in the company´s on-site power plant. With an annual output of 32 MW, the company will be able to cover its own power needs and provide the remaining 15 MW to the national power grid. The second co-product is Vinasse, which the company uses as a natural fertilizer (AfDB n.d., p.2) .

3.5. Financing of the project

As already mentioned, Addax is regarded a very positive example of large-scale land investment. The company has set itself the aim of becoming a "benchmark in responsible investing" (Addax Bioenergy 2013a, p1.). To the outside, Addax presents itself as a transparent enterprise also open for critical questions. A number of documents and videos provided on the company´s homepage demonstrate the stakeholder dialogues with affected peasants. Addax also cared about developing a special food security programme in the affected area (see chapter 4.1.1.). At first sight, it seems like a development aid project rather than a lucrative venture.

It can however be assumed that a profit-based enterprise doesn´t show this commitment for altruistic reasons. Addax stands under a great pressure, both from the public as well as from its donors, a range of development banks. The company is highly dependent on its sponsors. After all, they finance 52% of the costs (Maillard Ardenti 2011, p.15). In total, seven important finance institutes, including the African Development Bank (AfDB), the Emerging African Infrastructure Fund (EAIF), Canadian, Belgian, Swedish, Dutch, German and South African development finance institutions have decided to co-finance the project (Addax Bioenergy 2013a, p.3).

Only recently, Austrian institutions turned out to be involved in sponsoring Addax Bioenergy as well. The Austrian Development Bank (OeEB) indirectly supports the project through its cooperation with the Emerging Africa Infastructure Fund (EAIF), which is one of the above-mentioned funders of the project. The EAIF further belongs to the Private Infrastructure Development Group (PIDG), which was, among others, founded by the Austrian Development Agency (ADA) (Anand 2013, p.2).

As a precondition for receiving financing from its donors, Addax has to observe so-called "performance standards". These standards are set by banks, international organisations and associations of states and are designed to guarantee a minimum of negative impacts of large-scale land deals on local people. Addax on its part has to adhere to the World Bank Group´s IFC Performance Standards, the Equator principles, the EU´s sustainability criteria as well as standards defined by the Roundtable for Sustainable

14 *"[T]he EU's "Everything But Arms" arrangement (EBA) was born in 2001 to give all LDCs [least developed countries] full duty free and quota-free access to the EU for all their exports with the exception of arms and armaments." (EC 2013, p.1)*

Biofuels and the Better Sugar Initiative (Addax Bioenergy 2013b, p.1).

However, the efficiency of such performance standards is regarded critically by many NGOs. In a 22 pages public letter from 2010, close to 100 NGOs expressed their concerns about the IFC performance standards focusing "exclusively on soliciting the views of its private sector clients" and neglecting to assure "that human rights are respected fully" (Accountability Project 2010, pp.2, 7). The World Resources Institute (WRI) furthermore believes that the performance standards in reality do not fulfill their actual purpose by stating that "many clients reduce them [the IFC standards] to a checklist of the minimal activities necessary to receive financing" (WRI 2010, p.1).

Still, Addax has not managed to meet all standards. According to the African Development Bank´s ESHIA, the company meets 7 out of 8 IFC performance standards, but fails the one probably most important standard which deals with indigenous peoples (AfDB n.d., p.3). Bread for All furthermore found out that the company has already lost one envisaged sponsor, namely the European Investment Bank (EIB). The bank refused to support the project because it did not fulfill their environmental standards (Maillard Ardenti 2011, p.15).

3.6. Initiation of the project

The Addax project was implemented on two levels. First, the formal framework conditions were negotiated with the national government. According to the company, "[t]he Sierra Leone Government has played no role in the lease process other than making sure that the land law and the legal procedures are respected." (Addax Bioenergy 2013b, p.6). The lease conditions were then directly discussed with the local communities.

3.6.1. Framework conditions

As already mentioned before, the Sierra Leonean government is very open to international investors. The President himself is a strong proponent of the Addax project. In an enthusiastic speech held at the launch of the project in 2010, he announced the "biggest agricultural project ever in the history of Sierra Leone" to the public (Sierra Express Media 2010). The president highlightened many benefits which the company would bring to the country: an improvement of agriculture if modern irrigation techniques were implemented nationwide, 4000 new jobs, 30 MW of electricity, a possible relief in terms of sugar prices (because Addax will "produce lots of sugar for the local market") and less dependence on fossil oil (ibid.). With such promises, the president managed to gain the acceptance of a part of the population to the Addax project.

The problem is that the government did not consider it necessary to conclude a contract which sets the general conditions of the land deal. Generally, all land investors in Sierra Leone have to observe the Concessions Act and the Provinces Land Act which- among others- govern the legal framework of land acquisitions by "non-natives" (SLIEPA 2010, p.4). However, the only document which formally determines

the specific agreements made between the company and the government upon this specific land deal is a Memorandum of Understanding (MOU). In the common sense, a Memorandum of Understanding is a letter of intent rather than a legally binding document. This meaning appears to apply also to the MOU of the Addax project, which is solely "*intended* [accentuation by the author] to be legally binding" (Government of the Republic of Sierra Leone 2010, p.4). This indicates that its adherence would be appreciated rather than actually having a legal effect.

The MOU was signed by President Koroma, the responsible ministries and Addax representatives in early 2010. Despite concerns raised by the opposition party the document was approved by the Sierra Leonean Parliament in the same year (The Oakland Institute 2011c, p.25). It can be assumed that the waiver of an actual contract may be connected to the government´s attempt to simplify the project implementation process for foreign land investments.

It is questionable whether a substitution of a contract by a MOU with a profit-based enterprise can be regarded as responsible. As explained later in this paper not all agreements would turn out to be observed in the way they were announced to the population. This is, to some part, due to the vague formulation of the MOU. Much of the content of the 13-pages document is ambiguous and lacks important details on the deal.

First, basic information is only provided in a limited or even contradictory way. For example, there is no specification about the location and spatial delineation of the project area (neither in text nor graphically), which would be expected for a project of this size. The mentioned plantation size of 20.000 hectares (Government of the Republic of Sierra Leone 2010, p.1) does not correspond to the indications made by the company itself[15] and African Development Bank´s ESHIA[16].

More importantly, the obligations of the company are not clearly specified, which makes it easy for the company to circumvent them. An example is the number of jobs the company is supposed to create. The MOU states that "ABSL [Addax Bioenergy Sierra Leone Limited] will *seek* [accentuation by the author] to improve the livelihoods of the local population by [...] employing and / or contracting *up to* [accentuation by the author] 4000 staff" (Government of the Republic of Sierra Leone 2010, p.2). Besides the vague wording of this passage, the number of 4000 jobs does not correspond to the number that Addax intends to create. On its own homepage, the company only mentions the creation of 2000 new jobs (Addax Bioenergy 2013a, p.3). It is also not specified in the MOU how many of the mentioned number of jobs will be actually created for the local population. Instead, the government accorded a release of restrictions for expatriate Addax employees regarding residence and working permission (Government of the Republic of Sierra Leone 2010, p.7) which allows the company to bring along as many expatriate workers as it wants.

Concerning the production of bioethanol for the local market, no commitments have been declared

15 *According to Addax, the "project area" will affect 14.300 hectares (Addax Bioenergy 2013a, p.3).*
16 *According to the ESHIA, the "pivot area" will cover a surface of 10.088 hectares and the "project area" a surface of 46.370,5 hectares (AfDB n.d., p.6).*

in the MOU. It is merely remarked that a respective policy is intended to be developed (ibid., p.13). According to the company's own statement however, "the potential local market [for bioethanol] is still very small", (Addax Bioenergy 2013b, p.7). Therefore it is unlikely that enough ethanol will stay in the country to make a difference in its dependence on imported oil. Other conditions, such as sugarcane production for the local market or a support in expanding mechanical irrigation systems to the whole country are not even mentioned in the MOU.

By accepting this MOU as the only written document to specify the land deal with Addax, the Sierra Leonean government forgoes the security that the arrangements are implemented in a way that benefits the Sierra Leonean population. On the other side, the MOU indicates quite precisely the privileges of the company. Bread for All criticizes that the MOU is "very favorable to the company" (Maillard Ardenti 2011, p.5). Beyond the general incentives granted by the government on the recommendations of the IFC, the MOU lists the project-specific "incentives, waivers and concessions" (Government of the Republic of Sierra Leone 2010, p.7). In a report done by Bread for All (Maillard Ardenti 2011, pp.5-6), the NGO summarizes the most important fiscal incentives offered to the company:

- During the first 13 years of the project the company is exempt from any corporate income tax.
- As long as the project lasts, Addax is exempt from import taxes and duties for agriculture inputs.
- Similarly, Addax has to pay no taxes for the import of machinery and equipment for a period of five years.
- Also lucrative is the "exemption from deduction of withholding tax on 50% of any dividend paid until 2020."
- Finally, the company benefits from diverse deductions for corporate tax after the tax exemption period ends.

3.6.2. Land lease process

After setting the framework conditions of the deal, the details of the land lease had to be clarified. According to Addax, these were directly negotiated with the communities and the land owners in the project area. During two years, the company organized several regular meetings in the communities in order to inform about the project and discuss the land deals (Addax Bioenergy 2013a, pp.1-2). Compared to other international land investors in Africa, Addax makes a positive impression, since it is generally not taken for granted that the population gets involved in any way. The company has a good reason for convincing the communities of the project. Under the aforementioned pressure of the sponsoring development banks, Addax would not be able to implement the project without the acceptance of the affected communities which had to agree to the project and transmit their land use rights to the company.

The formal basis of the tenancy between the communities and Addax are land lease agreements. These

agreements contain the specific terms of the lease such as the land lease period and the amount of the rental and usage rights. They are signed by regional and local authorities on behalf of their communities.

According to Joan Baxter (pers. comm. 22 Nov. 2012) and SiLNoRF (pers. comm. 26 Nov. 2012), it took Addax a long time to convince the communities to sign the agreements. Giving up their land as their only basis of existence was an important step for the peasants, which many hesitated to take. In the beginning, they didn´t see any reason for giving up their land as they were discontent with the conditions proposed by the company. This mainly affected the amount of compensation payments, which they thought wouldn´t be enough to equate the loss of their land.

Joan Baxter (pers. comm. 22 Nov. 2012) explained that Addax´ representatives had to go to the villages several times to negotiate the conditions of the lease. The communities only started to accept the deal when the company offered them a number of additional services, mainly employment or education opportunities and the development of infrastructure in the villages. “People were proud and happy of their land [...] Addax had to make huge promises to get that land” explained a farmer in Robung / Magbansa (interview 4, pers. comm. 29 Nov. 2013). However, these agreements were only made in oral form and not integrated into the land lease agreements. This is why the communities cannot raise legal claim on its adherence.

Moreover, the communities were put under a certain pressure, since the Addax representatives were accompanied by a politician. By doing this, the company relied on the rural population´s trust in authoritative persons. As the Oakland Institute (2011c, p.28) explains, “traditional authority structures [...] prevail in rural Sierra Leone, where people do not question the word of respected community members, including Chiefs and MPs [members of parliament]”. This refers to the member of parliament who is responsible for the area and whose actual function is to represent the ideas and interests of his constituents (Anane & Abiwu 2011, p.22). On the contrary, he rather used his position to help Addax to persuade the communities to accept the deal.

Convinced of the company´s promises and the encouragement by the politician, the communities accepted the deal. In the course of the interviews many landowners complained that the land lease agreements were often signed by only few representatives of the communities. Many farmers therefore felt poorly involved in the decision making. In Worreh Yeama, a landowner explained that only three people from his village signed the lease agreement on behalf of the whole community (interview 2, pers. comm. 28 Nov. 2012). Moreover, there appears to be little comprehension of the actual legal effect of the land lease agreements. The Oakland Institute (2011c, p.28) reported that a community´s elder believed that he could terminate the agreement at any time “because the land belonged to him”. Especially women seem to have got little information on the project and to have been excluded from the participation process.

The land owners had - apart from the land lease agreements - the possibility to sign so-called “acknowledge agreements”. These agreements are intended to grant the farmers a better security of their rights. However, they appear to have little legal significance but rather serve the allocation of direct

payments and the land rent (Addax Bioenergy 2013a, pp.1-2).

For most land owners and their communities the land transfer was a completely new situation. Many of them had never dealt with contracts or agreements, some were even illiterate and could only sign the agreements by fingerprint. Admittedly, the farmers were provided with the support of a law firm. However, Bread for All (Maillard Ardenti 2011, p.12) and the Oakland Institute (2011c, p.28) suspect the law firm to support the interests of Addax and the government. After all, it is paid by Addax itself, and its head has direct relations to the national government, having represented the President´s adviser and later-on Minister of Justice and Attorney General (The Oakland Institute 2011c, p.28).

Now that the land lease agreements are signed, the farmers have no means to revert the loss of their land. As determined in the agreements and the MOU, all disputes concerning the Addax project have to be resolved at the International Chamber of Commerce, which is in London (Government of the Republic of Sierra Leone 2010, p.4). Of course, the communities have no means to afford such a trial, which means that they will have no support in case the Addax project causes problems for them.

3.7. Feasibility analysis and monitoring

The Addax project was submitted to a feasibility analysis that lasted for two years. In its course, the aforementioned Environmental, Social and Health Impact Assessment (ESHIA) was issued. The assessment includes 14 specialist studies dealing with different aspects[17] (AfDB n.d., pp.8-9). Unfortunately, only a summary of the ESHIA is publicly available online but its "key findings were presented to all interested and affected parties at national, provincial and local levels." (Addax Bioenergy n.d.c).

Joan Baxter regards the assessment critically: The ESHIA would make the wrong assumption that the land which Addax leased is "degraded" (Baxter 2010). It would also "provide little detailed information on the measures to mitigate project-related risks" (ibid., on translation) and lack information on the realization of resettlements (ibid.).

Annual monitoring reports are - by order of Addax and its lenders - issued by the engineering consulting firm Nippon Koei UK (NKUK) in the form of "Environmental & Social Monitoring Reports" (Bisset & Driver 2013, pp.1, 2). They are based on the outcomes of regular on-site surveys and documents provided by Addax (ibid., p.31). As the "project is still at a relatively early stage of development", the 2012 report states that not all impacts could be monitored (ibid., p.4). It generally confirms the project´s compliance with national and international standards but also referred to a number of deficits and negative effects.

17 *these include: biodiversity and ecology, hydrology, sustainability of agricultural production, land use, social impact, re-settlement, visual impact, co-products management, air quality, infrastructure and transport, greenhouse gas lifecycle, carbon stock, fisheries and health impact*

4. The project´s effects on local smallholders

The present case study clearly shows that the Addax project causes many negative impacts on the local population which overshadow some few potentially positive outcomes. Addax cannot be blamed for all problems - some of them are the result of the unfavourable initial situation in Sierra Leone. This, however, should have been considered by Addax, its sponsors, the controlling institutions and - last but not least - the Sierra Leonean government.

4.1. Loss of self-sufficiency

4.1.1. Loss of farmland

Through the Addax project, many farmers had to give up their agricultural land. Although the company states that "[t]he plantation avoids the main cultivation areas in the project area" (Addax Bioenergy 2013b, p.4), all of the six interviewed families reported to have lost either all or parts of their land. The satellite images in fig.15 exemplarily show that the sugarcane fields do not spare traditionally cultivated areas. Even people in Worreh Yeama, which is located on the edge of the project area, experienced a significant decrease of available land. The loss of farmland is probably the biggest loss for the farming families in the Addax project area and leads to a strong reduction or total stagnation of farming activities.

Fig.15: Displacement of traditional agriculture

Both images show the same section - before and since the land lease. The black dotted lines indicate the location of smallholders´ fields before the land lease.

*Sources: **Left image**: own illustration, based on: Google, DigitalGlobe (2013); **Right image**: own illustration, based on: SPOT data/ISIS Programme, CNES Copyright (2012)*

Addax was aware that the project would have negative effects on the smallholder´s food production. It has to be admitted that the company has tried to "mitigate potential impacts on food security" (Addax Bioenergy n.d.d) by launching the "Farmer Development Programme" (FDP). This programme was developed with the support of the FAO, the International Institute of Tropical Agriculture and the Sierra Leone Ministry of Agriculture, Forestry and Food Security (Addax Bioenergy 2013a, p.2). It is addressed to all farmers, whether land owner or land user, who gave up their land for the project.

The FDP consists of two parts: One is the Farmer Field Life School, a "training programme to educate smallholder farmers in better agricultural practices" (Addax Bioenergy 2013a, p.2). Its aim is to provide education to 1,838 farmers (ibid.). The second is the creation of what Addax calls "community fields". Every community, which gave up agricultural land, is entitled a free community field from the FDP.

Although the programme is certainly a gesture of good will, it shows grave deficits and does not compensate the loss of the land: First, the "community fields" are much smaller than the land which the farmers used to cultivate before. Addax emphasizes the amount of 2000 hectares of community fields (ibid). Taking into account the fact that more than 13.600 affected people depend on the fields, this number doesn´t sound like so much anymore, which was confirmed by statements of the interviewed smallholders. Five of six interviewed families complained that the size of the community fields has strongly reduced compared to the size of their old fields. A farmer in Robung / Magbansa reported that seven families now have to share only 1 acre[18] of land, while they used to cultivate about 10 acres before (interview 3, pers. comm. 29 Nov. 2012). This is highly insufficient to secure the food supply of the affected families. All of the consulted farmers told to have recorded a strong decrease in farming outputs. Another farmer in Robung / Magbansa (interview 4, pers. comm. 29 Nov. 2012) clearly stated that his community does not have enough land left to feed everyone.

Addax aims to justify the calculation of the community fields by stating that 0,143 hectares are enough land to produce the amount of the average per capita rice consumption in Sierra Leone (Addax Bioenergy 2011b, p.4). This assumption made by Addax and the responsible politicians is grossly false since it ignores the way farming is practiced in this region. As the project strongly reduces the availability of agricultural land in the whole area, it becomes impossible for the farmers to keep on practicing shifting cultivation. The smallholders would actually be required to abandon their traditional farming habits and change to intensive farming. Intensive farming, however, requires fertilizers and agricultural machinery in order to keep the soil fertile and the yields at a stable level. Most peasants cannot afford to buy these things (SiLNoRF, pers. comm. 26 Nov. 2012).

That is also the reason why, according to Bread for All (2011, p.3) and the interview partners, the farmers cannot apply what they have learned in the Farmer Field Life School, whose agricultural training is based on the utilization of fertilizers. A farmer in Mabilafu stressed that "Addax brings no improvement in agriculture" (interview 5, pers. comm. 29 Nov. 2012).

18 1 acre = 0,4 hectares

In the first years of the FDP, the smallholders get supported by the company in terms of ploughing the new land and getting seeds. Farmers in Worreh Yeama positively stated that this service saves a lot of time and labour (interview 1, pers. comm. 28 Nov. 2012). It is, however, limited to only three years[19]. After that period, the farmers will either have to pay for the services or relinquish them. It is conceivable that when the FDP runs out, the smallholders will not be able to make sufficient yields out of their small plots without the help of the company. This makes them dependent on Addax and causes a lot of indignation in the affected communities. "The FDP is a mitigative measure and should take place as long as the project lasts, not only 3 years. [...] Mitigation should not be paid for", Lansana Sowa pointed out in a conversation (SiLNoRF, pers. comm. 26 Nov. 2012), representing the opinion of most interviewed farmers.

Moreover, there is a lot of dissatisfaction regarding the implementation of the FPD and the allocation of its fields. Since the communities could not select the community fields on their own, they had to rely on what they got from the company. The consequences are illustrated by the example of an interviewed family in Mamudu. Their FDP field is has a poor soil fertility and is therefore not suitable for farming. Moreover, Addax had dumped the wood from cut trees on their FDP field, which makes it inaccessible to the farmers (interview 6, pers. comm. 30 Nov. 2012).

In another case, as reported by SiLNoRF (pers. comm. 30 Nov. 2012), the implementation of the FDP has not been accomplished as scheduled. Concerning at least one village, Addax had started to use the land for sugarcane production even before the farmers had gotten access to their community fields. This circumstance made them landless for a certain period, which threatened their food security. Bread for All observed a similar situation in five villages in the pilot phase area of the project (Anane & Abiwu 2011, p.32).

Also the location of the community fields is not quite favourable in many cases as the map in fig.16 shows. The community fields basically consist of the remaining land which is neither used for sugarcane plantations nor characterized by a high environmental sensitivity (Addax Bioenergy 2011b, p.9). In many cases it was therefore impossible to locate the community fields next to the villages. Addax points out that the maximum distance between each village and its community fields is limited to three kilometers. Yet, this distance only relates

Fig.16: Distances between the communities and their FDP fields

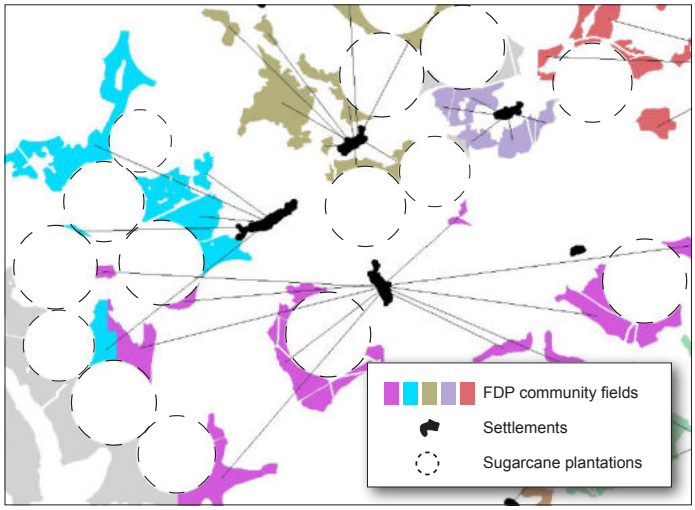


Illustration based on: Addax Bioenergy 2011b, p.16.

19 *At the time of the case study, the FDP was still ongoing.*

to the airline between the villages and their fields. The real walking distance, containing a detour around the plantations is much longer than that. This means a significant increase of workload for the farmers, who not only have to walk the distance every day but also have to carry the entity of their yields back to the villages.

The Addax project not only reduces the amount of agricultural yields but also the biodiversity in the project area. According to the company, most of its sugarcane fields are set up in the uplands (Addax Bioenergy 2013b, p.5). However, Addax and the authorities appear to have neglected the fact that the uplands are the place where the smallholders mainly practice mixed intercropping. Some of the most important food plants and palm trees almost exclusively grow in the uplands. Problems arise where farmers are reimbursed with community fields in the lowlands. Joan Baxter (pers. comm. 22 Nov. 2012) pointed out that important nutrient suppliers such as beans which provide essential proteins to the children, cannot be produced any more.

Additionally, some interviewed farmers told to have lost at least parts of their backyard gardens which also served for both food and cash crop production. The gardens are usually located very close to the villages in some kind of surrounding green belt. Four out of six interviewed farming families reported that the sugarcane fields have been located so close to the villages that they either partly or entirely lost their gardens.

The interviews show that Addax obviously makes no efforts to protect the smallholders´ biodiversity in any way. The FDP community fields are only designed for rice cultivation (Baxter, pers. comm. 22 Nov. 2012) although the land would be suitable for mixed intercropping as well.

Tab.2 shows that all of the interviewed farmers face a strong decrease of biodiversity. They were asked how many different crops out of a list of 18 most commonly produced crops in central Sierra Leone they used to cultivate before the lease and how many they are growing since Addax leased their land. Five out of six interviewed farming families have lost more than half of their crop production. Three families only have their rice production in the FDP community fields left, but lost all other crops they used to grow before. One family in Mamudu even had to completely quit farming since, as mentioned before, their compensation land is infertile and inaccessible.

Tab.2: Biodiversity before and since the land lease

Interview	Community	Number of crops (before the lease)	Number of crops (since the lease)	Decrease in biodiversity
1	Worreh Yeama	15	6	- 60 %
2	Worreh Yeama	11	6	- 45 %
3	Robung / Magbansa	18	1	- 94 %
4	Robung / Magbansa	17	1	- 94%
5	Mabilafu	18	1	- 94 %
6	Mamudu	18	0	- 100 %

Source: own survey.

4.1.2. Loss of fallow land

Fallow land is of a high importance for (semi-)subsistence farmers in Sierra Leone. Although Addax had, as reported by families in Robung / Magbansa (interview 4, pers. comm. 29 Nov. 2012) and Mabilafu (interview 5, pers. comm. 29 Nov. 2012), promised the farmers that they could still walk on the land, people who don´t wear an Addax uniform get chased from the fields. The company as well as the government have no understanding for the farmers´ need of the fallow land. The assumption that it the fallow land is unused is wrong due to a number of reasons:

Fig.17: Cleared vegetation

Source: Lisa Vlasak.

First, as already mentioned, farmers need it in order to practice shifting cultivation. The fallow land regenerates so that it can be used for later farming activities. Secondly, the smallholders do not only depend on what grows on their fields, but also on what they can find in the bush. Smallholders usually obtain a lot of material and collecting goods from the fallow land. Mainly women collect sticks, wood, timber and charcoal there. The families need the material to build houses and make fire. Also herbs and condiments are affected. Some herbs provided natural medication (Baxter, pers. comm. 22 Nov. 2012). The cutting of trees leads to a significant deficiency of wood and nuts. Since the sugarcane plantations replaced the free land, women either have to walk long distances to find the goods or buy them for a high price on the market.

Fig.18: Cut down trees

Source: Lisa Vlasak.

Also bushmeat almost disappeared. The bushmeat which men hunted on the fallow land is the only available meat for most farming communities. Through the Addax project, the natural habitat of the animals was destroyed and they migrated to other areas (Baxter, pers. comm. 22 Nov. 2012). Although Addax has spared ecological corridors between the sugarcane plantations, too little land remains for wild animals.

4.1.3. Loss of water resources

Many communities also lost access to important water streams. Close to Worreh Yeama for example, Addax planted a sugarcane field around a water stream which was “the only perennial source of water in

and around the village" (Anane & Abiwu 2011, p.39). Addax has admittedly built a new water well in the village, residents however complained that the water has low drinking quality (interview 2, pers. comm. 28 Nov. 2012). Also, the land bordering the stream is very well irrigated and served the women as year-round gardens. This secured their food supply during the dry season when usually less food is available. Since Addax uses that land, the women have lost those gardens (SiLNoRF, pers. comm. 26 Nov. 2012).

Fig.19: Inaccessible water stream close to Worreh Yeama

Source: own illustration, based on SPOT data/ISIS Programme, CNES Copyright (2012).

Also the communities along the Rokel River complained about heavy water supply problems caused by the Addax project. Sugarcane is among the thirstiest crops used for agrofuel production (The Oakland Institute 2011d, p.1). The water for the irrigation of the sugarcane plantations comes from the Rokel river. In one second, Addax draws up to 7 m³ of water from the adjacent water stream (AfDB n.d., p.1). This amount corresponds to about one quarter of the water flow between February and April (BfA & WaterLex 2011, p.6). It must be considered that additional water is drawn from the river by other large-scale projects along the Rokel river (Baxter, pers. comm. 22 Nov. 2012). In contrast to other investors, Addax pays for the water the company uses, namely 3 SLL (0,0006 EUR) per cubic meter water. This price is determined in the MOU (Government of the Republic of Sierra Leone 2010, p.10), however there are no indications on how much water the company will actually take off the river (The Oakland Institute 2011c, p.27).

The villages downstream the water pump station suffer from the low water flow in the dry season. Many of them made their living from fishing and struggle with the loss and contamination of water which negatively affects the fish´ habitat. People in Robung / Magbansa (interview 4, pers. comm. 29 Nov. 2012) and Mabilafu (interview 5, pers. comm. 29 Nov. 2012), which are located downstream the pump station, reported that they were

Fig.20: Addax´ water pump station close to Robung / Magbansa

Source: Lisa Vlasak

observing a strong decrease of fish.

Even more threatening is the fact that the pesticides used by Addax pollute the water of the river and other water streams. Many communities use the water as drinking water because they do not have any other source of water. Despite harsh complaints by the population, Addax didn´t care to construct water wells in most of the villages. The situation was identically described by residents in both of the visited communities at the Rokel River, Robung / Magbansa and Mabilafu (ibid.). In most cases, the closest source of drinking water is located too far away, so the villagers are forced to drink the polluted water. Of course, this may lead to dangerous diseases as further discussed in chapter 4.6.

4.1.4. Loss of homes

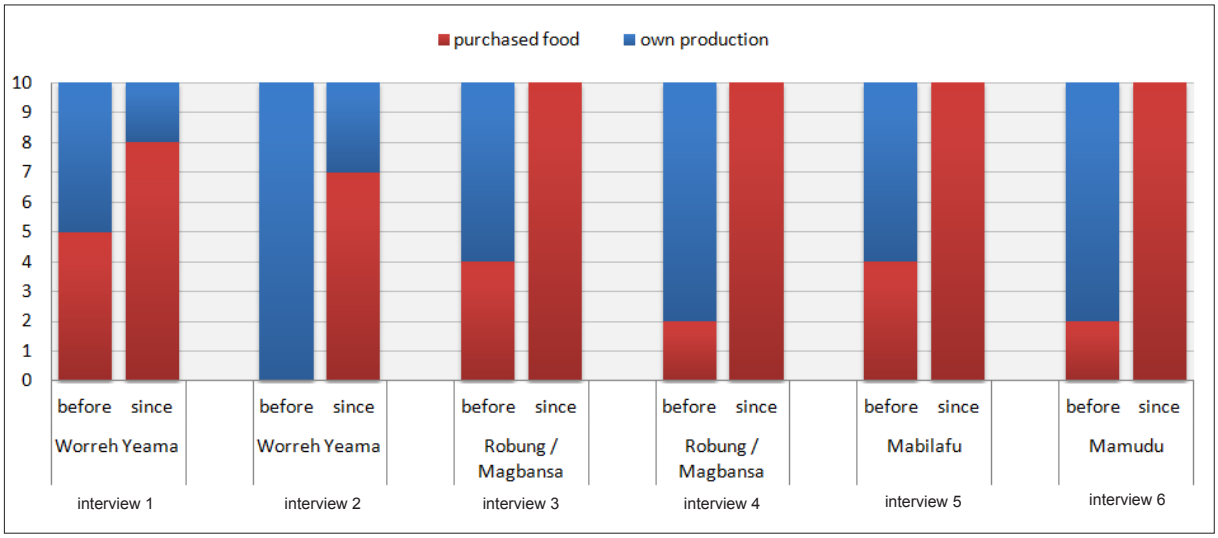
Although Addax often underlines that the location of its plantations and infrastructure has been carefully selected, a number of settlements will have to be physically resettled. This affects 77 persons (AfDB n.d., p.7) . According to Addax, they "will be offered compensation, i.e. either Addax Bioenergy will re-build the settlement somewhere else or offer cash compensation if that is preferred." (Addax Bioenergy 2013b, p.5). The resettlement will be realized on the basis of a "Resettlement Action Plan" to take place depending on the project´s progress (AfDB n.d., p.17). Unfortunately, not much official information on which settlements will be affected or on the current status of resettlements is provided. Bread for All found out that some houses close to the factory site in Mabilafu might be affected. However, there is a great uncertainty regarding the details of the resettlement which worries the residents (Anane & Abiwu 2011, p.9).

4.2. Increase in expenditure

The loss of farmland and access to natural resources as well as decreasing yields from fisheries have made many smallholders lose their self-sufficiency. Throughout generations they used to live from their own products and from what they got from the bush. For the first time the smallholders now have to buy most of what they consume, which makes them dependent on commercial goods and services.

In the course of the interviews, the dimension of the farmer´s dependency on purchased food became clear. Fig.21 illustrates the modified degree of self-sufficiency in food in the project area. Farmers were asked which part of their total food consumption (out of ten) they were able to produce on their own and which part they used to buy before Addax leased their land. All of the interviewed smallholders replied that they used to obtain at least half of their food consumption from their own farming output. When asked what the situation is like since the Addax leased their land, it became clear that the farmers are not able to sustain themselves anymore. Four out of six interviewed farming families said that they now completely or almost completely rely on purchased products. These are the same families, who only have their reduced rice production on the FDP fields left as well as the before mentioned family who had to quit farming because the provided community field is not arable.

Fig.21: Self-sufficiency before and since the land lease



Source: own survey.

The dependence on commercial goods risks to become a major threat for the food security of the affected people. Without any financial backing, the smallholders have to rely on the market-determined prices. It is generally known that least developed countries often struggle with instable food prices. According to a study conducted by the FAO, Sierra Leone is one of the countries which are "most vulnerable to the recent global food prices crisis." (Gomez y Paloma et al. 2012, p.59).

Farmers said that the prices in the region have gone up very high. Aside from the global trend of increasing prices on staple food, this phenomenon is also due to the increased cash flow in the whole Addax project area. The company may be right when pointing out that "the average household income in the area has risen" (Addax Bioenergy 2013a, p.2), which is mainly attributable to the incomes from jobs offered by Addax, compensation payments and the land lease. There is little doubt that farmers who get a job at the company have a higher income than they used to have as (semi-)subsistence farmers. It is however necessary to consider that the farmers have much higher expenses now. Many goods they were able to produce themselves before have to be purchased now at high prices. Also the prices for fish and bush meat have gone up very high. Since wild animals have been expelled from the whole project area, it has even become hard to get meat on the local markets, as an interviewed farmer in Mamudu explained (interview 6, pers. comm. 30 Nov. 2012). If they actually find it on the market, its price is so high that they can seldom afford it.

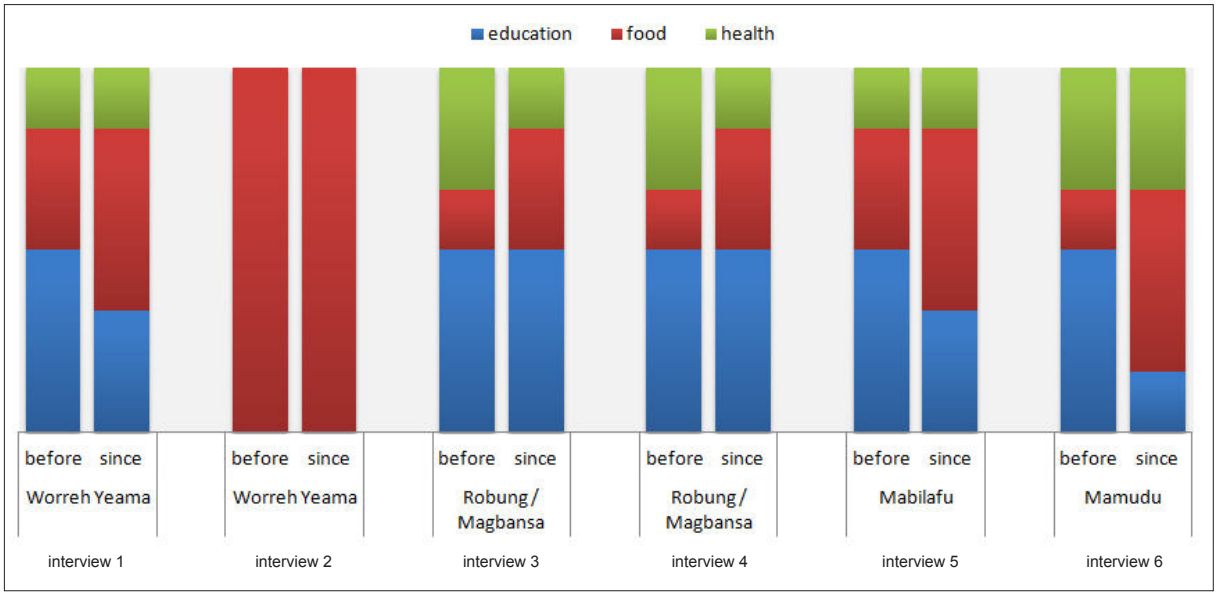
It was also stated that the prices for commodities and services have increased in the project area. Farmers in Worreh Yeama (interview 2, pers. comm. 28 Nov. 2012) and Robung / Magbansa (interview 4, pers. comm. 29 Nov 2012) reported that people outside the Addax area erroneously believe that the affected population became wealthy through the project and therefore demand higher prices. Another farming family in Worreh Yeama (interview 1, pers. comm. 28 Nov. 2012) complained that school fees and medical services are becoming more expensive. Also the costs for transportation have gone up dramatically. A trip to Makeni, where farmers make parts of their purchases, costs up to four times as

much as it did not long ago.

But also services inside the communities have become more expensive and therefore unaffordable for many families. This mainly concerns the availability of communal labor. As mentioned in chapter 2.2., many farming families are not able to harvest all crops on their own during the peak season and therefore rely on communal labour to help them on the fields. A farmwoman in Worreh Yeama (interview 1, pers. comm. 28 Nov. 2012), for example, explained that she usually needs to hire up to 10 additional persons for the production of sweet potatoes. However, during the most labor-intensive months of the year, many young men are employed by Addax. The salary the workers get from Addax is higher than what other farmers can afford to pay them. This pushed the overall wage level within the communities. As a result, communal labour has become hardly available. In the case of the aforementioned farmwoman, she is not able to pay the high price for communal labour anymore and therefore had to give up her sweet potato production (ibid.).

Although several goods and services have become more expensive in the project area, food is the most important expenditure for many now. There has been a shift in the overall household expenditures of the affected families. School fees always used to represent a major expenditure. Since the land lease, food expenses have significantly gained importance. When asked about the shift of their three main expenditures, five families have to spend a bigger share of their money on food now than before the land lease (see fig.22). More than half of the interviewed families reported that food represents their main expense now. This mostly happens at the cost of health and / or education (see later).

Fig.22: Main expenses before and since the land lease



Interview partner 2 was not sure about the main expenses of his family but said that food is and has always been a very important expenditure.

Source: own survey, based on the idea of Joan Baxter.

4.3. Insufficient cash income

"Things have been difficult before, that is why we accepted the deal." (interview 4, pers. comm. 29 Nov 2012). Similar to this farmer in Robung / Magbansa, many others were ready to give up their land in favor of the project because they expected an improvement of their economic situation. The farmers´ incomes significantly changed through the project.

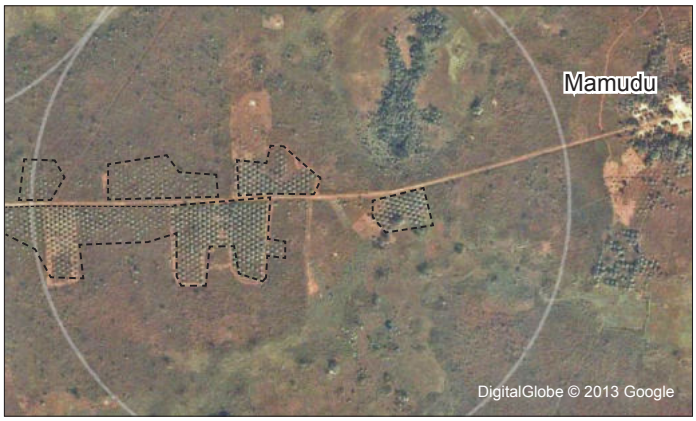
4.3.1. Cash income from farming

Palm oil production provides the major cash income for the (semi-)subsistence farmers in the districts Bombali and Tonkolili (Gomez y Paloma et al. 2012, p.104). This income is usually used to pay school fees (Baxter, pers. comm. 22 Nov. 2012). Through the project, many families lost their palm tree plantations. Usually located in the uplands, they had to clear the way for Addax´ sugarcane plantations. Five of six interviewed farming families used to produce palm oil before the land lease. All of them reported to have lost the entity of their production. The satellite image in fig.23 exemplarily shows palm tree plantations close to Mamudu. They lie within the area which Addax intends to use for sugarcane production in a later implementation phase of the project. Already at the time of the interview, farmers in the village told to suffer from the loss of palm trees in the area.

As mentioned before, many farmers also had to give up at least parts of their gardens. Before, women used to have the possibility to earn an income from the cultivation of groundnuts, peppers and other cash crops which were mainly grown for trade (Baxter, pers. comm. 22 Nov. 2012).

Moreover, most farmers lost an important part of their income which they usually got from the trade of agricultural surpluses. All of the six interviewed smallholders indicated that they used to sell parts of their agricultural produces. Since the land lease however, only one family in Worreh Yeama still earns money from rice production (interview 1, pers. comm. 28 Nov. 2012).

Fig.23: Displacement of palm oil plantations through sugarcane fields



The black dotted lines indicate the location of smallholders´ palm oil plantations, the white line the planned location of sugarcane fields.
Source: own illustration, based on: Google, DigitalGlobe (2013)

Fig.24: Remaining palm oil production in the project area

Source: Lisa Vlasak.

4.3.2. Land lease and compensation payments

Addax pays an annual amount of 12 USD (9,08 EUR)[20] per hectare of leased land (AfDB n.d., p.2). This price was recommended by the Sierra Leonean government (Anane & Abiwu 2011, p.31). This payment consists of the surface rent and an additional direct payment to the farmers. Adding to that, farmers receive compensation for trees and crops which had not yet been harvested when Addax took over the land.

The **surface rent** accounts for 8,89 USD (6,73 EUR) per hectare[21] per year (Maillard Ardenti 2011, p.8). The money is not paid to the land owners directly, but to the District Council, who is responsible for the distribution of the money. As stated in the Land Lease Agreement, only half of the money goes to the farmers. The rest of the land rent is shared between local, regional and national authorities. The three Chiefdom administrators receive 20%, the two District councils further 20% and the national Government the remaining 10% (ibid., p.12).

This system is criticized by experts and civil society groups such as Bread for All (ibid.), SiLNoRF (pers. comm. 26 Nov. 2012) and Joan Baxter (pers. comm. 22 Nov. 2012). Bread for All considers it unfair and vulnerable to corruption. The money that goes to the three Chiefdom Councils is actually intended to be used for investments in the benefit of the communities, such as schools or technical infrastructure. According to SiLNoRF, these investments are barely made. Instead, it is believed that the chiefs tend to abuse the money for their own purpose (SiLNoRF, pers. comm. 26 Nov. 2012). They annually receive 24.540 USD (Maillard Ardenti 2011, p.12), which represents a big loss for the communities if not properly invested. Bread for All further is concerned that money belonging to the land owners might not be properly transferred by the District Councils and therefore never reaches the land owners.

Besides the surface rent, land owners receive a **direct payment** in the amount of 3,46 USD (2,62 EUR) per hectare[22] of given-up land (ibid., p.8). The payment is made on an annual basis during the whole length of the lease period. Addax decided to pay this amount on the basis of the Acknowledgement Agreements, although legally the company would not be required to do so. Bread for All explains that "[a]ccording to the law, traditional landowners are not party to the land leases and no rent is payable to the landowner directly." (Anane & Abiwu 2011, p.31).

All in all, land owners get an annual payment of 7,90 USD (5,98 EUR)[23] per hectare. Regarding the fact that an average smallholder in Sierra Leone cultivates only 1- 2,5 hectares (Brush & Turner 1987, p.158), it becomes obvious that this income is largely insufficient to survive and in no way compensates the farmers for the loss of their source of life. Even more dramatic is that only land owners receive these payments. Land users, who - as mentioned before - have no usage rights themselves but cultivate the land of relatives or other community members, cannot claim land payments at all (SiLNoRF, pers. comm. 26 Nov. 2012).

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20 exchange rate of 2nd August, 2013.
21 3,60 USD per acre
22 1,40 USD per acre
23 = 50% of the surface rent of 6,73 EUR (3,37 EUR) plus 2,62 EUR direct payment

Besides the compensations for land, farmers receive **compensation payments for not harvested crops and trees**. SiLNoRF (pers. comm. 26 Nov. 2012) pointed out that the prices were directly negotiated with the national government. In contrast to the payments for land, these compensations also apply to land users. They are based on a one-time payment which depends on the different crops and the type of trees. For a palm tree, for example, Addax pays about 57.000 SLL (about 10 EUR)[24], as stated by SiLNoRF (pers. comm. 26 Nov. 2012) and five of the interviewed families. A simple calculation demonstrates that this price is by far less than a farmer would earn through the production and selling of palm oil from the tree: The palm oil yield of an improved palm tree amounts up to 6 gallons per year. The local price for a gallon of palm oil is 5000 SLL, which results to an income of 30.000 SLL per year. Since the average productive life of an improved palm tree is 30 years, a farmer would gain an overall yield of 900.000 SLL (about 157 EUR) (calculation by SiLNoRF, pers. comm. 30 Nov. 2012). This is about 15 times as much as the compensation for a palm tree. According to a farmer in Worreh Yeama (interview 1, pers. comm. 28 Nov. 2012), Addax furthermore doesn´t pay compensations for young trees, which still have the larger part of their productive lives ahead.

Tab.3: Addax´ payments to affected farmers

Land owners	• 50 % of the surface rent • Direct payment for farmland • Compensations for crops and trees
Land users	• Compensations for crops and trees

Source: own survey.

Given that Addax distributes all of the compensation payments in a one-time-payment, the smallholders receive quite a lot of money at a time. A farming family in Robung / Magbansa (interview 3, pers. comm. 29 Nov. 2012) positively stated that they were able to afford to build a house from the tree compensations, which they couldn´t do before. Indeed, the crop compensations appear to be a lot of money to the farmers who never had much of it. However, they neither cover the value of the trees and crops nor the risen expenses of the farmers´ daily lives. In the interviews it was often mentioned that the once-paid compensations are not sufficient in the long run. An elder in Robung / Magbansa hopes that the government intervenes by raising the prices for the compensations. He quite dramatically expressed that “if the government doesn´t change anything, the whole community will die.” (interview 4, pers. comm. 29 Nov. 2012).

Apart from the low payments, there appears to be a certain vagueness concerning the payments. Some of the farmers were not aware of how much money they were actually supposed to receive and when the payments would be made. Apart from the tree compensations, most of them couldn´t tell how much surface rent, direct payments or crop compensations they get. This might be the result of the fact that the money is not handed out to the farmers themselves but to their community. The elders of the

24 *exchange rate of 2nd August, 2013.*

communities then share the money among the farming families, which leads to less transparency.

4.3.3. Employment

The farmers were aware that the land rental and the compensations would not suffice to survive. Thus, they heavily relied on the prospect of employment opportunities in the company. For many, a job in the company was an important precondition for giving up their land. Especially the younger generation was decoyed by the prospect of a job with a secure income. Rural communities often are faced with young people´s decreasing interest in farming. Many search to replace their farm work in the family business through an alternative employment (Gomez y Paloma et al. 2012, p.50). The opportunity of getting a job in the company appeared quite promising to them.

Indeed, the company does create a large number of jobs. As declared in the MOU, the company is supposed to create 4000 jobs by the end of 2015 (Government of the Republic of Sierra Leone 2010, p.2). However, the government has never raised to question whether this number will actually suffice to benefit the population. More than 13.600 persons will have lost their life existence at the time the Addax project becomes fully operational (AfDB n.d., p.7) . Many of them relied on getting a job in the company. By the end of 2012, so SiLNoRF (pers. comm. 26 Nov. 2012), only about 2000 jobs have been created for the local population.

The low number of locally created jobs can be explained by the fact that most of the smallholders in the project area are considered as “low-skilled” by the company. Since Addax relies on the mechanical production of sugarcane, it doesn´t need a lot of “low-skilled” workers to carry out physical labour on the fields. The more qualified workers are recruited from outside of the project area. Many workers come from other parts of the country, mainly from Makeni and Freetown. But Addax also employs a number of foreign workers in higher positions (Anane & Abiwu 2011, p.42).

Of course the “low-skilled” local employees receive the lowest salary. According to an interview partner in Mabilafu, the company had held out the prospect of training for younger workers in order to gain professional skills, but this promise never came true (interview 5, pers. comm. 29 Nov. 2012). Addax pays a salary of 10.000 SLL (1,74 EUR) per day to its local workers (The Oakland Institute 2011e, p.1), which would be a maximum income of 53,94 EUR per month[25]. The company emphasizes that its employees receive “more than twice the average minimum salary” (Addax Bioenergy 2013a, p.2). According to the Oakland Institute however, the “daily wage does not cover even their daily food needs” (The Oakland Institute 2011c, p.29).

It is very important to mention that most of the local workers in the company are only employed seasonally, as reported by all of the 6 interviewed families, Bread for All (Anane & Abiwu 2011, p.41) and Joan Baxter (pers. comm. 22 Nov. 2012). In the visited communities people unanimously explained that Addax employs its labourers only during the planting season when the company needs a lot of work

25 *provided that the employees work 31 days per month.*

force. After three months, Addax usually terminates the workers´ employments, which means that they have no income during three quarters of the year.

Such a practice is only possible in a country where the rights of workers are not sufficiently protected. In the case of Addax, the employees also have no right for sick leave nor other social benefits. When they become ill, they either remain unpaid during their time of absence or have to work nevertheless. Bread for All reports that the workers are neither offered lunch nor medical services, although the work in the company can be dangerous. According to the NGO it occurs that workers are treated badly by the company. Although promised, the employees do not receive free transportation and therefore have long daily walks (Anane & Abiwu 2011, pp.41-42).

4.3.4. Economic consequences for affected farming families

The result of the increased expenditures in combination with low incomes are grave financial problems for the affected farmers. An interview partner in Robung / Magbansa affirmed that the income he used to achieve from selling cash crops was higher than what he earns since he depends on the company´s payments (interview 4, pers. comm. 29 Nov. 2012). Another farmer in Worreh Yeama literally stated that his salary from Addax does not suffice to survive (interview 2, pers. comm. 28 Nov. 2012). It is to be expected that this situation will become even more dramatic over time because neither the salary nor the land lease and compensation payments seem to be adjusted to inflation.

Already few years after the project has started, farmers are forced to cut back on many things they were able to afford before they gave up their land. The probably most serious consequence is the decreased food availability in the project area. According to Joan Baxter (pers. comm. 22 Nov. 2012), the affected people are eating less and fewer times than before. Instead of positively contributing to food safety, the project made the people more prone to food shortages. This also affects their food balance. Due to the high food prices, people cannot afford to purchase the same diversity of foodstuffs which they used to have from their own production. A farmer in Robung / Magbansa (interview 3, pers. comm. 29 Nov. 2012) mentioned that he often does not have enough money to buy as much meat as he used to have before.

The lack of income also forces parents to take their children out of school. Since they lost their income from cash crops, they cannot afford to pay for the education of all of their children any more, as five different farming families unanimously explained (see tab.4). Joan Baxter (pers. comm. 22 Nov. 2012) points out that this affects mainly girls who usually are the first to be taken out of school.

The weak economic situation of affected families makes many of them run into dept. According to Joan Baxter, this problem is very common. Some people even have to borrow money to buy food (Baxter, pers. comm. 22 Nov. 2012). In order to bridge the lack of income, people started to go into other off-farm businesses. A former farmer in Mamudu for example told me that he now manufactures baskets in order to earn at least a little income apart from the Addax salary (interview 6, pers. comm. 30 Nov. 2012).

Tab.4: Children attending school before and since the land lease.

Interview	Community	Number of children attending school before the lease	since the lease
1	Worreh Yeama	5	3
2	Worreh Yeama	n/a	n/a
3	Robung / Magbansa	7	5
4	Robung / Magbansa	5	1
5	Mabilafu	10	4
6	Mamudu	4	1

Source: own survey.

4.4. Lack of expected infrastructure development

Infrastructure is poorly developed in many parts of Sierra Leone, especially in rural areas, where many communities lack the most necessary. As a consequence of the Addax project, the situation was expected to improve. Indeed, Addax has, according to its own indications, already built 240 km of roads in the country (Addax Bioenergy 2013a, p.2). Also, Addax is ready to provide parts of their produced electricity to the national power grid (AfDB n.d., p.1). Both developments will certainly have positive effects on the long run in a country that lacks good roads and struggles with frequent blackouts.

Anyway, for the affected population these developments are of minor relevance. Most of the villages are not connected to the power grid and since the smallholders do not have motorized vehicles they might not gain much benefit from modern roads either. An essential reason for them to give up their land were Addax´ promises to construct schools, houses, paved ways, bridges, water wells, storage rooms, community centers, health centers and the more; all of which were things the communities have long been hoping for. “Farmers knew that the compensations and land rent are very low, but they relied on the promises that Addax made”, SiLNoRF explained (pers. comm. 26 Nov. 2012). In every village visited during the case study, residents enumerated different things the company was supposed to provide. However, things happened differently: As already mentioned, the communities didn´t insist on a formal agreement. Addax now denies having made promises to the communities. Apart from one water well in the Worreh Yeama village, which only provides low quality water (see chapter 4.1.3.), none of the promised improvements in all of the six visited communities have been implemented so far.

The Mabilafu community, for example, was promised a much-needed improvement of access ways to the village. Mabilafu is the only community with a school within the closer environment. Children from three adjacent villages attend this school. The only road that connects the settlements is in such bad condition that it becomes impassable for the children when flooded. A second way to the village leads over a self-built bridge-like construction over a water stream (see fig.25). The children coming from the other villages have to cross it under highly unsafe conditions, which has already led to a dangerous incident. The construction of a safer bridge and improvement of the access way was a precondition for

the community to give Addax its land (interview 5, pers. comm. 29 Nov. 2012).

Fig.25: Unsafe bridge in Mabilafu

Source: Lisa Vlasak.

It was further stated that the school in the village misses important improvements. Mabilafu is the closest community to the new-constructed Addax factory site. At the factory site, Addax built a large number of employees´ flats for its workers coming from outside the area and their families. Many of their children attend the school in Mabilafu. However, the capacities have not been adapted to the rush of children neither by Addax nor by the government. While five educators used to be responsible for 180 children before, the school counts 264 children today. "The government doesn´t send more teachers", a person worriedly stated in a conversation (interview 5, pers. comm. 29 Nov. 2012).

A farmer in the same village added that the community was also promised a health center by the company. Until today, this promise remains unfulfilled and the villagers still have to walk two miles until the next health facility (ibid.).

Residents in Robung / Magbansa are no less disappointed by Addax breaking its promises. An elder of the village reported that they had an oral agreement with Addax to support the community in building houses, storage rooms and a community center. The village often faces floodings due to a stream that runs through the village area when it rains which might damage some of the houses. They negotiated that Addax would help them to drain the stream, which, to date, has not happened (interview 4, pers. comm. 29 Nov. 2012).

Fig.26: Site of potential floodings in Robung / Magbansa

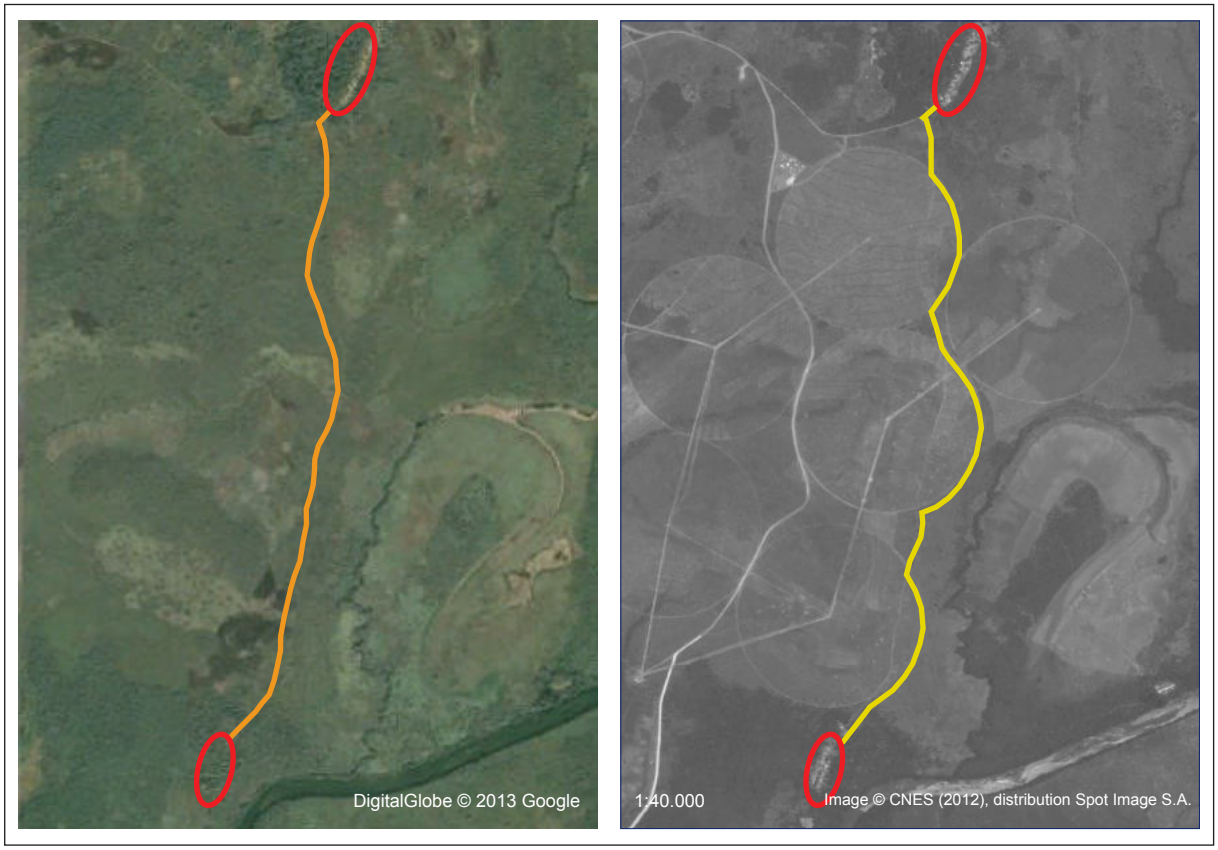
The picture in the dry season.
Source: Lisa Vlasak.

4.5. Destruction of the existing path network

Walking is the predominant form of locomotion in most rural parts of Sierra Leone. Motorized vehicles are almost non-existent and only few bicycles were seen within the Addax project area in the course of the case study. As far as natural conditions allow, the shortest possible ways along small footpaths or through the bush are used.

Since Addax has started to plant its sugarcane plantations, many paths have been destructed. Although Addax has kept a road along the axes of most plantations´ irrigation systems which makes it possible to cross the fields along its diameters, the walking distances for the local population have generally increased. The satellite images in fig.27 illustrate the problem. The comparison of the former and the current situation shows that a footpath which connected two settlements had to be displaced which results in an extended walking distance. Since the affected people transport heavy things on their daily walks, even a short detour means a lot of additional effort in their daily lives.

Fig.27: Footpath before and since the land lease



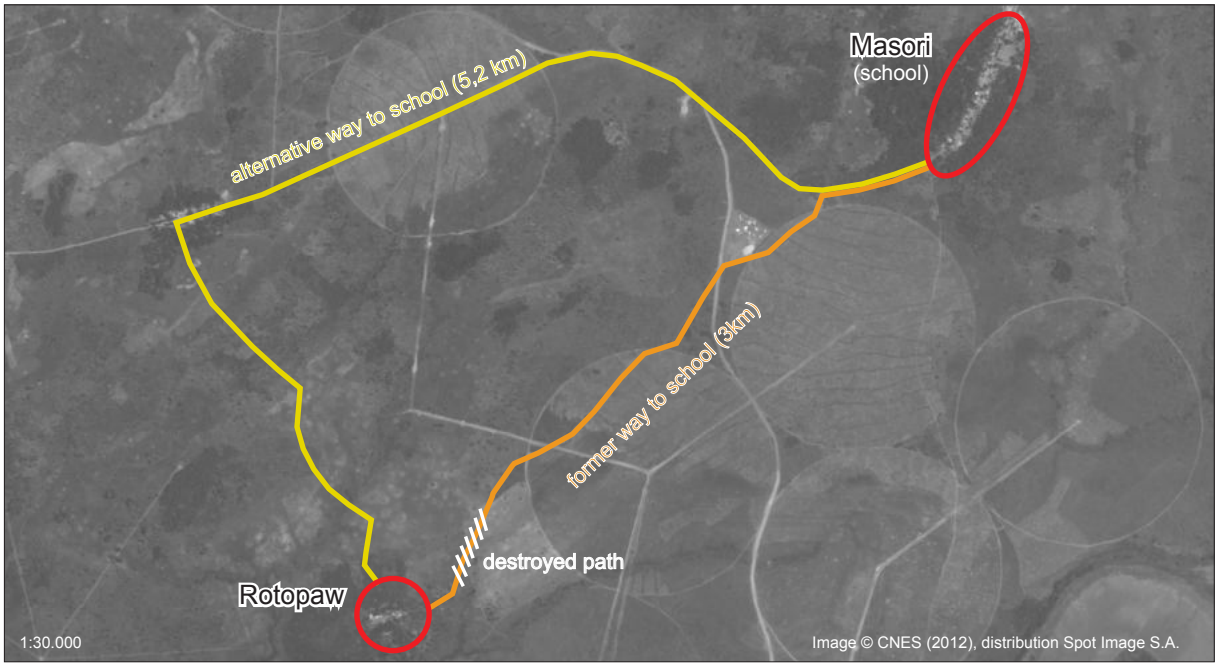
Both images show the same section - before and since the land lease. The orange line indicates the former footpath between two villages, the yellow line the current situation.

Sources: ***Left image:*** *own illustration, based on: Google, DigitalGlobe (2013);* ***Right image****: own illustration, based on: SPOT data/ISIS Programme, CNES Copyright (2012)*

It also happened that roads were destroyed by Addax´ heavy machinery. As SiLNoRF (pers. comm. 29 Nov. 2012) reported, his happened close to the village of Ropotaw, whose access way was badly damaged when the company entered the dirt road with its machines. So far, the company has made no effort to repair the damage. The problem is that this footpath used to be the school way for more

than 100 children in the village, who attended the school in the nearby village Masori. Similar to the aforementioned case of Mabilafu, the destroyed path easily gets flooded and becomes impassable for smaller children during the frequent rain falls. The only alternative way leads over the main road and means that the children have to walk a quite longer way to school than before (see fig.28). Since the former way already represented the maximum distance the children were able to walk daily, most of them cannot go to school anymore. Only 11 older children are able to make the way to school under the difficult circumstances today.

Fig.28: Walking distances for school children before and since the land lease



Source: own illustration, based on SPOT data/ISIS Programme, CNES Copyright (2012).

4.6. Health impacts

The Addax project shows to have a considerable negative impact on the health of the people in the project area. In two of the visited villages - both of which are located next to the Rokel River - residents referred to a noticeable increase of different diseases (interview 3, pers. comm. 29 Nov. 2012; interview 4, pers. comm. 29 Nov. 2012; interview 5, pers. comm. 29 Nov. 2012). This phenomenon most certainly has to do with the fact that the fertilizers and chemicals get washed from the sugarcane plantations into the river during heavy rains. Besides the organic fertilizer Vinasse the company applies Pesticides, Herbicides and Fungicides (AfDB n.d., p.12). The villagers have no other means than drinking the toxic water since it is the only water supply they have. It can moreover be assumed that the intoxication not only affects drinking water but also the seasonally flooded bolilands, where smallholders keep on growing rice (Baxter, pers. comm. 22 Nov. 2012).

Farmers in Worreh Yeama further observed an increase in Malaria cases (interview 1, pers. comm. 28 Nov. 2012). They associate this phenomenon with the intensive cultivation of irrigated sugarcane

which is believed to create favourable conditions for mosquitoes. Although case studies in other African countries with comparable conditions have come to the conclusion that a strong direct correlation between sugarcane cultivation and an increase of Malaria is unlikely (Salam, Tevera, & Bhembe 2009, p.31 & Mboera et al. 2010, p.175), this factor must not be disregarded in a country where Malaria is the most frequent cause of illness and death (AHO & WHO 2013).

A further risk might become the unfamiliar high traffic volume. The number of Addax´ vehicles moving around in the project area is huge. In the course of the case study I observed that some of the cars and trucks run on a very high speed. This appeared to be quite dangerous because many people and groups of people - including children - walk on the roads (see fig.29). Also, I had the impression that Addax´ vehicles do not limit their speed when crossing the villages located along the main road. Usually, the most part of public life takes place on the road which often represents the center and market place of a village. Especially children, who have no experience with motorized vehicles run risk to be involved in an accident. Moreover, these villages have to face a significant dust exposure at least during the dry season because the road is not paved.

Fig.29: Pedestrians on the main road

Source: Lisa Vlasak.

Besides physical and psychological consequences, increased cases of illness or accidents may also lead to economic damage of the affected persons. On the one hand, they face higher prices for medical services. On the other hand, they may lose their salary or their job at Addax (see chapter 4.3.3.).

4.7. Social discontent

It is not surprising that these problems lead to a strong discontent of the affected population. Most frustration seemed to be caused by the facts that they had no say concerning the amount of compensation payments, that the company broke many of its promises, that the Farmer Development Programme is limited to only three years and that Addax only offers seasonal jobs. Beyond that, farmers feel deserted by Addax since the company not even offers them support in emergency situations. An elder in Robung / Magbansa (interview 4, pers. comm. 29 Nov. 2012) reported that his community does not even get help when someone needs to go to the hospital. Before, his community was quite open with Addax´ representatives but since they experience the negative consequences of the project, they refuse them access to their village.

Messages about negative effects in communities of the pilot phase area have spread also in other parts of the project area. As a consequence, some communities in a later project phase area undertook measures to protect their land. As recently reported by the online edition of the national newspaper Sierra Express Media (Conteh 2013), one village refused to sign the land lease agreements with Addax. More concretely, the community members did not allow Addax to lease more land than the company

actually required for its plantations in order to save their rights on the remaining land. Only under the precondition that their claims were recorded in written form in a special agreement, the community finally signed the lease of a reduced acreage of land.

Also the community of Worreh Yeama - frustrated by Addax not keeping its promises - does not consent to make any agreements with the company any more. After Addax has already occupied the community´s uplands, the villagers refuse to sign further lease agreements for the remaining bolilands (Gbenda & Sesay 2013).

The Sierra Leonean authorities are indifferent regarding the problems and claims of the affected population. The government has not only neglected to provide affected communities with more security, it even oppresses their claims. Bread for All reported that two strikes were organized by Addax employees in 2011. The police reacted with arrests and imprisonments lasting several days (BfA 2011, p.2).

5. Conclusion

Olivier de Schutter, UN Special Rapporteur on the Right to Food, once stated: “I commend Addax Bioenergy for its impact studies and dialogue with the communities. This is a pilot project; if it fails, nothing will work.” (Addax Bioenergy n.d.a).

By saying this, Mr. de Schutter addresses an important message which I will use as a basis for my concluding words on the present paper. I agree and disagree with his statement in two points:

First of all, it can be summarized that Addax Bioenergy certainly does belong to the “better” foreign large-scale investors involved in land acquisitions in developing countries. Many cases have taught us in the past that what I call here “land grabbing” is usually connected with forceful evictions of local people. Addax proved to be different in some way. As an outcome of the case study, the company has shown much more openness and transparency in their land deals than many others. In contrast to most foreign land investors, it can even be claimed that the population in the Addax project area had a certain right of co-determination concerning the project, disregarding what the involvement actually looked like. It is usually also not taken for granted that an investor cares about mitigating negative effects on the local population, which Addax at least tried to do by creating a programme to support food security. All of these are certainly efforts which put Addax in a good light.

However, it is important not to forget that the company does not act that way in for altruistic reasons but rather to justify the support it gets from sponsoring development banks. In order to soothe its own conscience and the one of its donors, Addax implements a number of measures to turn the project from a “land grab” into a “sustainable investment”. To receive the commendation of respected policy makers, consultants and powerful institutions it is of a minor relevance whether the project really offers fair negotiation conditions, whether its mitigative measures can really compensate the losses for affected people and whether the creation of some seasonal jobs really brings development into a country. What rather counts is what is promoted to the outside world.

The present case study proved that - behind the facade of alleged benefits - the local people are the actual losers of large-scale land deals. The outcomes of the case study demonstrate that the Addax project has put the affected population into an even worse situation than they were in before. Project-caused problems are a loss of self-sufficiency and income together with higher expenditures, longer travel distances, diseases and social discontent. The affected farmers have become more dependent on instable food prices which results in a higher vulnerability to food insecurity. Some services, including education and medication, have become unaffordable for many. In summary, must be said that the Addax project, instead of benefitting the country and boosting development, has made the population struggle with a range of new and - in some cases - even life threatening problems. Being “better” than others does not mean that the Addax project is a “good” project at all.

This leads me to Mr. de Schutter´s statement “if it [Addax Bioenergy] fails, nothing will work.” I am sure

he is right. It has been clearly demonstrated that the Addax project has “failed” in many ways. But what about thousands of other large-scale land deals across the world, which are not under the pressure to fulfill the development requirements of a whole range of development banks? I hold the view that large-scale foreign land acquisitions in developing countries, in the way they have been implemented by Addax and many other profit-based enterprises, do not represent a responsible or sustainable option. To a large part this is because a number of general aspects behind such deals have still been left disregarded.

On the one hand it is quite doubtful whether the business with a vital resource in countries that innately face food insecurity can cause a positive development, especially in the view of the fact that the produced goods are almost entirely exported or not even used for food but for fuel production. The idea that such land deals represent a win-win-situation is, in my opinion, not applicable to businesses which involve two completely different parties regarding their position of power. Large-scale investors with a lot of experience in negotiation and the support of powerful institutions have of course much more means to make the land deals a winning situation for themselves than traditional smallholders. That is also why I do not agree with the general assumption that the investments of profit-based enterprises are an appropriate instrument to promote development in “host countries”.

On the other hand it is the “host countries”´ governments´ responsibility to make sure that foreign land acquisitions do not harm but - in the best case - benefit their own population. This fact seems to be neglected by many governments, including the one of Sierra Leone. President Koroma relied on the hope that by simply attracting investment, his country would experience development. The fact that deregulations might be harmful was disregarded, not only by him but also by many other governments that follow the advice of the World Bank Group. To let them benefit from foreign investments, “host countries” should not be forced to outdo each other regarding investor incentives and low land prices. In the contrary, a fair deal would rather require that a certain legal basis is created in favor of the population in order to protect their rights and guarantee that they cannot be exploited. The case study showed that smallholders were generally open to change their land for good jobs and compensations. However, they must be given the right to really define the details of the land lease on their own and, most importantly, have the possibility to legally claim their adherence. As long as these conditions are not taken as an integrated precondition for large-scale land deals, I am quite sure that the only thing investors will finally leave behind is not a better world but a lot of degraded land as a result from decades of intensive monoculture.

And finally there is the general ethical question whether our (the global North´s) policies and handling of resources - with respect to the global South that suffers the consequences of it - can be justified in any way. Can environmental protection still be regarded as sustainable if it causes displacement and exploitation? Is it responsible to subsidise the business with biofuels if badly needed land resources for food production get lost in countries suffering from food shortages? Only very slowly some European politicians are starting to raise concerns about the concept of biofuels (derStandard.at 2012, derStandard.at 2013). However, as long as the business flourishes and motor traffic in the global North does not decrease, farmers in the South will keep on losing their land.

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